ShopFloorManager

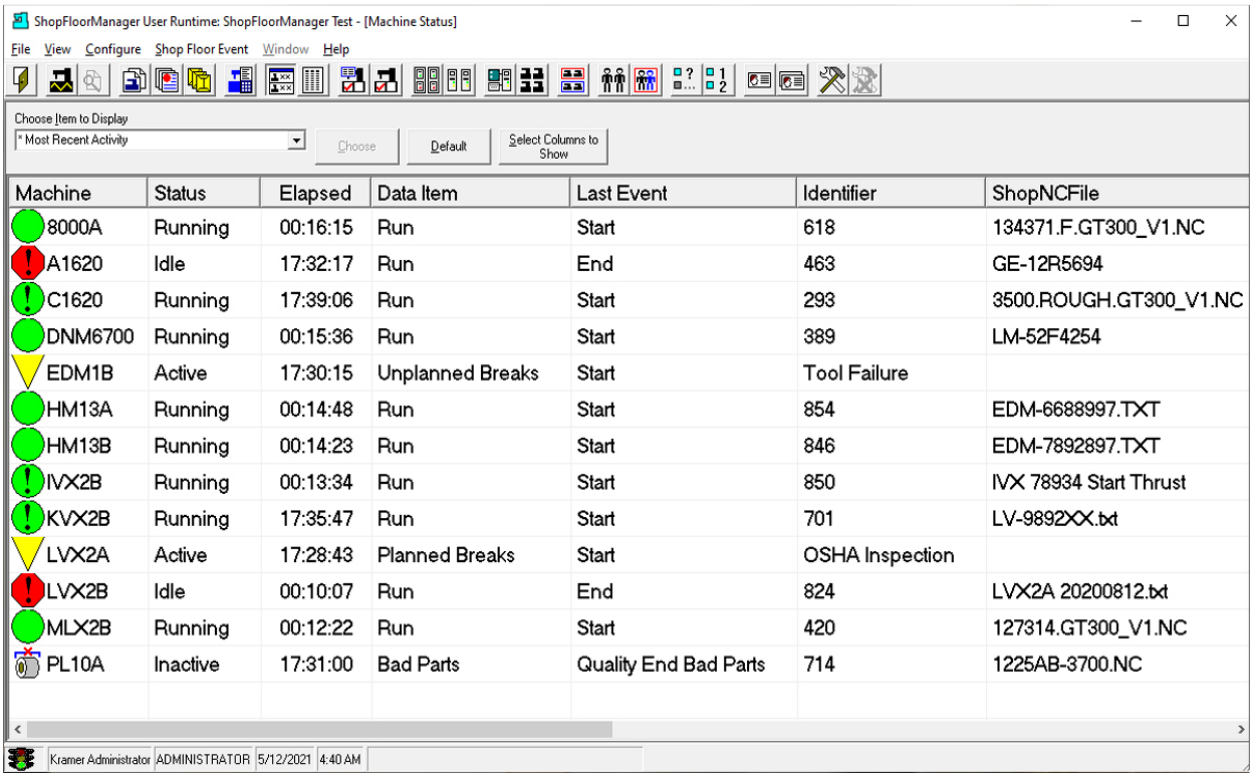
User Manual

Release Ver. SFM8.0.38

(2/08/2023)

Do you know what your Shopfloor is up to?

ShopMonitor does! Hold Ctrl Key & Click Me!



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You can also store it in ShopFloorManager's Database so everybody within your facility can access it and if updated you only need to change it in one place!

CAD/CAM Integration.
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Important!

We have setup links throughout the Manual so as a User explores a particular Section, Users can click on these links to investigate other relevant Sections. Users can follow these links by holding down the Ctrl Key while left clicking the link. Don't skip these as they give you a better understanding of the section you are presently reading! For the PDF Manual Use Adobe Viewer for Best Results!

Note: If you click on a link that takes you outside of the User Manual the User Link Chain is lost!

After visiting the linked sections, the User can return to the previous sections by holding down the Alt Key and then tapping on the Back Arrow on the keyboard!

To really use this Manual efficiently start by selecting any index in one the Content(s) and hold down the Ctrl Key while left clicking the Mouse. You can always get back to your original starting point by holding down the ALT Key while continuing to click the Back Arrow until you are back at the starting point!

Note: To Zoom in/out on any Graphic hold down the Ctrl Key and use the mouse wheel to adjust!

Note: Don't experiment with your Production System get the CCI Pre-Installation System free!

Quick Access to Content

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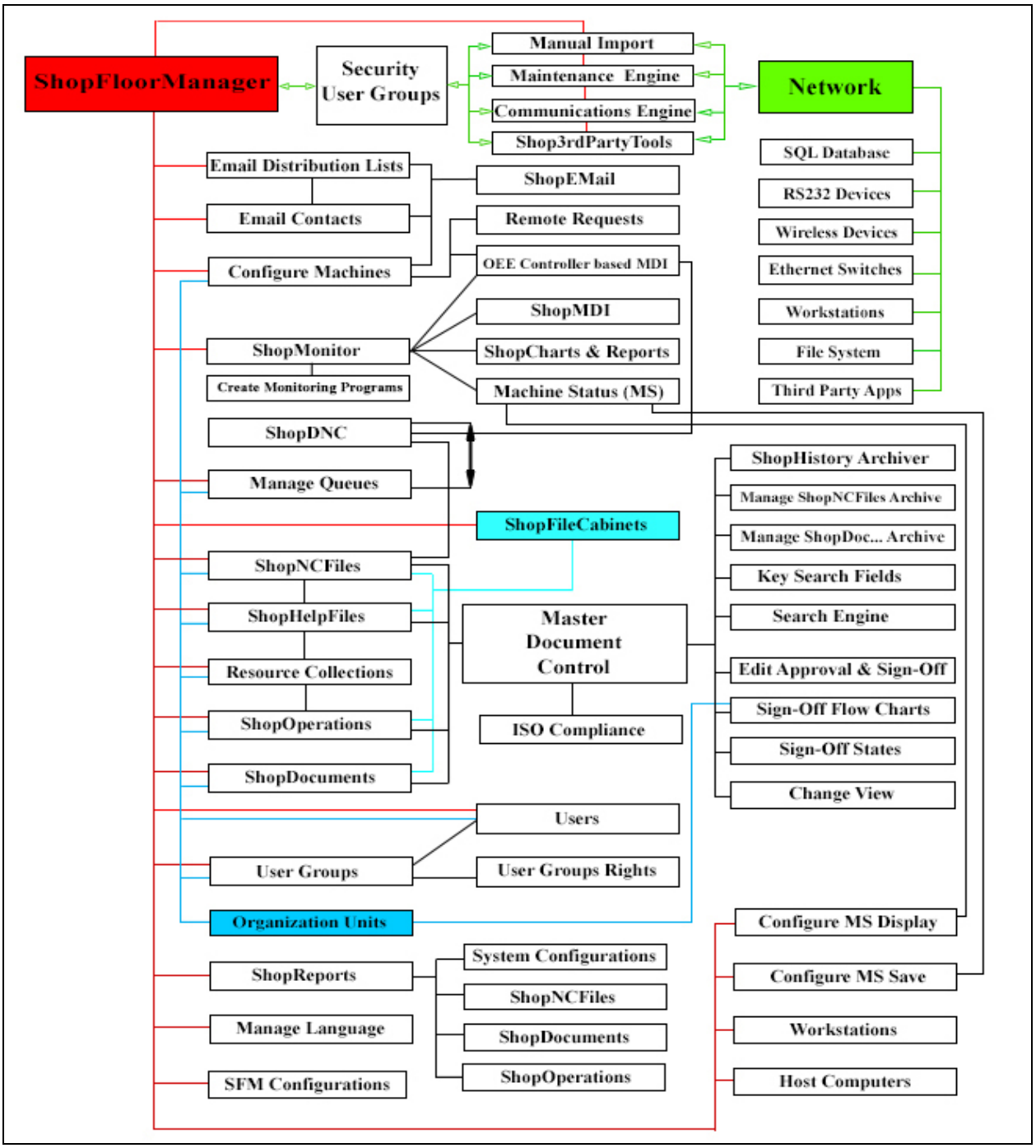
ShopFloorManager (SFM) User Manual

ShopFloorManager is an Enterprise Machine Tool Management Application Providing complete Shop Floor Machine Management, Machine Communication's Management, Document Management, Machine Monitoring, and an Interface to your Third-Party Applications just to mention a few!

ShopFloorManager in a Nut Shell (Warning! Contains Graphic Materials: ShopFloorManager)



ShopFloorManager Remarks (Hey You, Listen Up, I have a few Quick Remarks! Yes, You!)

This Document is a detailed manual in the use and configuration of ShopFloorManager. To use this User Manual effectively you should have ShopFloorManager installed, operating and ready for use in Production or Pre-Production. **Great Classic Movie: Taxi Driver - You Talkin' to Me? (1976)**

If ShopFloorManager isn't installed and or you are interested in a Pre-Installation System click on this link Pre-Installation System. Use the Pre-Installation System to aid you in making informed decisions when creating or modifying a Production System so as to minimize production problems! This approach is probably a must for learning how to create ShopMonitor Programs & configure User Groups especially the "Rights"!

Note: The Server/Network for the Production ShopFloorManager should be completely isolated from the Pre-Installation System or you will have conflicts! The ShopFloorManager Police don't like Conflicts! **Manuals can be boring, so we have used Levity throughout. No charge for the chuckles!**

Note: We have used **SFM** instead of **ShopFloorManager** sprinkled throughout the manual!

Important! (Also, for the PDF Manual Use Adobe Viewer for Best Results!)

We have setup links throughout the Manual so as a User explores particular sections, they can click on these links to investigate relevant sections without needing to go to the index to search! Users can follow these links by holding down the Ctrl Key while left clicking the link.

After visiting the linked sections, the User can return to the previous sections by holding down the Alt Key and then tapping on the Back Arrow on the keyboard!

To really use this Manual efficiently start by selecting any index in either of the Contents & hold down the Ctrl Key while left clicking the Mouse. You can always get back to your original starting point by holding down the ALT Key while clicking the Back Arrow until you are back at the starting point!

Note: If you click on a link that takes you outside of the User Manual the User Link Chain is lost! "**Oh tragedy**"! **Great song for you old timers: Thomas Wayne & The Delons (1958)!**

Note: To Zoom in/out on any Graphic hold down the Ctrl Key and use the mouse wheel to adjust!

Please Email any comments or if you find any errors to: support@shopfloormanager.com

ShopFloorManager Hardware & Network Requirements (Read & Reduce Headaches!)

Introduction

ShopFloorManager is CAD/CAM Integration's latest manufacturing control software product. It is the culmination of our experience since 1983 in providing sophisticated solutions for management of discrete manufacturing environments. It combines our knowledge of communications with factory machine controllers from the old BTR (Behind Tape Reader) days to today's wireless Ethernet communications and the knowledge we have gained over the last 38 years supplying systems for the Shop Floor which has evolved into ShopFloorManager .

Features

ShopFloorManager contains all of the features of SuiteFactory with many enhancements such as improved Communications Engine performance, improvements in remote request, search criteria filtering, managing ShopOperations, ShopCharts performance, etc. There are new features in ShopCharts, ShopReports, OEE-Controller-based-MDI Files, Machine Event gathering and reporting, ShopMDI, and various ShopReports: Configurations. In addition, many enhancements and minor bug fixes were made to make the various screen displays more user friendly.

Recommended Hardware

Since ShopFloorManager is continually monitoring the status of your shop including checking for data requests, recording a multitude of events, ad infinitum so a high-quality server running an up-to-date version of Windows Server is required. As of this writing the latest version is Windows SQL Server 2019 that supports SQL Express Edition which is limited to no more than 20 users + 5 application "users"! The Standard SQL edition has no limitations and is used in larger manufacturing enterprises.

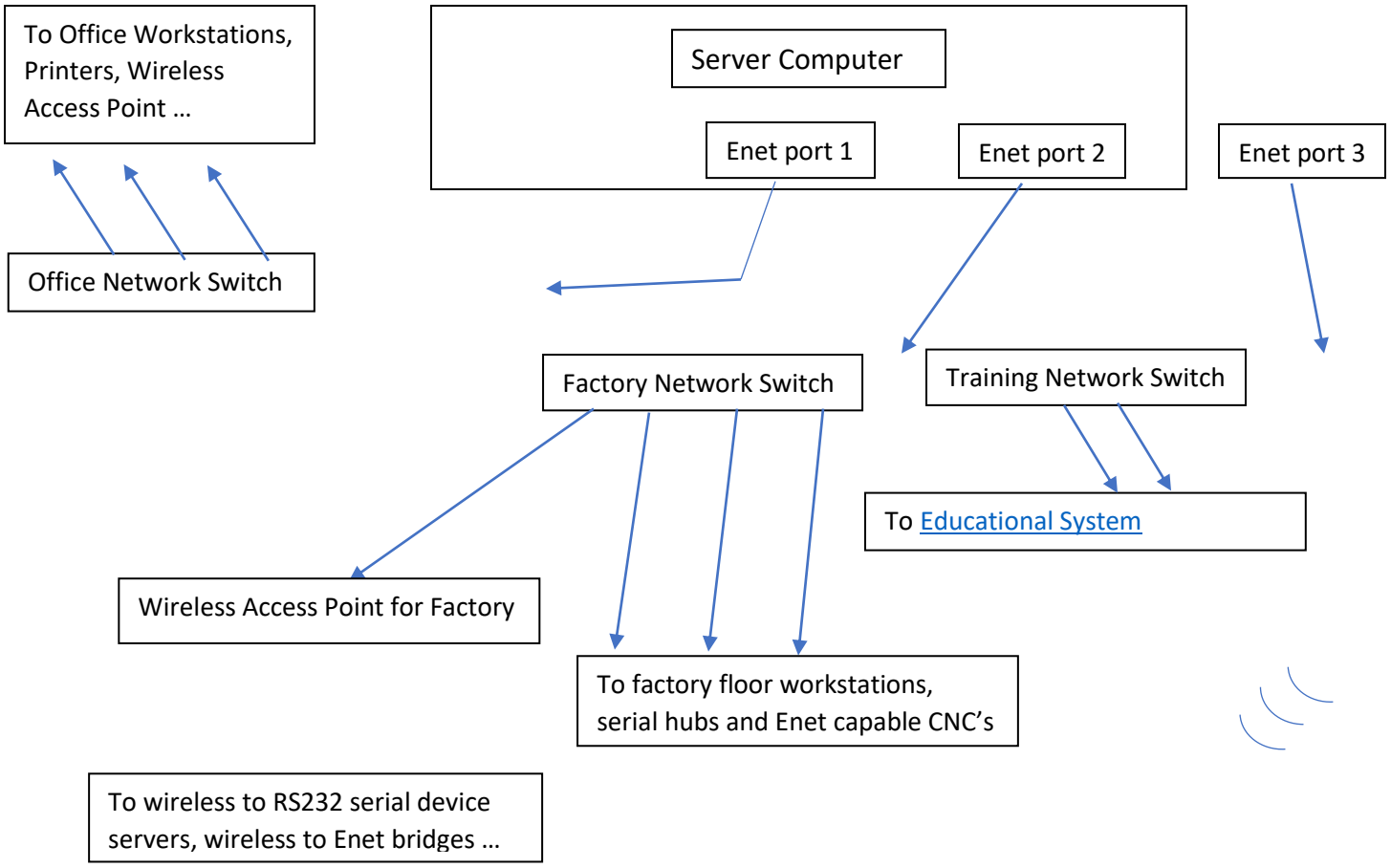
The speed, amount of memory, storage and processing power depends upon the number of users and machines attached to the system. The following link has description of several servers for small and medium businesses. https://www.techradar.com/news/best-small-business-servers?region-switch=1588279770 .

We recommend, as a minimum for a smaller facility (up to 20 machines), server hardware that is flexible and expandable with no less than 64GB of RAM and at least 1TB of hard disk storage. It should have RAID built in for data integrity and GB Ethernet port. For factories with large numbers of machines and users the amount of memory and processing power must be scaled up accordingly. For example, look at these products as described in the link above:

Fujitsu Primergy TX1310 M1
Lenovo ThinkServer TS460
HP ProLiant ML350 G9 5U
Asus TS500

Recommended Network Configuration

Your Shop Floor control system should be on its own network separate from the rest of the enterprise. Ideally it should have its own server computer. Some medium and larger companies accomplish this by creating 2 or more virtual servers on a **powerful** computer platform. If you must share a server computer with the rest of the operation, then make sure that the shop floor network is separated from the office network by using a second or third Ethernet port on the computer dedicated to the shop:



Recommended Workstation Configuration (Not Server)

Following are guide lines for Workstations. These may vary depending on the intended use. If you are using a workstation for displaying Machine Monitoring, you will need a Processor with a bit more gusto! If it is being used for normal ShopFloorManager management a middle range Workstation should be fine.

If you are using it for displaying Real-Time Charts & Machine Monitoring for Shop Viewing get as large a Monitor for Viewing as practical! Multiple Screens would be really nice!

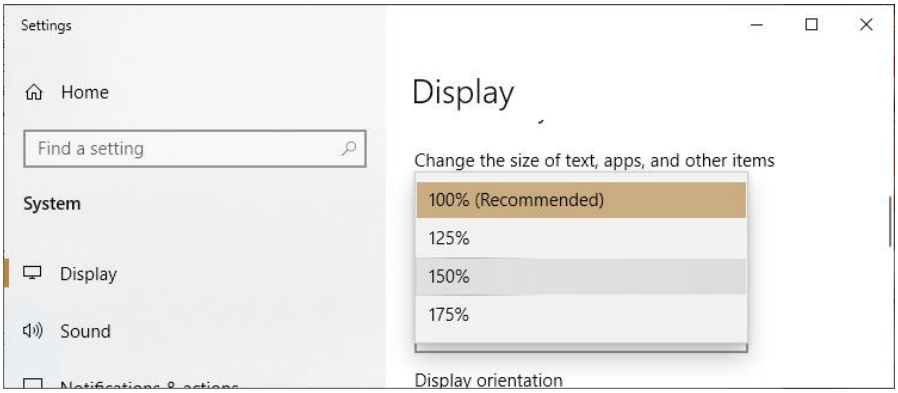
Minimum Specifications:

Processor:
Intel i5 or equivalent AMD multi-processor 3.0 GHZ Plus
Memory:
8 GB Min for light work, 16 GB Plus for more demanding work
Hard Drive:
Minimum of 1 Terabyte
Network Card:
Minimum of 100 Mbps
Graphics Card
Size: 1920 x 1080 Min.
USBs & Other:
As needed.

Note: If you are using PCs on your shopfloor that is relatively clean & water free you won't need any special enclosures! Clean them up every few weeks and they should last awhile!

Keyboards should be sturdy, water & dust resistant. Use a rugged Mouse and keep it clean daily!

Use a Wide Screen whenever possible to decrease Application Overlap! You can also use a Touch Screen which we have tested and have found it works fine with our Standard Applications. If you are using a Touch Screen for ShopMDI you should set the settings for the Display to 150%!



Works Great! Don't put a low-resolution screen to run ShopMDI! It won't work to your liking!

ShopFloorManager Downloads (SFM's Market Basket. Get your Free Vegies Here!)

SF's Installation set: http://www.shopfloormanager.com/downloads/sf73275f.zip
SFM's Installation set: https://www.shopfloormanager.com/downloads/sfm80xx.zip
SFM's User Manual: https://www.shopfloormanager.com/downloads/manual8.0.xx.zip
SFM's User Manual: https://www.shopfloormanager.com/downloads/manual8.0.xxword.zip
SFM's Pre-Installation System:
https://www.shopfloormanager.com/downloads/preinstallationsystem.zip

ShopFloorManager Pre-Installation System (Where's the Security? Who Installed it!)

SFM's Pre-Installation System:
https://www.shopfloormanager.com/downloads/preinstallationsystem.zip

System which includes the following:

Pre-Installation System:

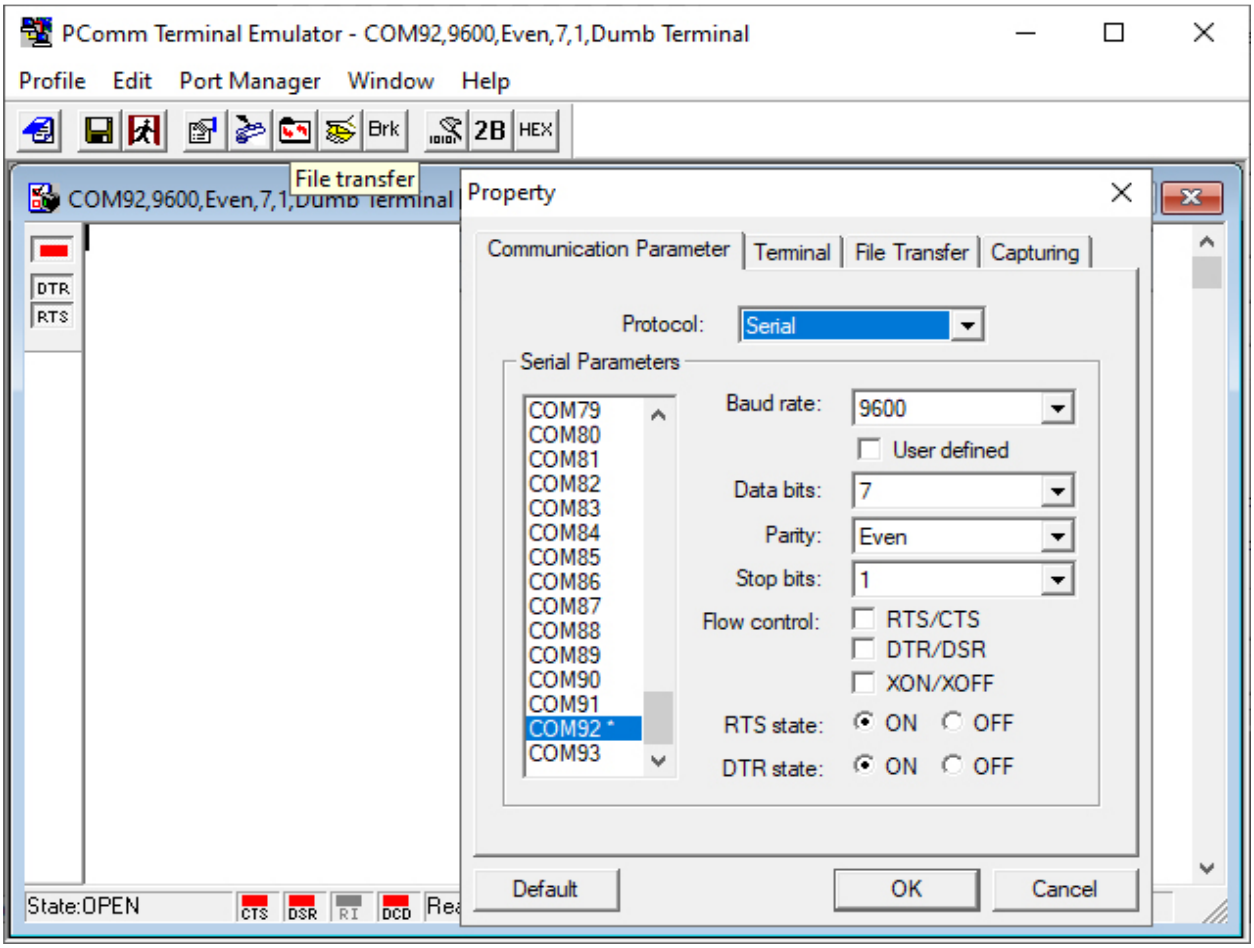
1. **SFM 8.0.xx Pre-Installation System Set**
   educationalsystem.zip installation with release notes: (See installation directory below)
2. **Pre-Installation System Database Path**
   C:\ShopFloorManager\TrainingDB**KramerSFM**
   Create Directory, Unzip & install Item #1's contents in this directory
   Make sure to use this path when installing the pre-installation system Database and associated files so you won't have to change Import Paths, Network Paths, Etc.
3. **SFM Pre-Installation System Access Database & support files** (**Folder**: **KramerSFM**)
   a. DNCWIN.MDB
   b. HISTARCH.MDB
   c. HISTORY.MDB
      i. **Includes 300K+ of Machine Events for 20 Machines from July-Dec 2020**
      ii. **Includes 347K+ of Machine Events for 26 Machines thru May 2021**
      iii. **(16) Pre-Generated ShopReports See ShopMonitor**
   d. Support Folders:
      i. autoimport
      ii. DATA
      iii. DOCS
      iv. networked
4. **SFM Demo License** (**Folder**: **KramerSFM** \License
   Name: Shop Floor Manager Demo (not for Production) L-750 (W20 D20 M100 P20) License.ccilic
5. **SFM User Manual** (**Folder**: **KramerSFM** \User Manual)
   Name: manual8.0.xx.zip unzips to "ShopFloorManager Manual 8.0.xx.pdf". (**Use the Adobe Viewer as it maintains Word Links forwards & backwards**)
   Name: manual8.0.xxword.zip unzips to "ShopFloorManager Manual 8.0.xx.docx.

Continued next Page!

Pre-Installation System: (Cont.)

6. **ShopFloorManager Application** (**Folder**: **KramerSFM** \Installation Sets)
   sfm80xx.zip **(**See Manual for installation instructions**)**
   User Name: administrator (Not Case Sensitive)
   Password: Admin (Case Sensitive)
   sf73275f.zip (If upgrading, 1st upgrade to this SuiteFactory version then upgrade to sfm8.0.xx)
7. **PComm Lite App (Folder**: **KramerSFM** \Pcomm Lite)
   moxa-pcomm-lite-utility-v1.6.zip installation (Terminal Emulator Moxa Third-Party Free)

Pcomm Terminal Emulator (Moxa Utility)



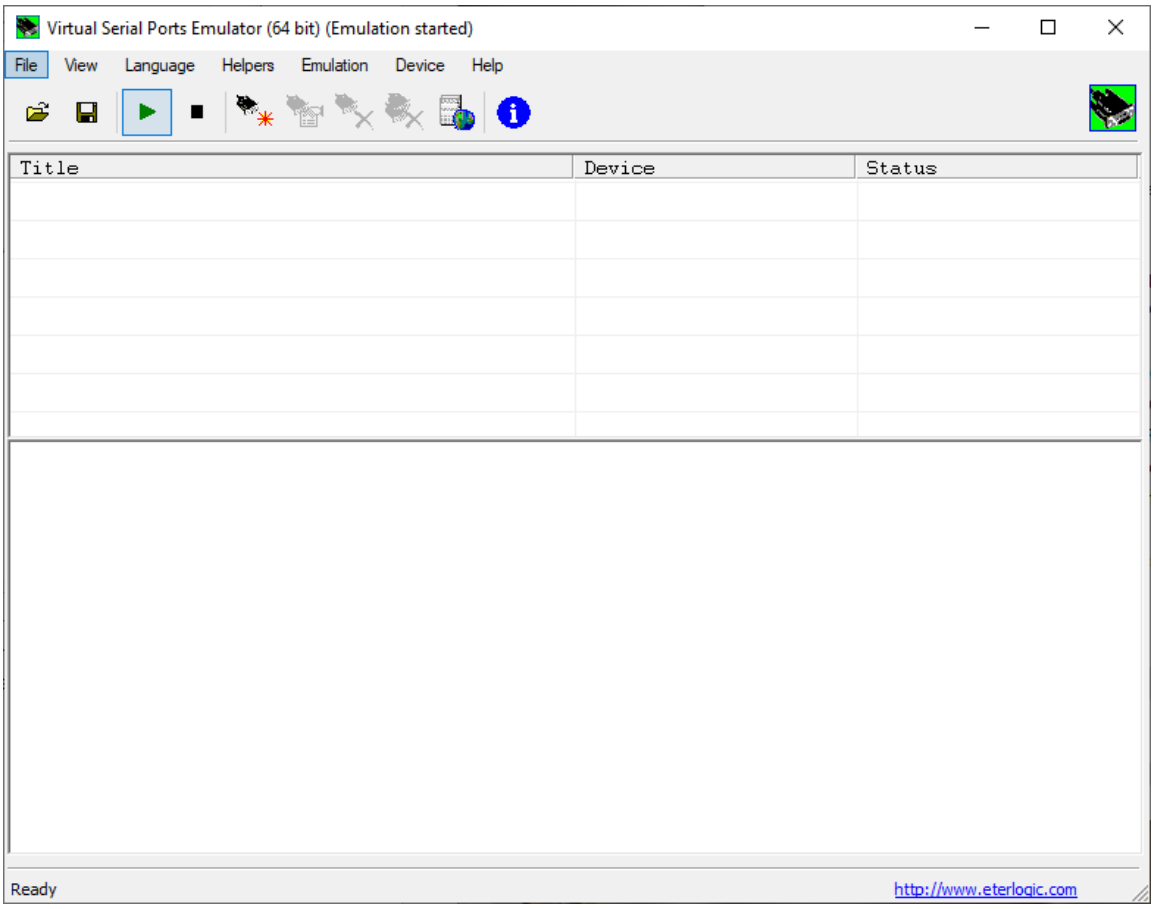
After installing and when using the Pre-Installation System start the Pcomm Application.

This is used to communicate with ShopFloorManager using RS232 just as a CNC Controller. You can think of using this Window, not the Property Window, as a Controller by selecting a file (**File transfer Icon**) to send to ShopDNC through the chosen Serial Port Number!

8. **Virtual Serial Port App** (**Folder**: **KramerSFM** \Virtual Ports)
   SetupVSPE_Full_1.0.5.443.zip installation (Third-Party)
   Config4-93 Initialization File (Creates ports 4 thru 93 used in Pre-Installation System!)
   This is a trial version! It lasts 14 days. The cost is $24.95 + Tax.
   See the following for initializing Virtual Serial Ports after installation!

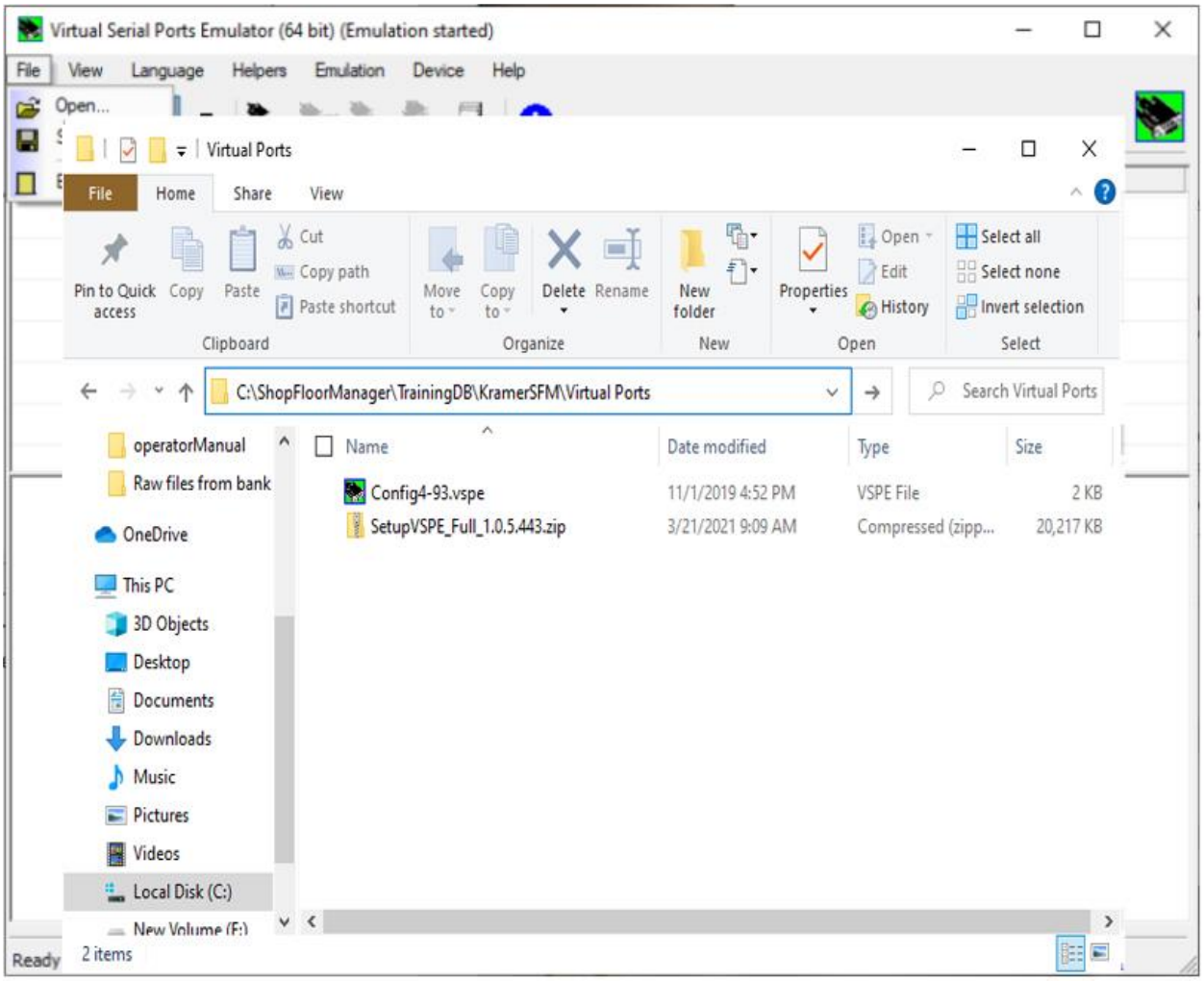
Important: If you have a ShopFloorManager Production System make sure to install the Pre-Installation System on a different Network or isolated PC or you will have conflicts!

ShopFloorManager Pre-Installation System (Virtual Serial Port App – no Virtual Ports)



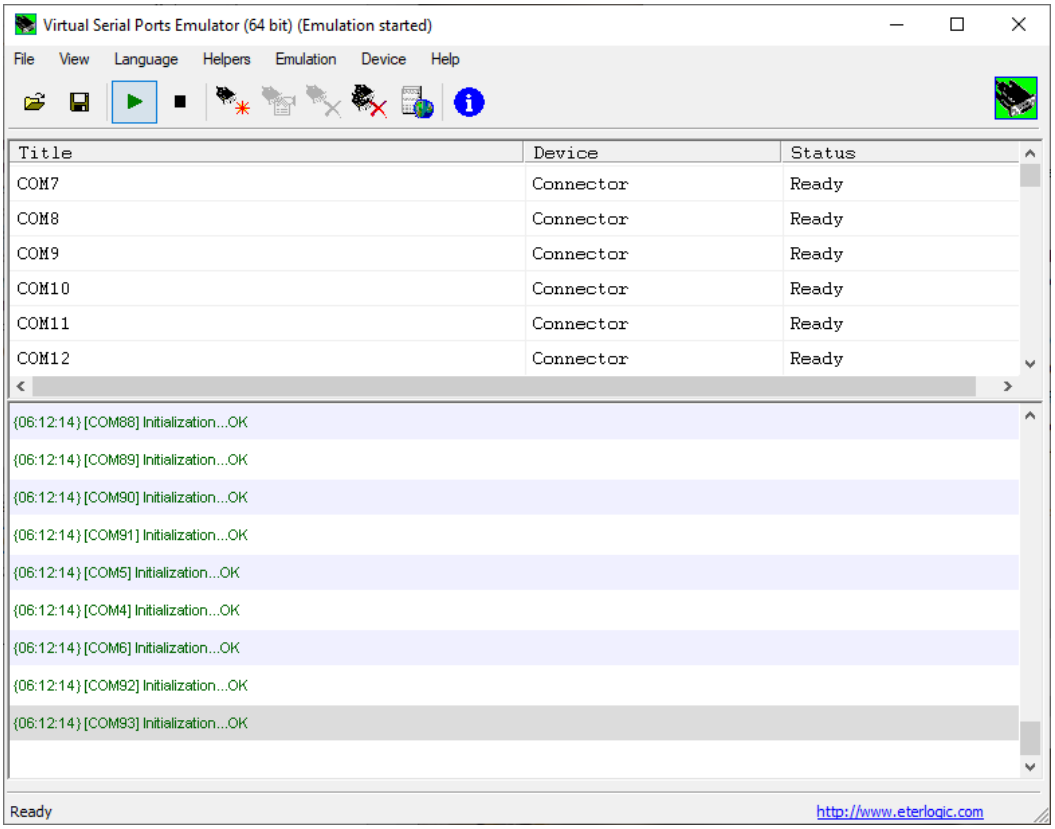
After installing start the Virtual Serial Port Emulator. If the Virtual serial ports are not initialized, click on the File/Open Menu and the following Window is displayed.

ShopFloorManager Pre-Installation System (Virtual Serial Port App – Config4-93.vspe)



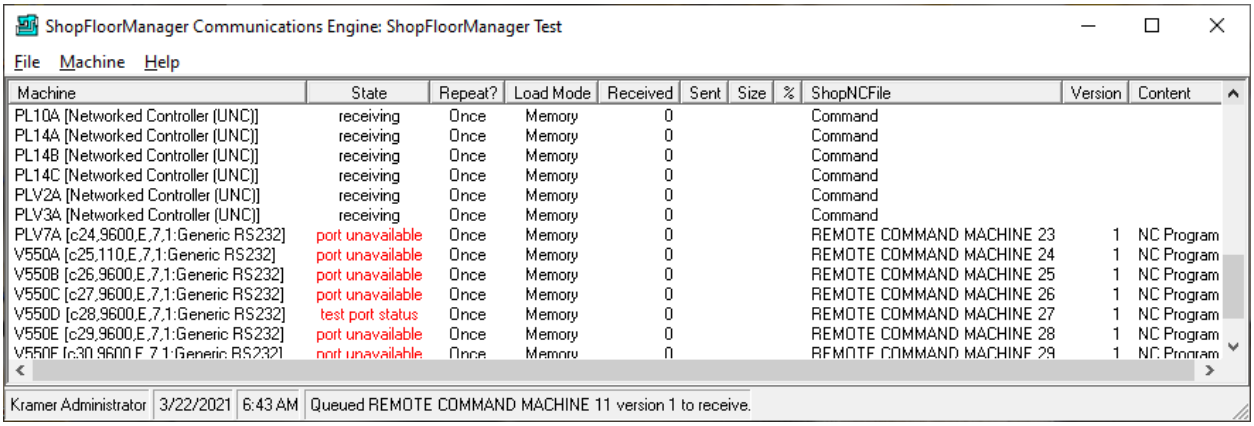
Double click on the supplied file Config4-93.vspe to initialize the Virtual Ports! See the following page!

ShopFloorManager Pre-Installation System (Virtual Serial Port App – Active Virtual Serial Ports)



This is what you should see once the Virtual Serial Ports are activated! Once activated you should not have to re-start this application to initiate the Virtual Serial Ports (See help File for initiating at startup)! **There are times however, when Window's Updates & Other happenings require you to restart!** If you see **port unavailable** restart App!

ShopFloorManager Pre-Installation System (Communications Engine: Virtual Serial Ports port unavailable)



ShopFloorManager Pre-Installation System (Back to School! Curriculum: ShopFloorManager)

During your initial use of ShopFloorManager it is suggested that as you read the manual interact with ShopFloorManager section by section!

I.E. If you were reading the Manual regarding sending and receiving ShopNCFiles you should duplicate those actions using ShopFloorManager's Pre-Installation System where it is possible! Once you get a handle on things, explore!

Note: To simulate downloading files you should set the Send Handshaking to "XON/XOFF NoWait"!

Make sure to keep an original zipped file in case you need to replace your copy of ShopFloorManager Pre-Installation System. We encourage you to explore and use ShopFloorManager Pre-Installation System just as you would in Production! You can't hurt anything, and we have not received any complaints of ShopFloorManager attacking anybody at least not as of yet!

If you are looking for a Shopfloor Automation Systems and need help, please call 1-781-933-9500 and ask for support! We will only ask for your contact information, and you will not have to give up your first Born or Bank Account number!

All help is secure since we use Citrix for on-line support!

Please report any "errors" you encounter using the Manual or ShopFloorManager! Email comments and any errors incurred to support@shopfloormanger.com.

Thanks for helping!

ShopFloorManager Installation (Install before Using! Why doesn't it come Assembled?)

That's Right, you have to Install before Using! Another Chore to complete! Is it 3:00PM yet?

Install ShopFloorManager for either Access or SQL

Create ShopFloorManager using an Access Database (ShopFloorManager must be installed first)

Access is for Pre-Installation System only, not Production!

Create ShopFloorManager using a SQL Server Database (ShopFloorManager must be installed first)

Upsizing From Access to SQL Server (Call if you need help: 1-781-933-9500.)

ShopFloorManager In 10 Minutes (Learn ShopFloorManager in 10 Minutes! Guaranteed!)

Now that we have your attention, we exaggerated a bit on the 10 Minutes it might take 15! Honestly!

If you want to get a feel of the Apps & willing to be thrown in the middle, you have come the right place!

ShopDNC/ShopNCFile

- Manage ShopNCFiles
- RS232 Send Selected File
- UNC Send Selected File
- RS232 Upload Selected File
- UNC Upload Selected File
- Manage File Transfer Queues
- Remote Request Examples
- Manage Archived ShopNCFiles
- License and Activation Key

ShopDocuments

- Manage ShopDocuments
- Manage Archived ShopDocuments

ShopOperations

- Manage ShopOperations
- New ShopOperation
- Shop Traveler

ShopMonitor

- Machine Status
- ShopMonitor
- ShopCharts
- ShopMDI
- OEE Controller base MDI

Other

- Configure UNC Machine
- Configure RS232 Machines
- Configure Resource Collections
- Manager ShopFileCabinets
- Configure User Groups
- Configure Users
- Configure Shop3rdPartyTools
- Approval
- Search Engine
- Maintenance Engine
- Organizational Units
- Email

If you are investigating a Shopfloor Automation System and after a little digging it looks like you're interested, kick the shoes off, put the slippers on, sit in your favorite chair, gab a mug of coffee or other stimulant and dig into the exciting chapters of the ShopFloorManager's User Manual compliments of CAD/CAM Integration! **It's been on the CNC's Best Manual List for months! Get a copy today!**

Note: Keep the doors locked, the windows closed, the lights on and the phone close as it's a real nail biter! If during the reading or use you feel you need support, call CCI we supply the virtual couch, and we know how to listen!

Approval (Send Misbehaving ShopNCFiles & ShopDocuments to ISO Compliance Academy!)

Overview

In order to use “Approval and Signoff” for ShopNCFiles, ShopDocuments & ShopOperations make sure the “Enable Approval and Signoff” checkbox has been checked in the Configure General System Settings”.

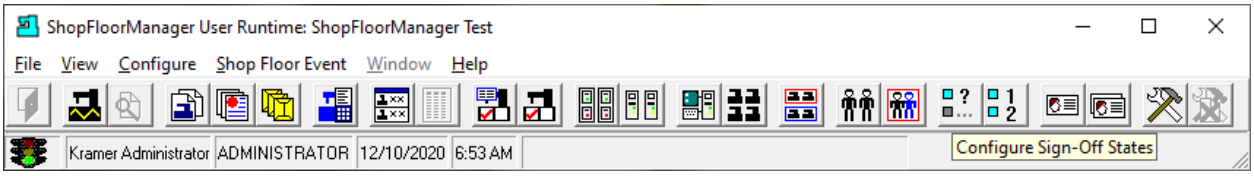
In manufacturing when producing a product, it is assumed that all of the “Documentation” has been approved by the appropriate Experts.

The process that is used to make sure that all of the “Documentation” (I.E. ShopDocuments; ShopNCFiles; ShopOperations)” used in production are correct involves Experts giving their approval of the “Documentation” used to produce “Parts, Assemblies, etc.”.

This approval process can involve more the one Expert’s Approval for a particular “Document.

ShopFloorManager provides features for creating a one step or multiple step Approval Process for approving “Documents”.

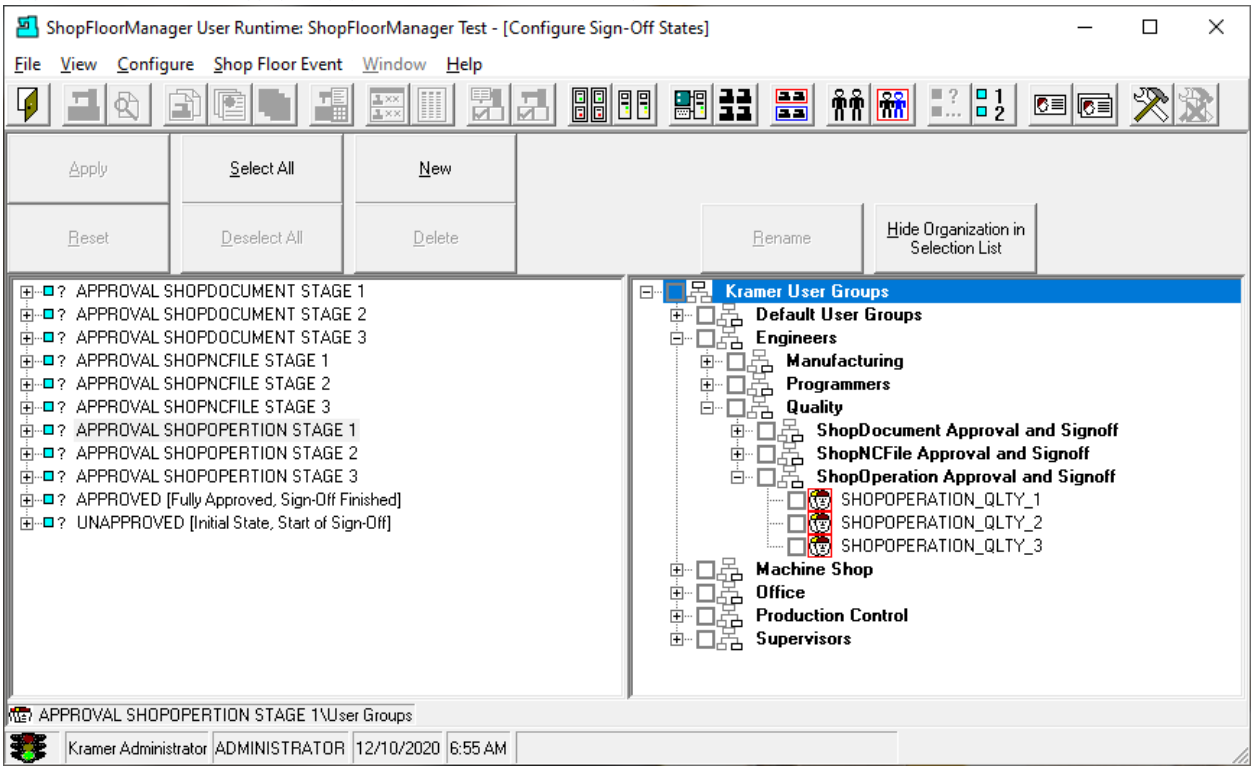
Approval Methodology (Configure Sign-Off States)



Let’s investigate the ShopFloorManager Approval Process! which includes Sign-Off States, Sign-Off Flow Charts, User Group Rights, etc.

Click on the “Configure Sign-Off States” Icon and the following Window will be displayed.

Approval Methodology (Configure Sign-Off States - New)



As you can see there are already multiple Sign-Off States!

Approval Methodology Overview

A “Sign-Off State” is a particular Approval Stage that a ShopNCFile, ShopDocument and or ShopOperation, referred to as “Document(s)”, needs to traverse in order to be Approved.

Approved means that an Expert User has determined that at particular Approval Stage a “Document” meets the accepted Approval Criteria and is signed off.

If there are multiple Stages involved these “Sign-Off States” need to be contained in a “Sign-Off Flow Chart”.

A “Sign-Off Flow Chart” is assigned to individual “ShopNCFiles, ShopDocuments and or ShopOperations”.

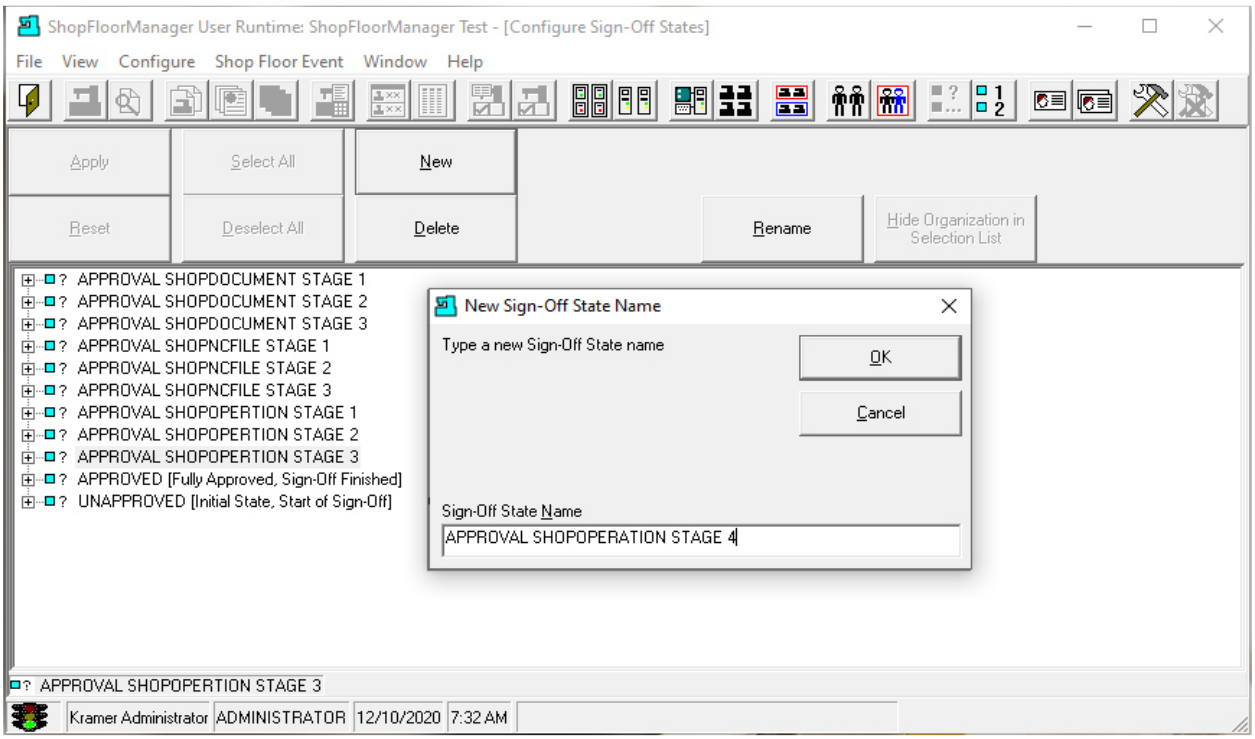
In order for a particular ShopNCFile, ShopDocument and or ShopOperation to be fully Approved all of the different “Sign-Off States” in a particular “Sign-Off Flow Chart” needs to be Approved!

“Sign-Off States” can be configured to be Approved in an ordered or unorder way!

We will start out by creating a New “Sign-Off State”!

Click the New Button and the following Window will be displayed.

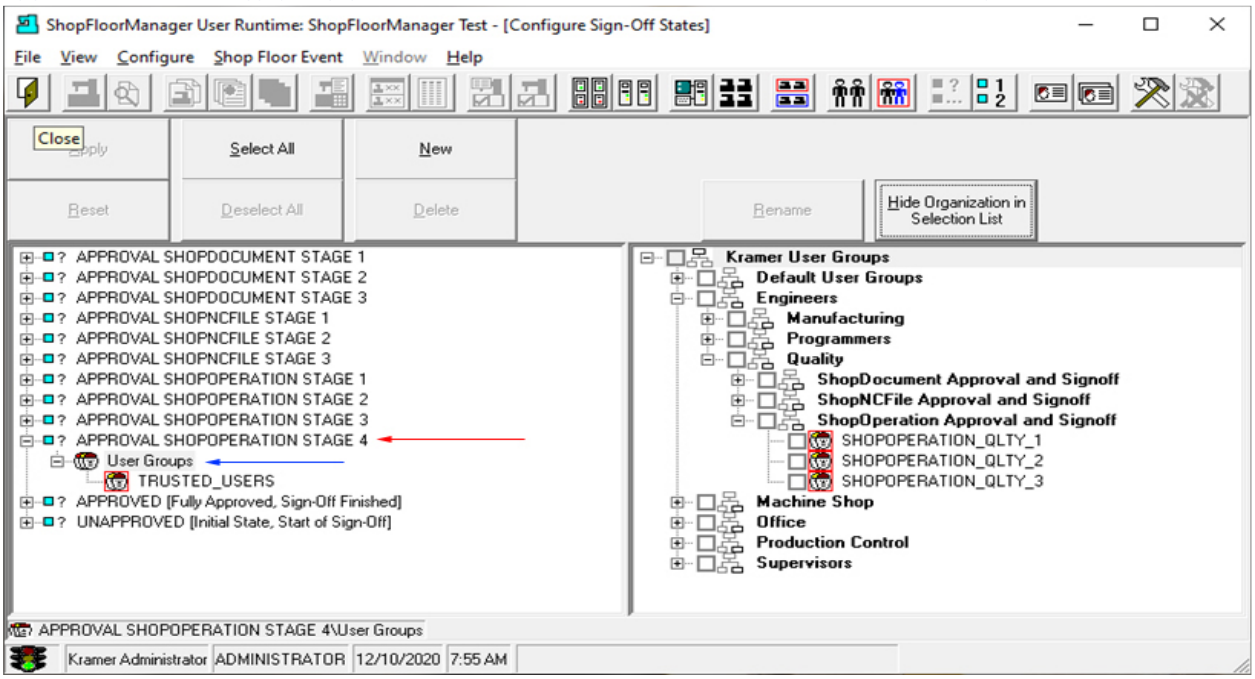
Approval Methodology (Configure Sign-Off States – Create APPROVAL SHOPOPERATION STAGE 4)



Enter the name of the new “Sign-Off State” in the “Sign-Off State Name” Textbox form and click the OK Button and the following Window will be displayed.

Note: You need to provide a unique name and it should represent it’s use!

Approval Methodology (Configure Sign-Off States –APPROVAL SHOPOPERATION STAGE 4)



We have created a new Approval State "APPROVAL SHOPOPERATION STAGE 4". See the **red** arrow above!

To be able to use this "Sign-Off State" it must be associated with a User Group since the Approver (User) gets their "Rights" from the User Groups to which they belong.

By clicking on the "User Groups" Icon, see the **blue** arrow above, all the User Groups are displayed in the Right-Hand Side Pane.

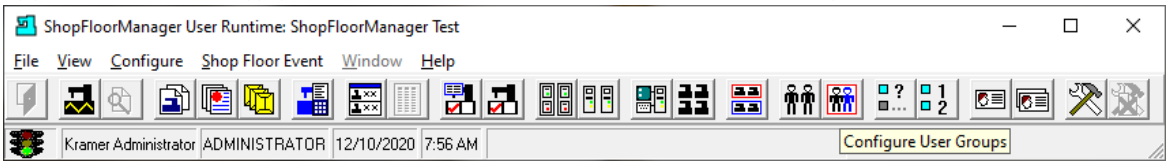
Note: You are viewing a limited number of User Groups that are contained in "Organizational Units". These Units are used to organize and manage not only User Groups but other ShopFloorManager Objects.

You can click on the plus sign to open different "Organizational Units" to display the User Groups they contain.

We could select an existing "User Group" but let's create a new one and investigate how to create & configure it then show how it is used in the Approval Methodology!

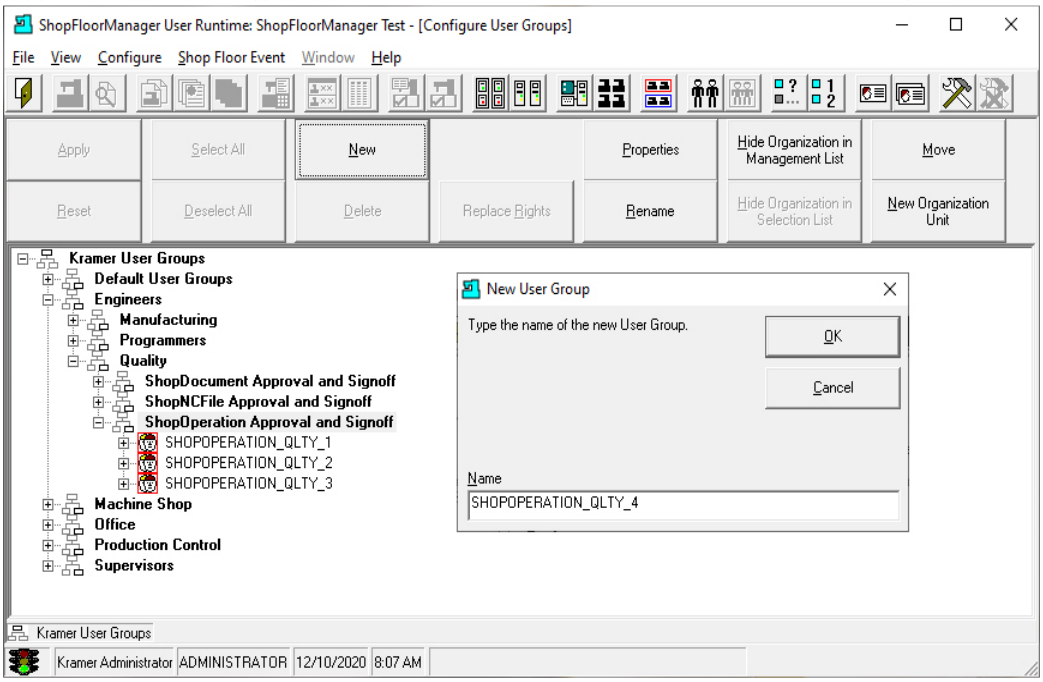
Click on the Close Icon and the following Window is displayed.

Approval Methodology (ShopFloorManager Runtime Configure User Groups)



Click on the “Configure User Groups” Icon and the following Window is displayed.

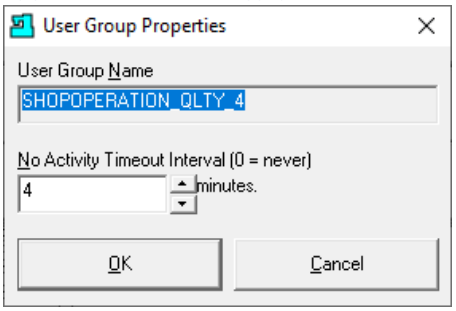
Approval Methodology (ShopFloorManager Runtime Configure User Groups - New)



Highlight the Organization Unit “ShopOperation Approval and Signoff” & click the New Button & the “New User Group” form is displayed! The new User Group in placed in this Organization Unit!

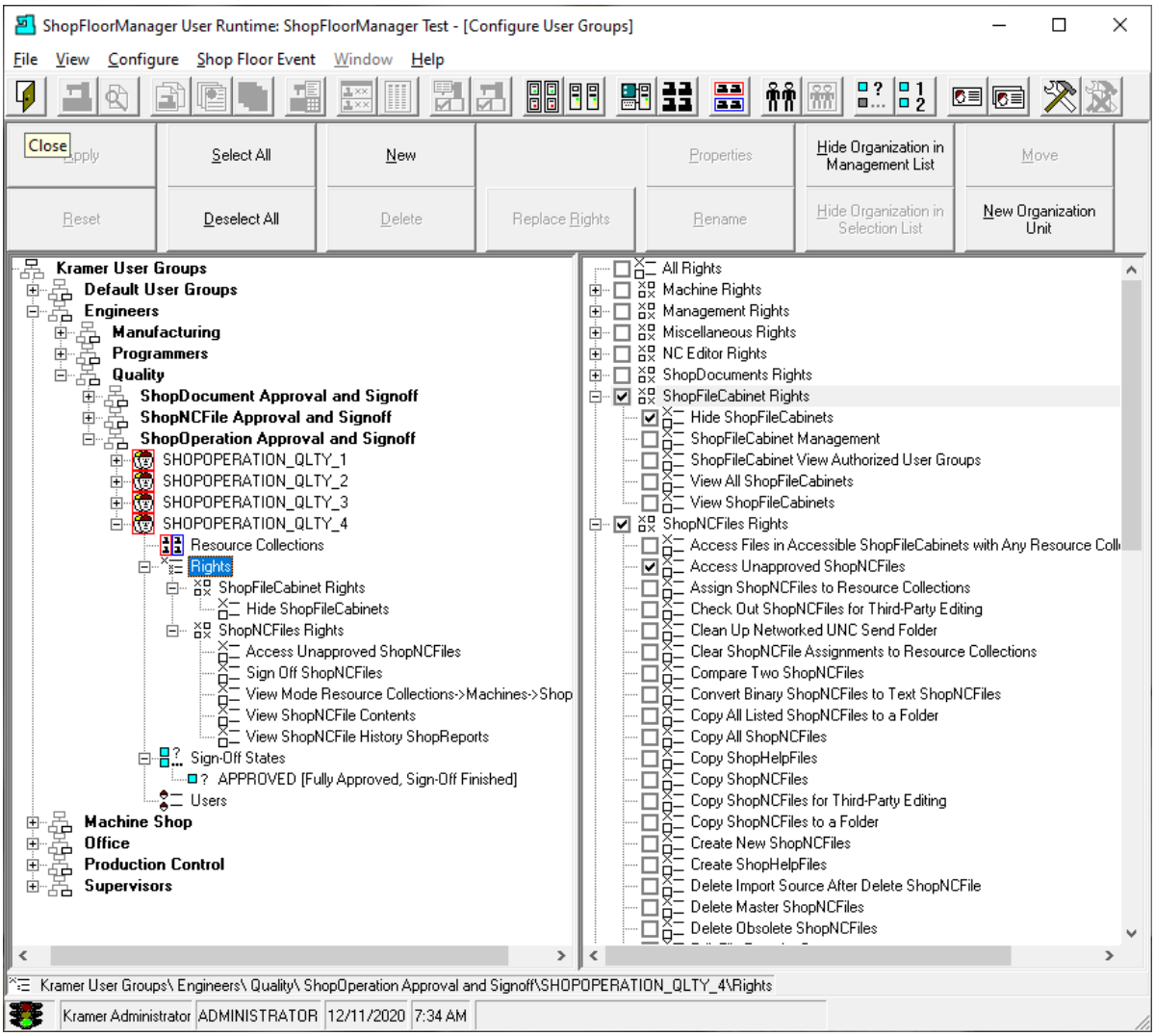
Enter “SHOPOPERATION_QLTY_4” in the Name textbox. Click the OK Button and the following Window is displayed.

Approval Methodology (ShopFloorManager Runtime Configure User Groups - New)



If you want to set a non-activity Time Logout enter the number of minutes in No Activity Selection! When finished click the OK Button and the following Window is displayed.

Approval Methodology (ShopFloorManager Runtime - Configure Rights – ShopOperation qlty_4)



We have clicked the plus sign next to the new User Group Icon displaying its structure. Click on the "Rights" Icon and the various "Rights" categories are displayed in the right-hand Pane!

We will start the configuration by choosing the needed "Rights" from the various User Group categories for Approving ShopNCFiles.

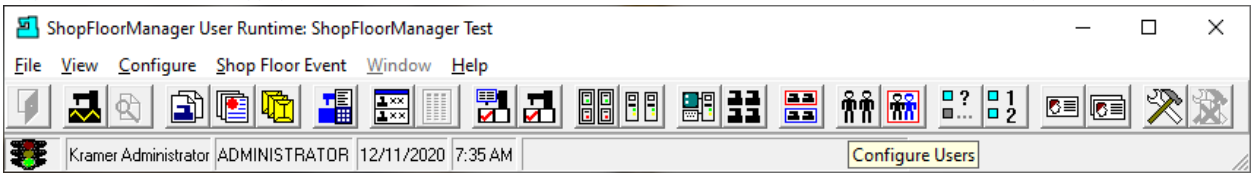
Looking at the Left-Hand Window above you can see from which Categories the **Rights (**Rights selected in the Right-Hand Window**)** that were selected!

Note: To select these choose the appropriate categories on the right-hand side check the individual "Rights" as needed! Save all changes before moving to the next Window!

Next, we will create a User and associate this User with this User Group!

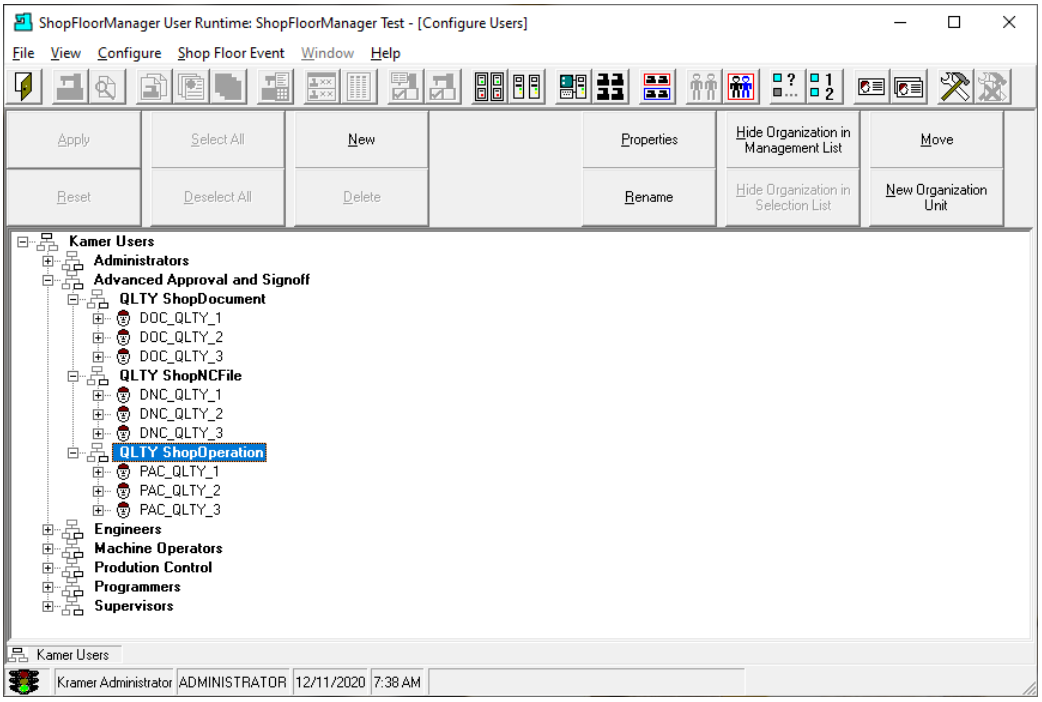
Click the Close Icon and the following Window is displayed!

Approval Methodology (ShopFloorManager Runtime - Configure Users – ShopOperation qlty_4)



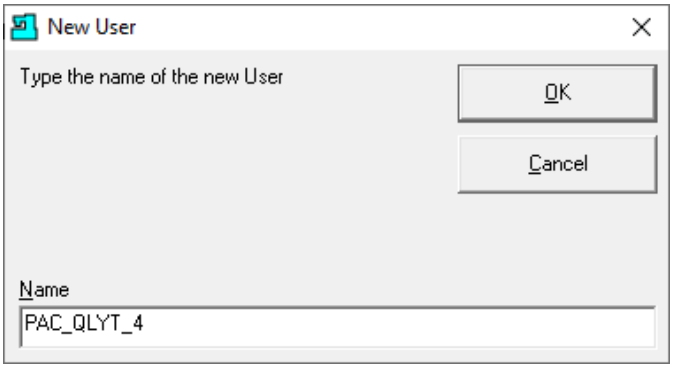
Click the “Configure Users” Icon and the following Window is displayed!

Approval Methodology (ShopFloorManager Runtime – New User)



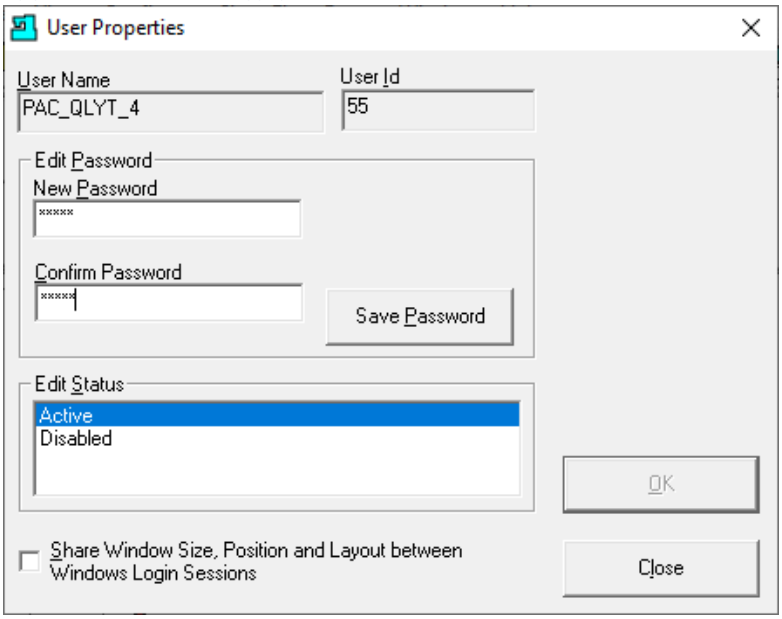
Select the QLTY ShopOperation “Organizational Units” and click the New Button. The following Window is displayed!

Approval Methodology (ShopFloorManager Runtime – New User Pac_qlty_4)



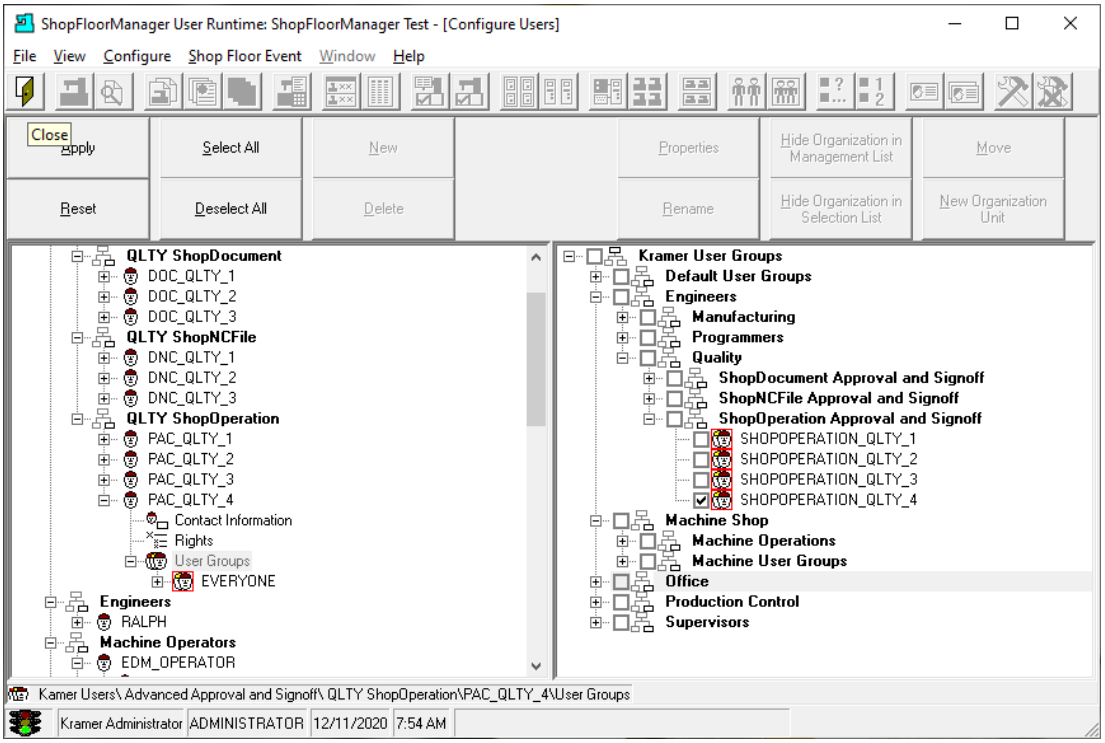
Enter PAC_QLTY_4 in the Name Text Area & click the OK Button. The following Window will be displayed!

Approval Methodology (ShopFloorManager Runtime – New User Pac_qlty_4)



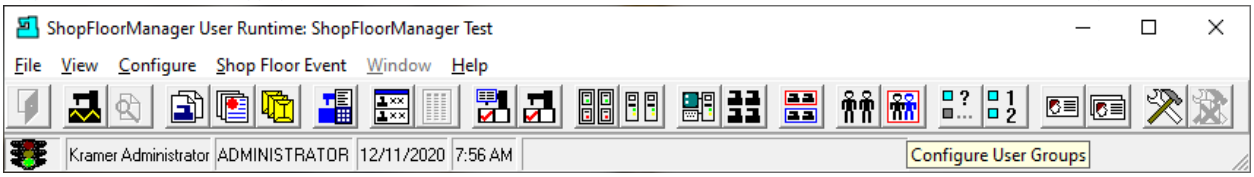
If used, enter a Password, and click the "Save Password" and then click the Close Button and the following Window is displayed.

Approval Methodology (ShopFloorManager Runtime – User Pac_qlty_4 select User Group ShopOperation_qlty_4)



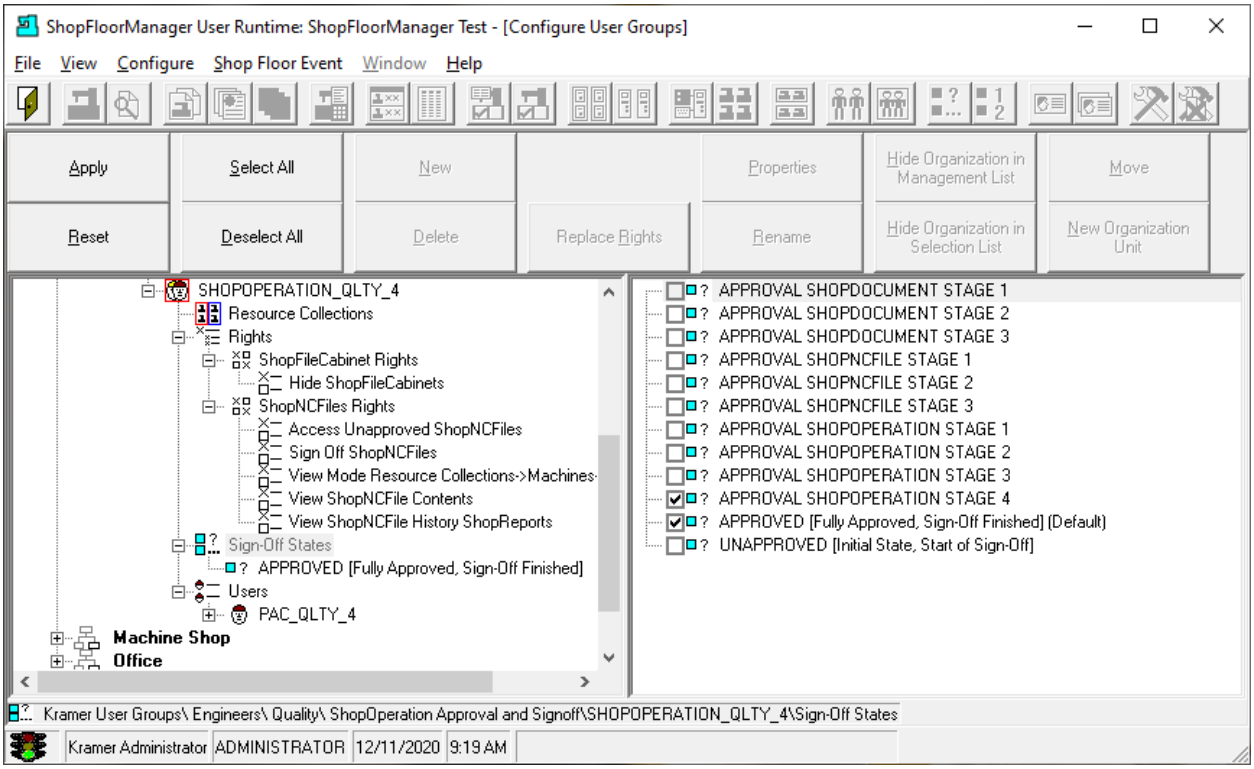
Highlight the User Group Icon (left-hand Window) & check the box next to "SHOPOPERATION_QLTY_4" (right-hand Window), click the Apply Button & Close Icon and the following Window is displayed.

Approval Methodology (ShopFloorManager Runtime – Configure User Groups ShopOperation_qlty_4)



Click on the "Configure User Groups" Icon and the following Window is displayed.

Approval Methodology (ShopFloorManager Runtime – User Groups ShopOperation_qlty_4)



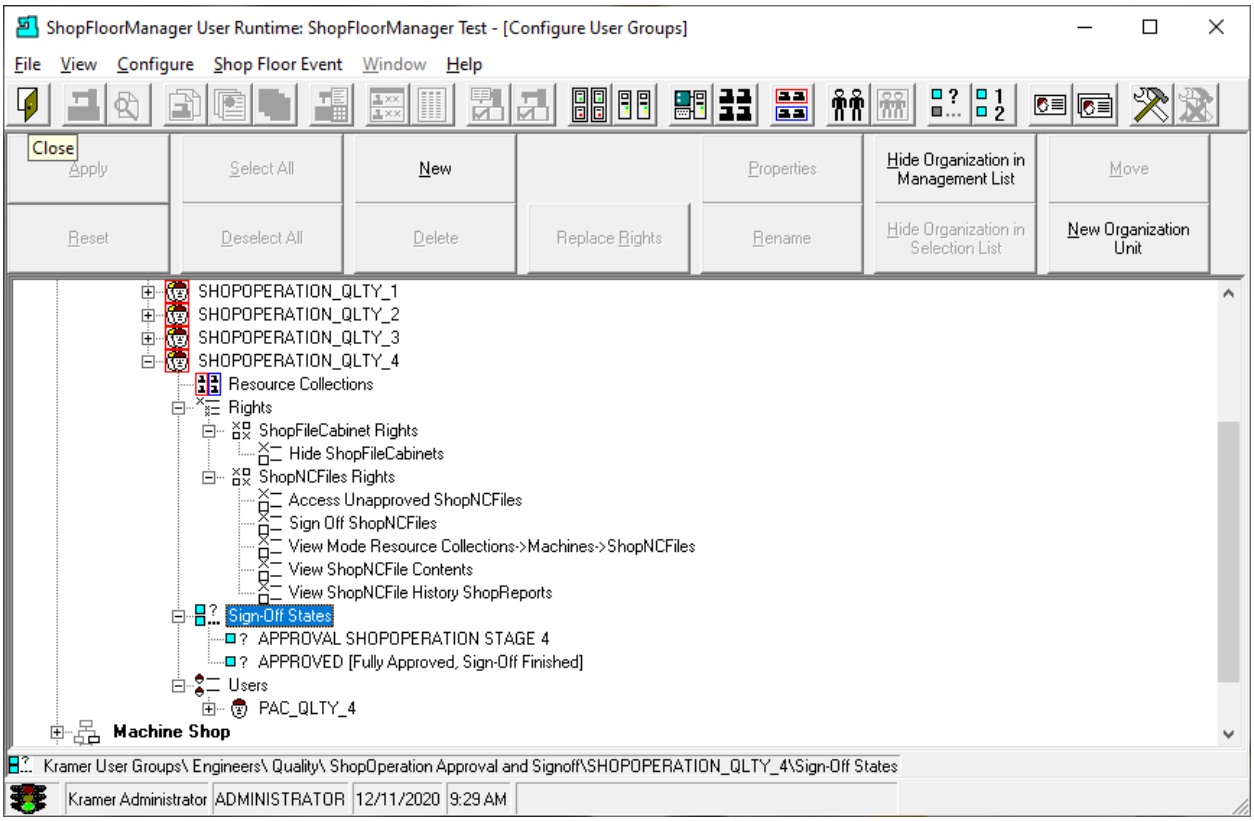
Select the User Group "SHOPOPERATION_QLTY_4" and highlight the Users Icon. The User "PAC_QLTY_4"(left-hand window) has been associated with this User Group!

Now highlight the "Sign-Off States" Icon (left-hand window) and select "APPROVAL SHOPOPERATION STAGE 4" (right-hand window).

This Authorizes this User Group's User(s) to sign-off the associated sign-off state(s).

Click the Apply Button and the following Window will be displayed.

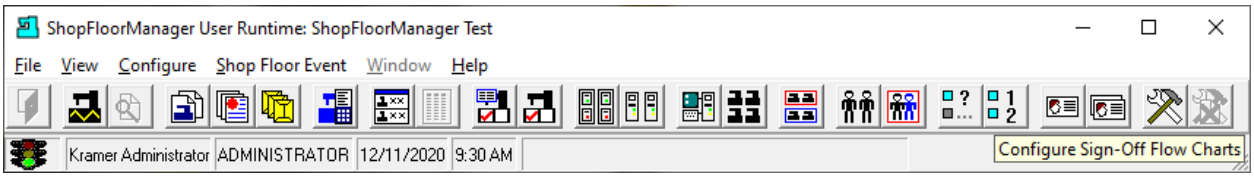
Approval Methodology (ShopFloorManager Runtime – Sign-Off State "Approval ShopOperation Stage 4")



The "APPROVAL SHOPOPERATION STAGE 4" Sign-Off State has been associated with the User Group ShopOperation_Qlty_4 allowing the User PAC_QLTY_4 to be able to Approve Sign-Off State "Approval ShopOperation Stage 4"!

Click the Close Icon and the following Window is displayed.

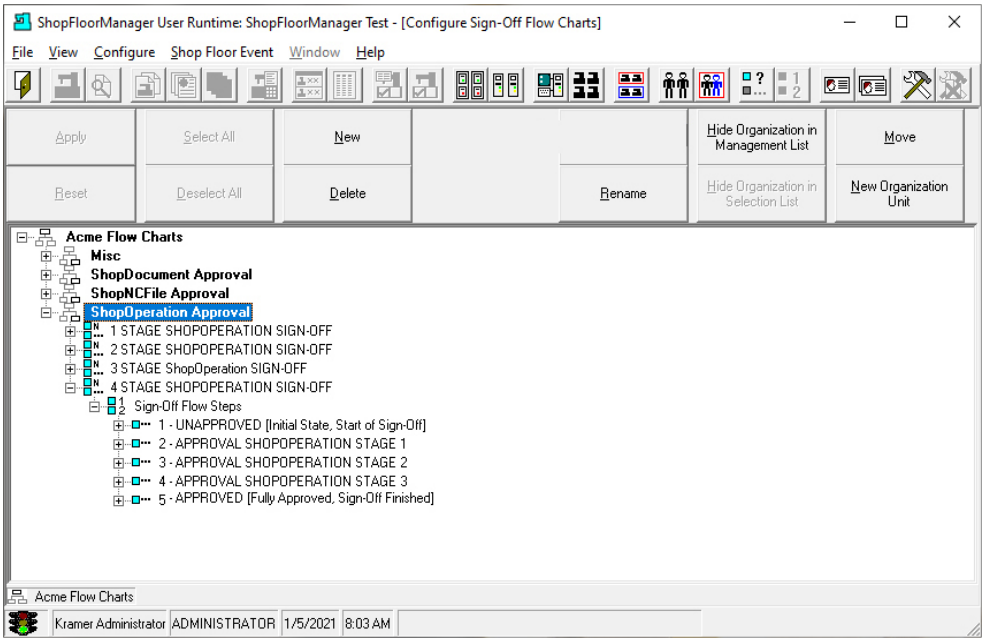
Approval Methodology (ShopFloorManager Runtime – Configure Sign-Off flow Charts)



We are now going to create a "Sign-Off Flow Chart" and associate with it four different "Sign-Off States" creating a 4 Stage Approval Methodology.

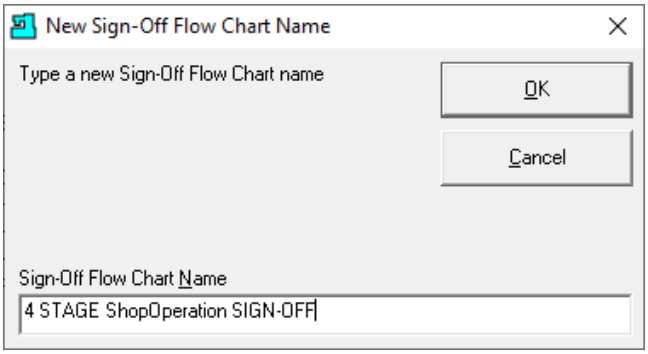
Click on the "Configure Sign-Off Flow Chart" Icon and the following Window will be displayed.

Approval Methodology (Configure Sign-Off Flow Charts – New "4 Stage ShopOperation SIGN-OFF")



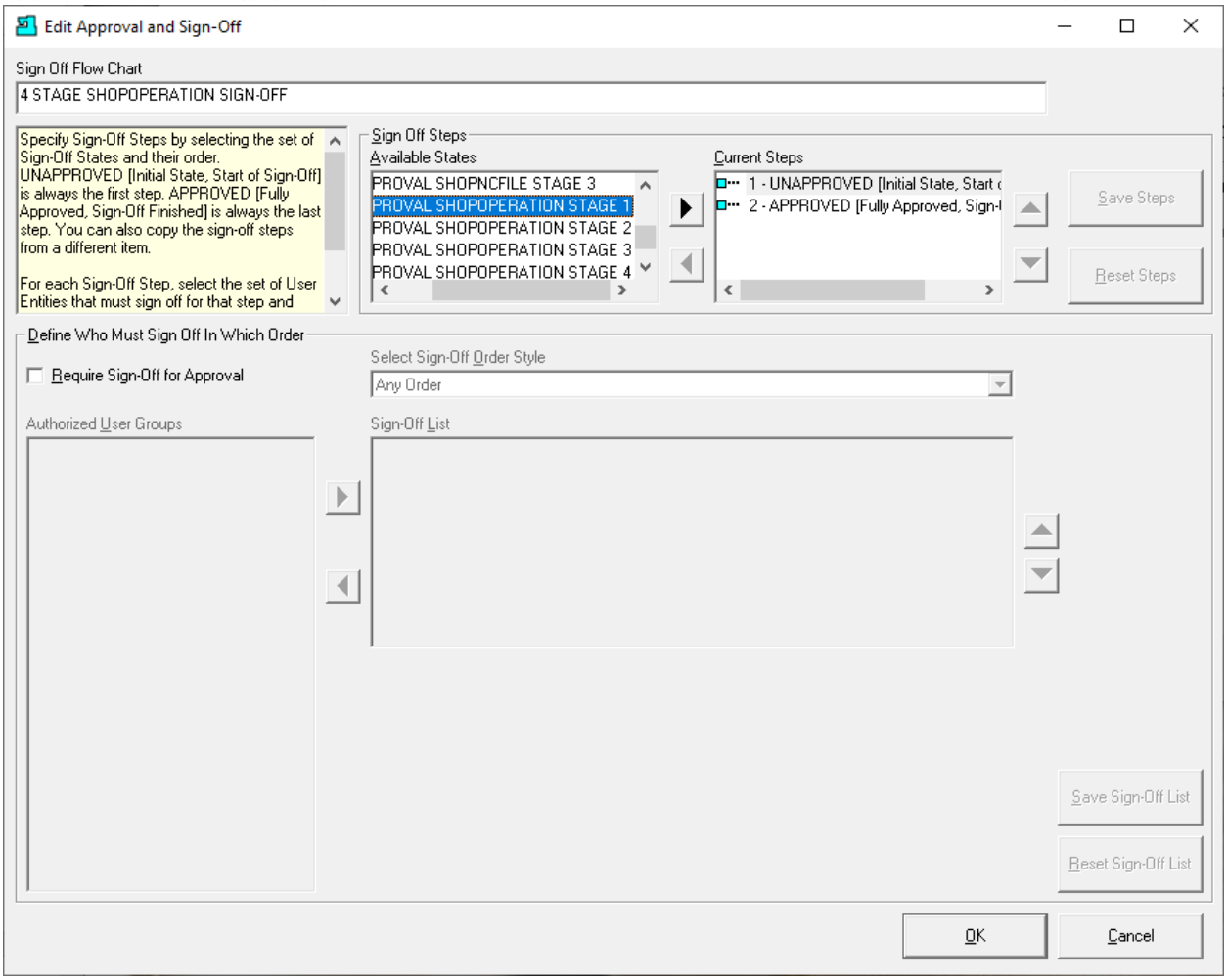
Highlight the Organizational Units "ShopOperation Approval" and click the New Button. The following Window will be displayed! Highlighting "ShopOperation Approval" will place the new Sign-Off Flow Chart in this Organizational Units!

Approval Methodology (Configure Sign-Off Flow Charts: 4 Stage ShopOperation Sign-Off)



Type "4 Stage ShopOperation SIGN-OFF" in the Text box & click the OK Button displays the following.

Approval Methodology (Configure Sign-Off Flow Charts – add all "Approval ShopOperation Stages")



The above form is used to populate "Sign Off Flow Charts" with "Sign-Off States"! We are now going to associate 4 "Sign-OFF States" with this "Sign-Off Flow Chart".

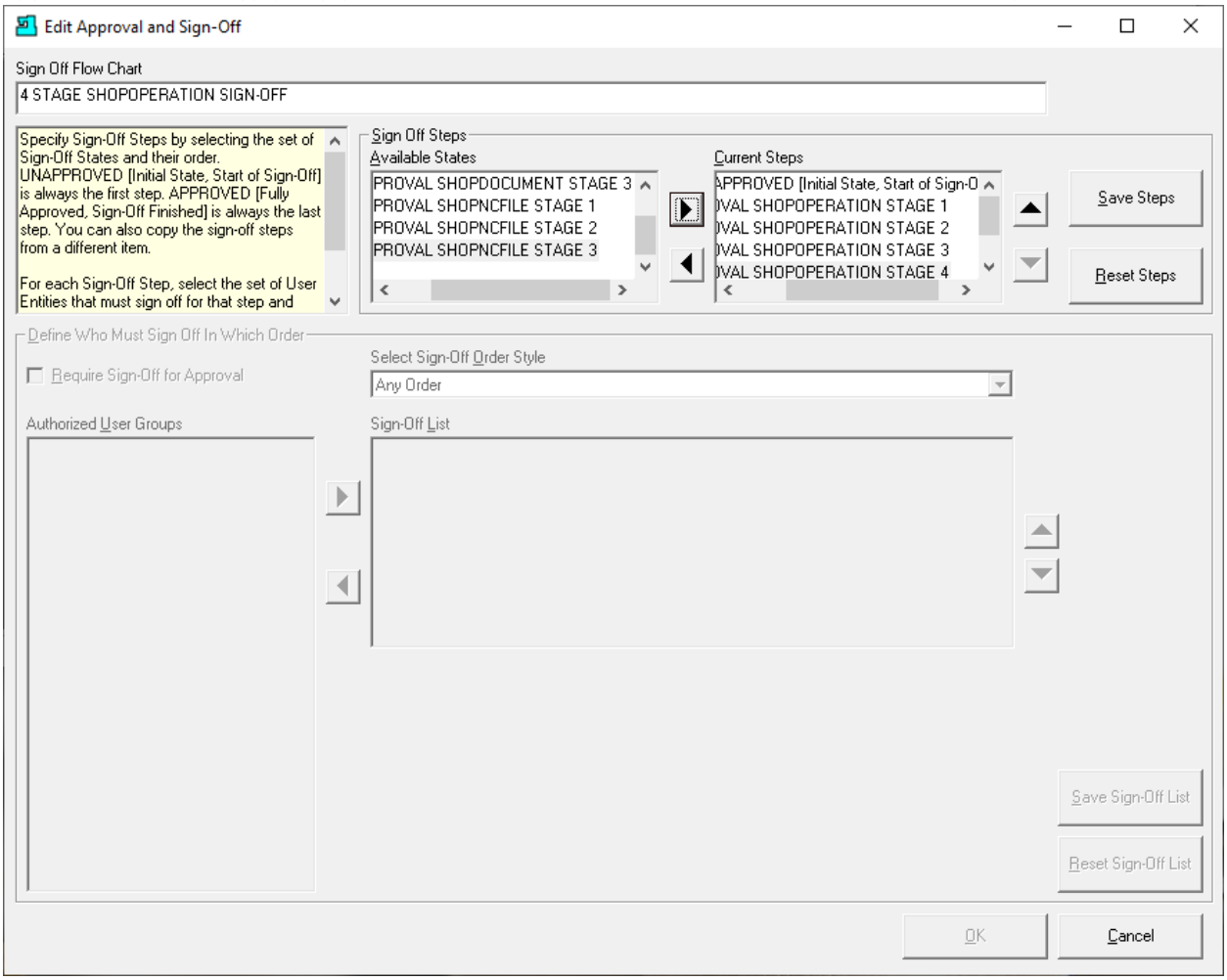
In the "Available States" Pane select the "Approval ShopOperation Stage 1" and click the black arrow head to move it into the right-hand Pane "Current Steps"!

Repeat for the following selections in this order:

1. **"Approval ShopOperation Stage 2"**
2. **"Approval ShopOperation Stage 3"**
3. **"Approval ShopOperation Stage 4"**

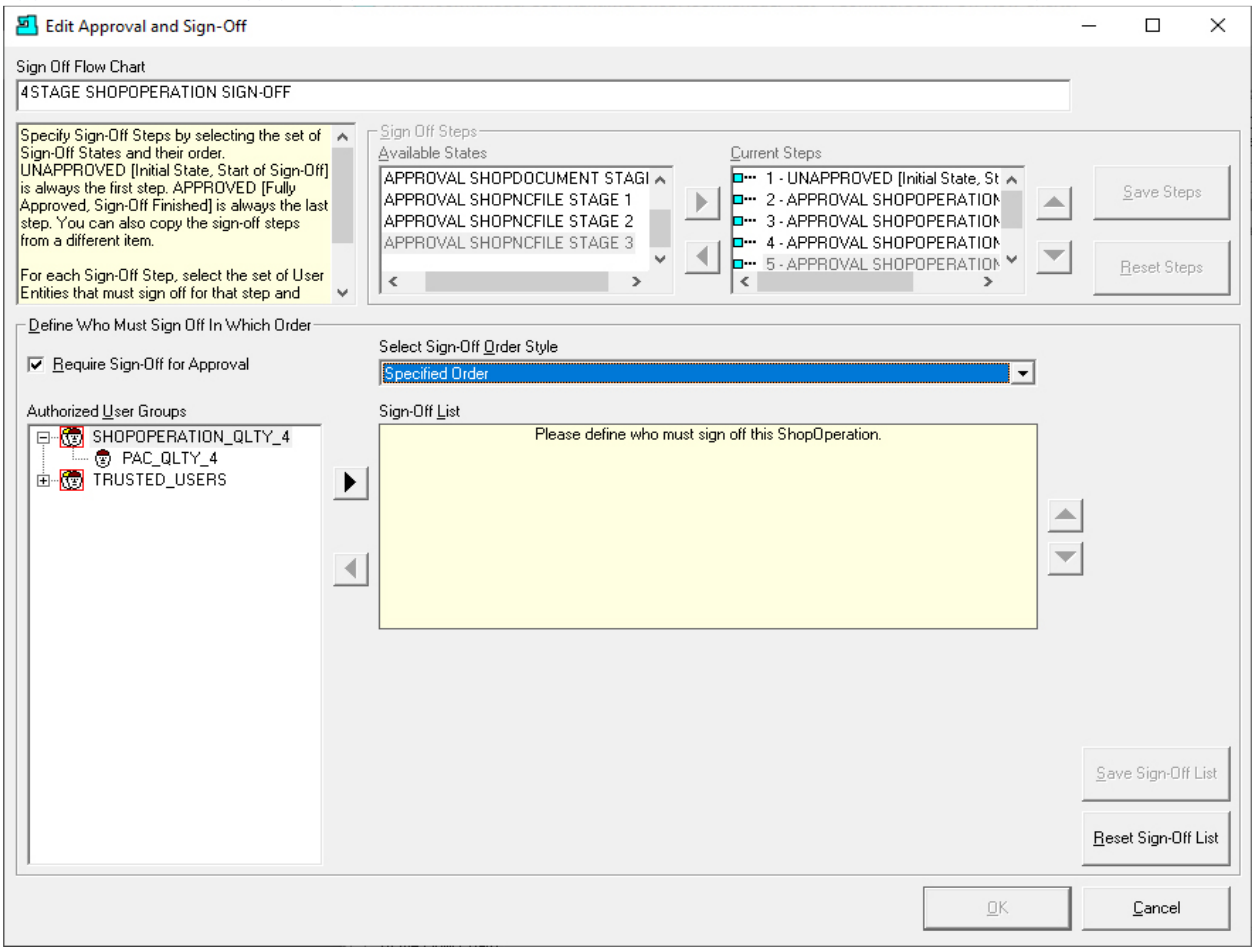
When finished the following Window is displayed.

Approval Methodology (Configure Sign-Off Flow Charts –All "Approval ShopOperation Stages")



Click the "Save Steps" Button and the following Window is displayed.

Approval Methodology (Configure Sign-Off Flow Charts –All "Approval ShopOperation Stages")



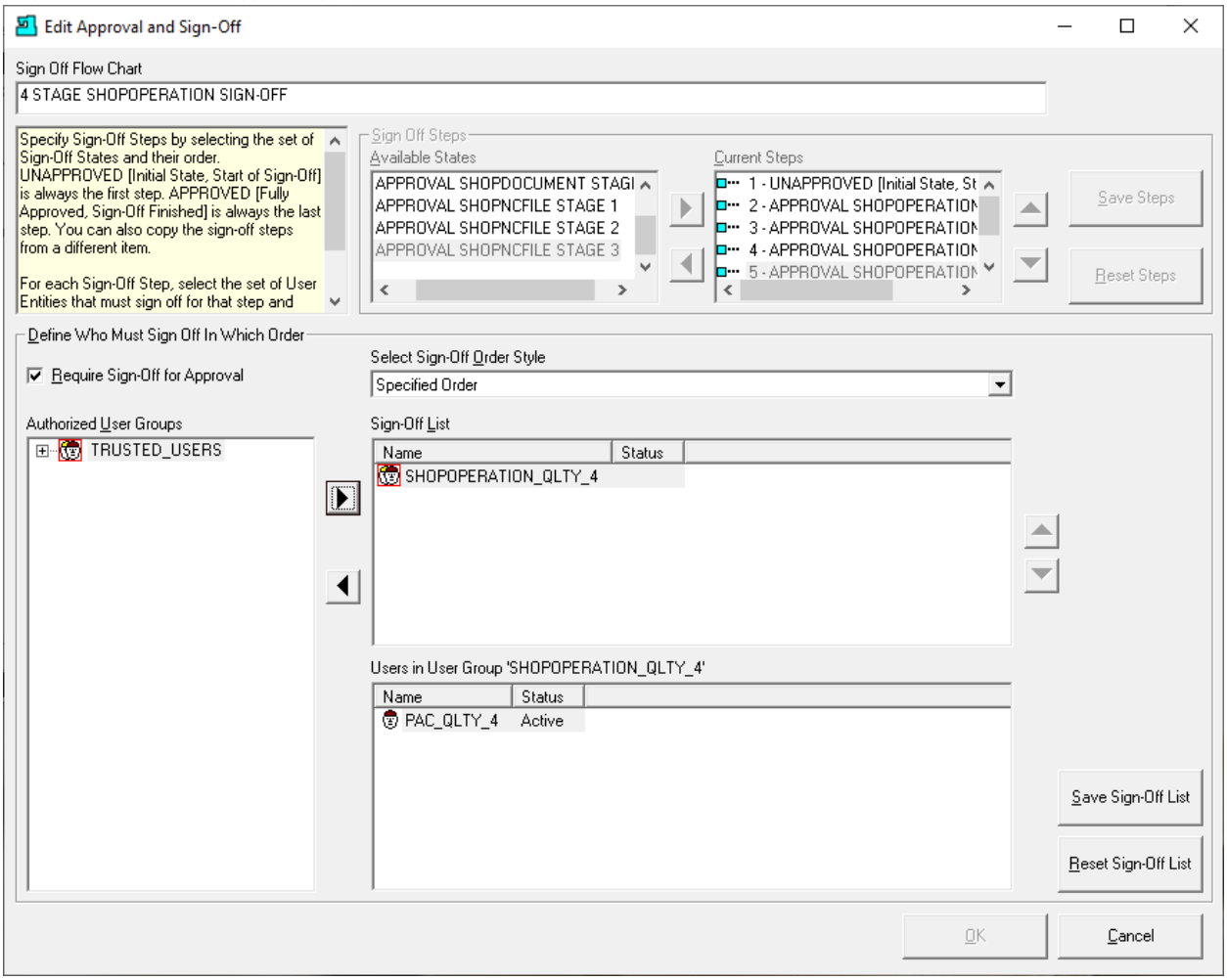
In the "Current Steps" Pane highlight "APPROVAL SHOPOPERATION STAGE 4"!

Set the Property Steps:

1. **Check the "Required Sign-Off for Approval" checkbox**
2. **Select "Specified Order" in the "Select Sign-Off Order Style" drop-down list.**
3. **Highlight the User Group "SHOPOPERATION_QLTY_4".**
4. **Click the arrow head!**

The following Window is displayed!

Approval Methodology (Configure Sign-Off Flow Charts –All "Approval ShopOperation Stages")



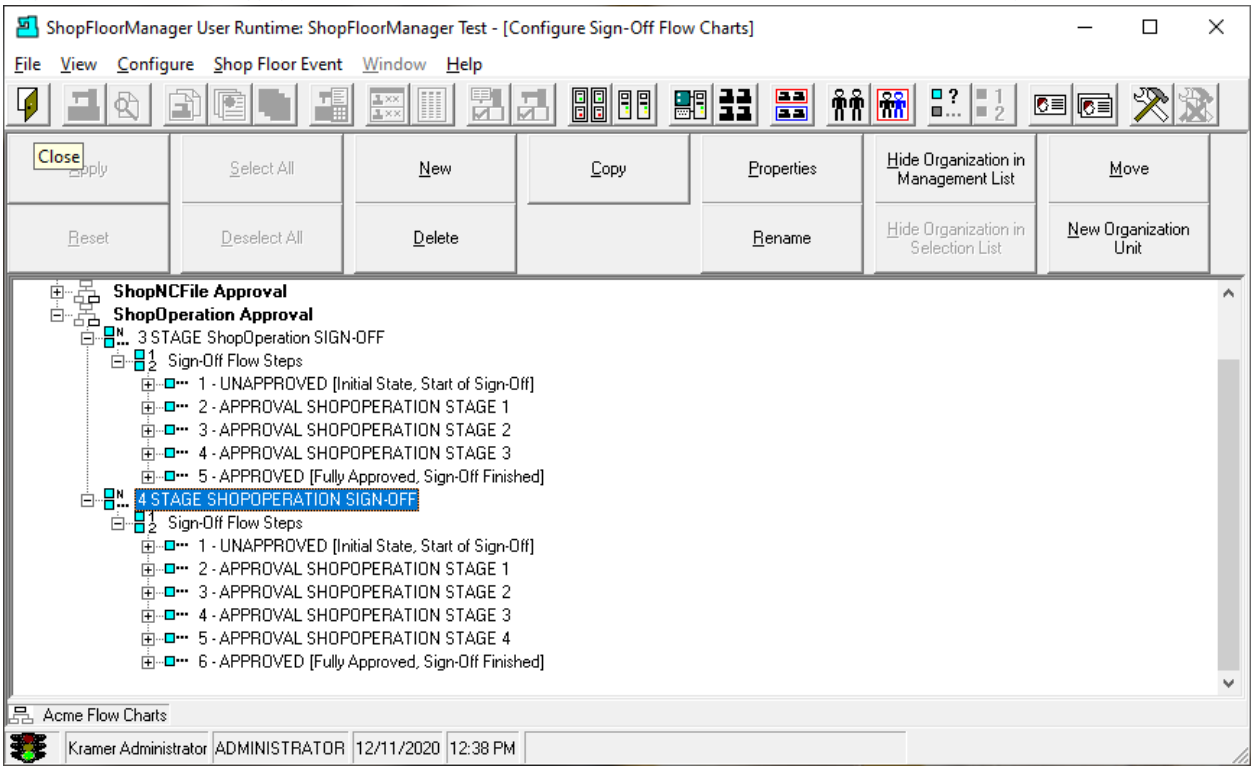
The User Group and User were moved to the right-hand Panes respectfully. The User PAC_QLTY_4 is displayed in the Lower right Pane. If there were additional Users associated with this User Group, they would all be displayed in the lower right pane indicating that any one of them could sign off this Stage!

We need to repeat this for the other 3 Steps in the "Current Steps" Pane.

When finishing each Stage click the "Save Sign-Off List" Button before moving to the next Step!

When finished click the OK Button and the following Window is displayed.

Approval Methodology (Configure Sign-Off Flow Charts – "4 Stage ShopOperation SIGN-OFF")

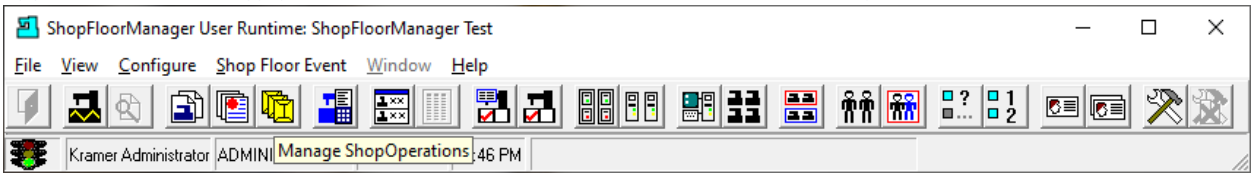


You can see the new "4 Stage ShopOperation Sign-Off" Flow Chart and all of its associated "Sign-Off States"!

Now that we have created this new "Sign-Off Flow Chart" let's demonstrate the Approval Methodology!

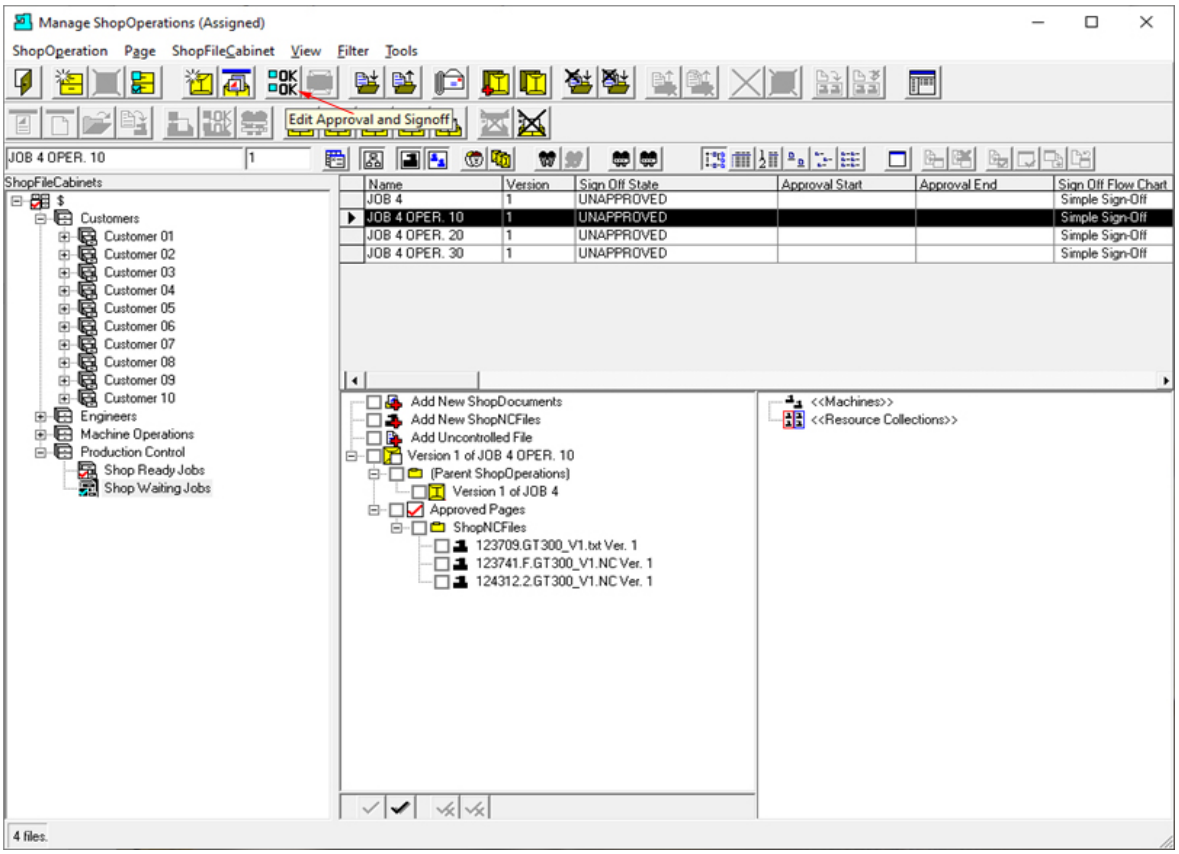
Click on the Close Icon and the following Window is displayed.

Approval Methodology (ShopFloorManager Runtime – Manage ShopOperation)



Let's investigate how to use the "Approval Methodology" for a ShopOperation (Traveler) and its Sub-ShopOperations. Click on the "Manage ShopOperation" and the following Window is displayed.

Approval Methodology (Manage ShopOperations – Job 4 OPER. 10)



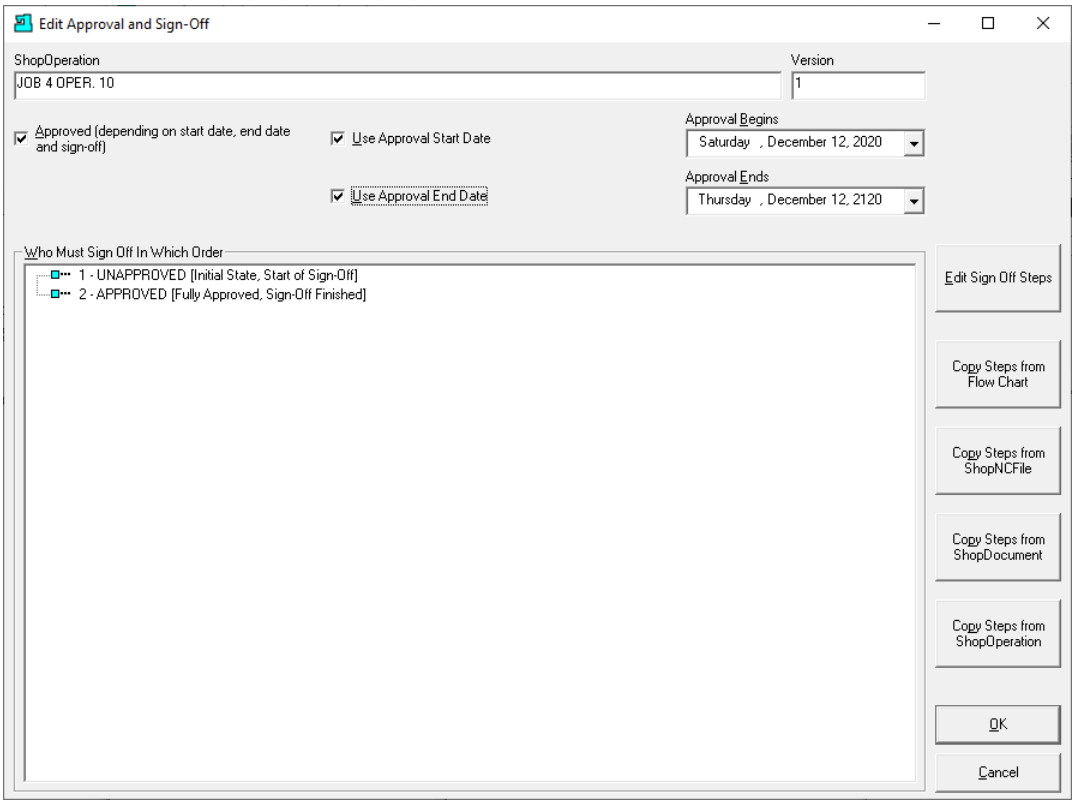
Let's start using the Approval Methodology. We will be demonstrating the use of four different "Sign-Off Flow Charts" for four different ShopOperations in the Traveler "Job 4".

The initial phase will be assigning the different "Sign-Off Flow Charts" to each of the ShopOperations so we can demonstrate the process of partial and full Approval of ShopOperations.

Note: This general procedure also applies to ShopNCFiles & ShopDocuments.

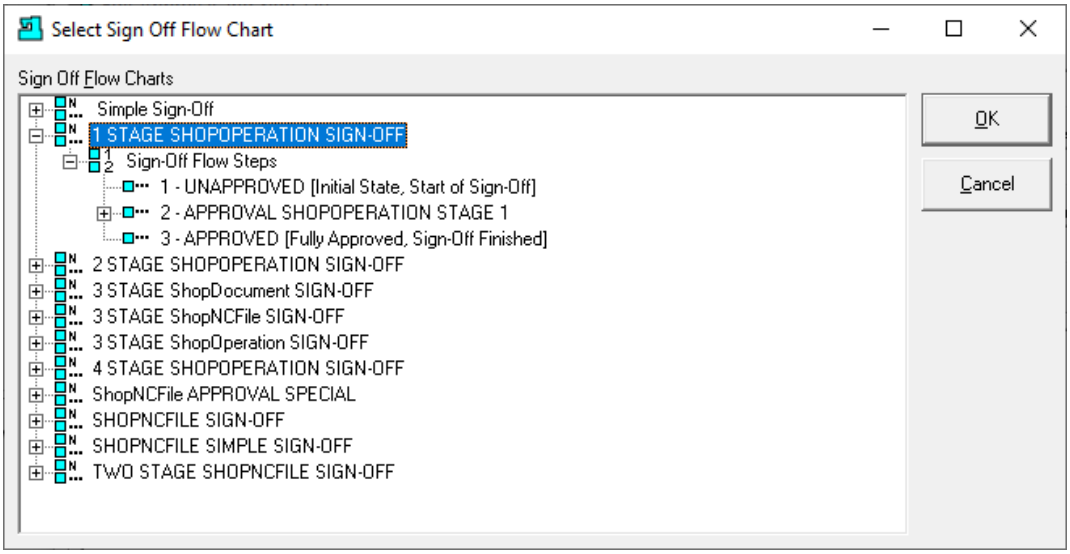
Let's start the process by highlighting "JOB 4 OPER. 10". Click the "Edit Approval and Signoff" Icon, see **red** arrow above, and the following Window will be displayed.

Approval Methodology (Selecting Approval Methodology – Job 4 OPER. 10)



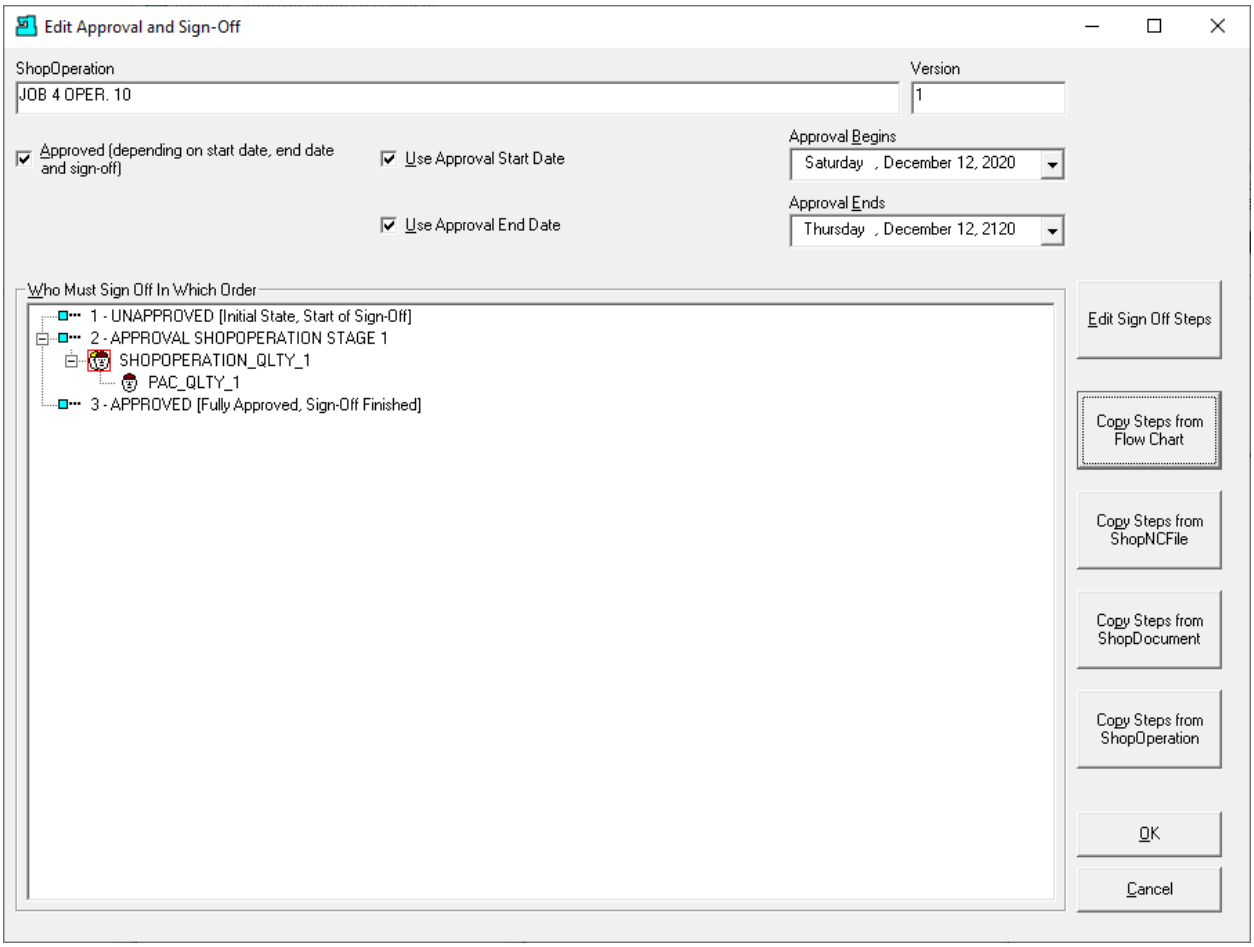
Start by checking the Checkboxes as shown above. This is a "Wrapper" around any "Sign-Off Flow Chart" we choose. Click the "Copy Steps from Flow Chart" and the following Window is displayed.

Approval Methodology (Selecting Sign Off Flow Chart – Job 4 OPER. 10)



Highlight the "1 Stage SHOPOPERATION SIGN-OFF" click the OK Button and the following Window is displayed.

Approval Methodology (1 Stage ShopOperation Sign Off – Job 4 OPER. 10)



There is only one Approval Stage for approving this ShopOperation "Job 4 OPER. 10"and the only Approver is User PAC_QLTY_1 who is a member of User Group ShopOperation_QLTY_1!

Click the OK Button!

Repeat as follows:

Job 4 OPER. 20: APPROVAL SHOPOPERTION STAGE 2 (Two Approval Stages)

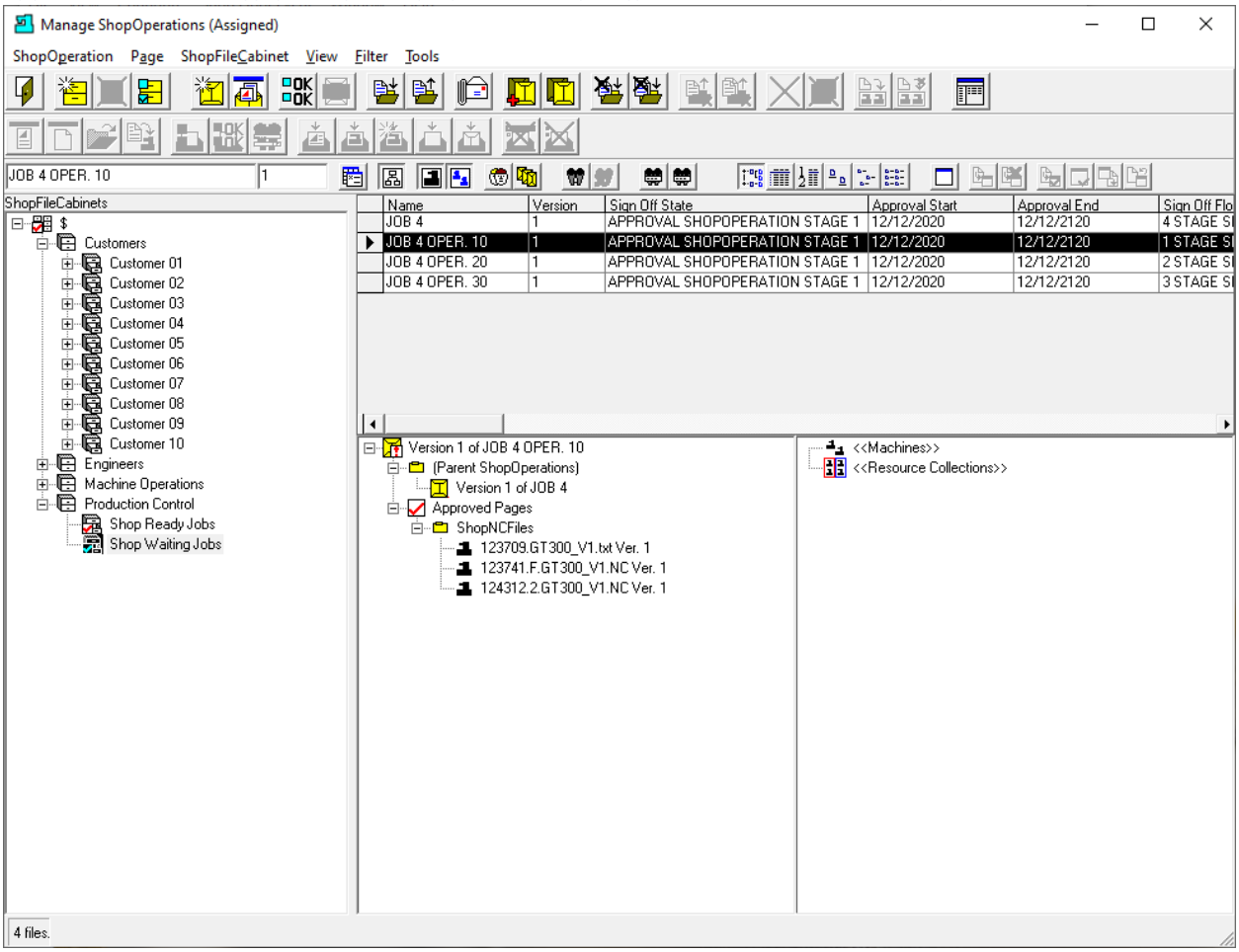
Job 4 OPER. 30: APPROVAL SHOPOPERTION STAGE 3 (Three Approval Stages)

Job 4: APPROVAL SHOPOPERTION STAGE 4 (Four Approval Stages)

After the selections, the updated Manage ShopOperation Window will look as follows.

Click the OK Button.

Approval Methodology (1 Stage ShopOperation Sign Off – All Job 4 ShopOperations)

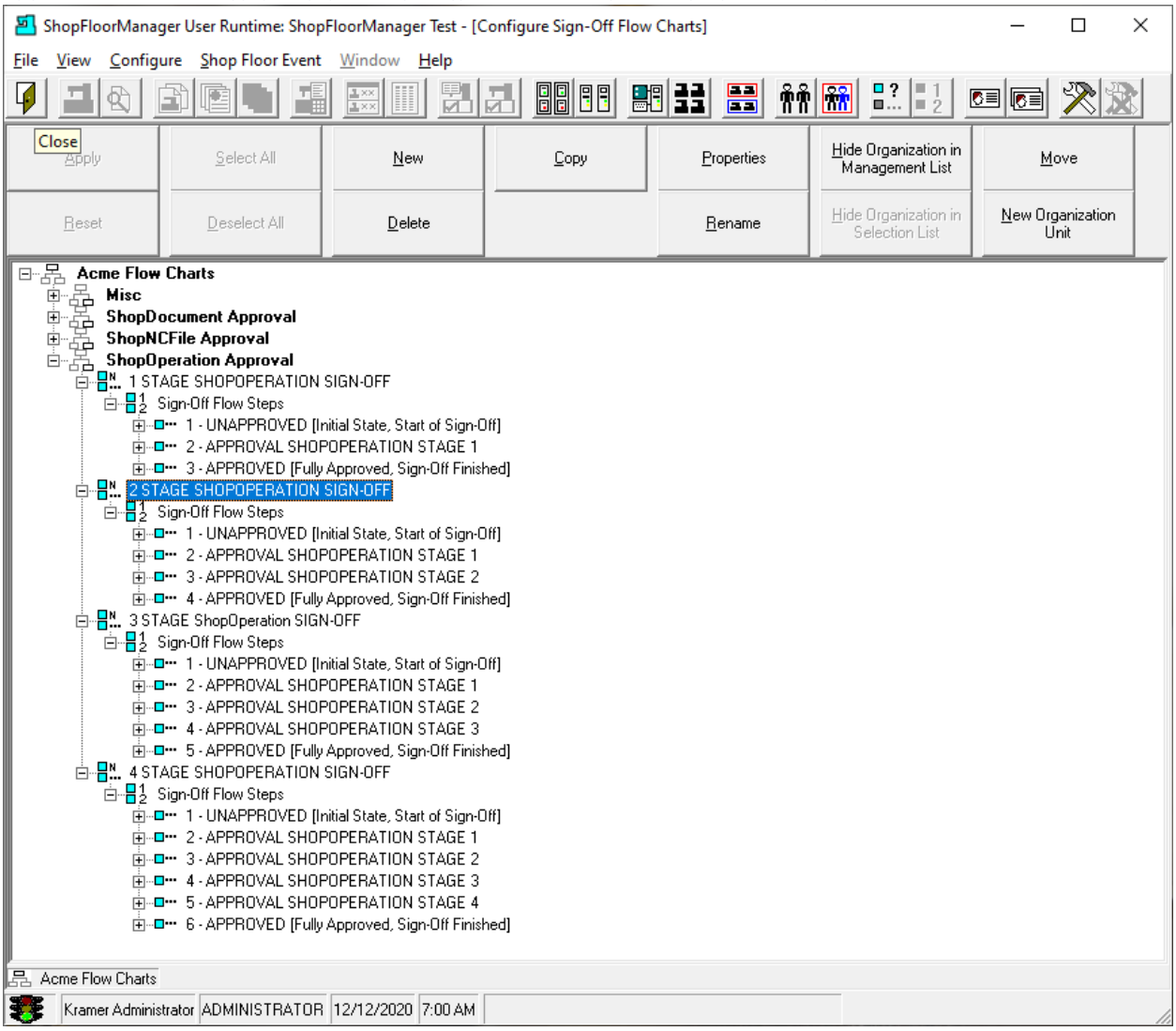


All of the ShopOperations are at the first stage of the Approval Process. See the Label "Sign Off State" Column in the right-hand upper Pane.

This indicates which Sign Off State they are presently waiting to be Approved! In this case all are in Stage 1!

See the next Page that displays all of the various "Sign-Off Flow Charts" that are going to be used in this Approval Methodology for ShopOperation Job 4 & its Sub-ShopOperations!

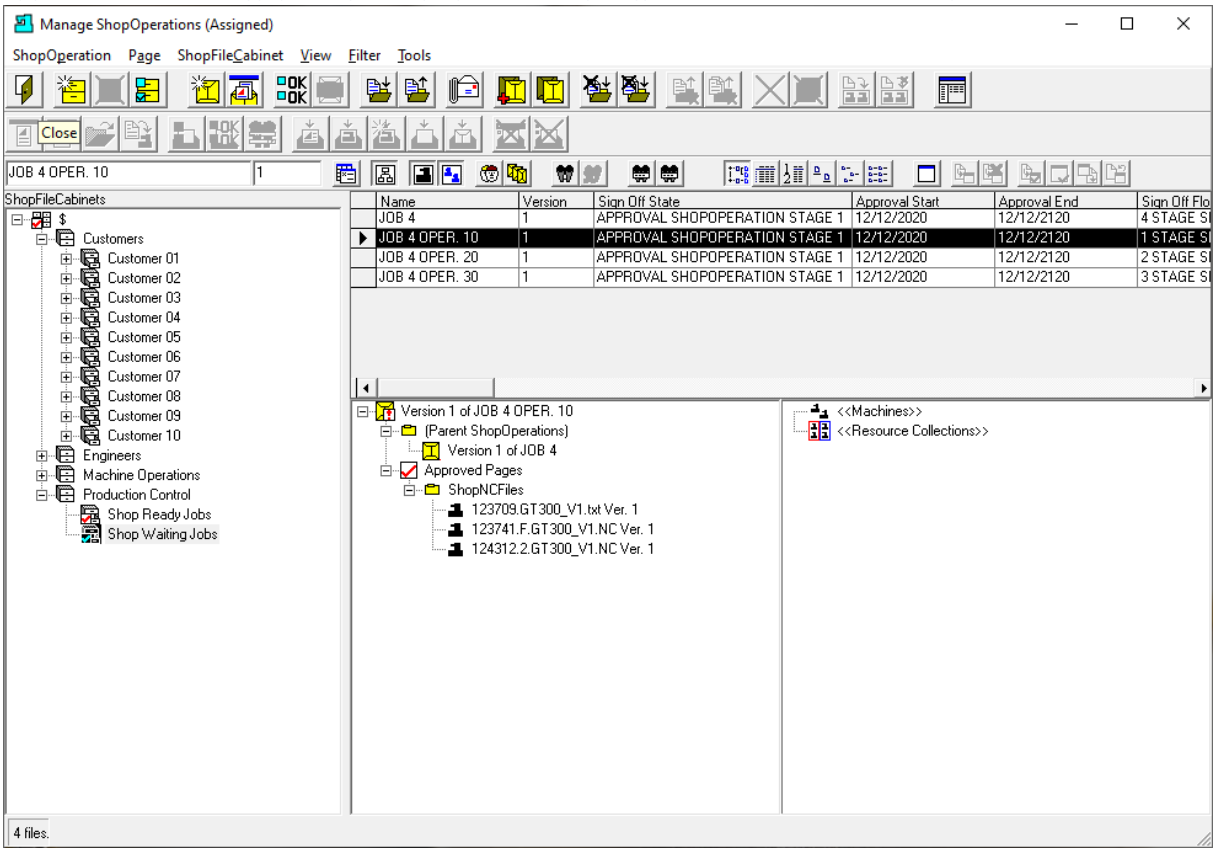
Approval Methodology (Configure Sign-Off Flow Charts for ShopOperations)



As you can see all of the first Approval Stages are identical by **choice**!

Click the Close Icon and the following Window will be displayed!

Approval Methodology (1 Stage ShopOperation Sign Off – All Job 4 ShopOperations)



Before we logout as Administrator and login as an Approver for the various ShopOperations, a comment on Security.

Notice that all of the above ShopOperations have been placed in the ShopFileCabinet “Shop Waiting Jobs”! If they were not in the same ShopFileCabinet you would not have been able to view all of them at once, at least in this particular View!

You could “Change the View” to show all of ShopOperations that have been created but the “Traveler” “Job 4” could be lost as a single entity as all ShopOperations would be visible at once! Not the end of the world but could be a bit chaotic!

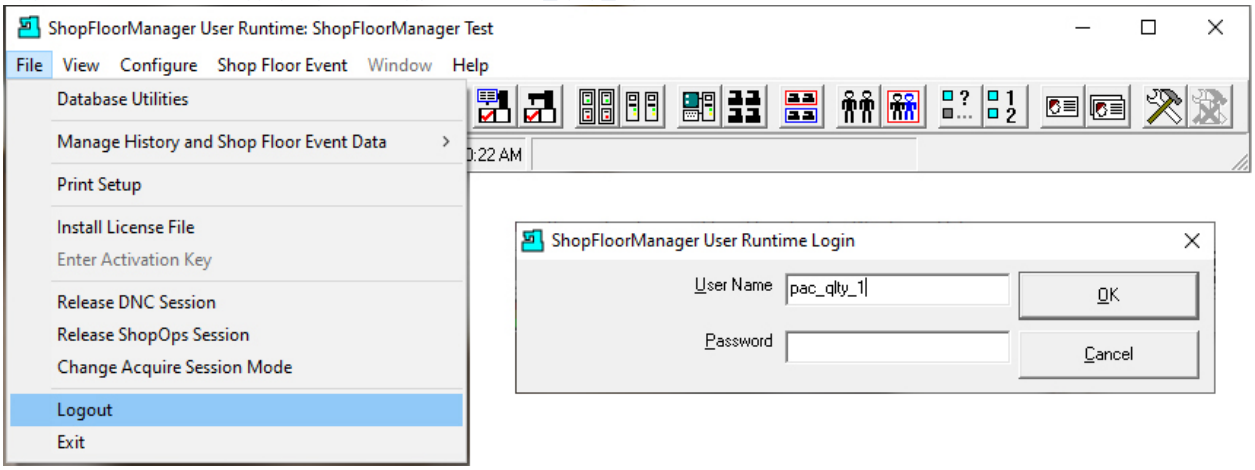
You could also use the Search Key Fields & the Search Engine to narrow down the view!

We will not pursue this, but you should be aware of other ways to skin a cat so to speak! There are many ways to locate any “Document(s)” even if there are hundreds of thousands of them!

Next, we will Fully & Partially Approve ShopOperation Job 4 & its Sub-ShopOperations.

Note: A User (Approver) must specifically have Access Rights to the ShopFileCabinet containing ShopOperations that are to be Approved! Follow this link for more information. Click the Close Icon!

Approval Methodology (Login as Approver Pac_qlty_1)

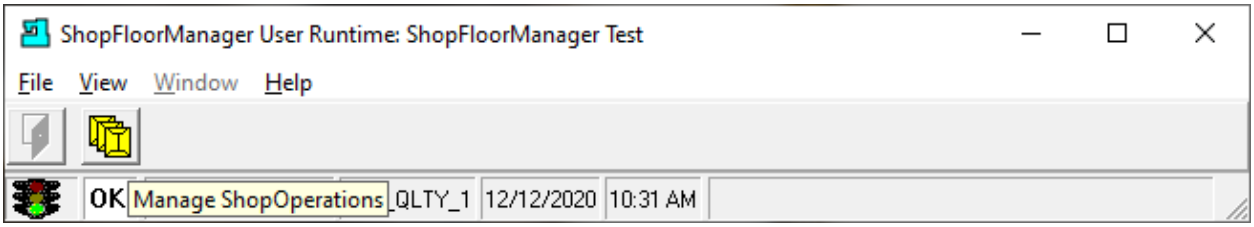


Click the File Menu in ShopFloorManager and select “Logout”. See the overlayed Window above.

Enter the Approver “pac_qlty_1”, case not important, in “User Name” textbox and click the OK Button and the following Window is displayed! If you are using a Password, it is case sensitive!

Note: We suggest using Passwords!

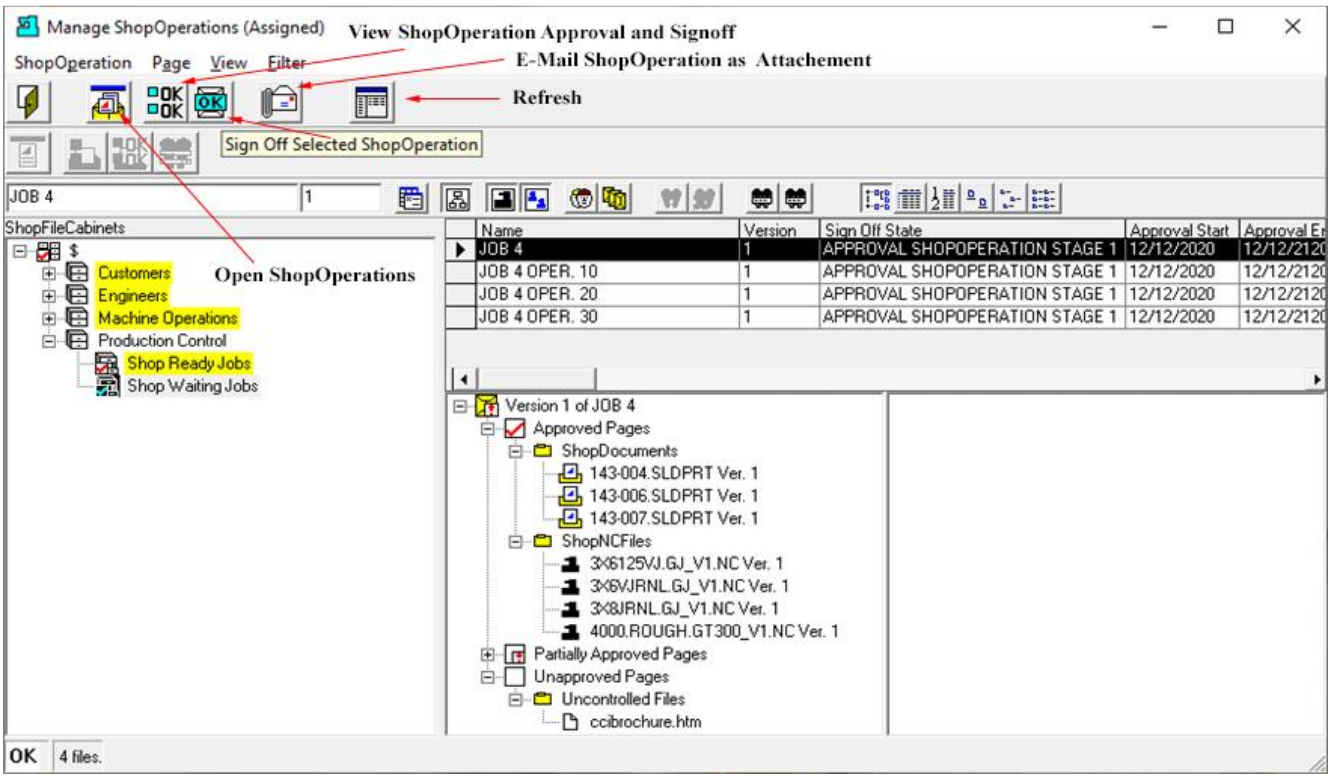
Approval Methodology (Logged in as Approver Pac_qlty_1)



Click the Manage ShopOperations Icon and the following Window is displayed.

Note: You will notice there are very few Feature Options available as the Approver’s “Rights” were extremely limited!

Approval Methodology (Ready to Approve Job 4)



As you will notice some of the ShopFileCabinets are highlighted in Yellow. This indicates that this User doesn't have full "Rights" to open these ShopFileCabinets!

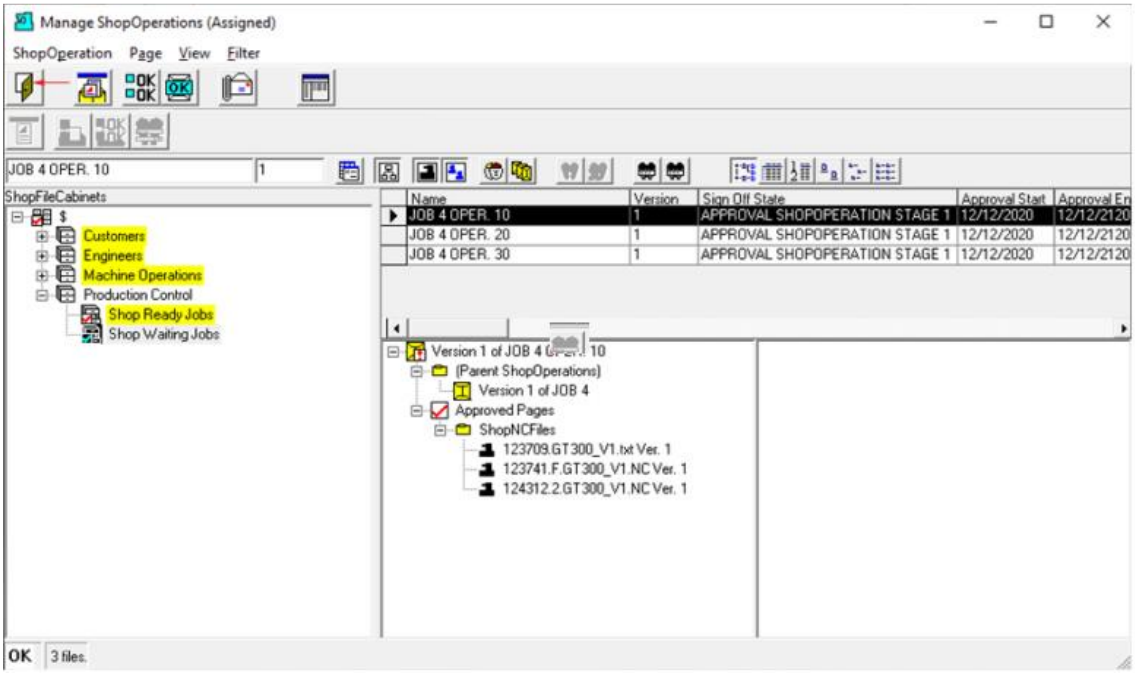
We are not going to explore the other features available to this User but here are a few comments:

1. **Open ShopOperations**
   If you click on this it will open all of the "Documents" contained in the highlighted ShopOperation. This could be a bit cluttered. Instead highlight individual "Documents" and right click and select "Open Page"!
2. **View ShopOperations Approval and Signoff**
   This will only be a View of Documents' Approval Sign-Off Steps!
3. **Sign Off Selected ShopOperation**
   Click this Icon will Approve only this Sign Off State for this "Document"!
4. **E-Mail ShopOperation as Attachment**
   If the User would like to Email this to an interested party, they would click the Icon, fill out the form and Email. I.E. Email to interest party if they had questions, they want answered before Approving!

Click the "Sign Off Selected ShopOperation" Icon and the following Window will be displayed!

Note: if you are presented with a Select Reason Form, click the link for more information!

Approval Methodology (Ready to Approve Job 4 OPER. 10)

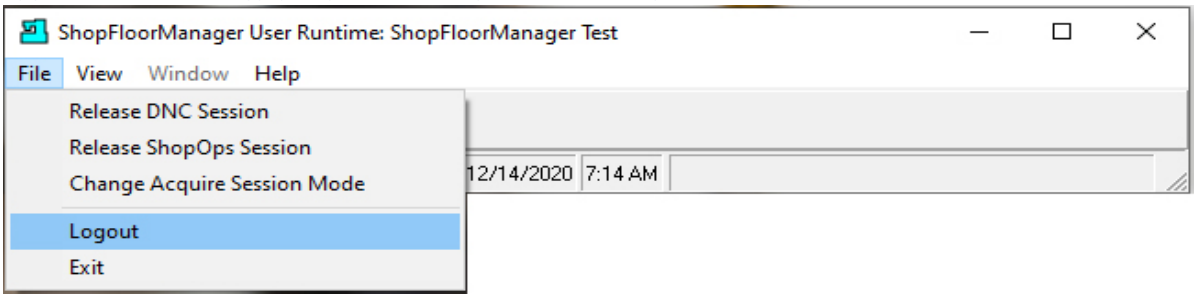


After Approving "Job 4" it is removed from the list that this User needs to Approve.

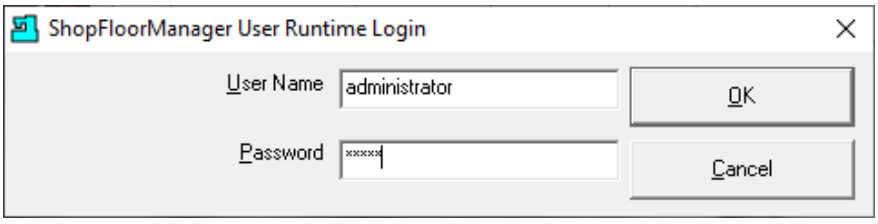
Continue with the Process of Approving the various other Stages. When complete we will view the Traveler Job 4's Approval status. Different Approvers are used for Approval at different Stages!

Click the Close Icon, see **red** arrow above, and the following Window will be displayed.

Approval Methodology (ShopFloorManager Runtime Logout Window)

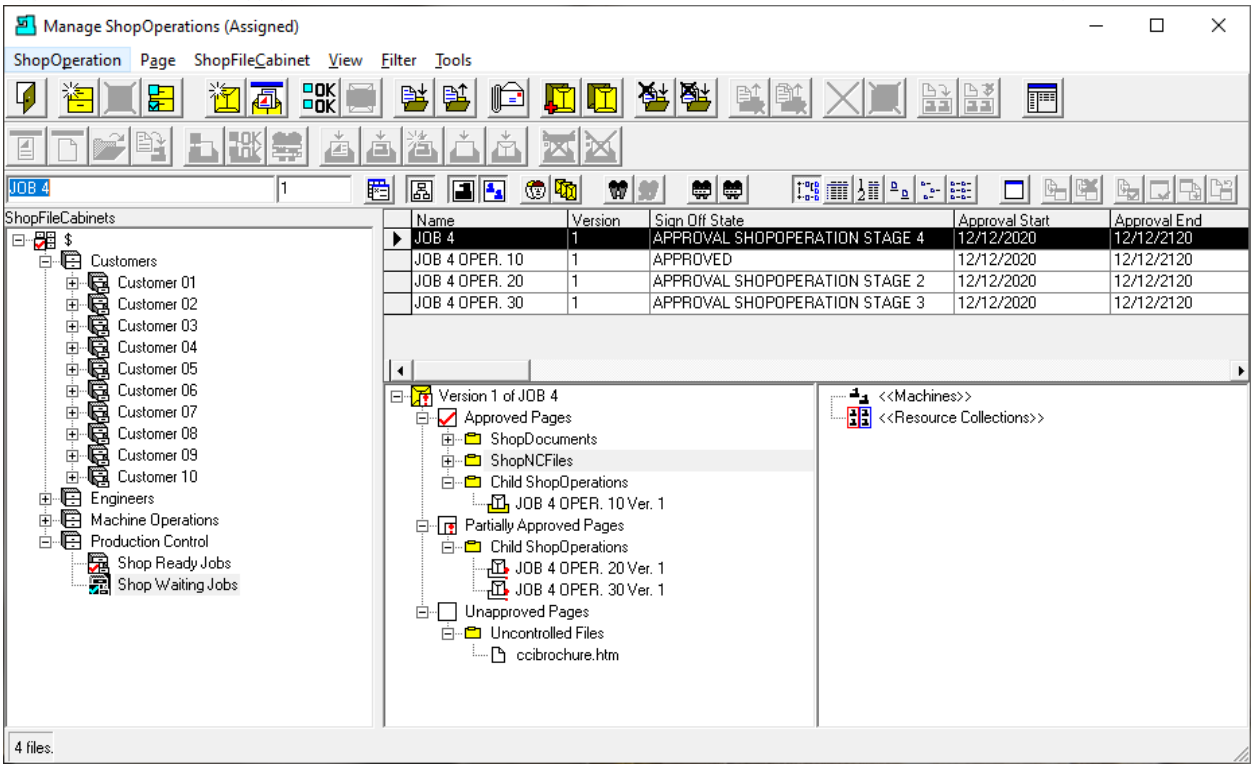


Click on the File Menu and then the Logout Menu and the following Window will be displayed.



Login as Administrator and click the OK Button and the following Window will be displayed.

Approval Methodology (Job 4 ShopOperation – Sub-ShopOperations Full & Partial Approval State)



To zoom hold the Ctrl Key while using the Mouse Wheel to zoom in and out!

The View above displays the “Sign-Off States” of Job 4 ShopOperation & it’s Sub-ShopOperations.

The **red “!”** indicates that ShopOperation is Partially Approved while the **red Checkmark** indicates it is completely signed off!

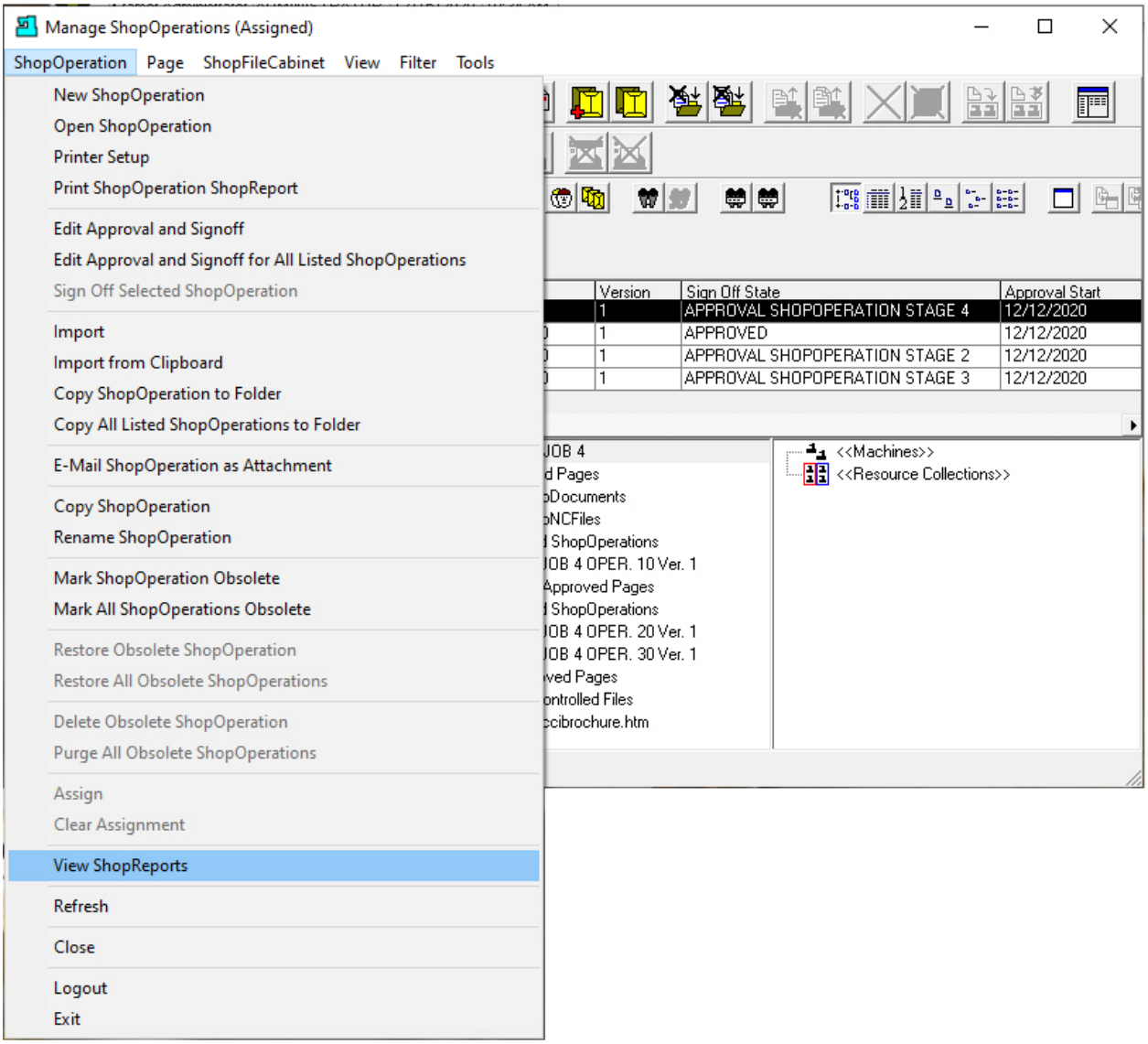
For a ShopOperation to be used in Production by shopfloor operators every ShopOperation & all of its components need to be Approved.

Note: Uncontrolled Files that are **referenced** are not controlled by ShopFloorManager!

Let’s take look at some ShopReports addressing the Approval Process.

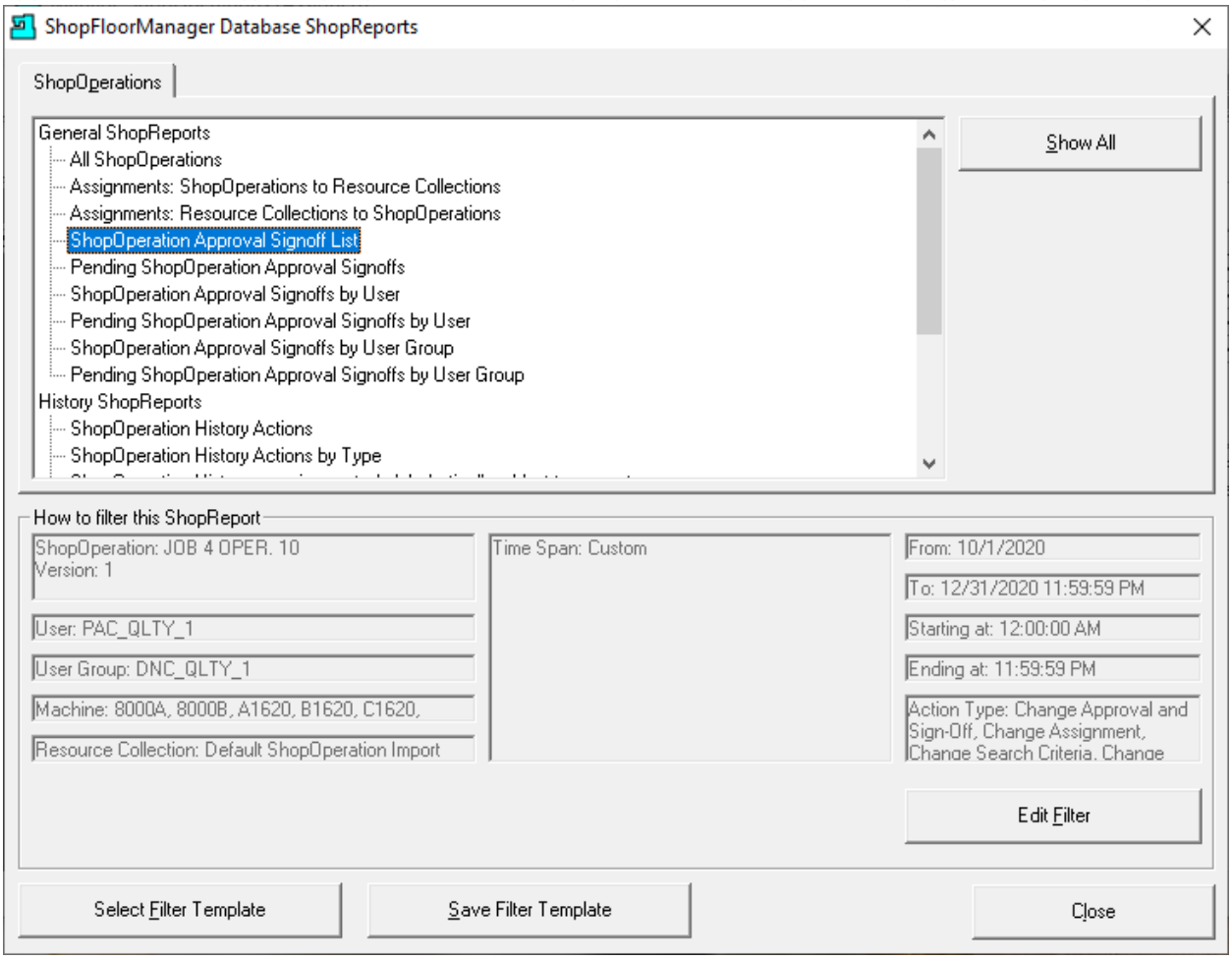
Click the ShopOperation Menu and the following Window will be displayed!

Approval Methodology (ShopOperation – View ShopReports)



Click the “View ShopReports” Menu and the following Window will be displayed.

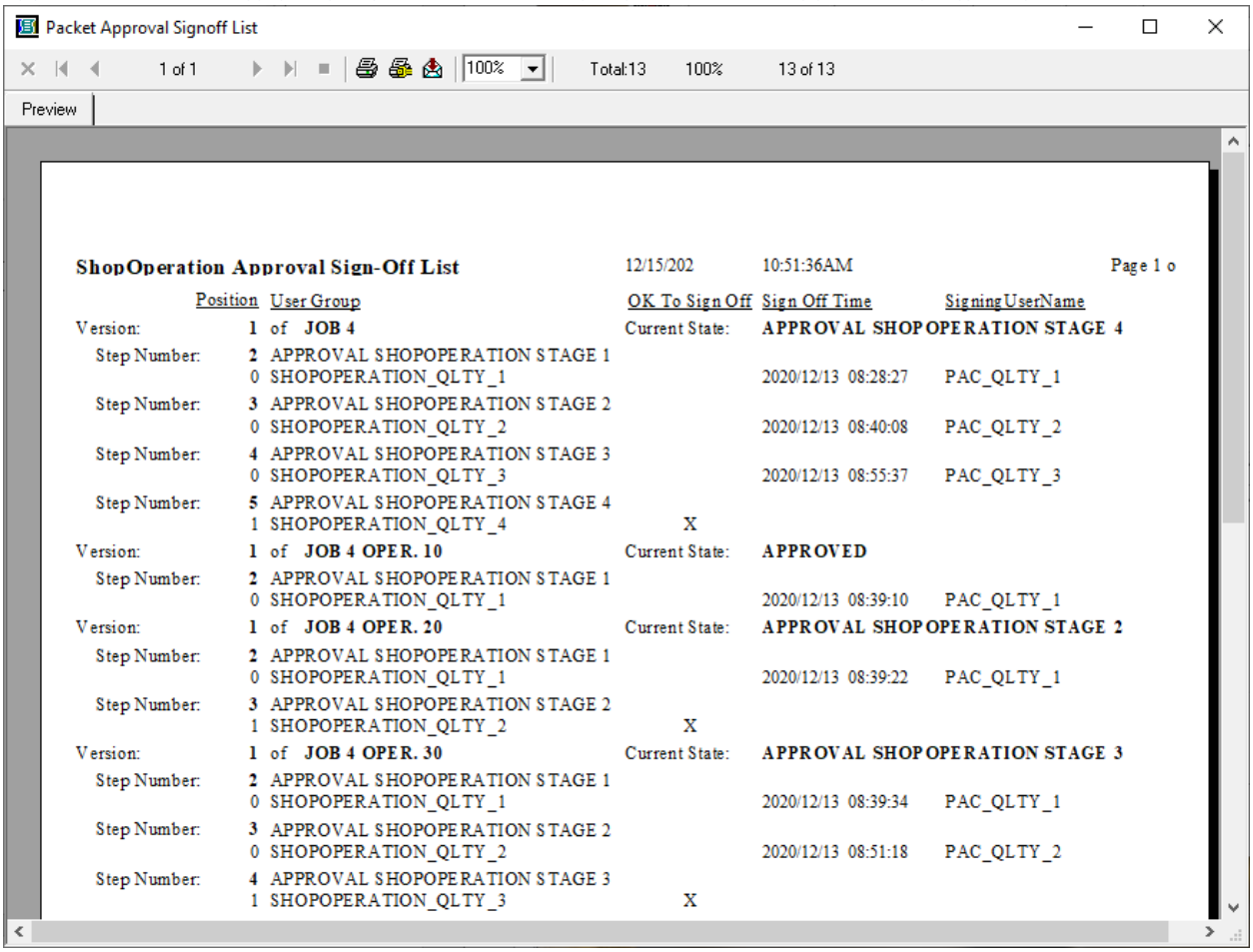
Approval Methodology (ShopReports General ShopReports: Packet Approval Signoff List Highlighted)



Highlight the “ShopOperation Approval Signoff List” and click the “Show All” Button and a Report is generated as follows.

Note: See ShopReport Filter for details on configuration!

Approval Methodology (ShopReports General ShopReports: Packet Approval Signoff List)



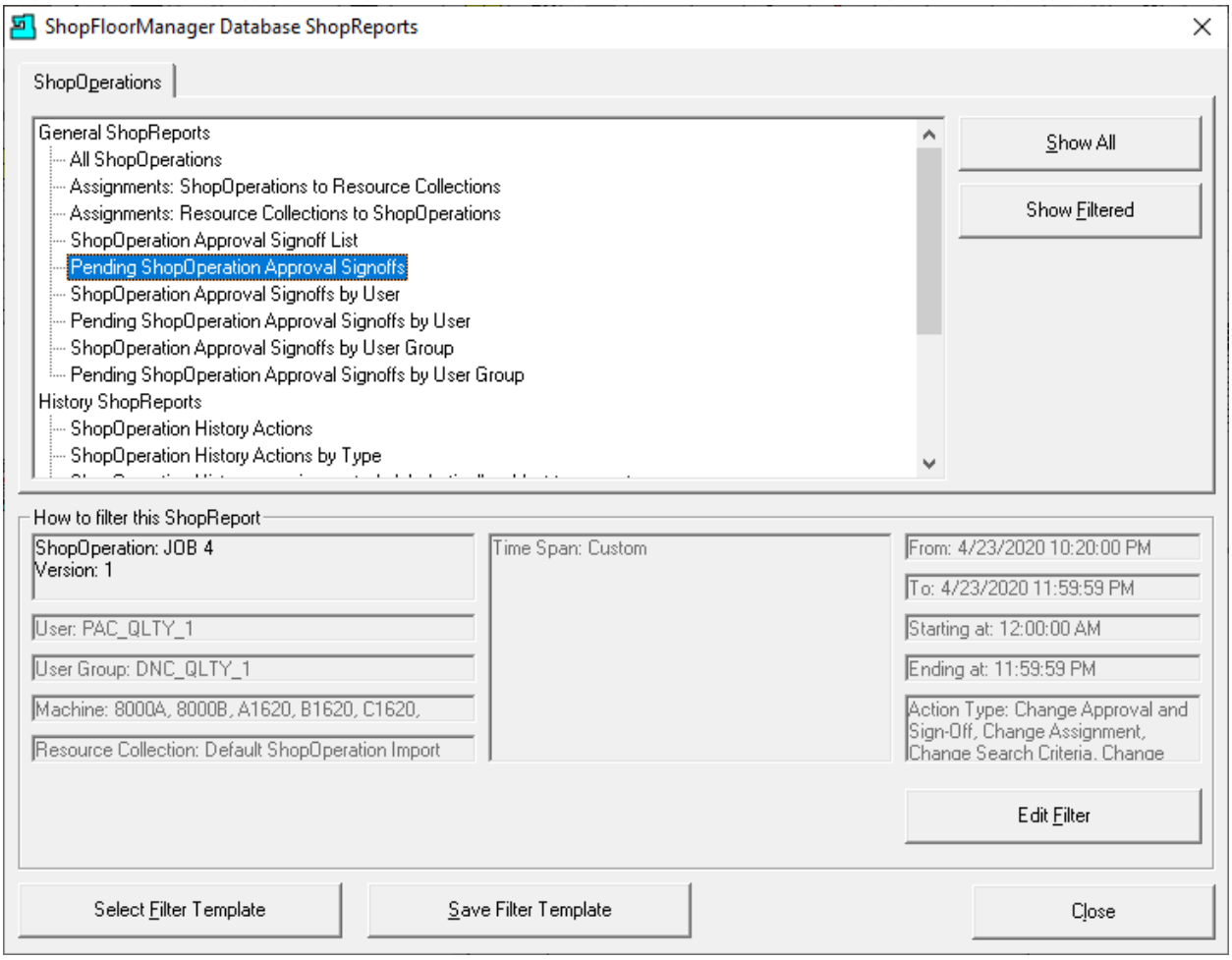
This Report presents the present “ShopOperation Approval Sign-Off List” of all ShopOperations. This includes the States signed off and those waiting to be signed off. It records when and who signed off on the Approval!

Great for Company & Quality Audits.

Note: We are only showing the ShopOperation Job 4 & its Sub-ShopOperations!

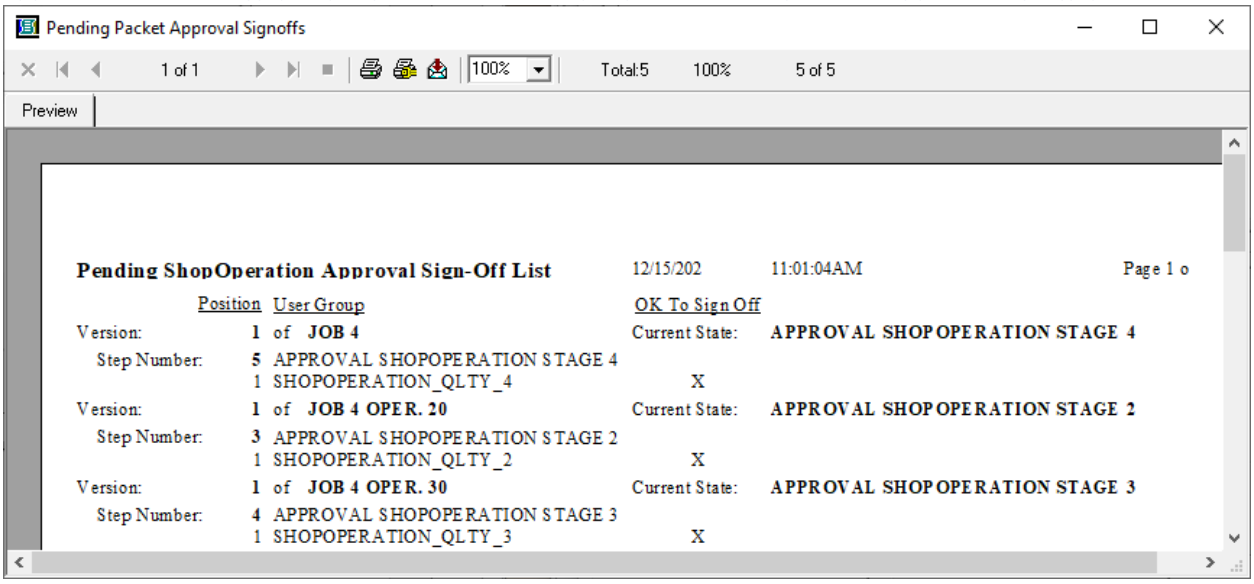
Close this Report and the previous Window will be displayed.

Approval Methodology (ShopReports General ShopReports: Pending Packet Approval Signoffs Highlighted)



Highlight the “Pending Packet Approval Signoffs” and click the “Show All” Button and a Report is generated as follows.

Approval Methodology (ShopReports General ShopReports: Pending Packet Approval Signoffs)



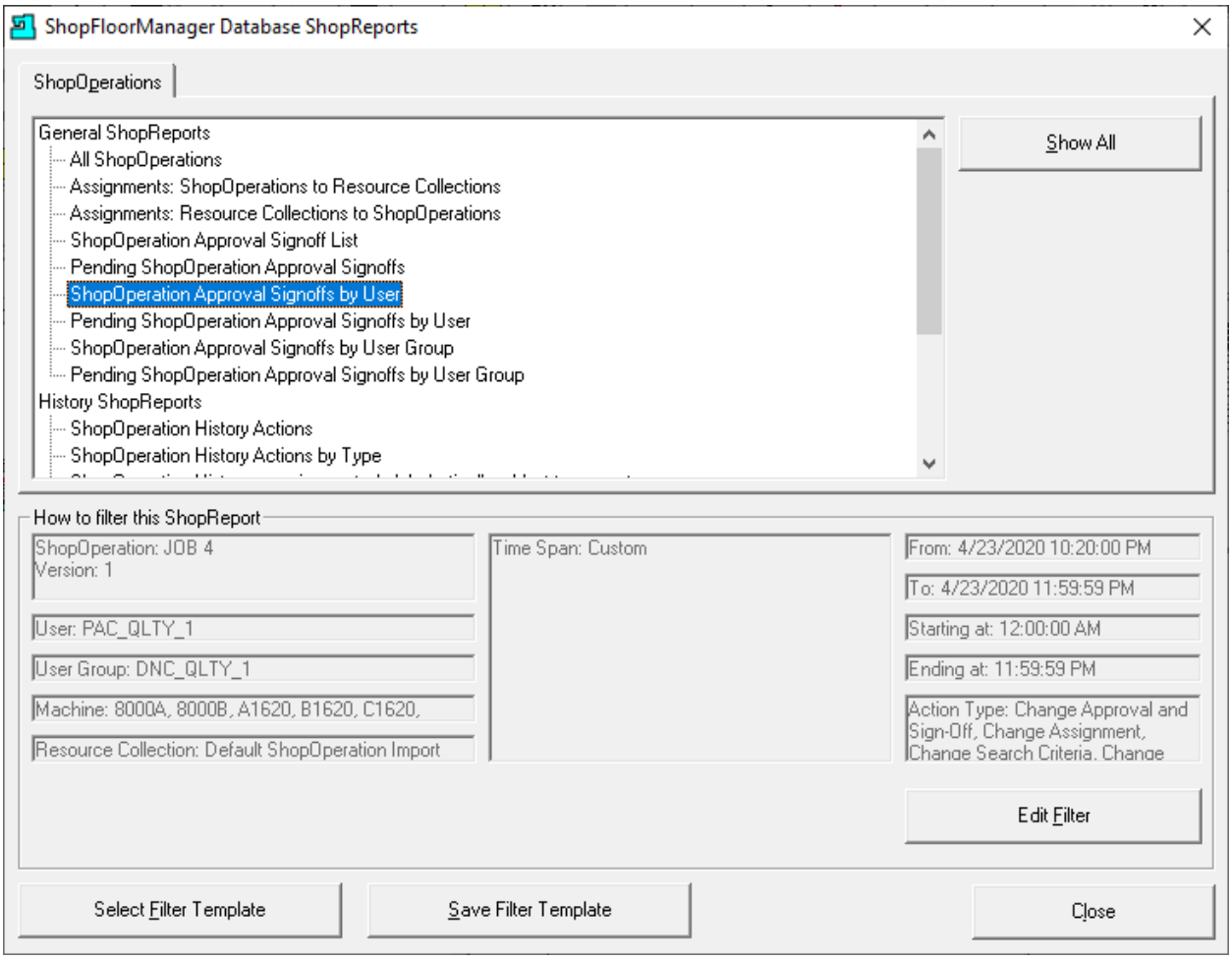
This Report presents the present “Pending ShopOperation Approval Sign-Off List” 0f all ShopOperations. This includes the present States and the next to be signed!

Great for Company & Quality Audits.

Note: We are only showing the ShopOperation Job 4 & its Sub-ShopOperations!

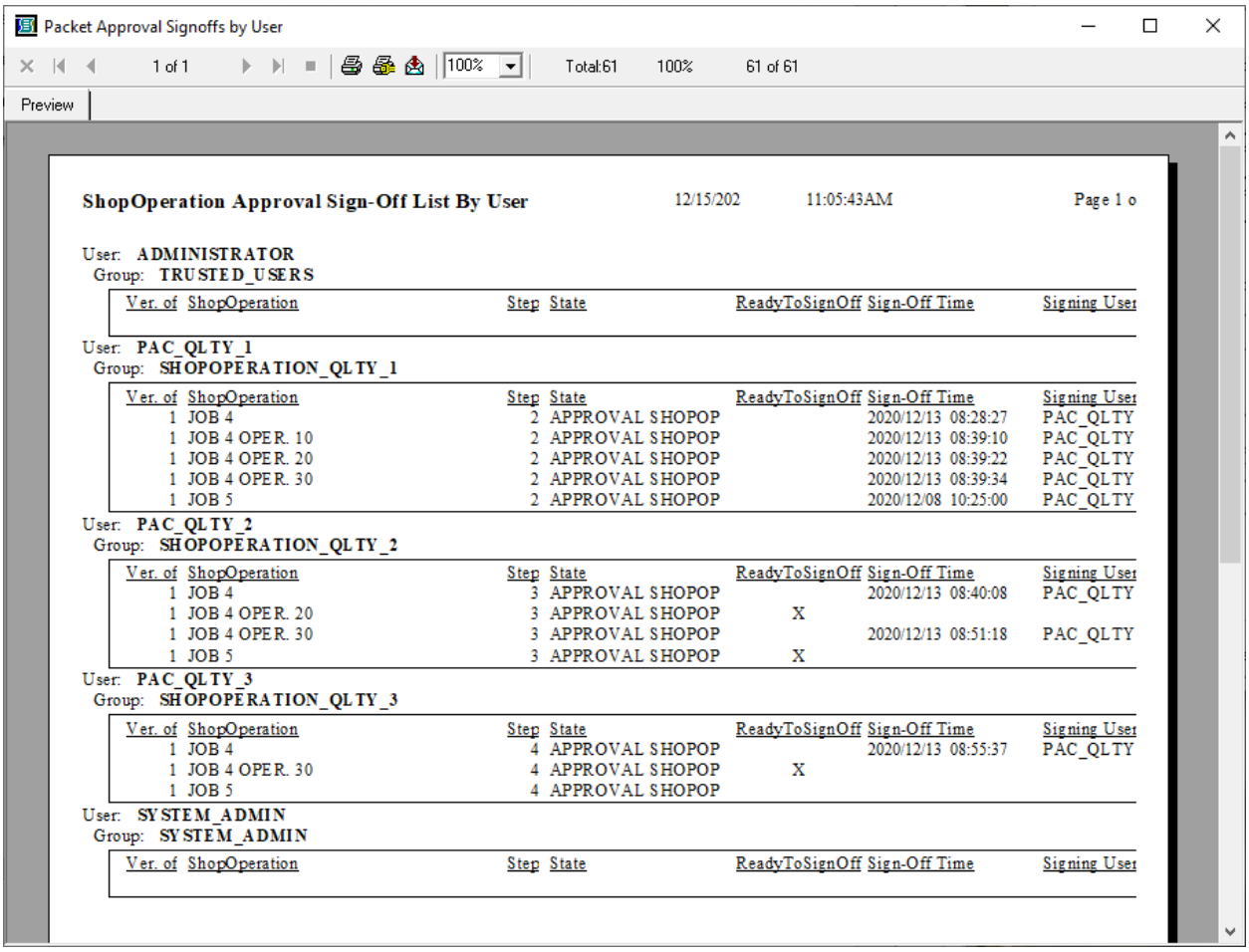
Close this Report and the previous Window will be displayed.

Approval Methodology (ShopReports General ShopReports: Packet Approval Signoffs by User Highlighted)



Highlight the “Packet Approval Signoffs by User” and click the “Show All” Button and a Report is generated as follows.

Approval Methodology (ShopReports General ShopReports: Packet Approval Signoffs by User)



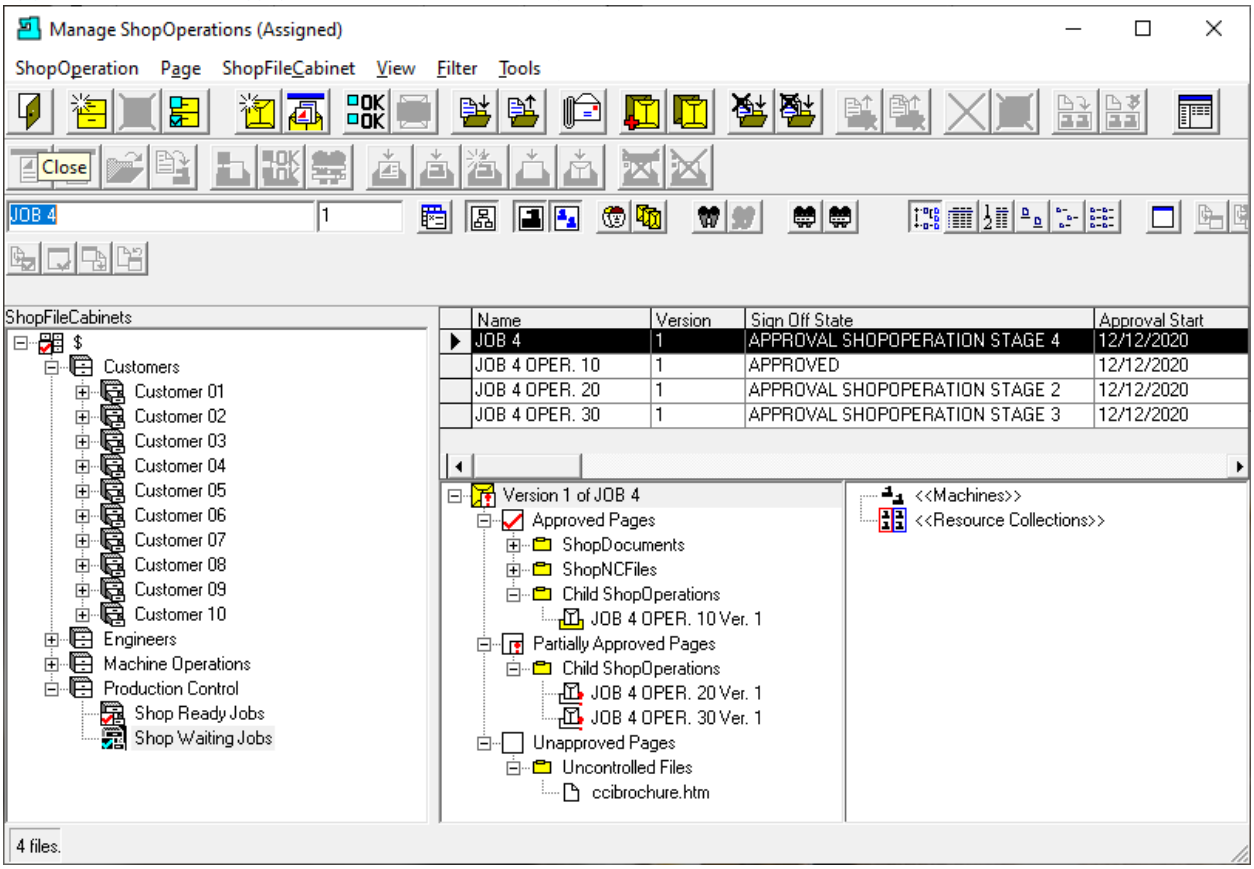
This Report presents the present “ShopOperation Approval Sign-Offs by User” of all ShopOperations. This includes the present States and the next to be signed!

Great for Company & Quality Audits.

Close this Report and the previous Window will be displayed.

Note: There are many other ShopReports, but this will provide a starting point for exploring the different ShopReports.

Approval Methodology (Manage ShopOperations)



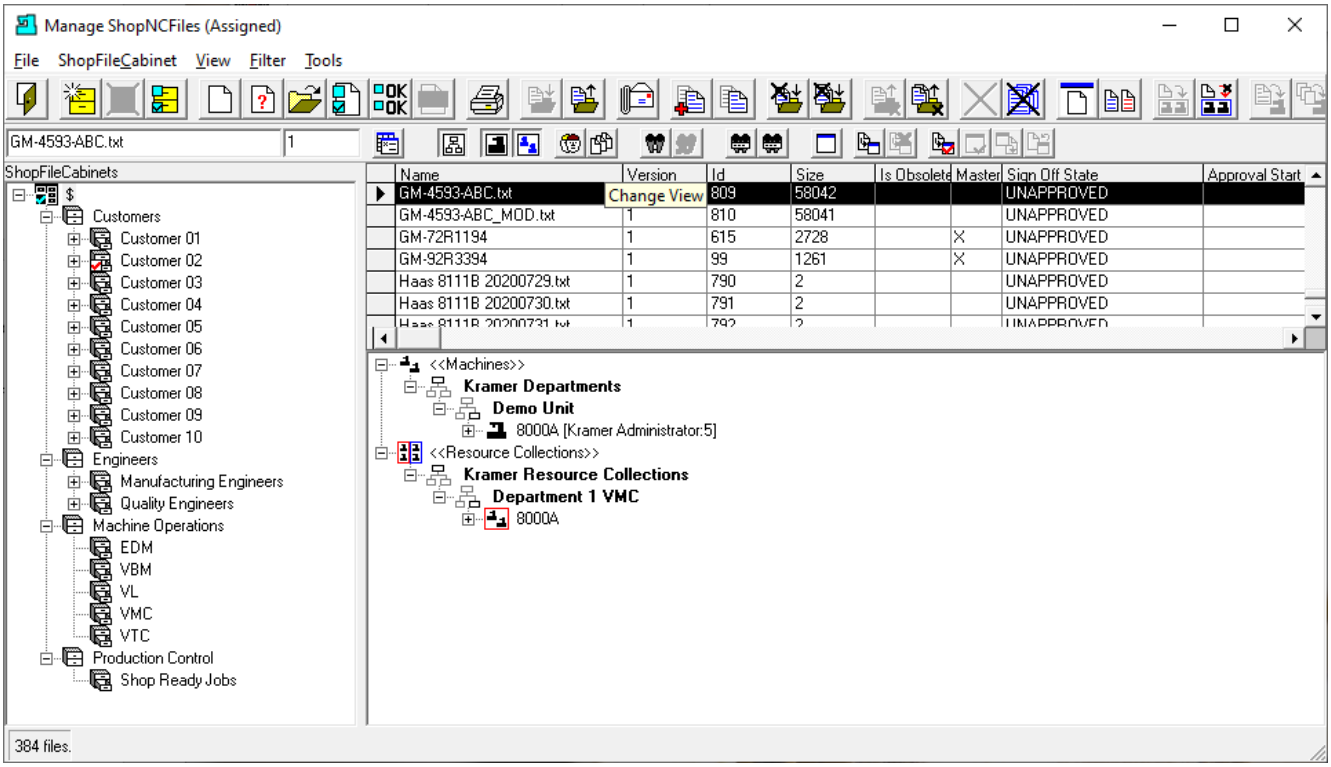
This finishes the Approval Methodology section. Click the Close Icon.

Change View (Looking at Relationships from different Views! An Article from CNC Psychologist!)

ShopFloorManager deals with many relationships when dealing with ShopNCFiles, ShopDocuments & ShopOperations and would be impossible to provide a fixed number of Views to deal with every situation.

To manage generating these various relationships ShopFloorManager provides a View Configuration Form for selecting specific parameters to provide a View that will meet the needs of every User.

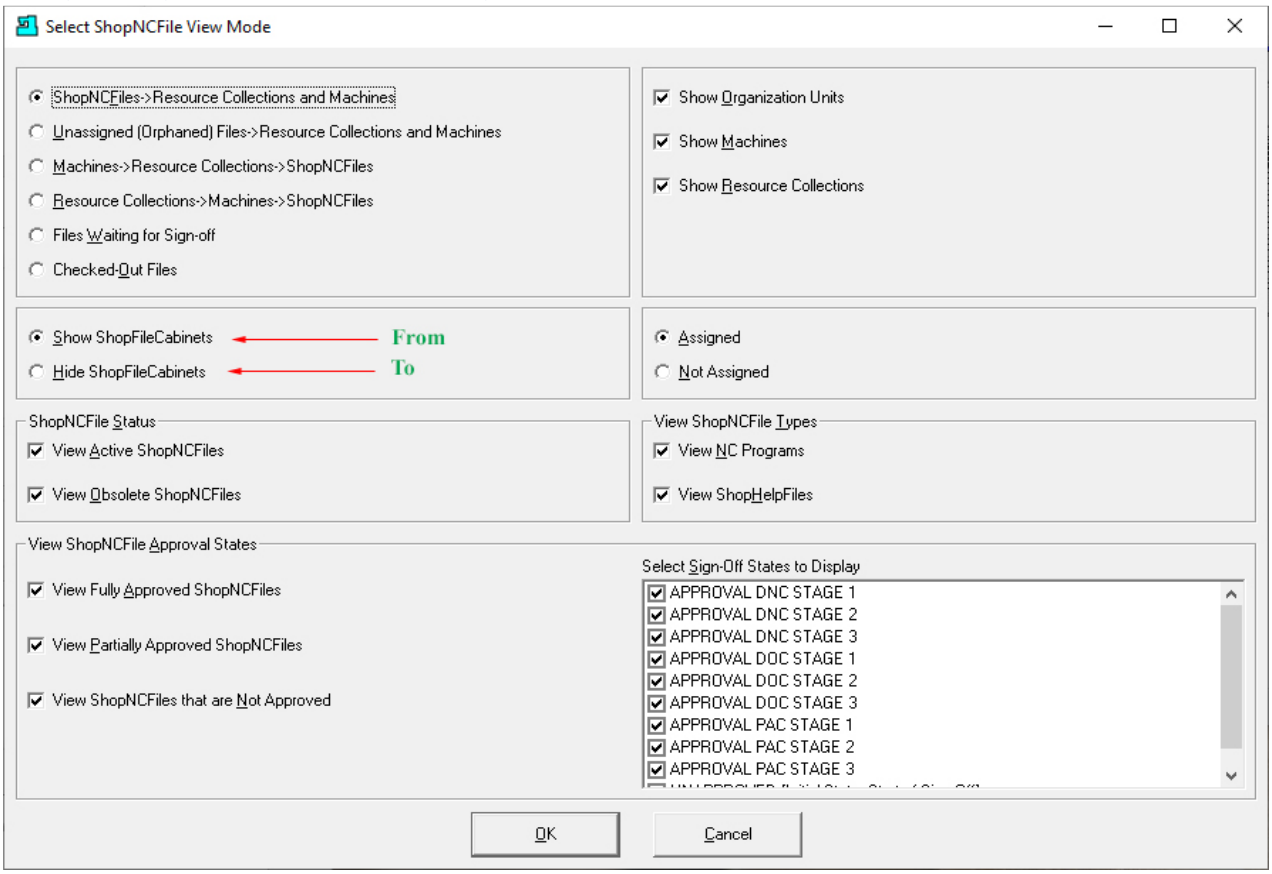
Change View (Manage ShopNCFiles)



Let's get started by using a "Basic View" as show above and look at several different parameter settings to see the effect on the working view.

Click on the "Change View" Icon and the following Window is displayed.

Change View (Select ShopNCFile View Mode)

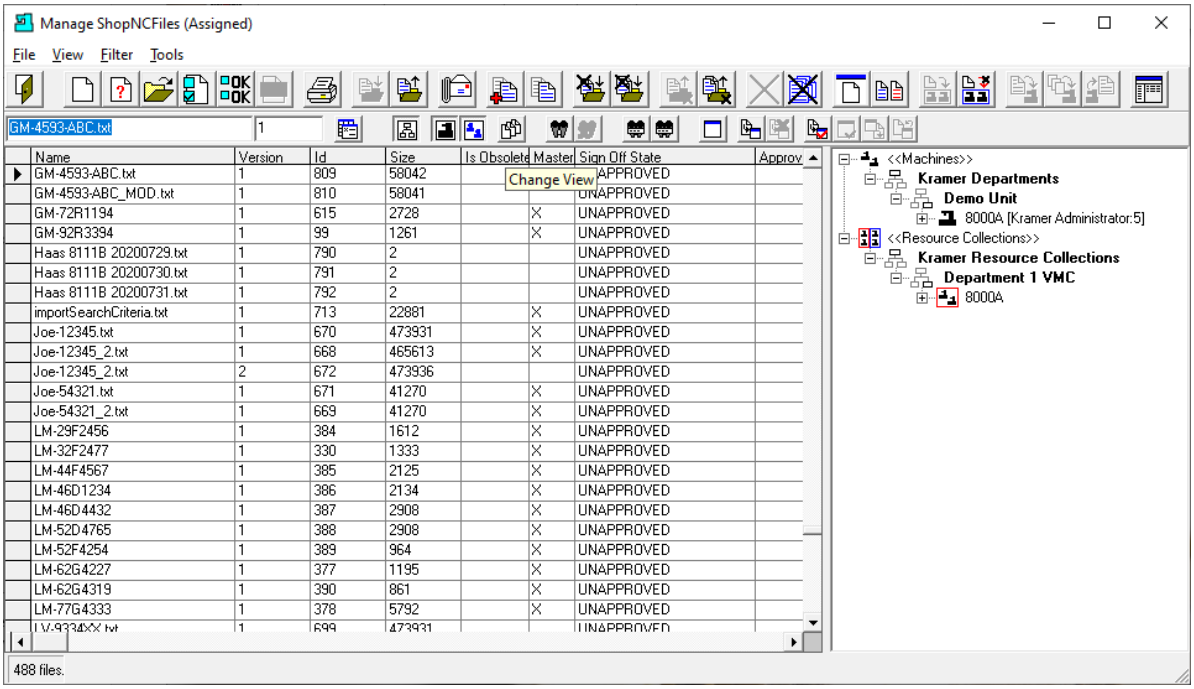


Let's change the above View Form from Show ShopFileCabinets to Hide ShopFileCabinets. See the next Window for the change in the View!

Note:

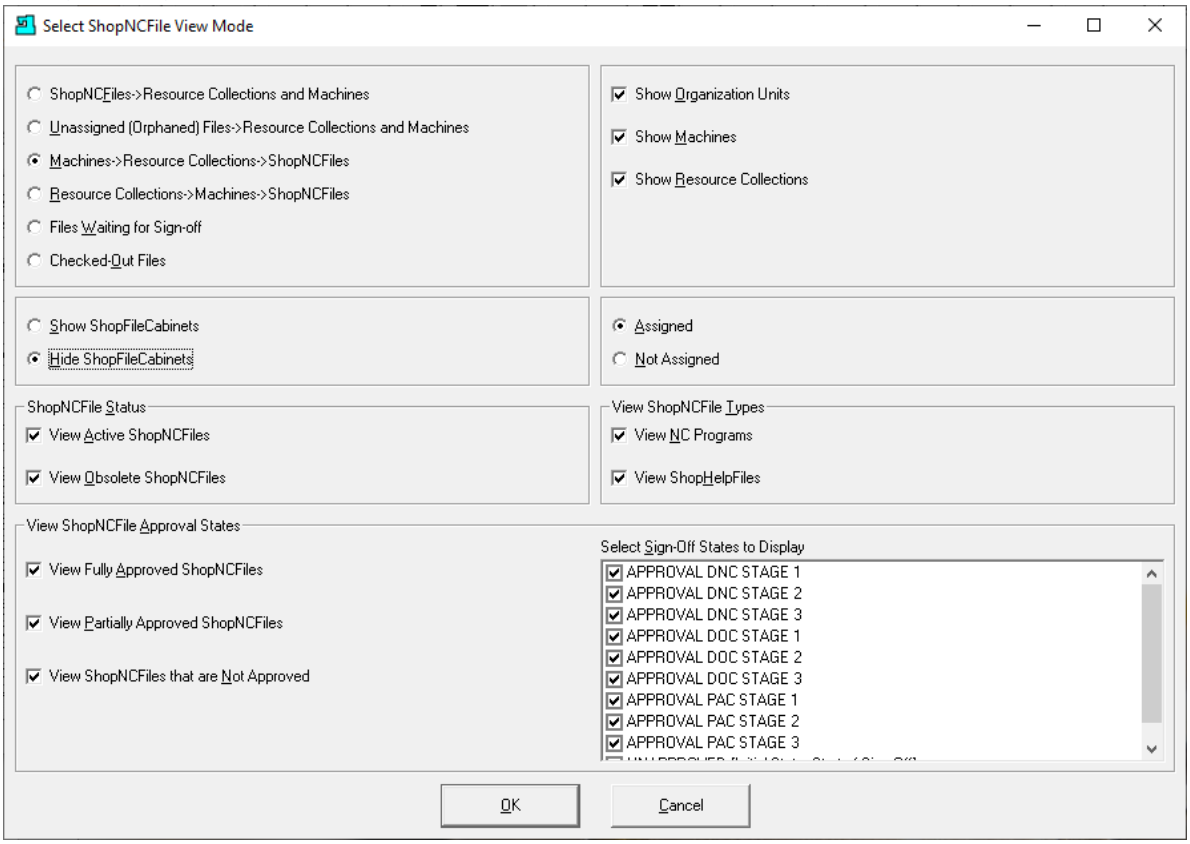
- There are 24 different base Views with additional options that reduce the visible Files/View!
- If you include the Organizational Units, there are 48!
  I.E. If you activate the Organizational Units a basic View presents the files in a Tree View not a Flat View!
- Any User can find the exact View needed!

Change View (Manage ShopNCFiles – New View)



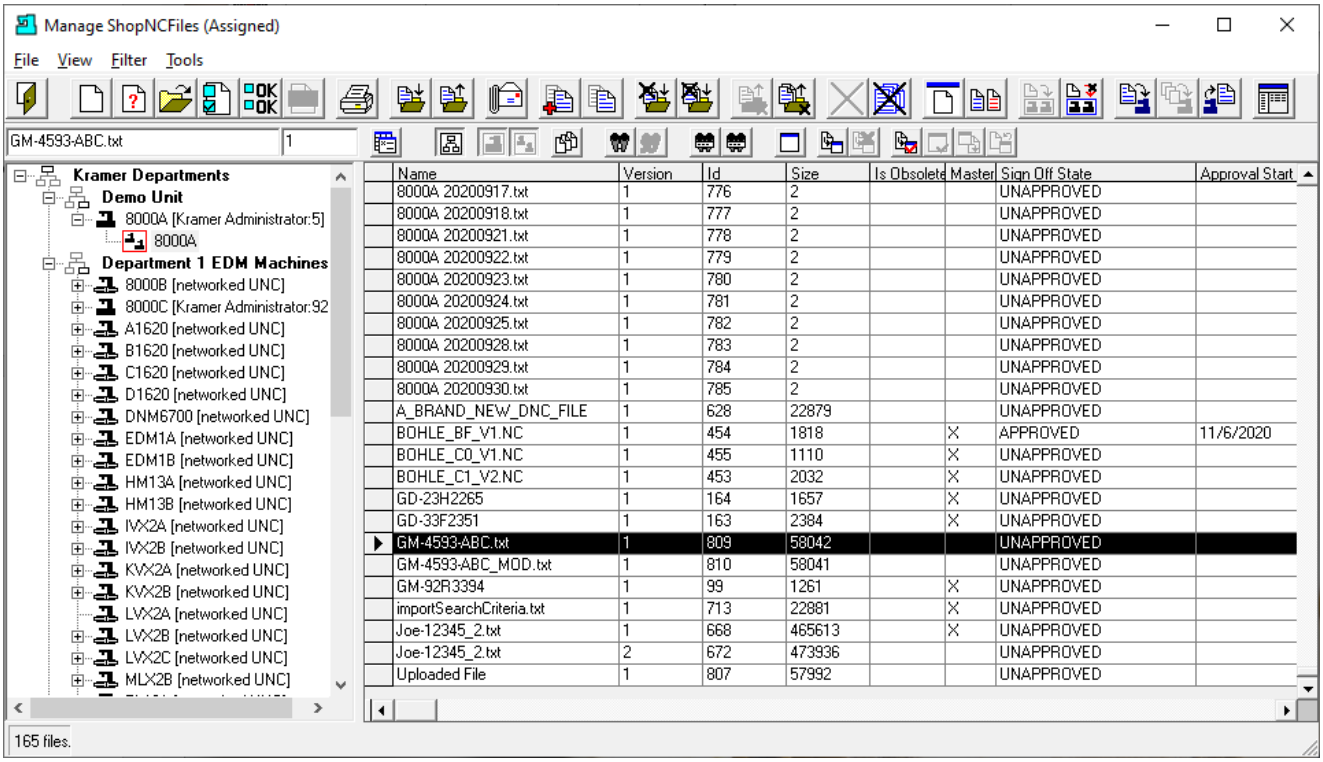
This View is best when you need to have access to every Assigned/Not Assigned file in the system! In the Previous Window we changed the option from Show ShopFileCabinets to Hide ShopFileCabinets. Let's make another change and see what this new View will display!

Change View (Select ShopNCFile View Mode Changed)



Change the ShopNCFiles->Resource Collections and Machines to: Machines->Resource Collections->ShopNCFiles and the following Window will be displayed.

Change View (Manage ShopNCFiles – Another New View)

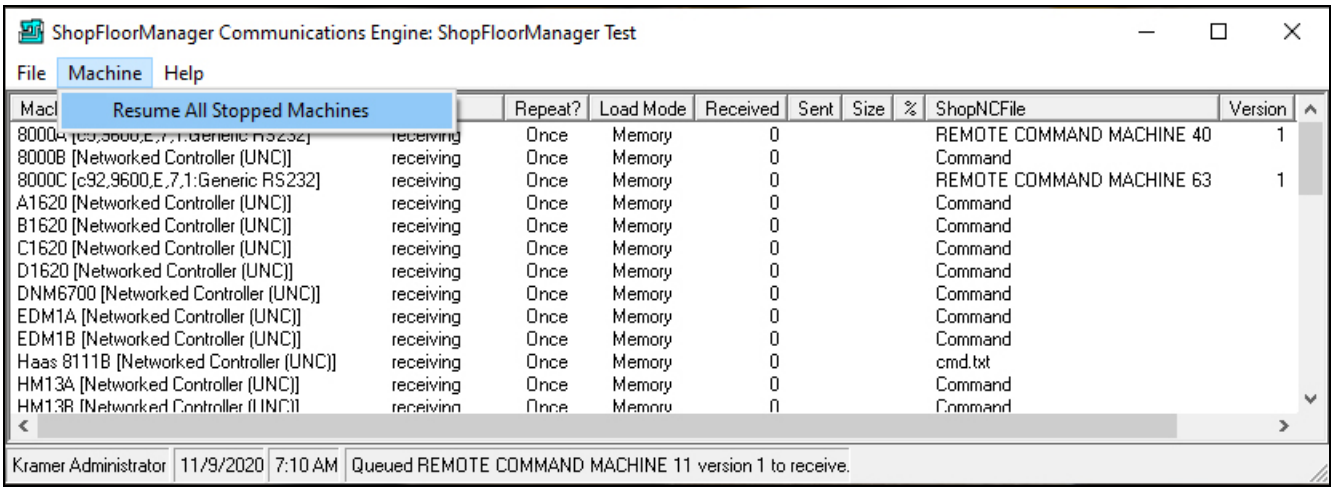


You should continue to try different View Configurations to get a feel for the different Views that can be generated and how they can help make you work easier and more efficient.

Note: Throughout the Manual there will many places where we use the “Change View” form where you will see other configurations!

This section is complete so let’s move to the next section!

Communications Engine (Keeping in touch with your CNCs. A Touching Personal Account!)



The Communications Engine is responsible for the data exchange between ShopFloorManager and all the non-Manual Machine Tools. This includes RS232 & Ethernet based Machines.

The Communication Engine usually executes on the Server but can run on any Workstation and in fact It can run on multiple Workstations should this become necessary. There must be drivers for all RS232 ports on each workstation supporting the Communications Engine.

These drivers can be for Moxa or Comtrol type units. They can co-exist as long as there are no port conflicts.

All of the settings for the Communications Engine are done in the Configure General System Settings.

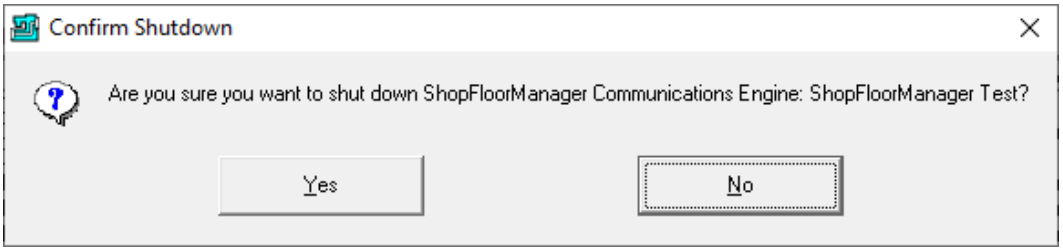
When shutting down the Communications Engine you are warned if there are any active communications in progress. You can over-ride the warning, but this will stop all active transfers!

If you allow the Engine to shut down in an orderly fashion it will not allow new communications to take place and will wait until all active communication are finished before shutting down. (See below for details)

Clicking on the menu “Machine”, allows the only function available: “Resume all Stopped Machines”. If you see the word “Stopped” next to any Machine in the Communication Engine this command will start them. Rarely needed.

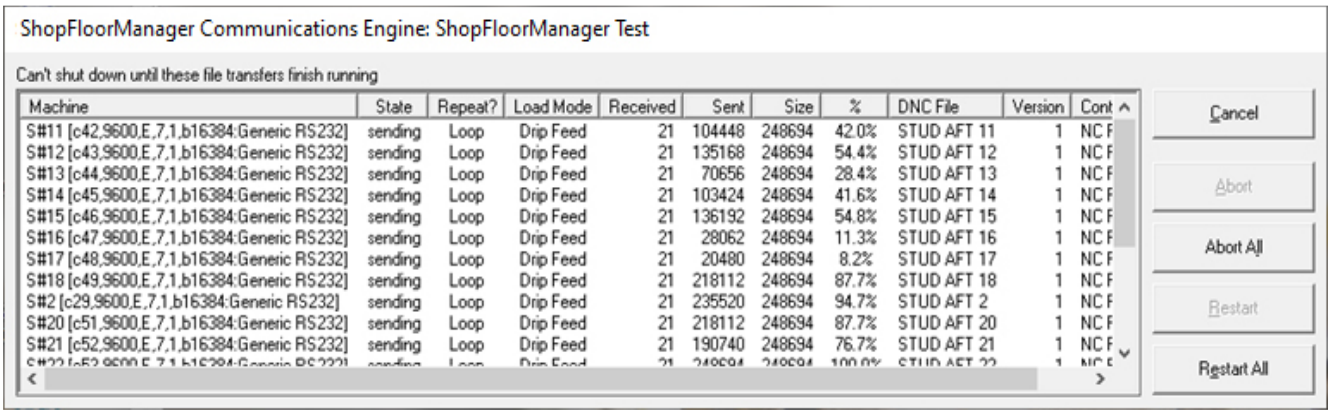
Clicking on the File Exit Menu displays the following Window.

Communications Engine (Confirm Shutdown)



Click yes to shut down or no to continue. Clicking Yes displays, the following Window.

Communications Engine (Shutting down options)



There are several options to choose from.

Cancel
Choosing this option cancels the operation but it may have already aborted some of the machines so only those presently running will not be aborted.

Abort
Choosing this option will abort the one selected machine highlighted in the Communications Engine and will remove it from the queue even if it was queued for continuous drip-feed. Any aborted jobs will have to be re-queued!

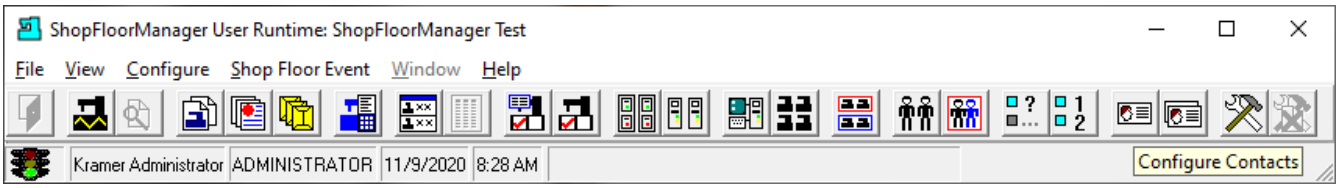
Abort All
Choosing this option will abort all of the machines and will remove them from the queue even if they were queued for continuous drip-feed. Any aborted jobs will have to be re-queued!

Restart
Choosing this option will restart the one selected machine highlighted in the Communications Engine with the same Queuing options as originally set. Restart happens immediately. Interrupts a Cycle!

Restart All
Choosing this option will restart all of the active machines that have not been shut down with the same Queuing options as originally set. Restart All happens immediately. Interrupts a Cycle!

This section is complete so let's move to the next section!

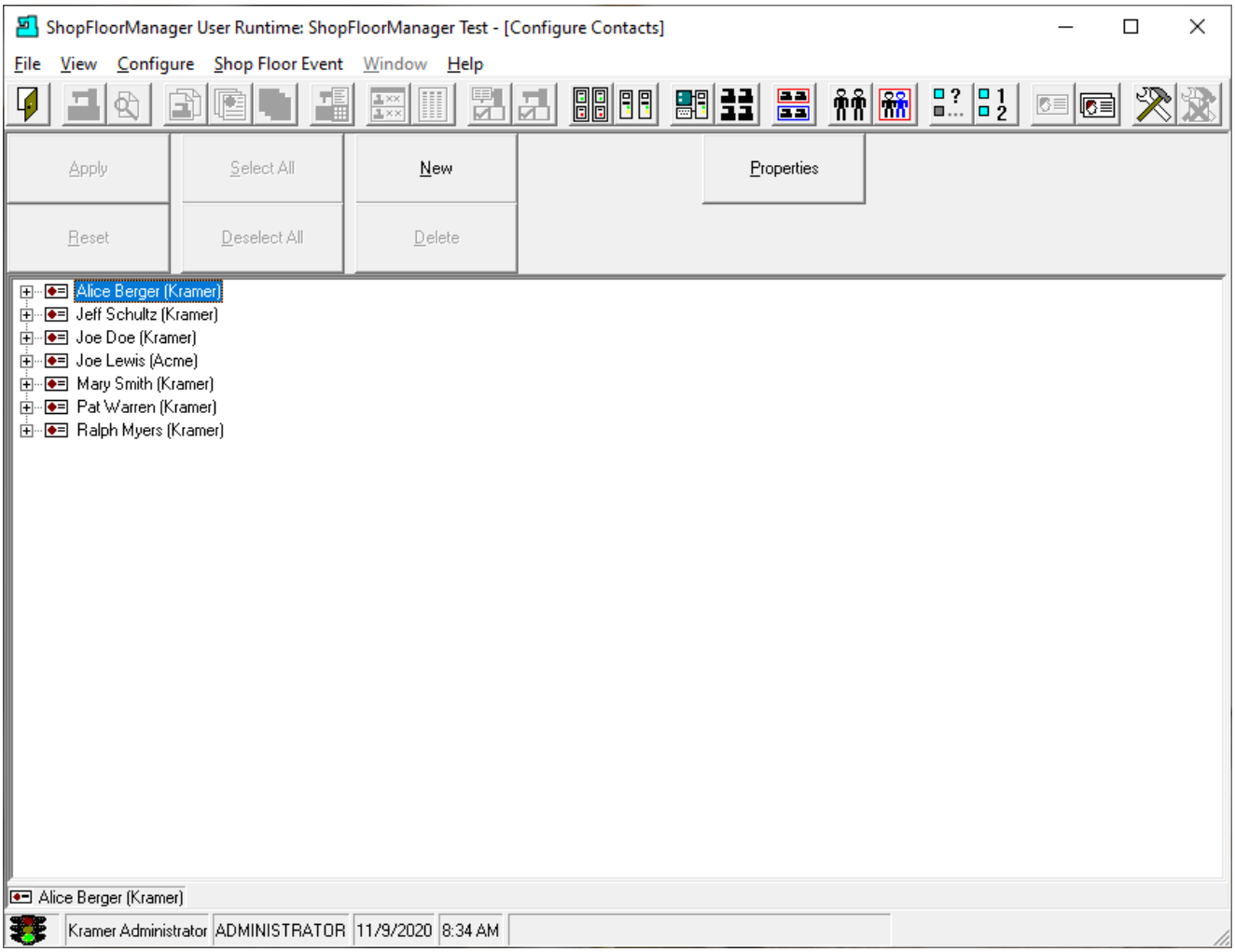
Configure Contacts (Email Contacts. No Pony Express Here!)



Every User that it allowed to send Emails needs to be on the Configure Contacts List! See instructions for setup up a SMTP Email System!

Click on the Configure Contacts… Icon and the following Window will be displayed.

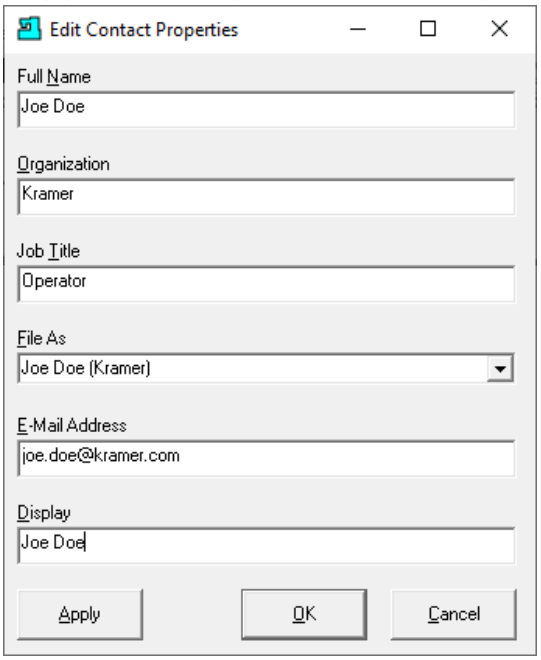
Configure Contacts (New)



As you can see, we have already configured several Contacts!

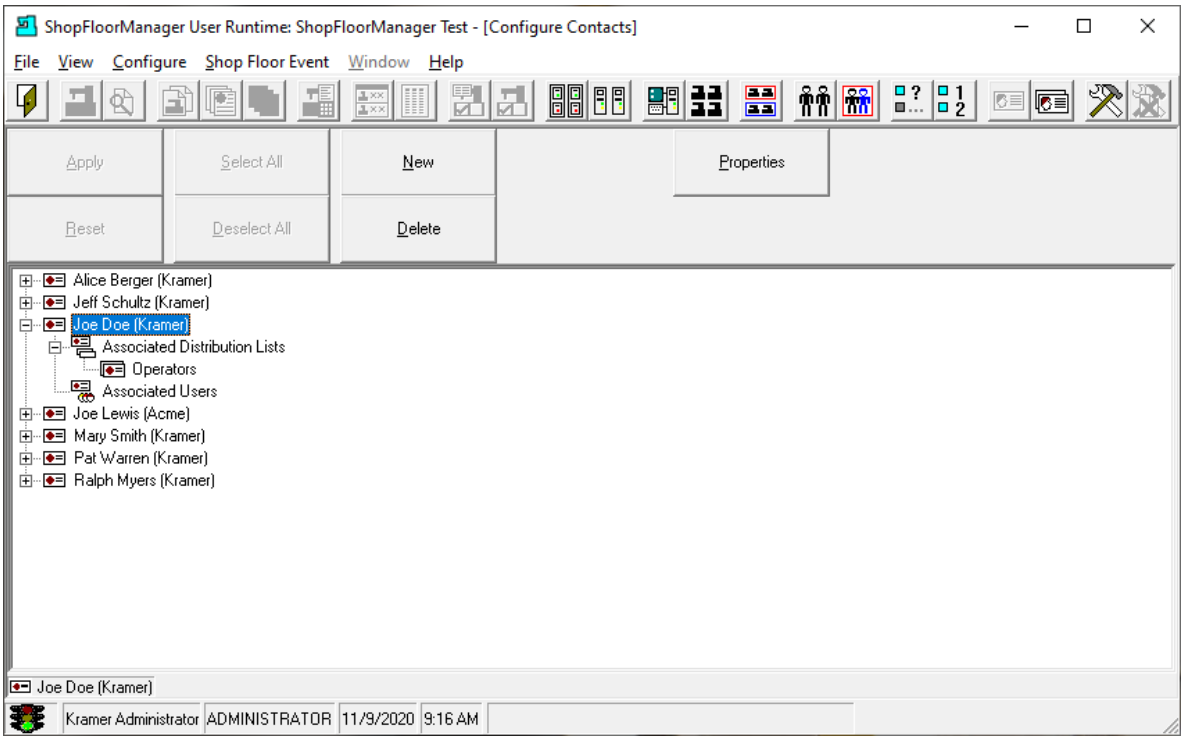
Click on the New Button and the following Window is displayed.

Configure Contacts (Edit Contact Properties)



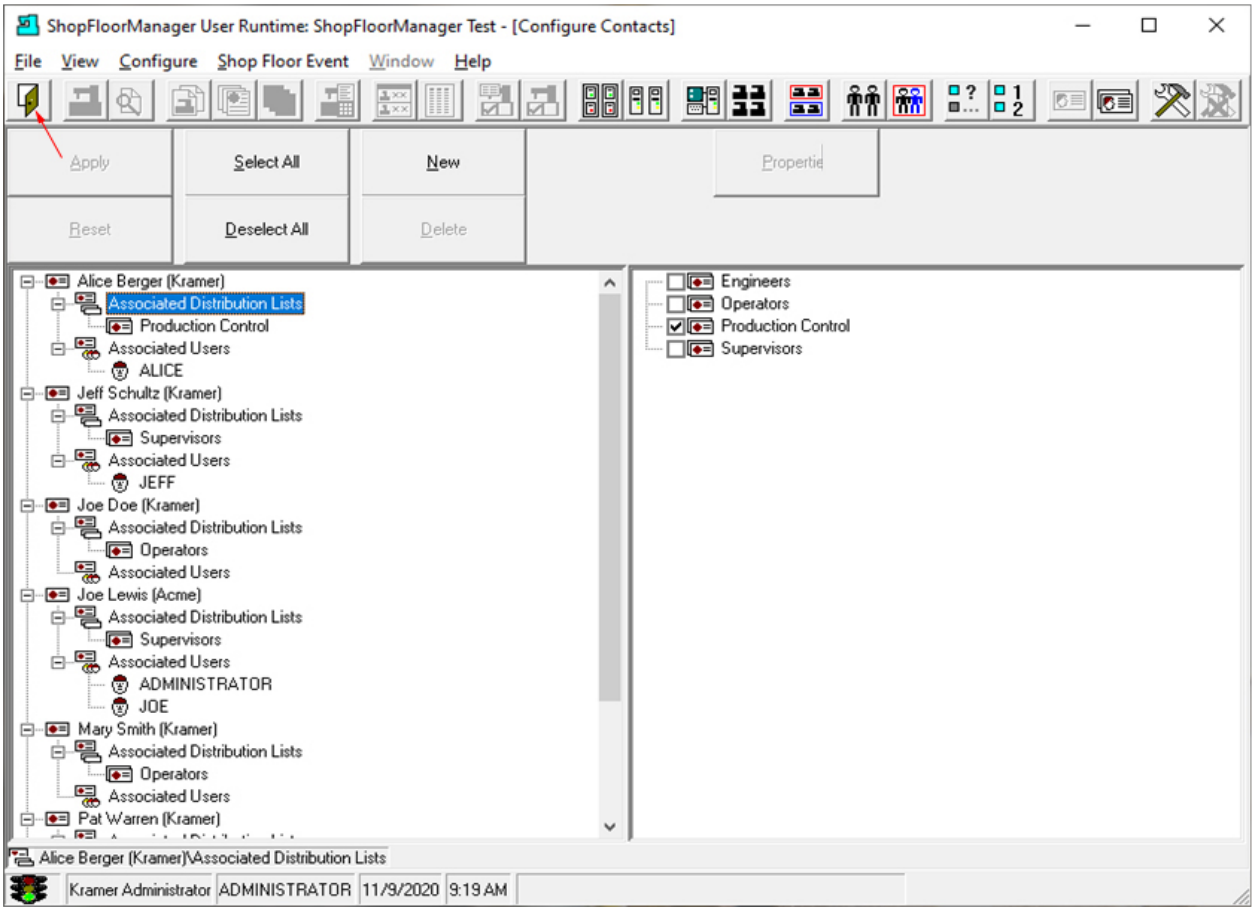
Populate form with pertinent data and click the OK Button and the following Window will be displayed.

Configure Contacts (Edit Contact Properties)



Continue to add Configure Contacts as needed. We will add several after which this Window will look as follows.

Configure Contacts (Contact List)



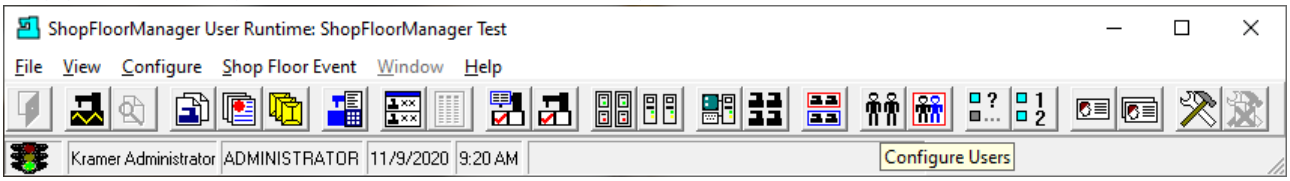
We have added several more Configure Contacts and associated these with various Distribution Lists by clicking on the + sign next to the Contact and then next to the Associated Distribution Lists. The Distribution list is displayed in the right-hand Pane. We have selected the List Production Control!

We now need to establish the relationships between a Contact and a ShopFloorManager User.

Click the Close Icon, see **red** arrow above, and the following Window will be displayed.

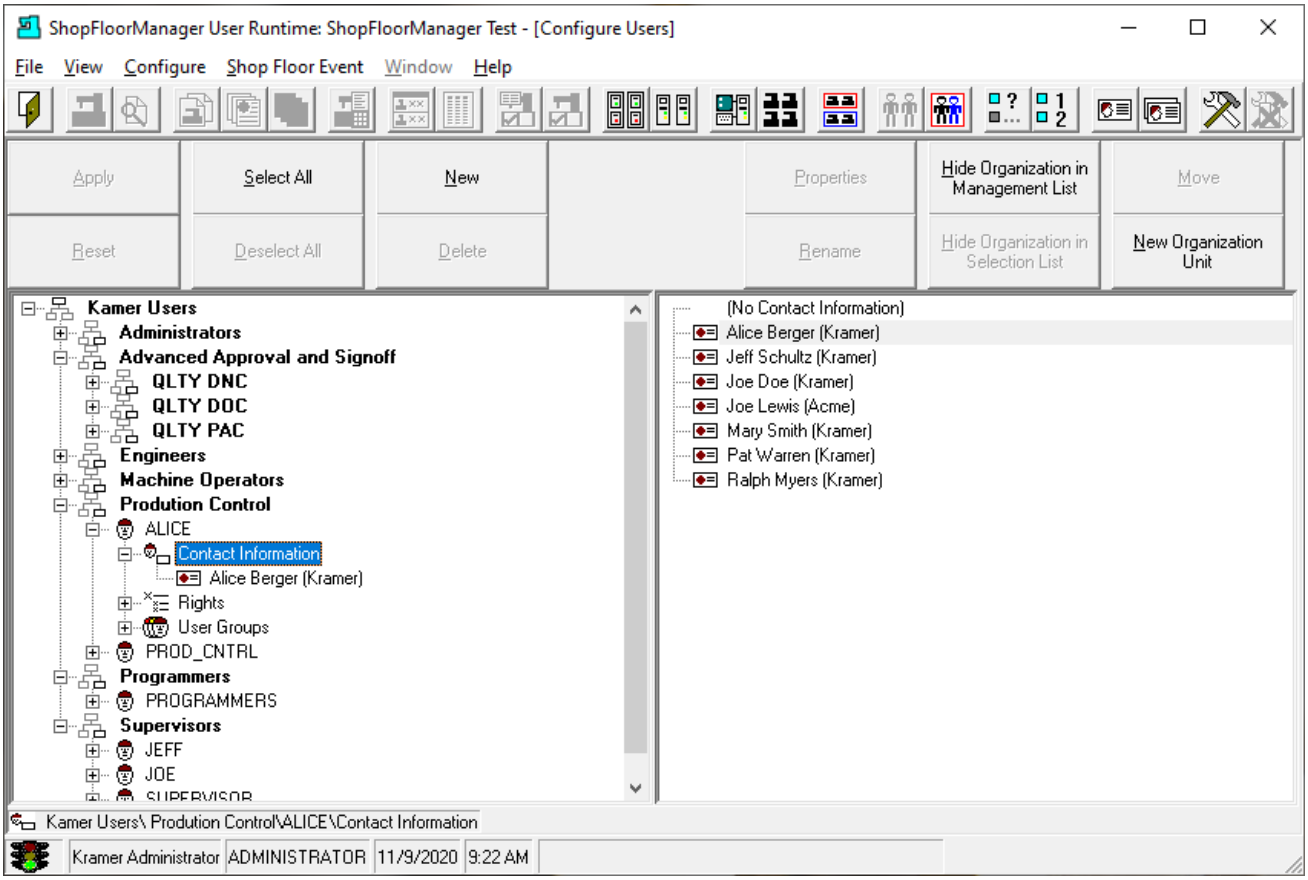
Note: See the Configure Distribution Lists Section for setup details. Distribution List allows a single "Emailing" to go to anybody in an associated List!

Configure Contacts (ShopFloorManager – Configure Users)



Click the "Configure Users" Icon and the following Window is displayed.

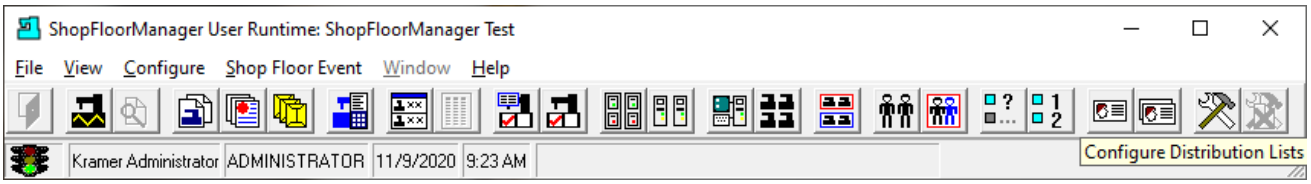
Configure Contacts (Configure Users – Contact Information)



You need to associate every ShopFloorManager User with an Email Contact as shown above. After selecting a ShopFloorManager User associated it with the appropriate Contact and click the Apply Button.

We are finished with this section!

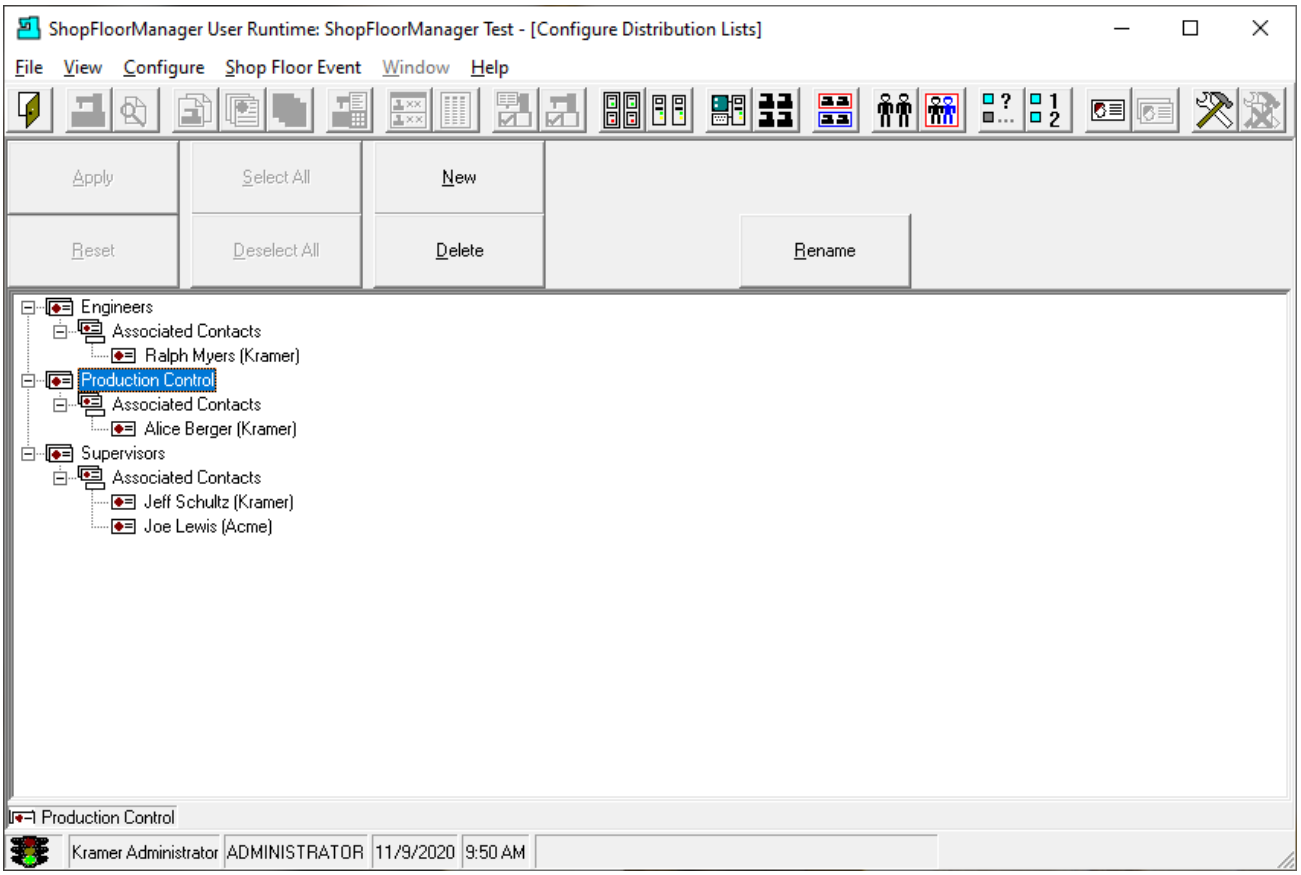
Configure Distribution Lists (Email Contact Lists. Send Once, Blabs to Everybody!)



Distribution Lists contain any number of E-Mail Contacts and provide a means for sending an E-Mail that contains multiple Contacts.

Click on the "Configure Distribution Lists" Icon and the following Window will be displayed.

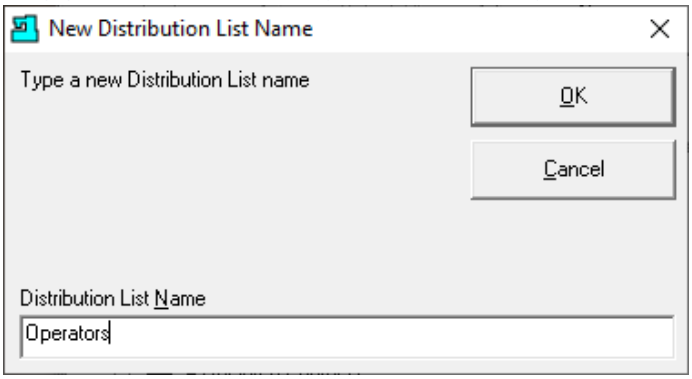
Configure Distribution Lists (New)



We have already created several Distribution Lists as shown above!

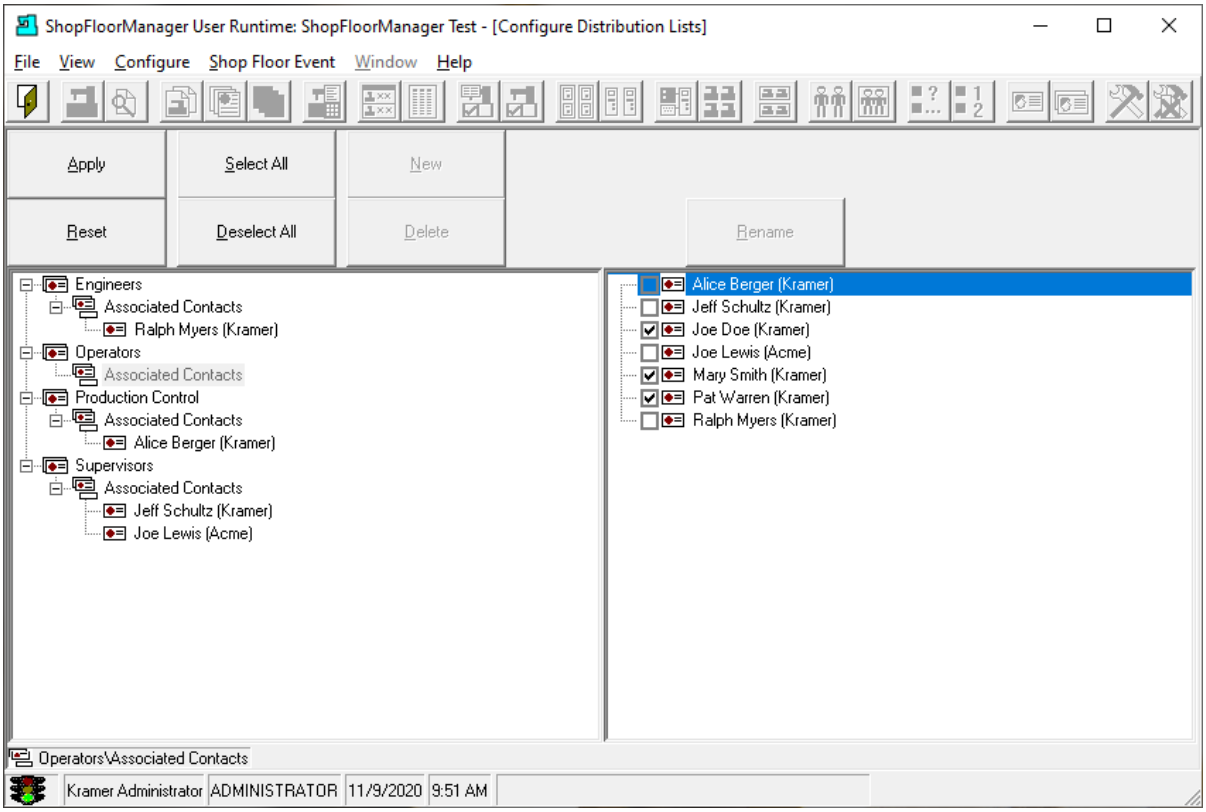
Click the New Button and the following Window will be displayed.

Configure Distribution Lists (New List Operators)



Enter a name for the Distribution List that represents the Type of List! Click the OK Button and the following Window will be displayed.

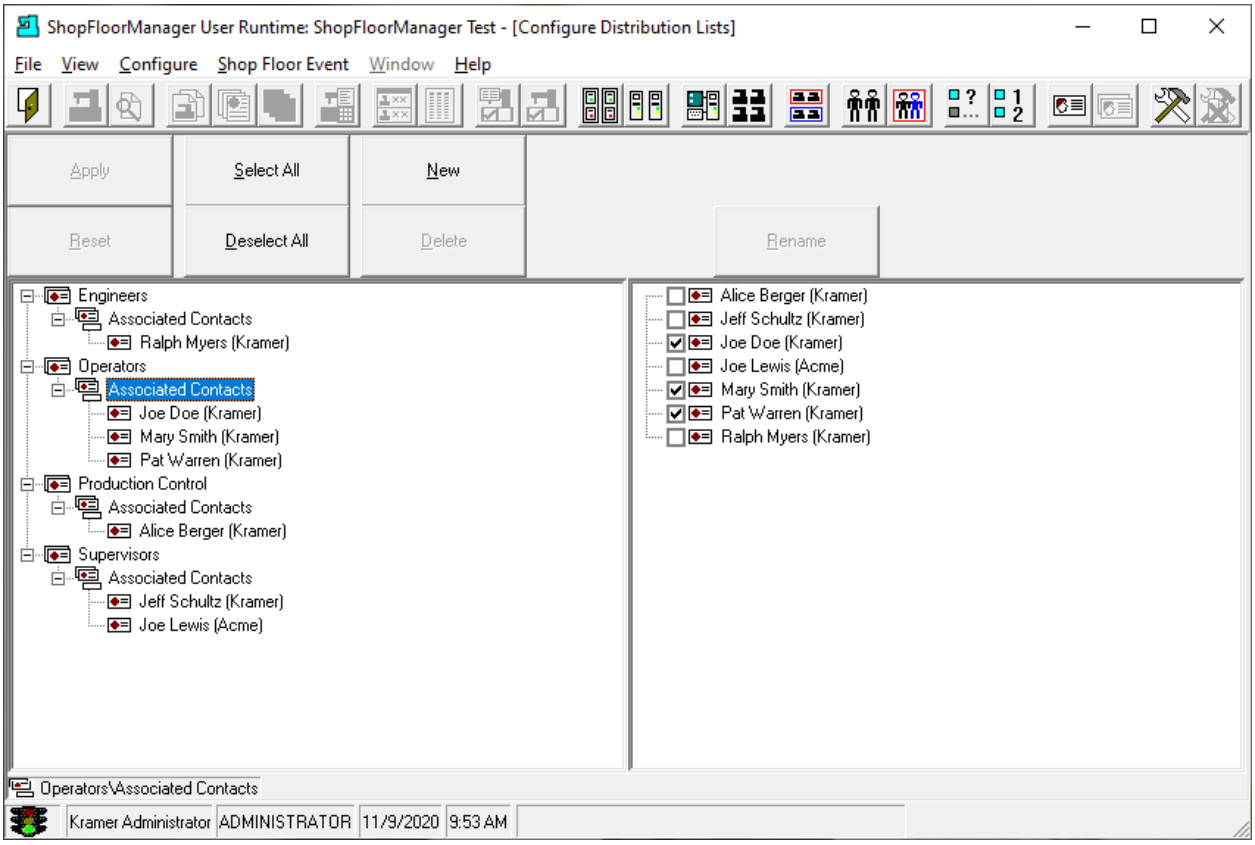
Configure Distribution Lists (Associated Configure Contacts)



Click the + sign next to Operators and highlight the Associated Contacts! Associate this with the appropriate Contracts in the right-hand Pane and click the Apply Button.

Continue adding Lists and when finished click the Apply Button. The following Window will be displayed.

Configure Distribution Lists (All Associated Configure Contacts)



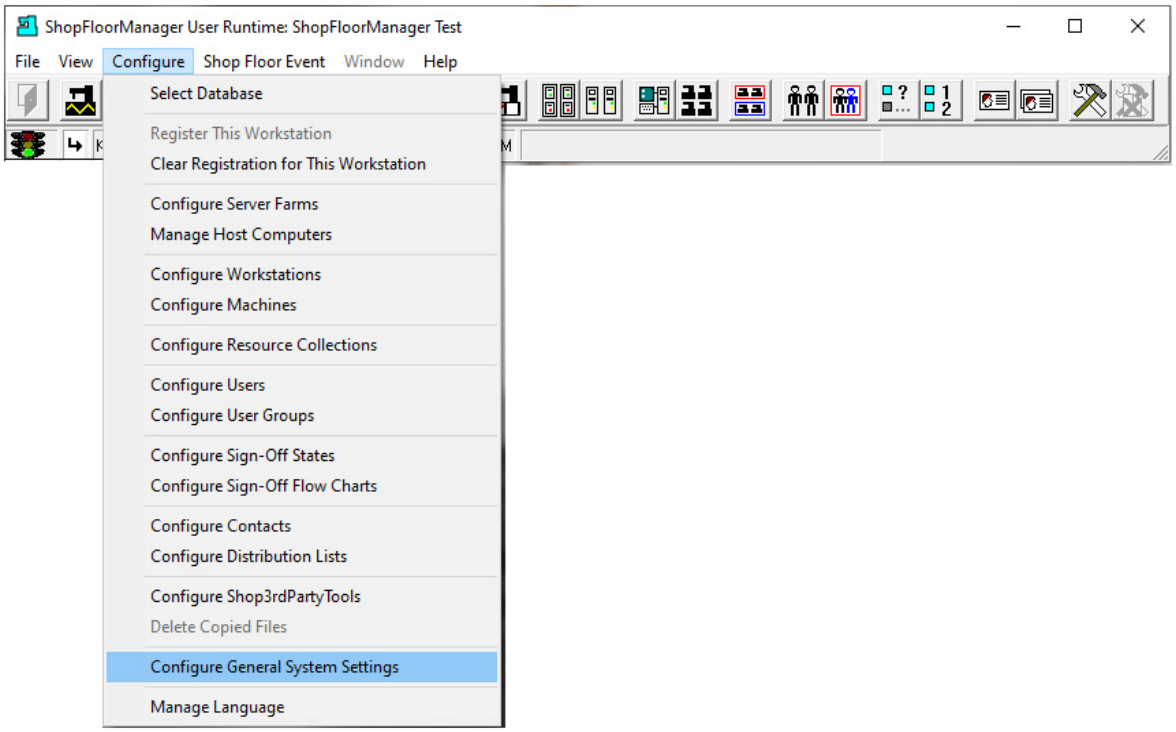
We have added several more “Distribution Lists” and associated these with various Contacts. See Configure Contacts for creation details.

Distribution Lists allow a single “Emailing” to go to everybody on the associated List!

Emails can also still be sent to individual Configure Contacts!

We have finished this section!

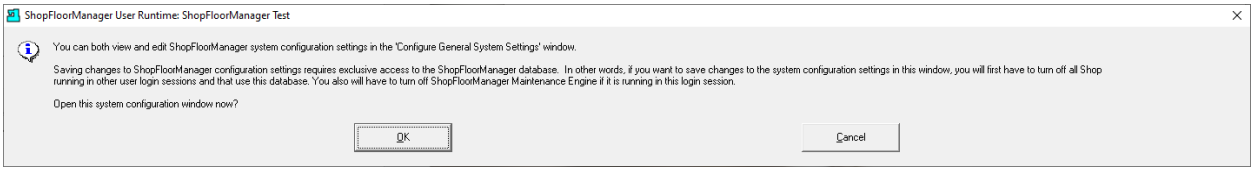
Configure General System Settings (Setting the Foundation for ShopFloorManager)



We are establishing the Foundations of ShopFloorManager by configuring its General System Parameters. This section contains basic settings and has the greatest effect on ShopFloorManager's Performance & Features!

Click on the Configure Menu & then on the Configure General System Settings Menu and the following Window is displayed.

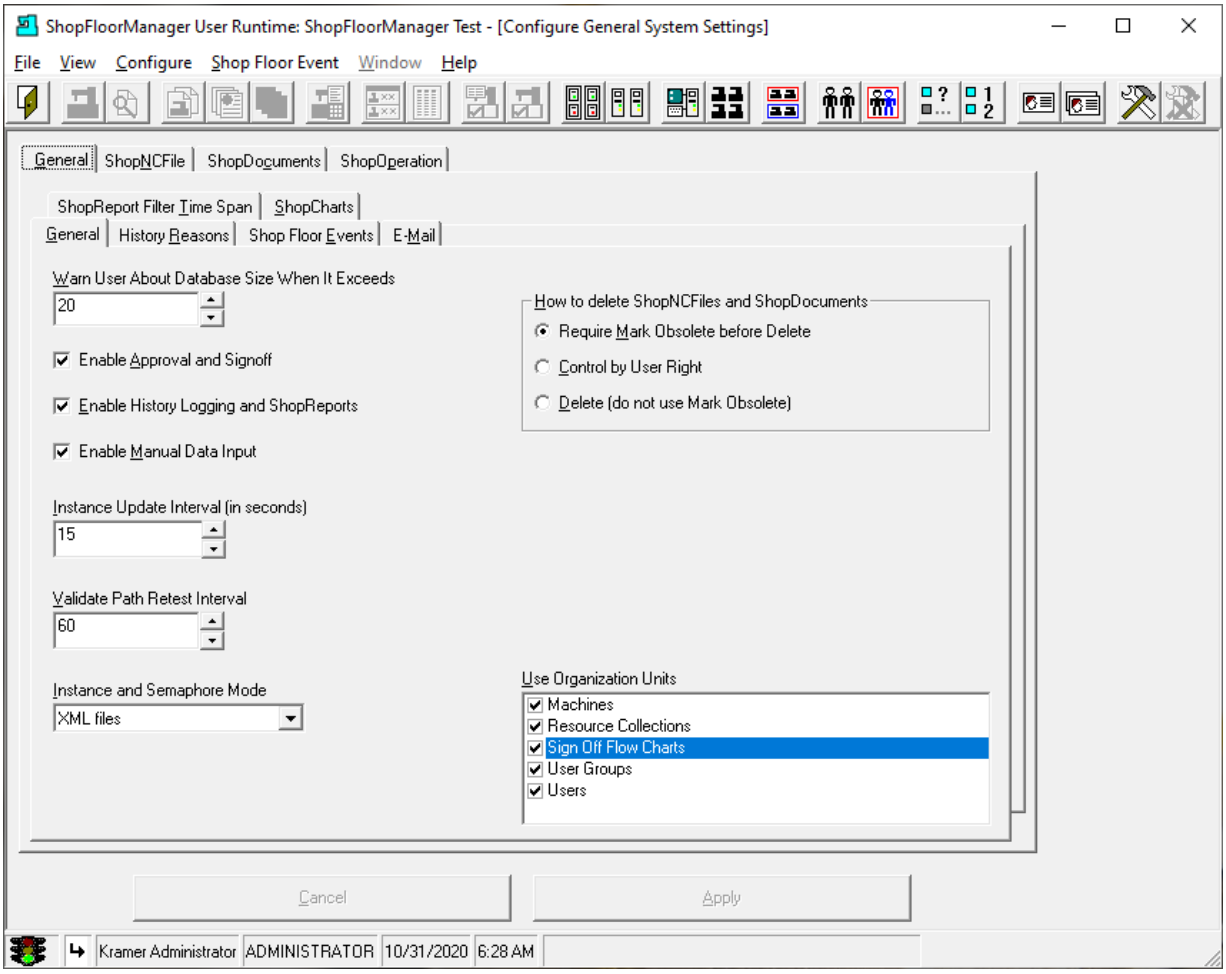
Configure General System Settings (informational Window -> OK)



This is just an informational Window!

Click the OK Button and the following Window will be displayed.

Configure General System Settings (General Tab - General)



Click the General Tab. We will be describing the various parameter settings and their default values. Change these only if you understand the consequences! Call CCI if you have any Questions. 1-781-933-9500

Warn User About Database Size When It Exceeds

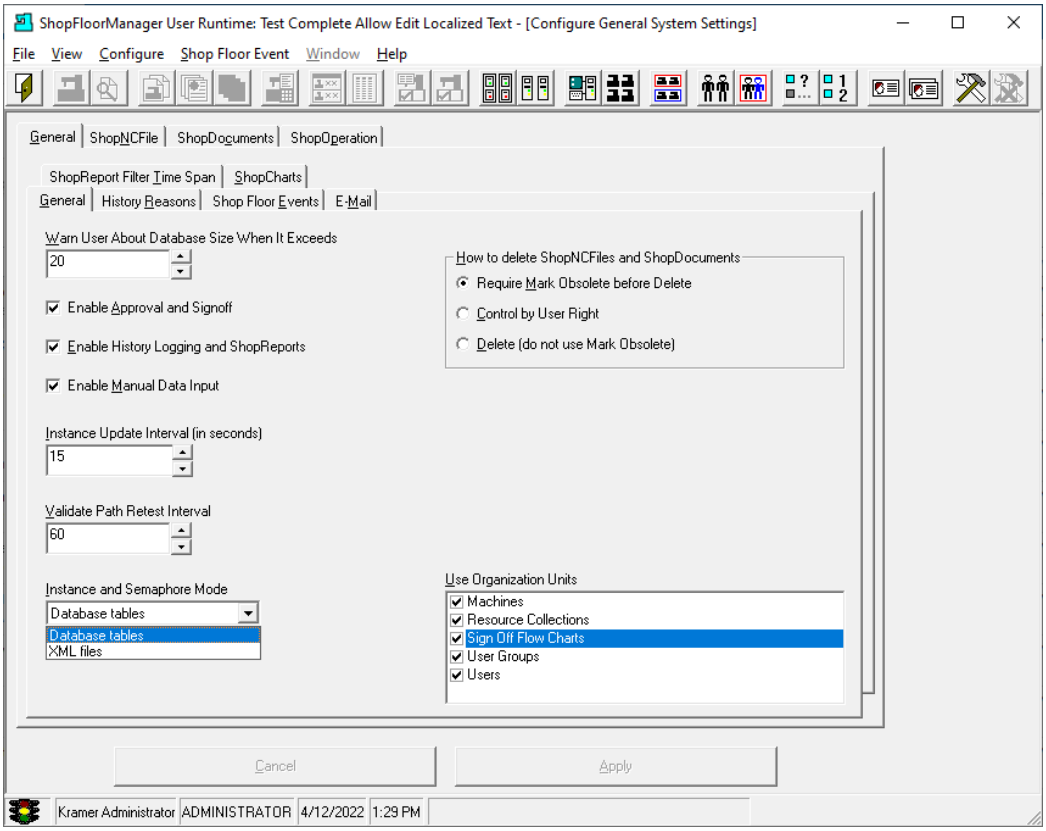
Only applies to Access Databases. You can set the database warning size to the Max allowed by the Access! Because of Access' design ShopFloorManager can slow down if not periodically compressed. You should compress the database every few months at a minimum. To start set at 20 Megs!

A warning Light is displayed in the Lower Left corner of ShopFloorManager's Runtime and looks like a Traffic Light: Green indicates it is less then setting selected, Red if it is greater.

Note:

> To compress the database, on ShopFloorManager Runtime click on the File->Database Utilities->Compact the Database Button and follow the instructions. Always backup the Database First! If you need to get ahold of CAD/CAM Integration call (1-781-933-9500) for assistance.

Configure General System Settings (General Tab – General continued)



Enable Approval and Signoff.

Checking this checkbox activates Approval and Signoff of all Document types.

Enable History Logging and ShopReports

Checking this checkbox activates collecting all “Document Type” Histories for generating various ShopReports: Configurations and ShopCharts & ShopReport_ShopCharts_and_Supporting_2.

Enable Manual Data Input

Checking this checkbox activates the use of the ShopMDI

Instance Update Interval (Call CCI 1-781-933-9500 if you have any questions)

Leave the default.

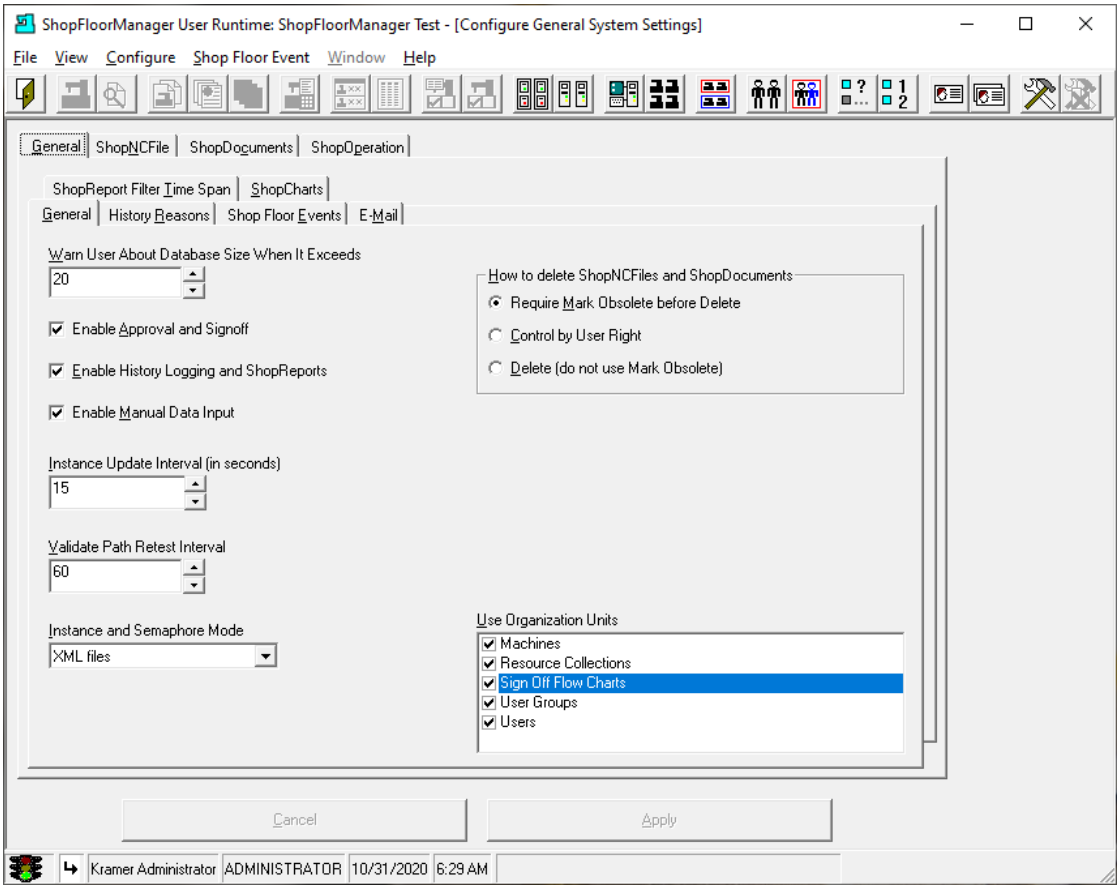
Validate Path Retest Interval (Call CCI 1-781-933-9500if you have any questions**)**

Leave the default.

Instance and Semaphore Mode (Call CCI 1-781-933-9500 if you have any questions**)**

Leave the default. If you are using MSSQL, you can use Database table Mode.

Configure General System Settings (General Tab – General continued)



How to delete ShopNCFiles and ShopDocuments

Choosing, 'Requires Mark Obsolete before Delete' requires all "Document Types" to be marked Obsolete before deleting from the database and placing them in the Archive database.
Choosing, 'Control by User Right' requires this 'Right' be individually given to each User Group.
Choosing, 'Delete (do not use Mark Obsolete) deletes from active database and places in Manage Archived ShopNCFiles or Manage Archived ShopDocuments database immediately.

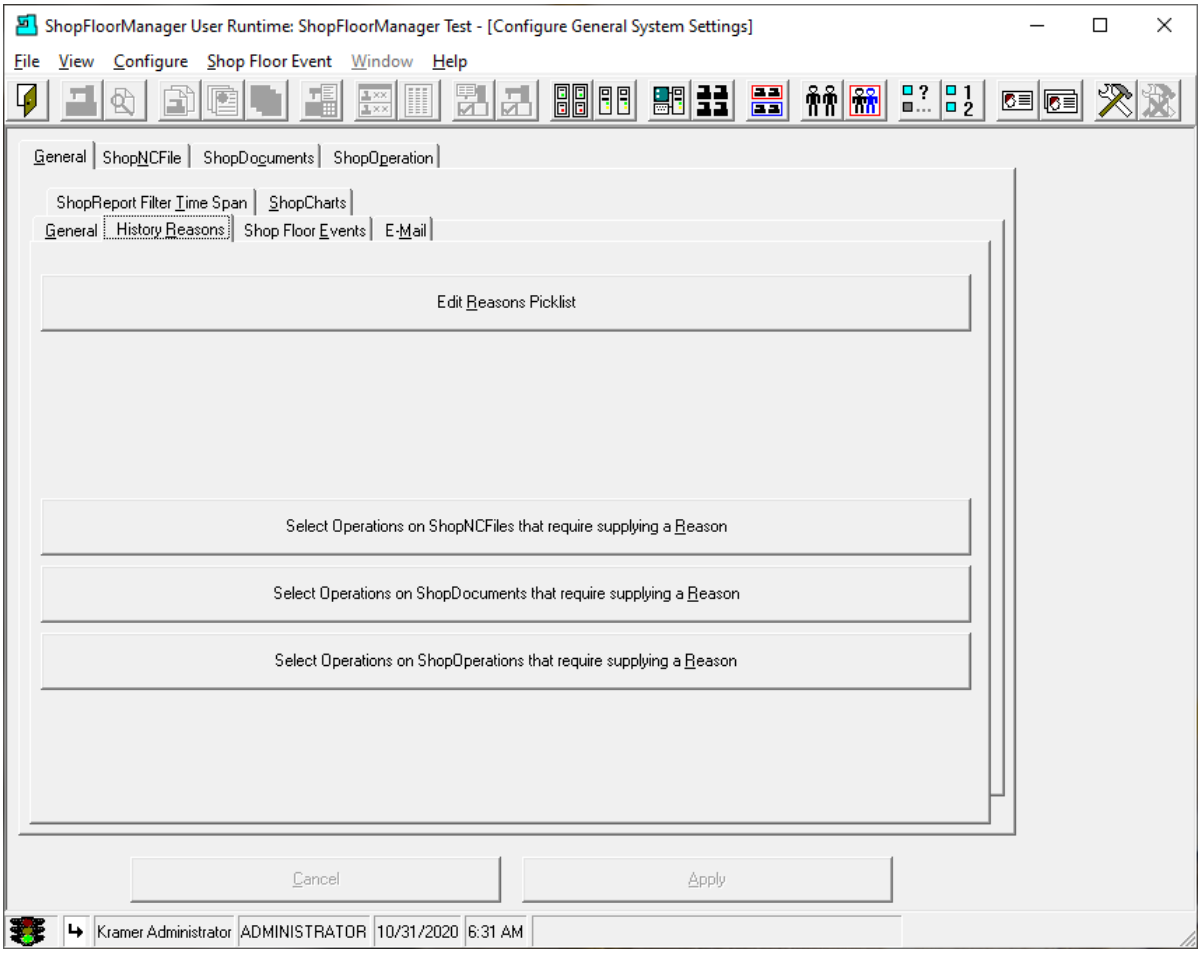
Use Organization Units

Checking next to any of the Resource Centers allows the use of Organization Units vs a Flat List!

Note:

1. Before making changes read the different sections of the Manual!
2. Always record any changes so you can return to previous settings!

Configure General System Settings (General Tab – History Reasons)



Click “History Reasons” Tab.

ShopFloorManager supports recording of History changes and actions for ShopNCFiles, ShopDocuments & ShopOperations.

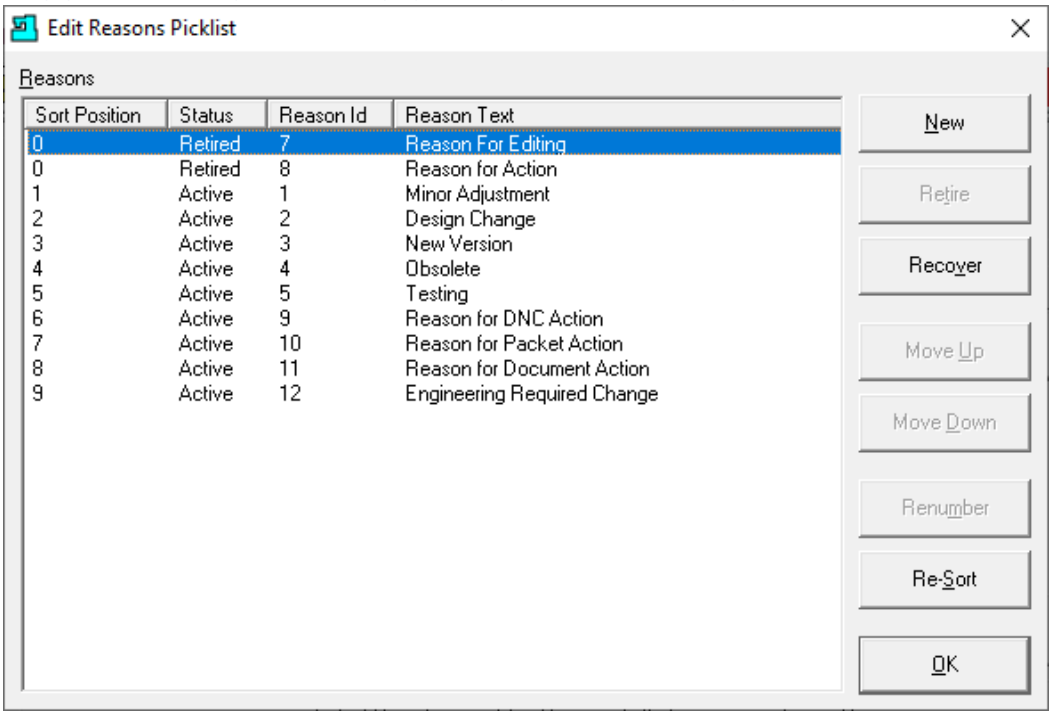
To manage history records ShopFloorManager provides the ability for customers to create their own change & action Reasons and associate these with the different Document Types of unique change & action Events.

The combination of these changes, actions & reasons can then be used to generate various ShopReports: Configurations and ShopCharts & ShopReport_ShopCharts_and_Supporting_2. As you explore this Manual you will be presented with many examples of how ShopFloorManager presents various Forms for recording “Reasons” for Change/Action Events that are collected and recorded in the History Database. ShopReports can then be generated displaying these Histories. Use these as part of ISO Compliance!

Let’s start by creating customer created Reasons.

Click on the Edit Reasons Picklist and the following Window is displayed.

Configure General System Settings (Existing Edit Reasons Picklist)

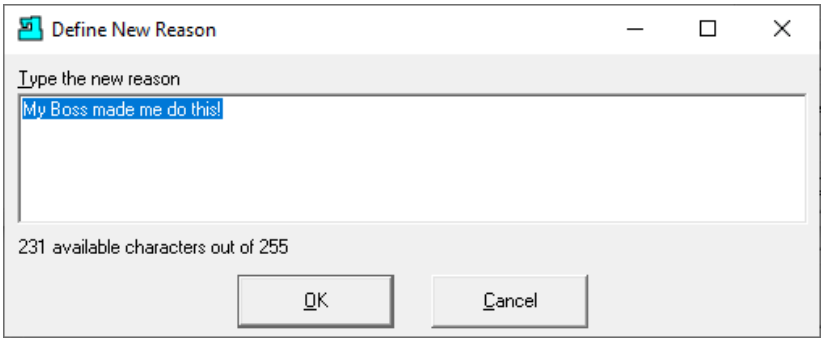


When History collection is activated, ShopFloorManager displays a Form for the User with an associate 'History Reason' for any change(s) or action(s) to 'Document(s)' as these Change(s) and or Action(s) happen. It is expected the User will select one of these Reasons and write a short reason for making the Changes.

This Window allows you to create your own 'Document' change & action 'Reasons'.

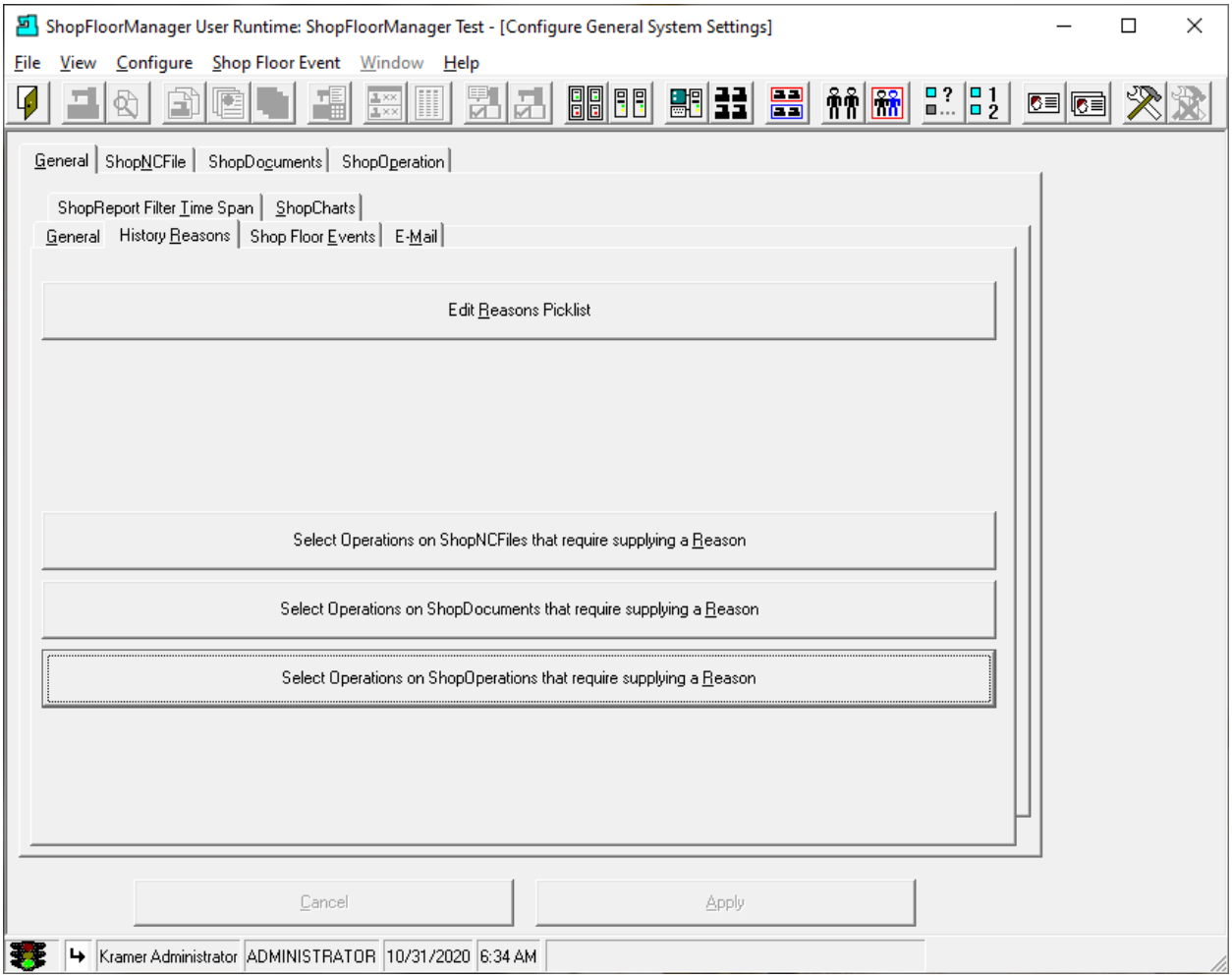
Note: You can retire Reasons if they are no longer needed but can't delete Reasons that have been used! These Retired Reasons can be reactivated if you would like to use these in the Future.

Configure General System Settings (Define New Reason)



To create a new Reason, click the New Button and add the Reason in the textbox. We will not use this Reason, but it illustrates how to add a new Reason. To Save click the OK Button and the OK Button on the Edit Reasons Picklist form and the following Window will be displayed. We will see how Reasons are used in the following sections.

Configure General System Settings (General Tab – Select Operations on ShopOperations…)



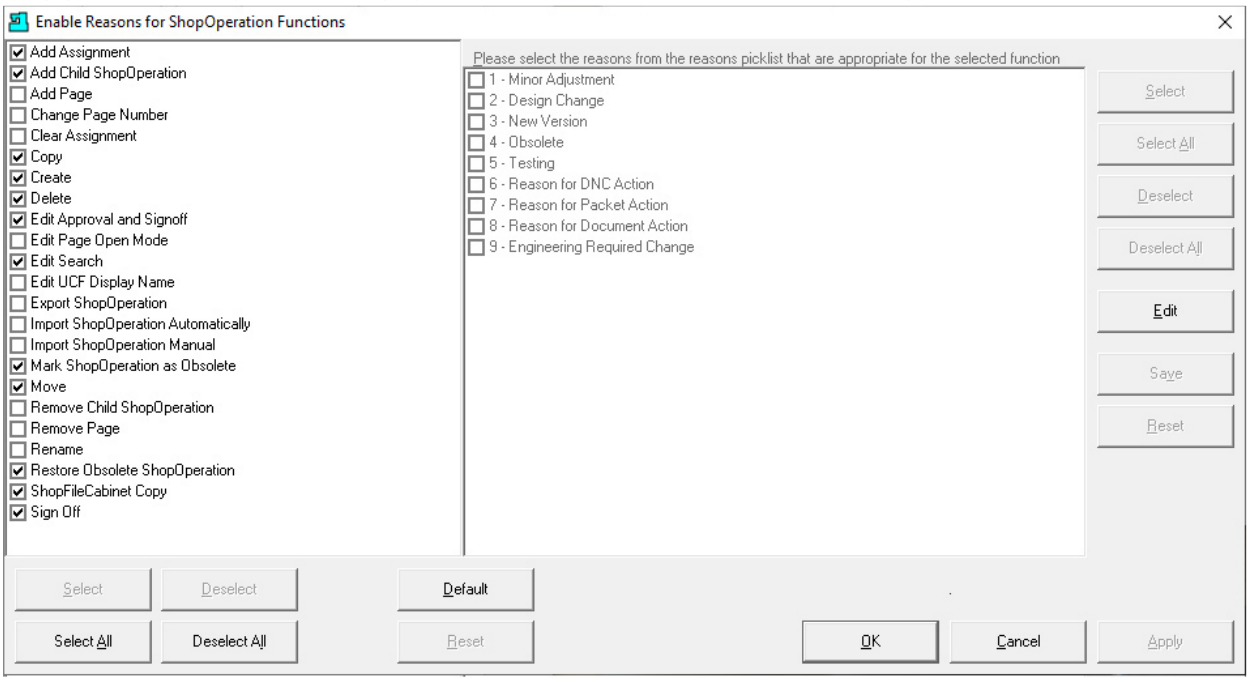
ShopFloorManager provides a list of specific change & action Events that can be activated for each of the Document types.

You can choose the type you want to Edit/Activate by clicking on that Document type!

We will demonstrate these for ShopOperations, but the same methodology applies to all Document types!

Click the Select Operations on ShopOperations… Bar and the following Window will be displayed.

Configure General System Settings (Enable Reasons for ShopOperations Functions)



Checking a change/activity in the left window activates collecting these histories. When these are associated with the user created reasons in the right-hand window, anytime a ShopOperation Change/Action occurs these 'Reasons' are displayed in a form for the User to select from for recording ShopOperation Changes. These Reasons describe the change or actions being taken. This is stored in the History Database.

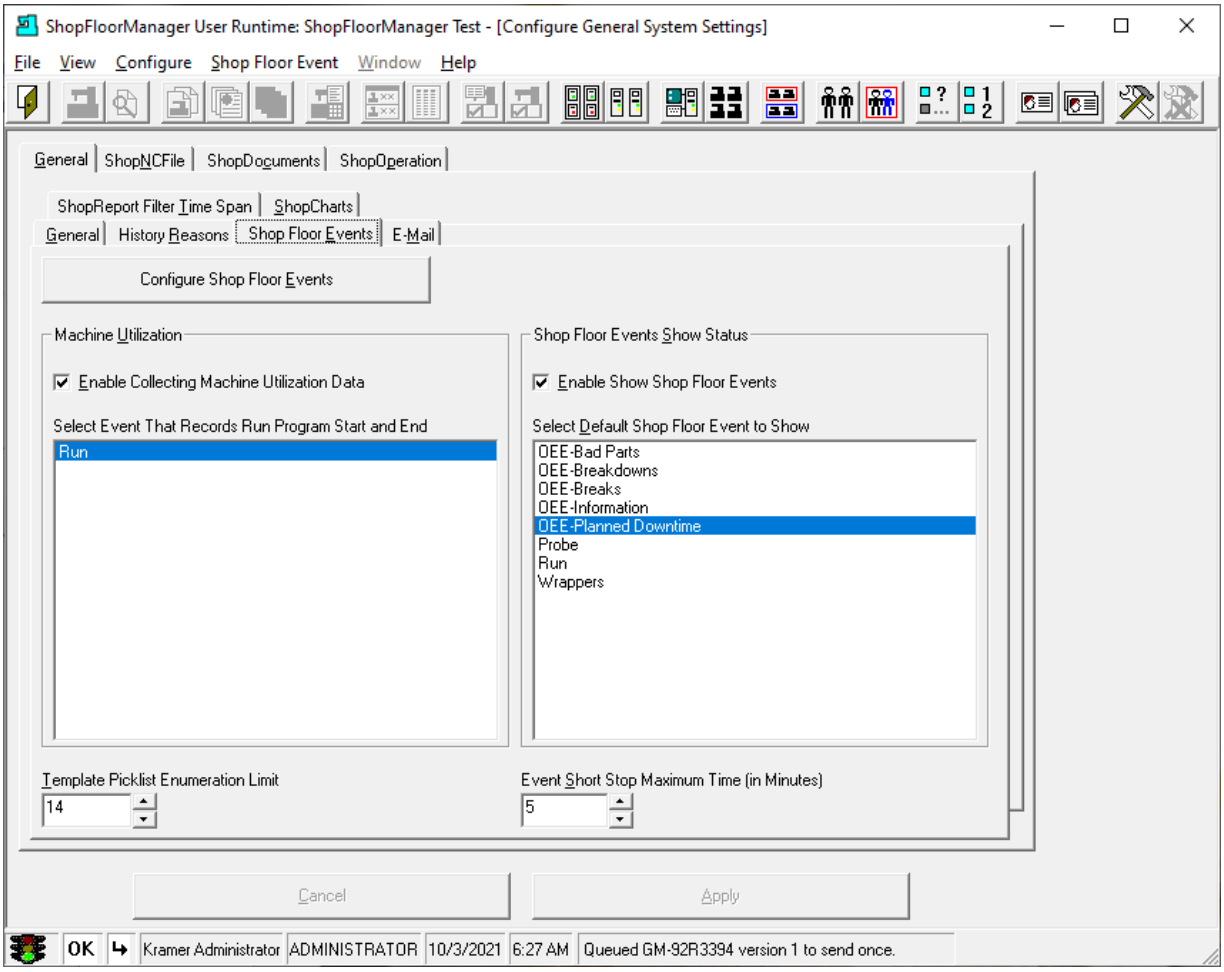
Notes:

> When the Form is displayed, the User doesn't need to select a Reason or type in a comment, but the Event will be recorded regardless!

This recorded activity can be used to generate detailed History ShopReports: Configurations and ShopCharts & ShopReport_ShopCharts_and_Supporting_2.

When finished making changes make sure to click the Save/Apply Button before leaving.

Configure General System Settings (General Tab – Shop Floor Events)



Checking the "Enable Collecting Mach…" checkbox enables collecting Machine Events! Checking the "Enable Show…" checkbox enables displaying these events in real-time in the Machine Status Window!

This section is used to create Monitoring Programs. Any Monitoring Program created can be run by ShopMDI & OEE-Controller-based-MDI Programs. Monitoring Events, DPRNTs, can be automatically inserted into ShopNCFiles when queuing & used by any CNC that supports DPRINTs. OEE-Controller-based-MDI Programs are selected and generated during downloading. These Programs allow operators to submit OEE monitoring data using controllers instead of Scanners making them Operator Friendly!

You can set the "Template Picklist Enumeration Limit" to any value up to 20 (14 is the default). This value determines the maximum number of items in any Picklist used in an OEE-Controller-based-MDI Program before it is truncated! We have found that 15 is more than adequate to handle all our needs! Your Company can determine the size it needs! ShopMDI has no limitations! You will notice the default for Event "Short Stop" Maximum Time is set to 3!

Before investigating/creating "Shop Floor Events" let's give a little background information.

Note: **Run** is the default Monitoring Program.

Configure General System Settings (What is a Monitoring Program)

Following are quick definitions of the various levels of Machine Monitoring!

ShopMonitor (Basic)

Should be able to report Machine Status: Running & Stopped!

ShopMonitor (Intermediate)

Should be able to report Machine Status: Running or Stopped!
Should display what Job or ShopNCFile is executing!
Should display the actual cycle times!
Should display the Percentage of Running vs Idle!

ShopMonitor (Advanced)

Should display Machine Status: Running or Stopped?
Should display what Job or ShopNCFile is executing?
Should display the actual cycle times?
Should display the Percentage of Running vs Idle!
Should display if it is in Production or non-Production and should include several different categories for designating OEE Production & non-Production Events:

- **Production** (Productive Work)
- **Planned Downtime** (Scheduled Stoppage of Production for non-Production events)
- **Interrupted Production** (Unplanned Stoppage of Production)
- **Quality** (Ratio of **Good Parts**/**Total Parts**); Record Bad parts: Parts that need repairs/scrapped)
- **Not Scheduled** (Setting a time for an Asset when it is not designated for Production)
- **Informational** (Performing an Action/Monitoring that doesn't interfere with Production)

Should be able to record Monitoring Event Histories!
Should be able to generate Monitoring ShopReports!
Should include a configurable ShopReport Filter! **Very Important**!
Should be able to Display Monitoring Programs at any Workstation! Very Important!
Should be able to Configure any Workstation for Displaying pertinent Monitoring Programs!
Should support customer creatable Monitoring Programs!
Should support customer creatable Activity Programs!
Should support customer creatable real-time Interactive "ShopReports" for example ShopFloorManager supports Charts/ShopReports!
Session ShopReports!

- **1-Day History Interactive Chart!**
- **1-Day Detailed History Interactive Chart!**
- **7-Day History Interactive Chart!**

Should support Management of Monitoring Events!
Should be an integral part of the software not an afterthought! I.E. Not an add-on!

Configure General System Settings (ShopMonitor Building Blocks)

- Before we get started creating Monitoring Programs, it's important to understand the interconnected building blocks that make **ShopMonitor** work:

Building Blocks:

ShopMDI (Follow this link for details)
Whenever you create a Monitoring Program you automatically create a compatible ShopMDI program which allows Users to enter data in at any Workstation via keyboard, touch screen, OEE-Controller-based-MDI, and or Scanners. No need to have expensive Scanning equipment as most selections are selected from dropdown lists or occasionally entered onto a text line.

OEE-Controller-based-MDI (Follow this link for details)
OEE Controller base MDI (Manual Data Input) uses Machine Tool Controller and an N/C like File to simulate a Machine Tool Non-DPRINT Application for inputting OEE type Shop Events.
This approach doesn't require purchasing Scanners, minimizes Operator Training, minimizes Scanner Clutter, and eliminates the cost of installing Scanners in Operator's Work Areas. Think about that, no Scanner Costs, no installation costs, no Scanner Clutter and virtually no Training!

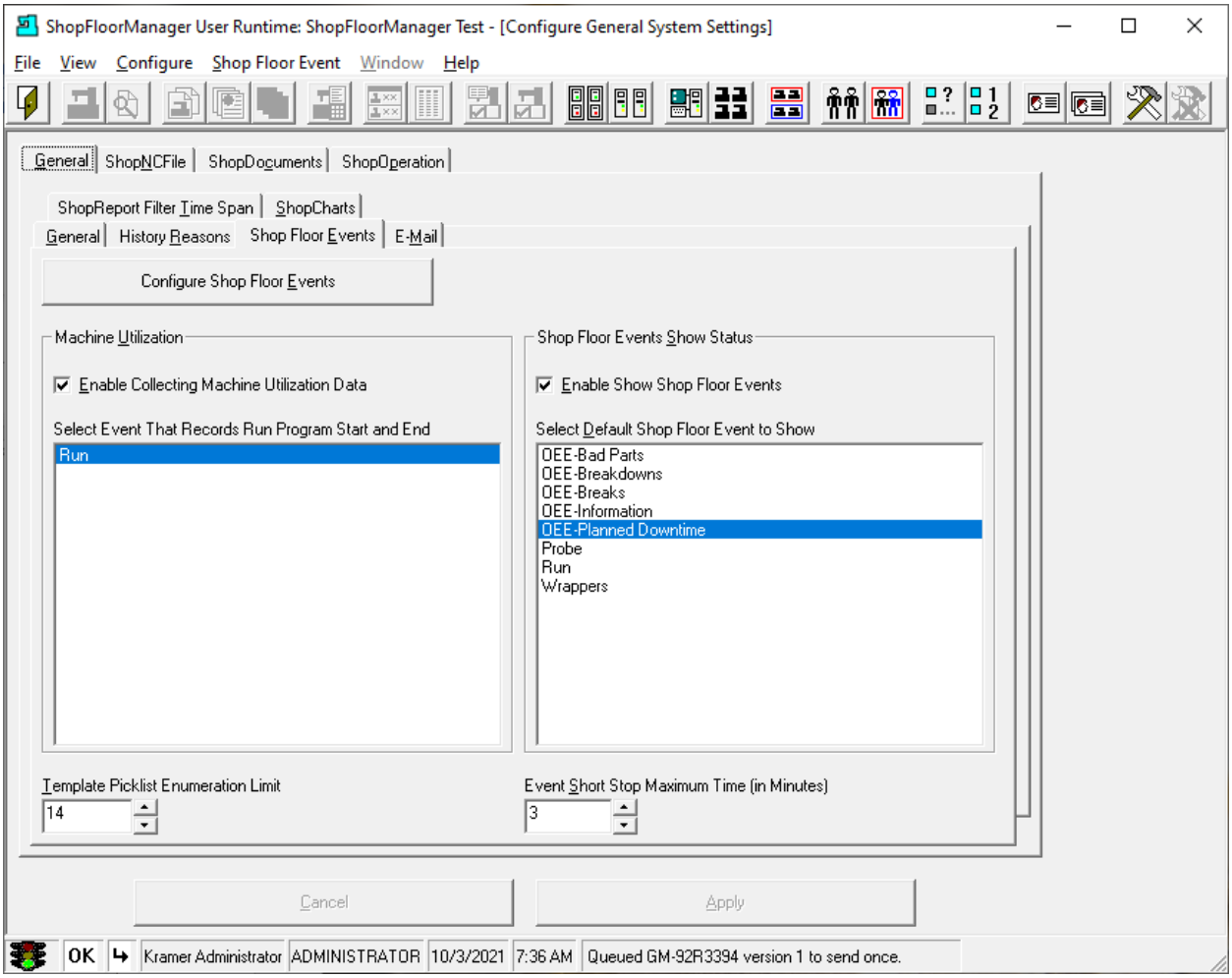
Machine Status (Follow this link for details)
When using a Monitoring Program on the Shopfloor no matter if you are generating Events using ShopMDI, Machine Macros or by uploading snippets of Events from non-Macro Machines, these Events will be displayed in real-time at any Configured Workstation!

Each Workstation is individually configurable to display any Machines & Monitoring Programs a User designates! The Machine Status Window can be used on a large screen Workstation for displaying Events on the Shopfloor! No Special Display Programs needed!

ShopCharts & ShopReports (Follow this link for details)
Charts are the innkeepers of the Shop. They watch every move and record every detail. All you have to do is watch them update Quality, OEE Events & Efficiencies. If the Chart's details don't meet your standard, click on the Chart Events of interest and all the data & details are there at your desk any time and all the time! Fix the problems when they happen!

ShopReports: Configurations (Follow this link for details)
There are ShopReports for System Configurations, ShopNCFile Histories, Document Histories and ShopOperations Histories! There are 43 separate ShopReports covering these but with the ShopReport Filter you can customize each of these increasing the number of possible reports into the thousands. There are an additional 14 ShopFloorManager Event ShopReports and again using the ShopReport Filter expand these into the hundreds!

Configure General System Settings (General Tab – Configure Shop Floor Events)



Let's continue with Configuring Shop Floor Events.

Configure General System Settings (Configure Shop Floor Events - Enable Collecting Machine Utilization Data)

Checking this allows any Monitoring Data being collected and stored in the Machine Event database for use in generating Real-Time Charts & many customer-created monitoring ShopReports.

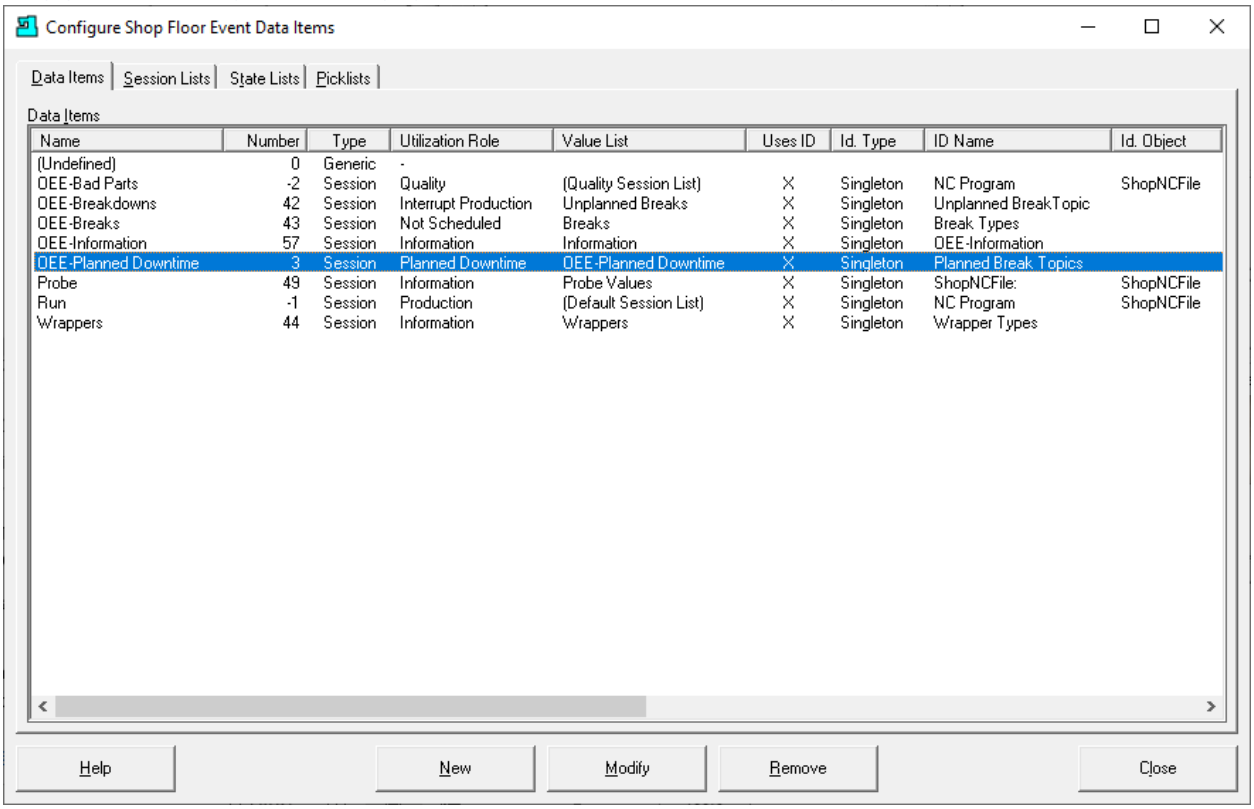
Configure General System Settings (Configure Shop Floor Events Enable Show Shop Floor Events)

Checking this allows any Monitoring Data produced by Machine Tools and or the Manual Data Input Applications to be displayed in the Machine Status Window.

Note: The Machine Status Window displays real-time Events happening on the Shopfloor indicating if a Machine Tool or Asset is Running, Stopped or in State of non-production!

Click on the "Configure Shop Floor Events" Button and the following Window is displayed

Configure General System Settings (Configure Shop Floor Event Data items)



Creating Monitoring Programs takes a bit of initial effort to learn but if approached in a logical manner is quite manageable, and after creating few programs it becomes routine.

We will be concerned with three of the Tabs: Data Items; Session Lists & Picklists. We will not address State Lists as they are rarely used. Call CCI if you need more information!

SFM's has two default Monitoring Programs, "Quality" and "Run" which contain a minimum of two events which are the Start Event and an End Event.

ShopFloorManager can automatically embed production Events in ShopNCFiles and when these programs are executed in macro-based controllers the Start & End Cycle Events are output to ShopFloorManager where they parsed and stored in its database. These are then used to generate real-time ShopCharts, ShopReports_ShopCharts_and_Supporting_2 & ShopReports: Configurations.

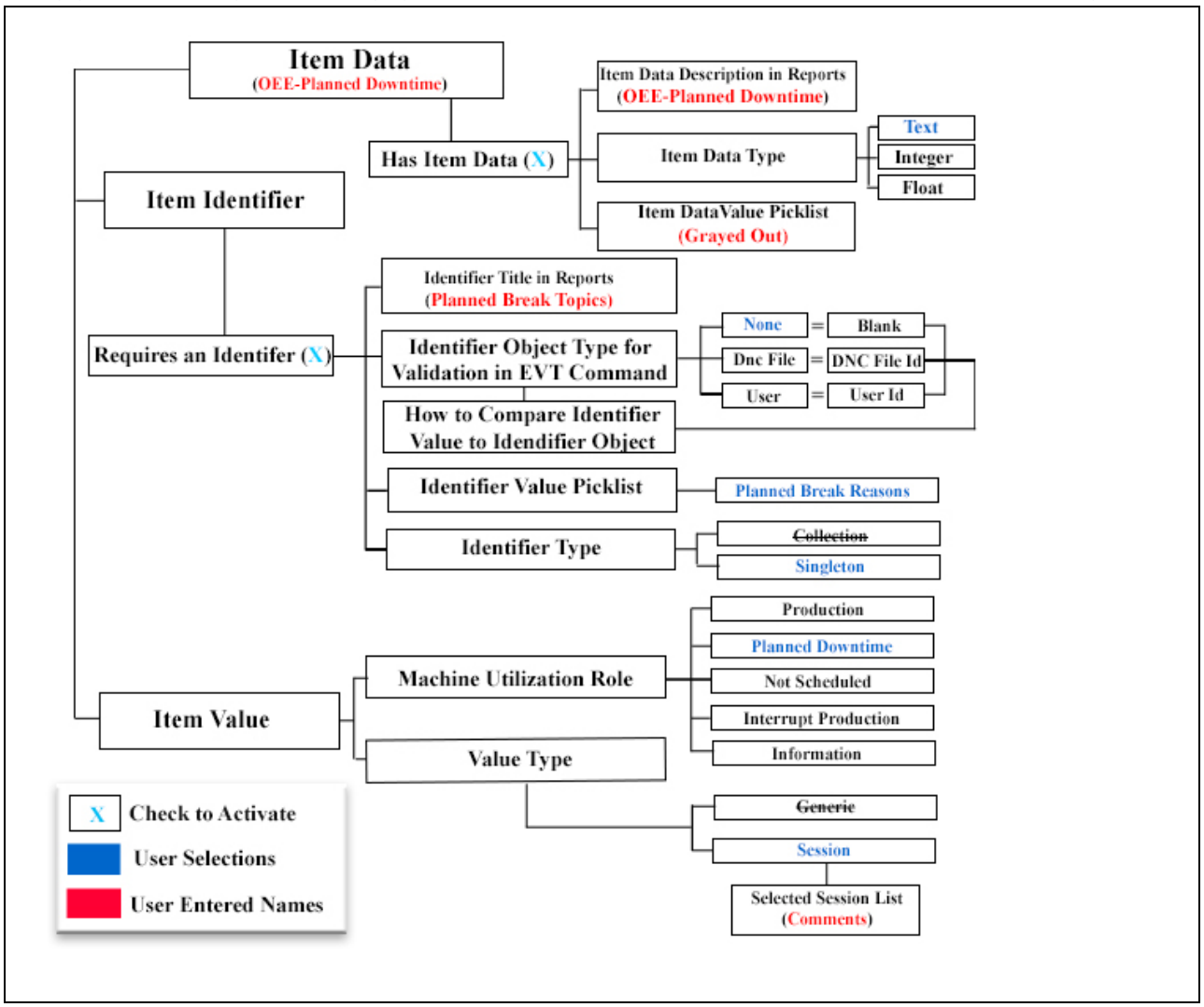
To illustrate we will recreate the Monitoring Program "OEE-Planned Downtime" which is used to collect Non-Production Events such as: Planned Maintenance, Setups, OSHA Inspections, Operator Training, etc. We will use ShopMDI to run this Program to generate non-production shopfloor events.

First, these collected Events are used to provide a real-time view of production status on the shopfloor displaying production bottlenecks!

Second, they are stored in ShopFloorManager's Database for Detailed Analysis at a later time!

Before we get started let's take a look at the Structure of a **ShopMonitor** Program.

Configure General System Settings (Monitoring in a Nut Shell - Graphic of Monitoring Program Structure)



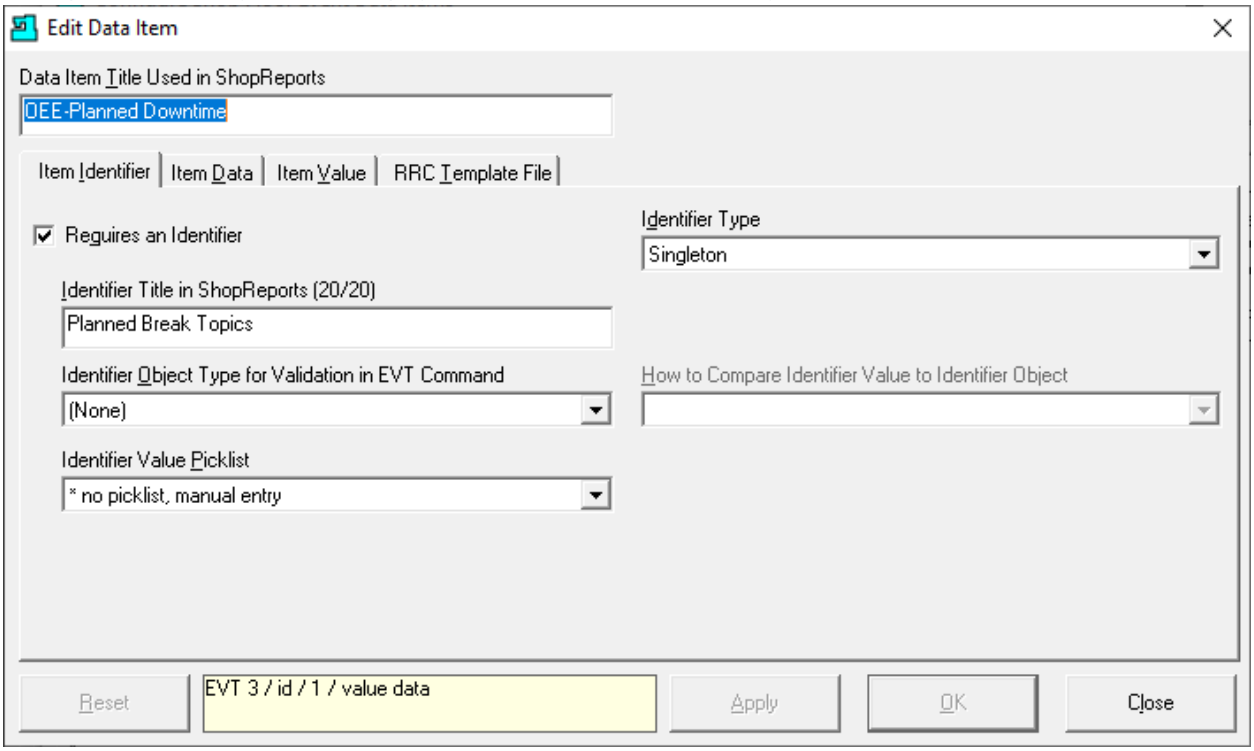
This Graphic represents the basic structure of any Monitoring Program created. Specifically, Areas in **Blue** are system selections, Areas in **Red** are User Created, and **X** activates the associated section! As an example, the Program "**OEE- Planned Downtime**" is a typical customer created program. There are three main sections of this Program.

Item Data (Always Chosen**)**
Item Identifier
Item Value.

We will explain what these are and how they are used to build a Monitoring Program. Use this Graphic as a Reference.

Let's get started! **Isn't this exciting!** Click on the New Button in the "Configure Shop Floor Event Data items" Window and the following Window will be displayed.

Configure General System Settings (Edit Data Item: Identifier - None)



We have checked the Checkbox “Requires an Identifier” allowing us to enter descriptive text into the label block “Identifier Title in ShopReports(20/20)” which we named “Planned Break Topics”.

In the “Identifier Object Type for Validation in EVT Command” picklist there are three categories:

None
When creating a Monitoring Program that is assigned a picklist, see “Identifier Value Picklist” below, or a simple Text Block select “None”. The Text entered into the Text Block or selected from the Picklist is accessible by ShopMDI. This stored Identifier Title can then be selected in the ShopReport Filter for locating associated Records.

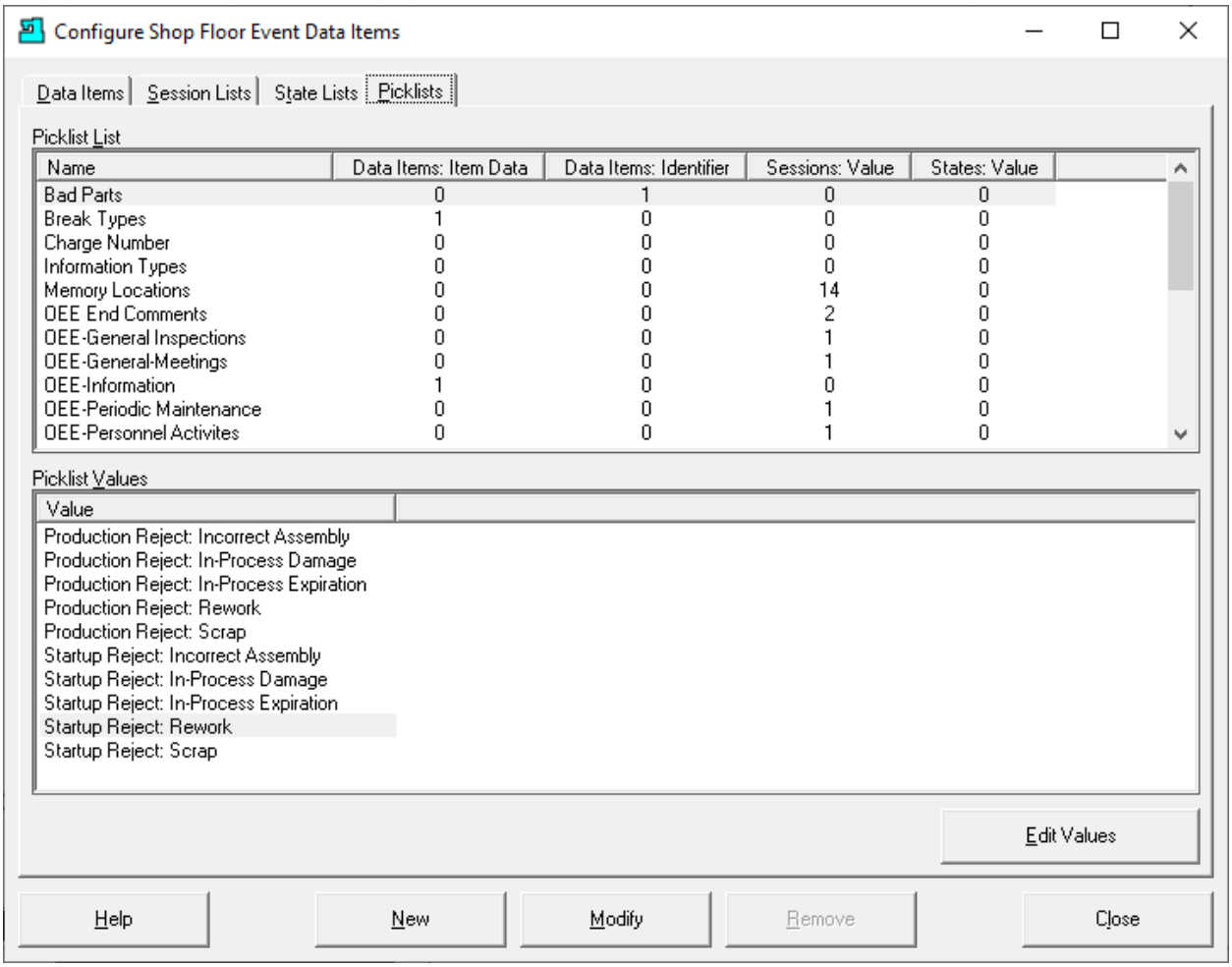
ShopNCFile
If you are creating a Monitoring Program that is associated with a ShopNCFile select this category. **ShopMonitor** then uses this association and related Cycle Times to Generate Efficiency ShopReports. This File Name(Id) is also used by the ShopReport Filter for locating specific ShopNCFiles and its associated Data.

User
If you are creating a Monitoring Program that is associated with a User select this category. This can then be associated with a ShopFloorManager User when collecting data. This User(Id) can then be used by the ShopReport Filter for locating specific Users and their associated Data.

Note: In the “Identifier Type” always select “Singleton” as the “Collection” will not be supported!

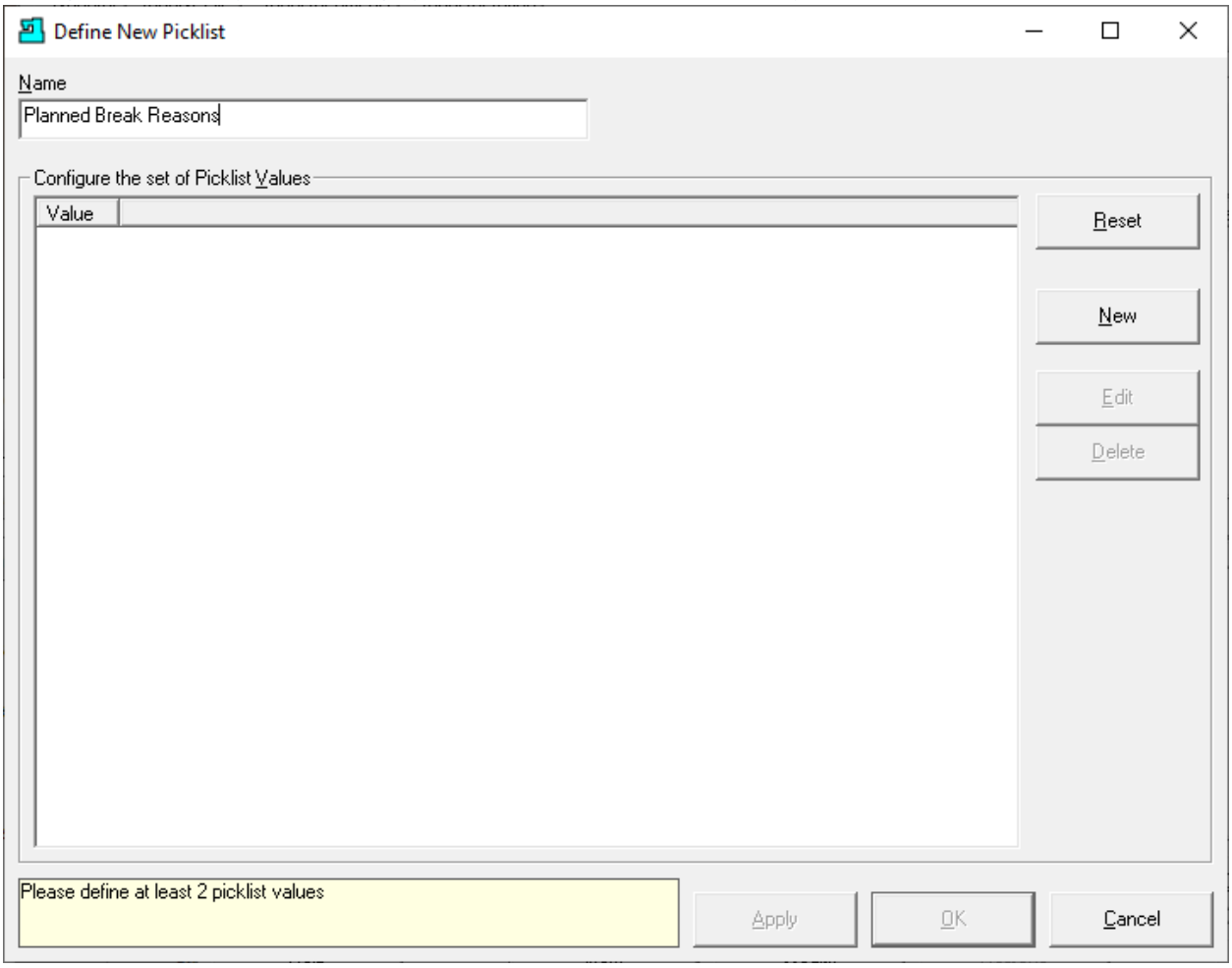
We selected “None” since we are going create and use a Picklist. Click the OK/Close Button and select the Picklist Tab in the Configure Shop Floor… Form. The following Window is displayed.

Configure General System Settings (Configure Shop Floor Event Data items – New Picklist)



Click on the New Button and the following Window will be displayed.

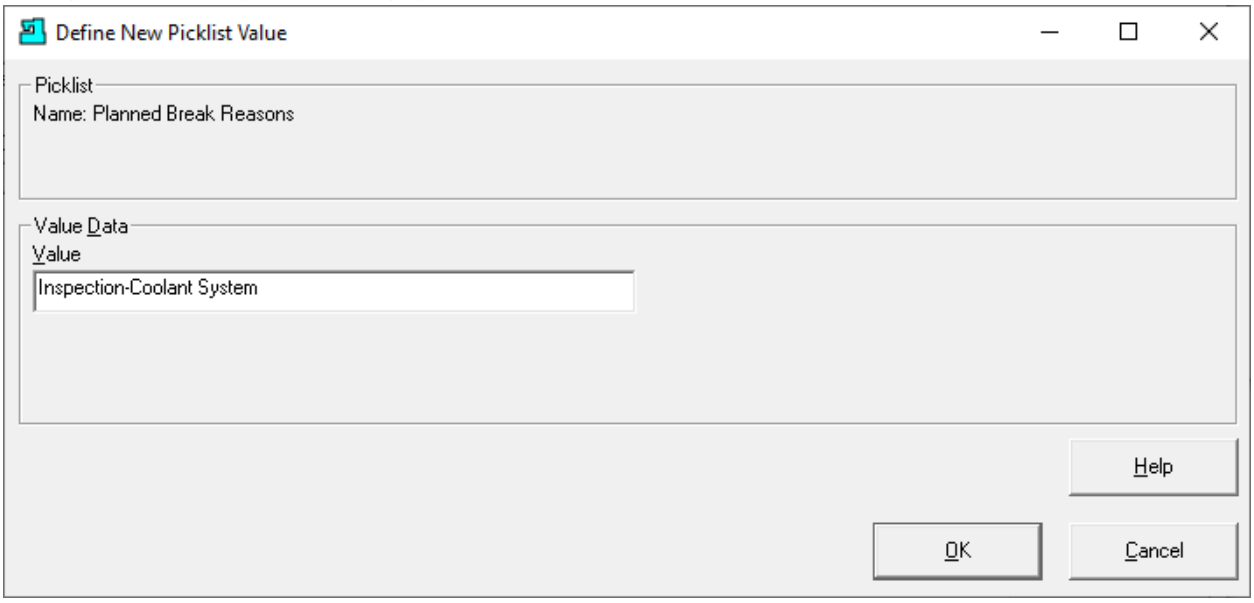
Configure General System Settings (New Picklist Planned Break Reasons)



Enter the name of the Picklist, Planned Break Reasons, in the upper left-hand text block and click the Apply Button.

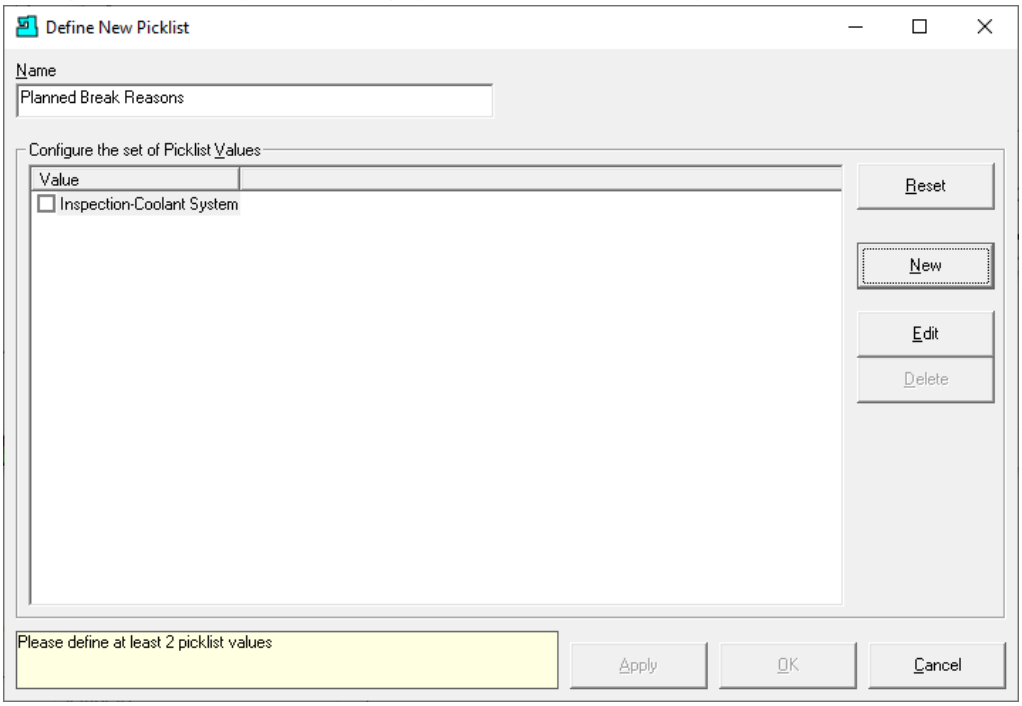
Click on the New Button and the following Window will be displayed.

Configure General System Settings (Picklist Entry – Inspection-Coolant System)



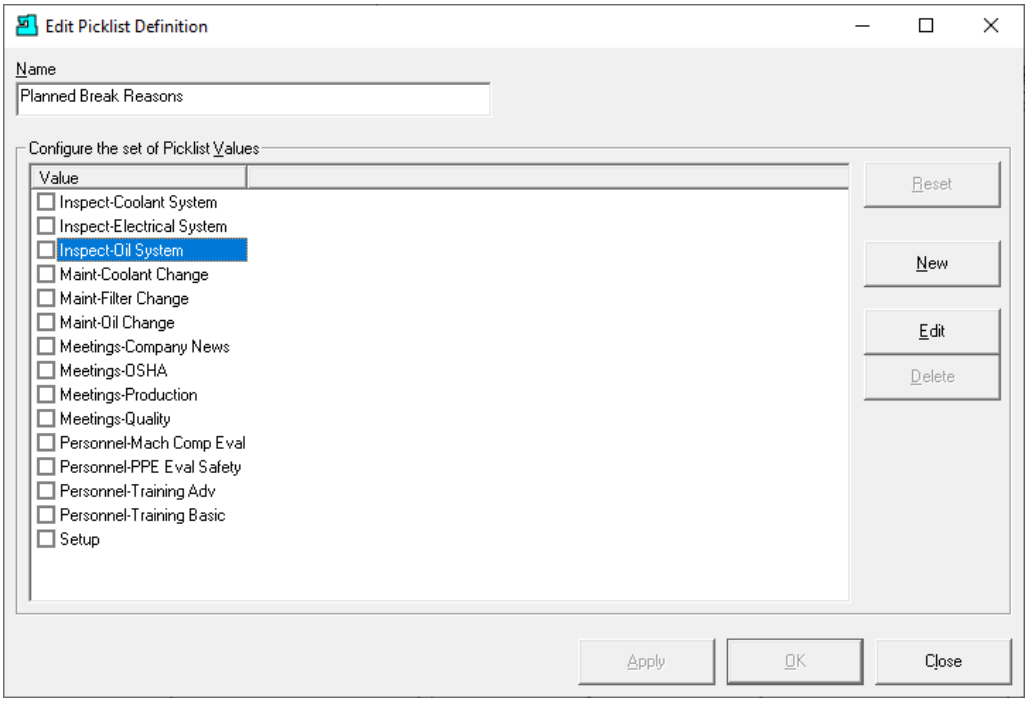
Enter the Picklist's Name "Inspection-Coolant System" in value text block and click the OK Button and the following Window will be displayed!

Configure General System Settings (Additional Picklist Entries)



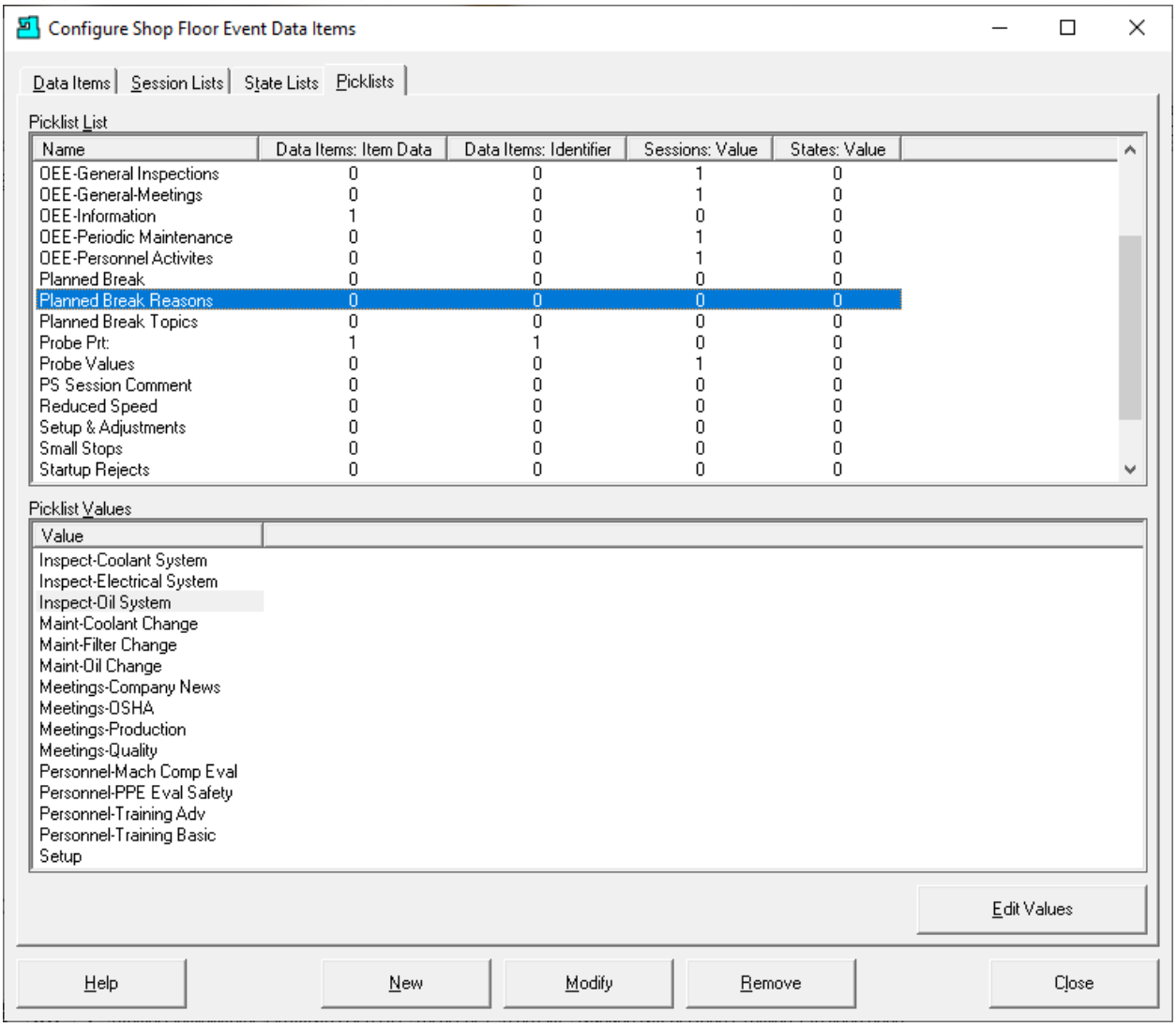
We will continue adding Planned Break Reasons as needed. **You must enter at least two entries**!

Configure General System Settings (Picklist Entries Complete)



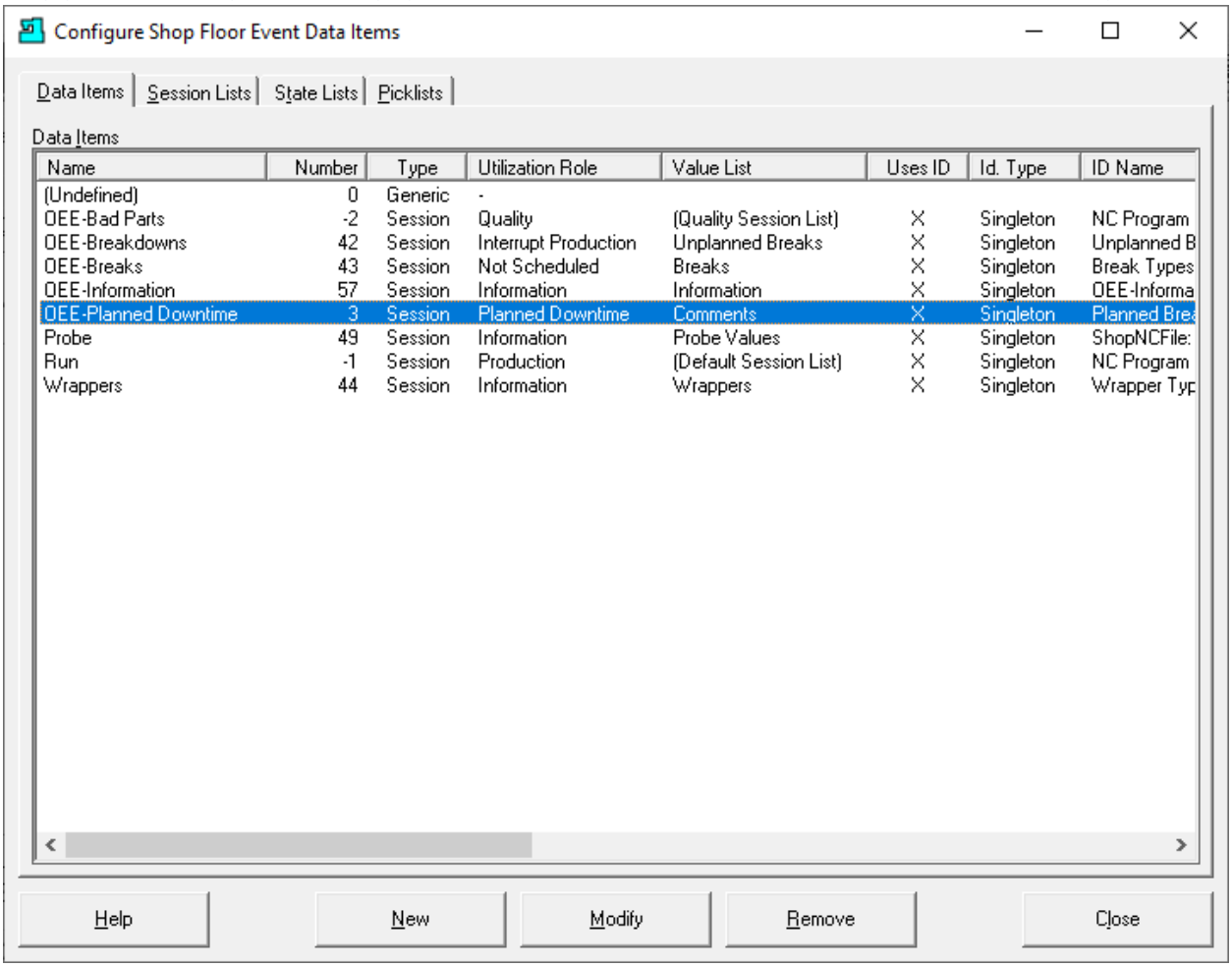
When done click on the Apply Button and Close Button and the following Window will be displayed.

Configure General System Settings (Configure Shop Floor Event Data items – Planned Break Reasons Picklist)



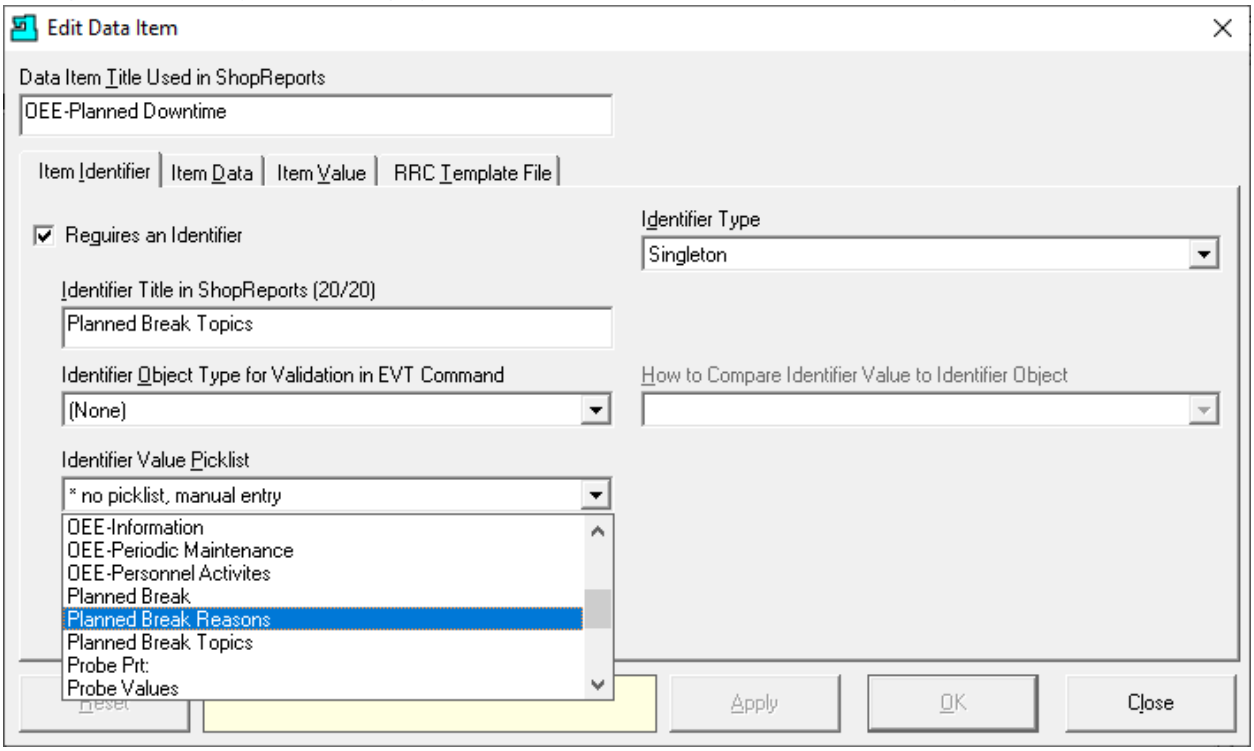
Now that we have created this picklist, we need to associate this with the program “OEE-Planned Downtime”. Click on the “Data Items” Tab and select the “OEE-Planned Downtime” Data Item.

Configure General System Settings (Configure Shop Floor Event Data Items - Planned Production Break)



Highlight the “OEE-Planned Downtime” and click on the Modify Button and the following Window will be displayed.

Configure General System Settings (Edit Data Item: Selecting Charger Number Picklist)

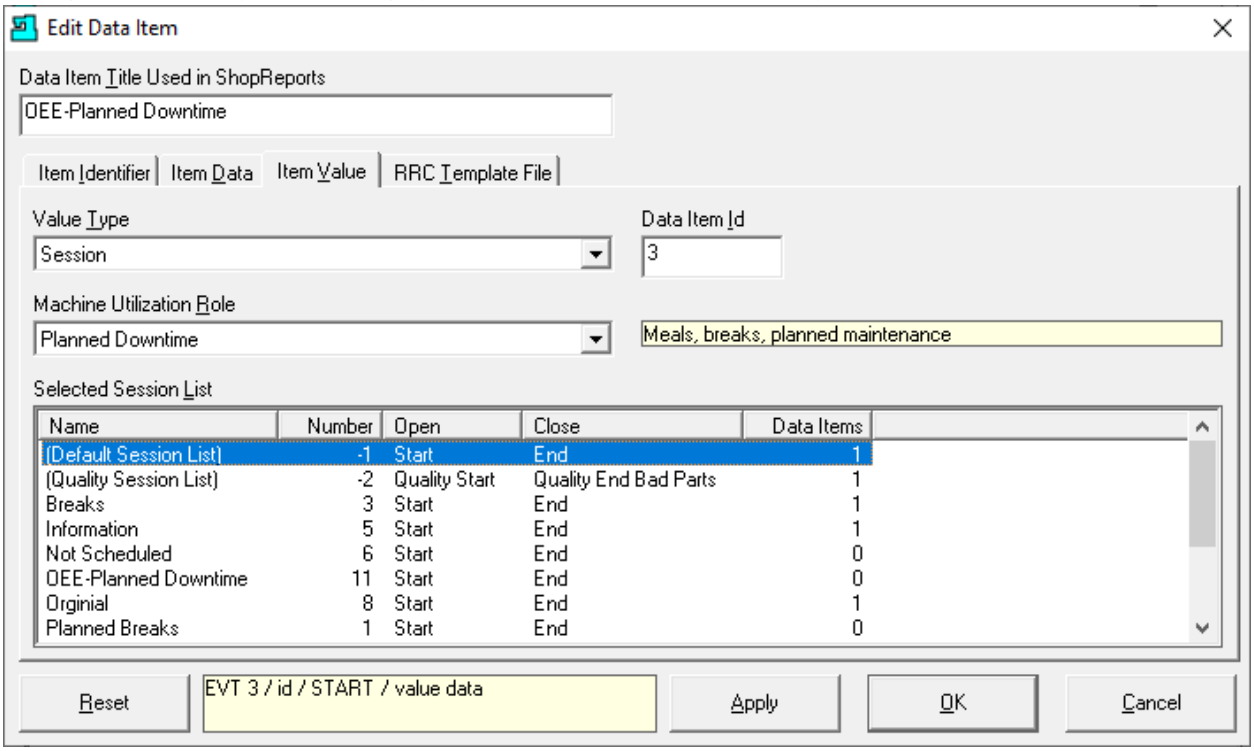


We will add the newly created Picklist “Planned Break Reasons” as the “Identifier Value Picklist” choice. Remember that these Picklist values can be used in ShopFloorManager’s ShopReport Filter for searching for specific data in ShopReports!

These settings in the Report Filter allow you to create specific ShopReports that meet your specific requirements!

Click the Apply Button and then select the “Item Value” Tab and the following Window is displayed.

Configure General System Settings (Edit Data Item: Selecting Session List)



This Window is used to select an Item from the Session List to use in the Monitoring Program. It's not a Monitoring Program without a Session! You also need to select a Monitoring Program Type from the "**Machine Utilization Role**" list. See below! A Session List at a minimum has a Start & End Event.

Role Settings:

Value Type

Select "Session" from this drop down-list, "Generic" will not be support in future releases.

Machine Utilization Roles (Select one of the "Machine Utilization Roles" from drop down list!**)**

1. **Information** (Operator recorded information; Production not directly affected)
   If you are creating a Monitoring Program to collect Information only use this Utilization Role. I.E. An Operator reporting on how to do a Process better!
2. **Interrupt Production** (Non-Productive Time where Production Time was interrupted)
   If you are creating a Monitoring Program to record when a Machine Tool is down due to a non-planned downtime such as a Machine Tool Failure use this Utilization Role!
3. **Not Scheduled** (Machine ***Times*** set as not used for Production: I.E. Weekends/Holidays)
   When doing OEE calculations any Production Resource is assumed useable at any Time unless there are blocks of Time designated "Not Scheduled" such as Holidays & Weekends. Use this Utilization Role.
4. **Planned Downtime** (Non-Productive Time when Production could have taken place)
   If you are creating a Monitoring Program to record when a planned downtime is taking place use this Utilization Role! I.E. Yearly Planned OSHA safety check!

Machine Utilization Role Cont.

5. **Production** (Productive Time)
   When creating a Monitoring for Production use this Utilization Role. I.E. The same category as the Monitoring Program "Run" but a more robust Program!
6. **Quality: (**For entering number of bad parts!**)**
   This is ShopFloorManager's term for OEE Category **Quality**! The ratio of good parts to total parts: (good parts/(total parts)! Used in OEE calculations!

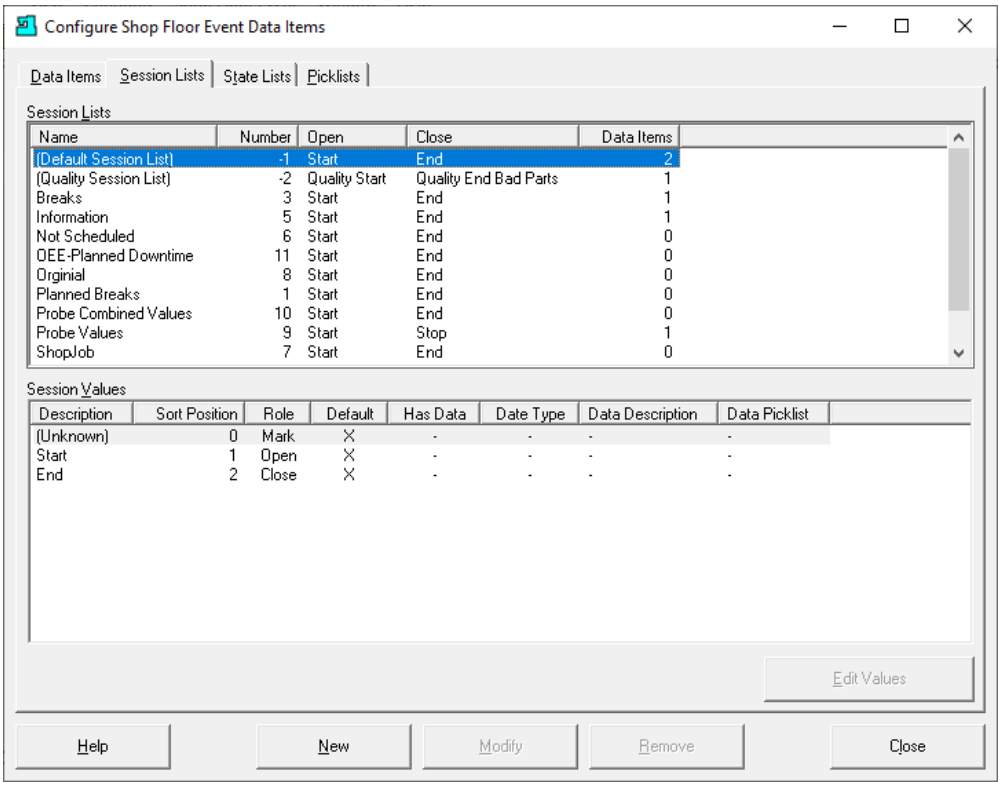
Selected Session List

Select an Item from this drop-down list to finish the creation of a Monitoring Program. We could in fact use this Default Session List selection, but it is too limiting for our requirements.

Let's create a new Session List Item that meets a minimum of having a Start & End Event plus an additional Event that allows entering multiple comments!

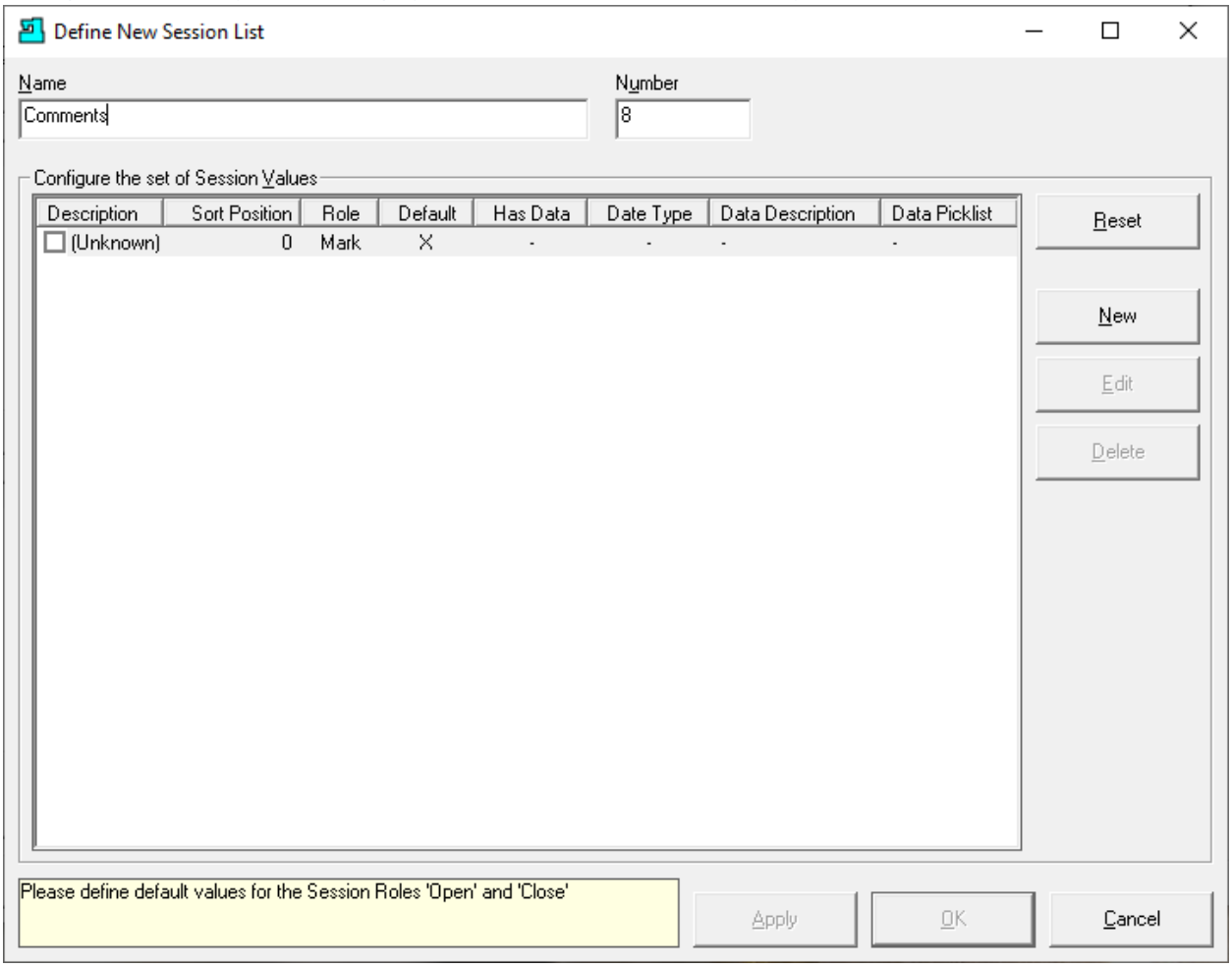
Click on the OK Button and then choose the Session Lists Tab.

Configure General System Settings (Configure Shop Floor Event Data Items – New Session List)



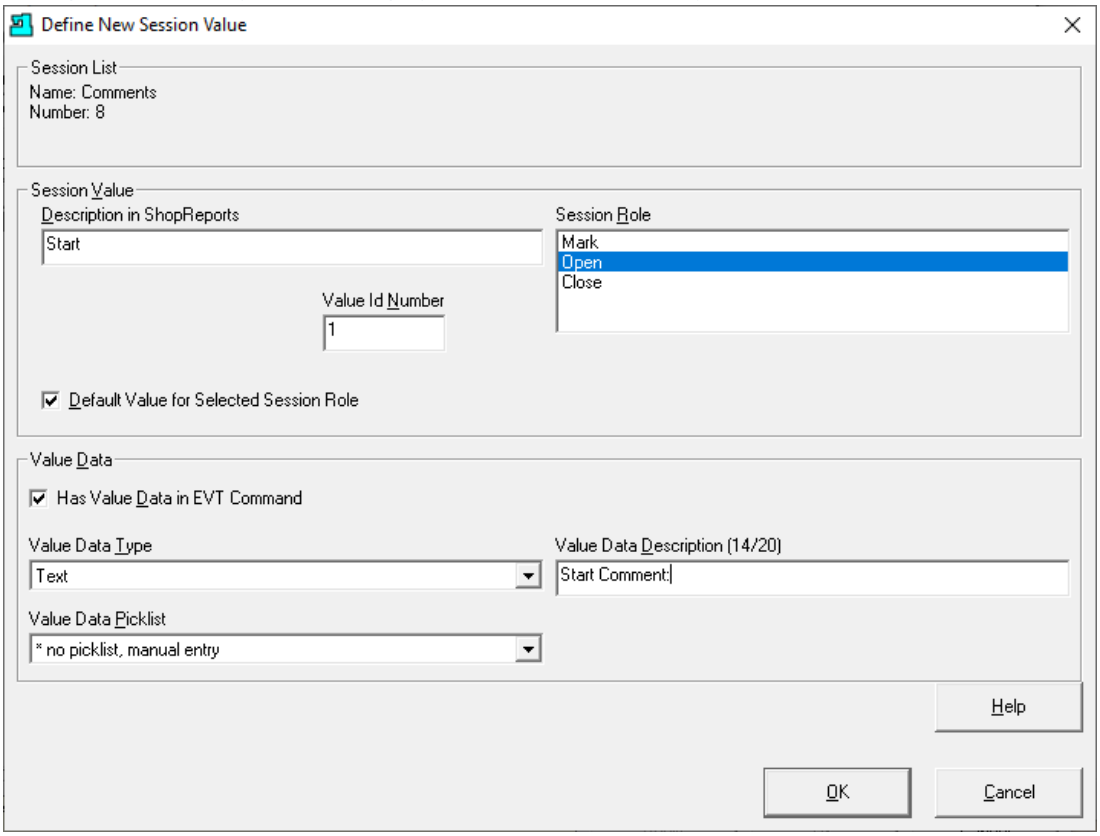
We are going to create a new Session List for use with the "OEE-Planned Downtime" Monitoring Program. Click on the New Button and the following Window will be displayed.

Configure General System Settings (Define New Session List: Comments)



We are going to call this new Session List “Comments”. Enter this in the Name Text Block and click the New Button and the following Window will be displayed.

Configure General System Settings (Edit Session Value – Start)



Definition of Session Start Role & Fields

Open – Field Name "**Start**"
The Role **Open** is a **Start** Event in a Monitoring Program. ShopFloorManager receives these Events from Machine Tool DPRINTs embedded and formatted in ShopNCFiles or by the Program ShopMDI or by the OEE-Controller-based-MDI. These Events contain additional information about the ShopNCFile, Time Date, etc. used in ShopReports & Charts!

Value Data Type
There are three data types: **Text**, **Integer** & **Float**!

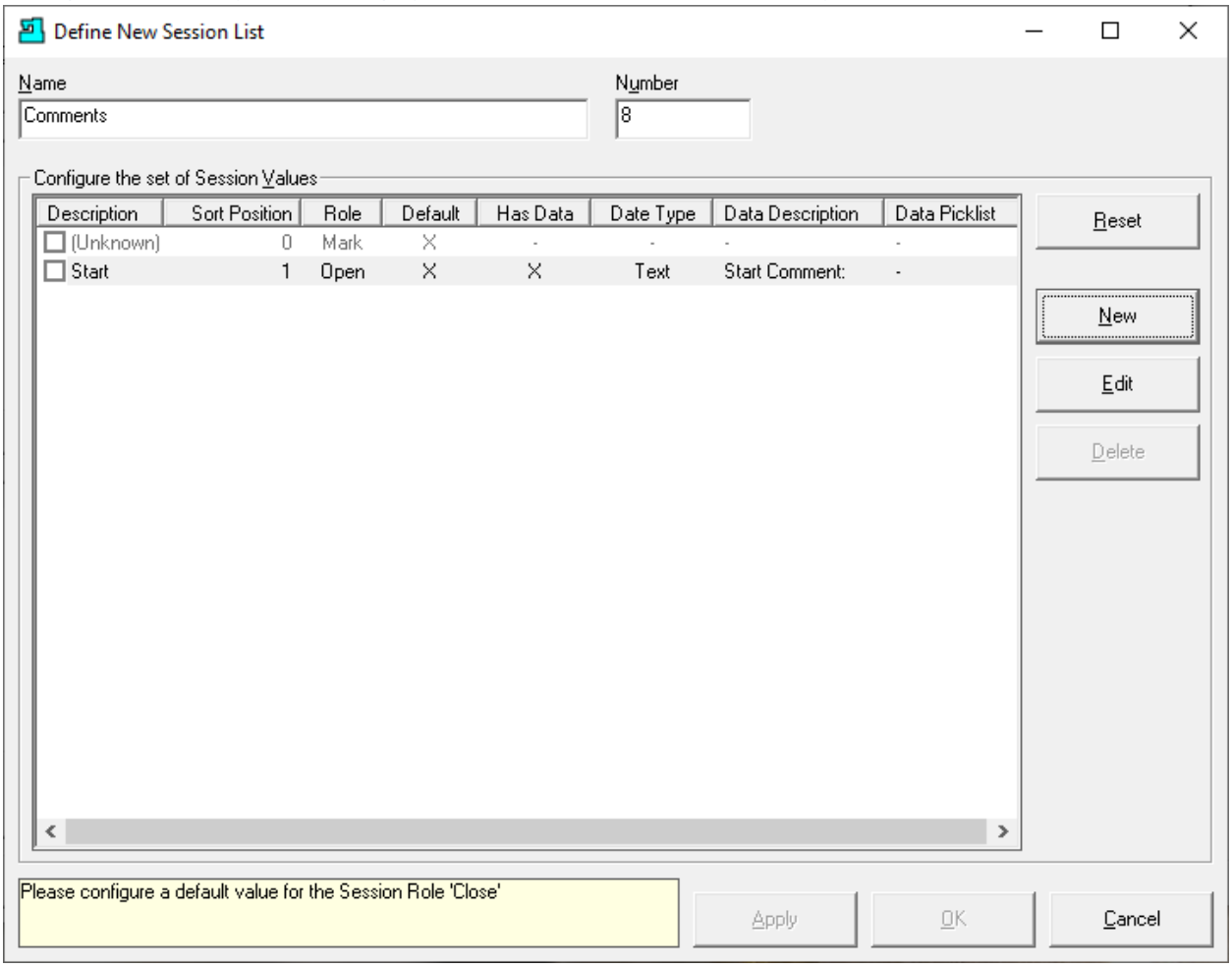
Value Data Description
This is the Title used in the ShopReports & Charts for the Start Event!

Value Data Picklist Selections

1. ***no picklist, manual entry**
   This creates a Text Field in the associate Monitoring Program executing in ShopMDI, a pre-embedded comment in a ShopNCFile or OEE-Controller-based-MDI!
2. **Select any picklist value**
   This creates a drop-down list of values in the associate Monitoring Program executing in ShopMDI, a pre-embedded comment in a ShopNCFile or OEE-Controller-based-MDI!

We have named this Event Start, but you can name it anything that makes sense! Click the OK Button and the following Window will be displayed.

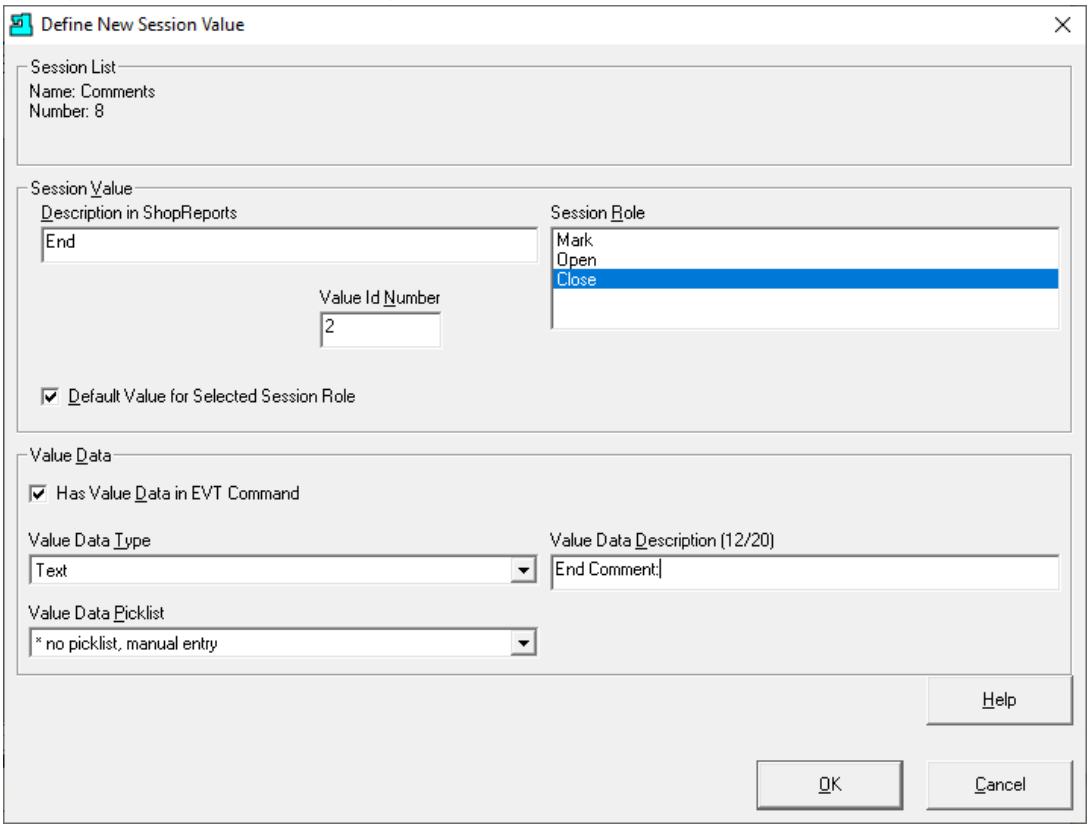
Configure General System Settings (Define New Session List: New List Item)



The above Form displays the newly create Start Event. We need to create at least two Events for this Form before saving! As we mentioned earlier a minimum Monitoring Program requires a Start and End Event.

Click the New Button and the following Window will be displayed.

Configure General System Settings (Edit Session Value – End)



Definition of Session End Role & Fields

Close – Field Name "**End**"
The Role **Close** is an **End** Event in a Monitoring Program. ShopFloorManager can receive these Events from Machine Tools via DPRINTs which are automatically embedded and formatted in ShopNCFiles, via ShopMDI or by OEE-Controller-based-MDI. See Insert and Queuing Rules for additional settings! These Events contain other information about the ShopNCFile, Time Date, etc. that are used in ShopReports & Charts!

Value Data Type
There are three data types: Text, Integer & Float!

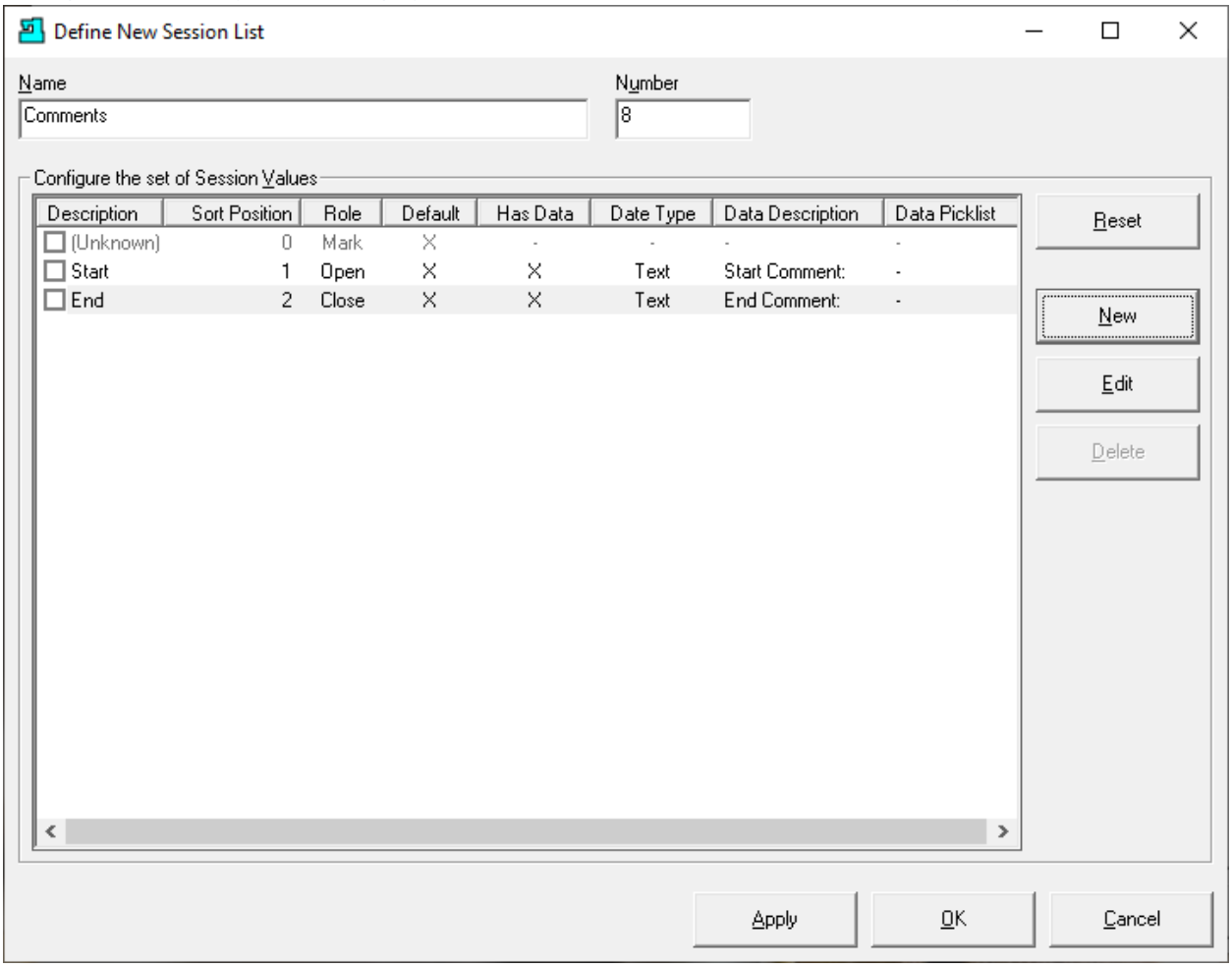
Value Data Description
This is the Title used in the ShopReports & Charts for the Start Event Comment!

Value Data Picklist Checked (no picklist)
Checking this Checkbox creates a text field for adding a comment either using ShopMDI, a pre-embedded comment in a ShopNCFile Event or using OEE-Controller-based-MDI!

Value Data Checked (using picklist)
Checking this Checkbox and selecting a picklist creates a text field that allows selecting a value from the picklist or by adding a comment using MDI or pre-embedded in a ShopNCFile Event!

We have named this Event End, but you can name it anything that makes sense! Click the OK Button and the following Window will be displayed.

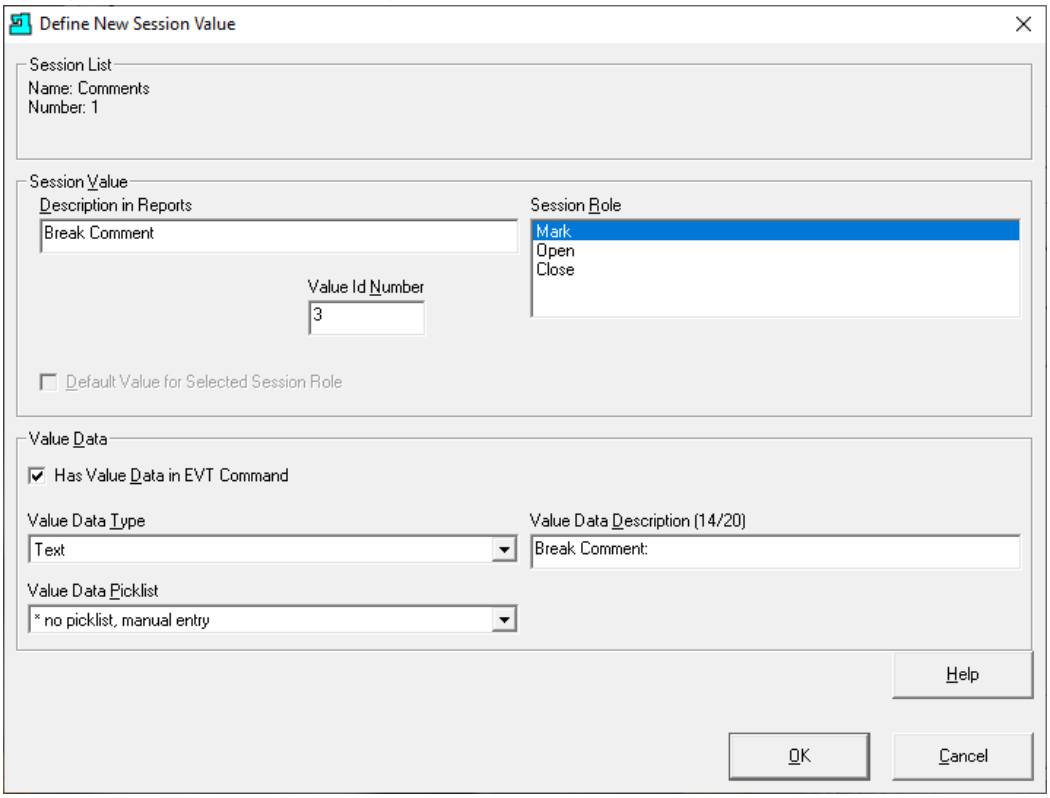
Configure General System Settings (Define New Session List: Start, End & New List Item)



The above Form displays the newly create Start & End Events but as mentioned earlier we also want to create and add another Event enabling the entering of Operator/User comments.

Click the New Button and the following Window will be displayed.

Configure General System Settings (Edit Session Value – Break Comment)

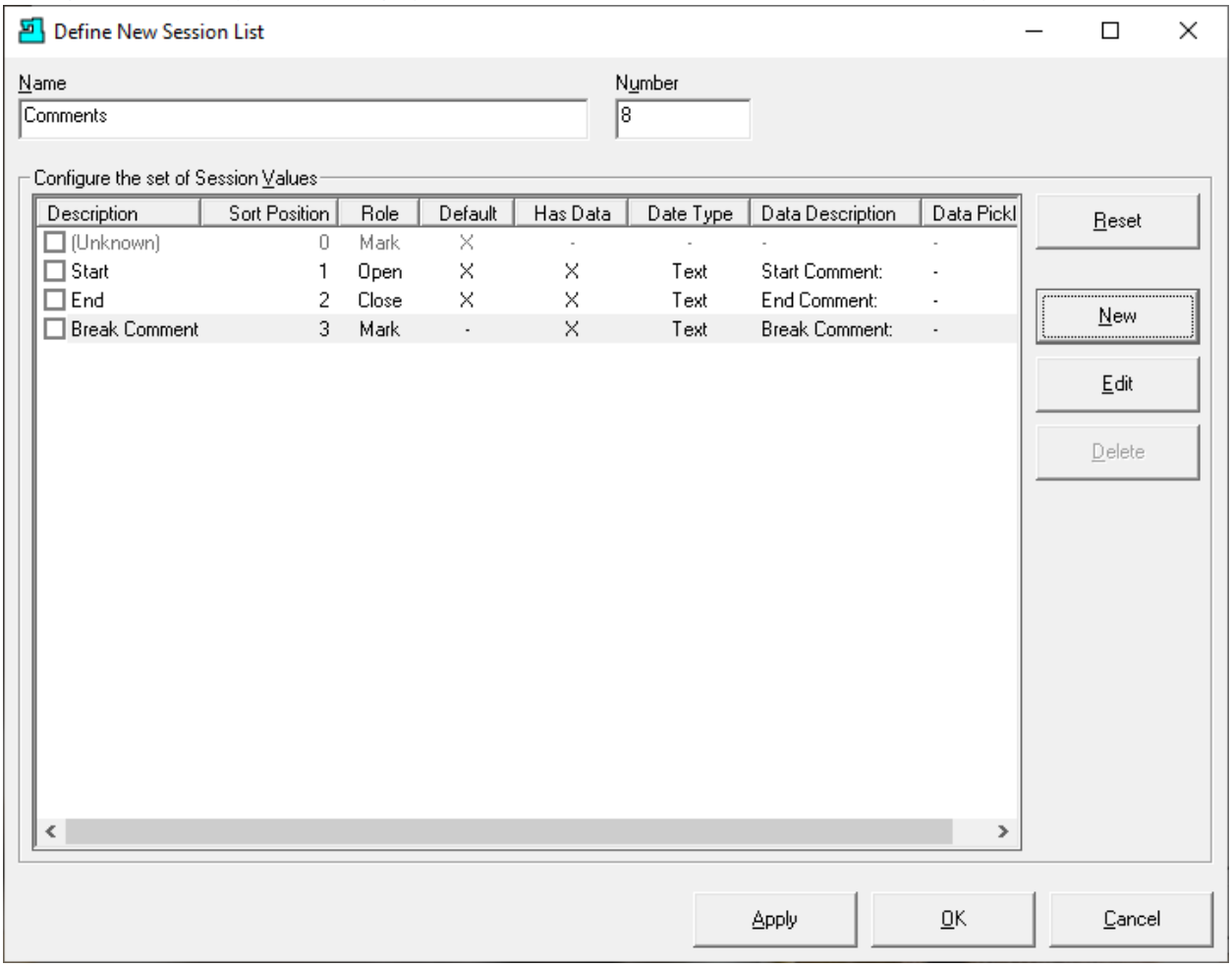


Definition of Session Mark Role & Fields

Mark – Field Name "**Break Comment**"
The Role **Mark** is an Event that can be used any number of times in a Monitoring Program & is User entered via ShopMDI or OEE-Controller-based-MDI! These Events contain other information about the ShopNCFile, Time Date, etc. that are used in ShopReports & Charts!
Value Data Type
There are three data types: Text, Integer & Float!
Value Data Description
This is the Title used in the ShopReports & Charts for the Break Comment Event Comments!
Value Data Picklist Checked (no picklist)
Checking this Checkbox creates a text field for adding a comment using ShopMDI or OEE-Controller-based-MDI!
Value Data Checked (using picklist)
Checking this Checkbox and selecting a picklist creates a text field that allows selecting a value from the picklist or by adding a comment using ShopMDI or OEE-Controller-based-MDI!

We have named this Event "Break Comment", but you can name it anything that makes sense! After clicking the OK Button, the following Window will be displayed.

Configure General System Settings (Define New Session List: Start, End & Break Comment)

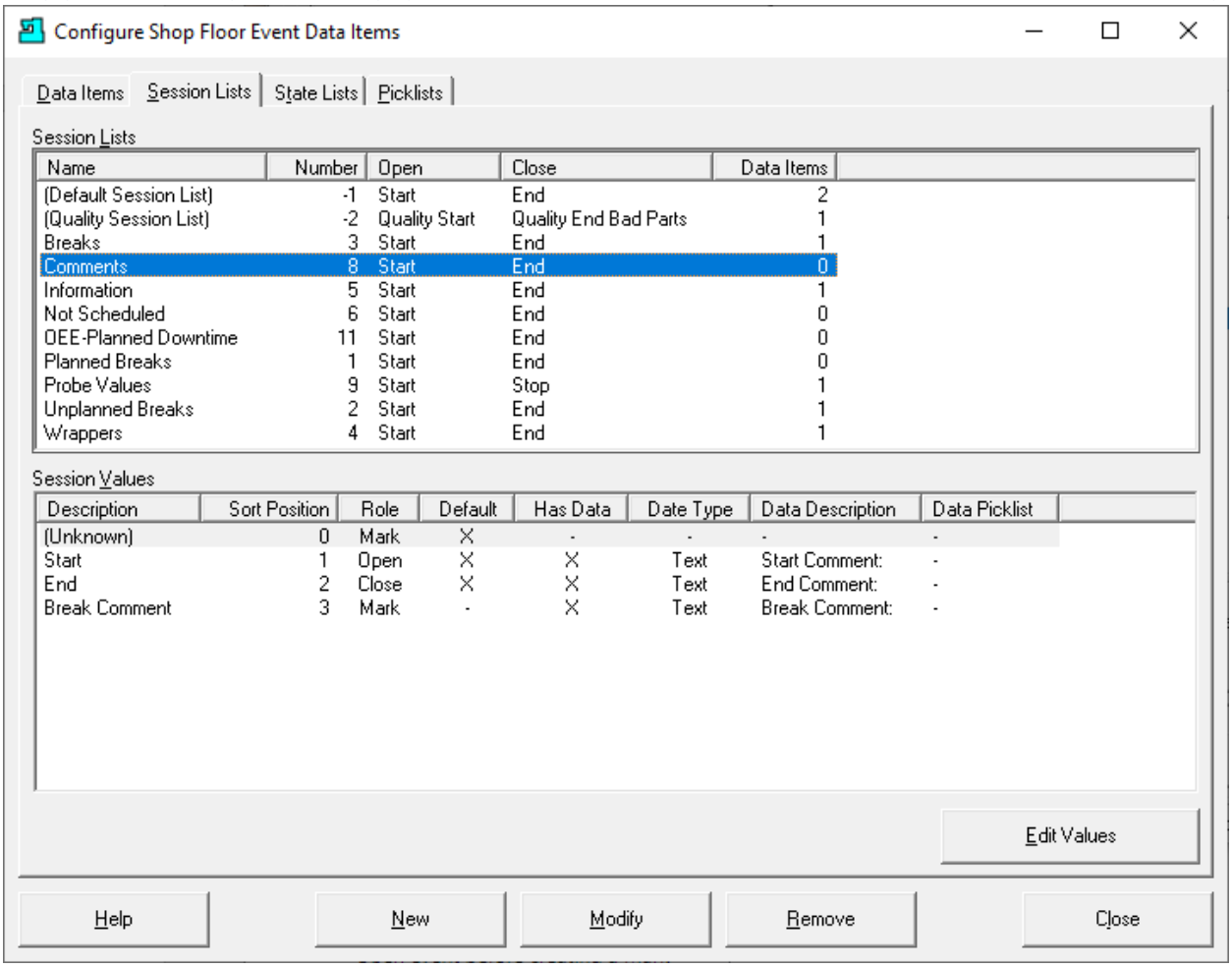


The above Form displays the newly create Start, End & Break Comment Events. This is all we need for the Comments Session List!

There are cases where we may want to create many other Mark Events. You can create any number of Mark Events as needed. Only create as many as needed. As an example, you could create multiple Events for entering comments but if logical only create one!

After clicking the Apply Button click the Close Button and the following Window will be displayed.

Configure General System Settings (Configure Shop Floor Event Data Items – Session Lists – Comments Complete)

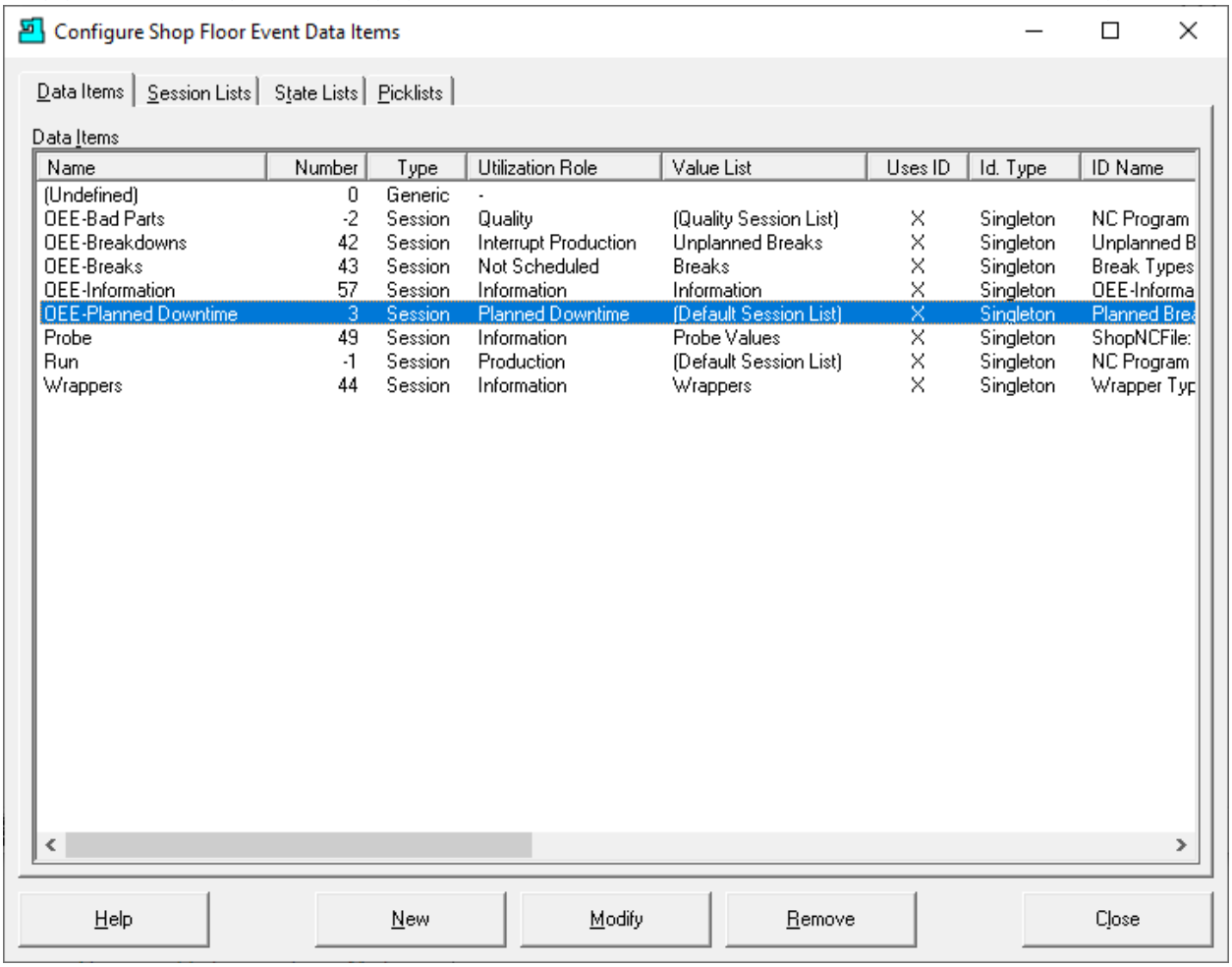


Highlighting the Comments Session List in the above Window displays the Events in this Session List in the lower Window.

Now let's finish up the "OEE-Planned Downtime" Program by adding this Session List!

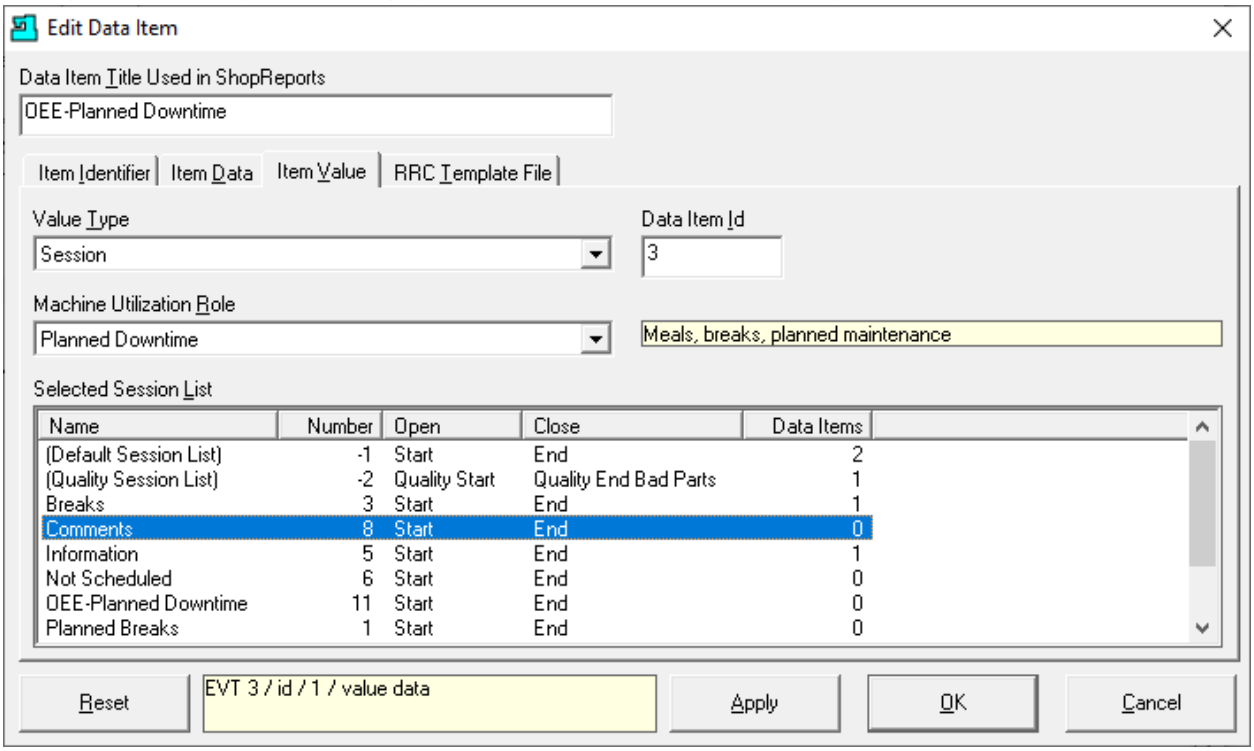
Click the Tab "Data Items" and the Following Window will be displayed.

Configure General System Settings (Configure Shop Floor Event Data Items - Planned Production Break)



Highlight the “OEE-Planned Downtime” Item and the click on the Modify Button and the Following Window will be displayed.

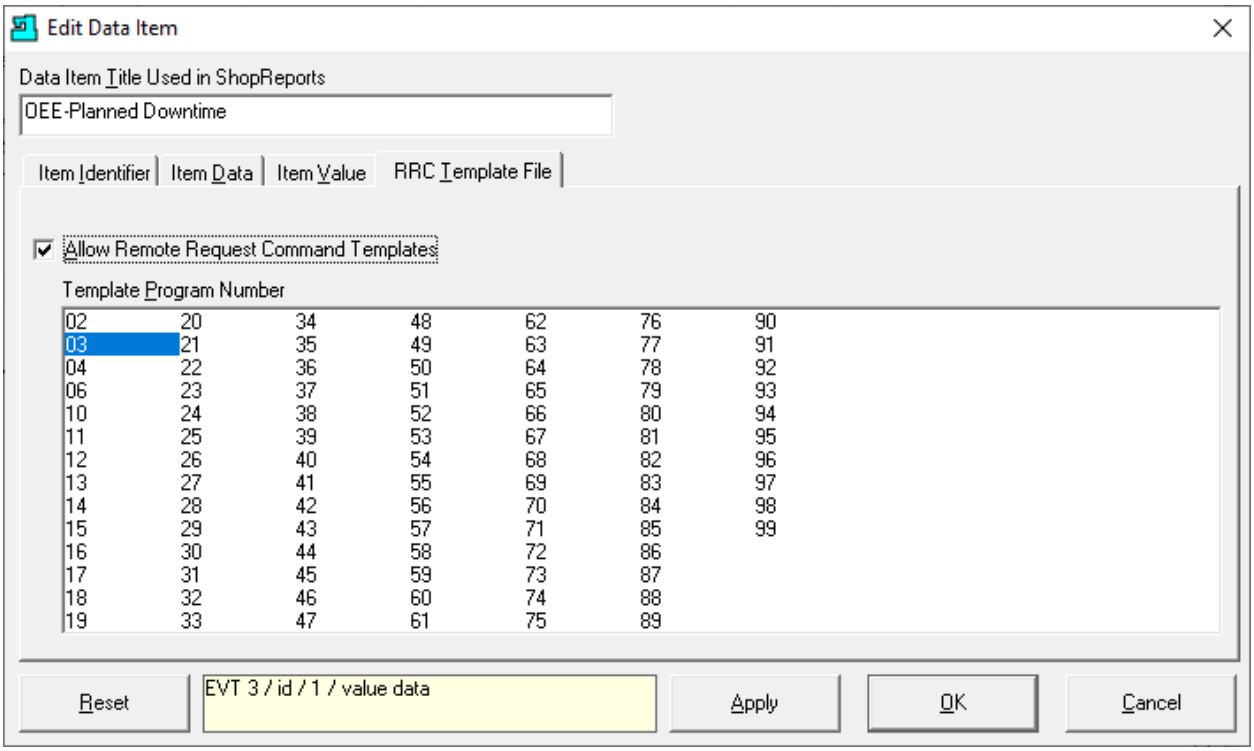
Configure General System Settings (Edit Data Item – Select Session List)



If not already selected, click on the “Item Value” Tab, and then select the Comments from the Session List and click the Apply Button. We have completed the “OEE-Planned Downtime” Monitoring Program!

Click the Apply Button on this Window and then select the “RRC Template File” Tab and the following Window is displayed.

Configure General System Settings (Edit Data Item – RRC Template File)



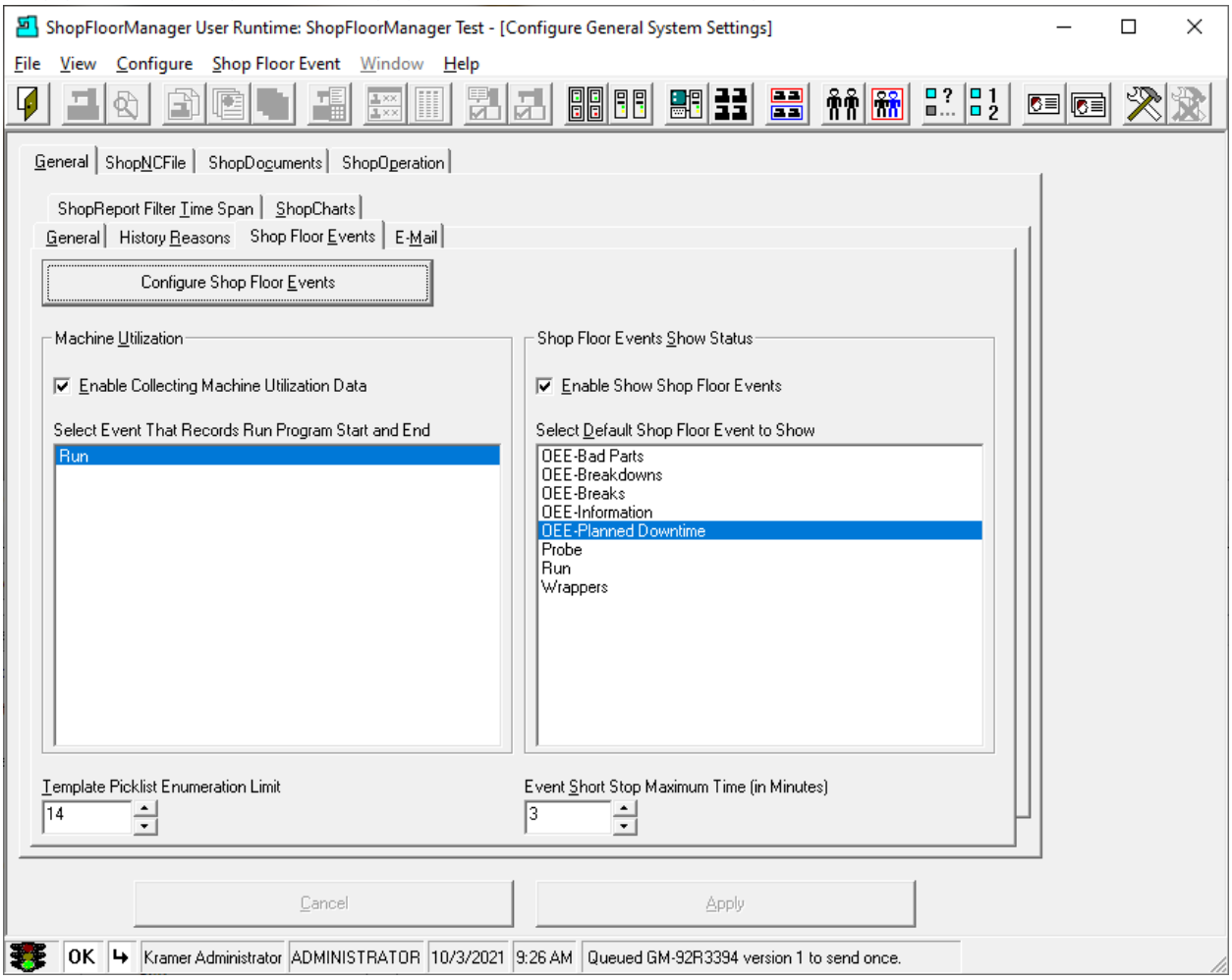
If you are going to use "OEE-Controller-based-MDI " which allows Machine Operators to enter OEE Events using the Controller you will need to check the checkbox "Allow Remote Request Command Templates"! Select whichever number is at the top of the list! We have chosen **03**!

Enabling this allows selecting the various ShopMonitor Monitoring Programs to download to the Controller when using the Queue Window or using a Remote Request Command to request the default Macro Programs!

The selected Template Number is added to the 2 configurable integers used in the "RRC Event Template File Leader" increasing the number of integers to 4. You should investigate this link for these two Integers are used! Click the Close Button and the following Window is displayed.

Note: We have finished the ShopMonitor Program "OEE-Planned Downtime"!

Configure General System Settings (ShopFloorManager Close Button)

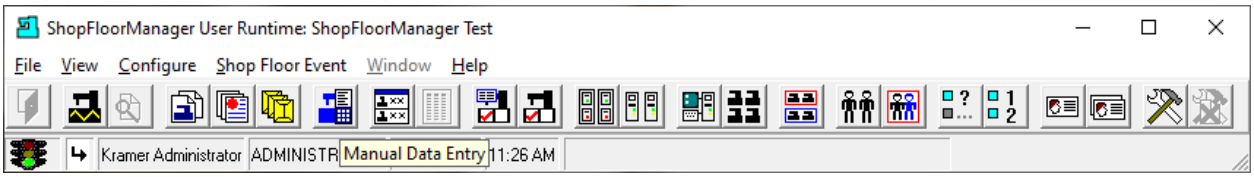


Now that we have completed our Monitoring Program let's see how this Monitoring Program is used to collect, display & generate ShopReports. See the ShopMDI section for general details on its use!

In the next section we will investigate using this Monitoring Program and see it in action!

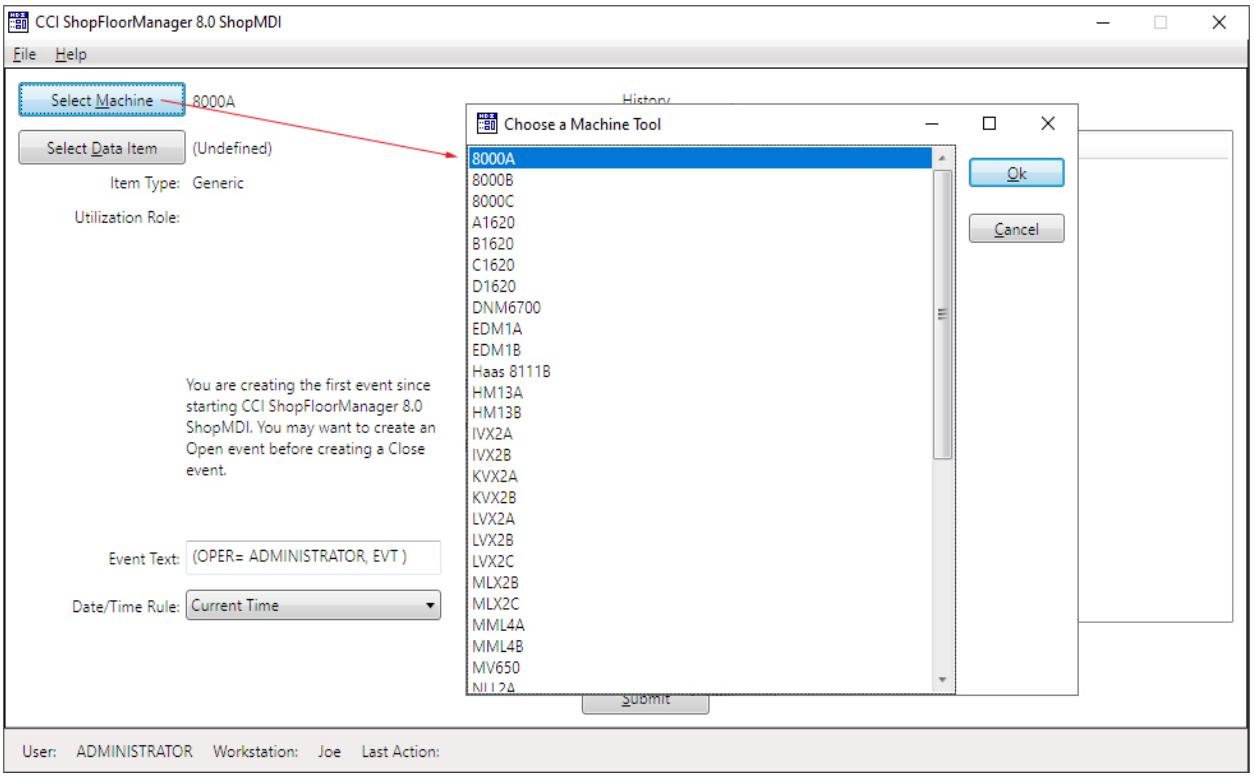
Click the Close Button and the following Window will be displayed.

Configure General System Settings (ShopFloorManager Runtime Manual Data Entry)



Click on the Manual Data Entry Icon and ShopMDI will be displayed. We have selected the "Planned Production Break" Program! Next, we will click on the Select Machine drop-down List!

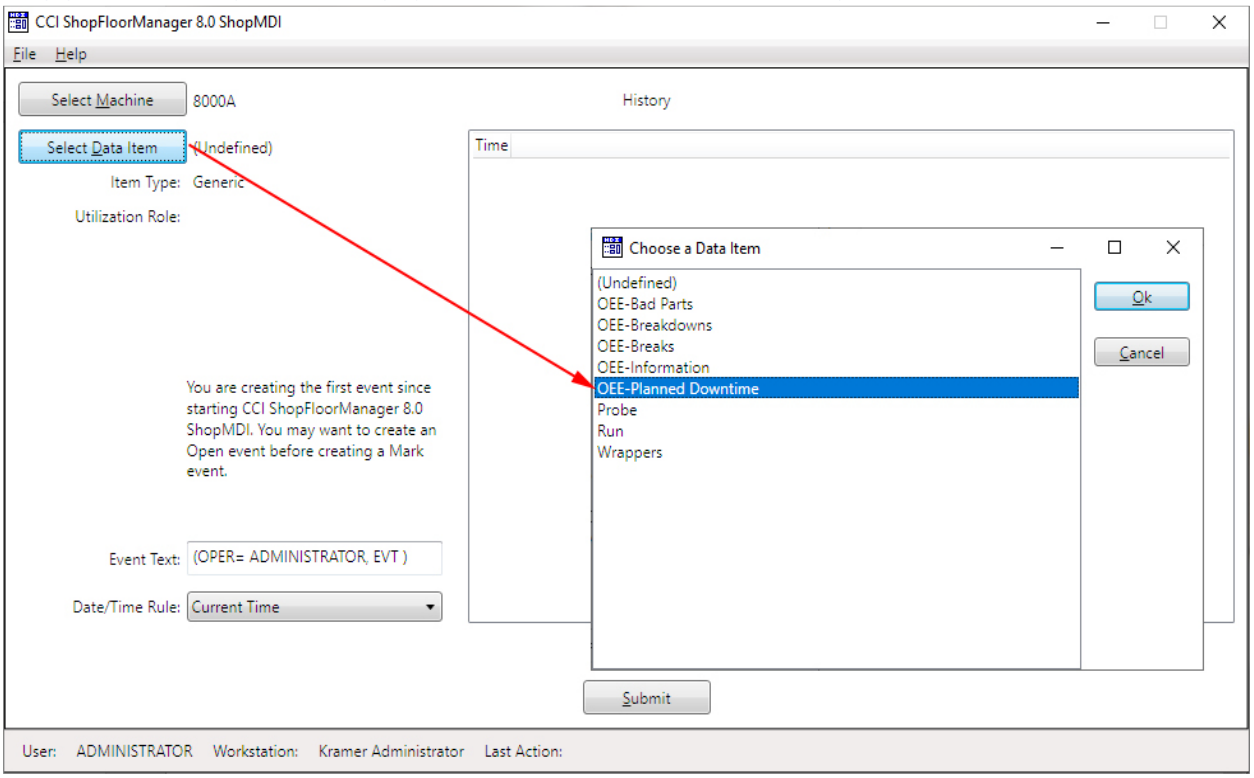
Configure General System Settings (Machin - 8000A)



After ShopMDI is displayed click on the Select "Select Machine" Button which displays all of the created Machine Tools. We have selected the Machine 8000A.

Click the OK Button and the following Window is displayed.

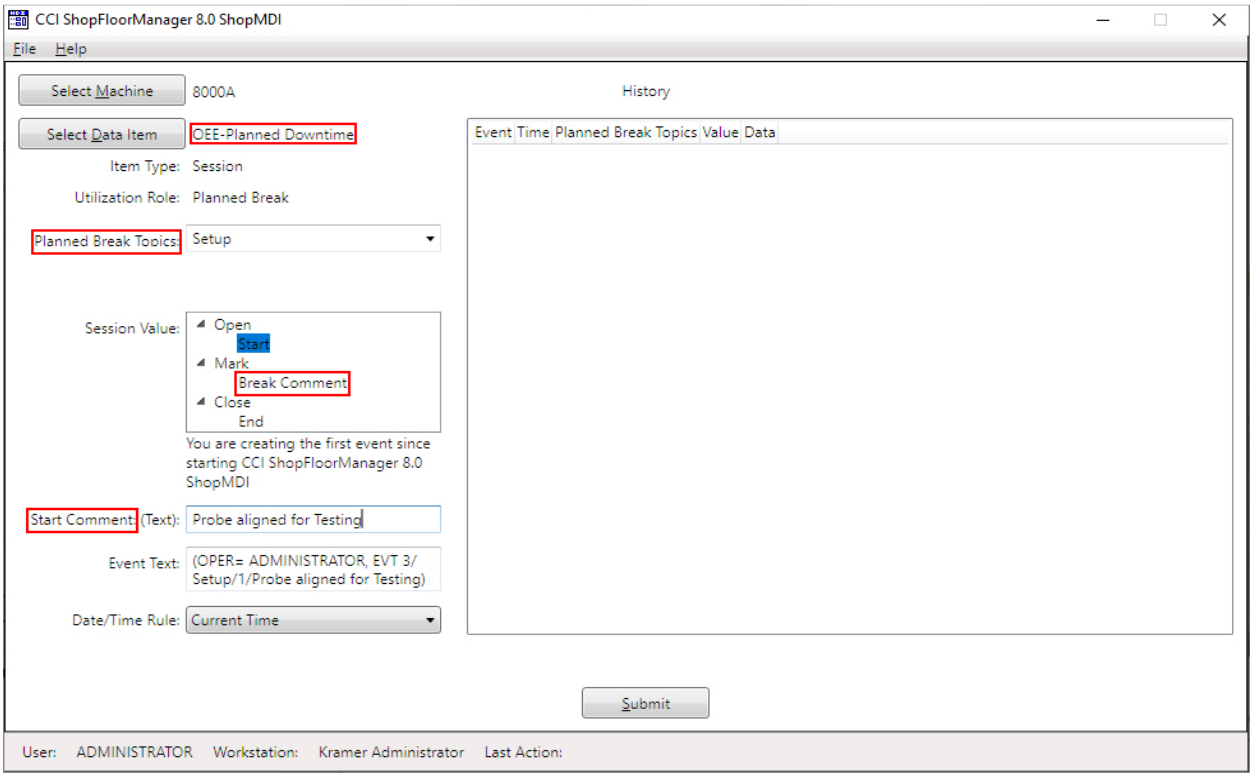
Configure General System Settings (Data Item – Planned Production Break)



Next, click on the Select “Select Data Item” Button which displays all of the created “Data Items”. We have selected the ShopMonitor Programs “OEE-Planned Downtime”.

Click the OK Button and the following Window is displayed.

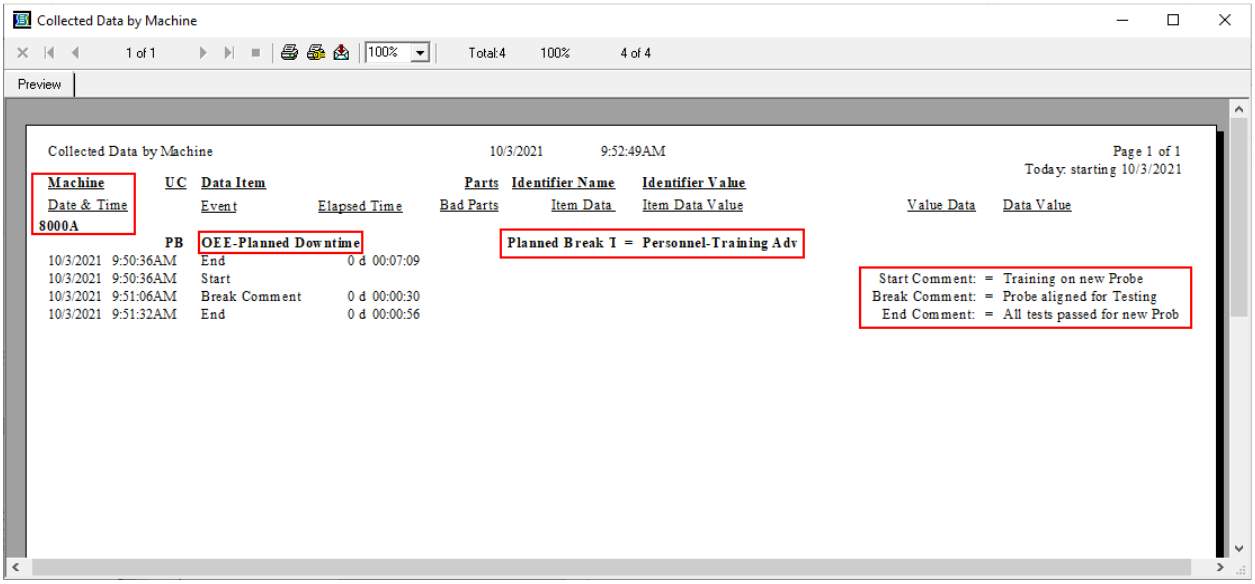
Configure General System Settings (ShopFloorManager ShopMDI – Planned Production Break)



This is what the ShopMDI would look like if we select the "OEE-Planned Downtime" Monitoring Program. If you compare this with the Graphic of Monitoring Program Structure, you can see how the different parts of the Monitoring Program are reflected in this Program!

Let's take a look at a Report that can be generated by the data entered into MDI executing this Monitoring Program!

Configure General System Settings (ShopFloorManager Shop Floor Events Report – Collect Data by Machine)

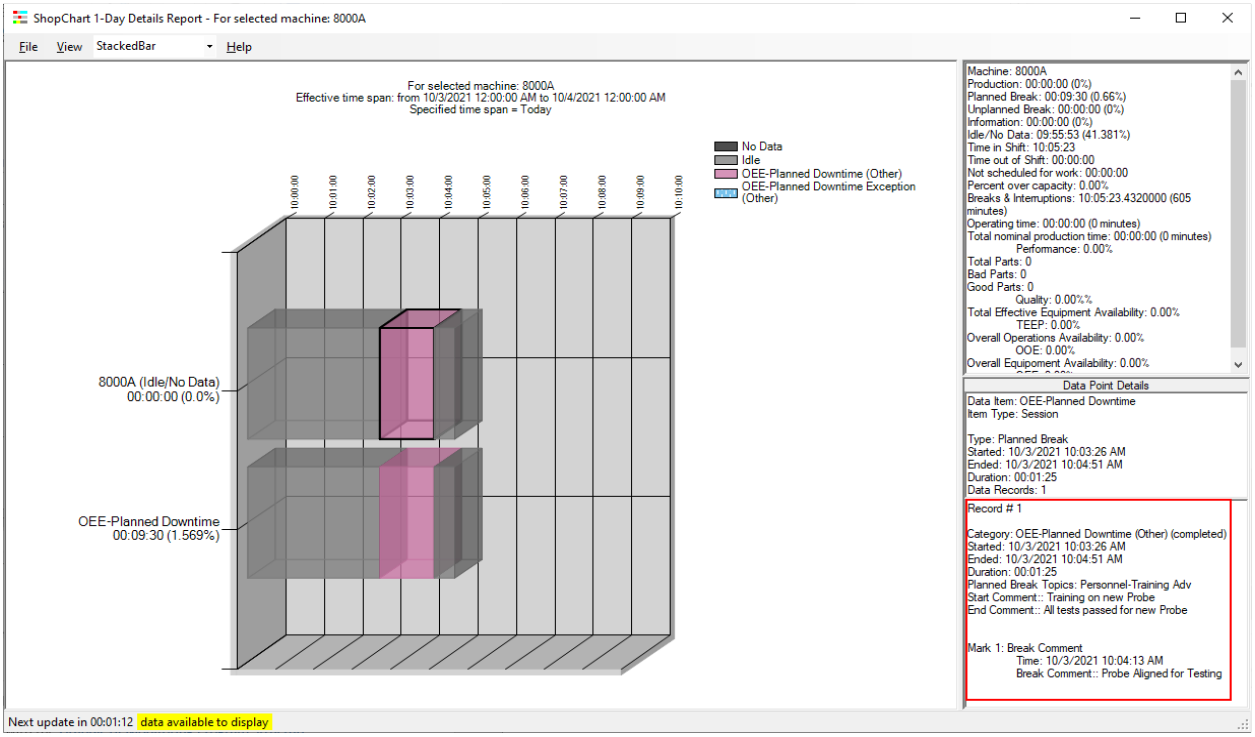


The marked up the areas should be compared with the Graphic of Monitoring Program Structure displayed earlier. Use the mouse & CTRL key to blow up image! See ShopReports for more information!

Next, lets investigate how one of the ShopCharts, “1-Day History Detailed Report for Machine 8000A”, is used to display pertinent information on Production Status!

See the next page for details.

Configure General System Settings (ShopFloorManager 1-Day History Details Report – Machine 8000A)



See ShopCharts & ShopReport_ShopCharts_and_Supporting_2 for information on how to select this ShopChart and other pertinent information!

We have selected the ShopChart "1-Day History Details Report" for Machine 8000A which is displaying part of the day when the "Planned Production Break" Monitoring Program was active.

In order to see the effects of this program relative to the 8000A use the mouse wheel while holding down the CTRL key to enlarge the area around the Planned Production Break Event.

The marked up the areas should be compared with the Graphic of Monitoring Program Structure displayed earlier.

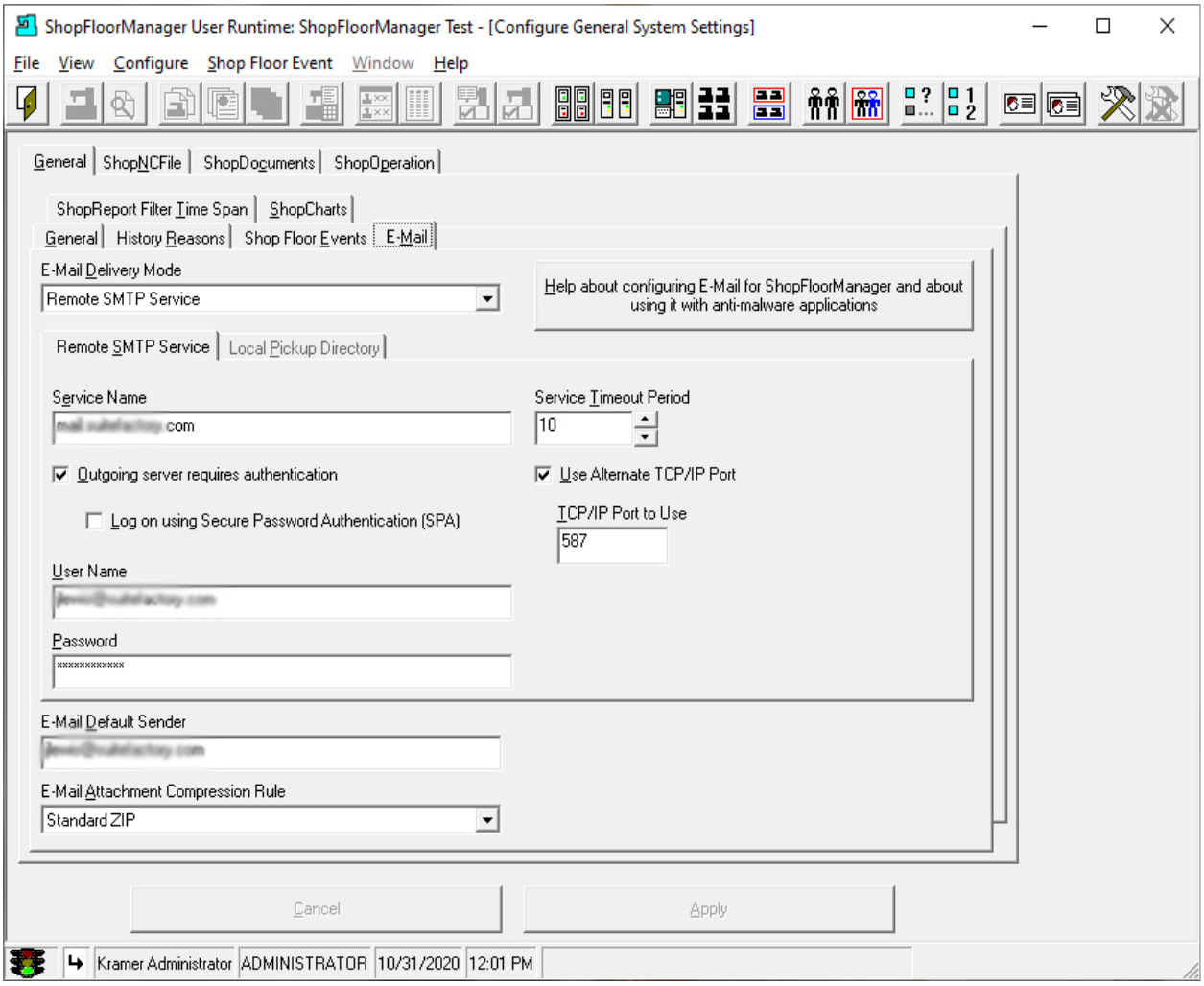
Now that you are an expert in creating ShopMonitor Programs what is stopping you from making your shop the most efficient shop around! Call us if you need help!

If you have any suggestions let us know: support@shopfloormanager.com!

Note: Normally you would see many ShopMonitor Program Bars in the above Chart not just the "Planned Production Break" Bar! This is just a demo for this particular Event!

We are done with section of the Manual!

Configure General System Settings (General Tab – E-Mail)



This section addresses how to configure Email from within ShopFloorManager.

The above Form is used to activate a SMTP Service for Emailing any ShopNCFile, Document and or ShopOperation from within ShopFloorManager.

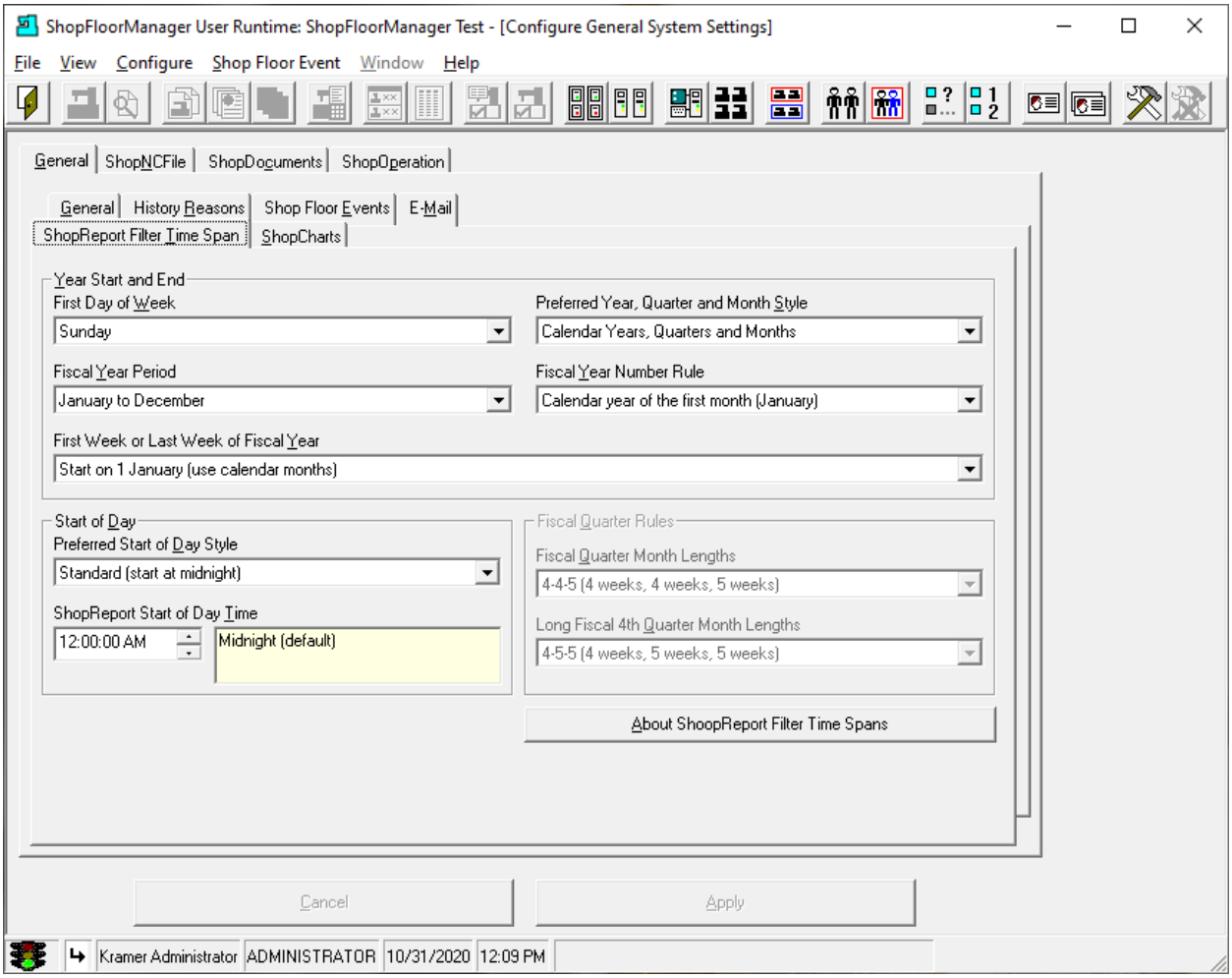
See Contacts or Configure Distribution Lists for setting up E-Mails.

Once this is operational it also allows a Machine Operator to Email directly from their Machine Tool Controller to any Contact, or Distribution list.

Note: You may need an IT individual or whoever handles Emails Accounts configure this form!

Let's move on the next section "ShopReport Filter Time Span"!

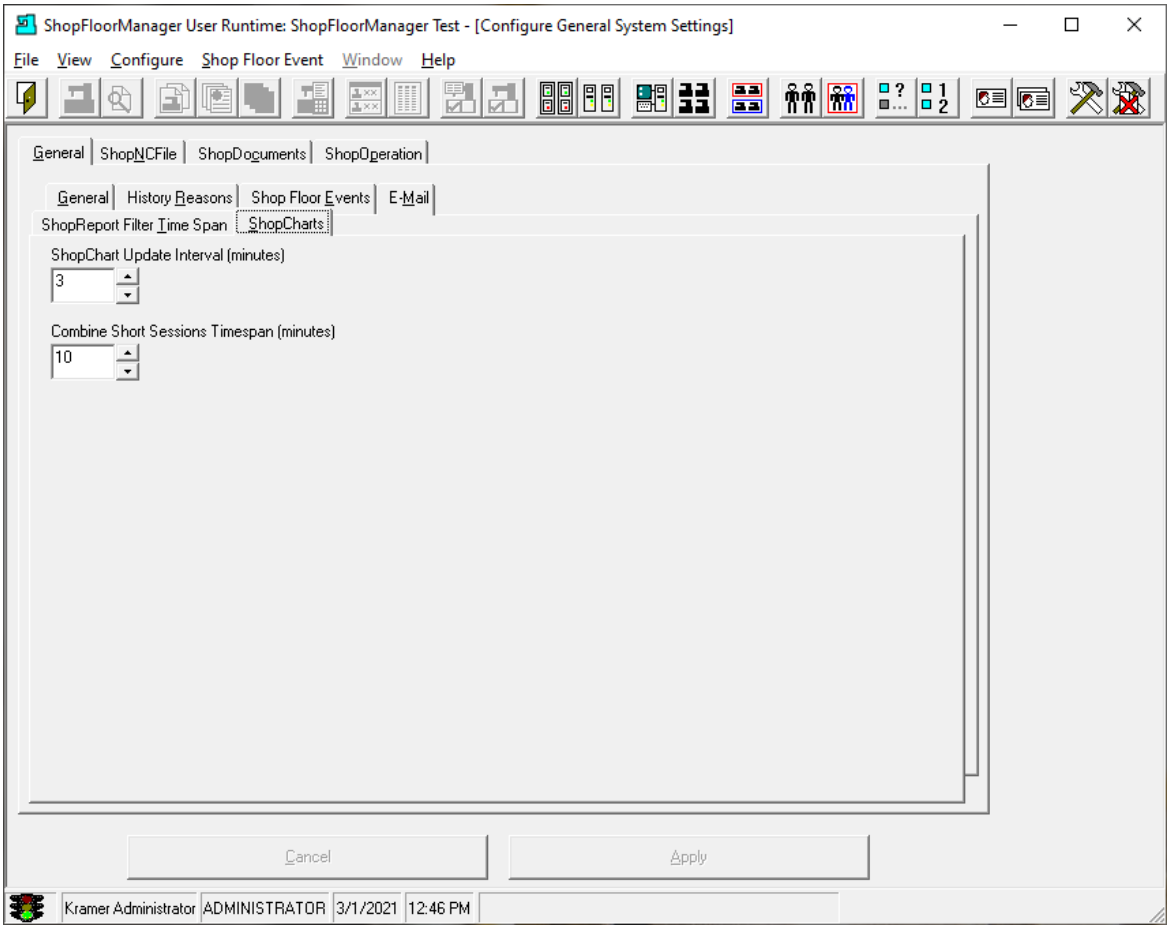
Configure General System Settings (General Tab – ShopReport Filter Time Span)



This Form is used to customize reporting Time Spans to match a company's specific format when generating ShopReports. Make changes that meet your company's specifics.

Click on the ShopCharts Tab and the following Window will be displayed.

Configure General System Settings (General Tab – ShopCharts)



ShopCharts & ShopReport_ShopCharts_and_Supporting_2 data processing can be very demanding. In order to provide for a visually acceptable experience we have provided settable parameters!

These parameters are provided to handle the side-effects that are introduced by short Machine Tool Cycle times & a large number of Machines actively collection Events Simultaneously. For technical reasons all the current data in charts must be recalculate every cycle. See the following explanations.

Chart Update Interval

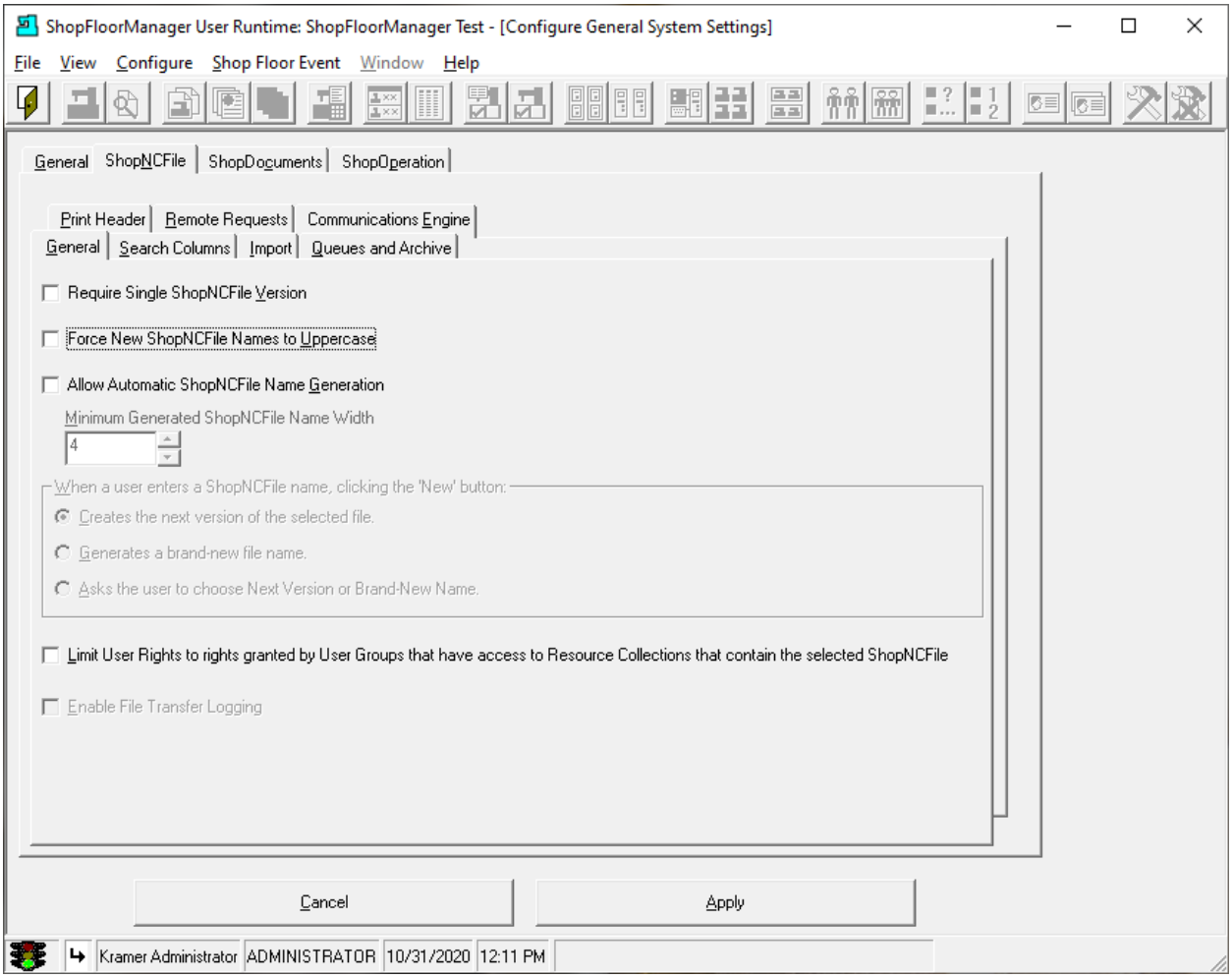
This is the time set for a chart to recalculate its data & update the chart. If you see the chart taking most of its time calculating before displaying the results, increase this interval.

Combine Short Sessions Timespan

In order to minimizing reprocessing each cycle during a Chart Update Interval, individual cycles are group together for a set time interval. This default time probable doesn't need to be changed but if you experience unacceptable 'performance', increase this value.

Click on the ShopNCFiles Tab and the following Window will be displayed.

Configure General System Settings (General Tab – ShopNCFiles - General)



ShopFloorManager provides a Company the ability to set how it handles File Versions, Naming, etc.

Require Single ShopNCFile Version

Set this if your company only allows one copy of an ShopNCFile. No Versions! Unusual!

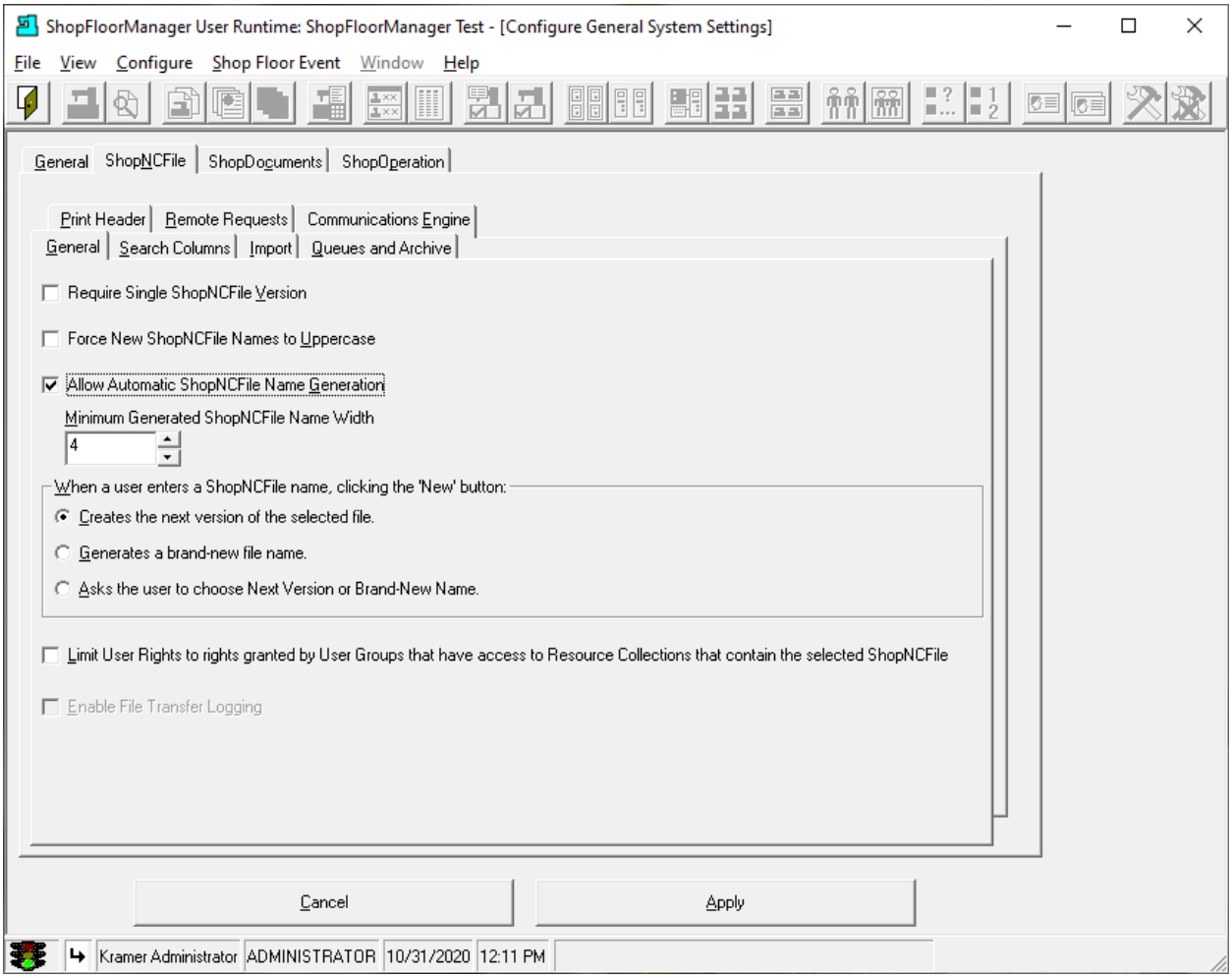
Force New ShopNCFile Name to Uppercase

Set if your Company wants all the File names to be Capitalized.

Allow Automatic ShopNCFile Name Generation

When manually importing files setting this will automatically create a unique Numeric File Name. Unusual!

Configure General System Settings (General Tab – ShopNCFiles – General(continue))



Minimum Generated ShopNCFile Name Width

Set the length of field in characters. 4 is the minimum!

When a user enters a ShopNCFile name, clicking a 'New' button:

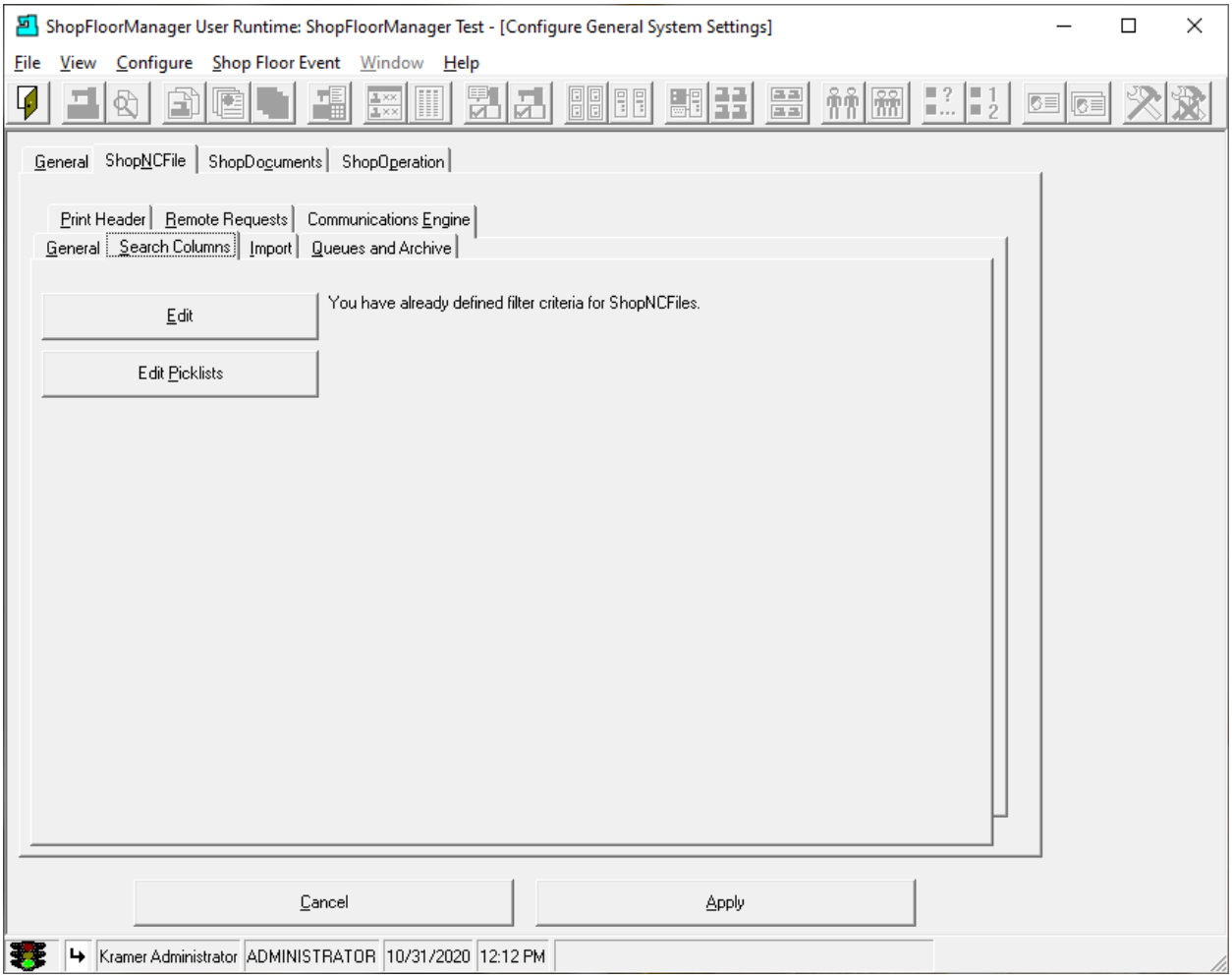
Choose the option which meets your company's needs.

Limit Users Rights to rights granted by User Groups that have access to Resource Collection…

User only inherits the 'Rights' from User Groups containing Resource Collects with the specific association to the ShopNCFile being accessed. I.E. If the files that User can access includes Resource Collections associates with different User Groups only the Rights of User Group that is associated with the Resource Collection which contains the file being accessed are enforced!

Let's investigate the next section "Search Columns".

Configure General System Settings (General Tab – ShopNCFiles – Search Columns)

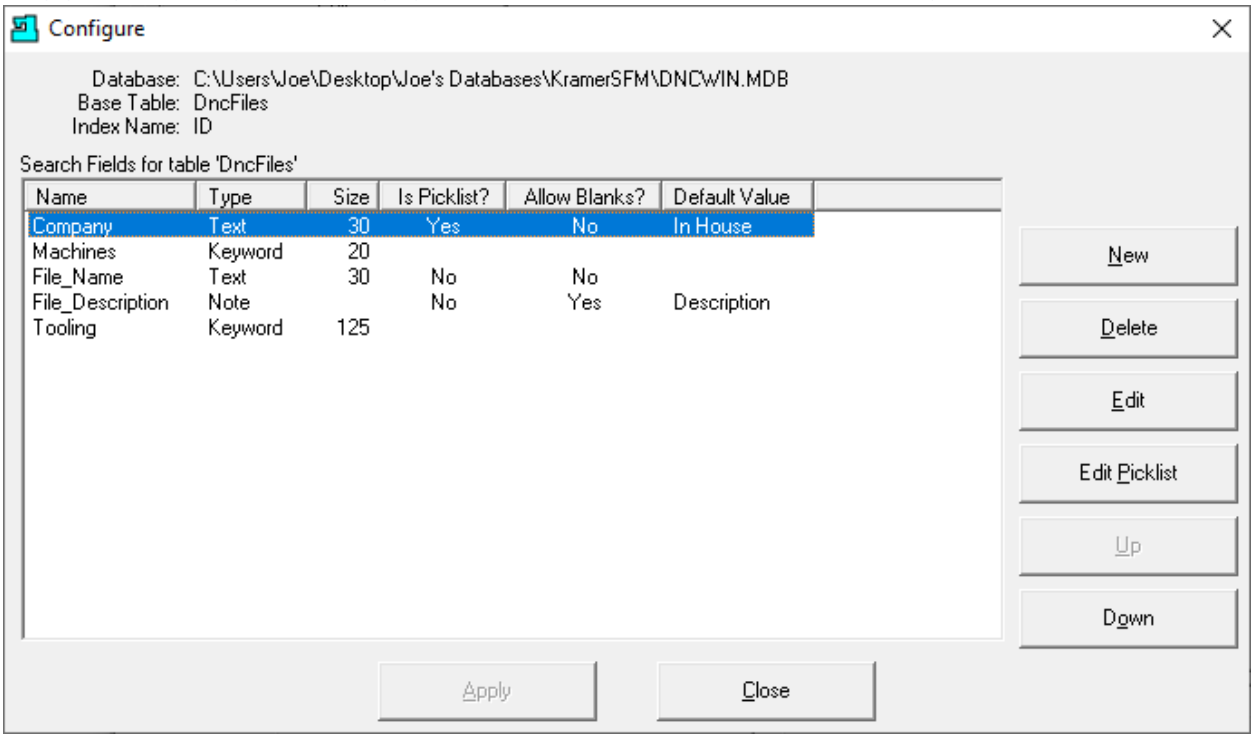


ShopFloorManager provides the ability to create 9 different types of Key Fields that are associated with every ShopNCFile. These Keys are used for storing data/information. This stored data can be used to aid Users in performing their functions and allows a User to use these search keys for locating Files using the data stored in these Key Fields.

You can create any number of Key Fields that are associated with ShopNCFiles, ShopDocuments & ShopOperations.

Click the Edit Button, then the OK Button (Informational Window), then the Yes Button (Informational Window) and the following Window will be displayed.

Configure General System Settings (Configure Window Search Key Creation Window)



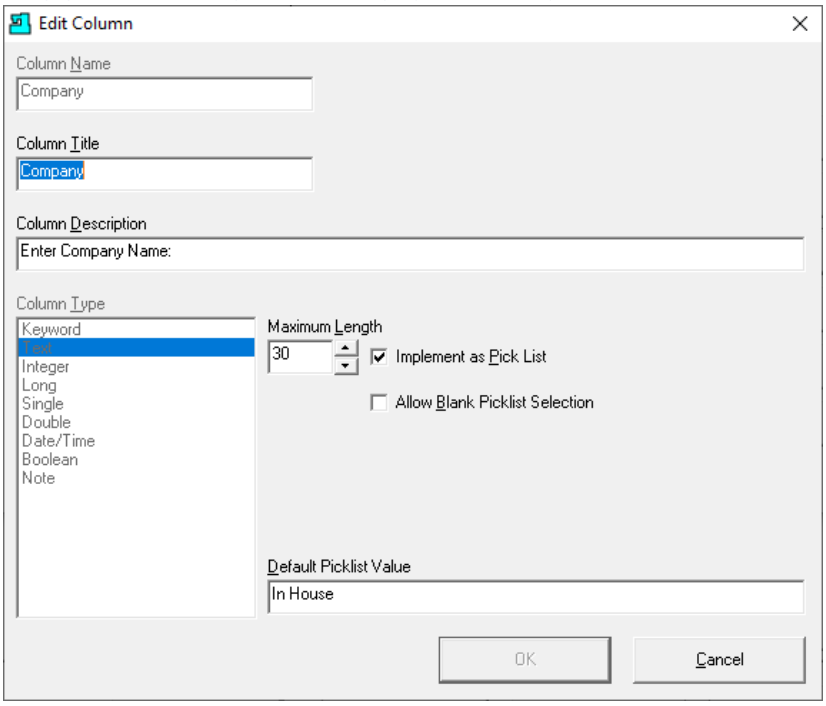
The displayed Fields are Key Fields that have been previously created. These Key Fields store information about each file and provide Uses with useful information about using these Files and for searching for Files!

These Key field when populated with data can be used by ShopFloorManager's Search Engine to locate these files based on the data stored in these Key Fields!

As an example, we will only investigate the selected Key Field 'Company' and explain how it is used and why we chose this Key Type Field!

Click the Edit Button and the following Window will be displayed.

Configure General System Settings (Edit Column)



The above Window is used for creating all the various Key Fields supported by ShopFloorManager.

This is a completed Key Field Form for the Key Field 'Company'. All the fields: Column Name, Column Title have been named & the column type 'Text' chosen from the 9 key type selections. We have set the length of the selected Field to 30 characters. This 'Text' Field is set to be implemented as a Pick List.

We chose the Pick List vs just Text since this field type supports any number of variable text values, in our case, Customers names of which there are many and all are unique Names. These values are the only values that the Search Engine will recognize!

We selected a Default Picklist Value "In House". The Search Engine can use this value to locate unpopulated fields quickly!

Most other Key Field choices are obvious. There are two that need further explanations.

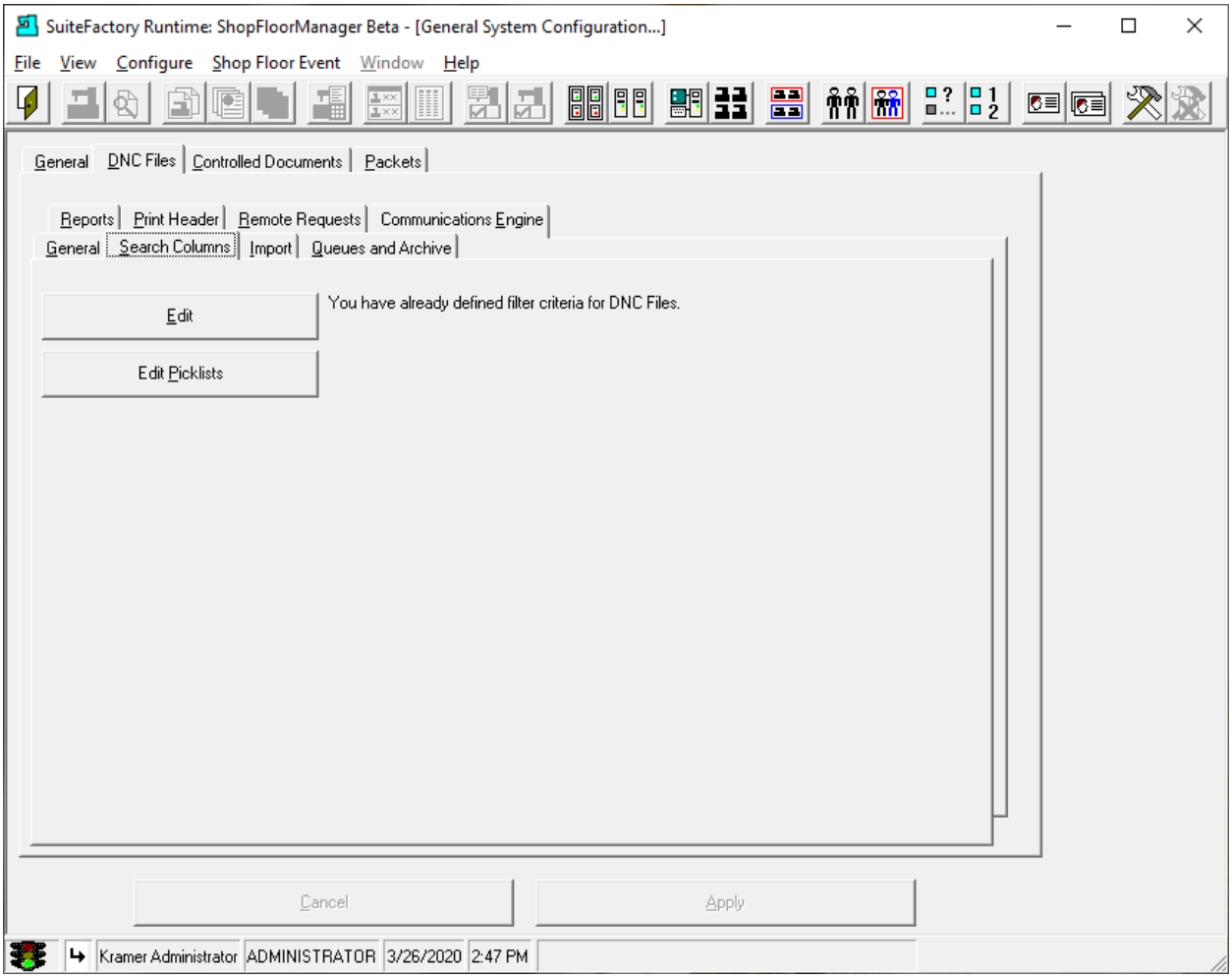
Keyword Field:

Use this type when you need to have **a field** that can contain any number of text "names" you want to reference. For example, if you wanted to associate multiple Machine Tools with a ShopNCFile this would be the best choice. Don't overpopulate with lots of different classes of objects. I.E. Machines, Fixture, Places, etc. It will work but can be more confusing than helpful when searching. If you need these consider creating multi–Key Fields based on specific classes!

Note:

This field allows for a brief multi-line description of the associated file. Click the OK Button & then then the Close Button to return.

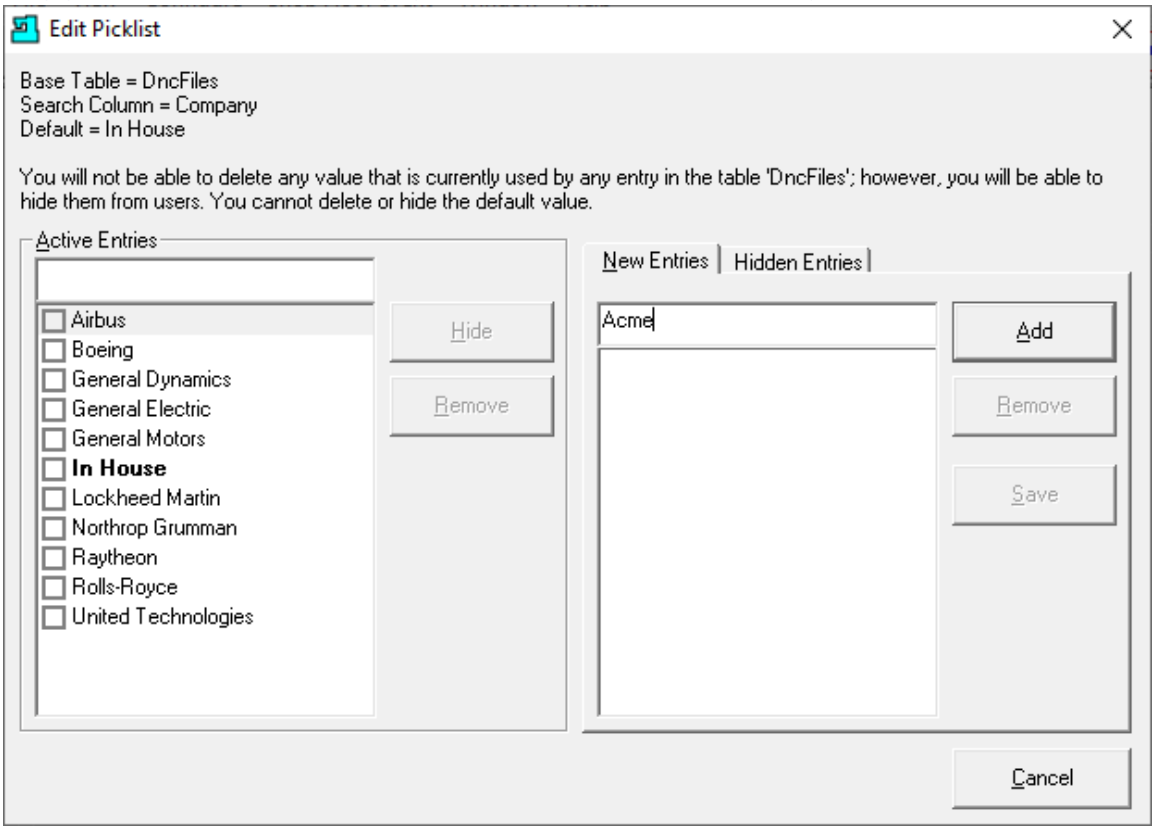
Configure General System Settings (General Tab – ShopNCFiles – Edit PIcklists)



If you need to edit a Picklist you can click on the Edit Picklists Button and the Following Window will be displayed. The ability to Edit Picklist is also available under certain editing situations during normal use.

As an example, if you have “Rights to Edit Picklists” and are setting search criteria for ShopNCFiles, ShopDocuments & ShopOperations you have the ability to Edit Picklists!

Configure General System Settings (Edit Picklist - Adding Company Acme)

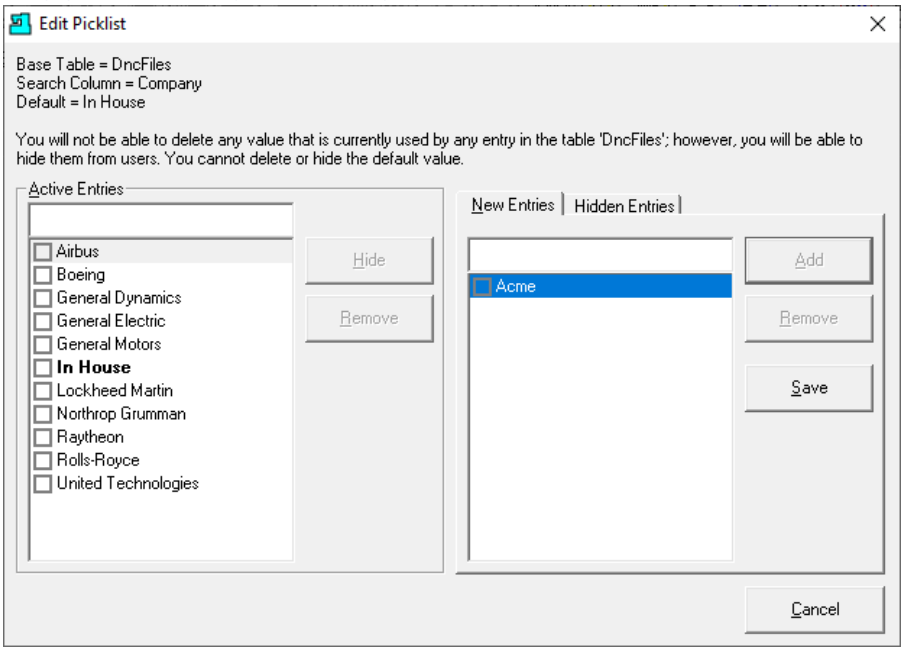


In the above Window we have added many Companies to the Picklist List but need to add an additional Company to the List. Enter the Name Acme in the New Entries Text Block and click the Add Button and the Following Window will be displayed.

Note:

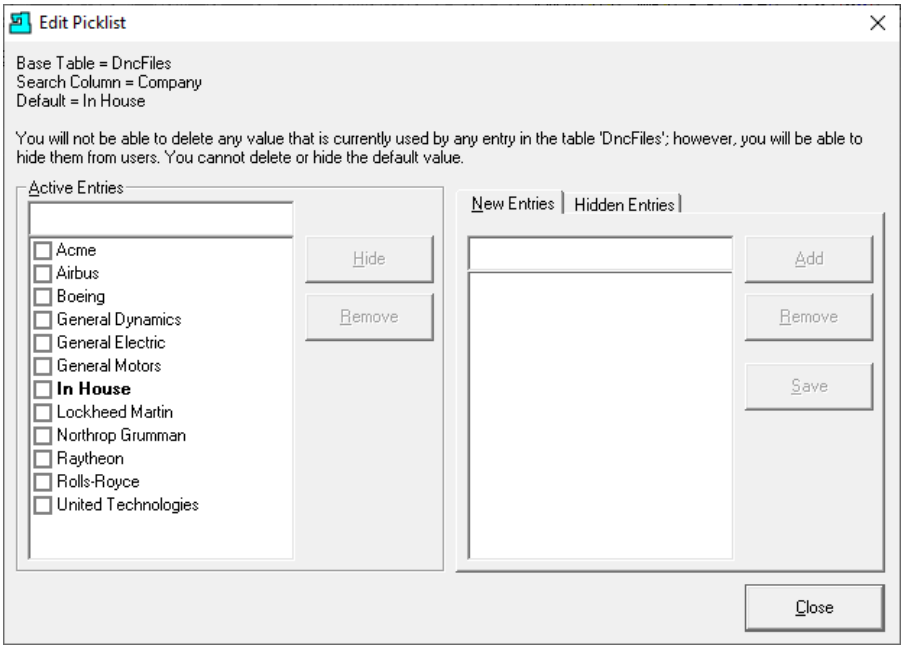
1. Any Entry can be removed if it isn't associated with a Search Criteria Field!
2. You can Hide any Entry subject to the restrictions above. Click on the Hidden Entries Tab to Hide any entry.

Configure General System Settings (Edit Picklist Adding Company Acme -Save)



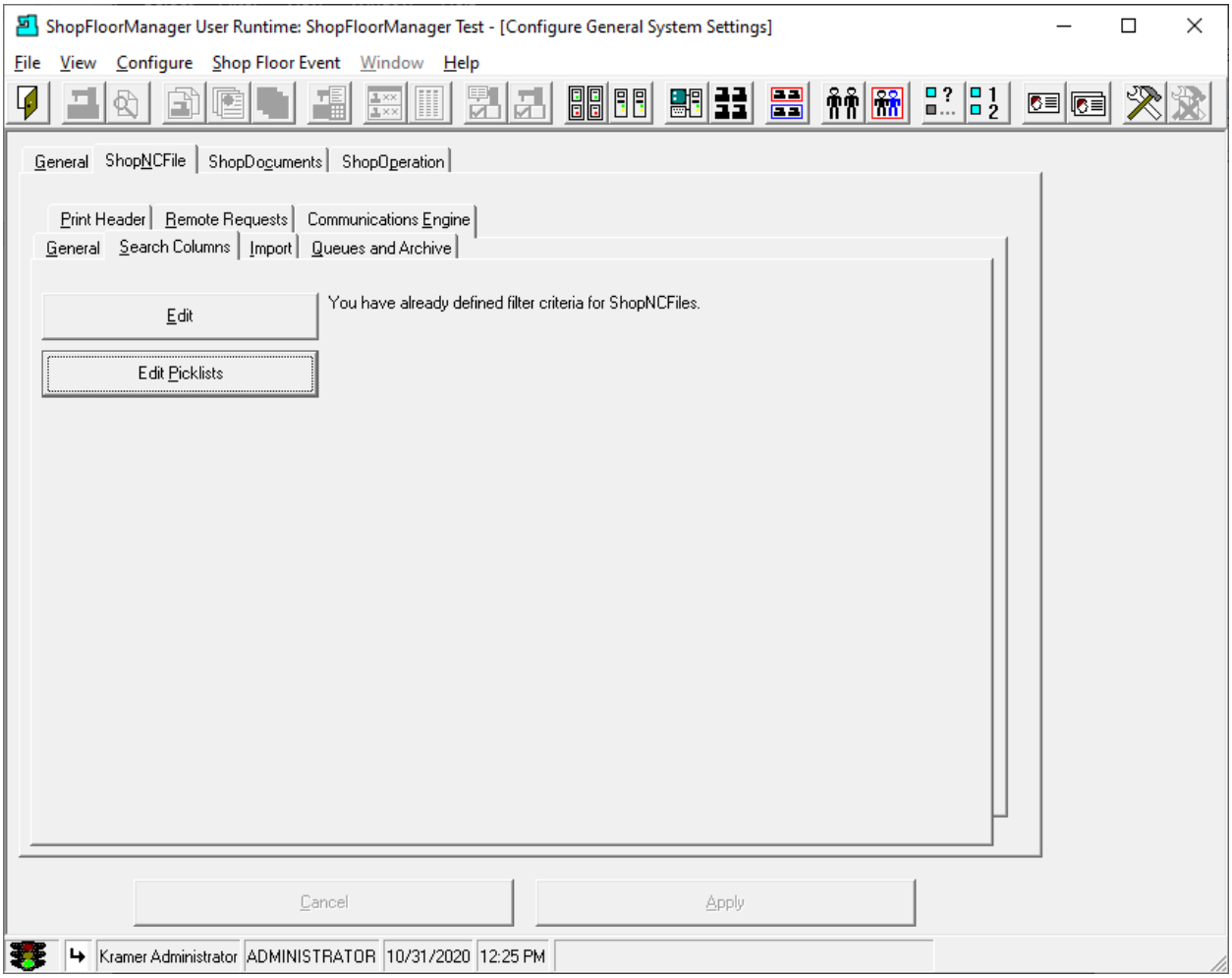
Click on the Save Button and this Company will be added the List of Companies and the following Window will be displayed!

Configure General System Settings (Edit Picklist Adding Company Acme -Added)



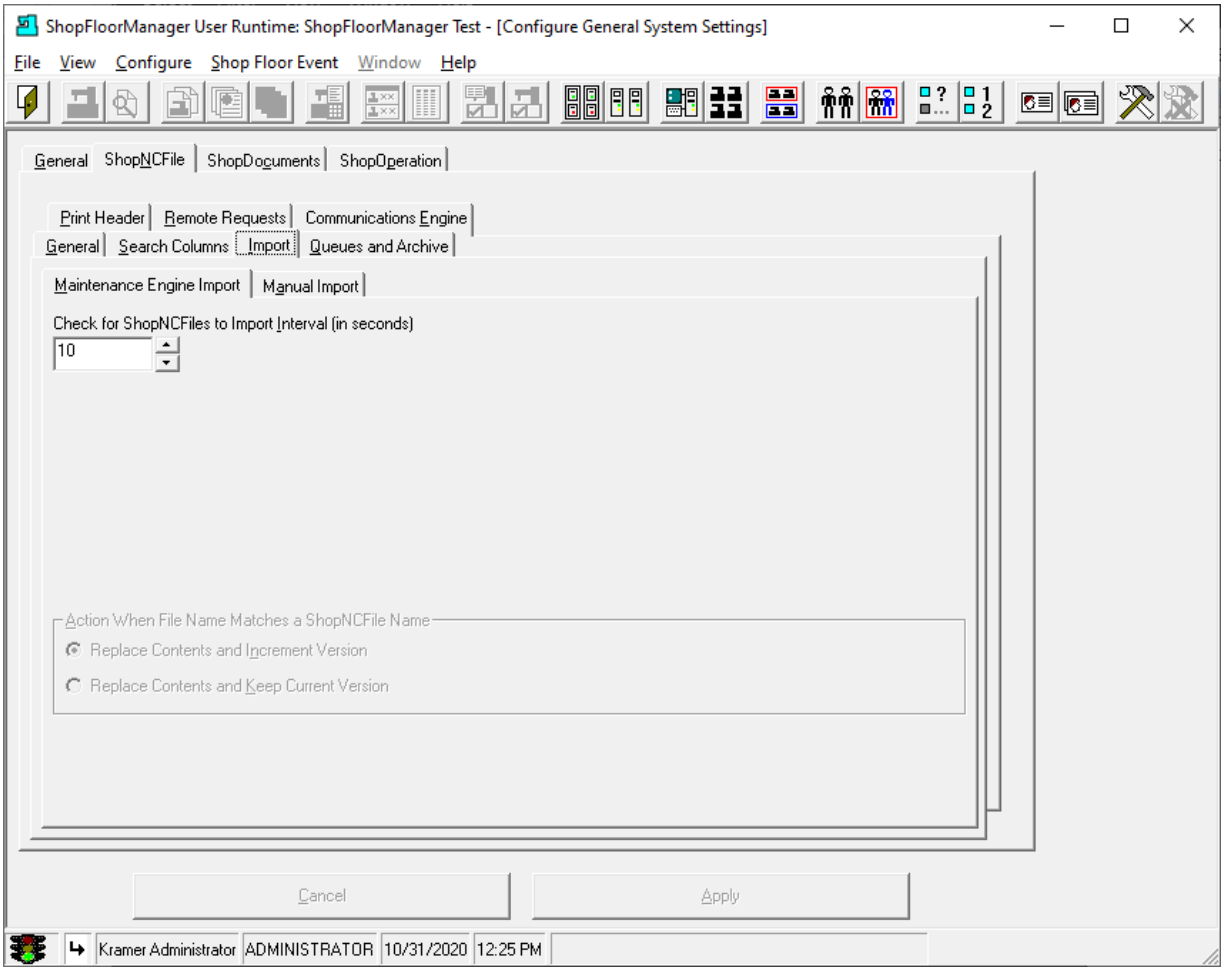
The new Company has been added to the Picklist. Click the Close Button and the following Window is displayed.

Configure General System Settings (General Tab – ShopNCFiles – Edit PIcklists)



Click on the Import Tab and the following Window will be displayed.

Configure General System Settings (General Tab – Import ShopNCFiles)



This Window is used to set the time Interval between Maintenance Engine checks. The Maintenance Engine checks for new files deposited in the various folders referenced by Resource Collections, ShopFileCabinets, etc. Leave the setting as is unless you are having problems. Call CCI 1-781-933-9500 if you have any questions.

As the Maintenance Engine checks each folder any Files found are imported into the referenced Resources and into ShopFloorManager's database.

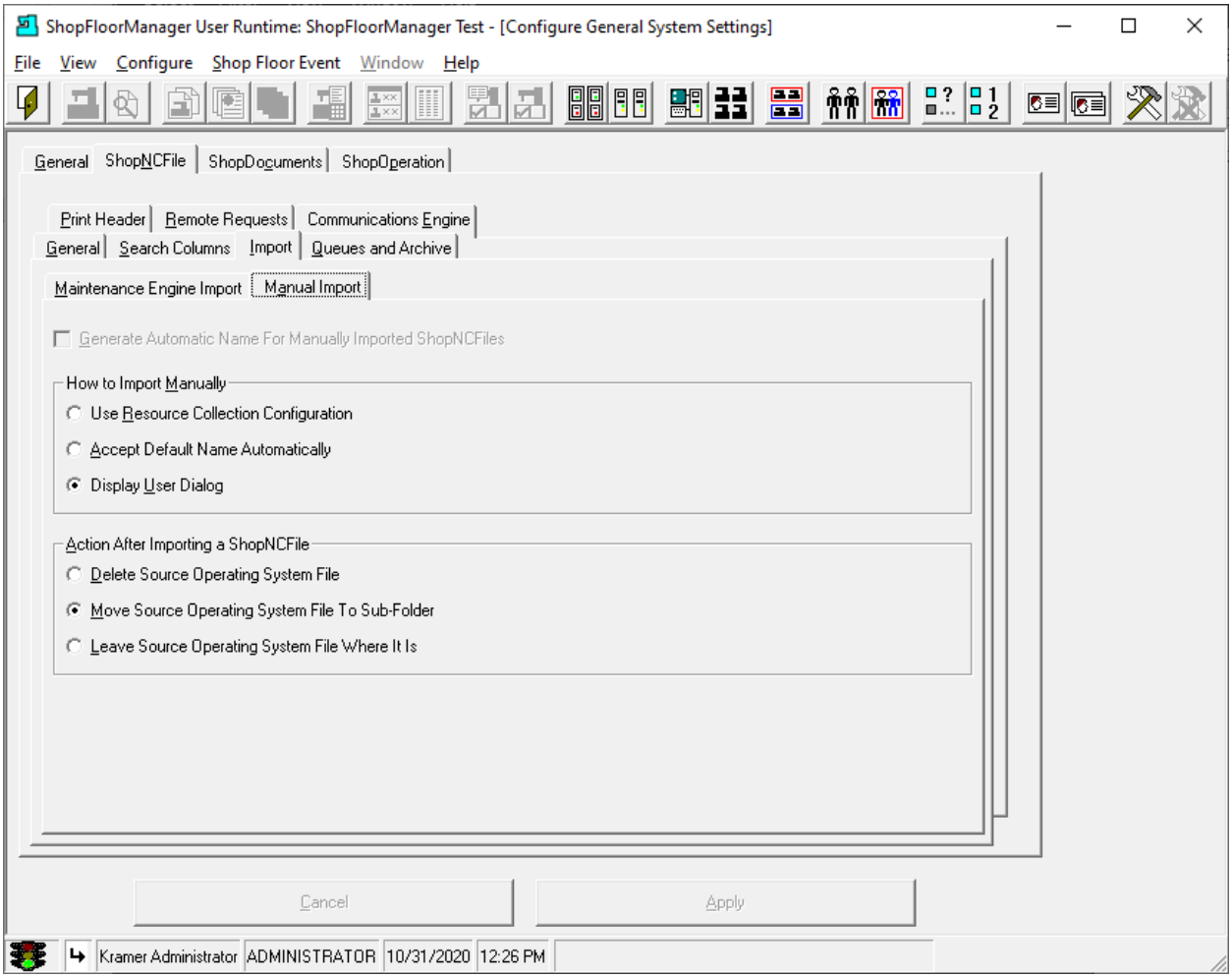
This allows Engineers & Programmers to deposit their finished ShopNCFiles, ShopDocuments & ShopOperations into the Folders that are referenced by the Resources: ShopFileCabinets, Resource Collection, etc. and are imported/referenced into the appropriate Object and into the Database!

Action When File Name Matches a ShopNCFile Name

Leave as shown above. Call CCI if you have any questions

We will choose the "Manual Import" Tab and the following Window will be displayed.

Configure General System Settings (General Tab – Manual Import of ShopNCFiles)



Generate Automatic Name for Manual Imported ShopNCFiles

If checked will automatically create a name. (Usually not set)

How to Import Manually

Leave as set above. If you have any question call CCI.

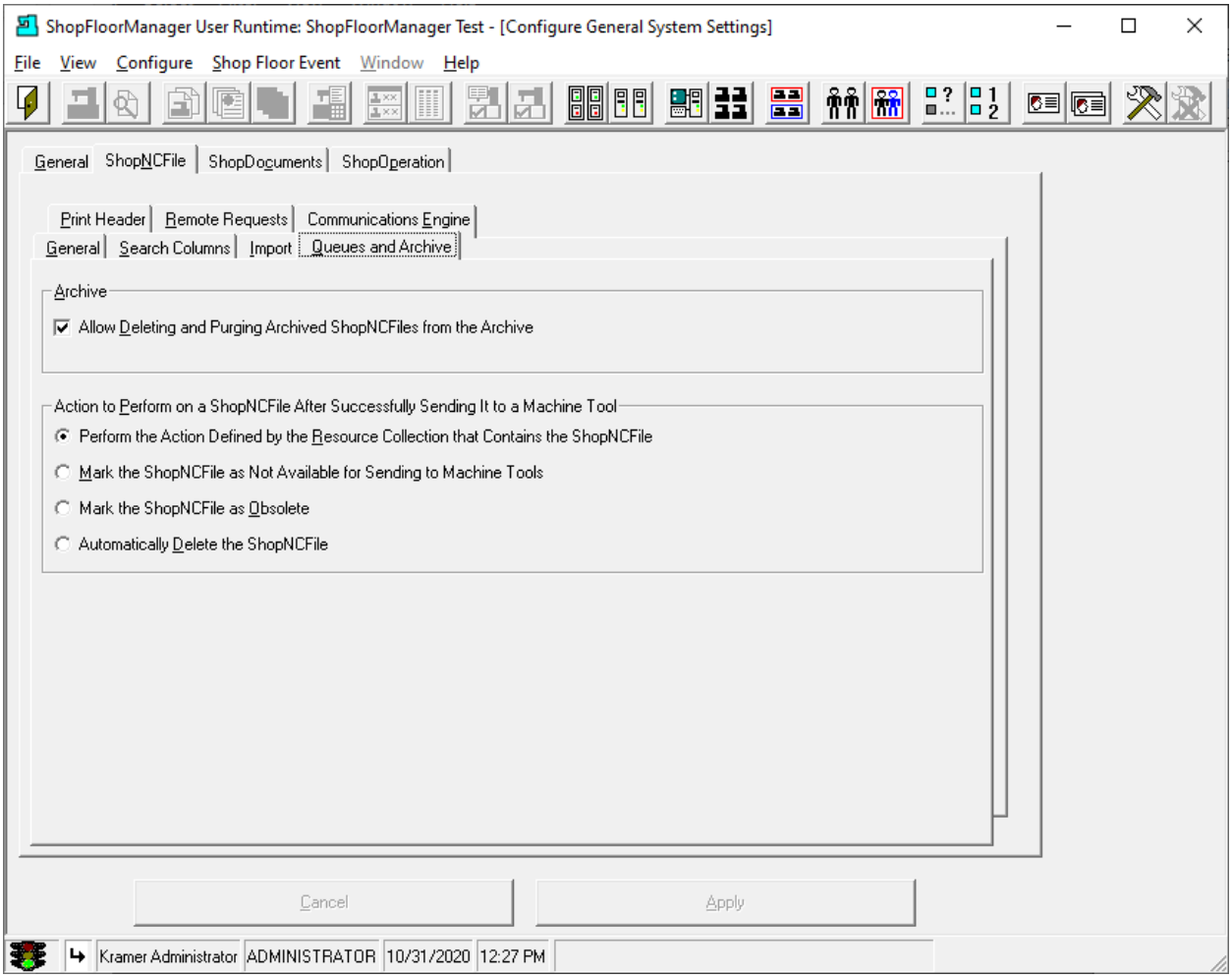
Action After Importing a ShopNCFile

Usually, the second option selected.

Choose what makes sense for your company!

Click on the “Queues and Archive” Tab and the following Window will be displayed!

Configure General System Settings (General Tab – Queues and Archive of ShopNCFiles)



Archive

If you want to allow Deleting and Purging of Manage Archived ShopNCFiles ShopNCFile from the Archive, check this checkbox. Every file that is deleted under normal use is kept in the Archive until deleted from the Archive!

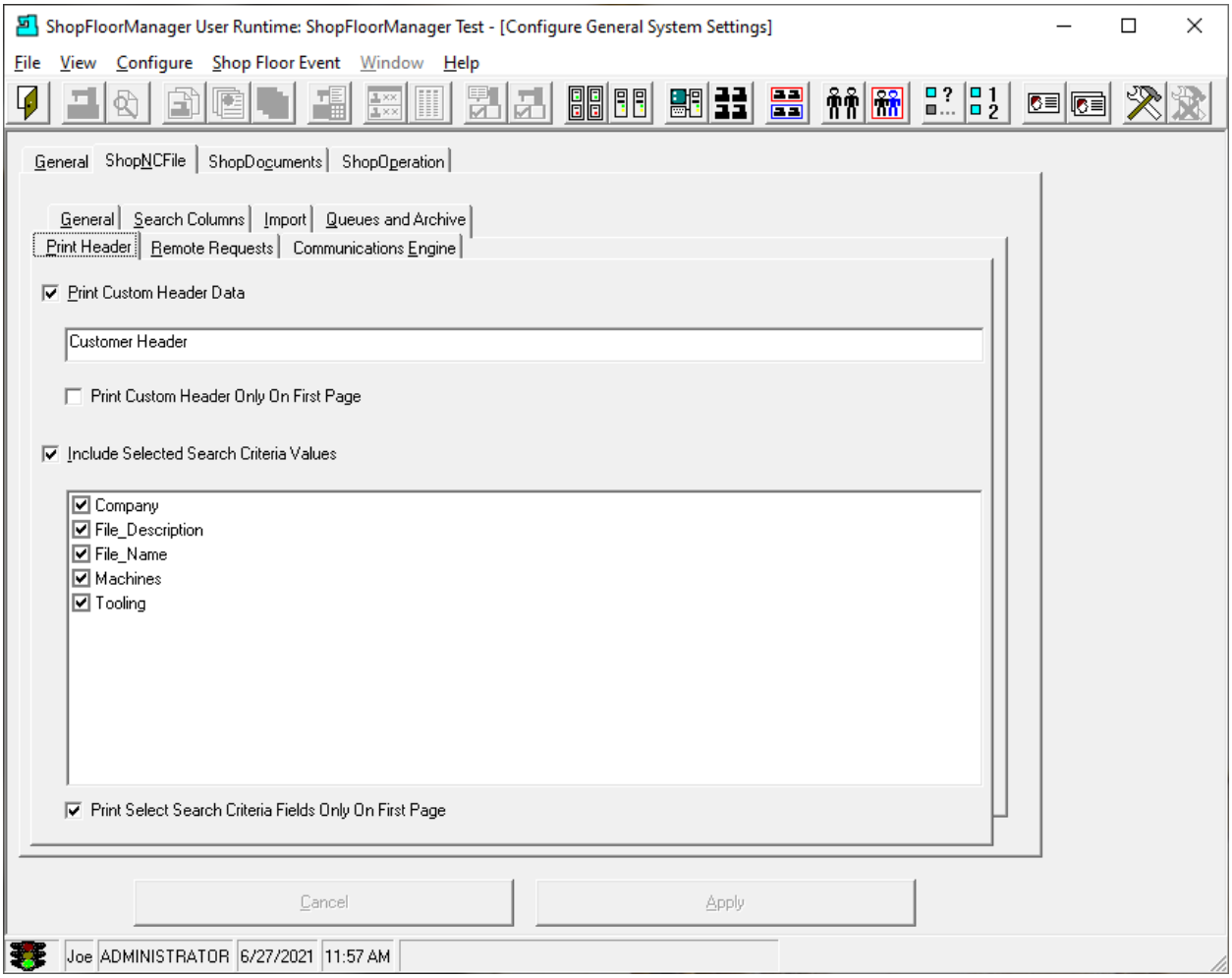
Action to Perform on a ShopNCFile after Successfully Sending it to a Machine Tool

Choose the option that best meets your company's needs.

- Perform the Action Defined by the Resource Collection that Contains the ShopNCFile
- Mark as Not Available for Sending to Machine Tool.
- Mark the ShopNCFile as Obsolete
- Automatically Delete the ShopNCFile

Click the Apply Button when done select the ShopReports Tab and the following Window will be displayed.

Configure General System Settings (General Tab – Print Header ShopNCFiles)



Print Custom Header Data (Same Format as the ShopNCFile downloaded to Machine Tool)

When the Printer prints out copies of ShopNCFiles it adds a Customer Header for each Page! (We suggest you print to a PDF Application!)

Print Custom Header on First Page

Select whether to print Customer Header on first page only!

Include Selected Search Criteria Values

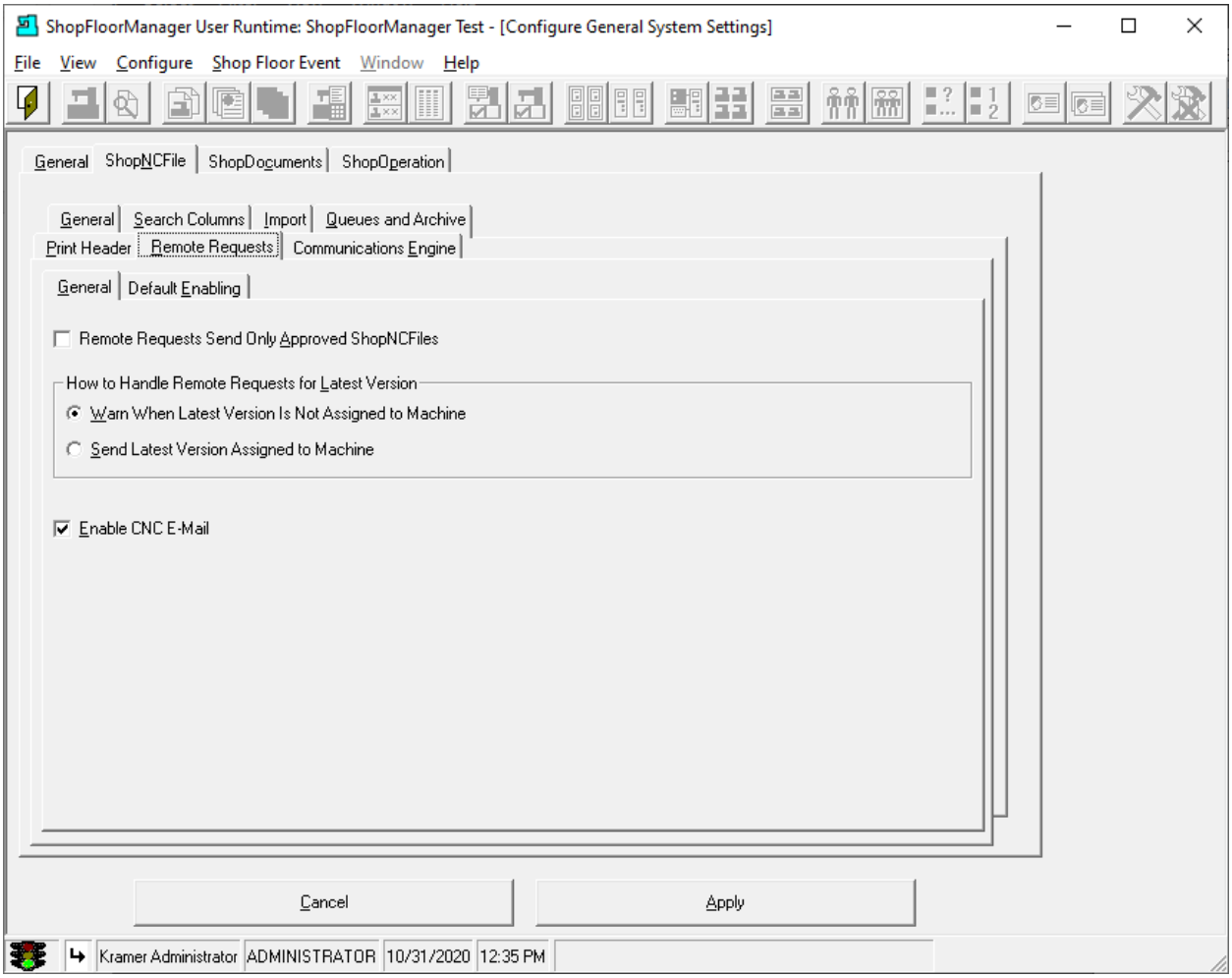
Check off the Search Keys to print on the Page copies of the ShopNCFiles.

Print Select Search Criteria Fields Only on First Page

Select whether to print Search Keys on first page only!

Click on Apply and choose the “Remote Requests” Tab and the following Window is displayed.

Configure General System Settings (General Tab – Remote Requests-General ShopNCFiles)



Remote Requests Send Only Approved ShopNCFiles

Choose if you only want to send Approved ShopNCFiles to a Machine Tool. (Almost always Checked)

How to handle Remote Request for Latest Version!

Choose how you want to handle Remote Requests for Latest ShopNCFile Version.

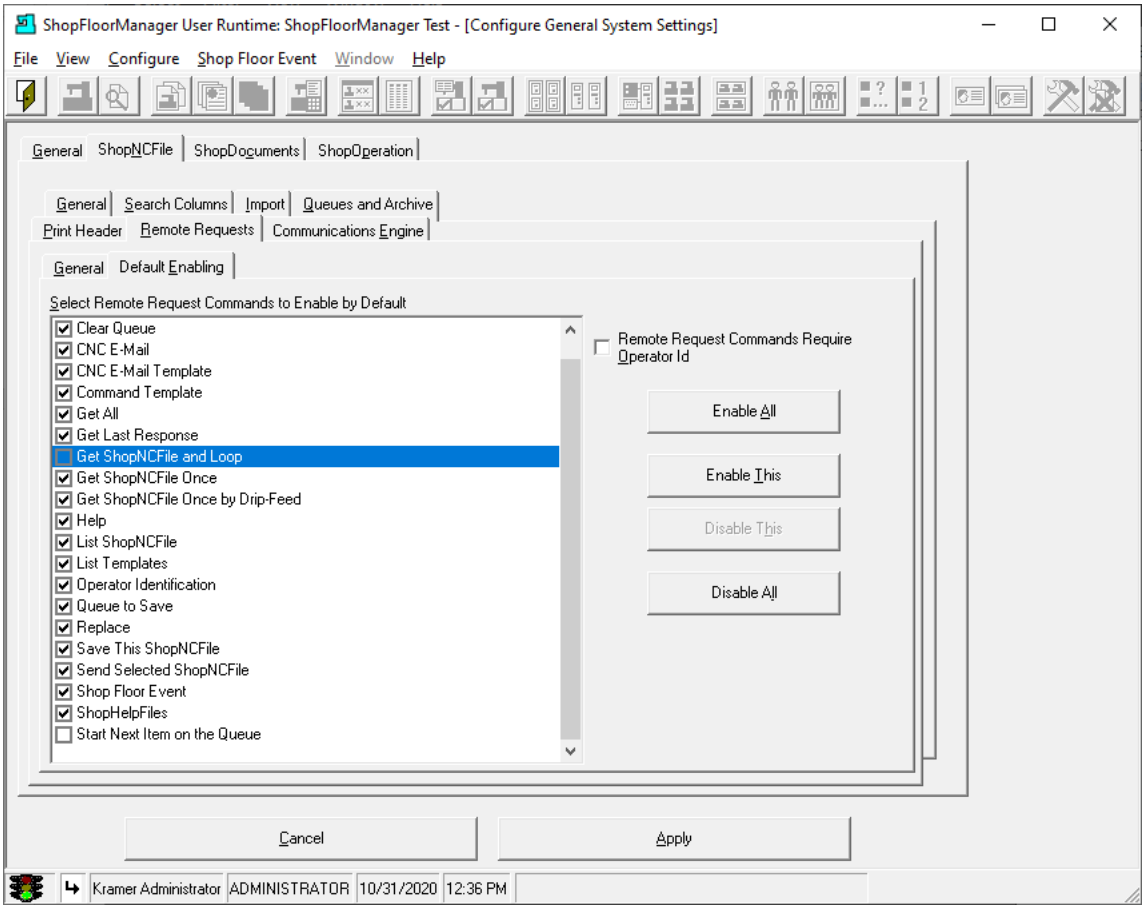
- Warn When Latest Ver…
- Send the Latest Version Ass…

Enable CNC E-Mail

Choose if you want to Enable CNC E-Mail. Allows sending E-Mails from the CNC! You should also see the sections Contacts and Configure Distribution Lists.

Click the Apply Button and choose the “Default Enabling” Tab and the following Window will be displayed.

Configure General System Settings (General Tab – Remote Requests-Default Enabling ShopNCFiles)



Select Remote Request Commands to Enable by Default

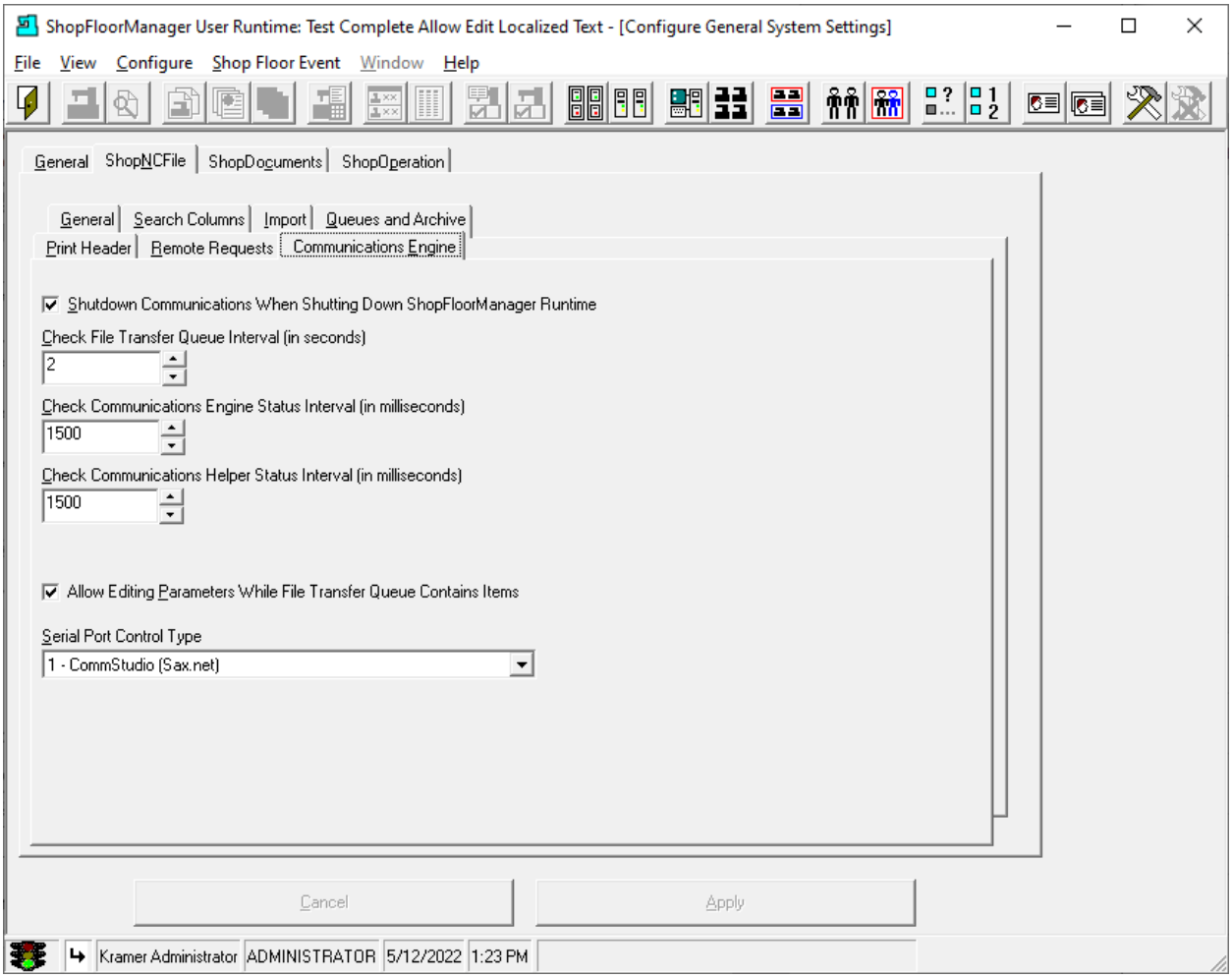
Enable All:
Allow all Remote Request Commands!
Enable This:
Select enable remote command when selecting individually!
Disable This:
Unselect enabled command!
Disable All:
Unselect all commands!

Remote Request Commands Require Operator Id

Check the Checkbox if you want this option: Operator must supply an Operator ID (name) when using Remote Request! Normally not used.

Click the Apply Button and choose the “Communication Engine” Tab and the following Window will be displayed.

Configure General System Settings (General Tab – Communications Engine ShopNCFiles)



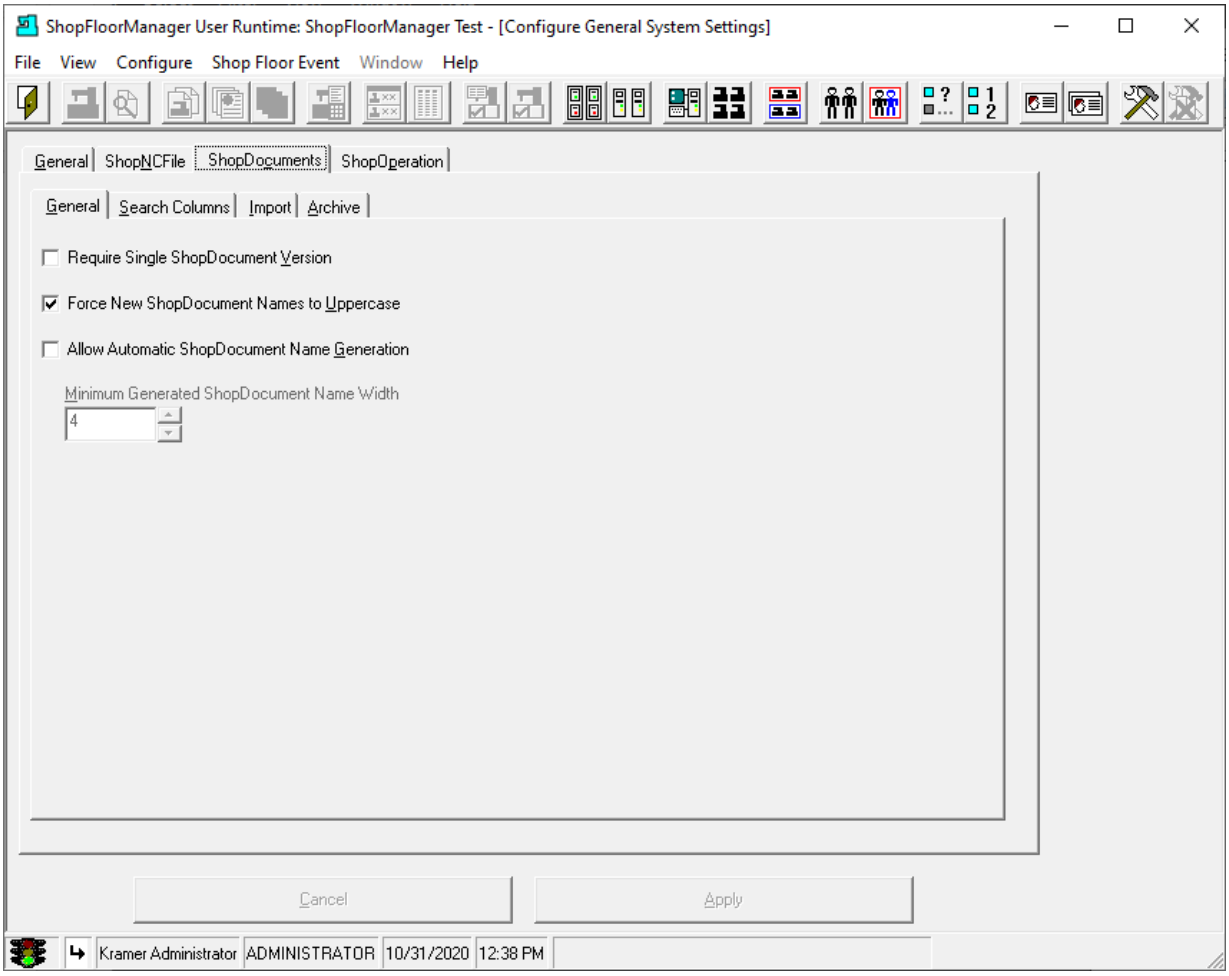
Communications Engine Setting:

Shutdown Communications When Shutting Down ShopFloorManager Runtime
Check File Transfer Queue Interval (in seconds)
If you think you need to change, please contact CCI for advice.
Check Communications Engine Status Interval (in milliseconds)
If you think you need to change, please contact CCI for advice.
Check Communications Helper Status Interval (in milliseconds)
If you think you need to change, please contact CCI for advice.
Allow Editing Parameters While File Transfer Queue Contains Items
If you think you need to change, please contact CCI for advice.
Important: Serial Port Control Type (Don't Change)

Note: Leave all setting as they are. Call 1-781-933-9500 CCI if you have any questions.

Click the Apply Button and then on the ShopDocuments Tab and the following Window will be displayed.

Configure General System Settings (General Tab – ShopDocuments)



Require Single Document Version

If your company requires single version check this checkbox. Normally not done!

Force New ShopDocuments Name to Uppercase

If you prefer all your Document Named to be in Uppercase check this checkbox.

Allow Automatic Document Name Generation

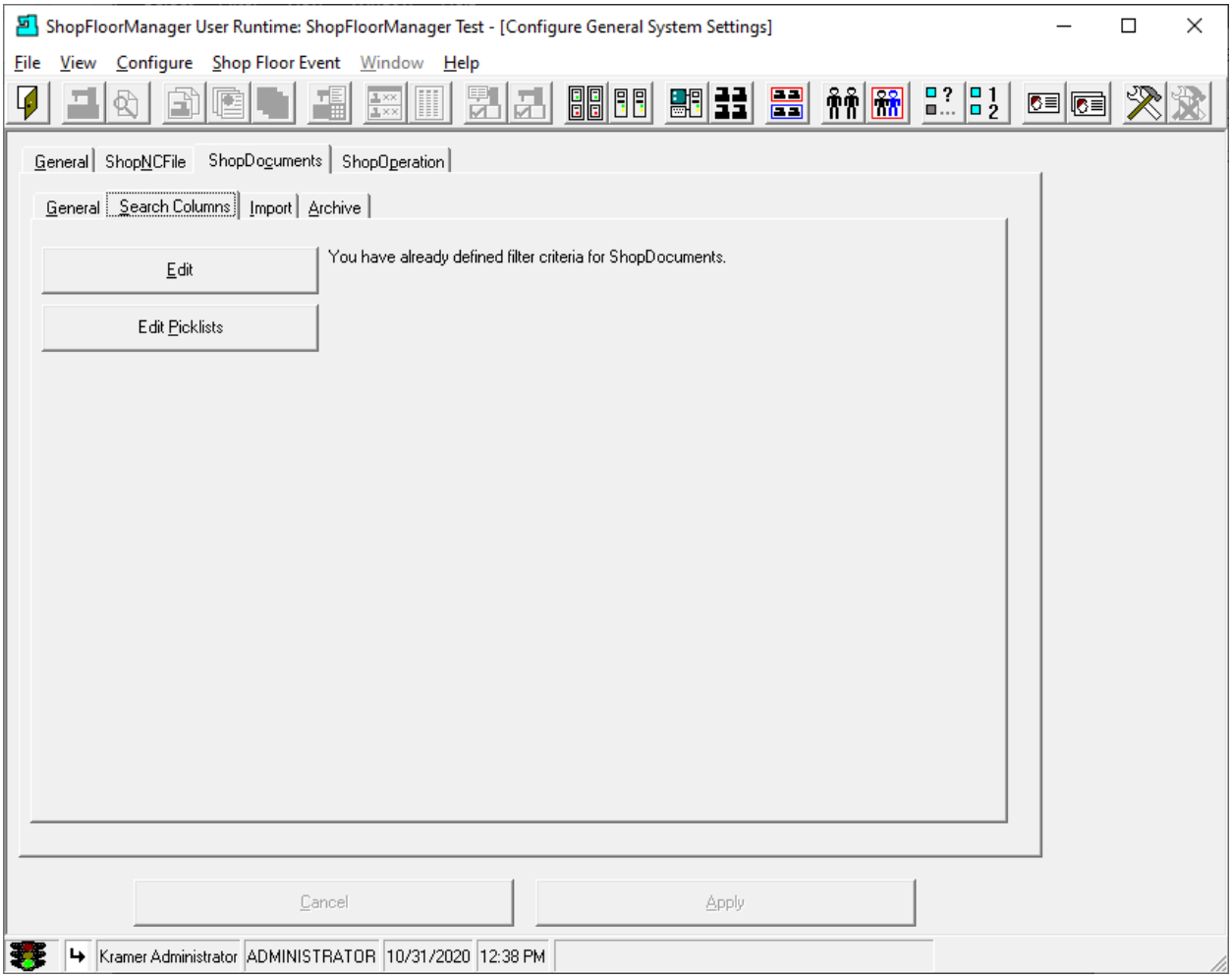
If you prefer automatic Document Name Generation, check this checkbox. Normally not done!

Minimum Generated Document Name Width

Choose the width of the Generated Document Name. 4 is the Minimum allowed based on older Machine Controller Limitations!

Click the Apply Button then click on the “Search Columns” Tab and the following Window is displayed.

Configure General System Settings (General Tab – Search Columns ShopDocuments)

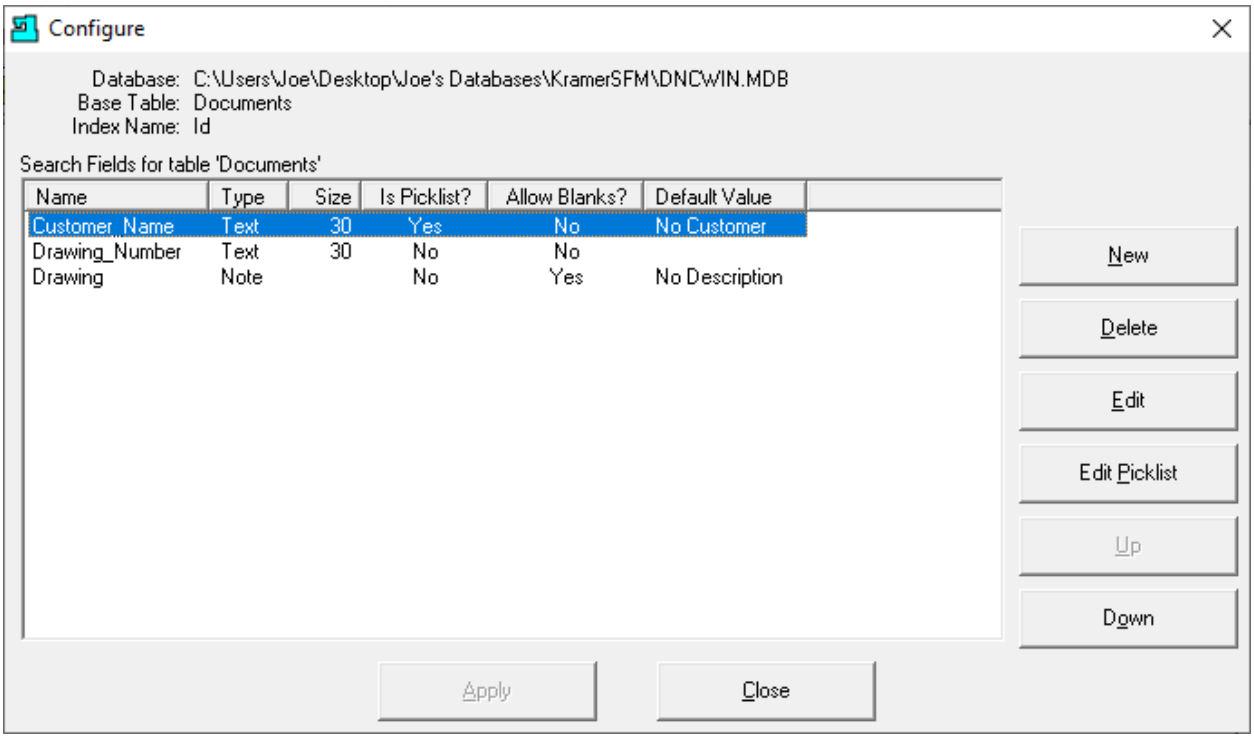


This Window is used to create a unique set of Search Key Fields that are associated with each individual Document type (ShopDocuments shown but applies to all “Document” Types).

These Keys can be populated with data that provide pertinent information about each Document. These Keys can also be used for locating ShopDocuments using ShopFloorManager’s Search Engine.

Click the Edit Button, then the OK Button (Informational Window), then the Yes Button (Informational Window) and the following Window will be displayed.

Configure General System Settings (Configure Search Key Creation Window)



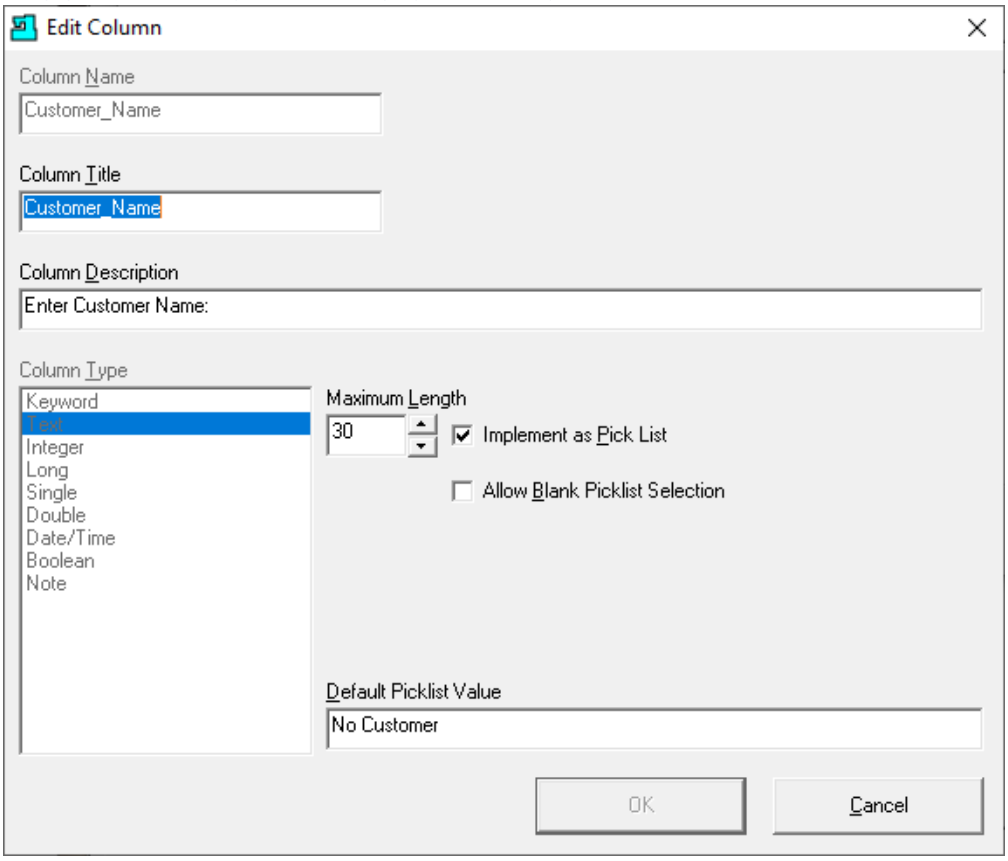
The displayed Fields are Key Fields created earlier. These Key Fields store information about each Document and provide Users with useful information about using these ShopDocuments. These Key fields when populated with data can be used by ShopFloorManager's Search Engine to locate ShopDocuments based on the data stored in these Key Fields!

As an example, we will investigate the Key Field 'Customer Name' and explain how it is used and why we chose this Key Field!

Note: These fields are customer created and not by us as we feel nobody understands the customer's needs better than the customer!

Click the Edit Button and the following Window will be displayed.

Configure General System Settings (Edit Column)



The above Form is used for creating all the various Key Fields support by ShopFloorManager.

This is a completed Key Field Form for the Key Field 'Customer_Name. All the fields: Column Name, Column Title have been named & the column type 'Text' chosen from the 9 selections. We have set the length of the selected Field to 30 characters. This 'Text' Field is set to be implemented as a Pick List.

We chose the Pick List vs just Text since this field type supports any number of variable text values, in our case, Customers names. These values are the only values that the Search Engine will recognize!

We selected a Default Picklist Value, No Customer, allowing the Search Engine to locate any unpopulated fields! Most other Key Field choices are obvious. There are two that need further explanations.

Keyword Field:

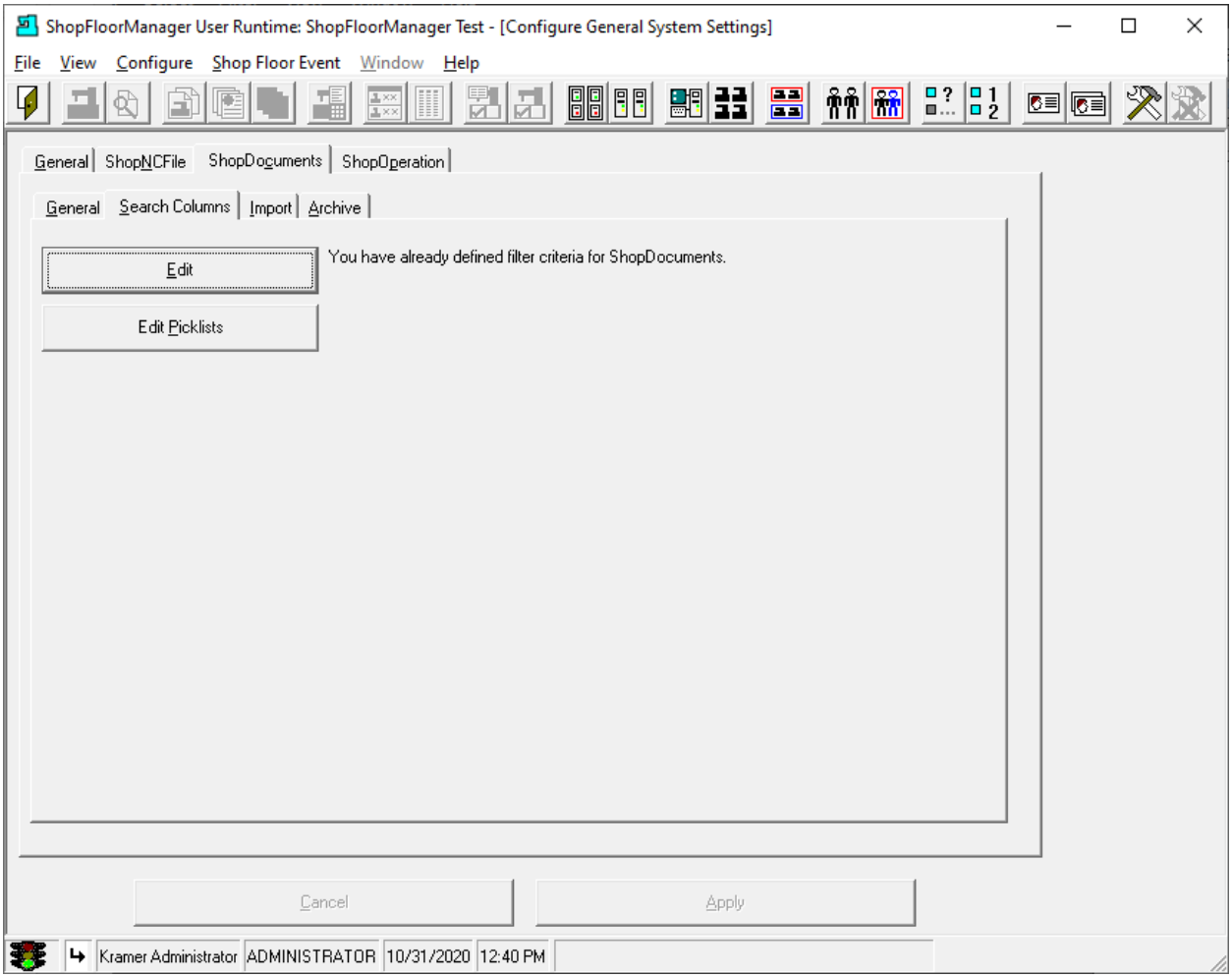
When you need to have **a field** that can contain multiple independent values of various types, use this Field Type. As an example, if you wanted to associate multiple Machine Tools with **a ShopNCFile** this would be the best choice.

Note Field:

This field allows for a brief multi-line description of the associated file.

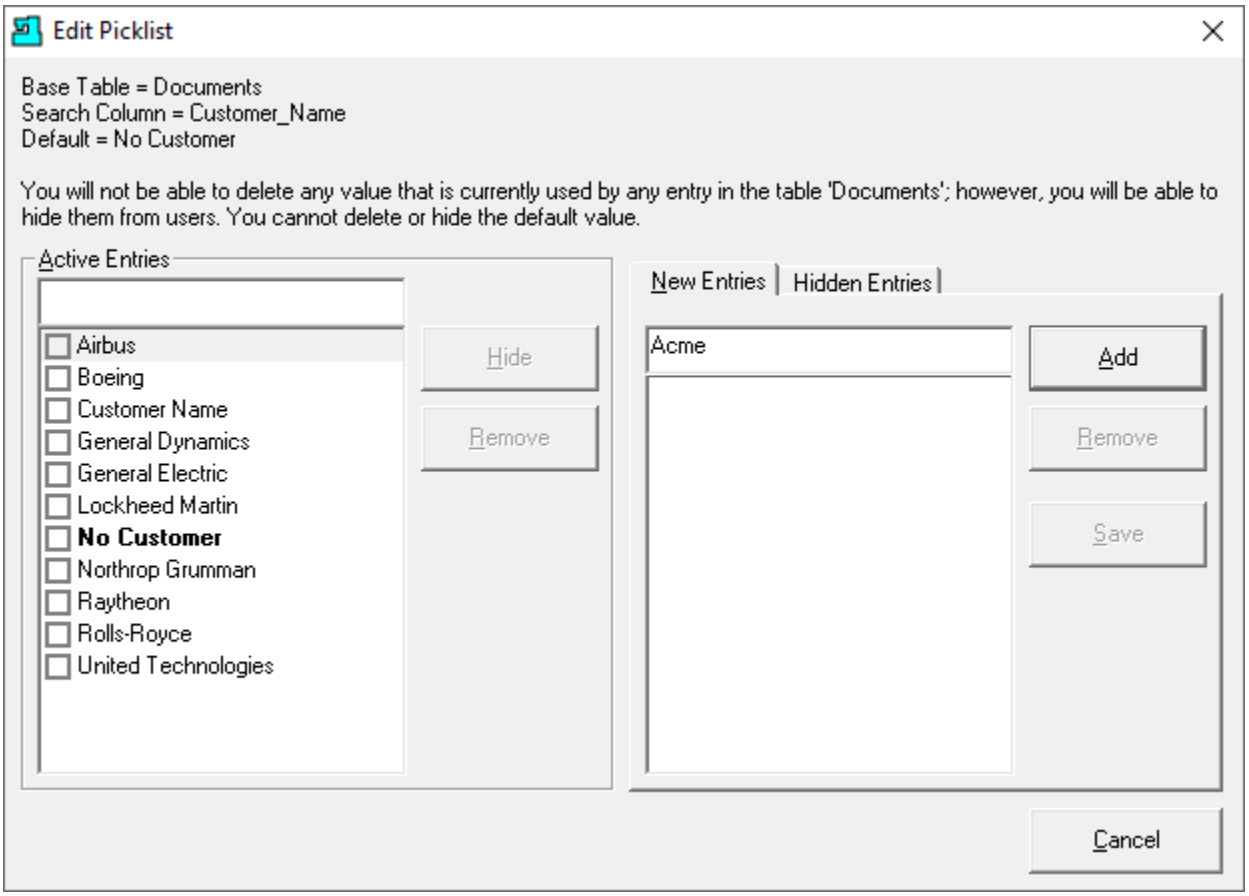
Click the OK Button & then the Close Button to return to previous Window.

Configure General System Settings (General Tab – Edit PIcklists ShopDocuments)



Click on the Edit Picklists Button and the Follow Window will be displayed.

Configure General System Settings (Edit Picklist: Adding Picklist Acme)

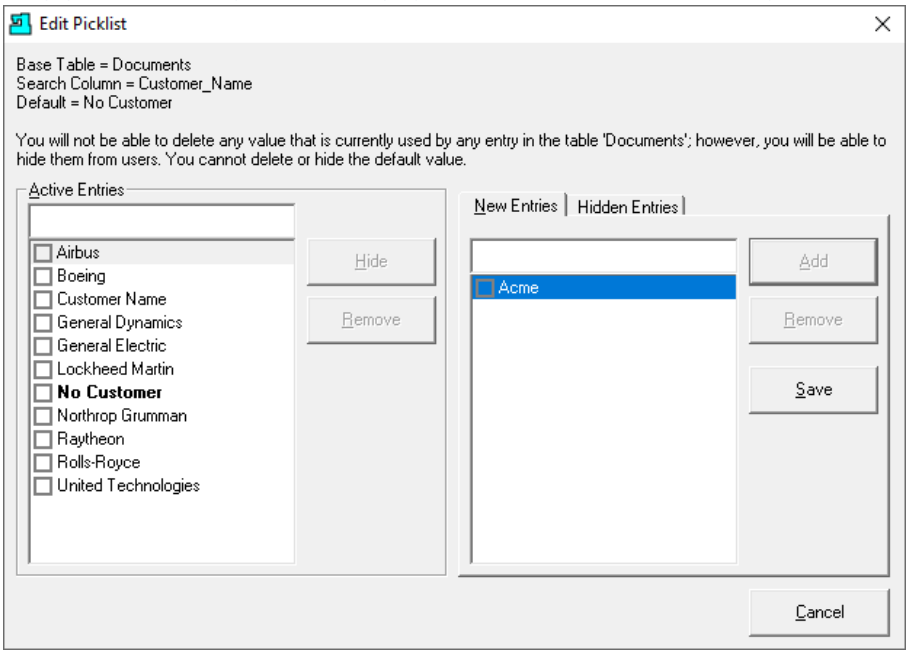


As displayed in the above Window we have added many Companies to the Company_Name Picklist but need to add an additional Company to the List.

If you need to Hide an existing Picklist Entry select the “Hidden Entries” Tab and select the Entries not needed at this time!

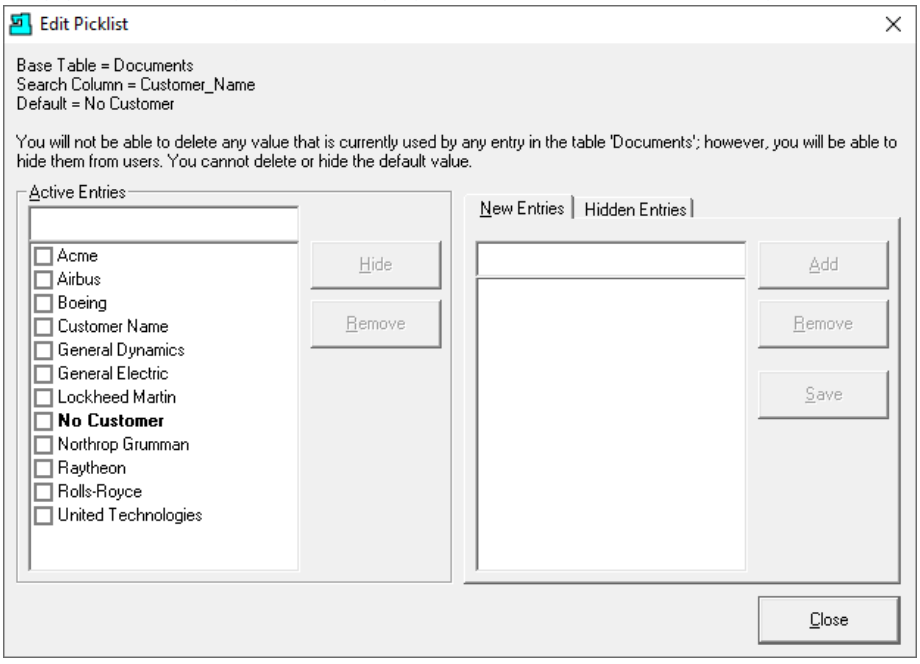
Enter the Name, Acme, in the New Entries Text Block and click the Add Button and the Following Window will be displayed.

Configure General System Settings (Edit Picklist: Saving Picklist Acme)



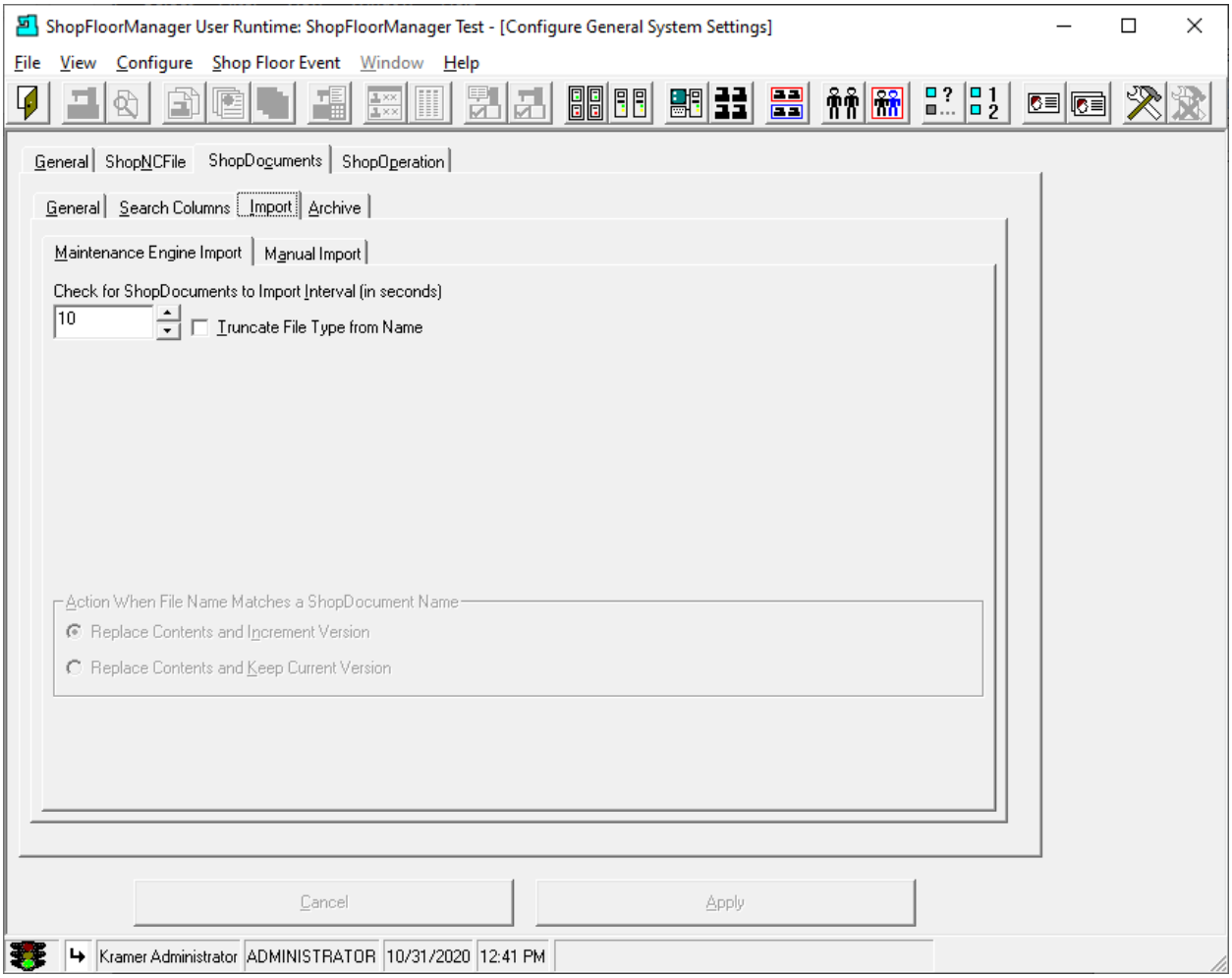
Click on the Save Button and the Company, Acme, will be added the List of Companies.

Configure General System Settings (Edit Picklist: Added Picklist Acme)



Click the Close Button and then the Import Tab and following Window is displayed.

Configure General System Settings (ShopDocuments (Import-Maintenance Engine))



The Maintenance Engine is used to Auto Import ShopNCFiles, ShopDocuments & ShopOperations into ShopFloorManager's Database. As an example, when a Programmer finishes an ShopNCFile they can drop it in a designated folder associated with a Resource Collection and the ShopNCFile will be automatically import into ShopFloorManager's Database & Resource Collection based on Properties set on the referenced Resource Collection.

Maintenance Engine **Import**

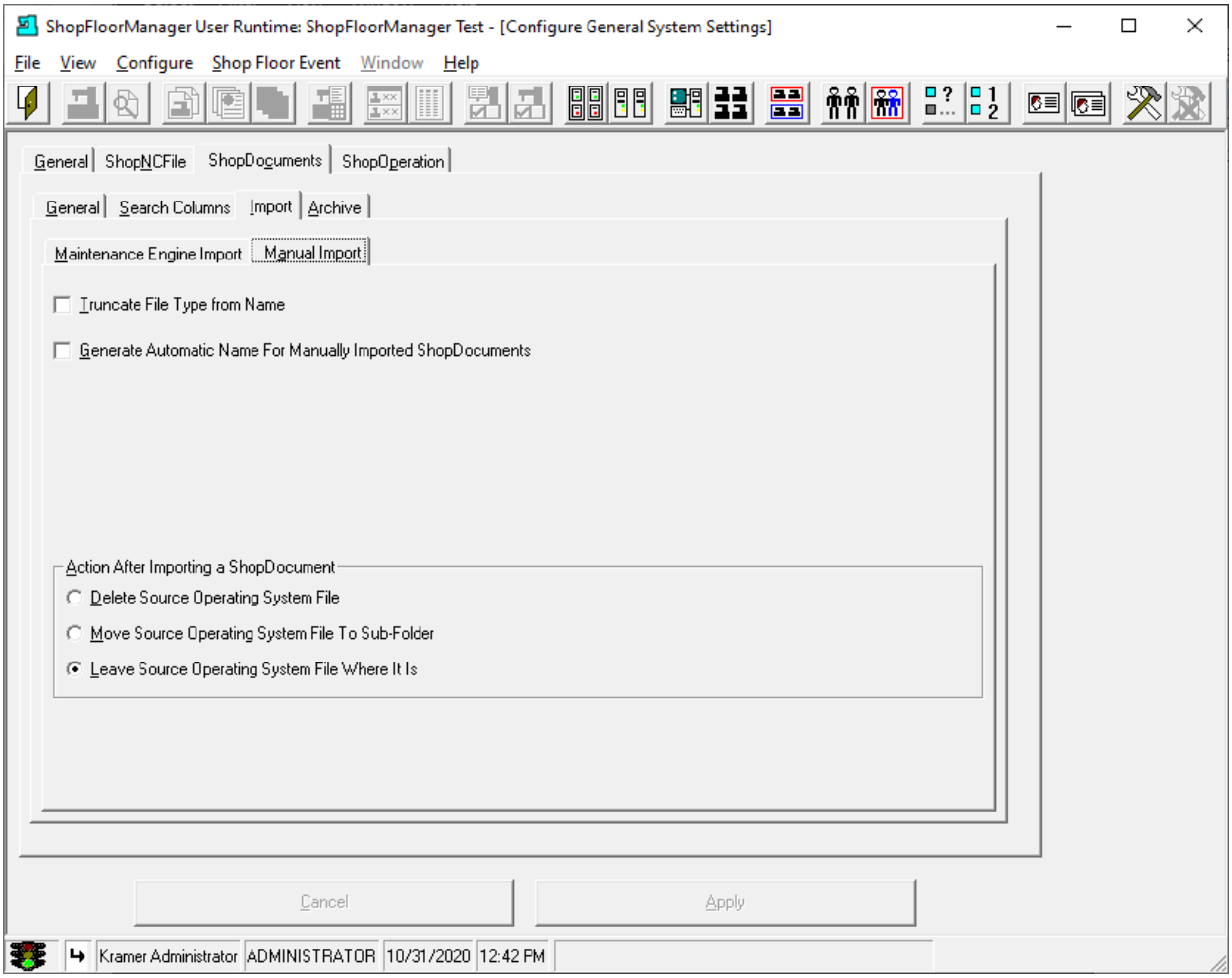
This is the time in seconds between checks.

Truncate File Type from Name

If the File being imported has a file extension remove! I.E., xxxxx.nc (.nc removed)

Click the Apply Button then the "Manual Import" `Tab and the following Window is displayed.

Configure General System Settings (General Tab – Manual Import ShopDocuments)



These setting are related to Manually Importing an ShopNCFile.

Truncate File Type from Name

If the File being imported has a file extension remove! I.E., xxxxx.nc (.nc removed)

Generate Automatic Name for Manually Imported ShopDocuments

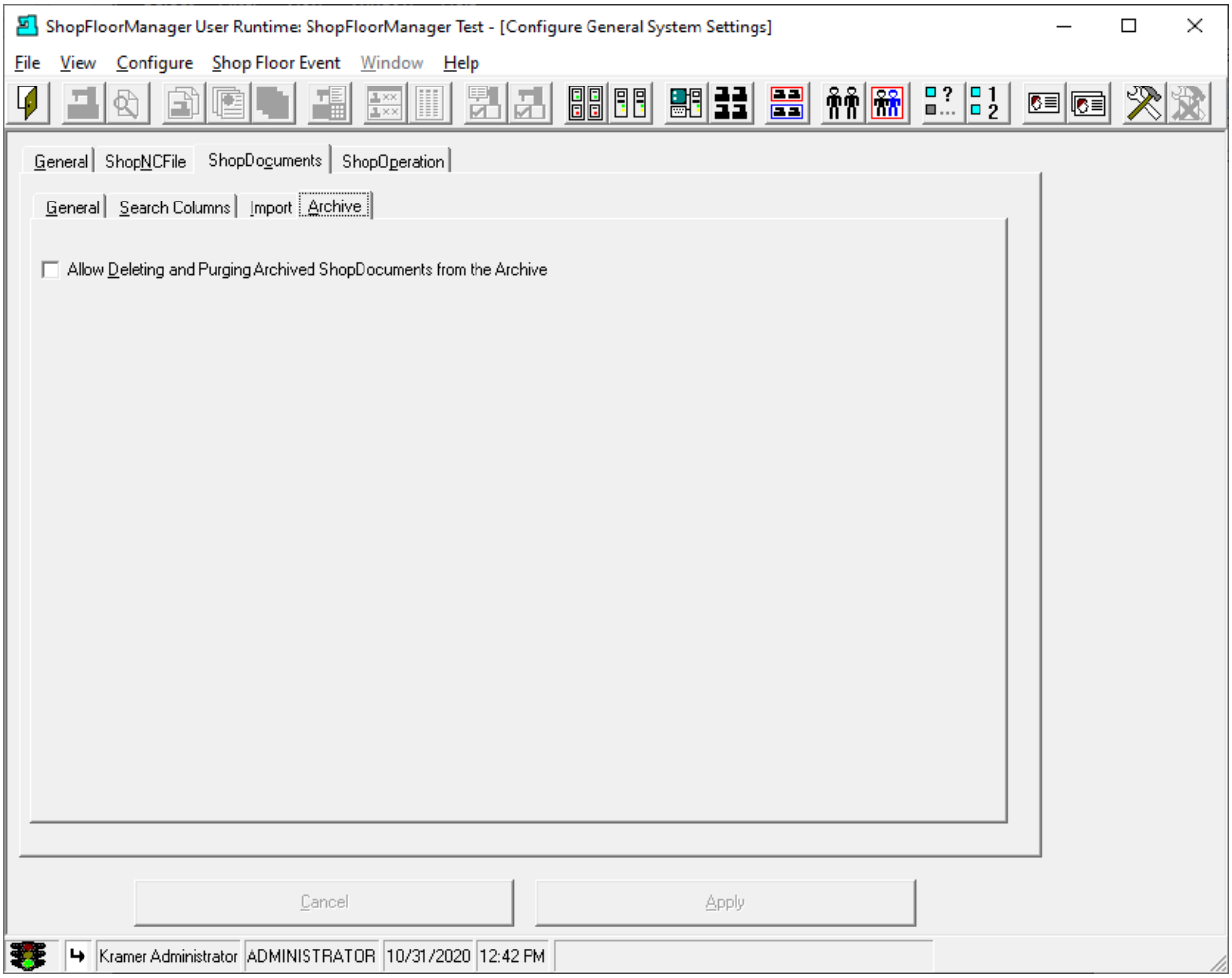
Automatically create name and fill in “Name”! Normally not checked!

Action After Importing a Document

Choose settings the meets your company’s needs. Default is Move Source...

Click the Apply Button and then the Archive Tab and the following Window will be displayed.

Configure General System Settings (General Tab – Archive ShopDocuments)

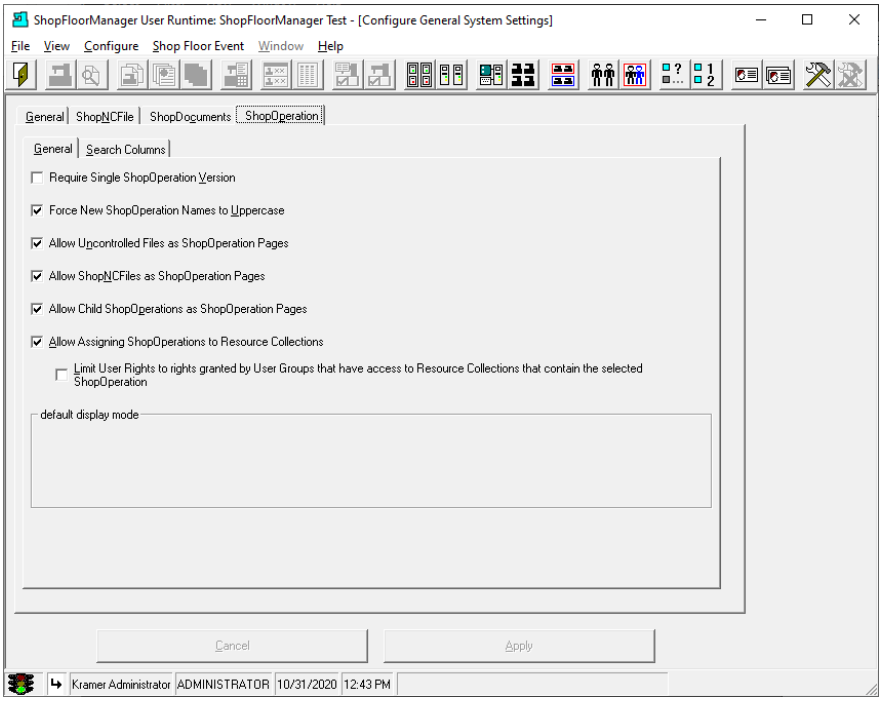


Allow Deleting and Purging Manage Archived ShopDocuments **from the Archive.**

This is normally checked. Make sure only a select few Users have this 'Right'.

Click the Apply Button then the ShopOperations Tab and the following Window will be displayed.

Configure General System Settings (General Tab – ShopOperations General)



Require Single ShopOperations Version

If your Company standard is only one unique file name with no version numbers, check this box.

Force New ShopOperation Names to Uppercase

If your Company standard is to only use uppercase letters, check this box.

Allow Uncontrolled Files as ShopOperation Pages

If you want to be able to **reference** Microsoft "Documents" that are not controlled by ShopFloorManager, check this box. I.E. They are not stored in ShopFloorManager's Database!

Allow ShopNCFiles as ShopOperation Pages

If you want to be able to reference ShopNCFiles in ShopOperation Pages, check this box.

Allow Child ShopOperations as ShopOperation Pages

If you want to be able to reference Sub-ShopOperations in ShopOperation Pages, check this box.

Limit User Rights to rights granted by User Groups that have access…

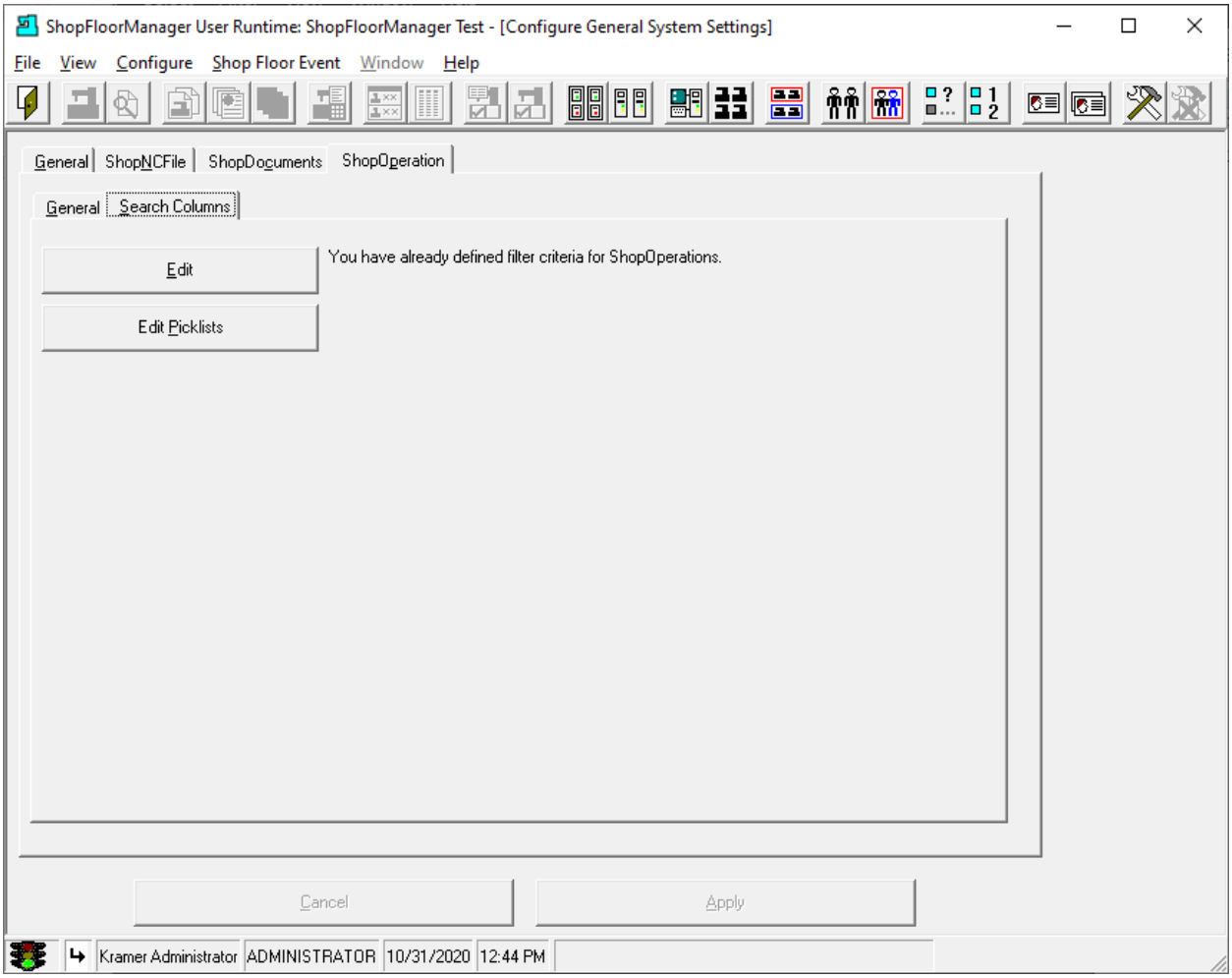
Limits Rights to Groups associated Resource Collections and their Files, check this box.

Default Mode to Open ShopOperation Pages

Choose one of two modes to open ShopOperation Pages. Web pages no longer supported!

Click the Apply Button and then the "Search Columns" Tab and the following Window will be displayed.

Configure General System Settings (General Tab – ShopDocuments Search Columns)

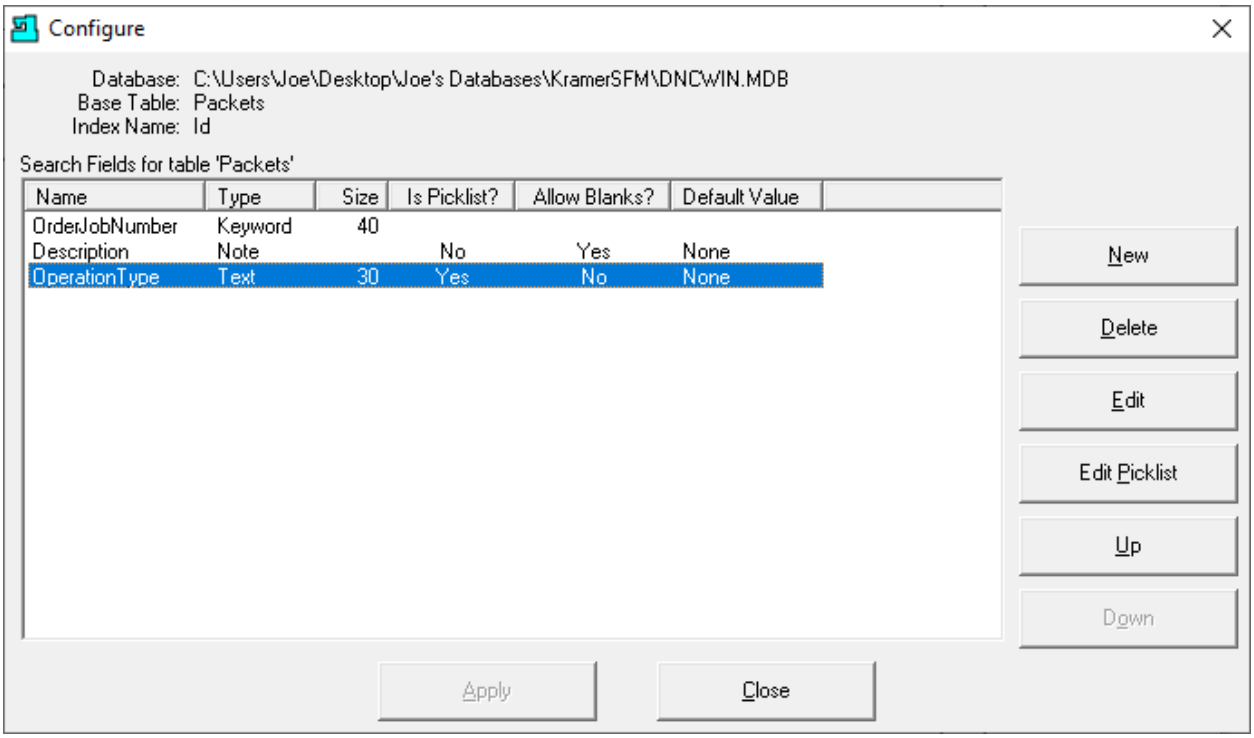


This Window is used to create Search Keys that are populated with data providing information about each ShopOperation and used for locating ShopOperations using ShopFloorManager's Search Engine.

Click the Edit Button, then the OK Button (Informational Window), then the Yes Button (Informational Window) and the following Window will be displayed.

Click on the Edit Button and the Following Window will be displayed.

Configure General System Settings (Configure Search Key Creation Window)

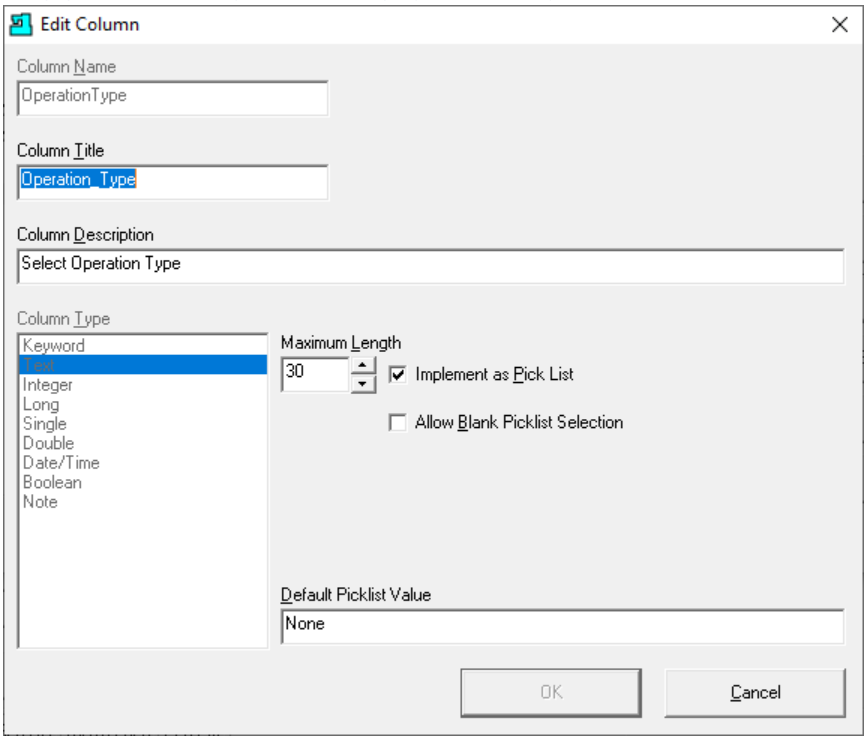


The displayed Fields are Key Fields created earlier. These Key Fields store information about each ShopOperation and provide Users with useful information regarding the associated ShopOperations. These populated Key field can be used by ShopFloorManager's Search Engine to locate ShopOperations based on the data stored in these Key Fields!

As an example, we will investigate the selected Key Field 'Operation Type' and explain how it is used and why we chose this as a Text Field!

Click the Edit Button and the following Window will be displayed.

Configure General System Settings (Edit Column)



The above Form is used for creating all the various Key Fields support by ShopFloorManager.

This is a completed Key Field Form for the Key Field “Operation_Type”. All the fields: Column Name, Column Title have been named & the column type ‘Text’ chosen from the 9 selections. We have set the length of the selected Field to 30 characters. This ‘Text’ Field is set to be implemented as a Pick List.

We chose the Pick List vs just Text since this field type supports any number of unique text values, in our case, Operation Types. Users selecting Operation Types via drop down-list are assured using the correct spelling of an Operation Type and assures the Search Engine will find the correct customer’s name!

We selected a Default Picklist Value “None” so the Search Engine can use this value to locate unpopulated fields! Most other Key Field choices are obvious for the task at hand. There are two fields that need further explanations.

Keyword Field:

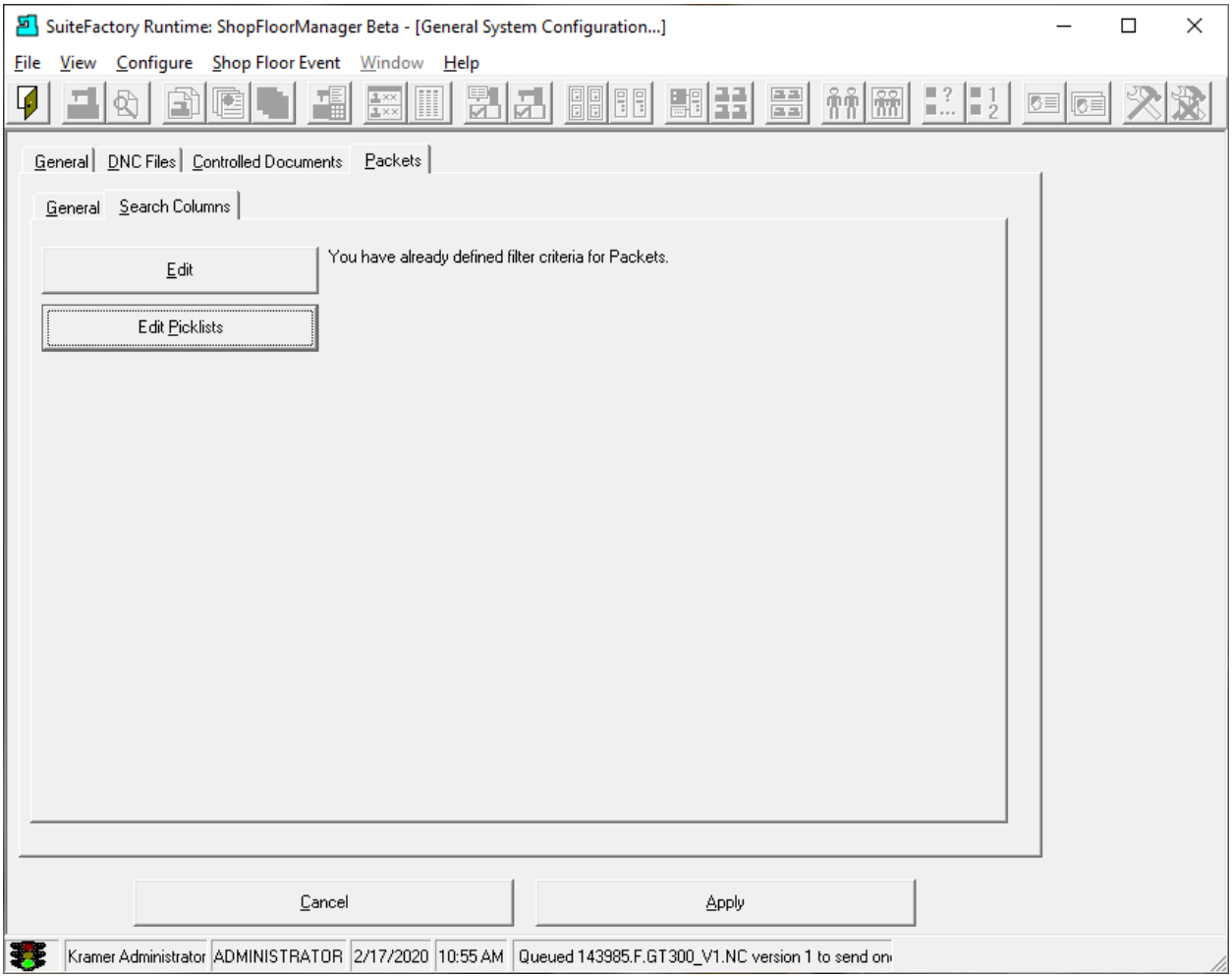
When you need to have **a field** that can contain multiple selections, usually of certain type object, use this Column Type. As an example, if you wanted to associate multiple Machine Tools with **a particular ShopNCFile** this would be the best choice. Note that each ShopNCFile can have their own unique set of values.

Note:

This field allows for a brief multi-line description of the associated file.

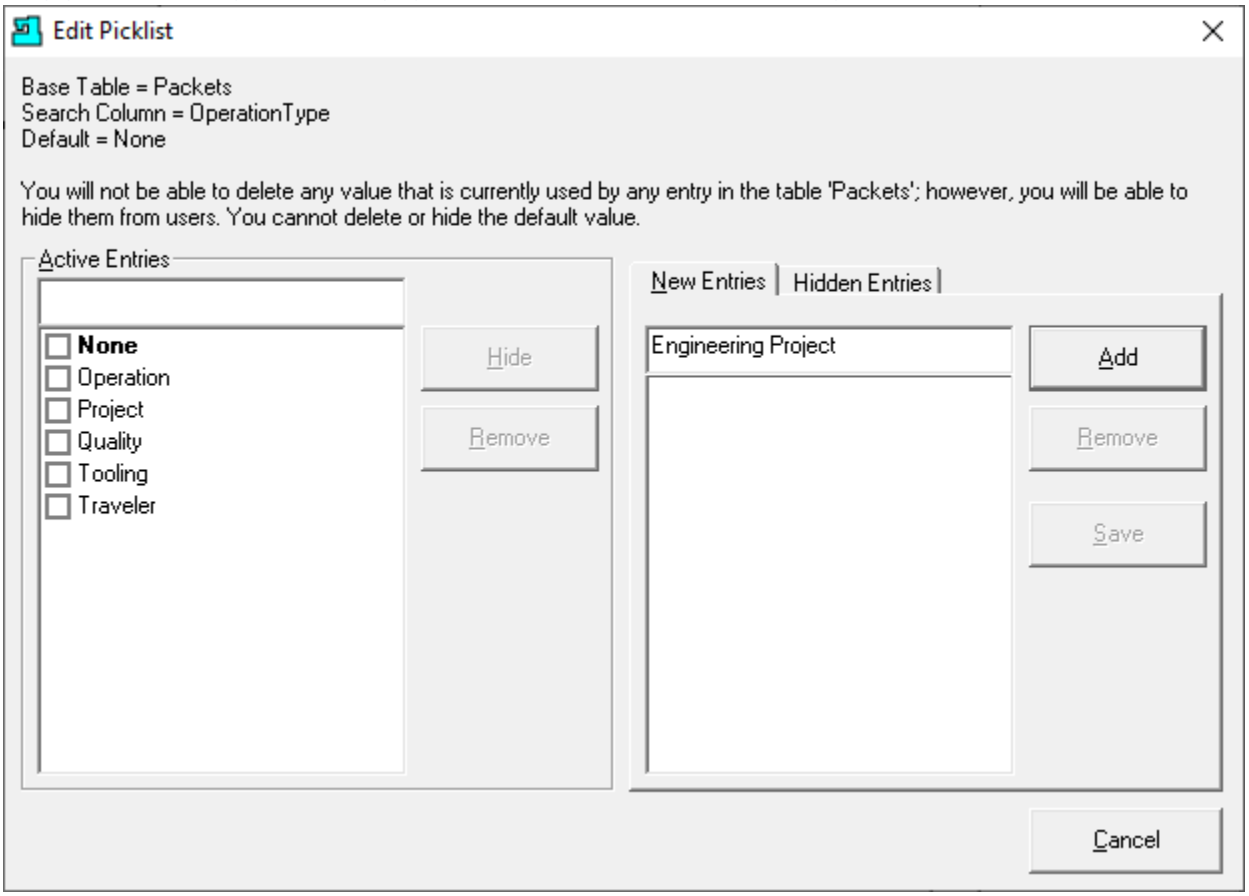
Click the OK Button & then the Close Button to return.

Configure General System Settings (General Tab – ShopOperations Edit PIcklists)



Click on the Edit Picklists Button and the Follow Window will be displayed.

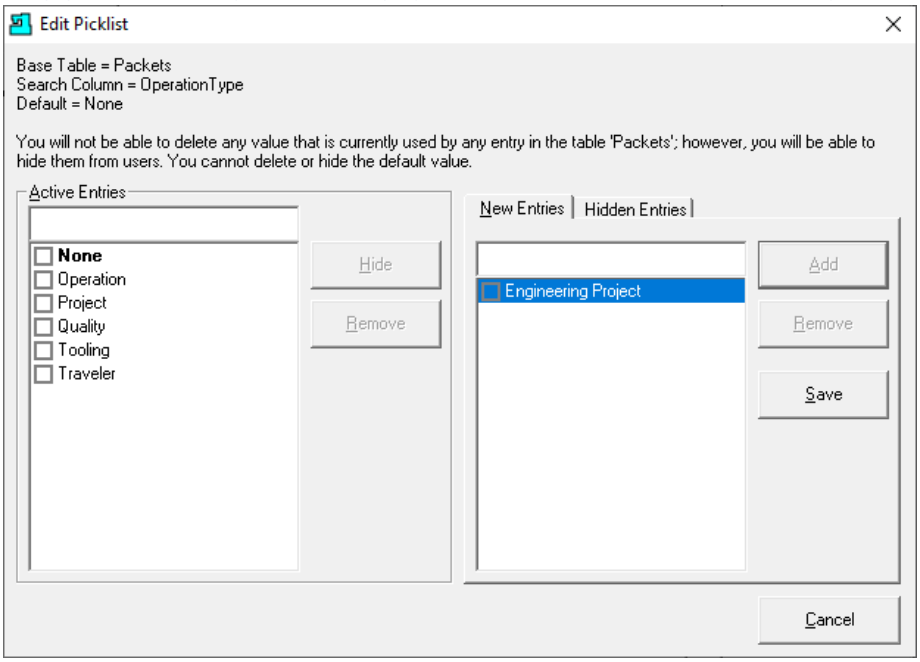
Configure General System Settings (Edit Picklist Adding Engineering Project)



In the above Window we have added five ShopOperation Types to the Picklist but need to add an additional ShopOperation Type to the List. Enter the Name, Engineering Project, in the New Entries Text Block and click the Add Button and the Following Window will be displayed.

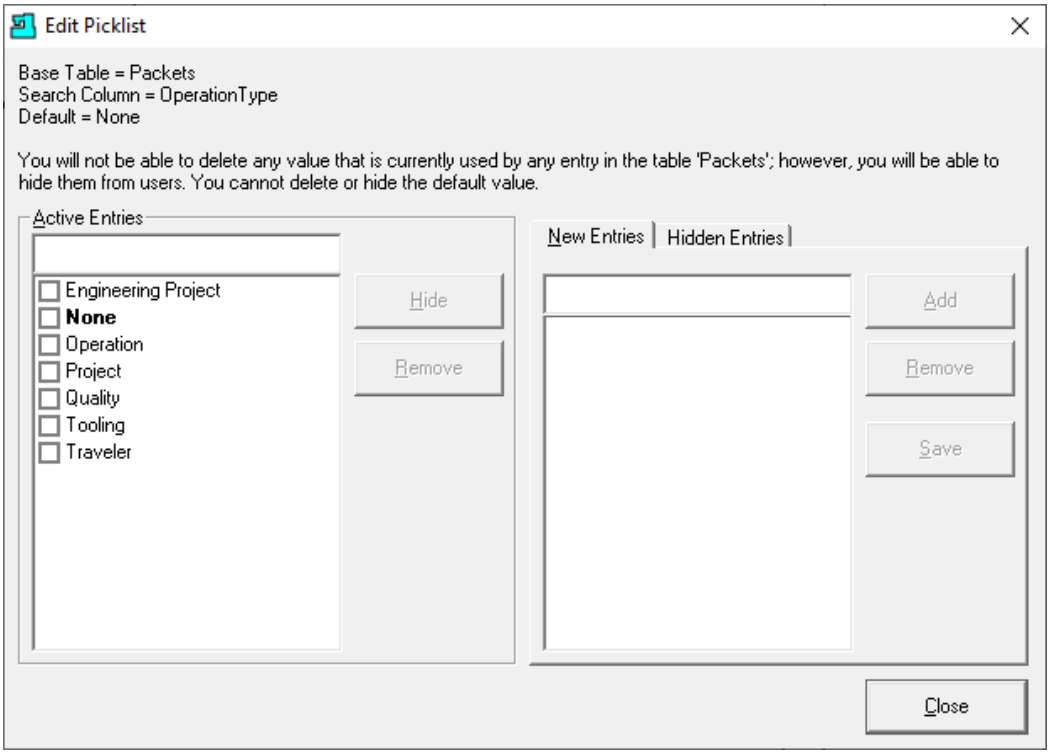
Note: To hide an existing picklist choose the “Hidden Entries” Tab and select and hide picklist entries! You can “Un Hide” these for use at a later time!

Configure General System Settings (Edit Picklist Saving Engineering Project)



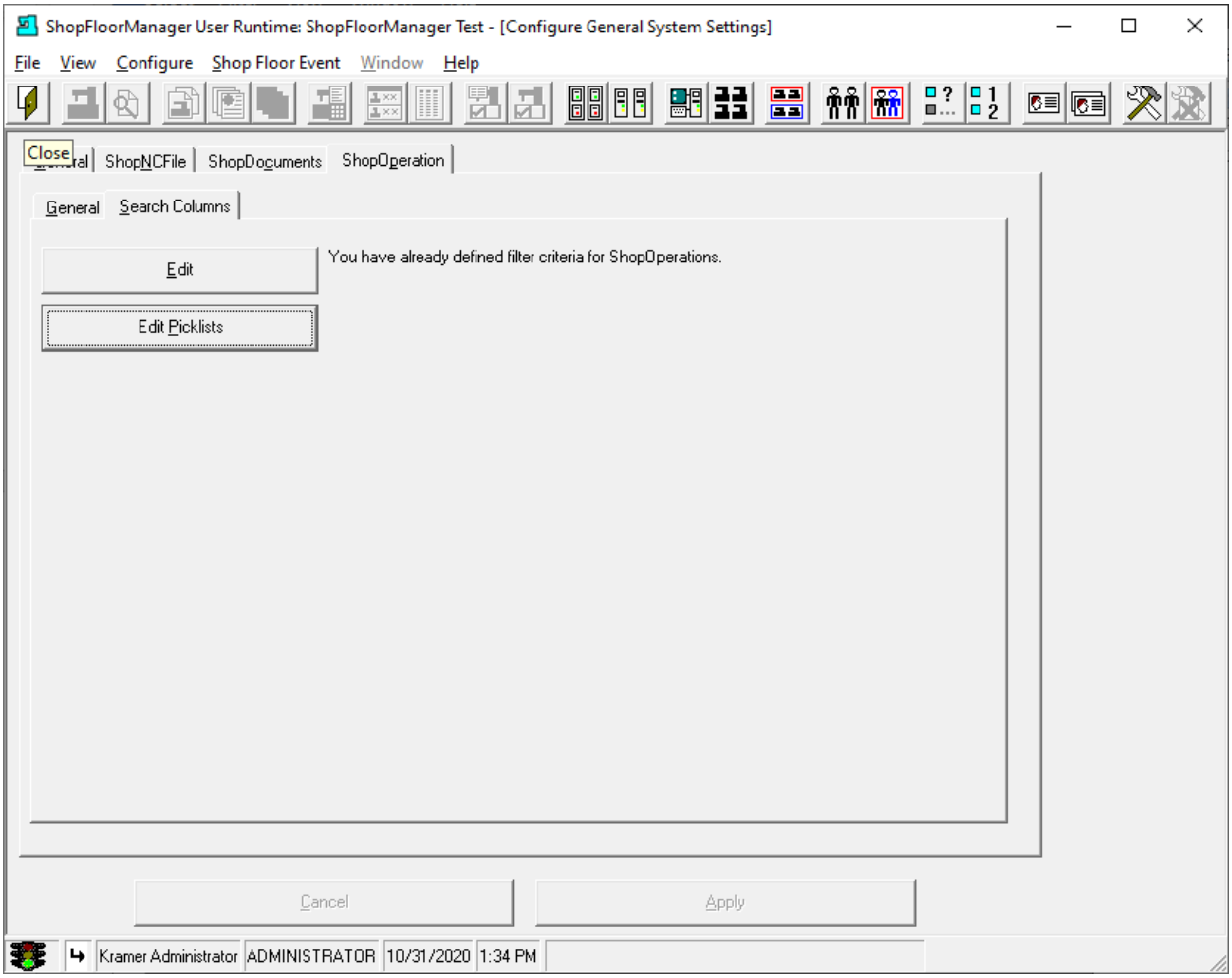
Click on the Save Button and this ShopOperation Type will be added the List of ShopOperation Types.

Configure General System Settings (Edit Picklist Saved Engineering Project)



Click the Close Button and the following Window is displayed.

Configure General System Settings (Close Icon)



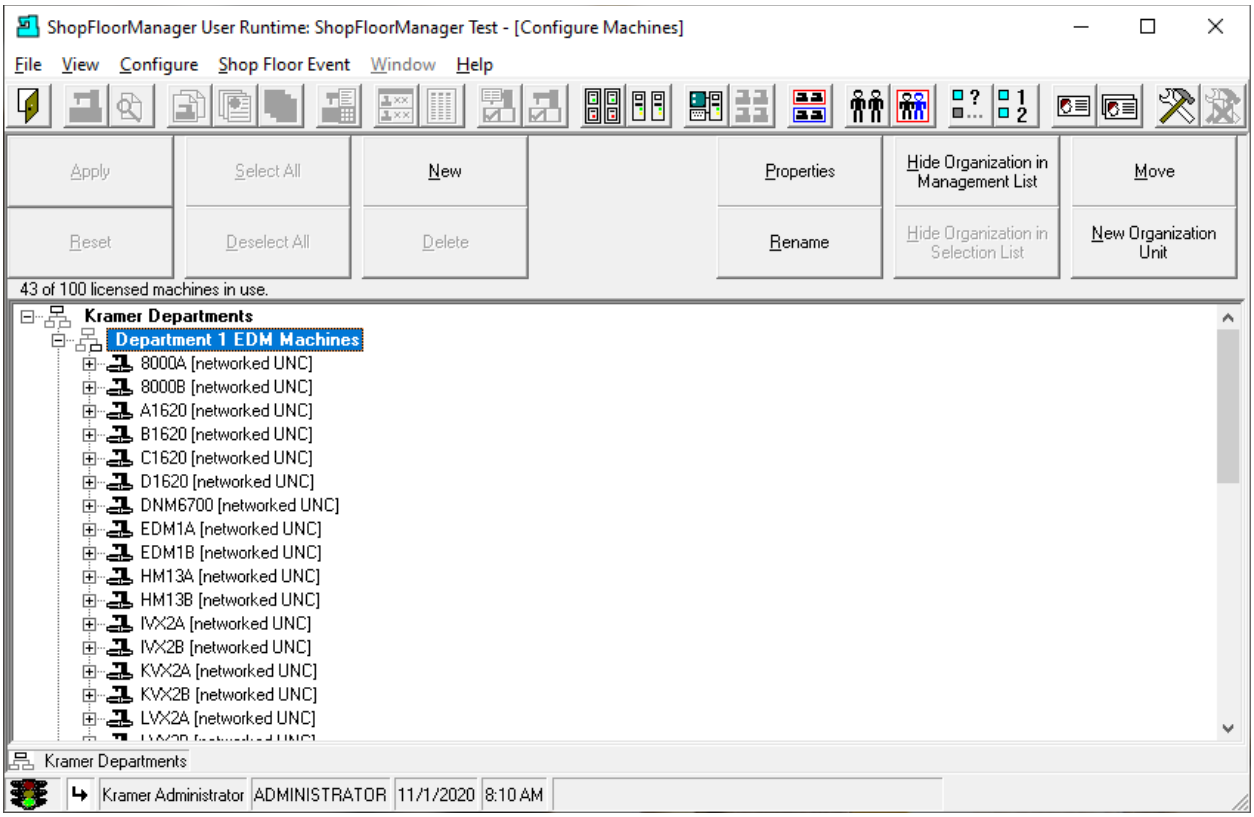
We are finished with the Configure General System Settings section. Click the Close the Icon in the upper left-hand corner and the following Window will be displayed.

Configure Machines (Create & Configure Machines. Hug a Machine Tool to Start your Day!)

Let's create a Machine Tool and configure the various needed parameters!

Click on the "Configure Machines" Icon and the following Window will be displayed.

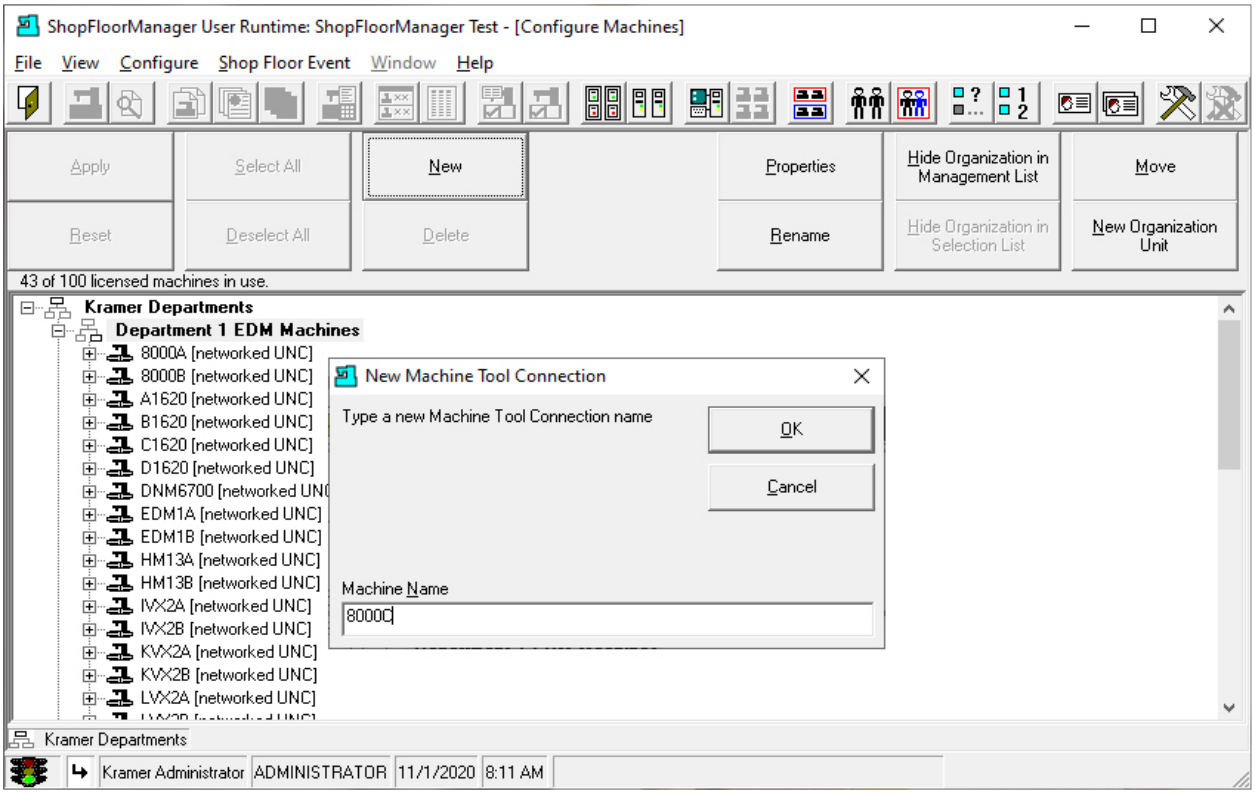
Configure Machines (Create Machines)



We will be creating a New Machine Tool and placing it into one of the Organizational Units above! Highlight the Organizational Unit "Department 1 EDM Machines" then click on the New Button and the following Window will be displayed.

Note: If this doesn't place the Machine in the correct Organizational Unit, click Organizational Units for details on moving this Machine into the correct Unit!

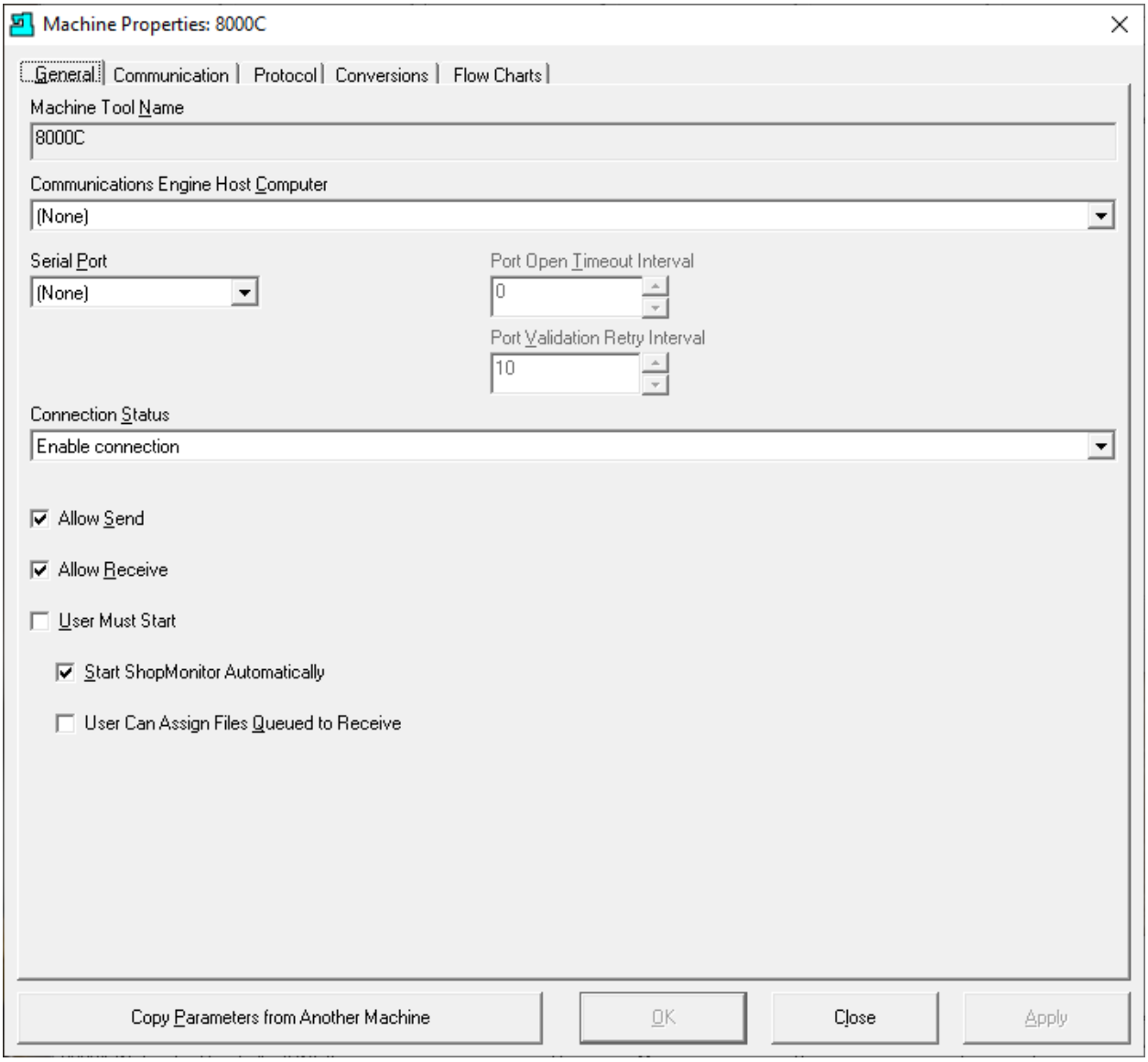
Configure Machines (Creating & Naming a Machine)



We will be creating an RS232 Based Machine and an Ethernet (UNC) based Machine Tool so you can see how to setup the different parameters.

Enter the Machine Name, it must be unique, in the “Machine Name” text block and click the OK Button and the following Window will be displayed.

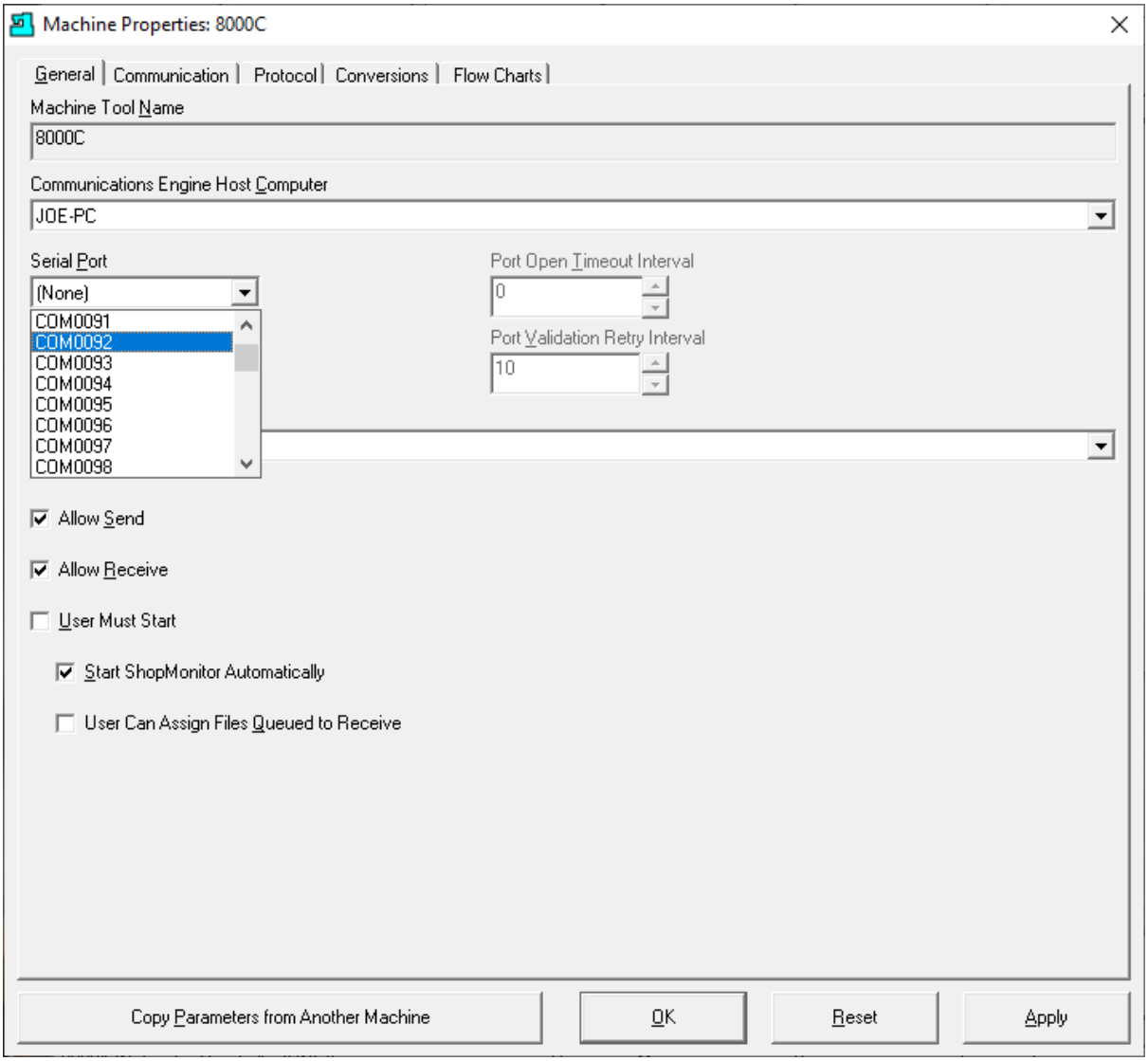
Configure Machines (RS232 Properties 8000C – General Tab)



We will first configure the Machine Tool for the RS232 Protocol so the only selections that should be changed in this Tab section are the Host Computer and the Serial Port selections.

See the Next page for how to setup for RS232!

Configure Machines (RS232 Properties 8000C – General Tab)



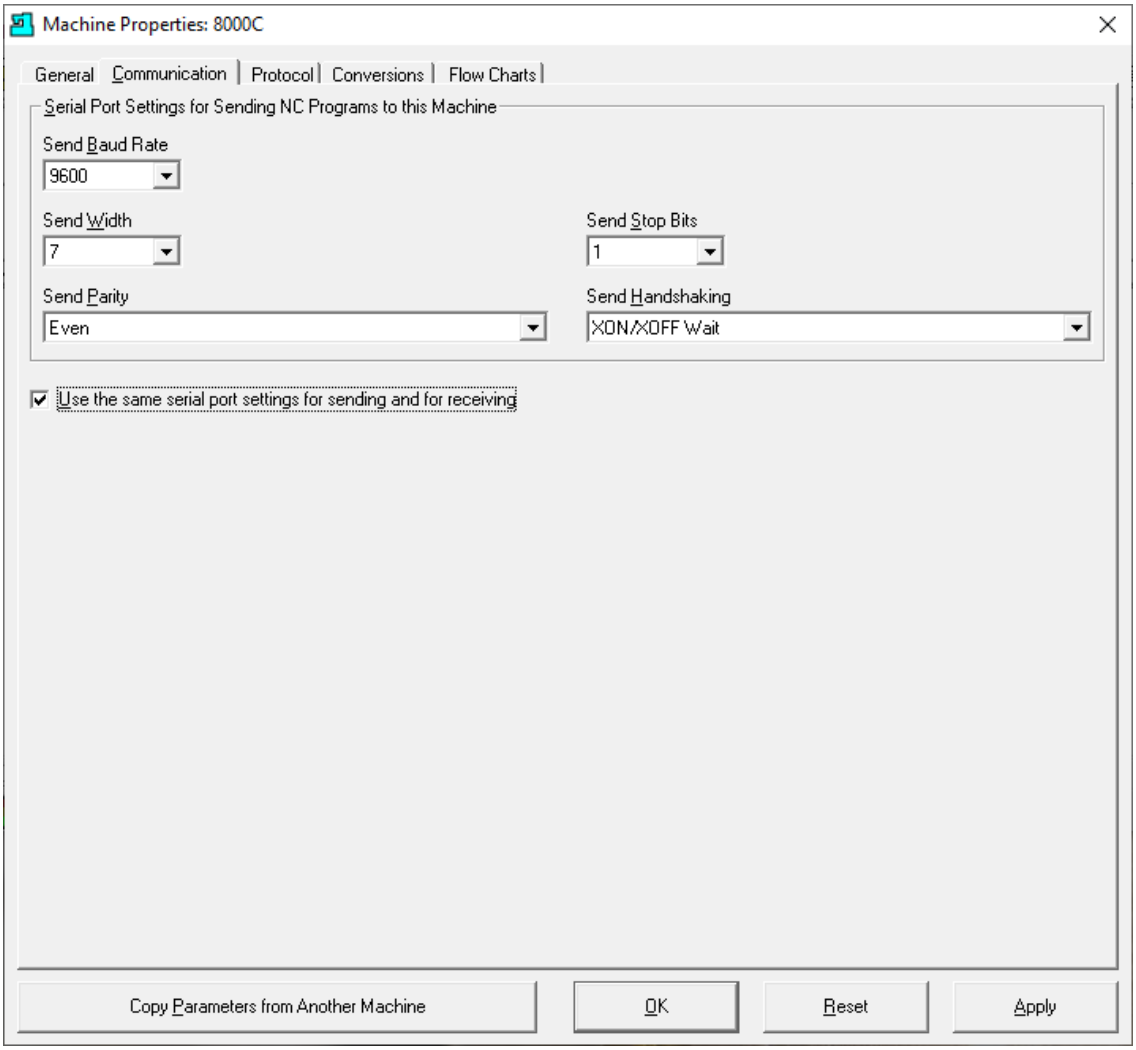
Click on the "Communications Engine Host Computer" dropdown list and select the Host Computer. Next click on the Serial Port dropdown list and select one of the available serial ports. Serial drivers must be installed on Computer being used for the Communications Engine!

Parameters:

- **Allow Send & Allow Receive - Always check the checkbox**
- **User Must Start – This was for old, old Machines! Never used now!**
- **Start ShopMonitor Automatically – Shows Manage Transfer Queues Screen Automatically**
- **User Can Assign Files Queued to Receive – Also need to set Rights in User Groups!**

Once the selections have been made you will need to click on the Apply button & click on the Communications Tab and the following Window will be displayed.

Configure Machines (RS232 Properties 8000C – Communication Tab)



The only selections that should be changed are the Baud Rate, Send Width, Parity, Stop Bits & Send Handshaking.

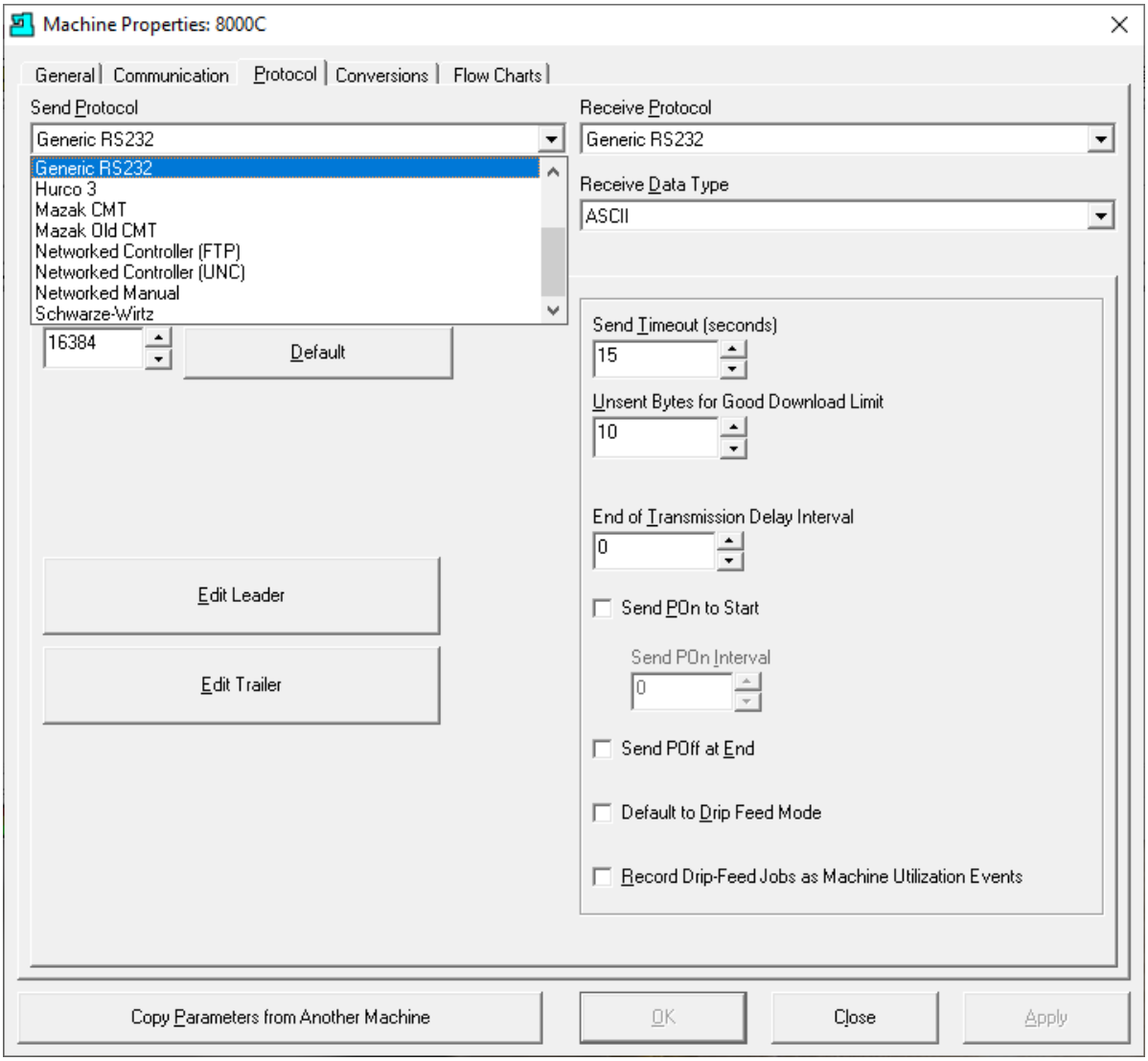
We have selected the “Use the same serial port settings … Check Box” for both Send & Receive Settings as 99% of the Time the Send & Receive Port settings are the same.

Click on the appropriate dropdown list and make the necessary changes. Once the changes have been made you will need to click on the Apply button to save and continue or click the Close Button to save and leave the Machine Properties Window!

Note: These Parameters should match the Machine Tool’s possibly with minor differences! Sometimes the “Send Stop Bits” may need to be different! Call CCI for help: 1-781-933-9500.

After clicking the Apply Button click the Protocol Tab and the following Window will be displayed.

Configure Machines (RS232 Properties 8000C – Protocol Tab/Send-Receive Protocol)



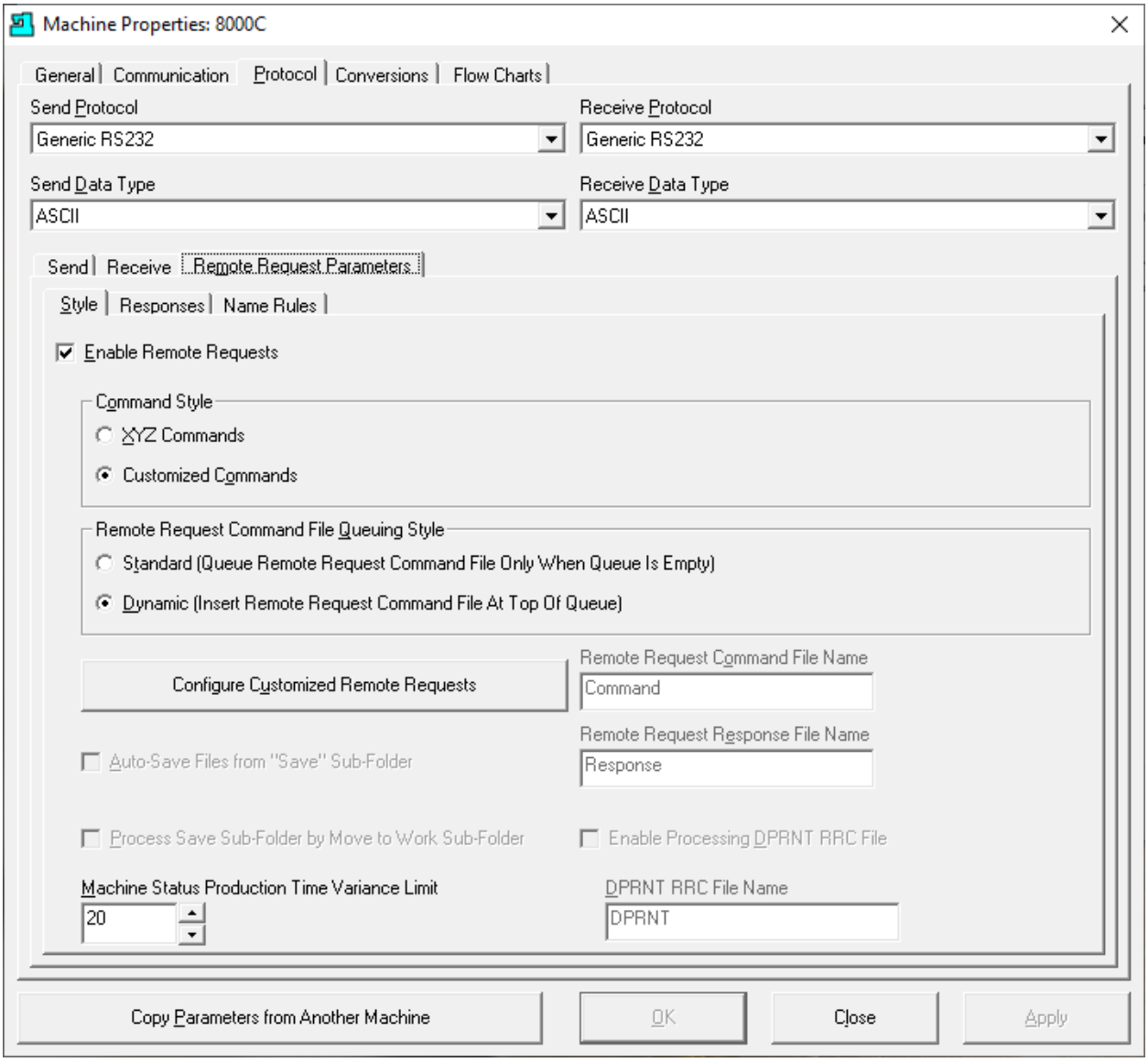
The only selections that should be changed in this view are the Send/Receive Protocols.

Click on the appropriate dropdown list(s) and make the necessary changes. All of the other settings should not be changed. If you have any questions, please call CCI 1-781-933-9500 for help.

Note: Edit Leader and Trailer are for N/C Machine Tools and virtually never used any longer!
The Receive Tab parameters should not be changed!
These Parameters should match the Machine Tool's!

Once the changes have been made you will need to click on the Apply Button. Now click on the "Remote Request Parameters" Tab and the following Window will be displayed.

Configure Machines (RS232 Properties 8000C – Protocol Tab - Remote Request Parameters)

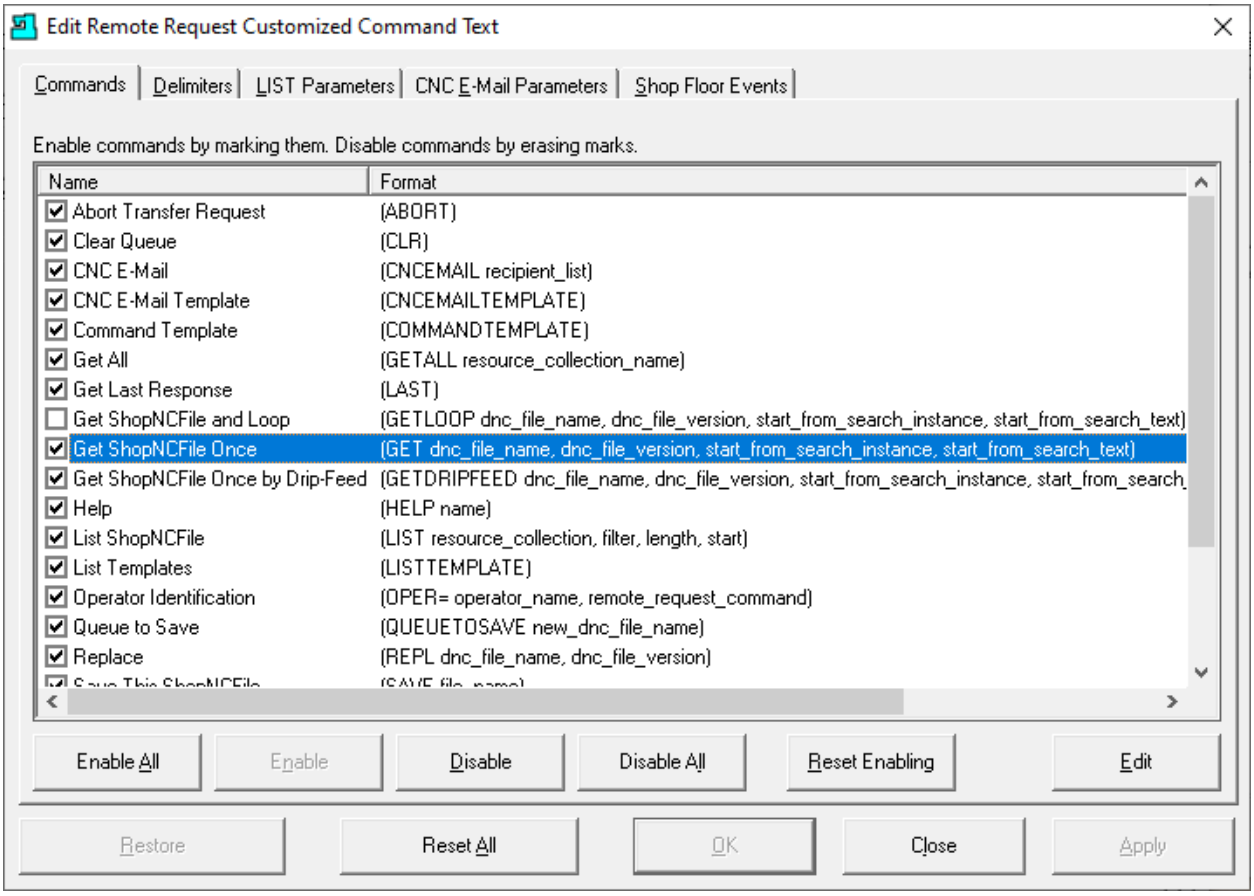


Parameter Settings:

- **Enable Remote Requests**
  Check to Enable. If you use Remote Request this must be checked!
- **Command Style**
  Chose Customized Commands. XYZ was for Controllers that didn't support Comments!
- **Remote Request Command File Queuing Style**
  Chose Dynamic. When using Remote Request Commands using Standard would be Unusual!
- **Machine Status Production Time Variance Limit**
  Leave the variance value at the default 20%. See ShopMonitor for more information!

Click on the "Configure Customized Remote Requests" Bar and the following Window will be displayed.

Configure Machines (RS232 Properties 8000C – Edit Remote Request Cust… - Commands)



This is the View of all the [Remote Request Commands] an Operator can send to ShopFloorManager from their Machine Tool.

The most used Command is: “Get ShopNCFile Once”. Highlight this Command and click the Edit Button and the following Window is displayed.

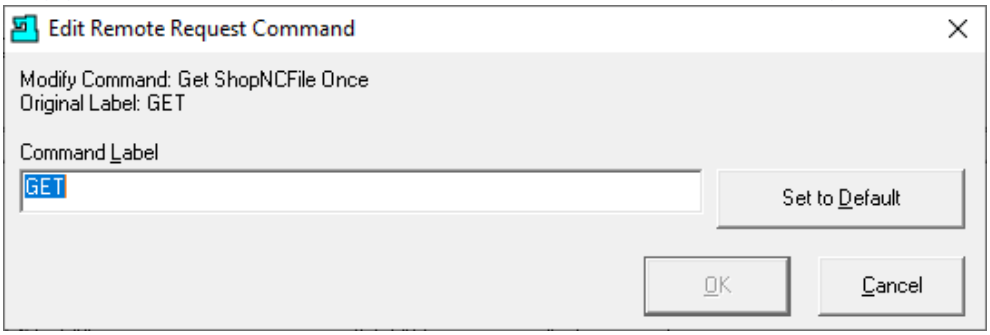
Note: Most Command Labels are modifiable, and most Commands can be supplemented with additional parameters. For Example:

(SAVE File_Name). The SAVE command needs a File Name added so ShopFloorManager knows what to name this file. If this name exists, it will increment the version number. If ShopFloorManager is set to use single version and the User doesn’t have the needed Rights a Response will be sent to the Machine Tool noting the missing Right. The Remote Response must be active!

This Command is added near the top of the file being uploaded to save to ShopFloorManager!

Let’s see how to change the Command Label!

Configure Machines (RS232 Properties Edit Remote Request Command: GET)

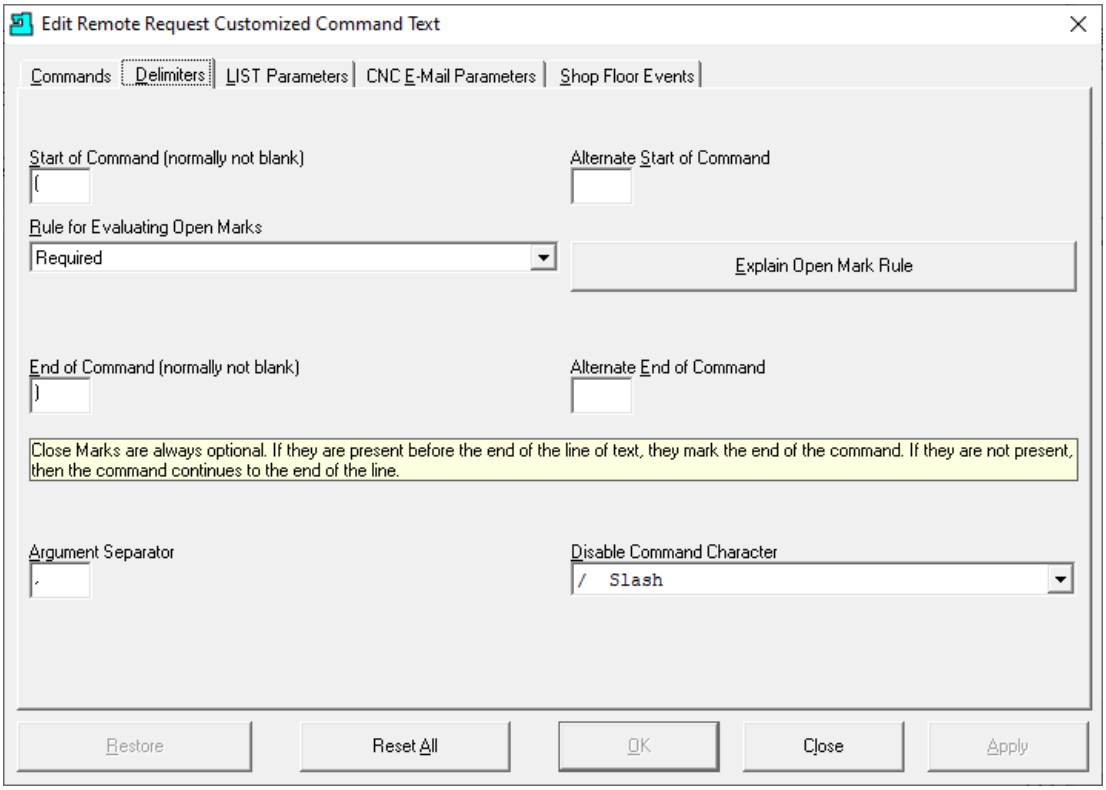


You can change the name of this Command to another unique name. After changing click the OK Button!

In one of the following pages, we will demonstrate how this command is used by an Operator.

Click the Delimiters Tab and the following Window is displayed.

Configure Machines (RS232 Properties 8000C – Remote Request Customized Command - Delimiters)

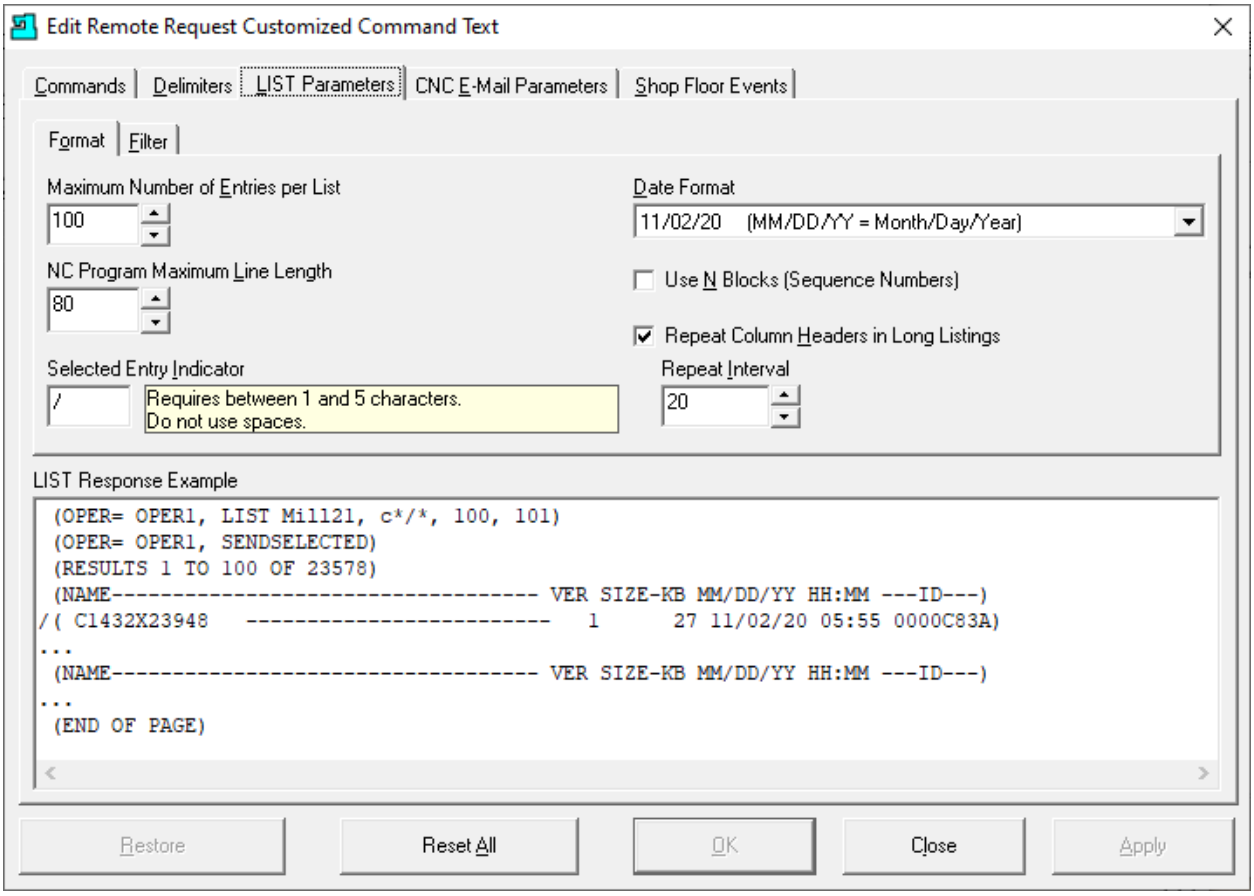


It would be rare to change these settings. If your machine doesn't support the "Normal" Comment character, please call CCI for help. 1-781-933-9500.

Click the "List Parameters" Tab and the following Window is displayed.

Note: If you place the character "**/**" in front of a Command it will Disabled/Skipped. For details on "Open Mark…" setting click the "Explain Open Mark Rule"!

Configure Machines (RS232 Properties 8000C – Remote Request Cust… – List Parameters - Format)

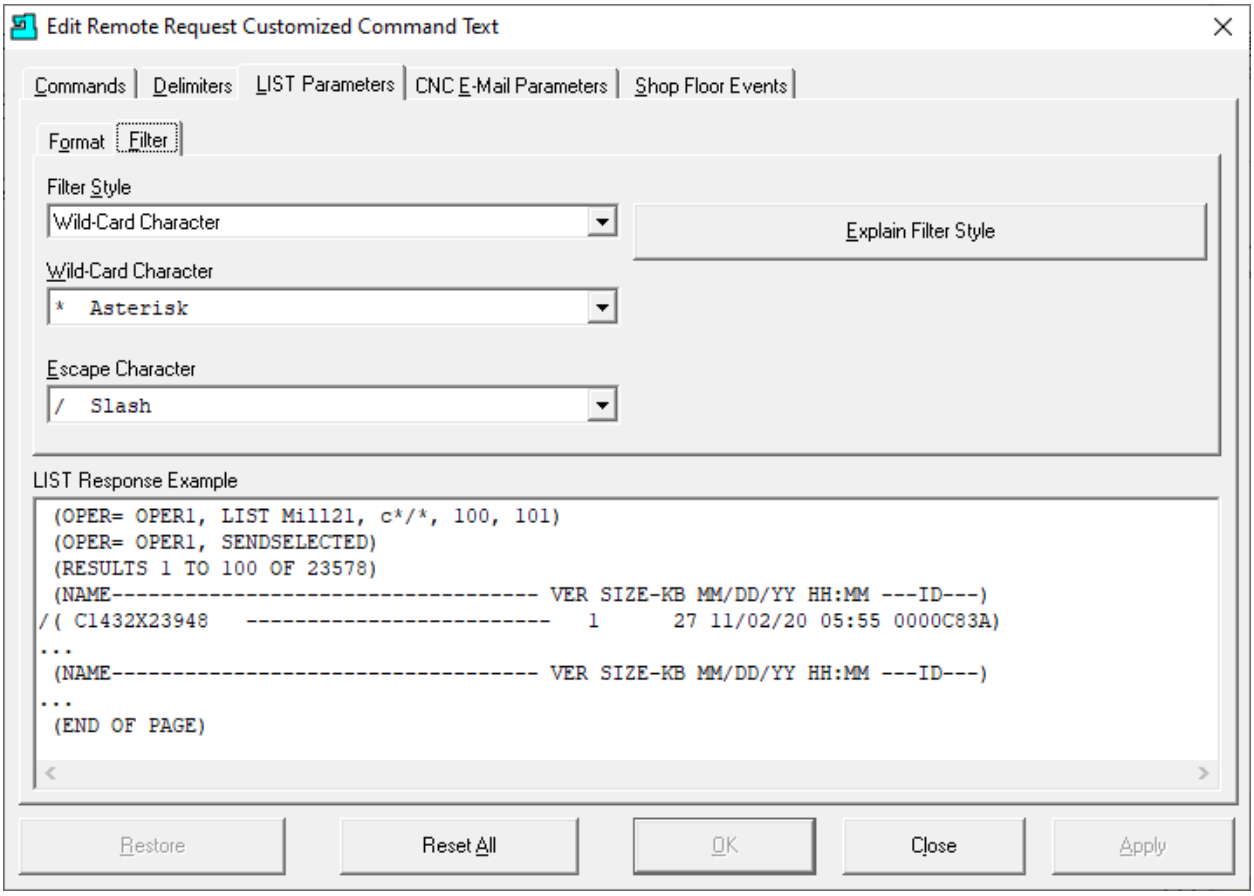


It would be rare to change these settings. If you need help, please call CCI. 1-781-933-9500. These are the settings that regulate the structure of a list(s) being sent to the CNC when an Operation requests a LIST of Files, Commands, etc.

See the “LIST Response Example” Informational Window where the changes are reflected in real-time as you change the settings on this form!

Click the Filter Tab and the following Window is displayed.

Configure Machines (RS232 Properties 8000C – Remote Request Cust… – List Parameters - Filter)



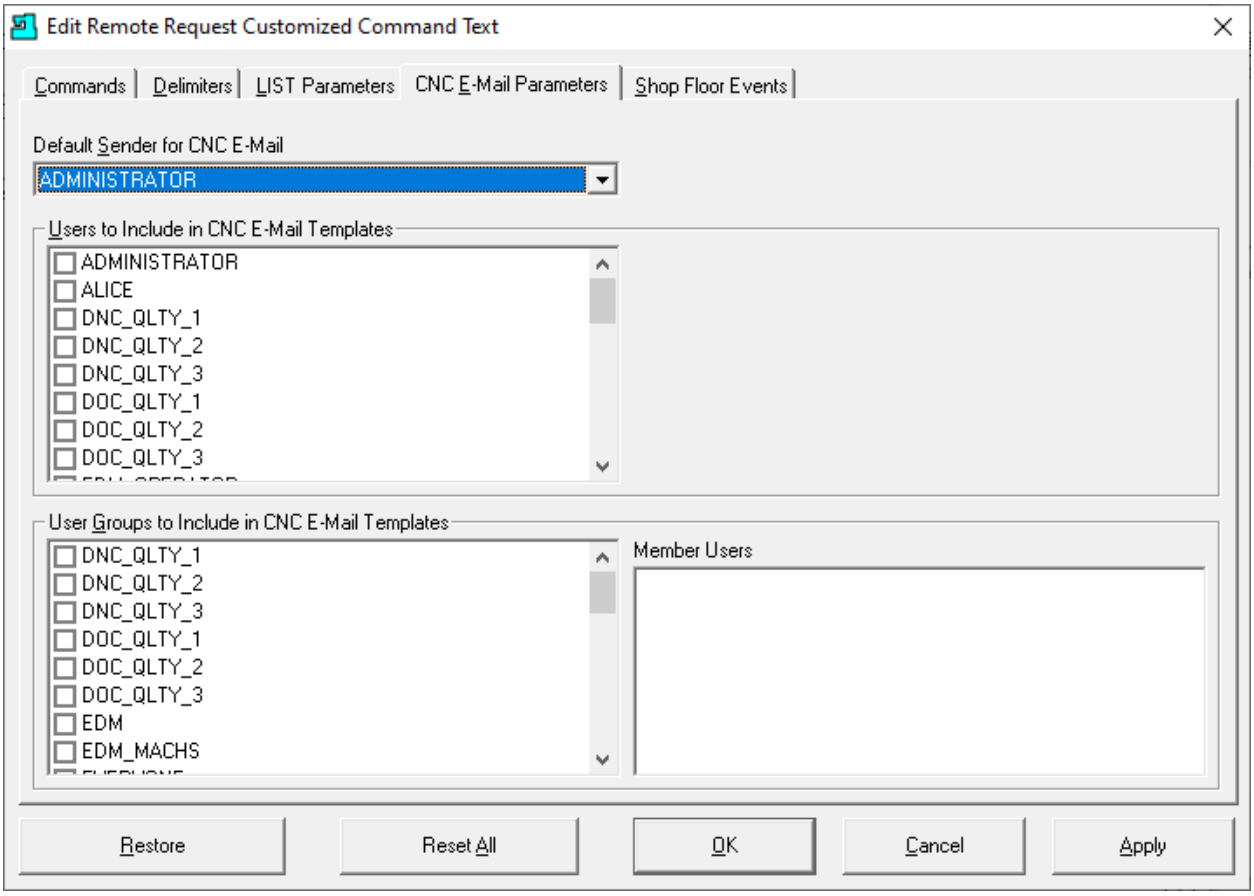
It would be rare to change these settings. If you need help, please call CCI. 1-781-933-9500. These are the settings that establish the characters that a particular CNC Controller supports.

See the “LIST Response Example” Informational Window where the changes are reflected in real-time as you change the settings on this form!

Note: For explanations of Filter Styles click on the “Explain Filter Style” Button!

Click the CNC E-Mail Parameters Tab and the following Window is displayed.

Configure Machines (RS232 Properties 8000C – Remote Request Custom… – CNC E-Mail Parameters)



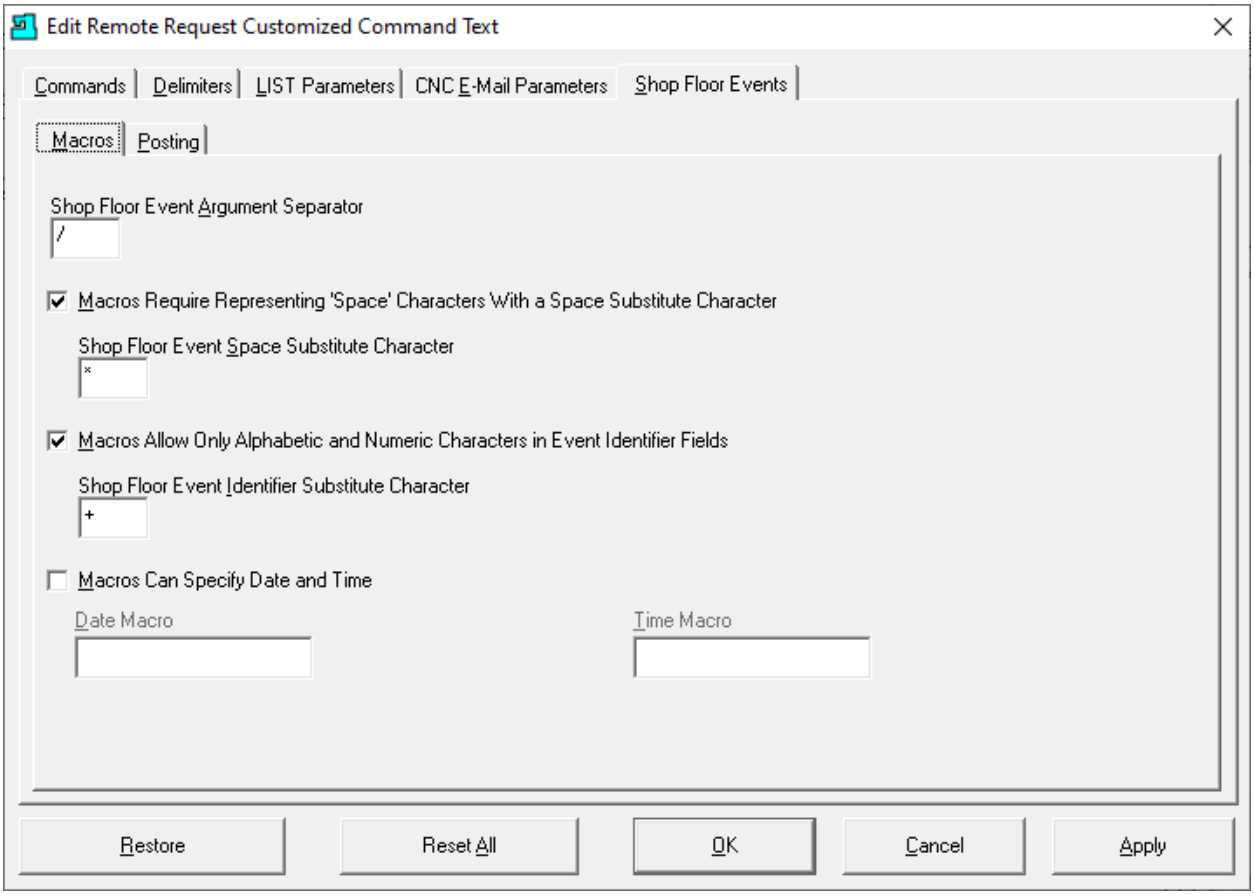
For each User & User Group check the checkboxes to include Users & User Groups in CNC E-Mail Templates and click the Apply Button.

If checked Operators can use Remote Request Commands to send an Email. See the Contacts & Configure Distribution Lists before sending an E-Mail from their Machine Tool!

You should also look at what E-Mail Rights are needed to be set in the User Groups!

Click on the “Shop Floor Events” Tab and the following Window will be displayed.

Configure Machines (RS232 Properties 8000C – Remote Request Custom… – Shop Floor Events/Macros)



Parameter Setting:

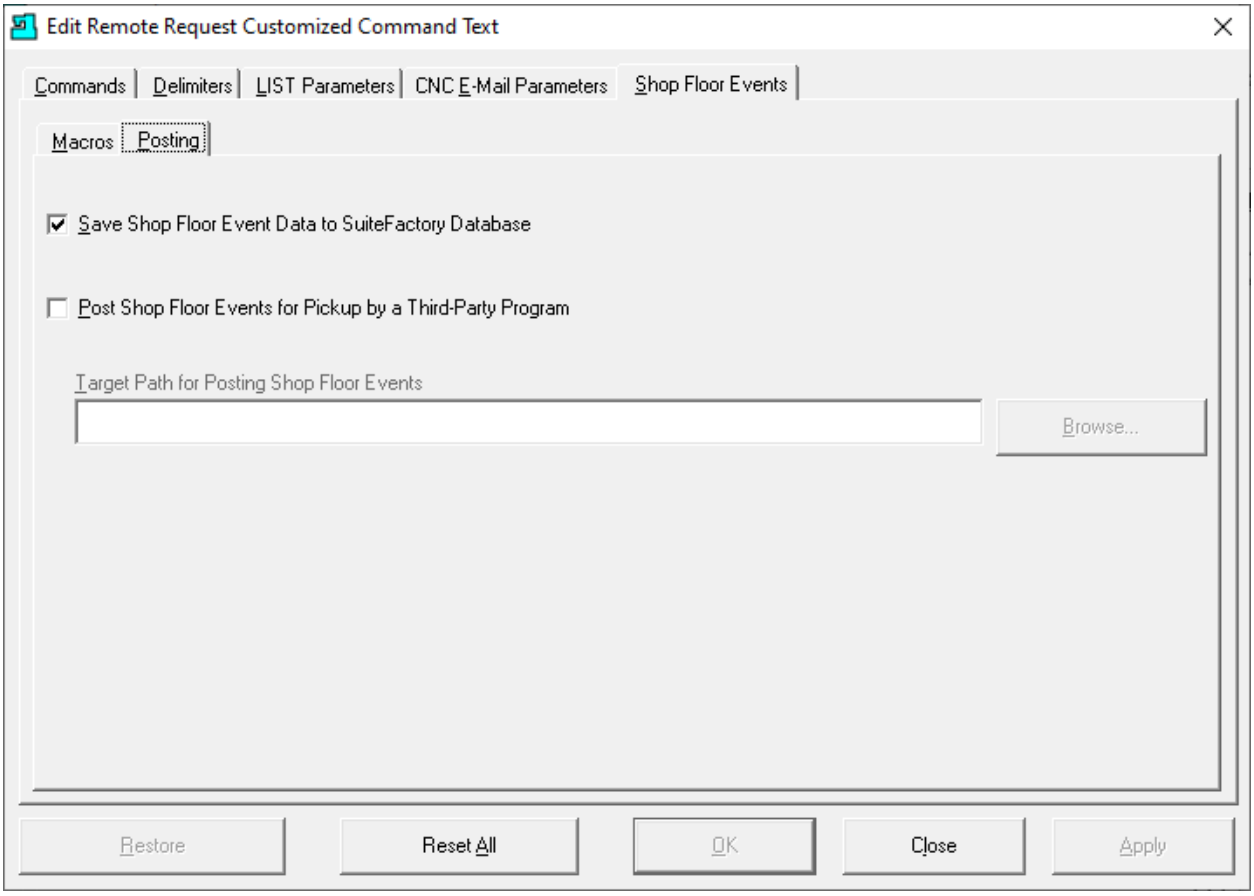
- **Shop Floor Event Argument Separator**
  Chose the Separator character supported by your controller.
- **Macros Require Representing 'Space" Characters With a Space Sub…**
  Chose the **Space** character supported by your controller.
- Macros Allow Only Alphabetic and Numeric Characters…
  Chose the **Substitute** character supported by your controller.
- **Macros Can Specify Date and Time**
  Add the Date & Time Macros if you are using the Machine tool to supply the Event Date/Time
  Ex: Date Macro: #3011[80]; Time Macro: #3012[60]!

Event DPRNT: (EVT*3/Periodic*Maintenance/3/Filter*Change/…)";

Note: To make changes to these setting you will need to consult your Machine Tool's Manufacturing User Manuals. Call CCI if you need help: 1-781-933-9500.

Click the Posting Tab and the following Window will be displayed.

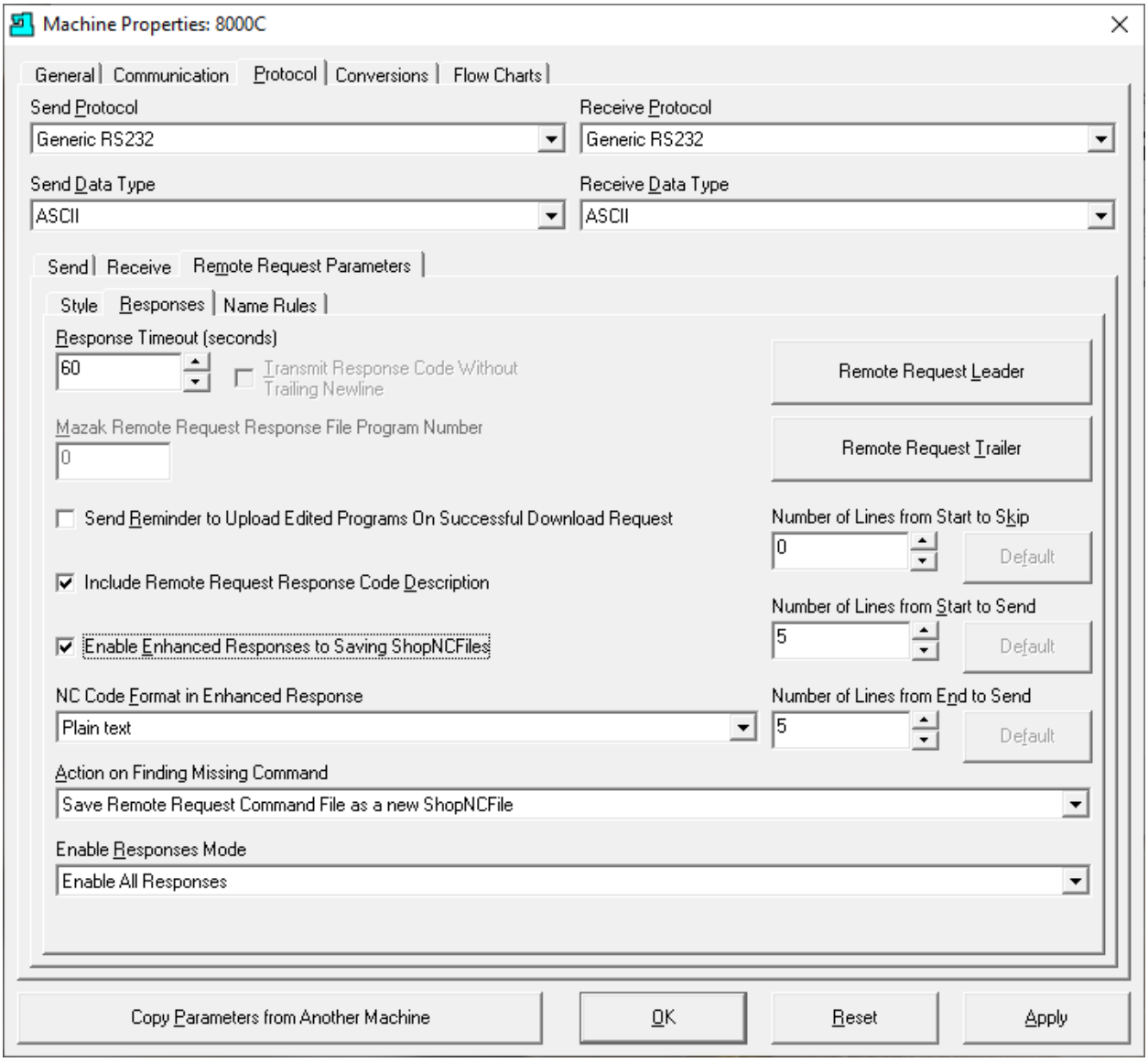
Configure Machines (RS232 Properties 8000C – Remote Request Custom… – Shop Floor Events/Posting)



These are the default settings, please don't change the first checkbox setting which should be checked! The second is usually never checked. Call CCI if you need help. 1-781-933-9500.

Click the OK Button if active or Close Button if not.

Configure Machines (RS232 Properties 8000C – Remote Request Parameters Responses)

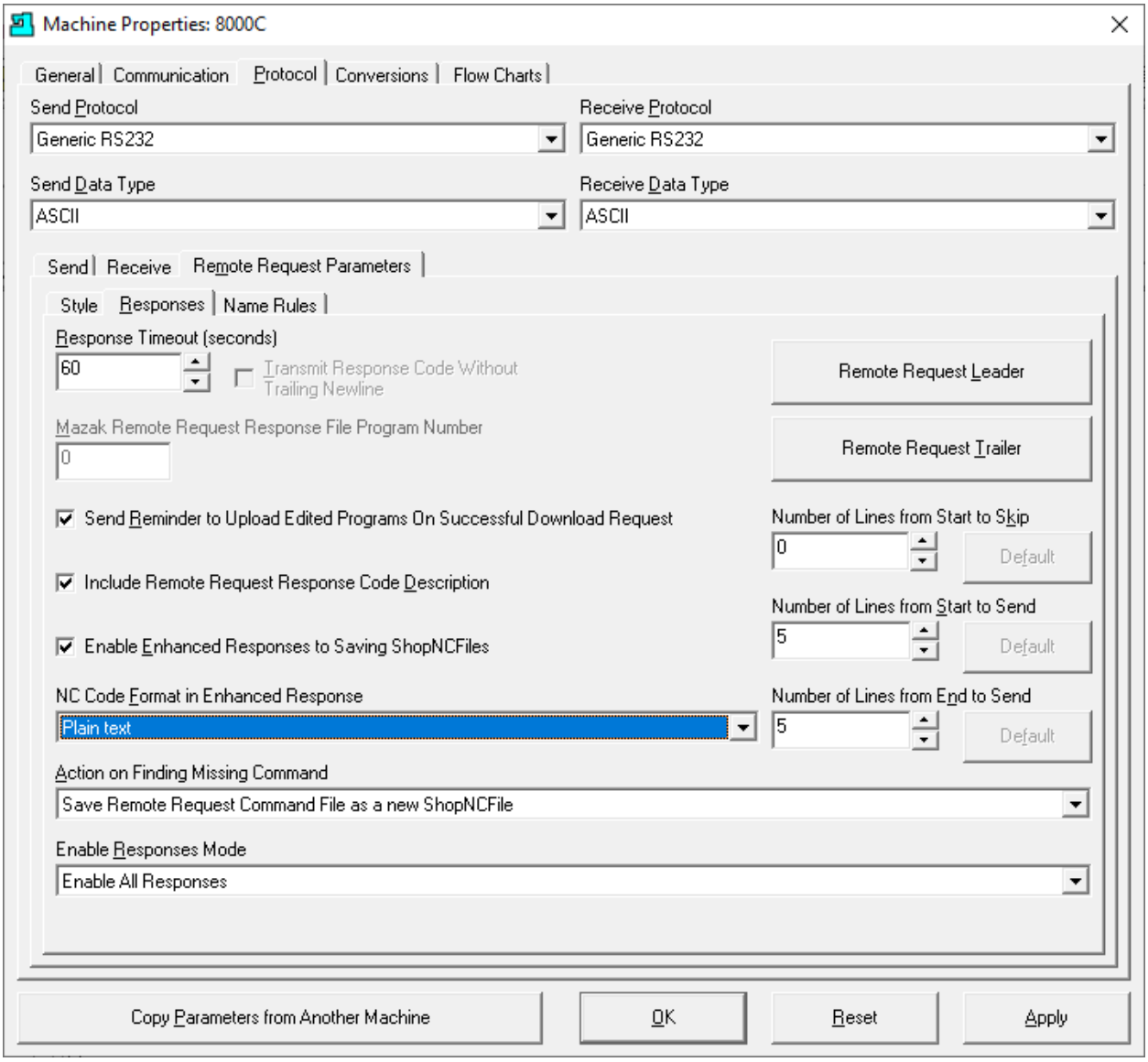


Parameters Settings:

- **Response Timeout**
  When ShopFloorManager sends a Response file to a Machine Tool if not retrieved in this amount of time it is removed from the Queue to prevent blocking other queued Files!
- **Mazak Remote…**
  When sending Response Files to a Mazak Machine it expects to read a file name in a particular area in the file. This name needs to comply with Mazak's file naming Scheme. This is grayed out unless you are using the Mazak Protocol!

Continued on the next Page

Configure Machines (RS232 Properties 8000C – Remote Request Parameters Responses Cont. 1)

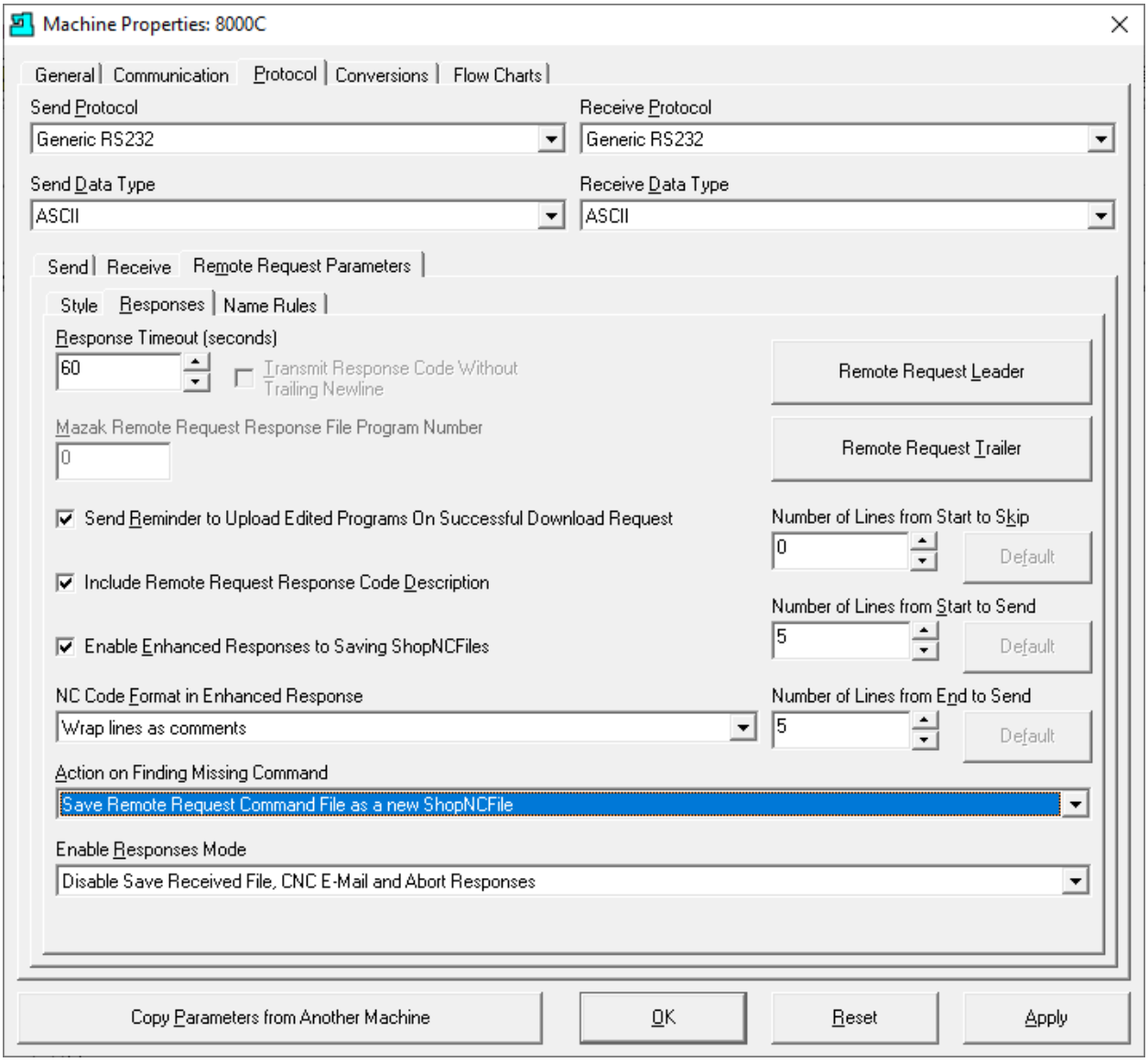


Parameters Settings Cont. 1:

- **Send Reminder to Upload…**
  This sends a Response file reminding the Operator to upload all modified N/C Files! A gentle reminder!
- **Include Remote Request Response Code Description**
  - Plain Text
  - Wrap lines as Comments (If you controller doesn't support text directly use this option!

Continued on the next Page

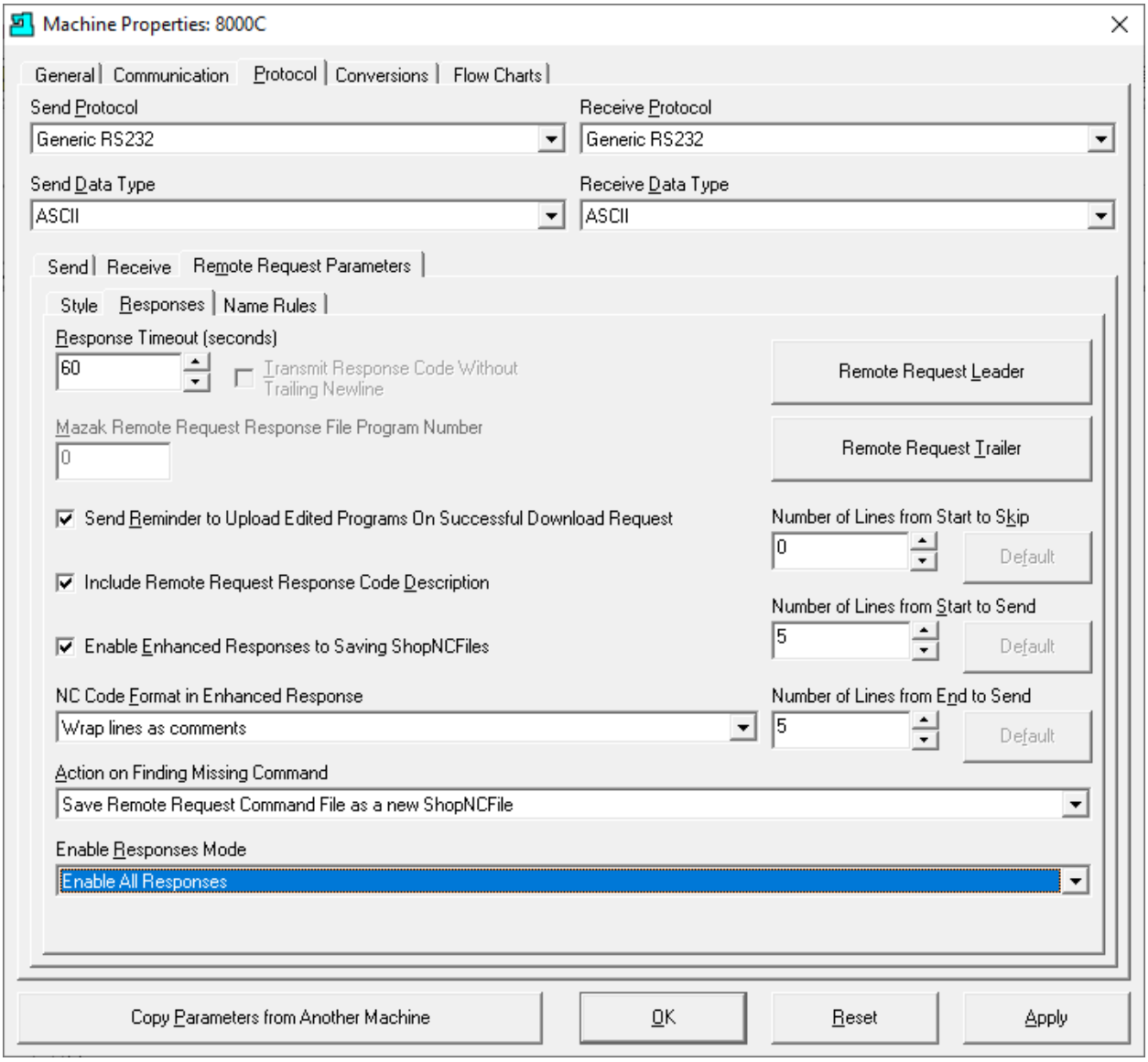
Configure Machines (RS232 Properties 8000C – Remote Request Parameters Responses Cont. 2)



Parameters Settings Cont. 2:

- Action on Finding Missing Command
    - **Save Remote Request Command File as a new ShopNCFile.**
      File name will use the present date and time! Look for these as Unassigned Files!
    - **Send a Remote Request Response File to the Machine Tool**
      This will send a Response file that indicates the Command was missing!
    - **Ignore the Missing Command**
      In general this is probably not a good option! As they say Ignorance is Bliss!

Configure Machines (RS232 Properties 8000C – Remote Request Parameters Responses Cont. 3)

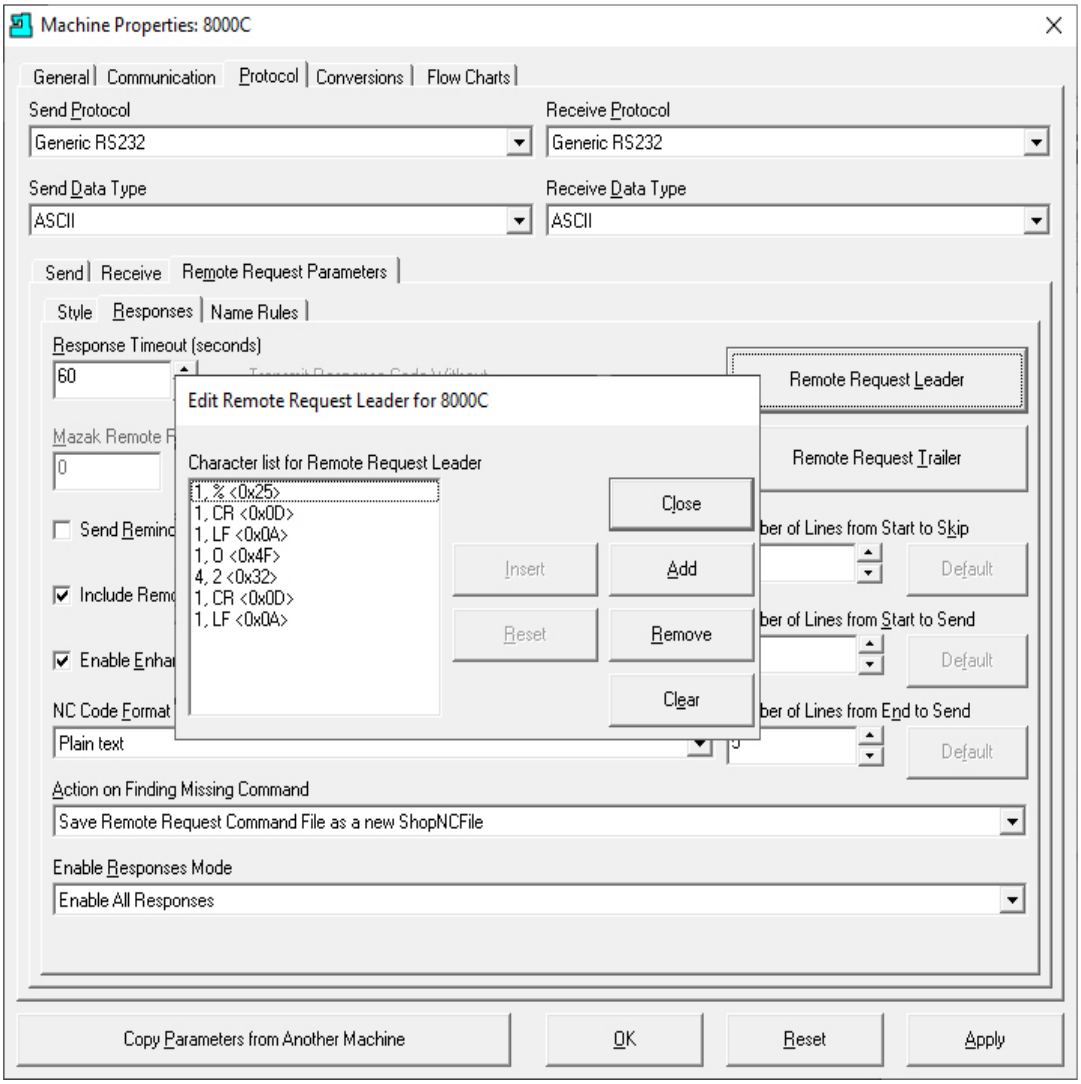


Parameters Settings Cont. 3:

- Enable Responses Mode
  - **Enable All Responses**
  - **Disable Save Received File, CNC E-Mail and Abort Reponses**
    If the Machine Tool Operator is only interested in receiving Responses other than those listed above select this option. If the operator is confident that uploading & saving always works, they may prefer not to receive these. However, using the first option and not downing the response file is better! Just let the Response File Timeout! Safer choice!

When finished click on the OK Button and select the Remote Request Leader and the following Window is displayed.

Configure Machines (RS232 Properties 8000C – Remote Request Leader)



This Window is used to create a wrapper around a message that is sent from ShopFloorManager to this CNC. This Wrapper is formatted so It is recognized by this particular CNC as a valid ShopNCFile. This is just for the beginning of the Message. This is what it would look like at the beginning of an ShopNCFile:

%

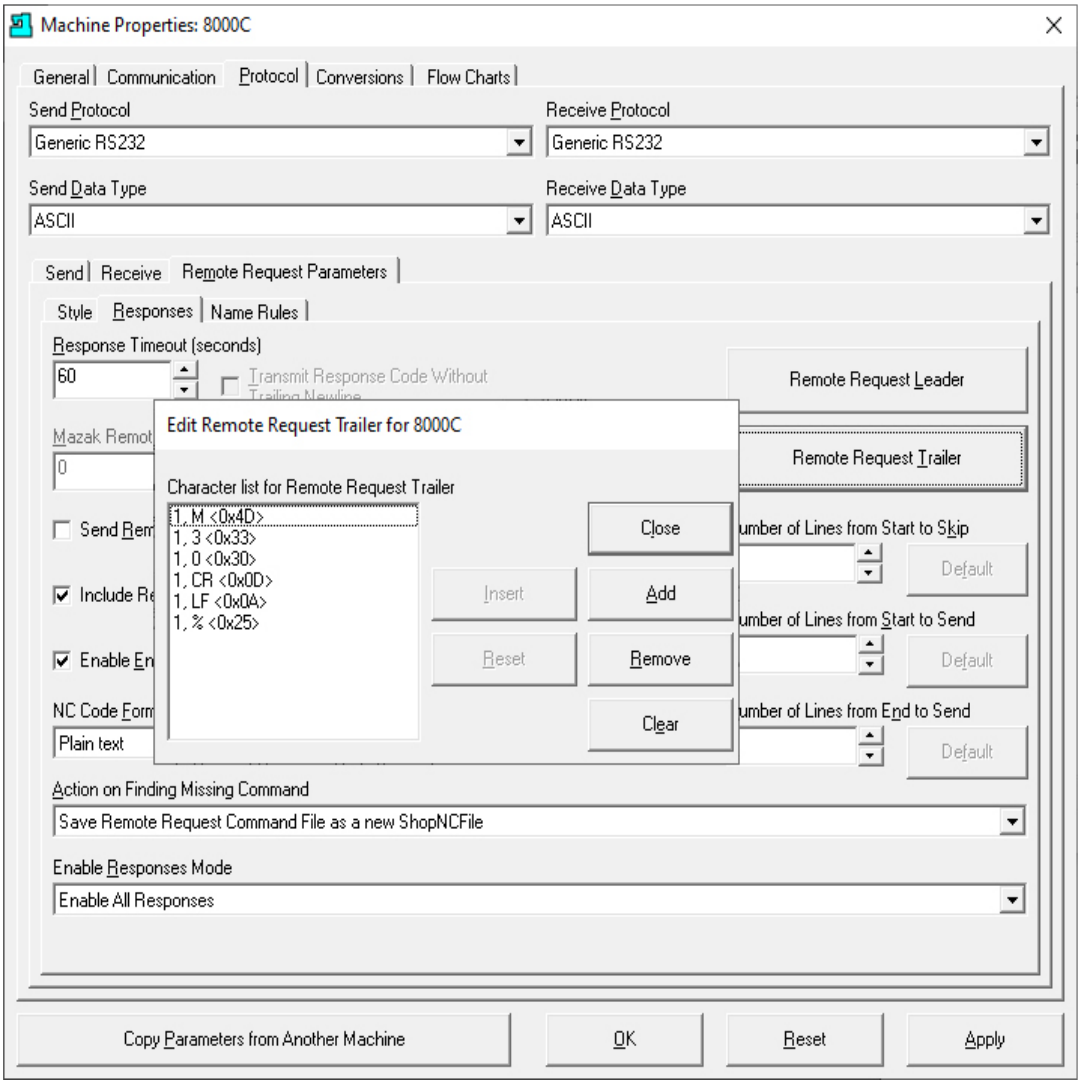
O2222

(Message)

……

Note: Messages can include information about the File Reception, Existence, etc. to inform a User of Success or failure of a Remote Command sent to ShopFloorManager.

Configure Machines (RS232 Properties 8000C – Remote Request Trailer)



This Window is used to create a wrapper around the end of a message that is sent from ShopFloorManager to this CNC. This Wrapper is formatted so It is recognized by the CNC as a valid ShopNCFile. This is just for the ending of the Message. This is what it would look like at the end of an ShopNCFile:

…..

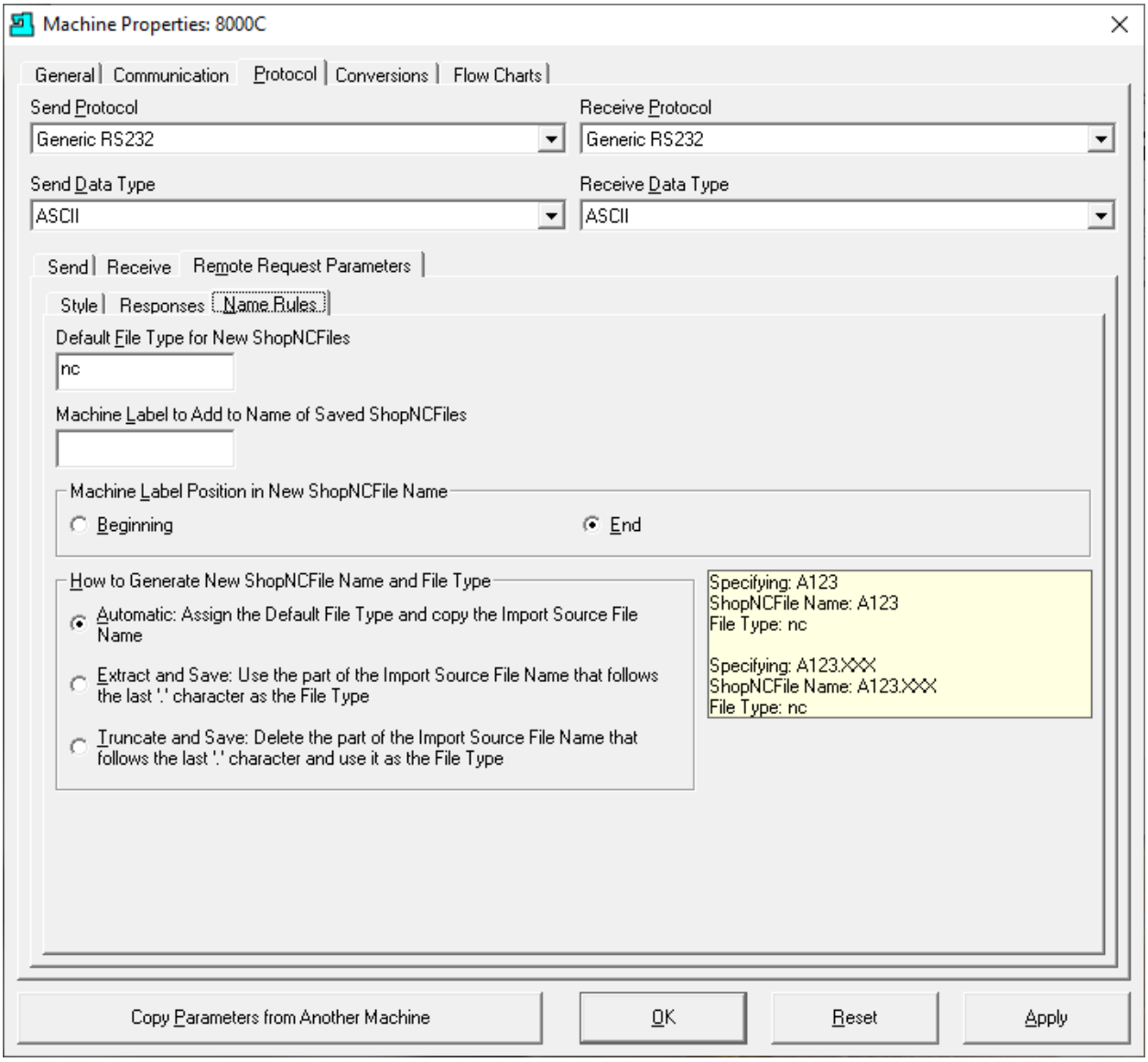
(Message)

M30

%

Note: Messages can include information about the File Reception, Existence, etc. to inform a User of Success or failure of a Remote Command sent to ShopFloorManager.

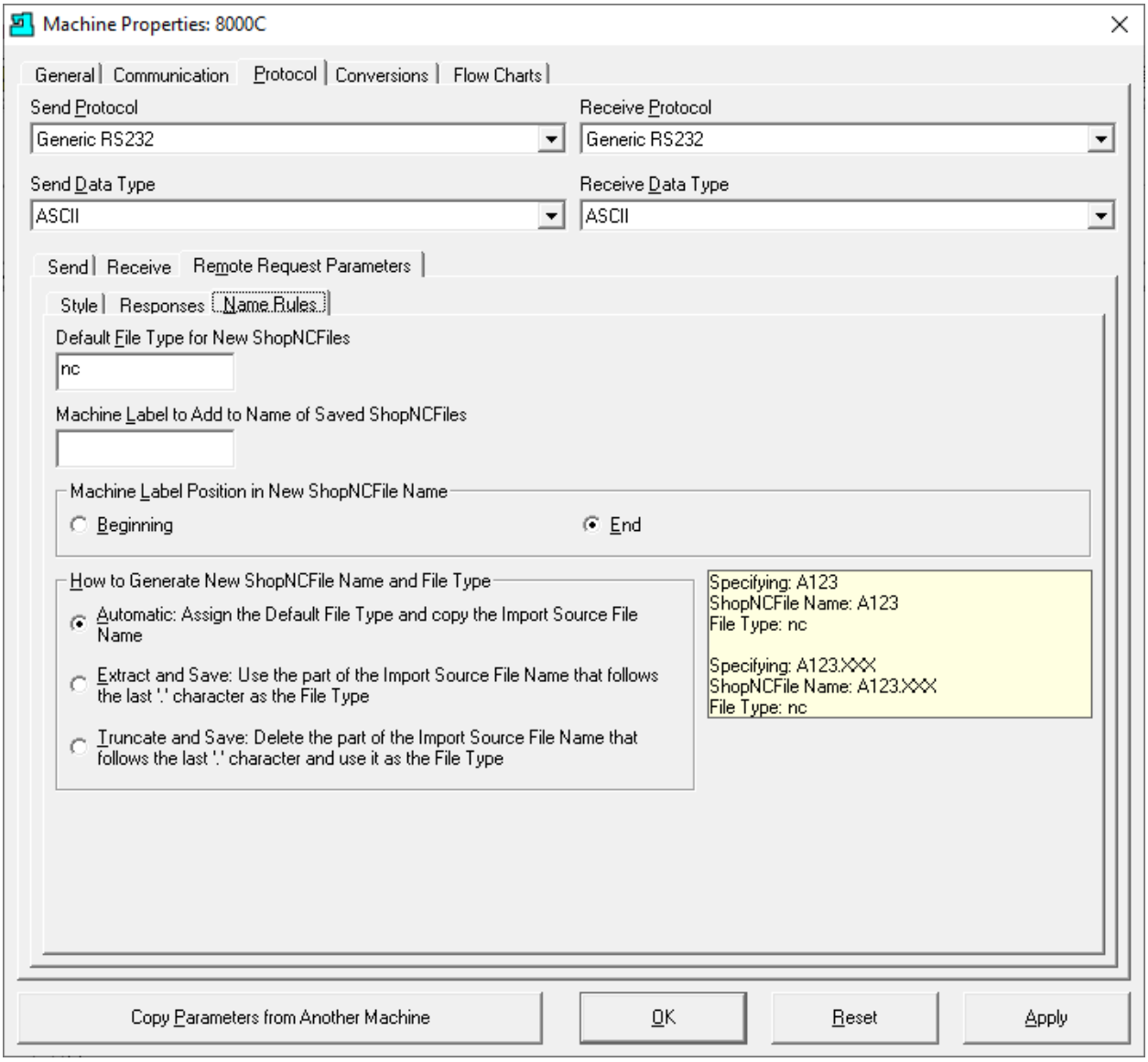
Configure Machines (RS232 Properties 8000C – Remote Request Parameters Name Rules)



Parameter Settings:

- **Default File Type for New ShopNCFiles**
  Make sure to associate this with a File Type if using Native Applications
- **Machine Label to Add to Name of Saved ShopNCFiles**
  If you want to add as specific Label to a ShopNCFile enter it here! I.E. Machine Name!
- **Machine Label Position in New ShopNCFile Name**
  If used select position!

Configure Machines (RS232 Properties 8000C – Remote Request Parameters Name Rules Cont.)



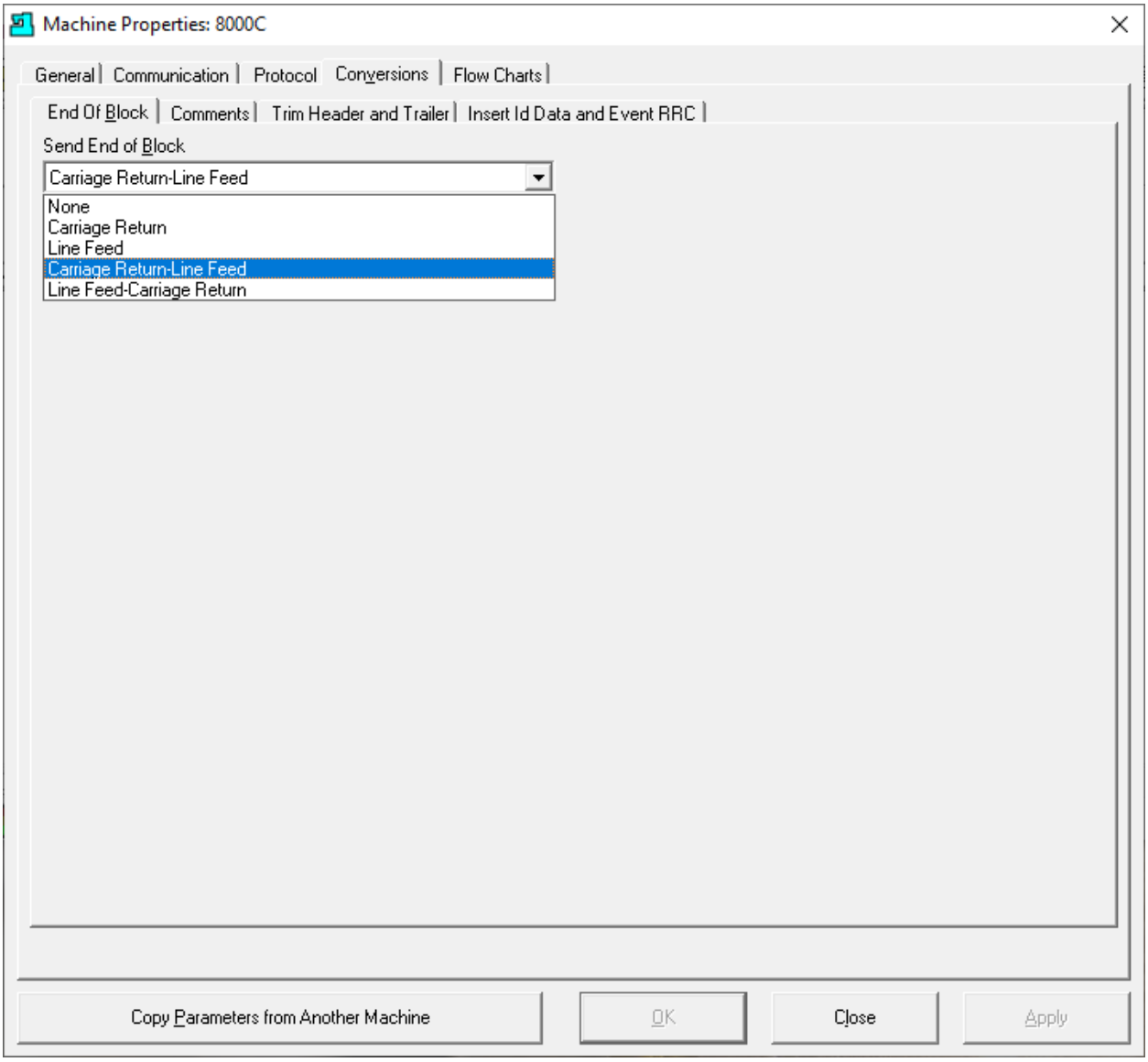
Parameter Settings Cont.:

- **How to Generate New ShopNCFile Name**
  - Automatic: Assign the Default File Type…
  - Extract and Save: Use the part of the Import…
  - Truncate and Save: Delete the part of the Import Source…

Note: See the effects of the different choices in the Yellow Background Text box to the Left of choices!

Click the Apply Button and then select the Conversions Tab and the following Window is displayed!

Configure Machines (RS232 Properties 8000C – Conversions Tab: End of Block drop-down list)

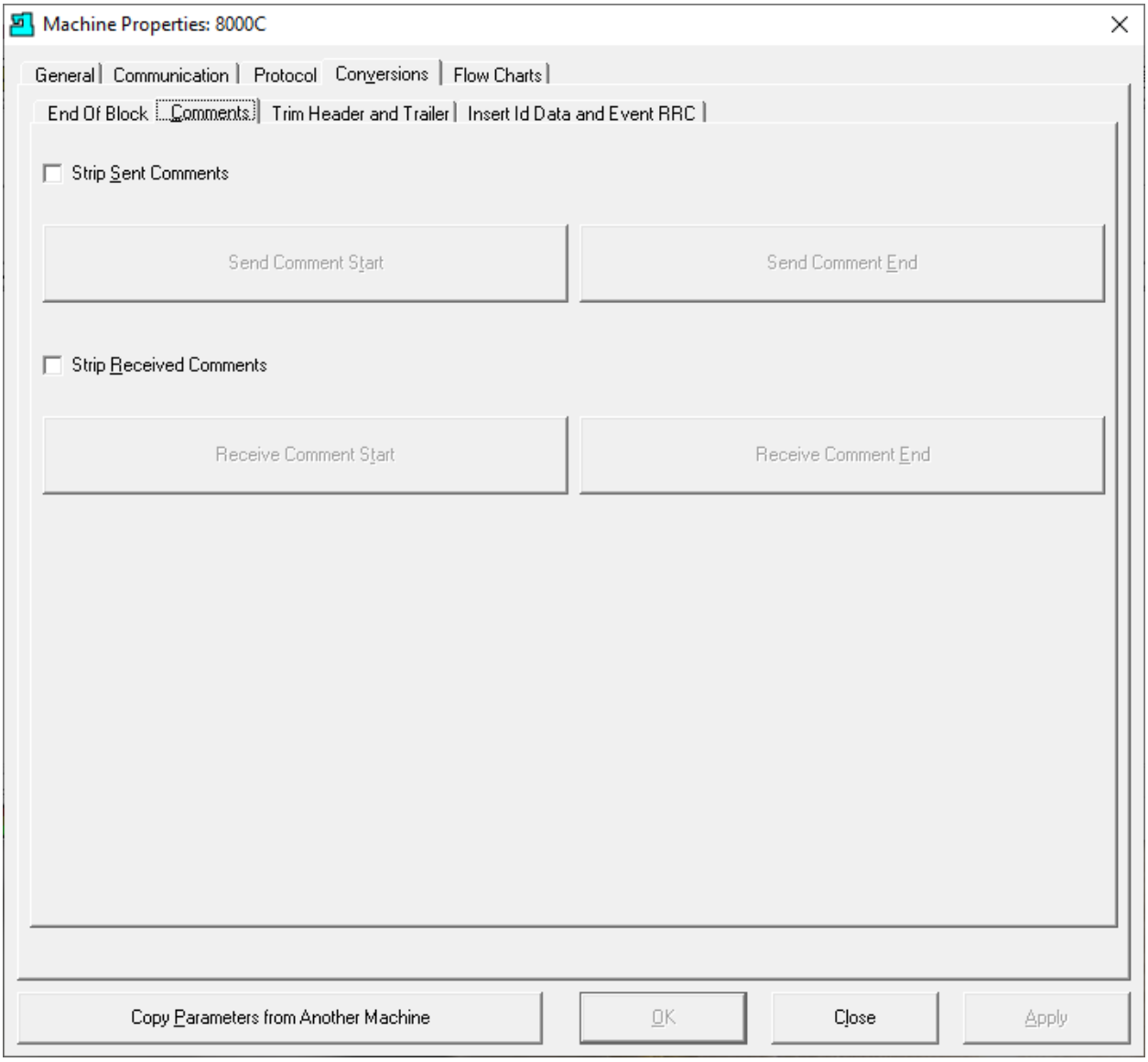


Select the “Send End of Block” drop-down list item “Carriage Return-Line Feed”.

All modern machines use this setting and unless there is a reason don’t make any changes in this Window. If you think changes need to be made contact CCI. 1-781-933-9500.

Click on the Comments Tab and the following Window will be displayed.

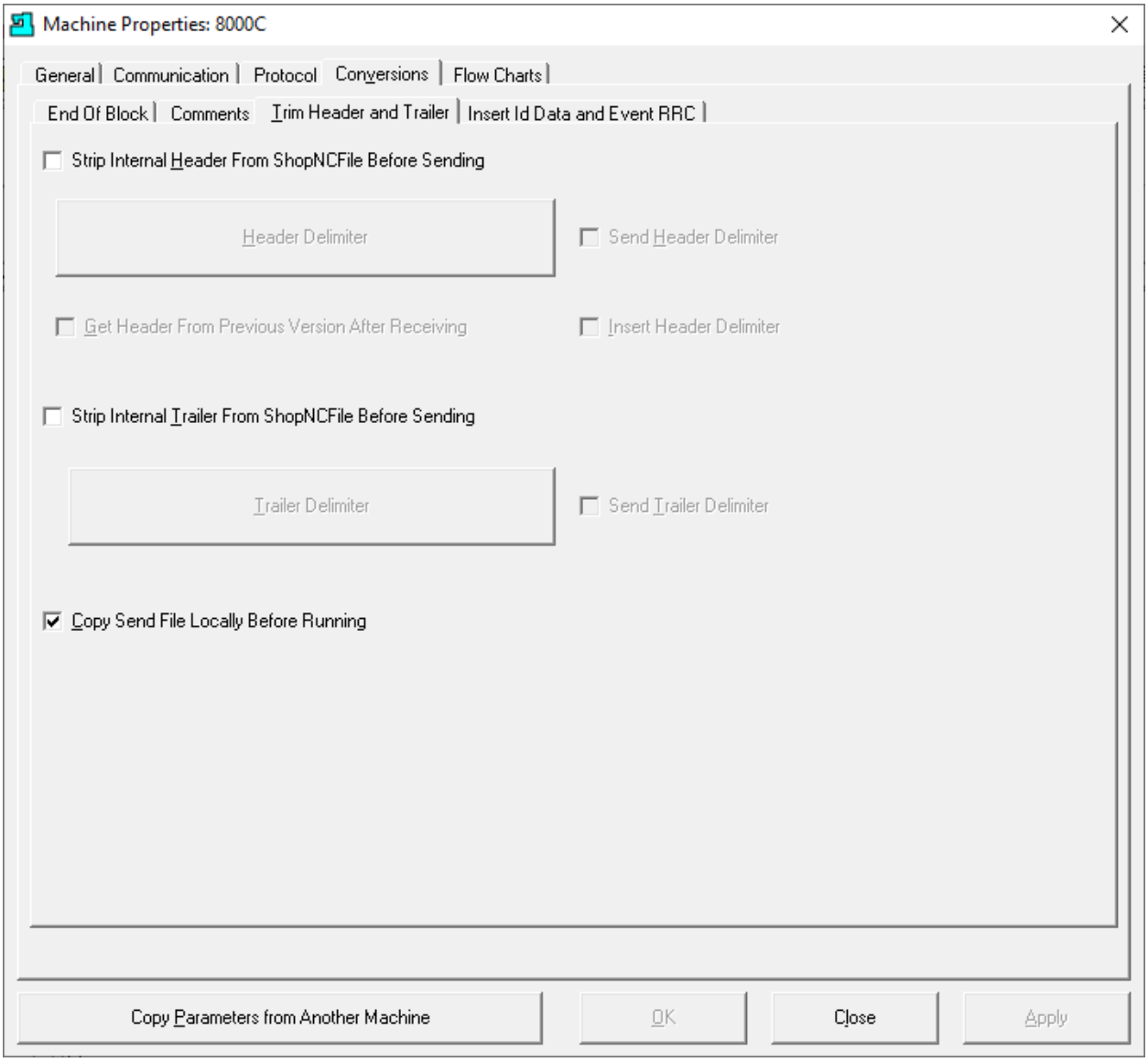
Configure Machines (RS232 Properties 8000C – Comments Tab)



Stripping of Comments is almost never done any longer so leave the defaults as they are. Call CCI if you need any additional information. 1-781-933-9500.

Click the “Trim Header and Trailer” Tab and the following Window is displayed.

Configure Machines (RS232 Properties 8000C – Trim Header and Trailer Tab)

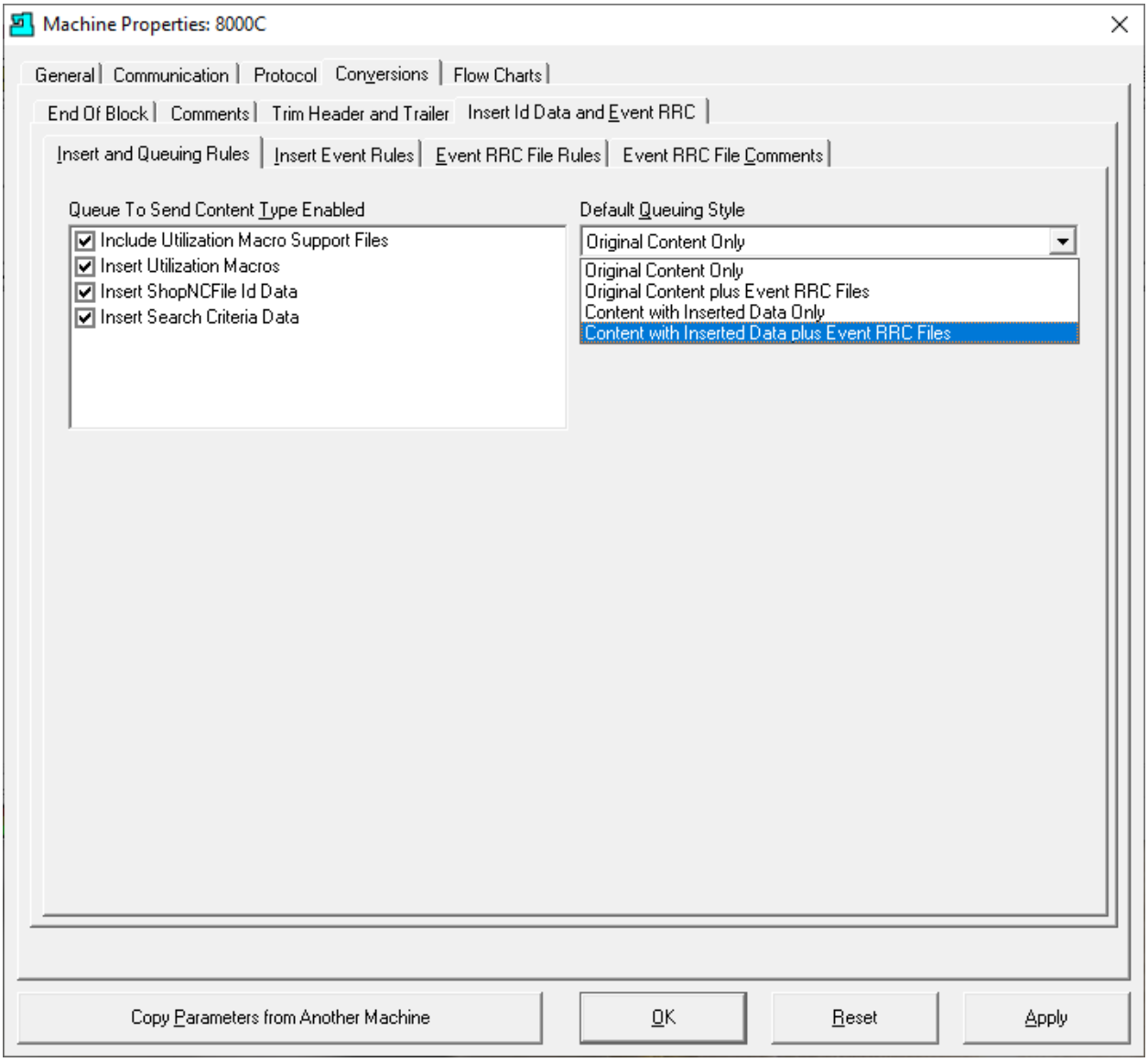


Leave the first two settings as they are above unless you have a machine tool that is over 30 years old. Call CCI for help. 1-781-933-9500.

Note: Checking the "Copy Send File Locally Before Running" checkbox is done to prevent data starvation downloading over the Network. In recent years with faster Networks this has become less of an issue!

Click the Insert Id Data and Event RRC Tab and the following Window is displayed.

Configure Machines (RS232 Properties 8000C – Insert Id Data and Event RRC Tab)



Queue To Send Content Type Enable

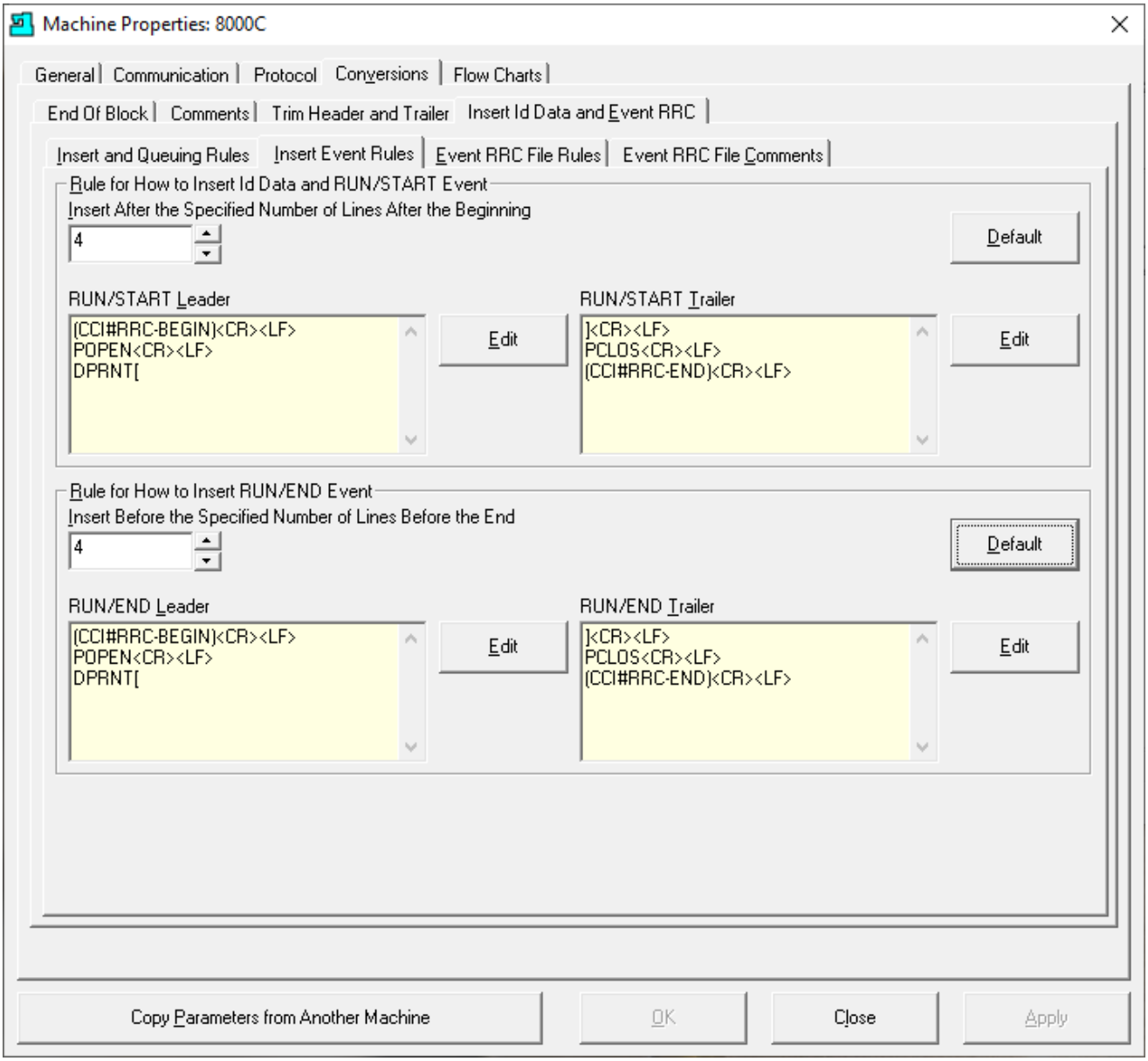
Include Utilization Macro Support Files
Insert Utilization Macros
Insert ShopNCFile Id Data
Insert Search Criteria Data

Default Queuing Style

Original Content Only
Original Content plus Event RRC Files
Content with Inserted Data Only
Content with Inserted Data and Event RRC Files

Click here for details on meaning of these options including the use for Manual Machines. Click the Apply Button when done & then click on the “Insert Event Rules” Tab and the Following Window is displayed.

Configure Machines (RS232 Properties 8000C – Insert Event Rules Tab)



If you are inserting Macros into ShopNCFiles these are the “Wrappers” around the Macros that need to be inserted.

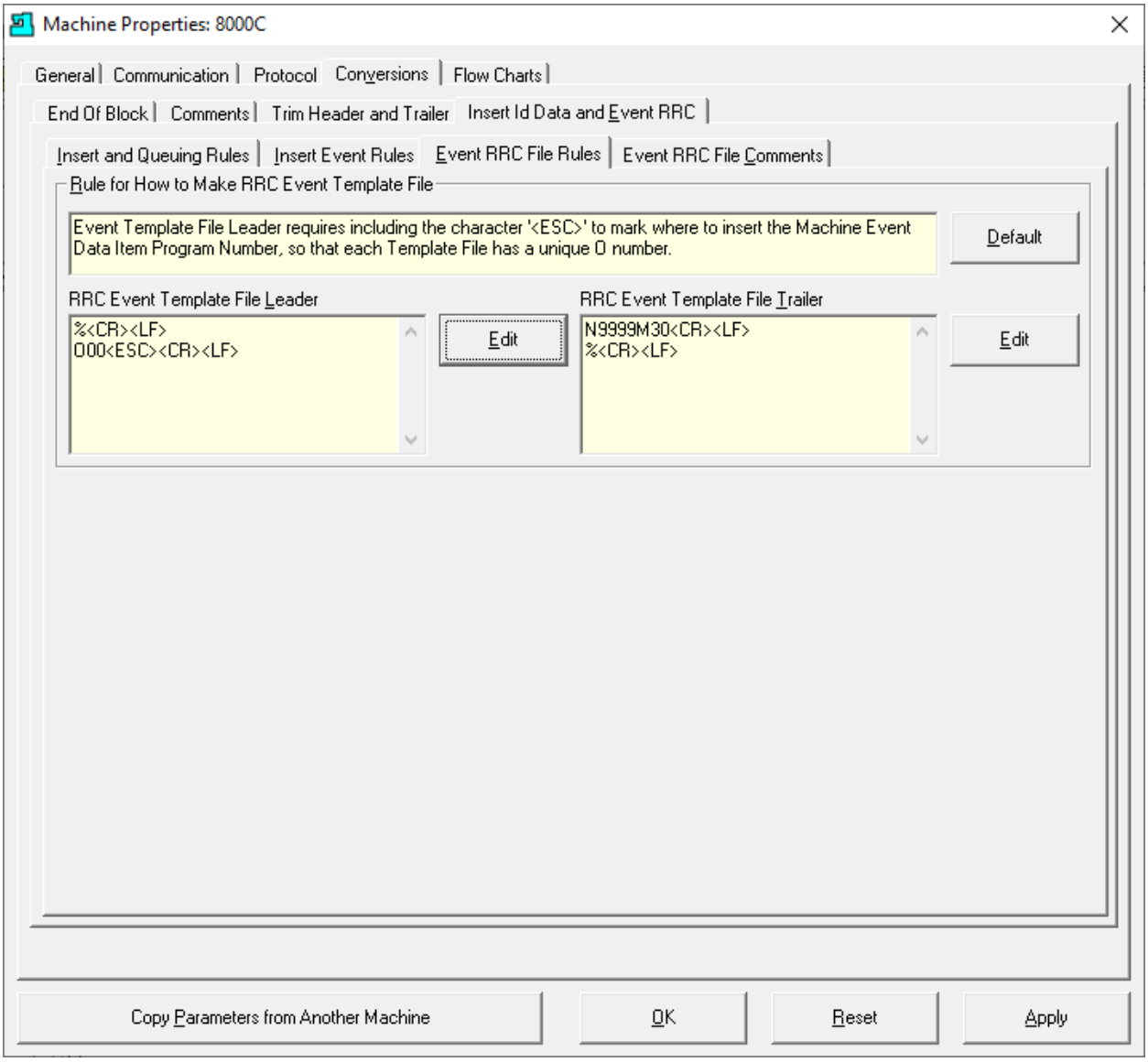
You can set where (needs to be within 2000 characters from the beginning of the File) you want these inserted (Run/Start) and where at the end of the File you want these inserted (Run/End).

Only change the text in the Yellow Areas if your Machine Controller requires a different content. Call CCI if you have any questions. 1-781-933-9500.

Click here for details on how these are used.

Click on the “Event RRC File Rules” Tab and the Following Window is displayed.

Configure Machines (RS232 Properties 8000C – Insert RRC File Rules Tab)



This form is used for creating a Specific RRC Machine File Leader & Trailer for wrapping around individual Macros (Event Template) that will be download to this Machine Tool's Controller.

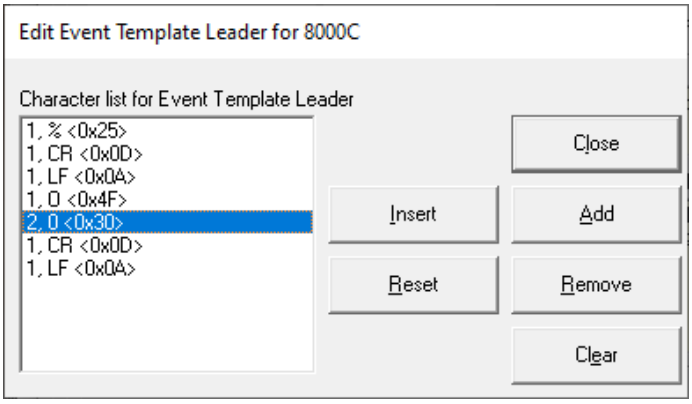
The Wrapper matches what the Controller expects to "see" when it adds a ShopNCFile to its directory! Even though these are not ShopNCFiles but Macros that are used for outputting DPRNTs of "OEE Controller based MDI" Events!

Let's Edit these Leader & Trailers and illustrate how they are used!

Click the Edit Button(s) and the following Window is displayed.

Note: Clicking the Default Button changes all settings back to their original settings! Be careful!

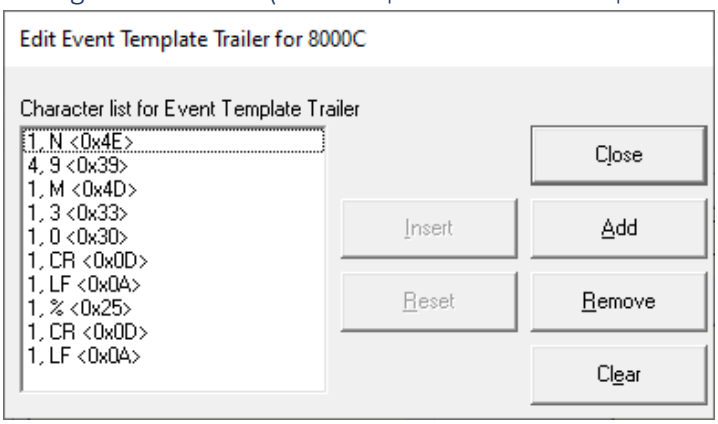
Configure Machines (RS232 Properties 8000C – Template Leader)



The above Settings will produce the following Leader:

%
O00

Configure Machines (RS232 Properties 8000C – Template Trailer)



The above Settings will product the following Trailer:

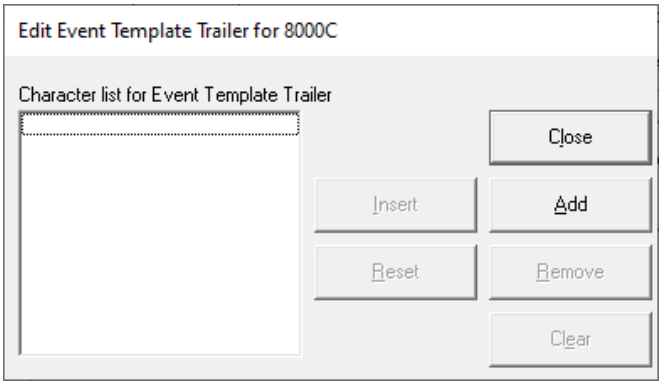
N9999 M30
%

These are used to put a Wrapper around Event Template Files specific to what this Machine Tool Controller expects! See below.

%
O00**xx** (Additional explanation in the next few pages) **Note**: Will explain how **xx** is to be added later!
N001…
N002…
..
N9999 M30
%

Note: Next let's investigate how to create a Template Trailer from scratch.

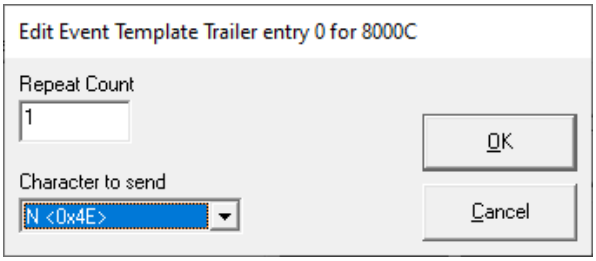
Configure Machines (RS232 Properties 8000C – Blank Template Trailer)



Let's create the Template Trailer from scratch so you become familiar with using this App!

Click the Add Button and the following Window will be displayed.

Configure Machines (RS232 Properties 8000C – Blank Template Edit Window)

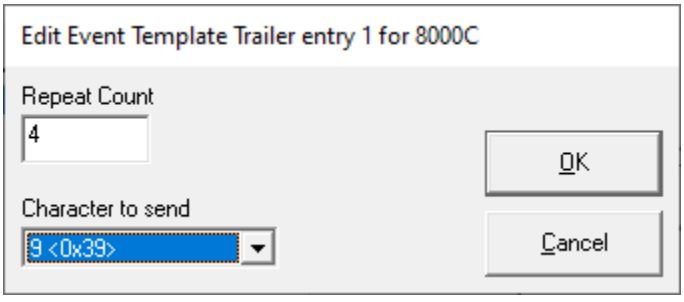


The Repeat Count is used to determine how many contiguous characters to create. To Enter a character in " Character to send" drop-down list highlight and type the character you want. If you find the character displayed isn't correct, you got a NAK or NUL Character instead of an 'N', keep typing that same character until the correct Character is displayed.

The App not only supports ASCII Characters but Control Characters, so it is possible for this to happen!

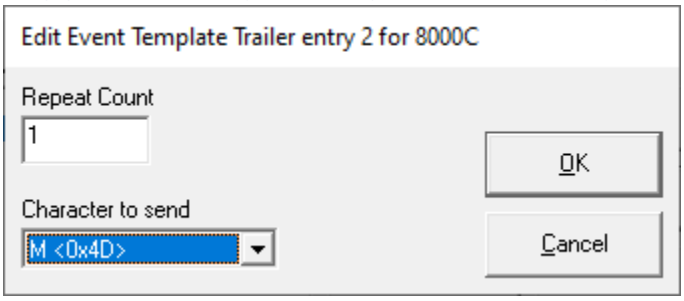
Click the OK Button then the Add Button on the next Window and the following Window is displayed.

Configure Machines (RS232 Properties 8000C –Template Edit Window Updated Cont.)



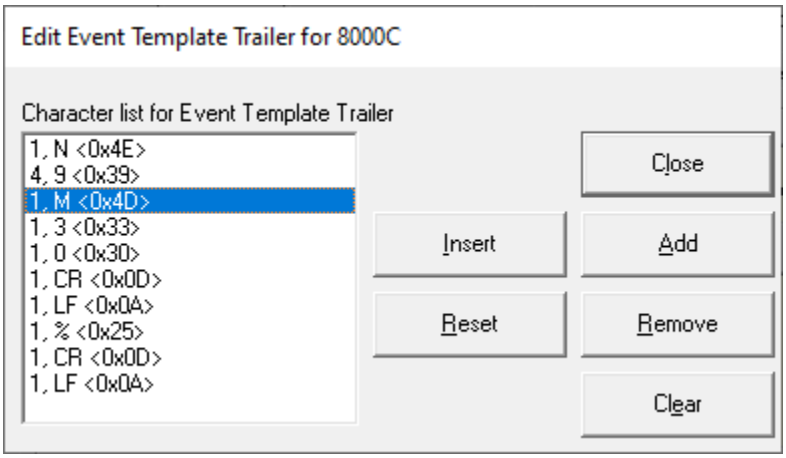
Using the same logic as above enter the number 4 in the "Repeat Count" for the character 9! Click the OK Button and on the next Window click the Add Button and the following Window is displayed.

Configure Machines (RS232 Properties 8000C –Template Edit Window Updated Cont.)



Using the same logic as above enter the character M! Continue this procedure until the Trailer Window displays as follows:

Configure Machines (RS232 Properties 8000C – Template Trailer)



This is what the above App outputs:

N9999M30
%

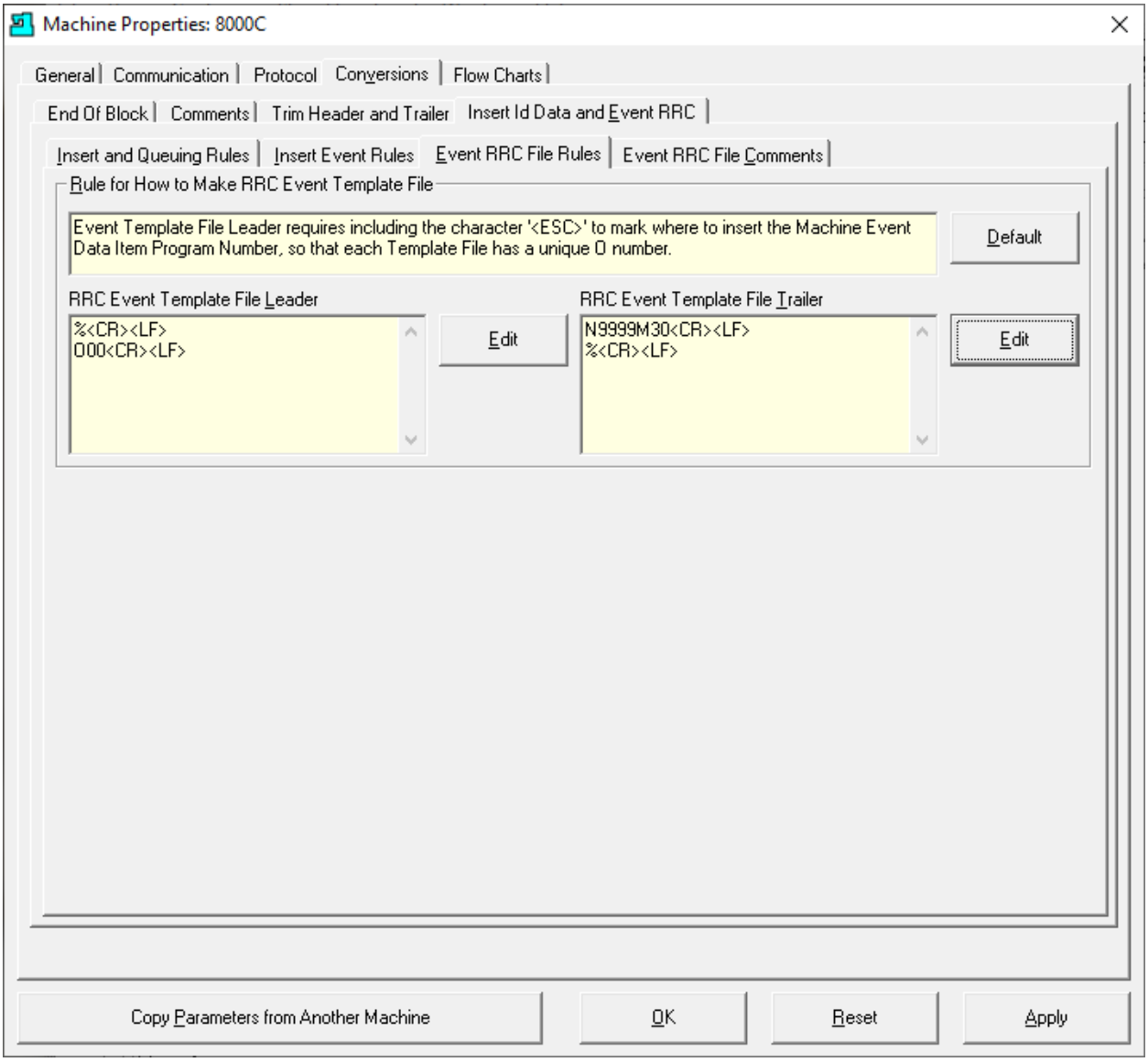
Let's explain what the other Buttons are used for:

Buttons:

- The **Close** Button closes & saves the Form as displayed!
- The **Insert** Button adds a new character above the highlighted character
- The **Add** Button adds a character below the highlighted character
- The **Remove** Button removes the highlighted character
- The **Reset** Button returns the form to its previous Saved State
- The **Clear** Button clears the form!

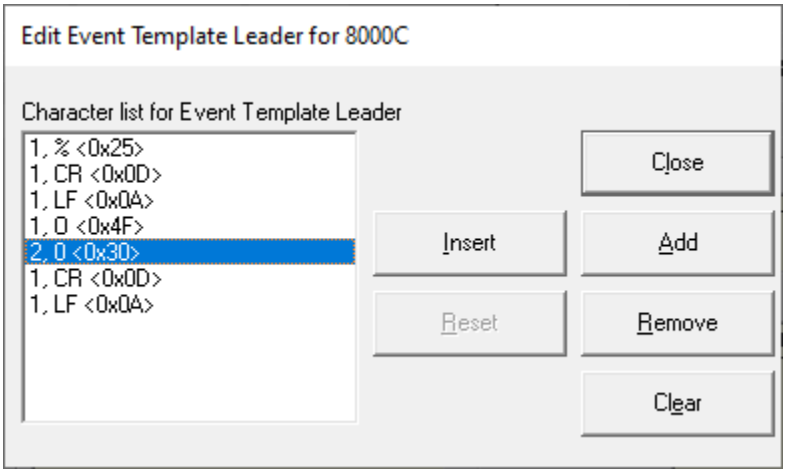
Note: Next let's create the Template Leader where it explains adding the **xx** from a previous page!

Configure Machines (RS232 Properties 8000C – RRC Event Template File Leader Additional Information)



As mentioned in a previous page we will provide additional information on the Leader! Click on the Edit Button for the Leader and the following Window is displayed:

Configure Machines (RS232 Properties 8000C – Template Leader Edit Form)



This section is specifically created for RRC Macros. When creating Leader or Trailers in other sections the configured form that generates the Wrapper around ShopNCFiles is a one-to-one mapping. However, the form above is handled differently as explained in the following.

We have highlighted line that creates 2-'0' integers. This will eventually become a 4-integer number by combining this 2-integer number (most likely will be different than 00) and the 2-integer set selected when checking the checkbox on the "RRC Template File" Tab "Allow Remote Request Command Templates!

Why such an elaborate approach to numbering Macros? When using the Macros as OEE-Controller-based-MDI Files it is possible, and more than likely, multiple Macros will be downloaded at the same time. These Macros are used to record OEE Events using the Machine Tool's Controller.

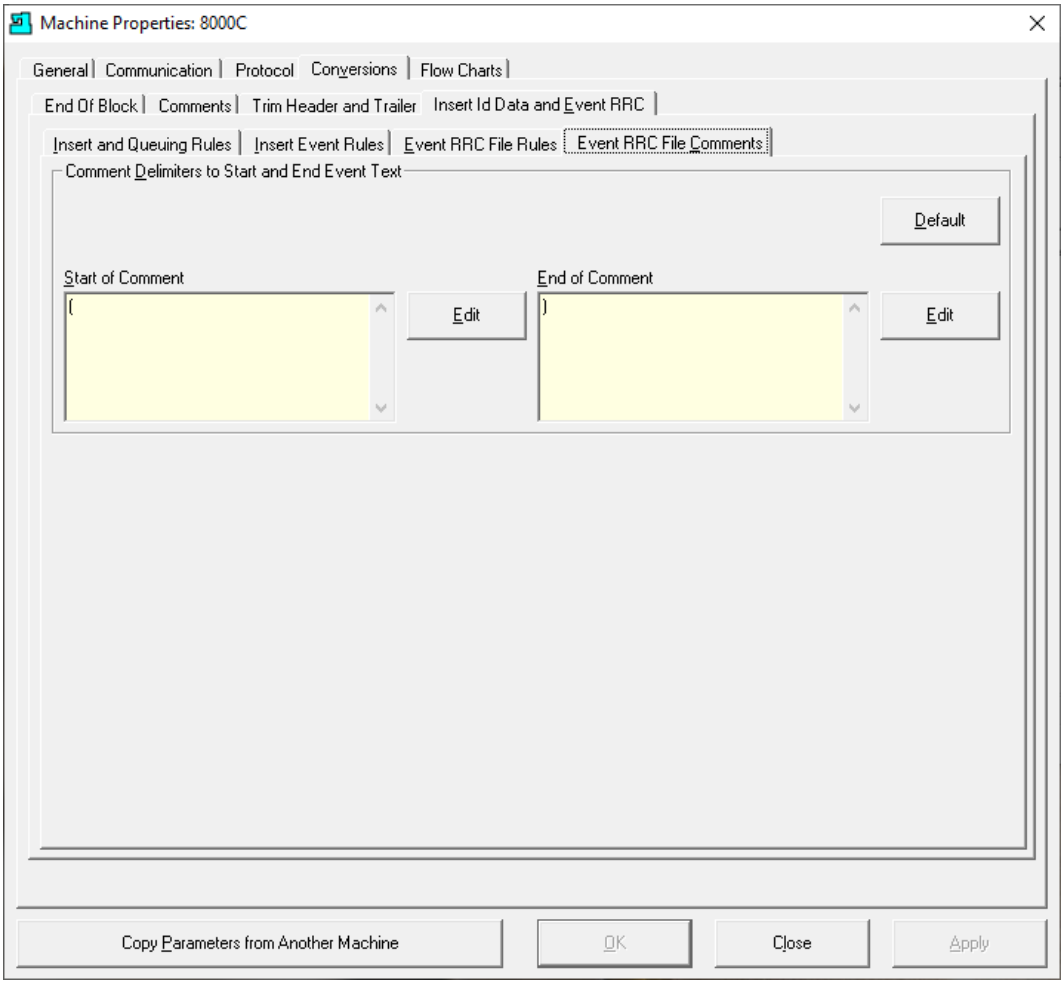
In order to avoid Machine Controller Program number clashes the numbering scheme must assure there are no collisions! This is why the last 2-integers that are added to the above highlighted integers are selected from the "RRC Template File" which is a set of 100 unique 2-integer numbers!

This assures that there are no Macro number collisions but doesn't guarantee there will be no clashes with other ShopNCFile Program Numbers. This is why the highlighted numbers above are settable. This allows Programmers to set aside a unique set of numbers dedicated to OEE base Macros!

I.E. Program number: O**yyxx** where yy & xx can be any set of numbers 00 to 99! **yy** & **xx** are in general different! Example: O**43**2**1**! In this example the numbers **43** are retrieved from the Template Leader and the numbers **21** are retrieved from the RRC Template File!

Close the Template Trailer. Click on the Apply Button and then on the "Event RRC File Comments" Tab and the following Window is displayed.

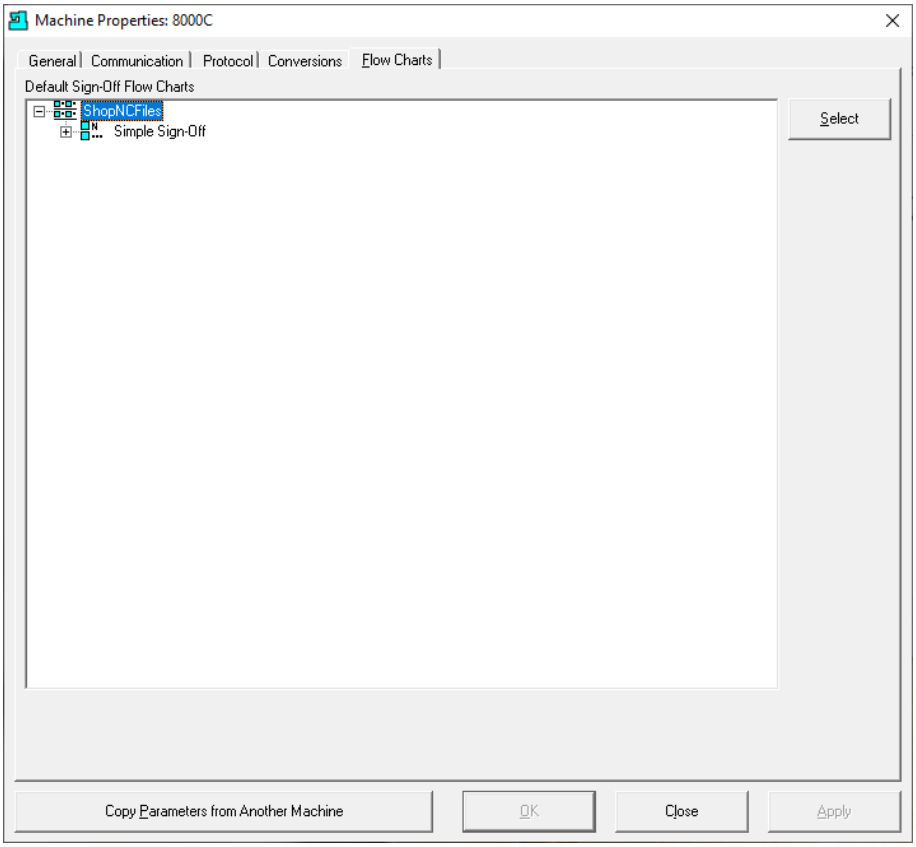
Configure Machines (RS232 Properties 8000C – Insert RRC File Comments Tab)



More than likely, you will not have to change what the Start and End Comment Symbols are but if needed they can be changed here!

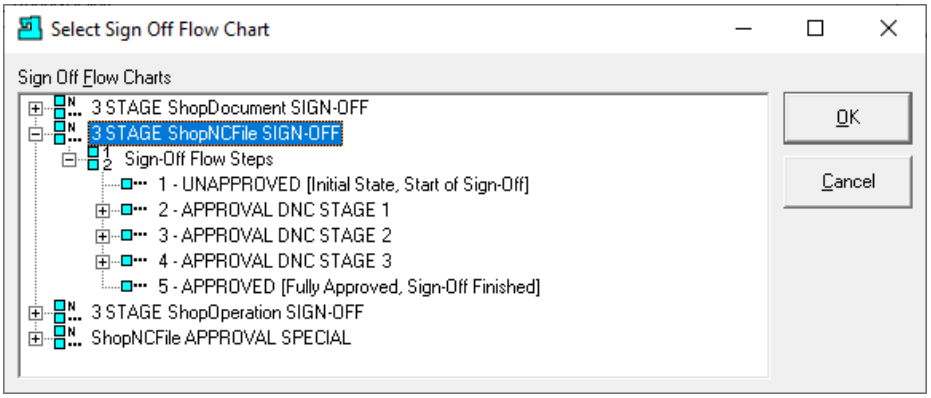
Next, we will click on the “Flow Charts” Tab and the following Window will be displayed.

Configure Machines (RS232 Properties 8000C – Flow Charts Tab)



The Flow Charts presently being used are displayed. If you click the Select Button the following Window will be displayed.

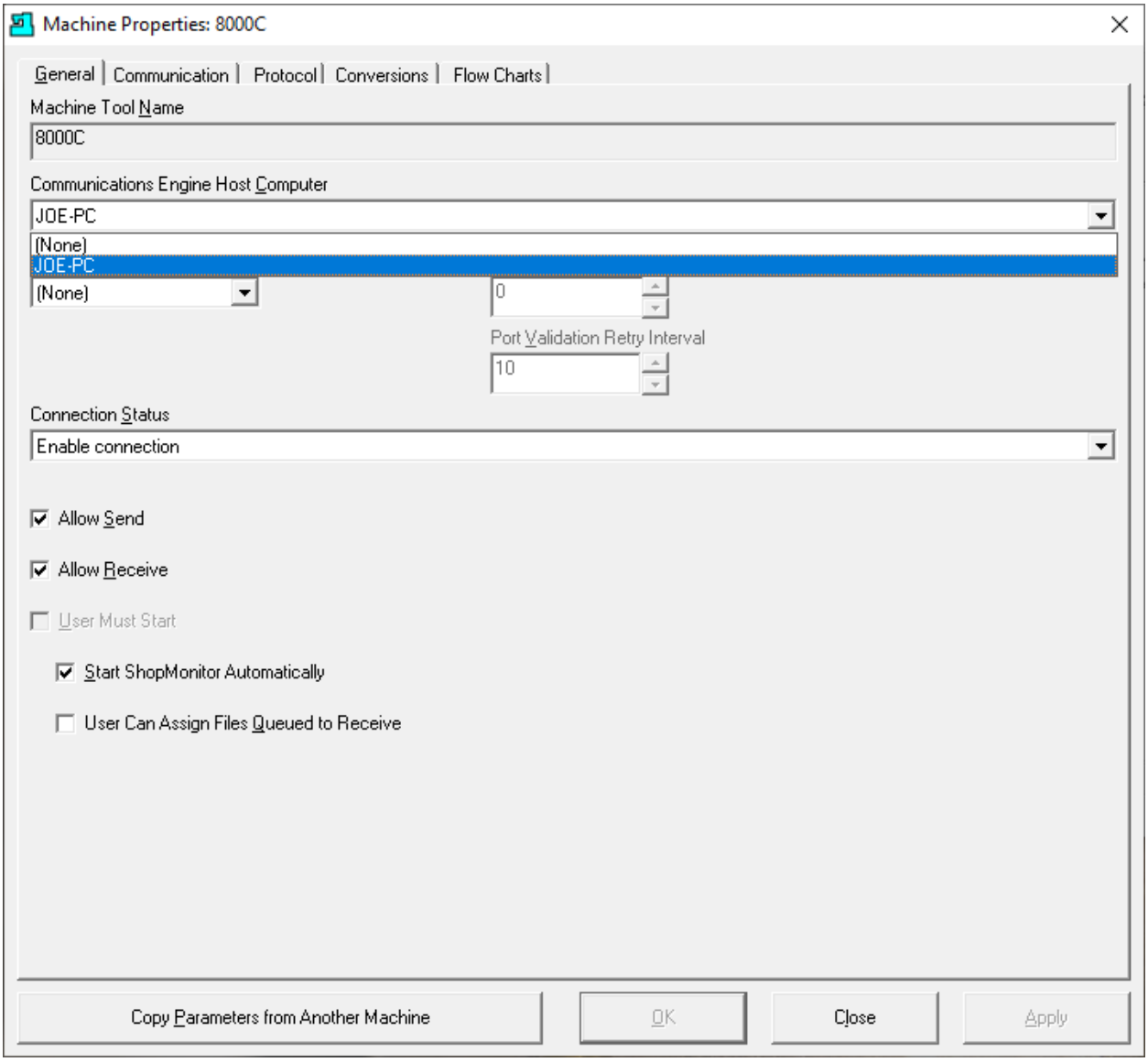
Configure Machines (RS232 Select Sign Off Flow Chart)



These Flow Charts are available to use but don't make any changes at this Time.

Click the Cancel Button and then the Close Button. Select the Machine 8000C & click the Properties Button and the following Window is displayed!

Configure Machines (UNC Properties 8000C – General Tab)



Let's configure 8000C as an UNC (Ethernet) based CNC.

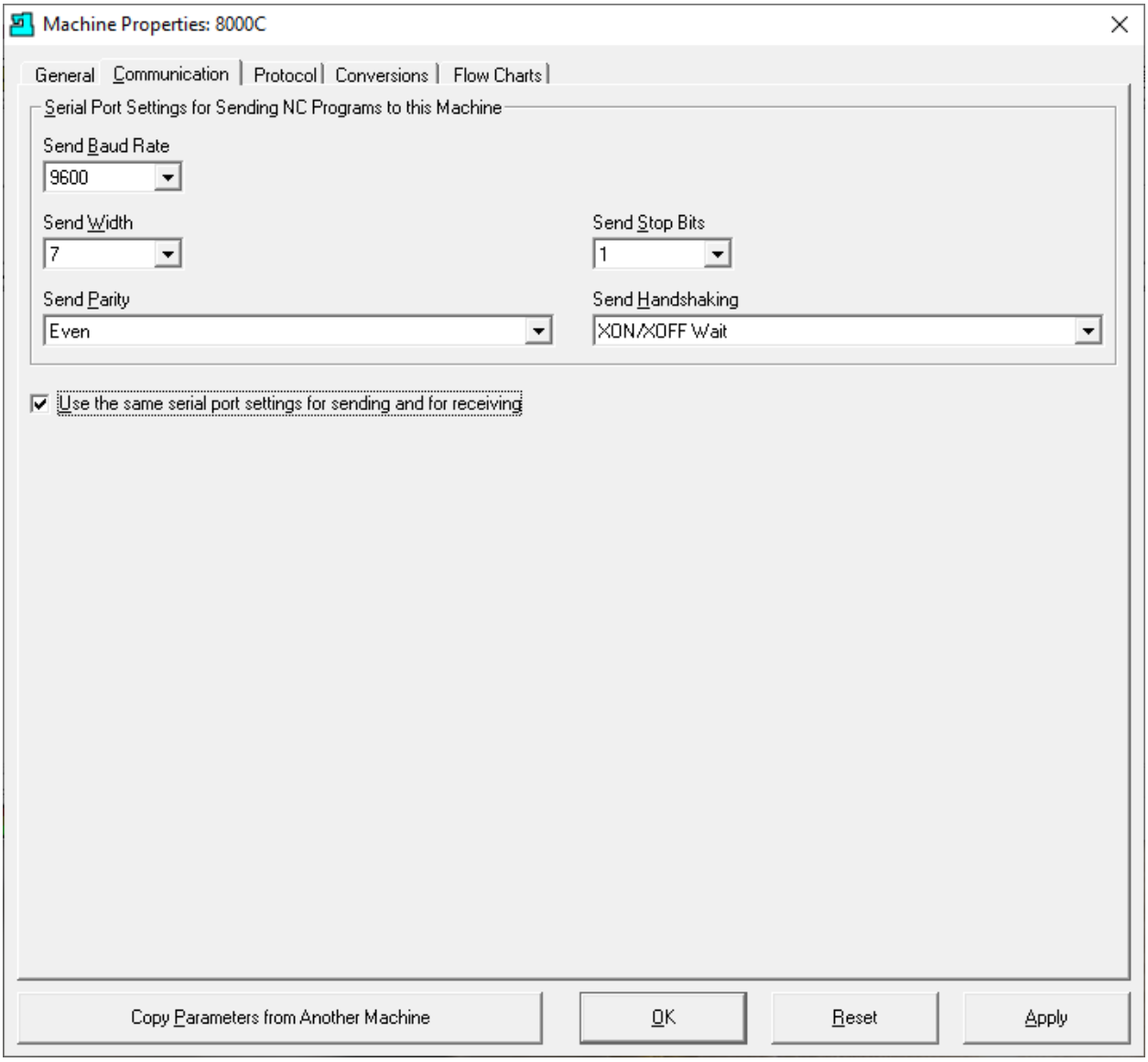
Click on the "Communications Engine Host Computer" dropdown list and select the Host Computer. UNC Machines don't need a serial port so this will be set as None.

Once the selections have been made you will need to click on the Apply button

Click on the Communications Tab and the following Window will be displayed.

Note: See the beginning of Configure RS232 Machines for Reference.

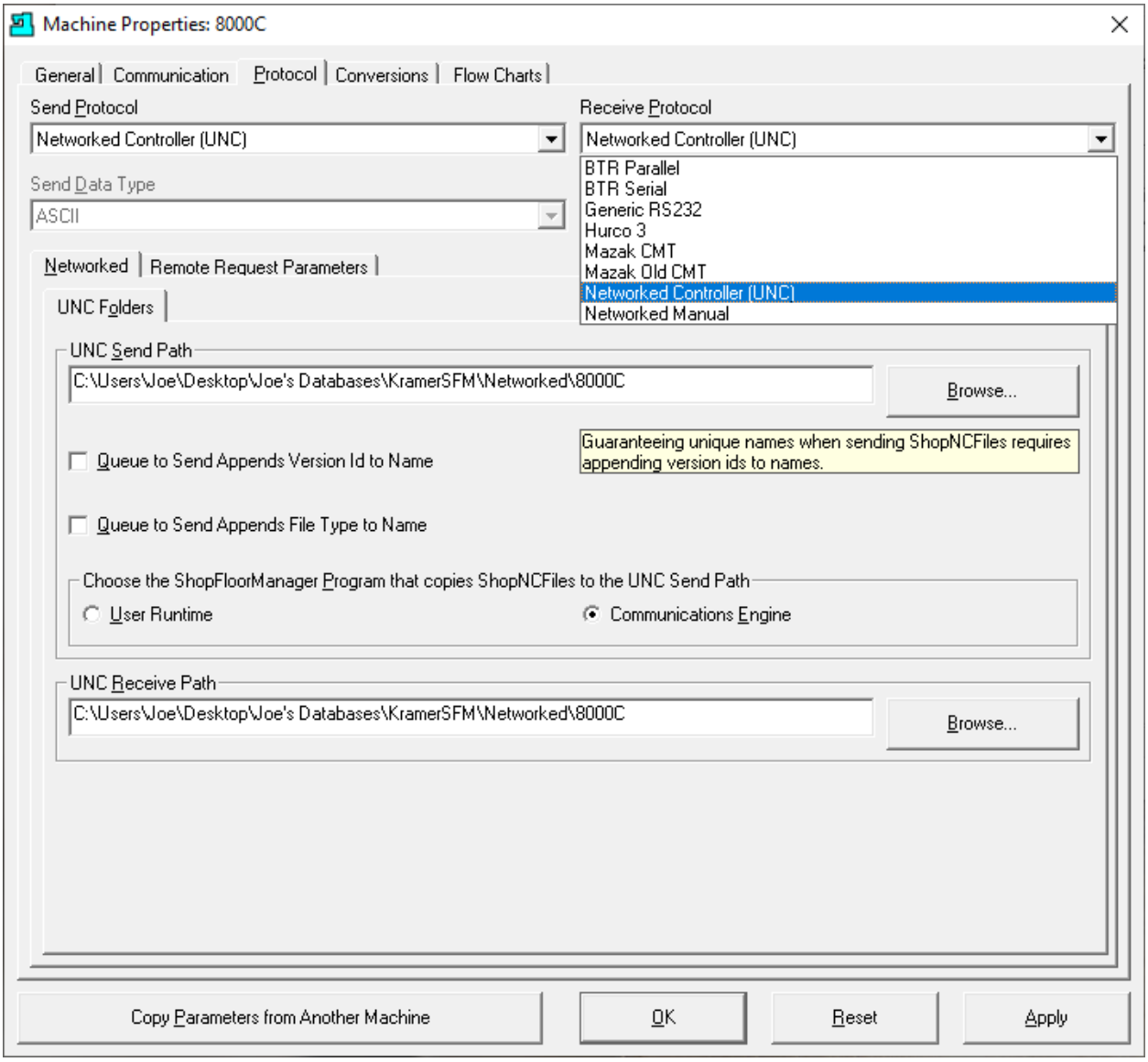
Configure Machines (UNC Properties 8000C – Communication Tab)



For UNC Machines parameters settings for RS232 can be ignored!

After clicking the Apply Button click the Protocol Tab and the following Window will be displayed.

Configure Machines (UNC Properties 8000C – Protocol Tab select UNC Protocol)



Choose the Protocol “Network Controller UNC” for both Send & Receive Protocols.

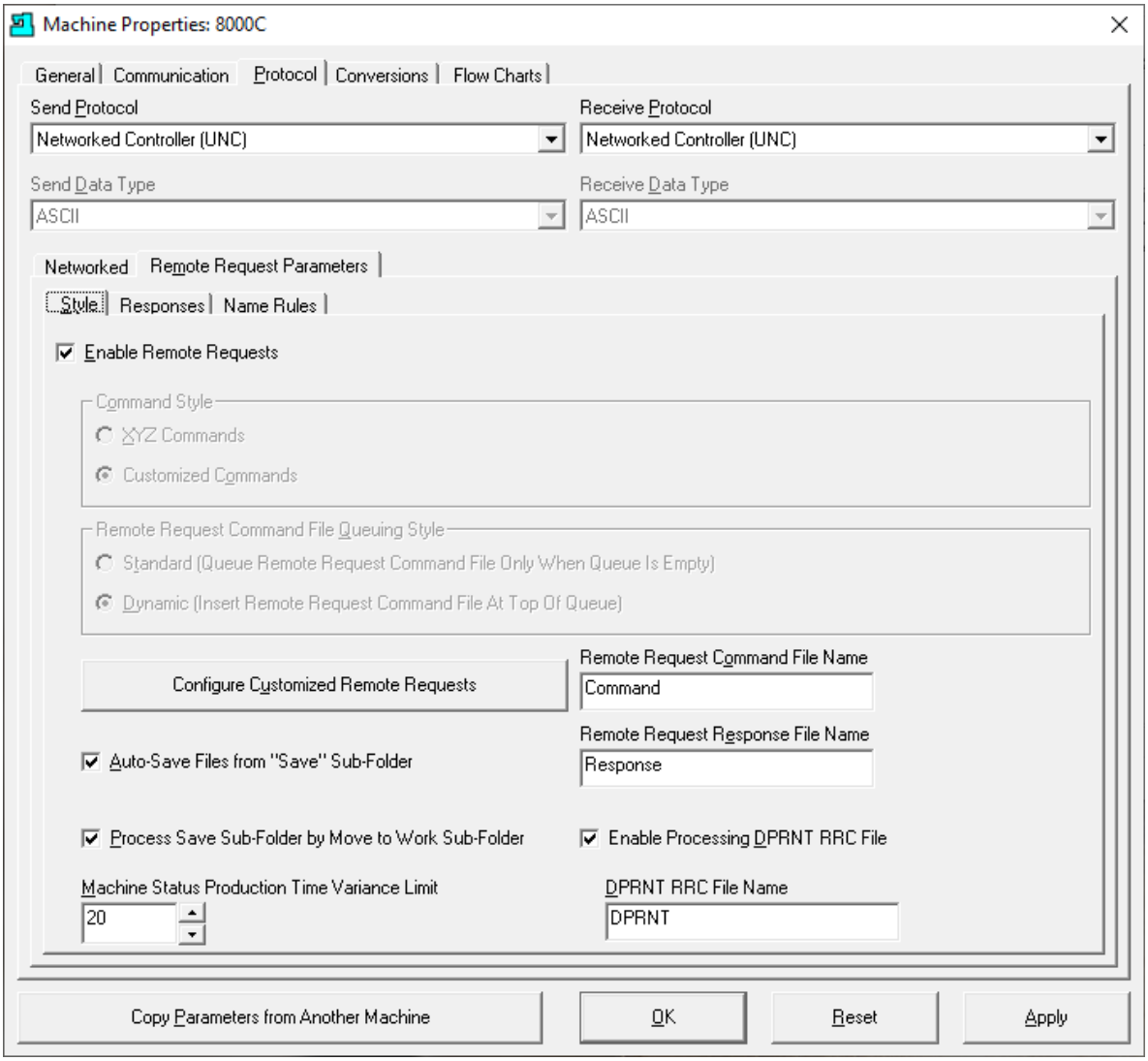
Set the Paths to where the Ethernet Machine will receive & sent Files for ShopFloorManager!

Note: If you can’t set the Paths, it’s possible you don’t have rights to these directories/folders. See IT!

Choose the Radio Button “Communication Engine” to process any Remote Request!

Next, click on the “Remote Request Parameters” Tab and the following Window is displayed.

Configure Machines (UNC Properties 8000C – Remote Request UNC)



Parameter Settings:

- **Enable Remote Requests:**
  Check this box if you are going to be using Remote Requests
- **Remote Request Command File Name:**
  When an Operator submits Remote Requests it must have the File named in this Text Box. In this case it is named “Command”. Change the name to suit! I.E., cmd.txt!
- **Remote Request Response File Name:**
  The name in this Text Box is the name of the Response File issued by ShopFloorManager to the CNC when it needs to inform an Operator of Problems or Success regarding a Submitted Remote Request. Change the name to suit!

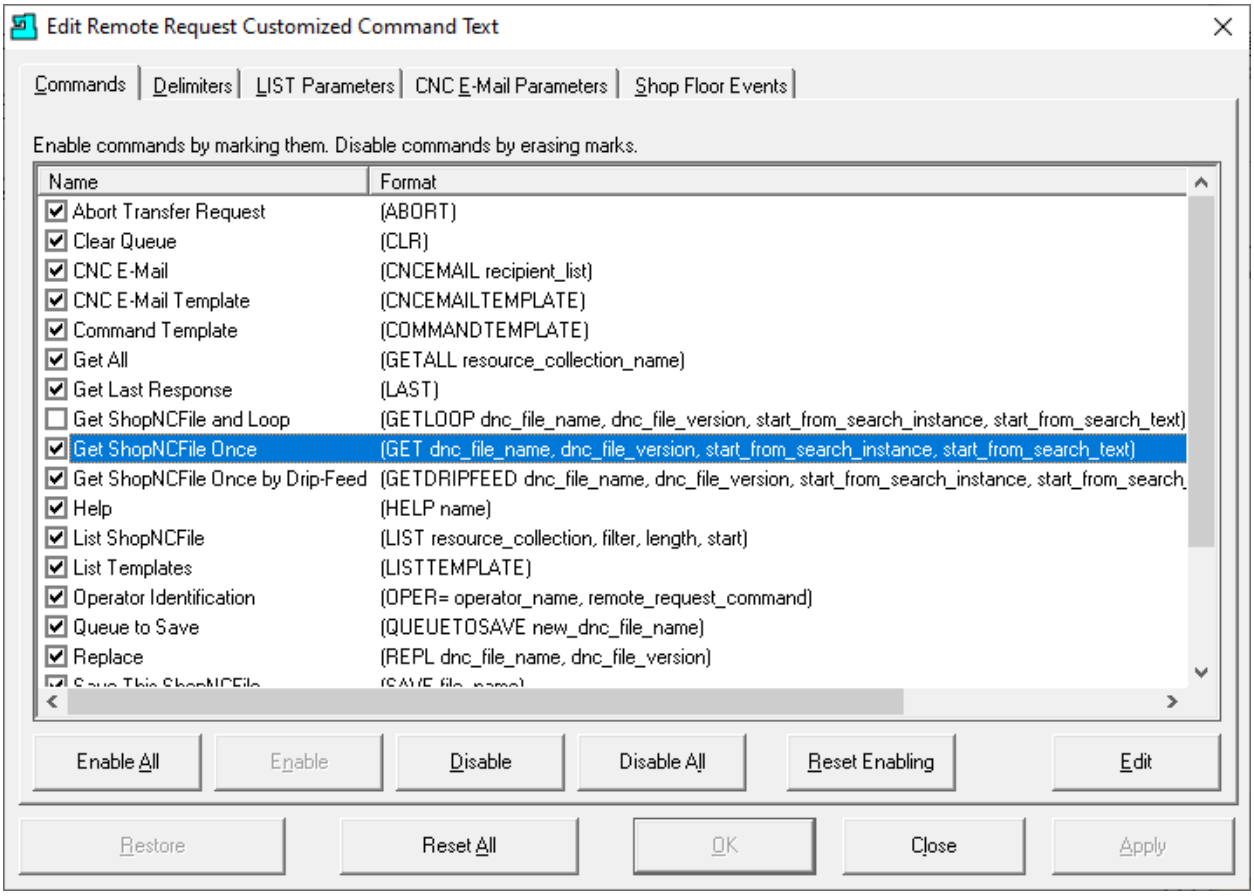
Configure Machines (UNC Properties 8000C – Protocol Tab/Remote Request UNC Cont.)

Auto-Save Files from "Save" Sub-Folder:
Checking this informs ShopFloorManager to process any Files found in the Save Folder.
Process Save Sub-Folder by Move to Work "Save" Sub-Folder.
When an Ethernet Controller outputs Macro Events it inserts into a "Standard File Name". For technical reasons in order to avoid a name collision this file is moved to a Sub-Folder named Work. This allows the Ethernet Controller to create a new file with the "Standard File Name" and continue to save Events without a collision.
Enable Processing DPRNT RRC File:
Checking this informs ShopFloorManager to move a File named in the Text Box below to the "Save" folder for processing of any Remote Request Commands is this file. When an Ethernet Controller outputs DPRNTs in a Named File, use that File Name in this Text Box.
Machine Status Production Time Variance Limit:
If you are using Monitoring, you should set the % of cycle time variance of a ShopNCFile's Nominal time. This is used in Machine Status Window providing a visual indictor when a Cycle time is out of variance of a Nominal cycle range!

Once the changes have been made you will need to click on the Apply button to save and continue or click the Close Button to save and leave the Machine Properties Window!

After clicking the Apply Button click the "Configure Customized Remote Requests" Bar and the following Window will be displayed.

Configure Machines (UNC Properties 8000C – Edit Remote Request Cust… - Commands)



This is the View of the [Remote Request Commands] an Operator can send to ShopFloorManager from their Machine Tool.

The most used Command is: “Get ShopNCFile Once”. Highlight this Command and click the Edit Button and the following Window is displayed.

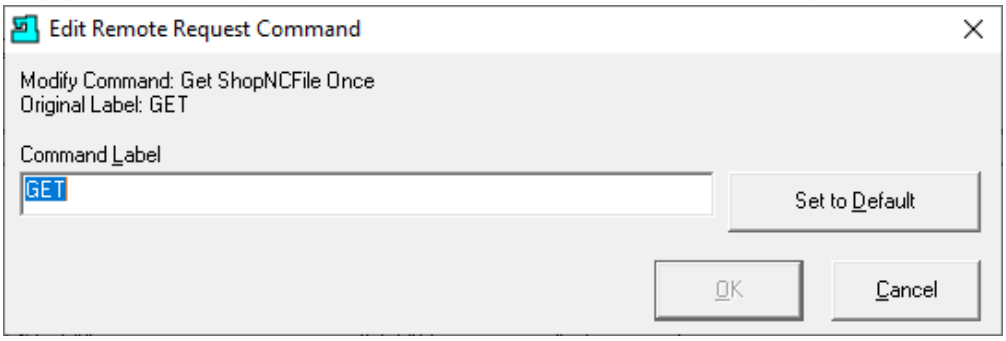
Note: Most Command Labels are modifiable, and most Commands can be supplemented with additional parameters. For Example:

(SAVE File_Name). The SAVE command needs a File Name added so ShopFloorManager knows what to name this file. If this name exists, it will increment the version number. If ShopFloorManager is set to use single version and the User doesn’t have the needed Rights a Response will be sent to the Machine Tool noting the missing Right. The Remote Response must be active!

This Command is added near the top of the file being uploaded to save to ShopFloorManager!

Let’s see how to change the Command Label!

Configure Machines (UNC Properties Edit Remote Request Command: GET)

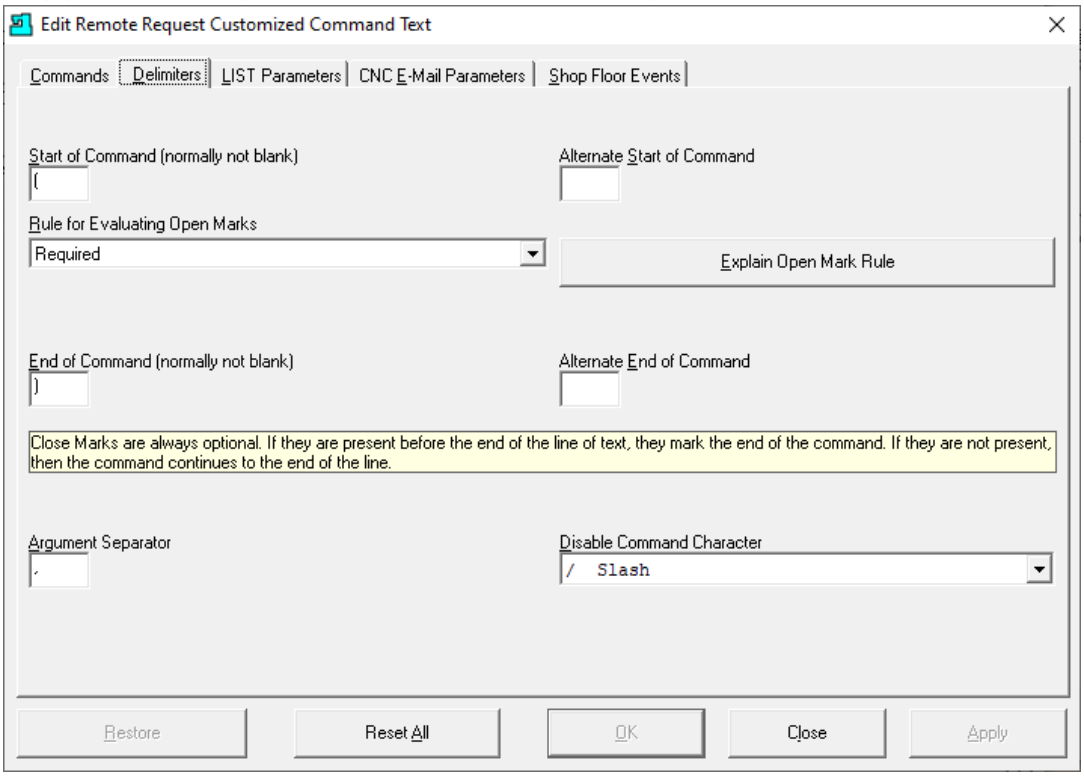


You can change the name of this Command to another unique name. Change and click the OK Button!

In one of the following pages, we will demonstrate how this command is used by an Operator.

Click the Tab Delimiters and the following Window is displayed.

Configure Machines (UNC Properties 8000C – Remote Request Customized Command - Delimiters)

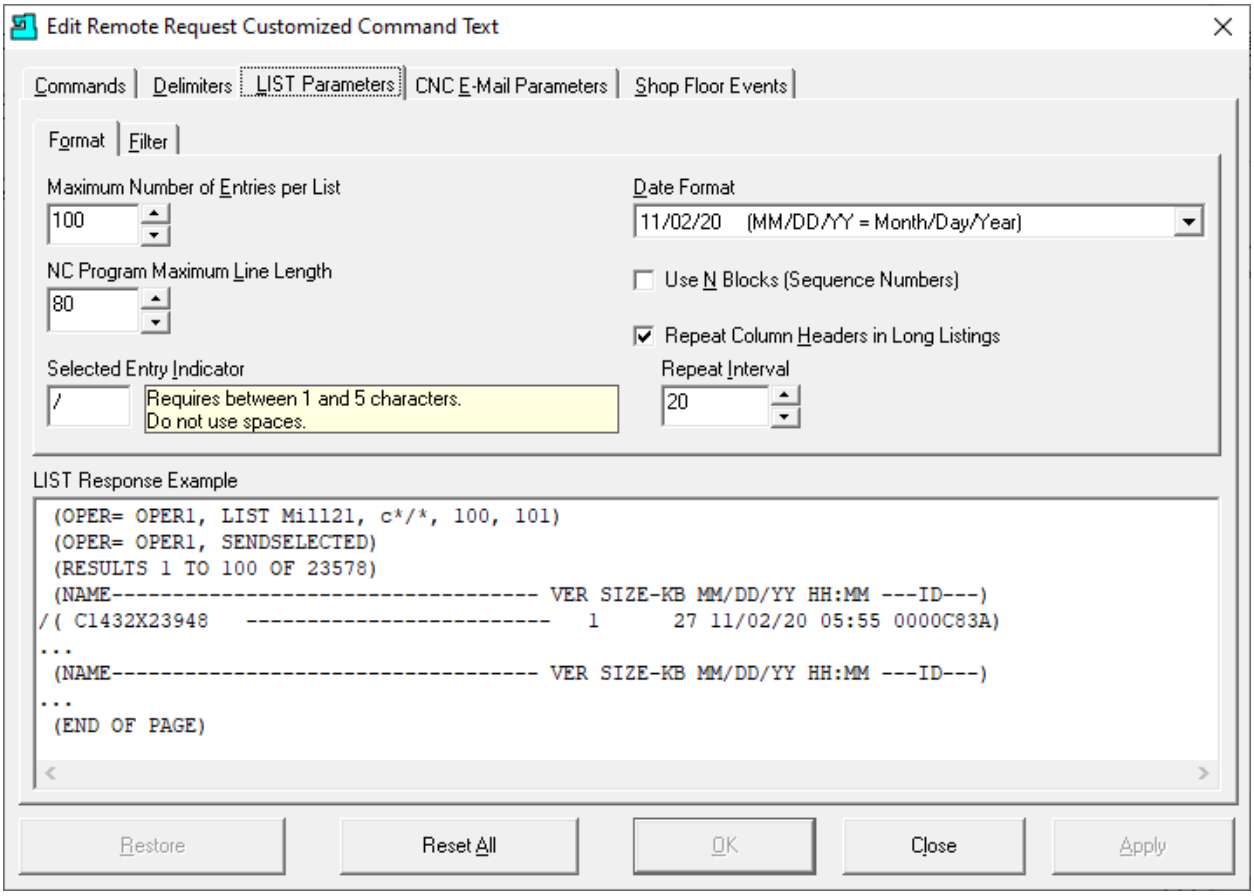


It would be rare to change these settings. If your machine doesn't support the "Normal" Comment character, please call CCI for help. 1-781-933-9500.

Click the "List Parameters" Tab and the following Window is displayed.

Note: If you place the character "/" in front of a Command it will Disabled/Skipped. For details on "Open Mark…" setting click the "Explain Open Mark Rule"!

Configure Machines (UNC Properties 8000C – Remote Request Cust… – List Parameters - Format)

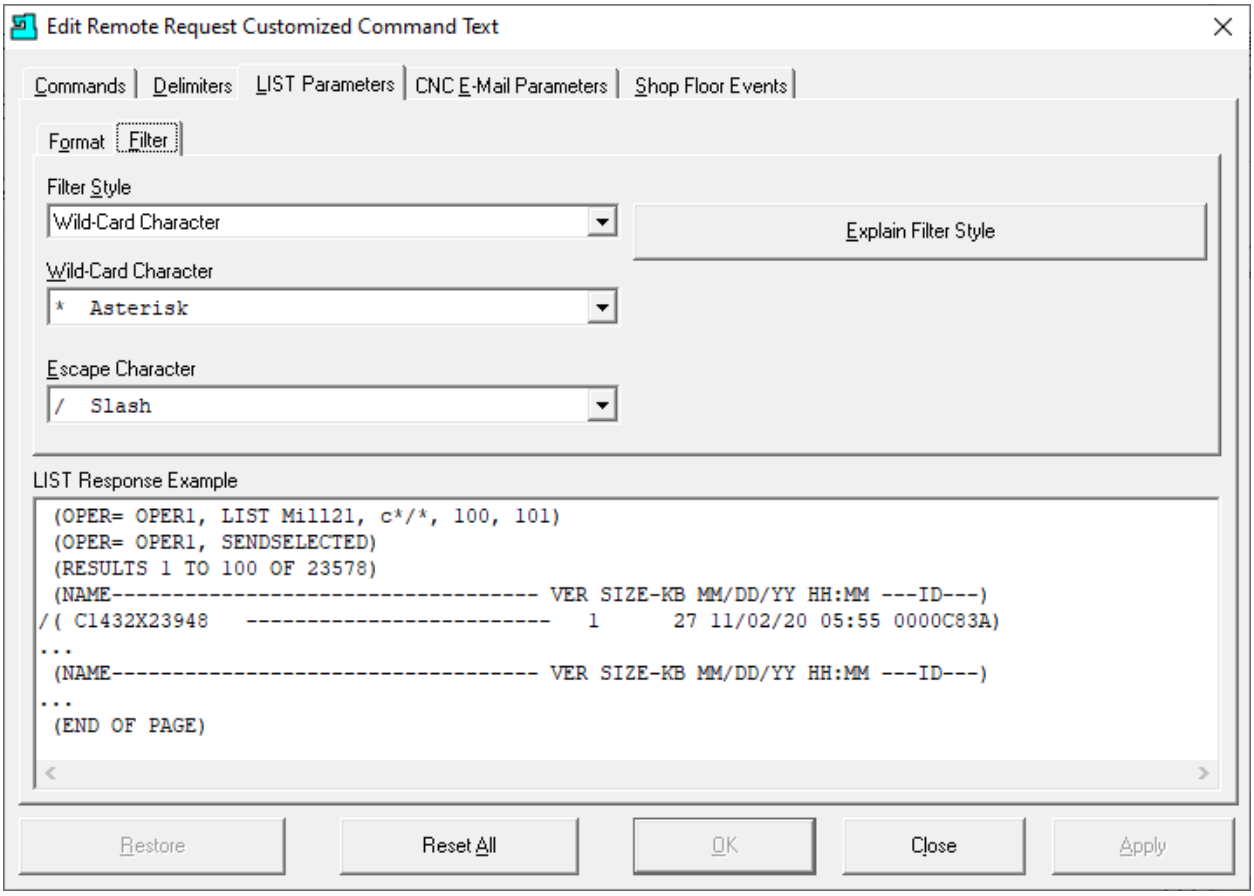


It would be rare to change these settings. If you need help, please call CCI. 1-781-933-9500. These are the settings that regulate the structure of a list(s) being sent to the CNC when an Operation requests a LIST of Files, Commands, etc.

See the "LIST Response Example" Informational Window where the changes are reflected in real-time as you change the settings on this form!

Click the Filter Tab and the following Window is displayed.

Configure Machines (UNC Properties 8000C – Remote Request Cust… – List Parameters - Filter)



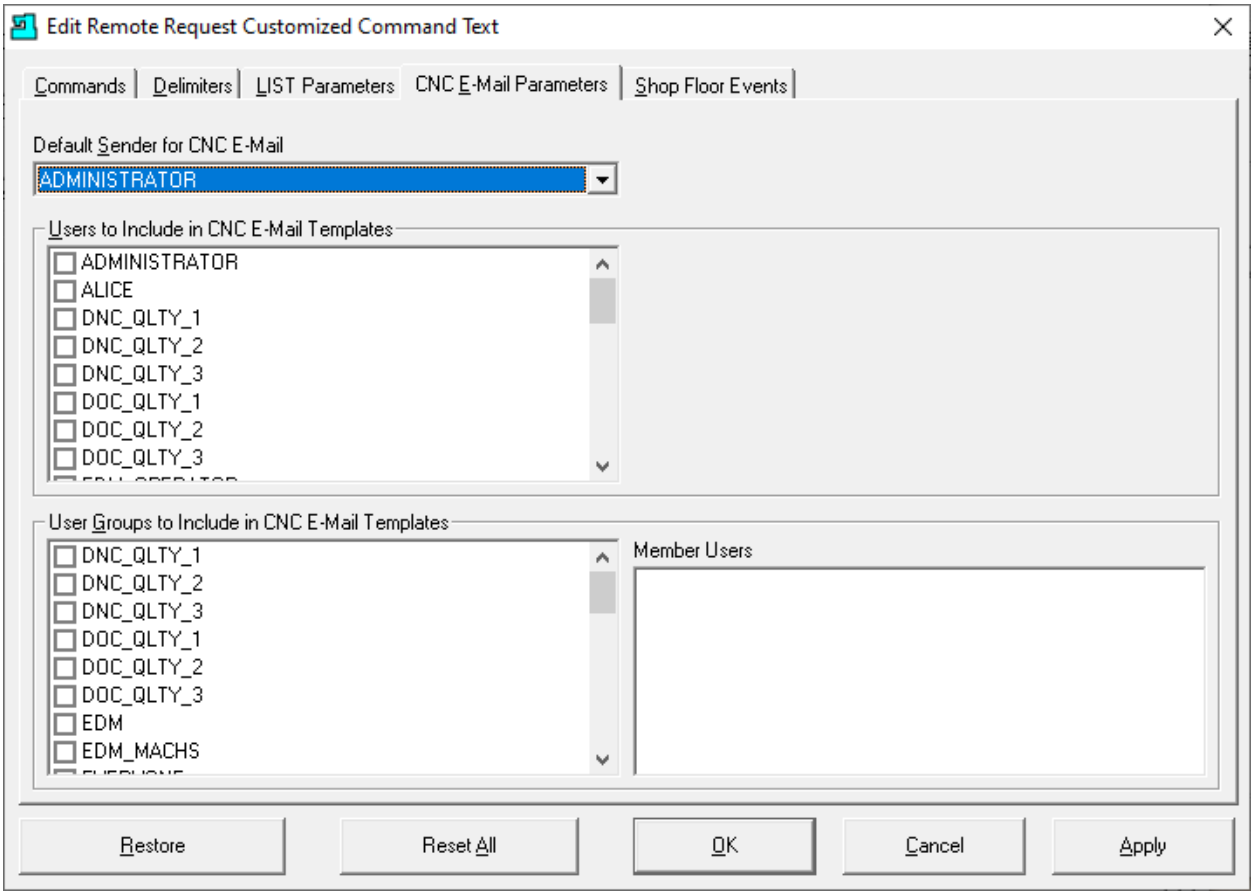
It would be rare to change these settings. If you need help, please call CCI. 1-781-933-9500. These are the settings that establish the characters that a particular CNC Controller supports.

See the “LIST Response Example” Informational Window where the changes are reflected in real-time as you change the settings on this form!

Note: For explanations of Filter Styles click on the “Explain Filter Style” Button!

Click the “CNC E-Mail Parameters” Tab and the following Window is displayed.

Configure Machines (UNC Properties 8000C – Remote Request Custom… – CNC E-Mail Parameters)



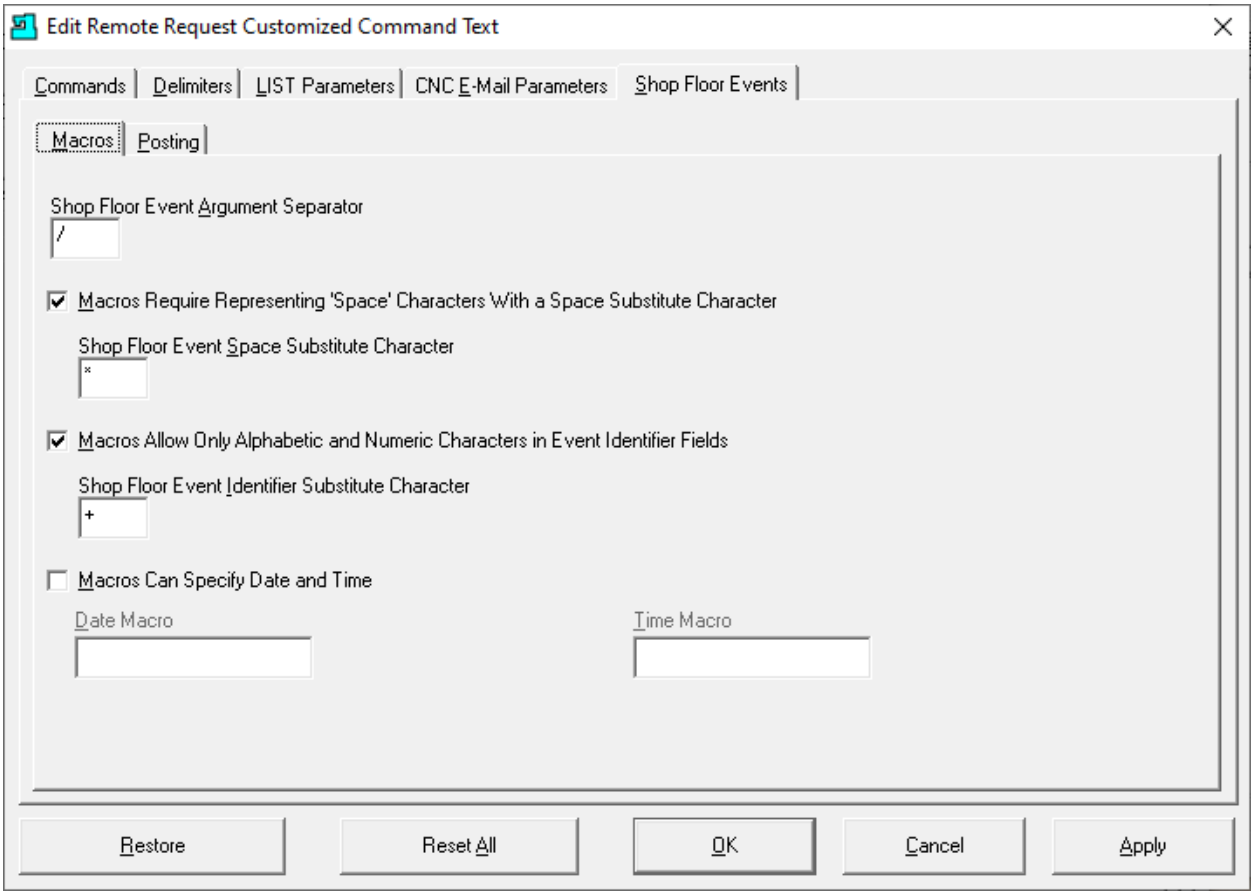
For each User & User Group check the checkboxes to include Users & User Groups in CNC E-Mail Templates and click the Apply Button.

If checked Operators can use Remote Request Commands to send an Email. See the Contacts & Configure Distribution Lists before sending an E-Mail from their Machine Tool!

You should also look at what E-Mail Rights are needed to be set in the User Groups!

Click on the “Shop Floor Events” Tab and the following Window will be displayed.

Configure Machines (UNC Properties 8000C – Remote Request Custom… – Shop Floor Events/Macros)



Parameter Setting:

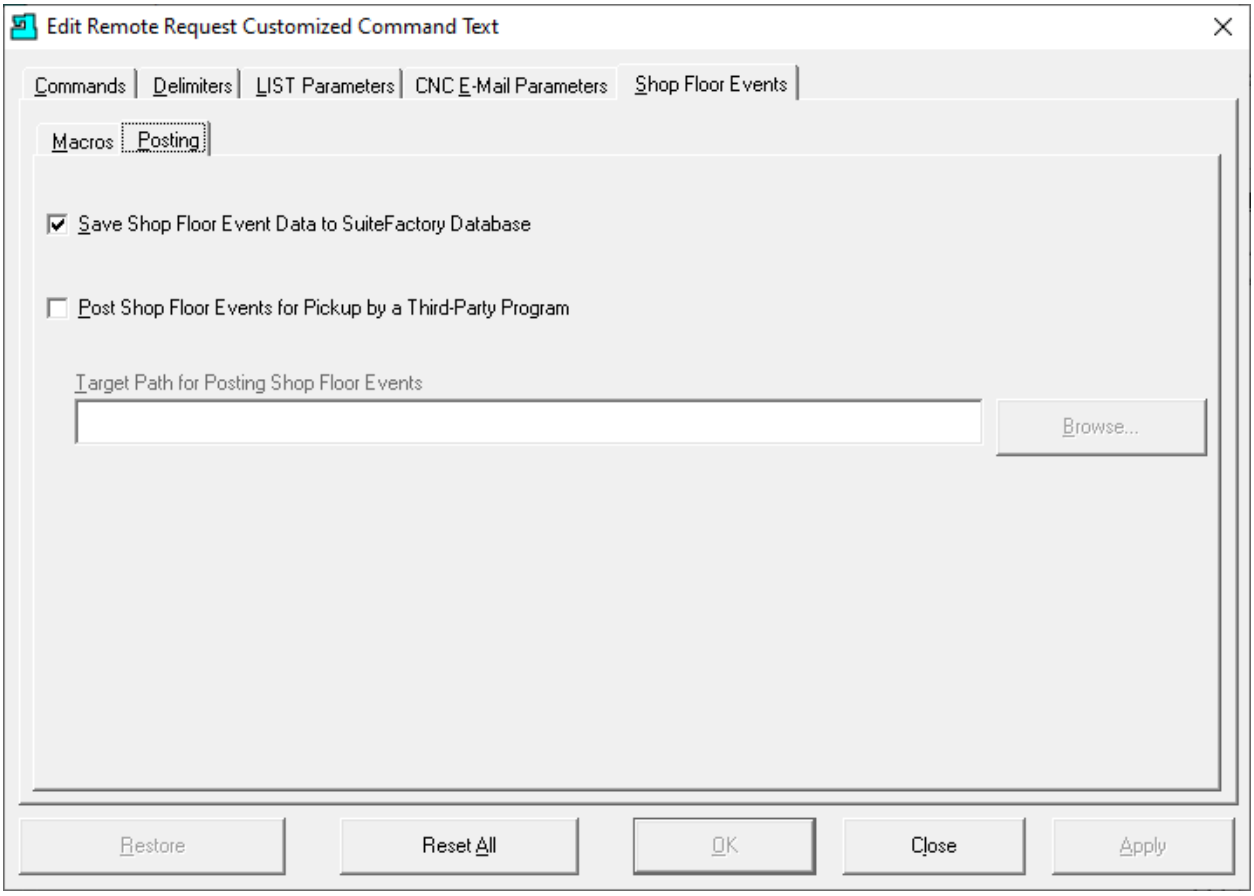
- **Shop Floor Event Argument Separator**
  Chose the **Separator** character supported by your controller.
- **Macros Require Representing 'Space" Characters With a Space Sub…**
  Chose the **Space** character supported by your controller.
- **Macros Allow Only Alphabetic and Numeric Characters…**
  Chose the **Substitute** character supported by your controller.
- **Macros Can Specify Date and Time**
  Add the Date & Time Macros if you are using the Machine tool to supply the Event Date/Time
  Ex: Date Macro: #3011[80]; Time Macro: #3012[60]!

Event DPRNT: (EVT*3/Periodic*Maintenance/3/Filter*Change/…)".

Note: To make changes to these setting you will need to consult your Machine Tool's Manufacturing User Manuals. Call CCI if you need help: 1-781-933-9500.

Click the Posting Tab and the following Window will be displayed.

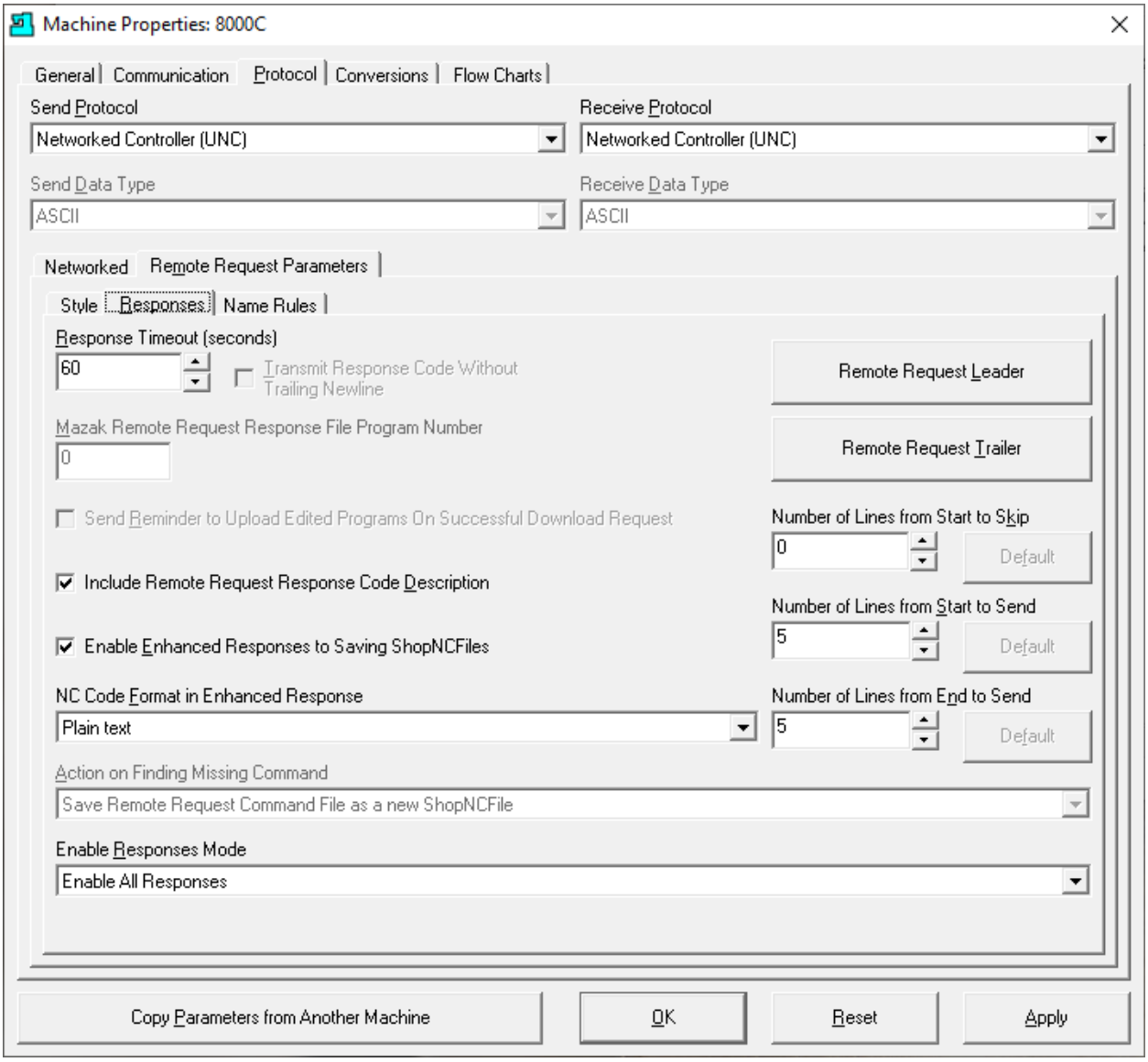
Configure Machines (UNC Properties 8000C – Remote Request Custom… – Shop Floor Events/Posting)



These are the default settings, please don't change the first checkbox setting which should be checked! The second is usually never checked. Call CCI if you need help. 1-781-933-9500.

Click the OK Button if active or Close Button if not.

Configure Machines (UNC Properties 8000C – Remote Request Parameters Responses)

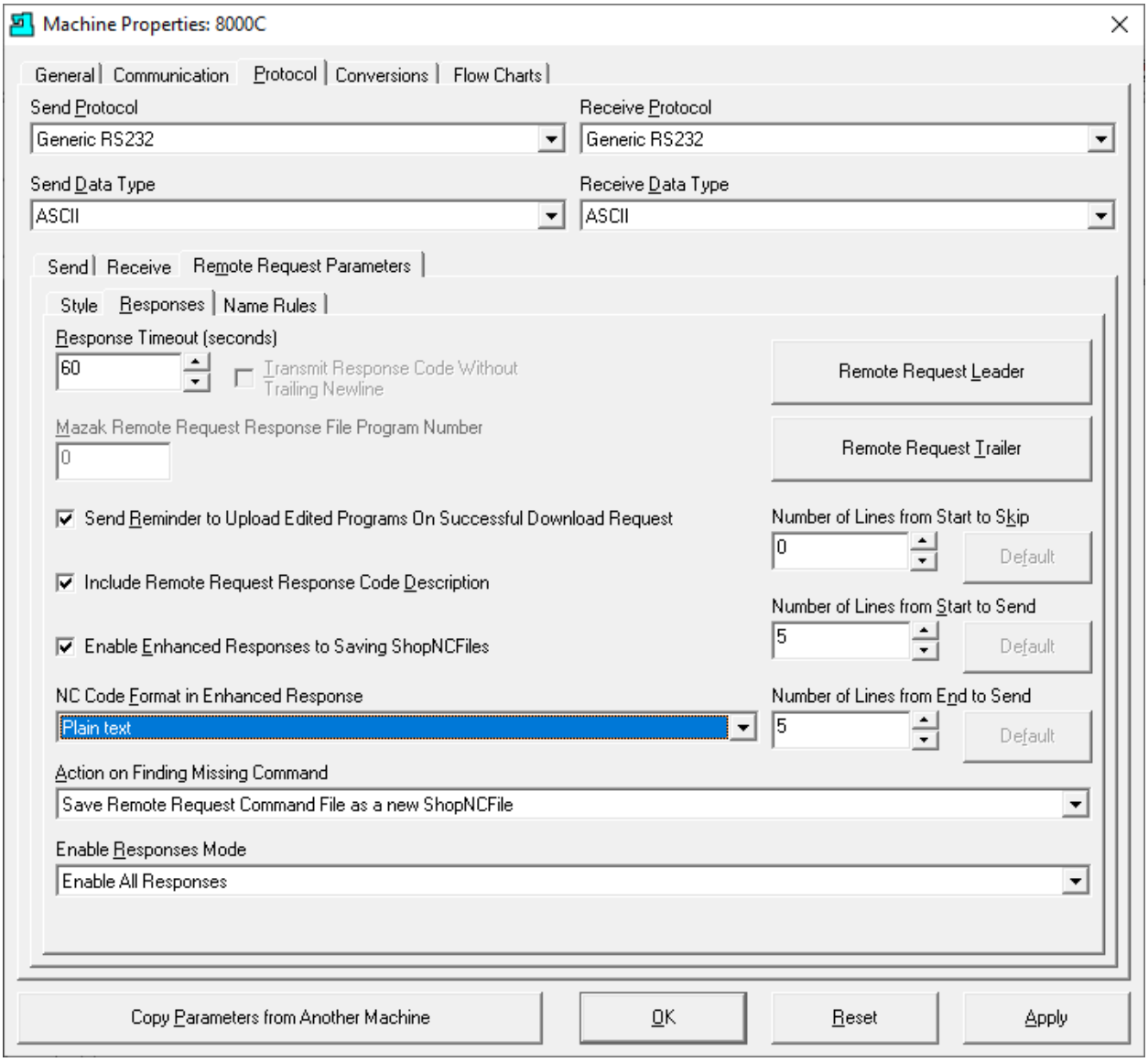


Parameters Settings:

- **Response Timeout**
  When ShopFloorManager sends a Response file to a Machine Tool if not retrieved in this amount of time it is removed from the Queue to prevent blocking other queued Files!
- **Mazak Remote…**
  When sending Response Files to a Mazak Machine it expects to read a file name in a particular area in the file. This name needs to comply with Mazak's file naming Scheme. This is grayed out unless you are using the Mazak Protocol!

Continued on the next Page

Configure Machines (UNC Properties 8000C – Remote Request Parameters Responses Cont. 1)

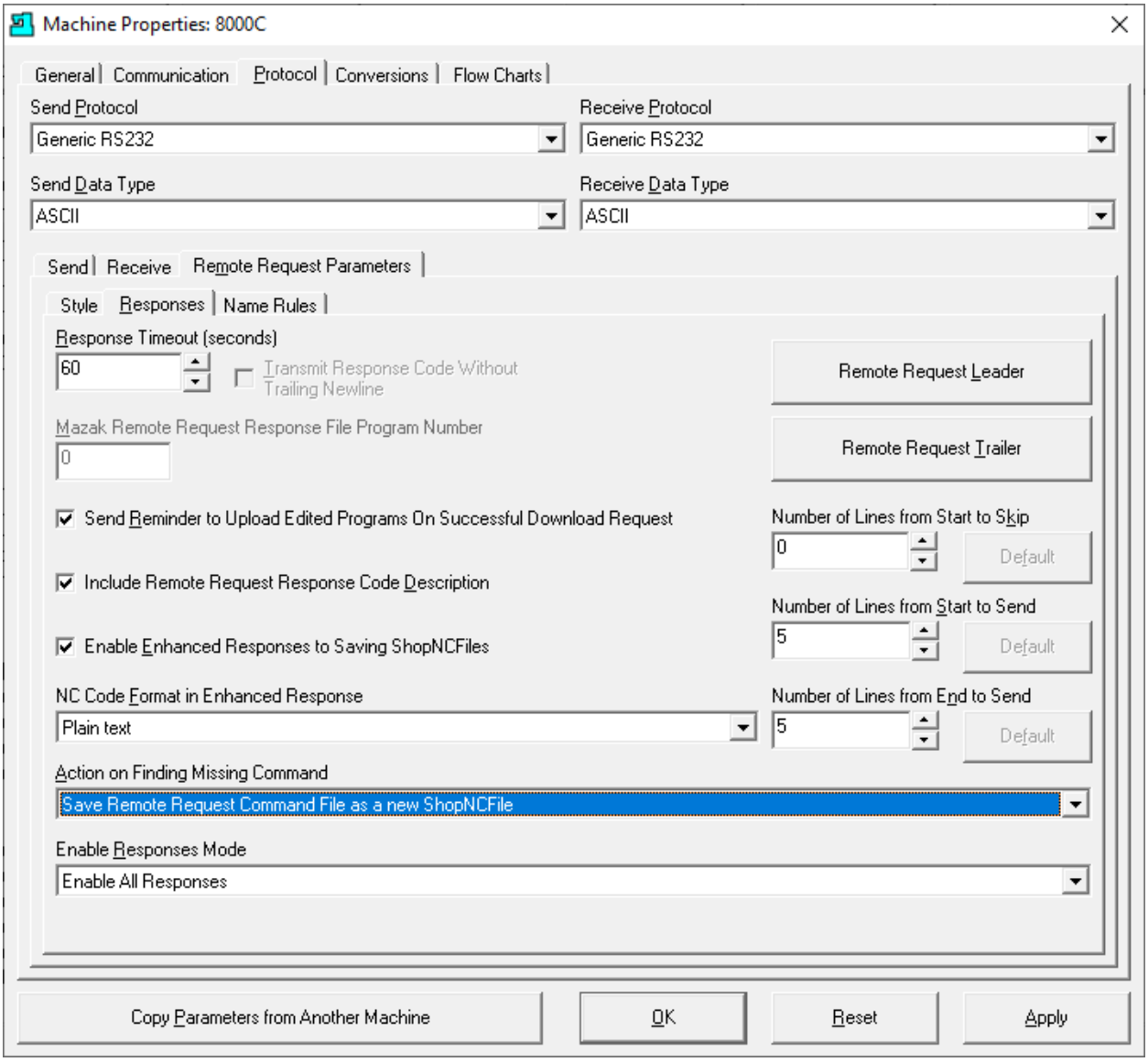


Parameters Settings Cont. 1:

- **Send Reminder to Upload…**
  This sends a Response file reminding the Operator to upload all modified N/C Files! A gentle reminder!
- **Include Remote Request Response Code Description**
  - Plain Text
  - Wrap lines as Comments (If you controller doesn't support text directly use this option!

Continued on the next Page

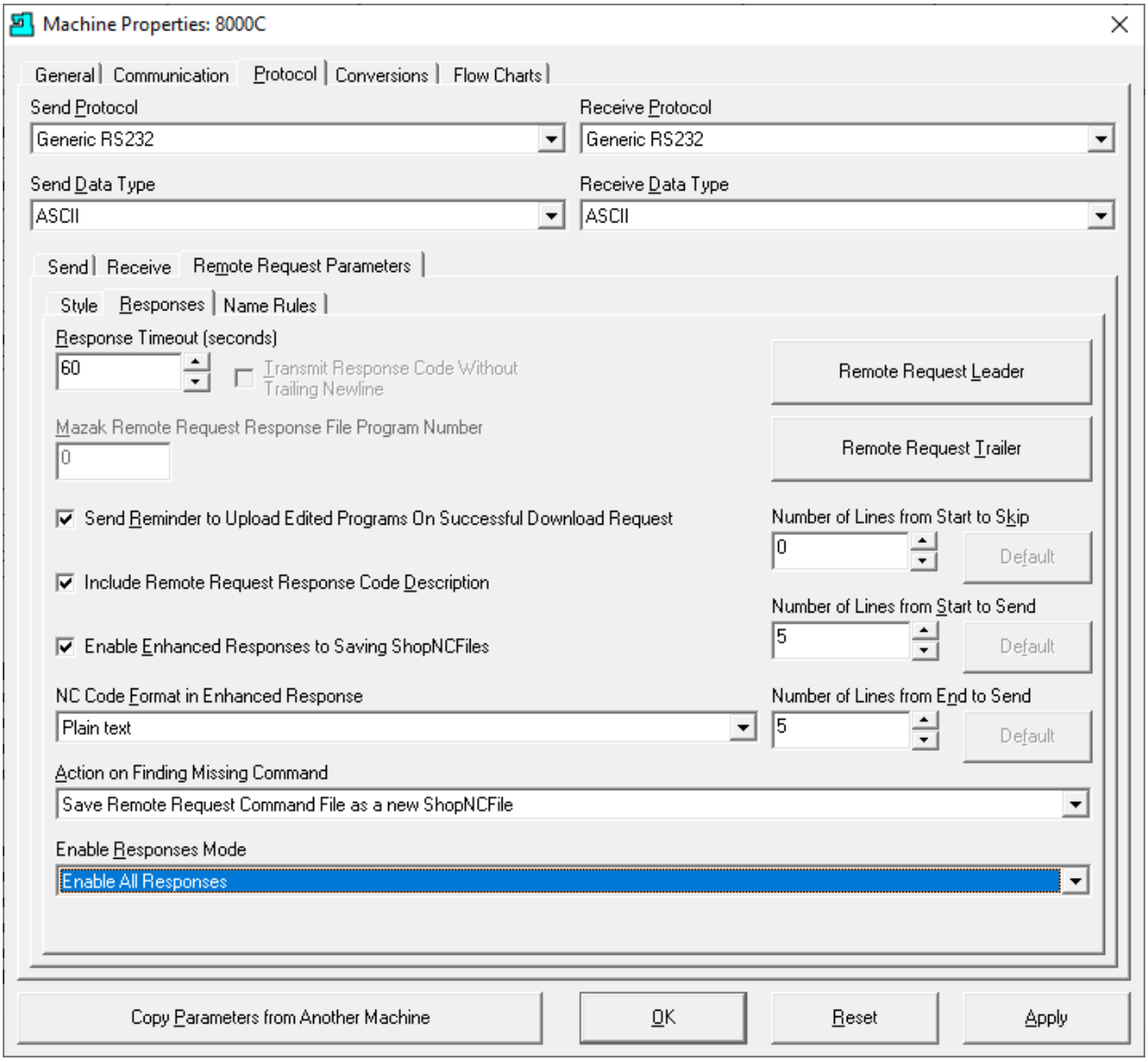
Configure Machines (UNC Properties 8000C – Remote Request Parameters Responses Cont. 2)



Parameters Settings Cont. 2:

- **Action on Finding Missing Command**
  - **Save Remote Request Command File as a new ShopNCFile.**
    File name will use the present date and time! Look for these as Unassigned Files!
  - **Send a Remote Request Response File to the Machine Tool**
    This will send a Response file that indicates the Command was missing!
  - **Ignore the Missing Command**
    In general this is probably not a good option! As they say Ignorance is Bliss!

Configure Machines (UNC Properties 8000C – Remote Request Parameters Responses Cont. 3)

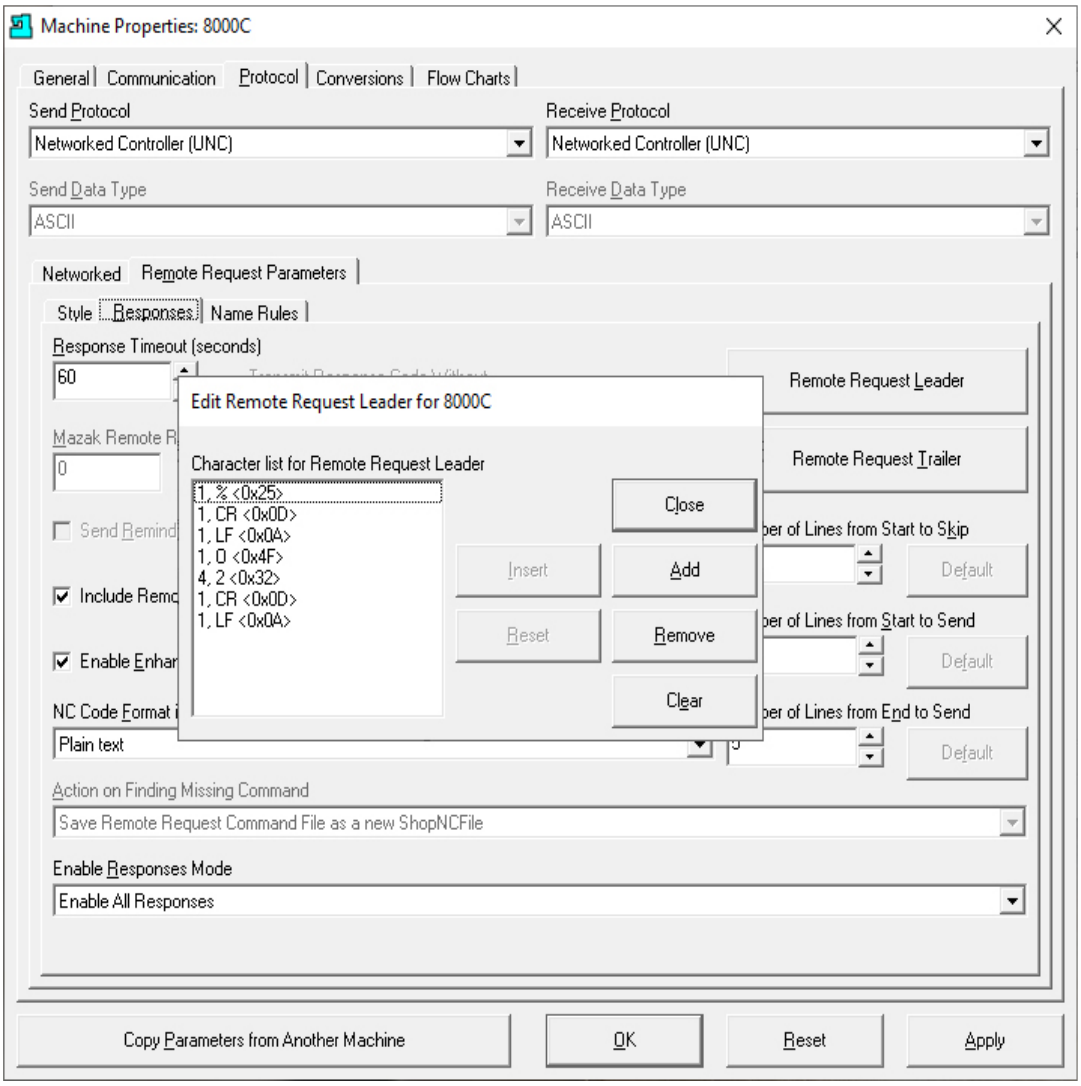


Parameters Settings Cont. 3:

- **Enable Responses Mode**
  - **Enable All Responses**
  - **Disable Save Received File, CNC E-Mail and Abort Reponses**
    If the Machine Tool Operator is only interested in receiving Responses other than those listed above select this option. If the operator is confident that uploading & saving always works, they may prefer not to receive these. However, using the first option and not downing the response file is better! Just let the Response File Timeout! Safer choice!

When finished click on the OK Button and select the Remote Request Leader and the following Window is displayed.

Configure Machines (UNC Properties 8000C – Remote Request Leader)



This Window is used to create a wrapper around a message that may be sent from ShopFloorManager to this CNC. This Wrapper is formatted so It is recognized by the CNC as a valid ShopNCFile. This is just for the beginning of the Message. This is what it would look at the beginning of an ShopNCFile:

%

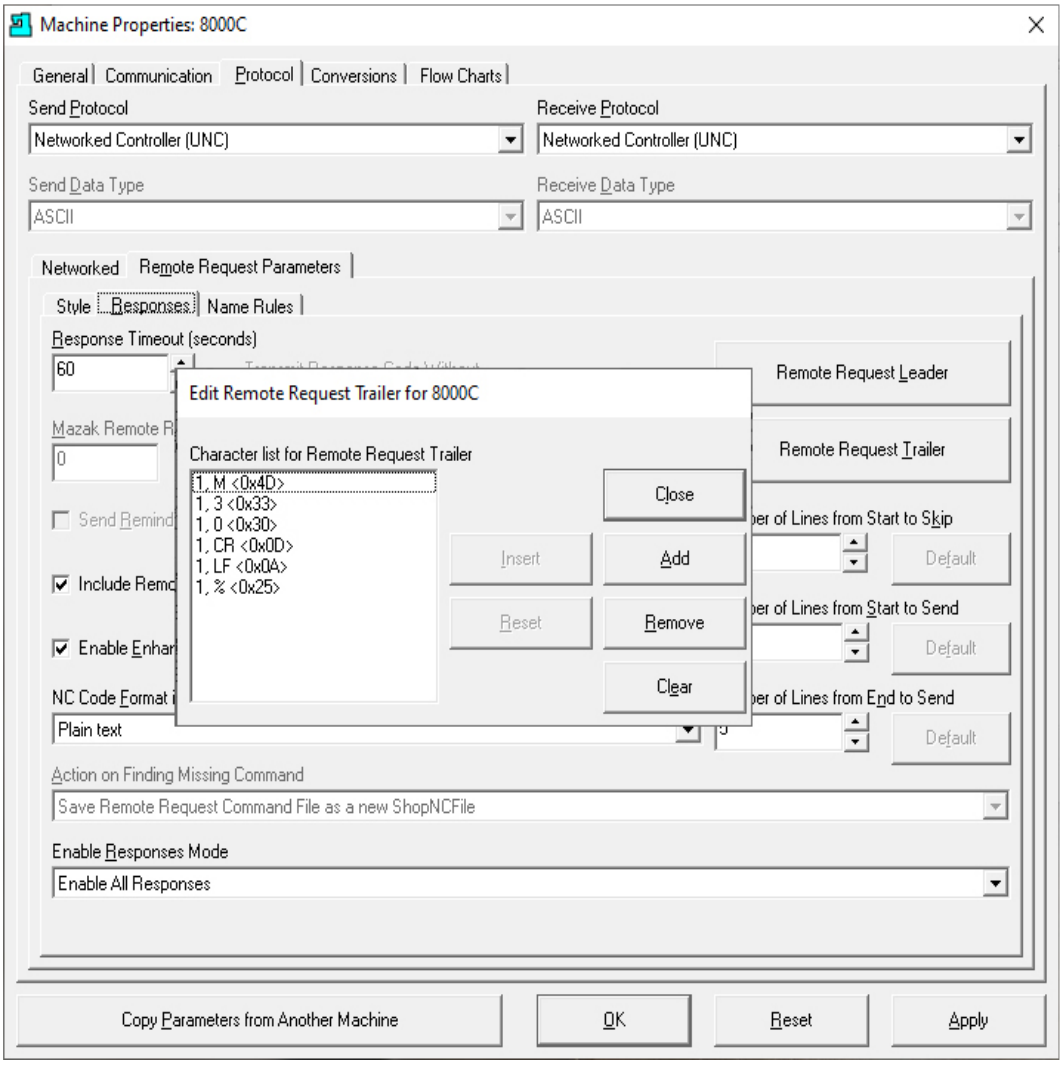
O2222

(Message)

……

Note: Messages can include information about the File Reception, Existence, etc. to inform a User of Success or failure of a Remote Command sent to ShopFloorManager.

Configure Machines (UNC Properties 8000C – Remote Request Trailer)



This Window is used to create a wrapper around the end of a message that may be sent from ShopFloorManager to this CNC. This Wrapper is formatted so It is recognized by the CNC as a valid ShopNCFile. This is just for the ending of the Message. This is what it would look like at the end of a ShopNCFile:

…..

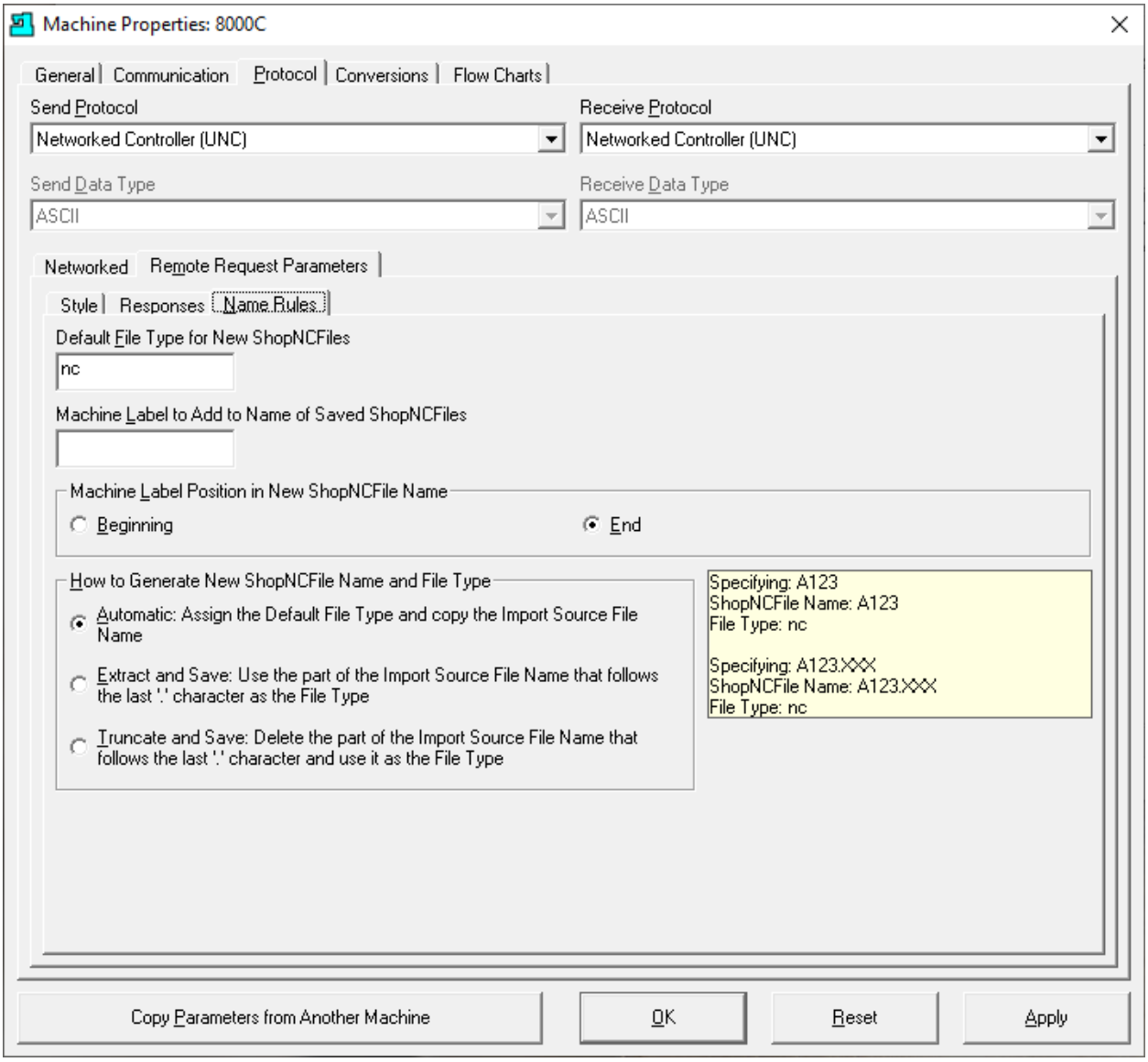
(Message)

M30

%

Note: Messages can include information about the File Reception, Existence, etc. to inform a User of Success or failure of a Remote Command sent to ShopFloorManager. Click the Name Rules Tab and the following Window will be displayed.

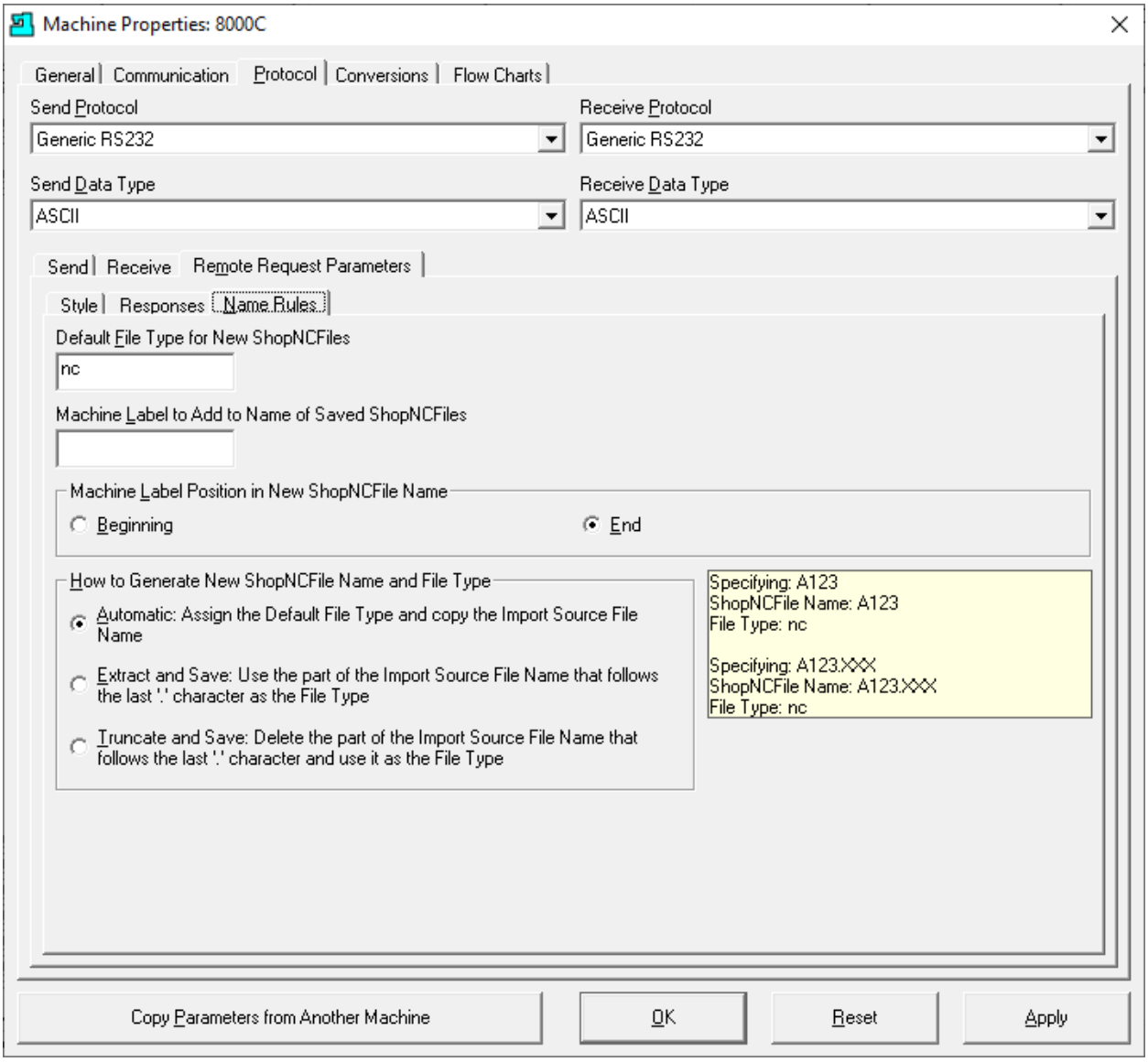
Configure Machines (UNC Properties 8000C – Remote Request Parameters Name Rules)



Parameter Settings:

- **Default File Type for New ShopNCFiles**
  Make sure to associate this with a File Type if using Native Applications
- **Machine Label to Add to Name of Saved ShopNCFiles**
  If you want to add as specific Label to a ShopNCFile enter it here! I.E. Machine Name!
- **Machine Label Position in New ShopNCFile Name**
  If used select position!

Configure Machines (UNC Properties 8000C – Remote Request Parameters Name Rules Cont.)



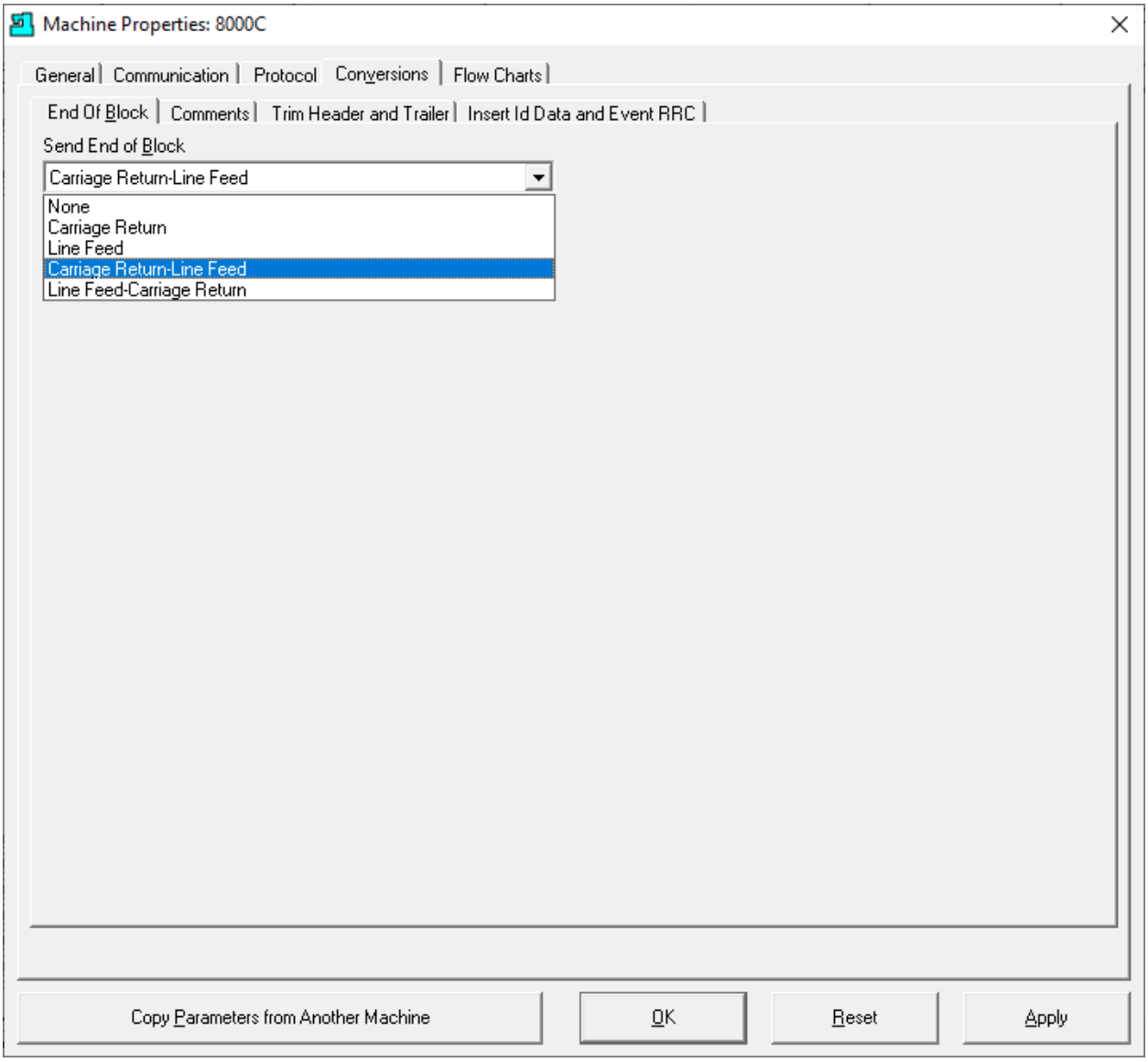
Parameter Settings Cont.:

- **How to Generate New ShopNCFile Name**
  - **Automatic: Assign the Default File Type…**
  - **Extract and Save: Use the part of the Import…**
  - **Truncate and Save: Delete the part of the Import Source…**

Note: See the effects of the different choices in the Yellow Background Text box to the Left of choices!

Click the Apply Button and then select the Conversions Tab and the following Window is displayed!

Configure Machines (UNC Properties 8000C – Conversions Tab)

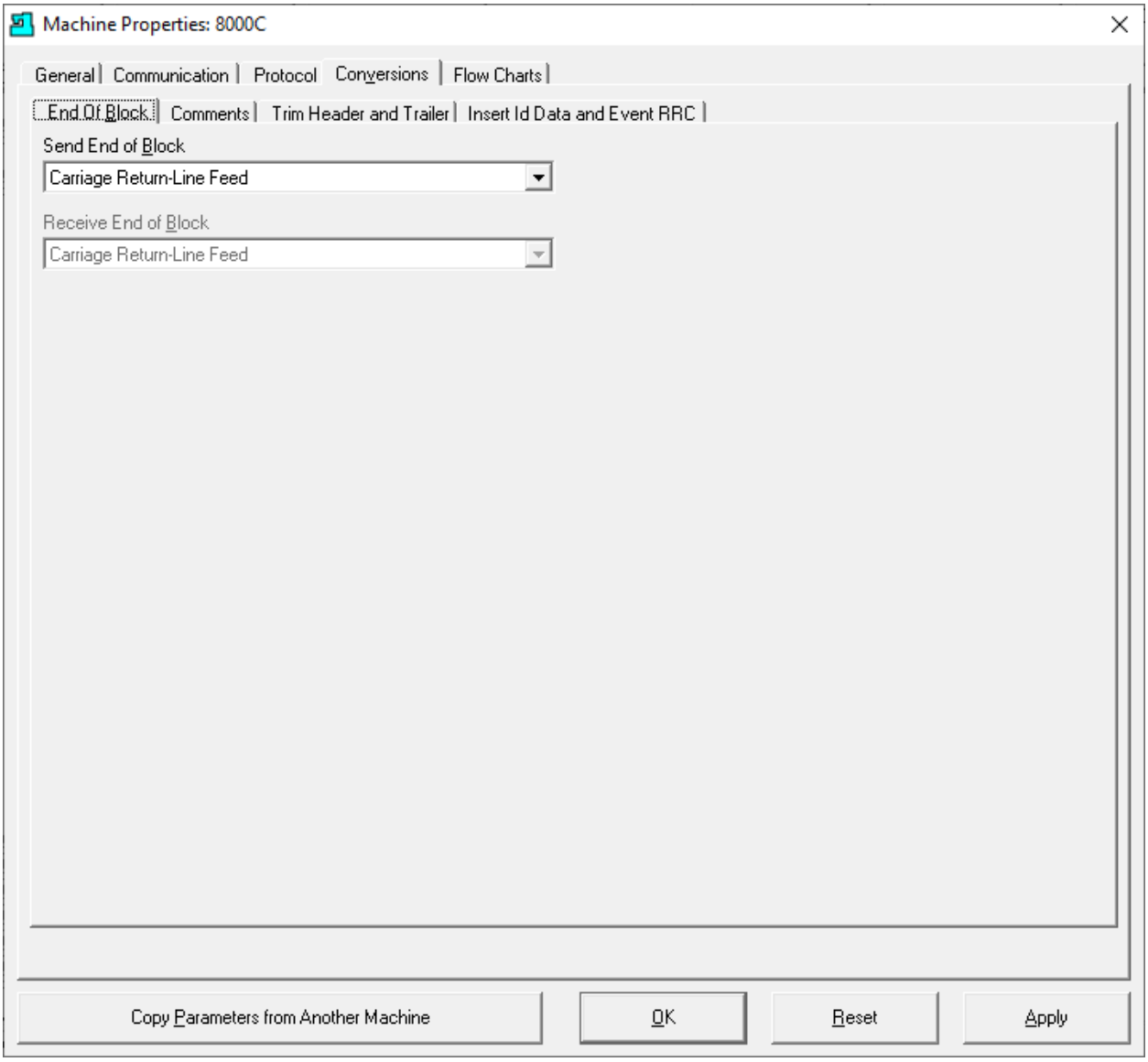


Select the “Send End of Block” drop-down list item “Carriage Return-Line Feed”.

All modern machines use this setting and unless there is a reason don’t make any changes in this Window. If you think changes need to be made contact CCI. 1-781-933-9500.

Click on the Comments Tab and the following Window will be displayed.

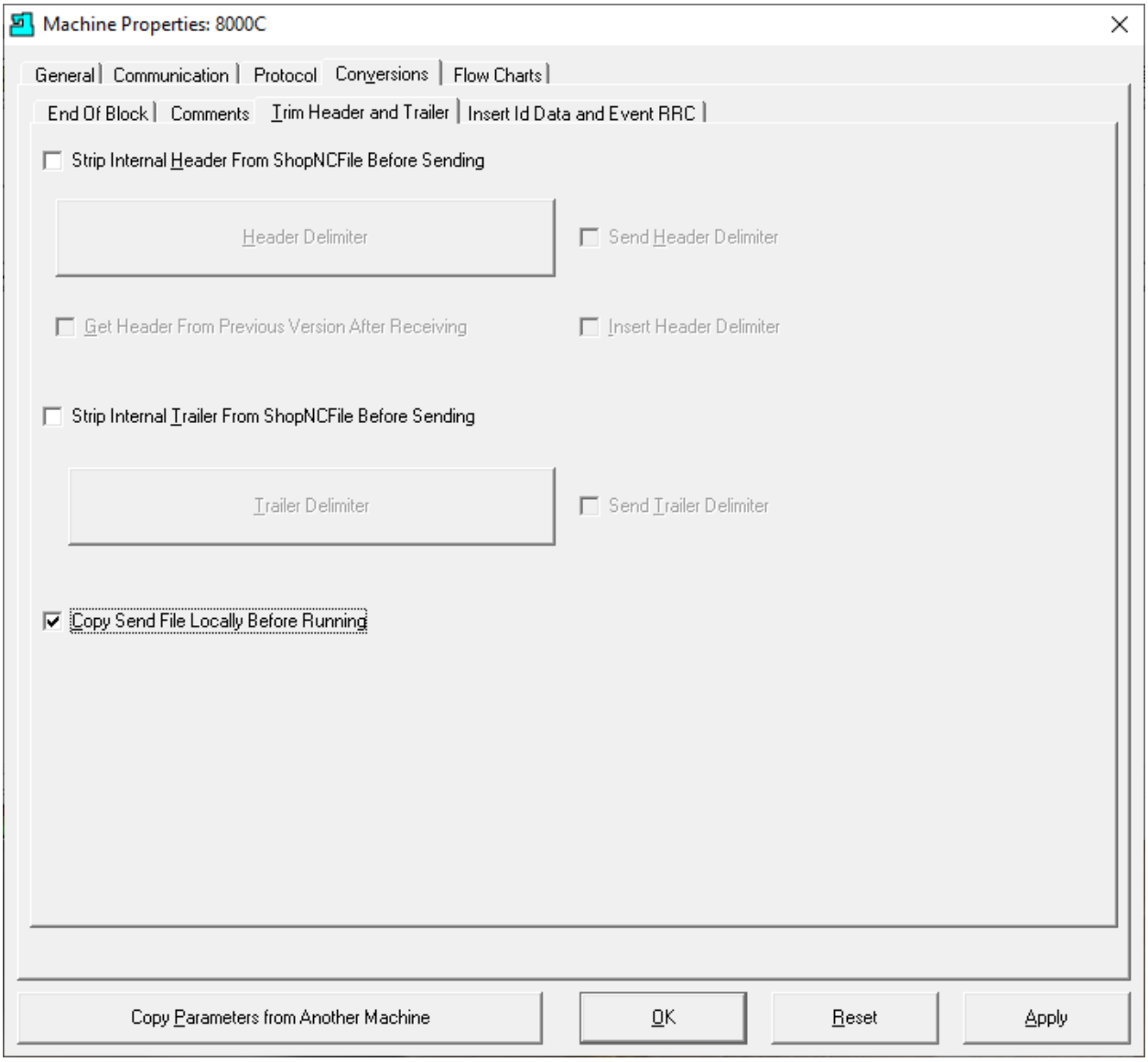
Configure Machines (UNC Properties 8000C – Comments Tab)



These settings don't apply to UNC Machines!

Click the Trim Header and Trailer Tab and the following Window is displayed.

Configure Machines (UNC Properties 8000C – Trim Header and Trailer Tab)

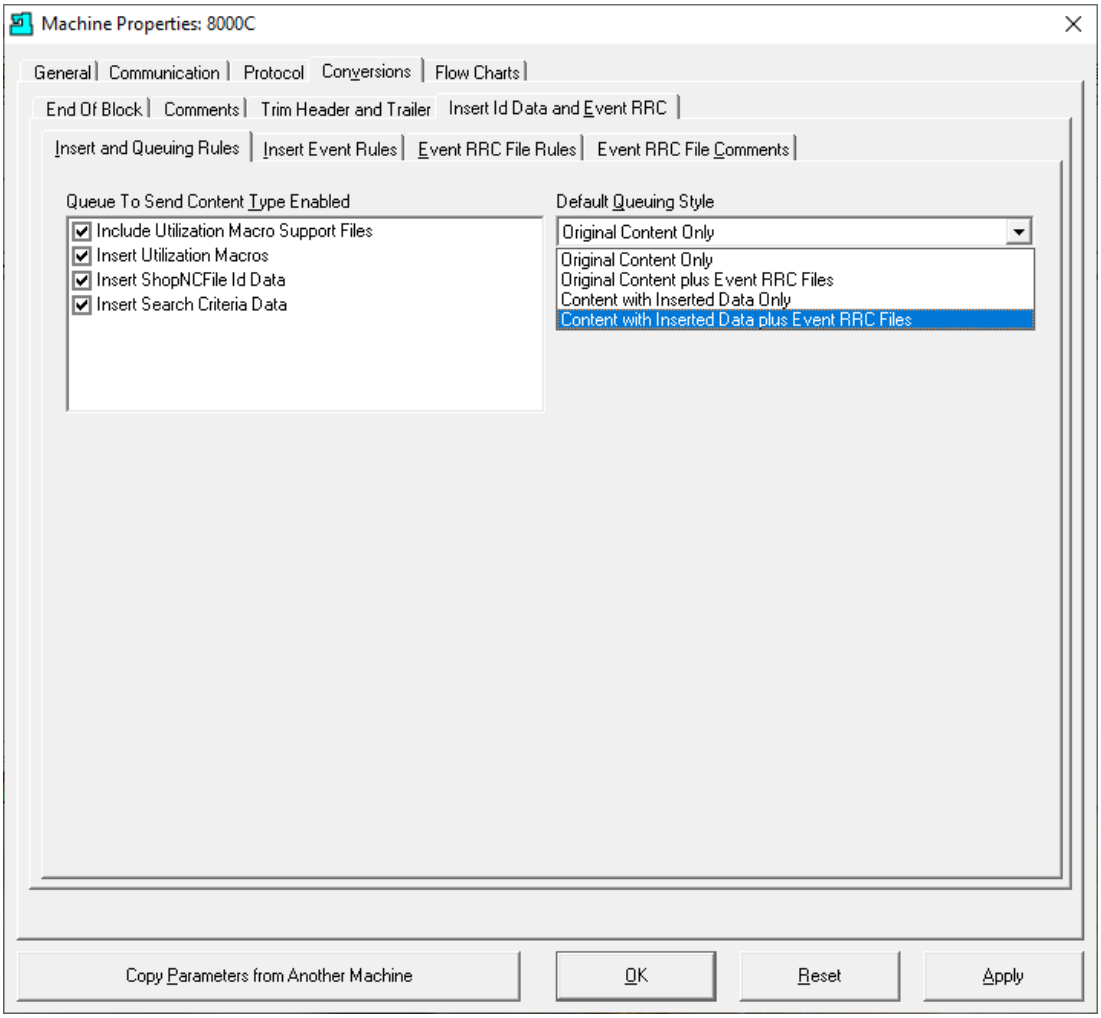


Leave the first two settings as they are above unless you have a machine tool that is over 30 years old. Call CCI for help. 1-781-933-9500.

Note: Checking the "Copy Send File Locally Before Running" checkbox is done to prevent data starvation downloading over the Network. In recent years with faster Networks this has become less of an issue!

Click the Insert Id Data and Event RRC Tab and the following Window is displayed.

Configure Machines (UNC Properties 8000C – Insert and Queuing Rules Tab)



Queue To Send Content Type Enable

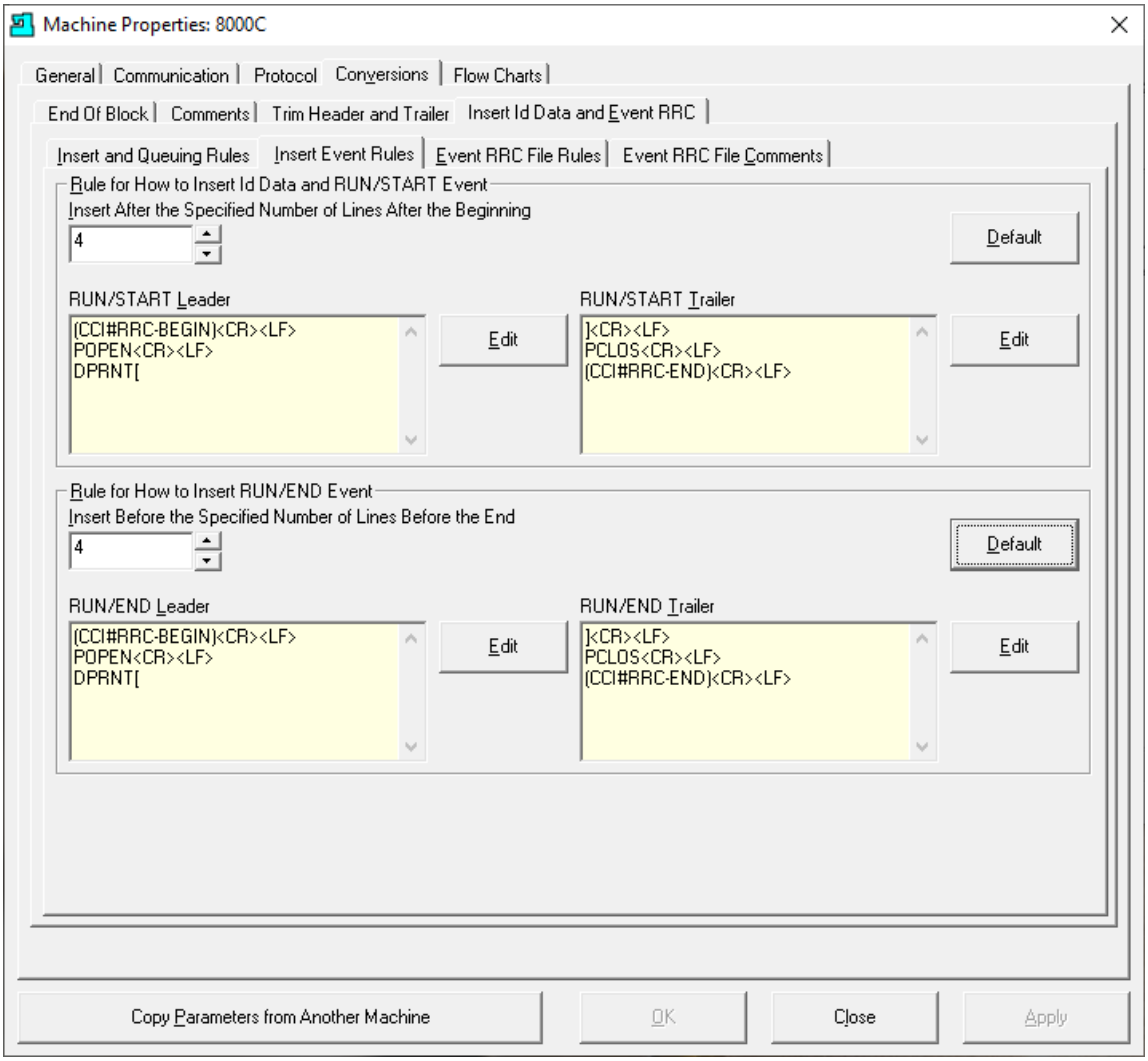
Include Utilization Macro Support Files
Insert Utilization Macros
Insert ShopNCFile Id Data
Insert Search Criteria Data

Default Queuing Style

Original Content Only
Original Content plus Event RRC Files
Content with Inserted Data Only
Content with Inserted Data and Event RRC Files

Click here for details on meaning of these options including the use for Manual Machines. Click the Apply Button when done & then click on the “Insert Event Rules” Tab and the Following Window is displayed.

Configure Machines (UNC Properties 8000C – Insert Event Rules Tab)



If you are inserting Macros into ShopNCFiles these are the “Wrappers” around the Macros that need to be inserted.

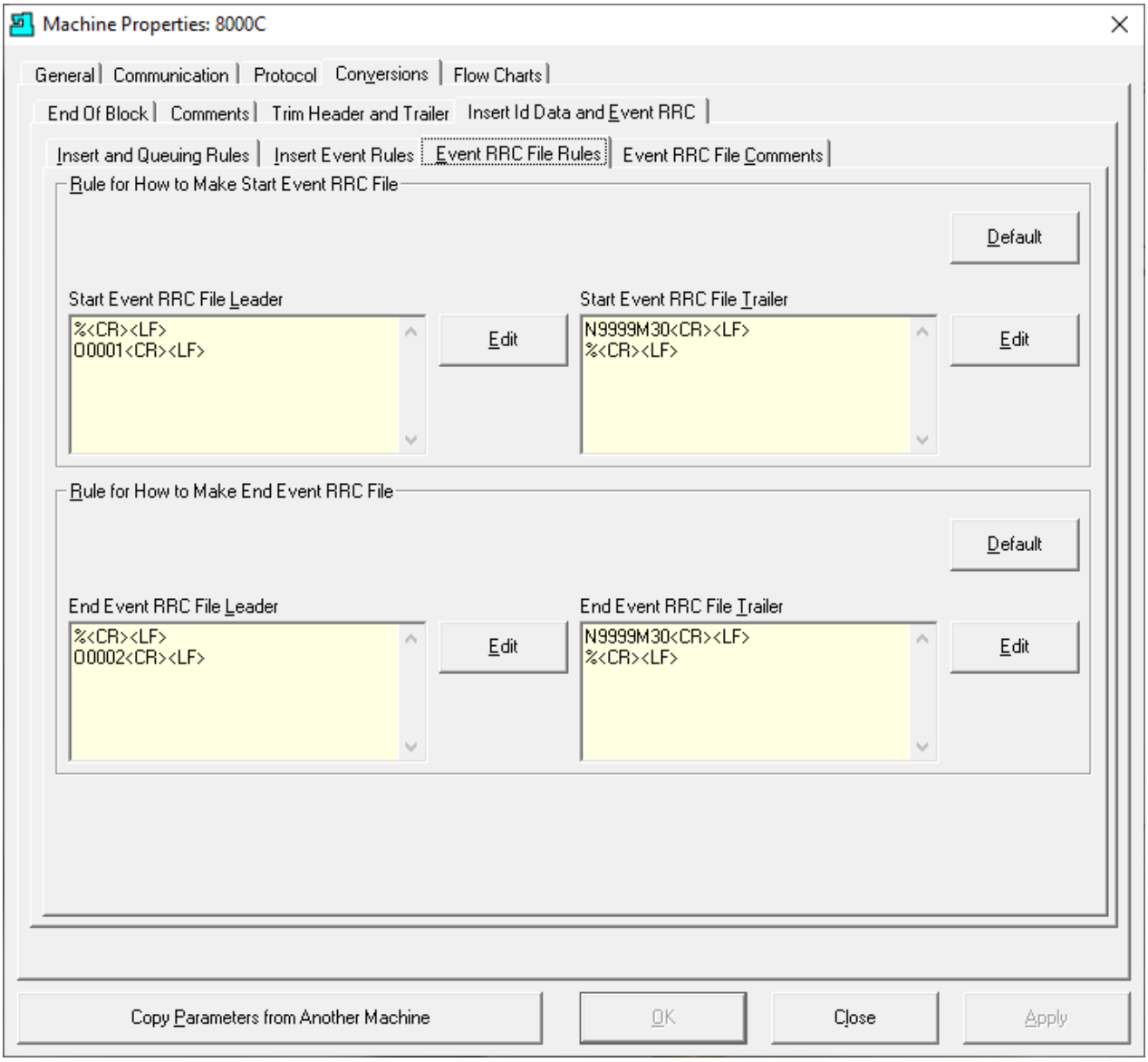
You can set where (needs to be within 2000 characters from the beginning of the File) you want these inserted (Run/Start) and where at the end of the File you want these inserted (Run/End).

Only change the text in the Yellow Areas if your Machine Controller requires a different content. Call CCI if you have any questions. 1-781-933-9500.

Click here for details on how these are used.

Click on the “Event RRC File Rules” Tab and the Following Window is displayed.

Configure Machines (UNC Properties 8000C – Insert RRC File Rules Tab)



This form is used for creating a Specific RRC Machine File Leader & Trailer for wrapping around individual Macros (Event Template) that will be download to this Machine Tool's Controller.

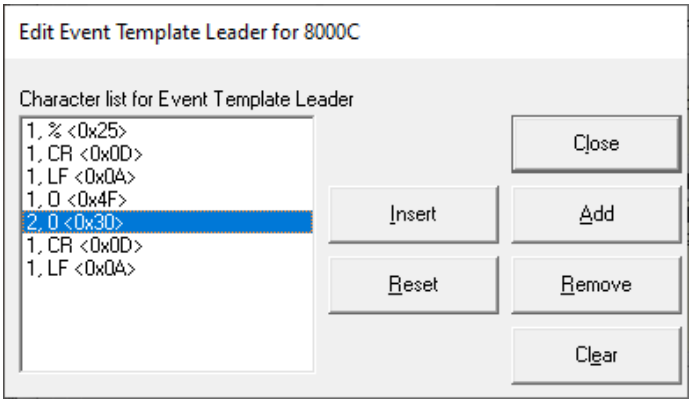
The Wrapper matches what the Controller expects to "see" when it adds a ShopNCFile to its directory! Even though these are not ShopNCFiles but Macros that are used for outputting DPRNTs of "OEE Controller based MDI" Events!

Let's Edit these Leader & Trailers and illustrate how they are used!

Click the Edit Button(s) and the following Window is displayed.

Note: Clicking the Default Button changes all settings back to their original settings! Be careful!

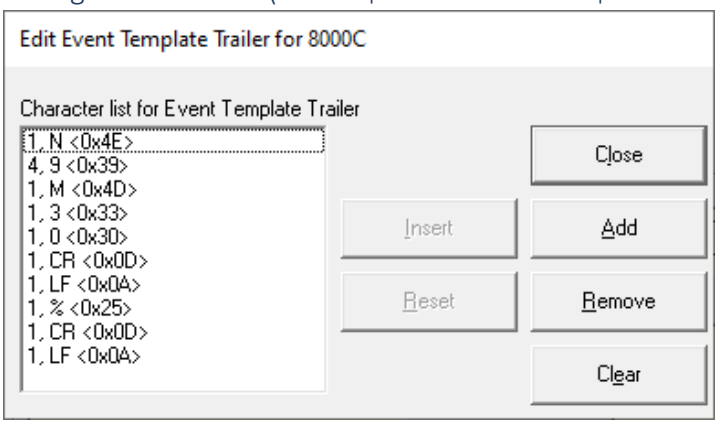
Configure Machines (UNC Properties 8000C – Template Leader)



The above Settings will produce the following Leader:

%
O00

Configure Machines (UNC Properties 8000C – Template Trailer)



The above Settings will product the following Trailer:

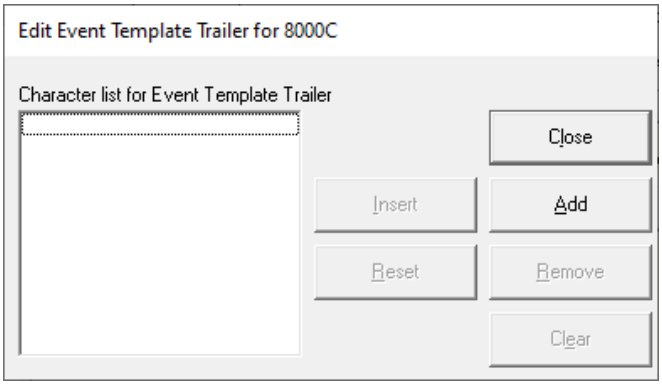
N9999 M30
%

These are used to put a Wrapper around Event Template Files specific to what this Machine Tool Controller expects! See below.

%
O00**xx** (Additional explanation in the next few pages) **Note**: Will explain how **xx** is to be added later!
N001…
N002…
..
N9999 M30
%

Note: Next let's investigate how to create a Template Trailer from scratch.

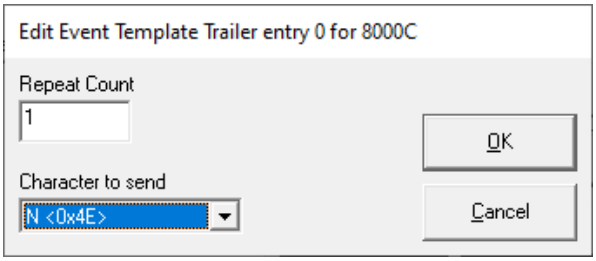
Configure Machines (UNC Properties 8000C – Blank Template Trailer)



Let's create the Template Trailer from scratch so you become familiar with using this App!

Click the Add Button and the following Window will be displayed.

Configure Machines (UNC Properties 8000C – Blank Template Edit Window)

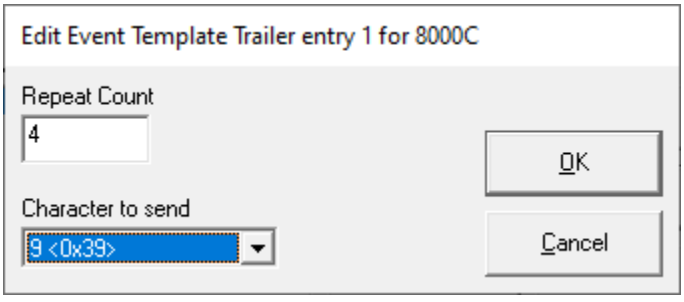


The Repeat Count is used to determine how many contiguous characters to create. To Enter a character in " Character to send" drop-down list highlight and type the character you want. If you find the character displayed isn't correct, you got a NAK or NUL Character instead of an 'N', keep typing that same character until the correct Character is displayed.

The App not only supports ASCII Characters but Control Characters, so it is possible for this to happen!

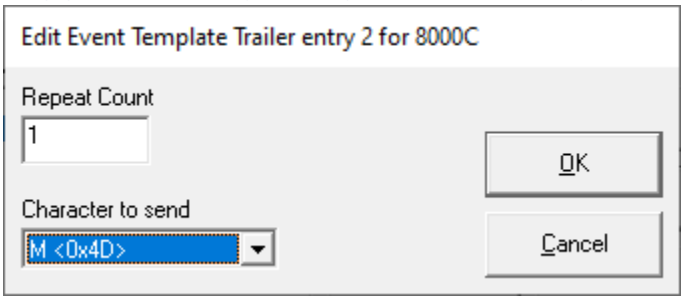
Click the OK Button then the Add Button on the next Window and the following Window is displayed.

Configure Machines (UNC Properties 8000C –Template Edit Window Updated Cont.)



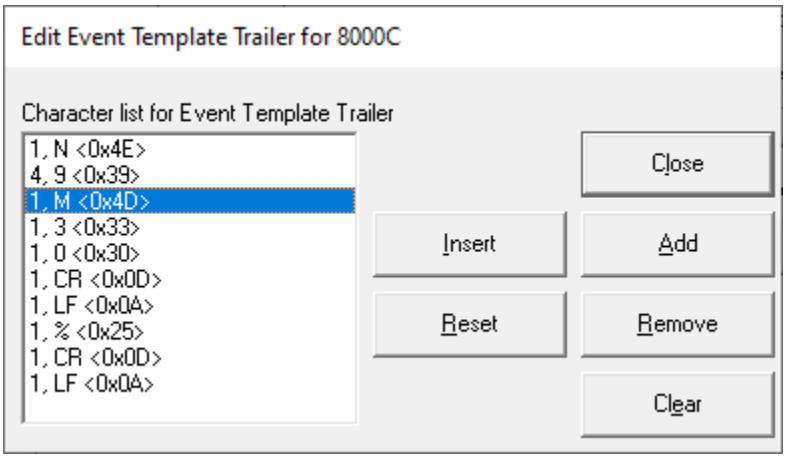
Using the same logic as above enter the number 4 in the "Repeat Count" for the character 9! Click the OK Button and on the next Window click the Add Button and the following Window is displayed.

Configure Machines (UNC Properties 8000C –Template Edit Window Updated Cont.)



Using the same logic as above enter the character M! Continue this procedure until the Trailer Window displays as follows:

Configure Machines (UNC Properties 8000C – Template Trailer)



This is what the above App outputs:

N9999M30
%

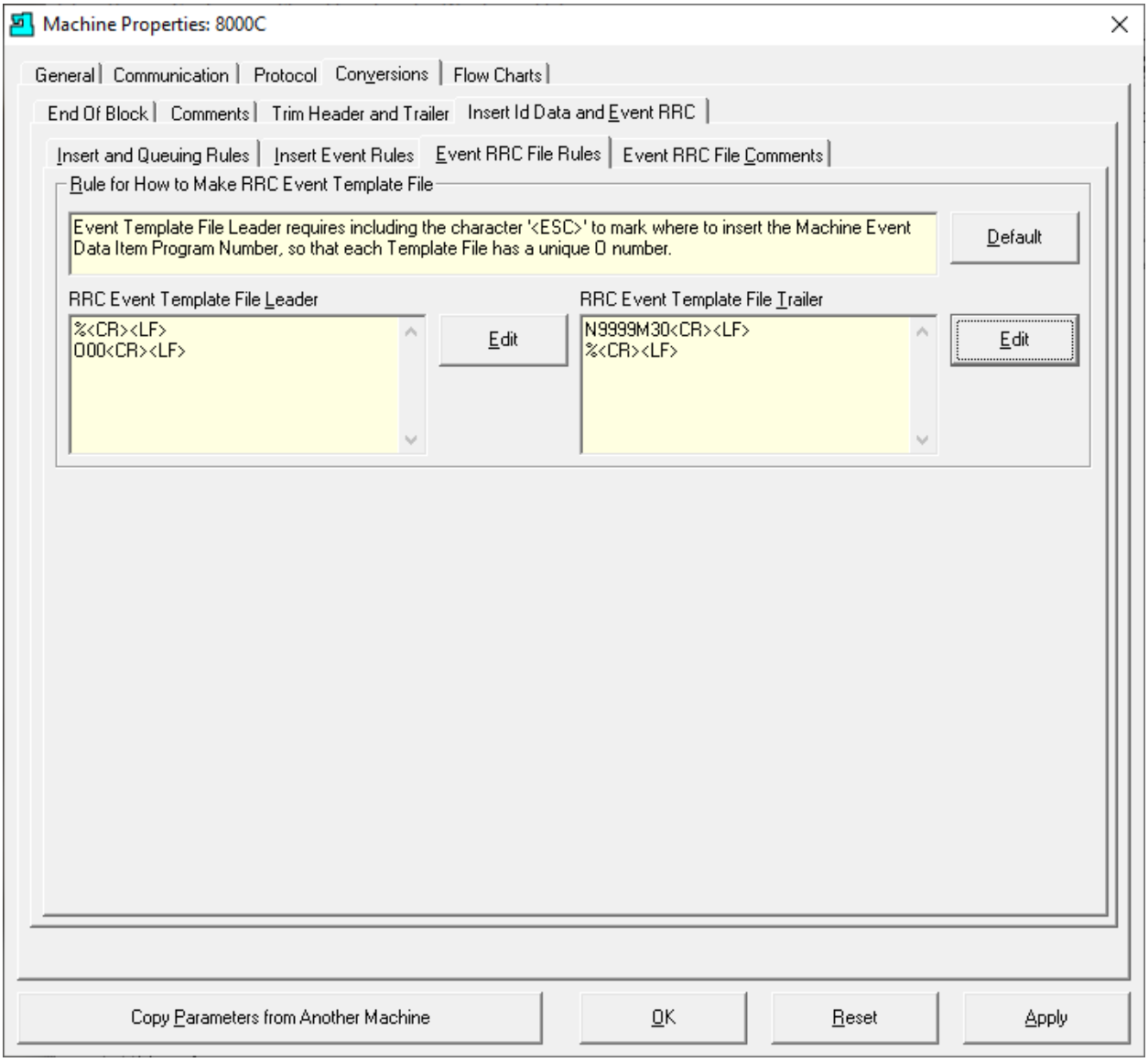
Let's explain what the other Buttons are used for:

Buttons:

- The **Close** Button closes & saves the Form as displayed!
- The **Insert** Button adds a new character above the highlighted character
- The **Add** Button adds a character below the highlighted character
- The **Remove** Button removes the highlighted character
- The **Reset** Button returns the form to its previous Saved State
- The **Clear** Button clears the form!

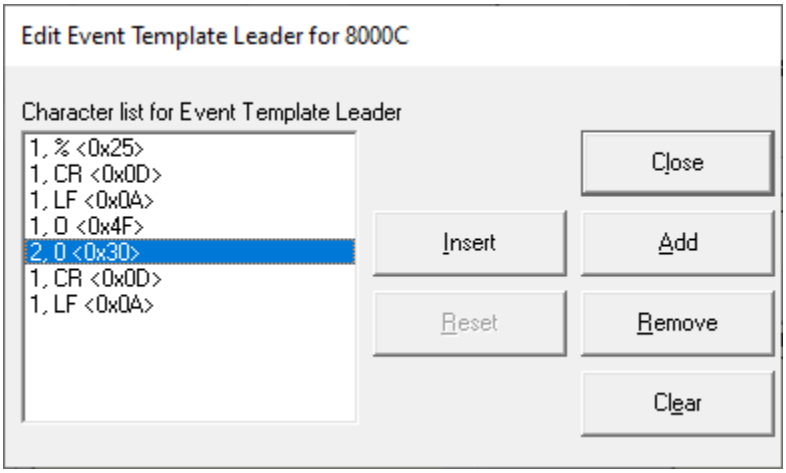
Note: Next let's create the Template Leader where it explains adding the **xx** from a previous page!

Configure Machines (UNC Properties 8000C – RRC Event Template File Leader Additional Information)



As mentioned in a previous page we will provide additional information on the Leader! Click on the Edit Button for the Leader and the following Window is displayed:

Configure Machines (UNC Properties 8000C – Template Leader Edit Form)



This section is specifically created for RRC Macros. When creating Leader or Trailers in other sections the configured form that generates the Wrapper around ShopNCFiles is a one-to-one mapping. However, the form above is handled differently as explained in the following.

We have highlighted line that creates 2-'0' integers. This will eventually become a 4-integer number by combining this 2-integer number (most likely will be different than 00) and the 2-integer set selected when checking the checkbox on the "RRC Template File" Tab "Allow Remote Request Command Templates!

Why such an elaborate approach to numbering Macros? When using the Macros as OEE-Controller-based-MDI Files it is possible, and more than likely, multiple Macros will be downloaded at the same time. These Macros are used to record OEE Events using the Machine Tool's Controller.

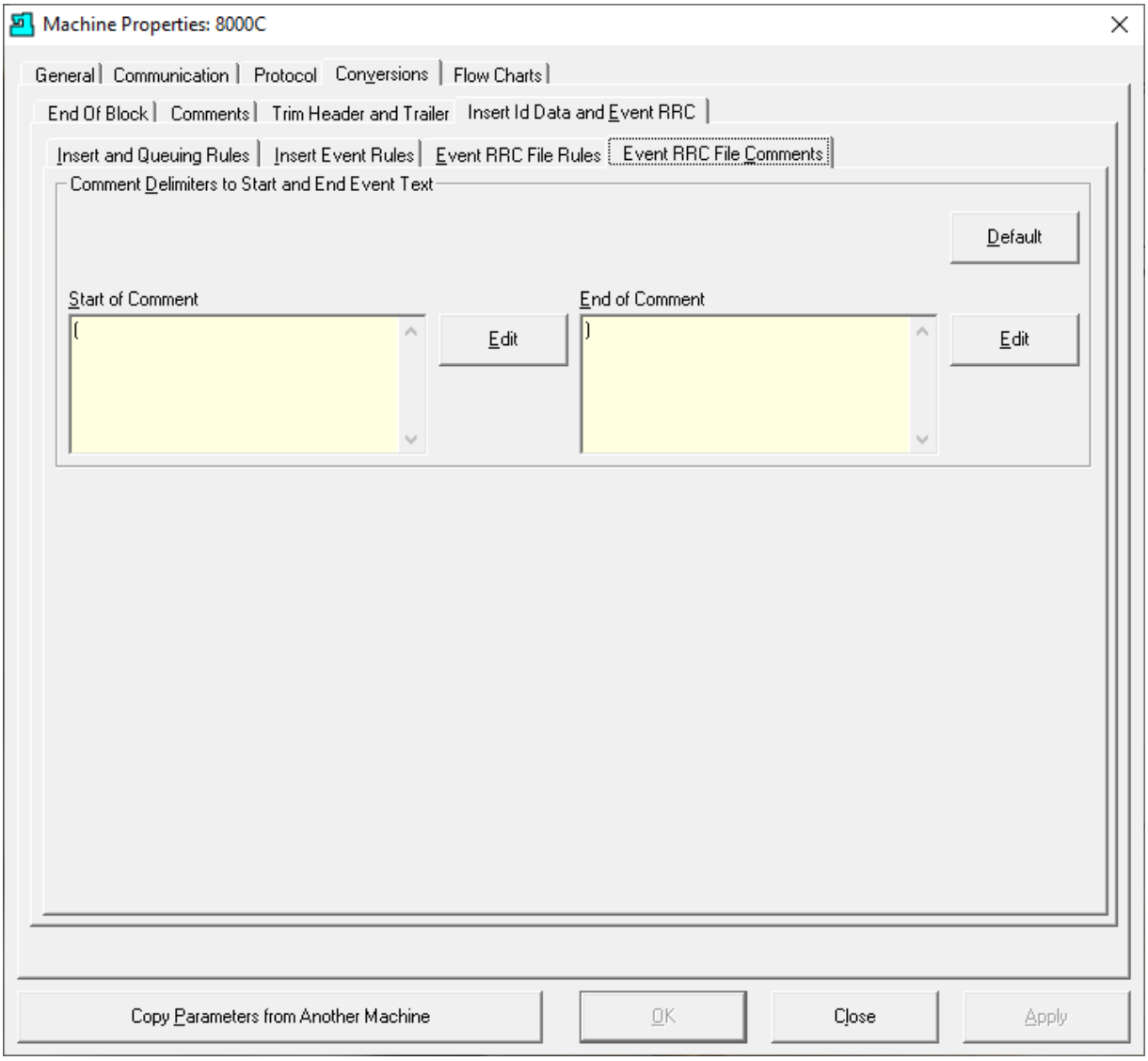
In order to avoid Machine Controller Program number clashes the numbering scheme must assure there are no collisions! This is why the last 2-integers that are added to the above highlighted integers are selected from the "RRC Template File" which is a set of 100 unique 2-integer numbers!

This assures that there are no Macro number collisions but doesn't guarantee there will be no clashes with other ShopNCFile Program Numbers. This is why the highlighted numbers above are settable. This allows Programmers to set aside a unique set of numbers dedicated to OEE base Macros!

I.E. Program number: O**yy****xx** where yy & xx can be any set of numbers 00 to 99! **yy** & **xx** are in general different! Example: O**43****21**! In this example the numbers **43** are retrieved from the Template Leader and the numbers **21** are retrieved from the RRC Template File!

Close the Template Trailer. Click on the Apply Button and then on the "Event RRC File Comments" Tab and the following Window is displayed.

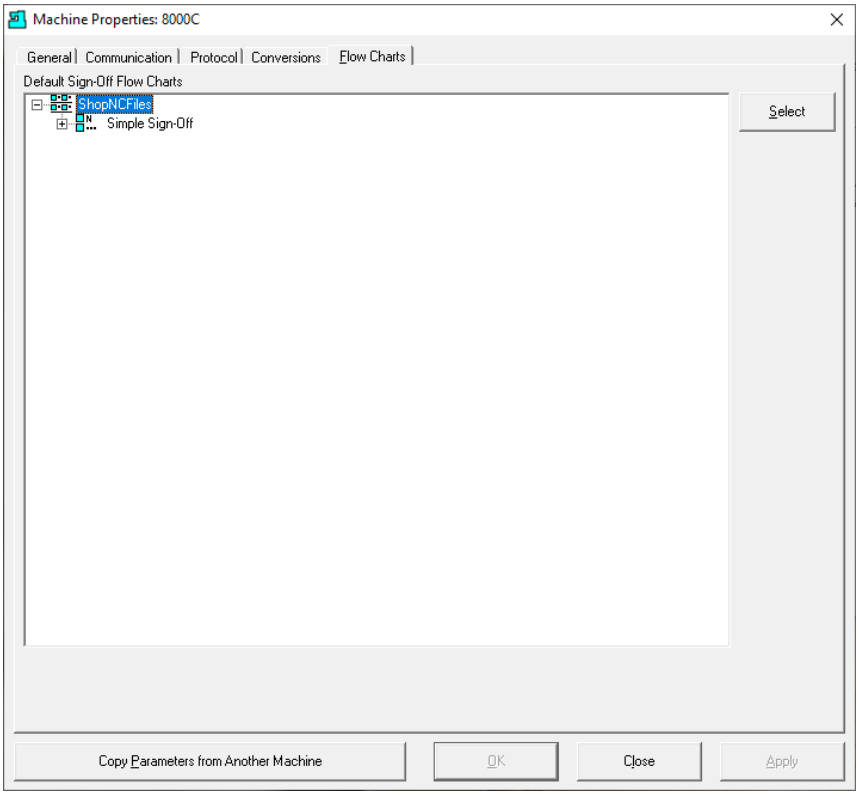
Configure Machines (UNC Properties 8000C – Insert RRC File Comments Tab)



More than likely, you will not have to change what the Start and End Comment Symbols unless your CNC doesn't support these! Highly unlikely but if needed they can be changed here!

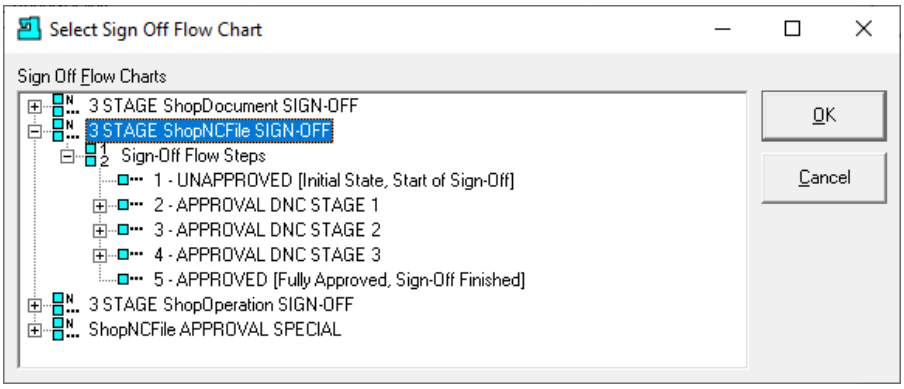
Next, we will click on the "Flow Charts" Tab and the following Window will be displayed.

Configure Machines (UNC Properties 8000C – Flow Charts Tab)



The Default Sign-Off Flow Charts presently being used are displayed. If you click the Select Button the following Window will be displayed.

Configure Machines (UNC Select Sign Off Flow Chart)

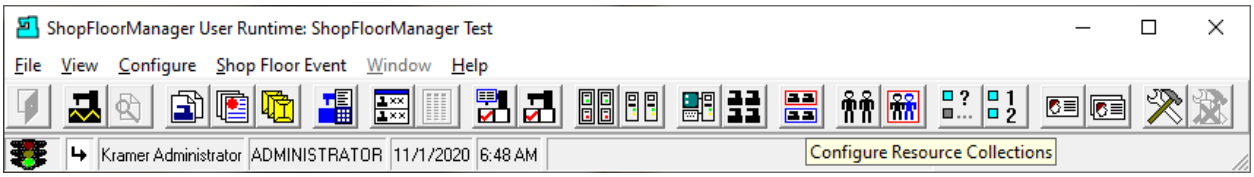


These Flow Charts are available to use but don't make any changes at this Time. If changes need to be made contact CCI. 1-781-933-9500.

Click the Cancel Button in this Window and the Close Button in next two Windows.

We have finished this section!

Configure Resource Collections (Virtual Folders, Integrate Rights, CNCs, N/C Files & Travelers)



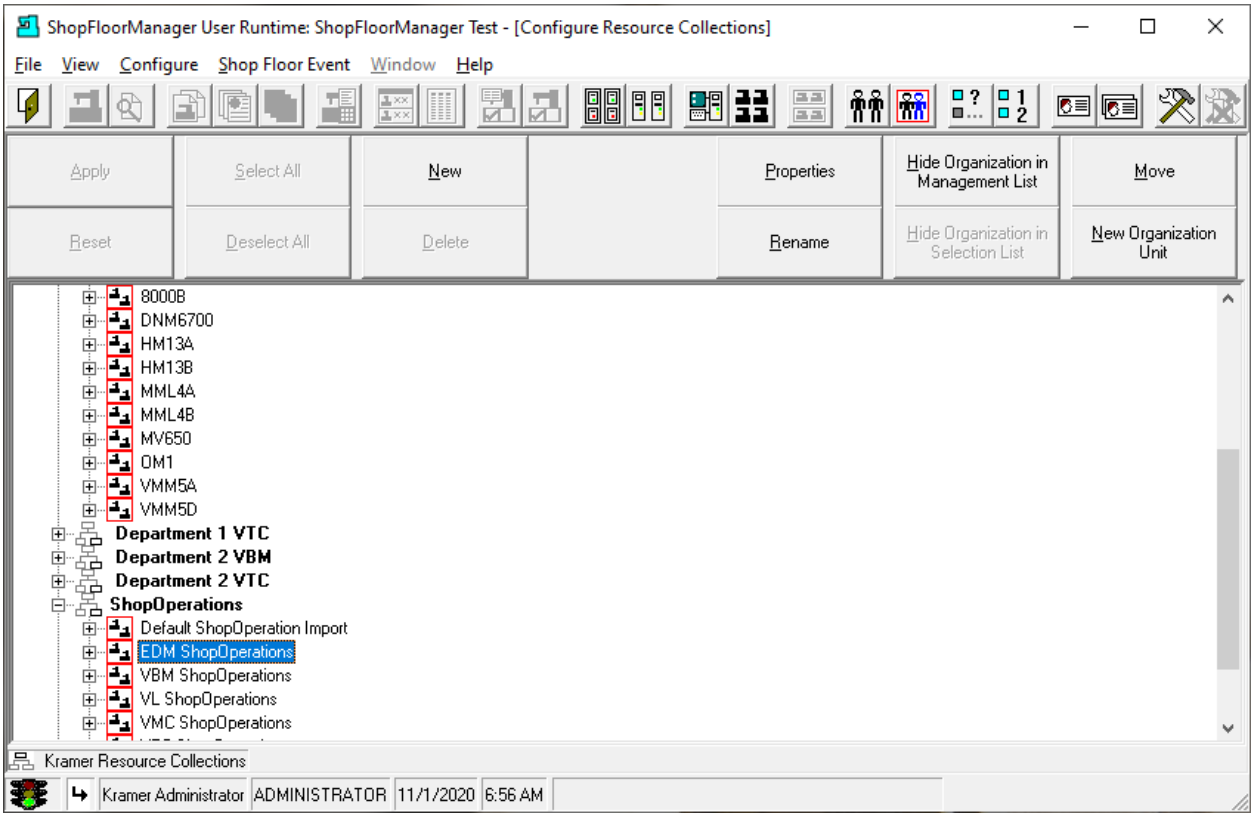
A Resource Collection is a secure virtual container that holds any number of ShopNCFiles, ShopOperations and can be associated with any number of Machine Tools!

This combination securely establishes a Machine Tools' access limits to ShopNCFiles, ShopOperations to those contained in a Resource Collection. These Resource Collections are associated with User Groups which ties the Security Knot!

We are now going to create a New Resource Collection.

Click on the "Configure Resource Collections" Icon and the following Window will be displayed.

Configure Resource Collections (New Resource Collection)

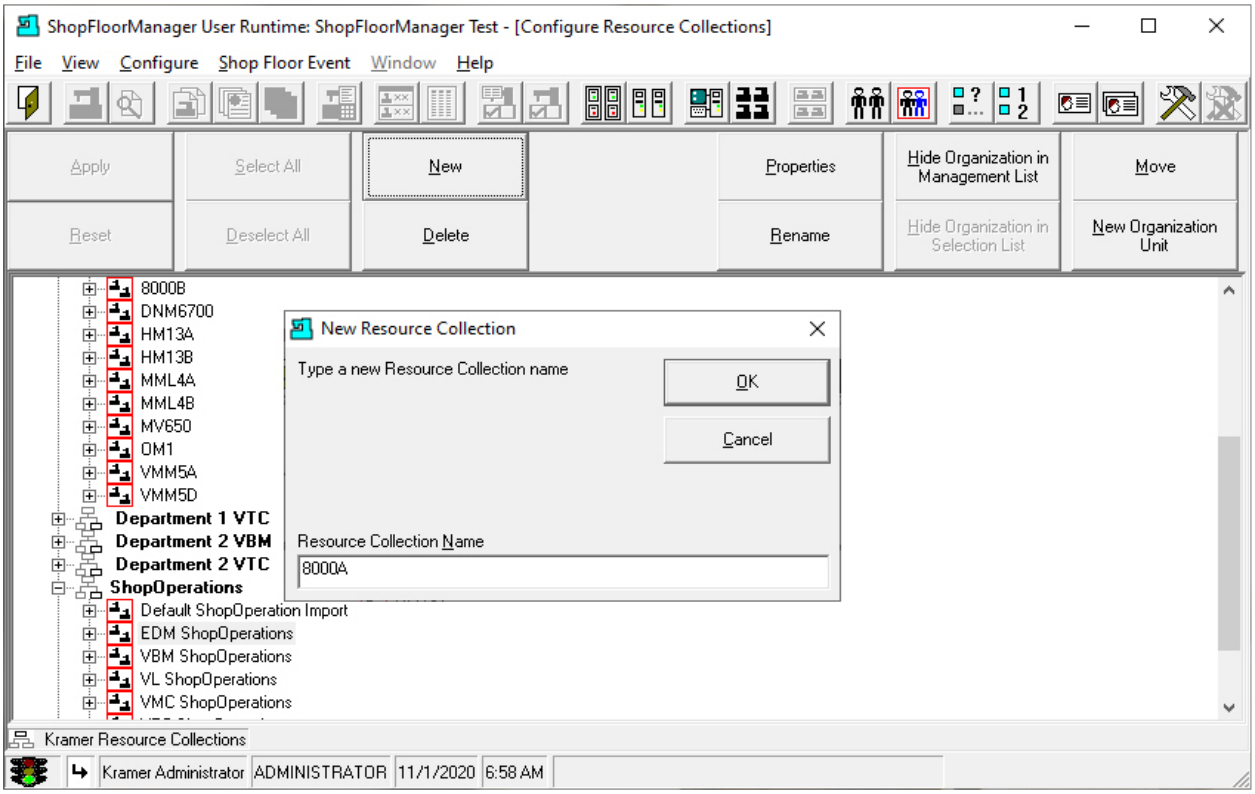


The view above shows various Resource Collects associated with various Organization Units.

We will be creating a new Resource Collection.

Click the New Button and the following Window will be displayed.

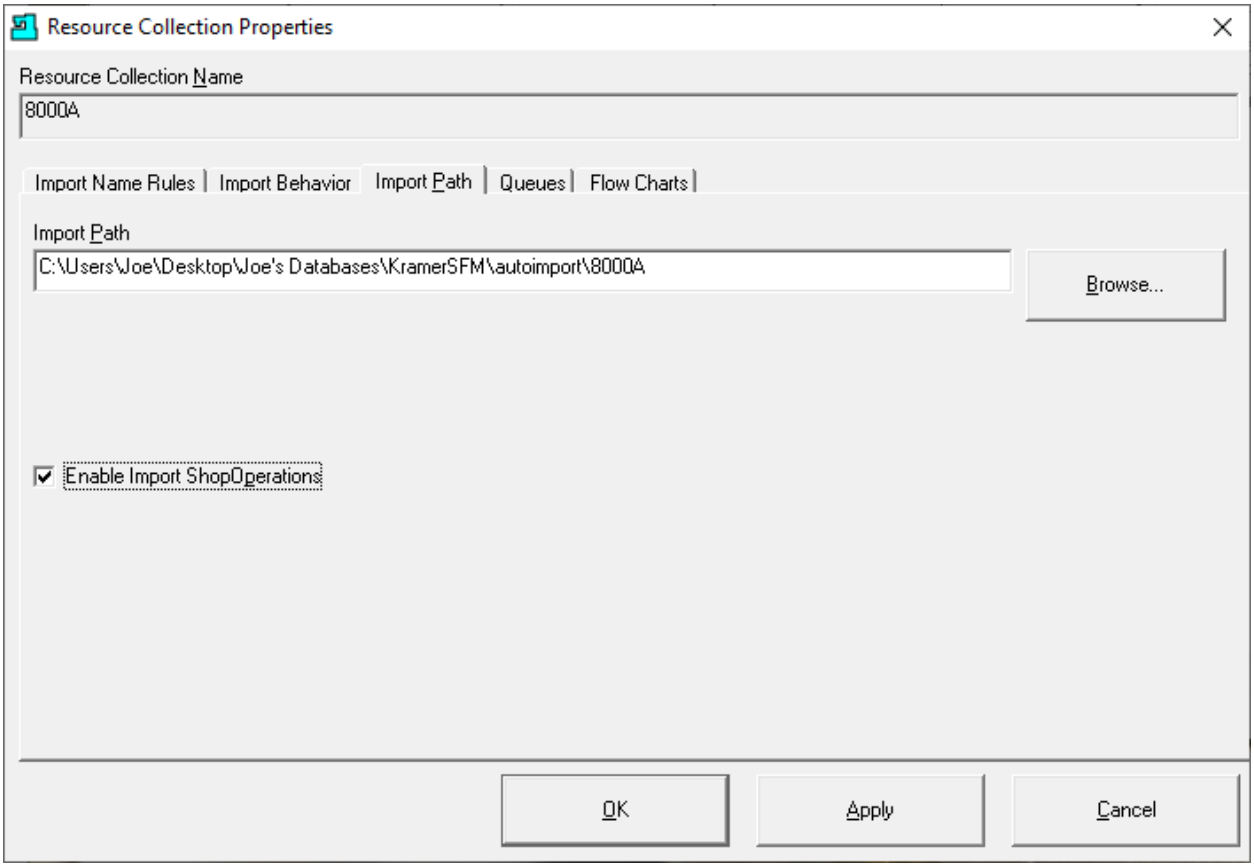
Configure Resource Collections (Creating 8000A)



Name the new Resource Collection 8000A.

Click on the OK Button and the following Window will be displayed.

Configure Resource Collections (Properties-Import Path)



ShopFloorManager supports using any unique folder for importing ShopNCFiles into ShopFloorManager's Database. Using the above Window, you can locate this folder's path.

This Folder will be periodically scanned (ShopFloorManager's Maintenance Engine needs to be running) and any ShopNCFiles placed in this folder will be imported into this Resource Collection & ShopFloorManager's Database.

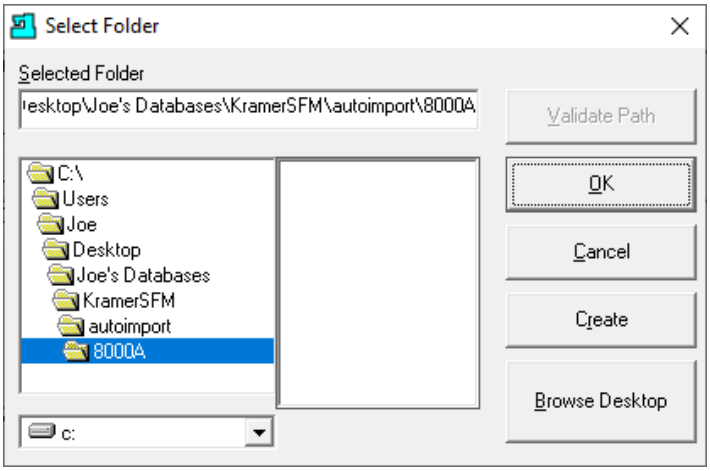
Once in the Database these Files can be accessed by any Machine Tool associated with this Resource Collection for downloading and uploading depending on the Approval status!

If you are going to be Importing ShopOperations check the checkbox next to Enable Import Operations.

Click on the Browse Button and the following Window will be displayed.

Note: Even though you can use any Folder it's good idea to select/create a folder in the Location of the Data Folder.

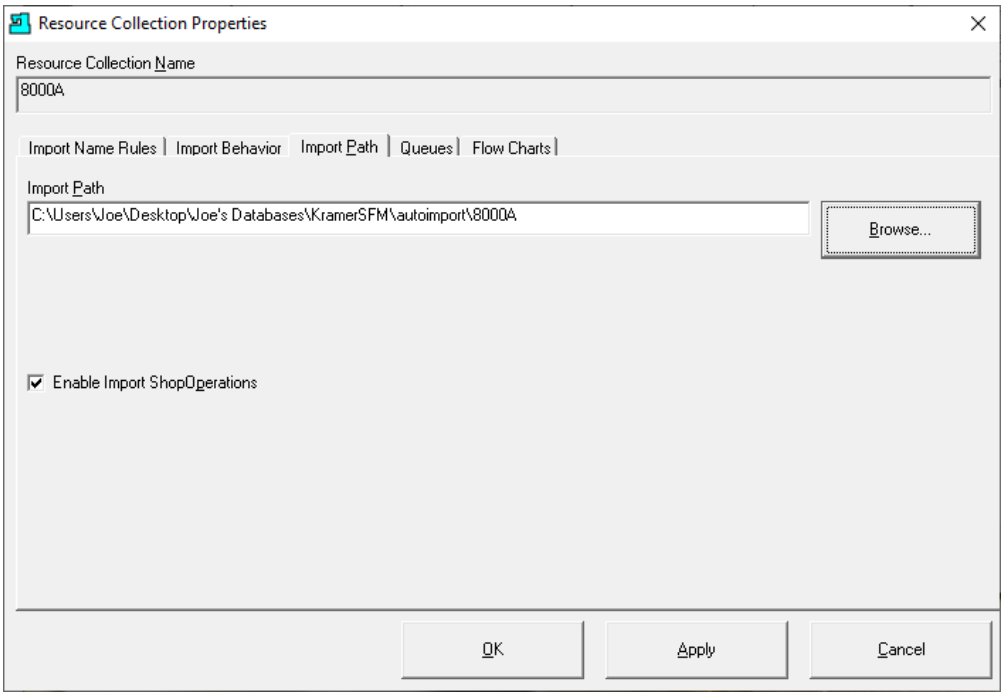
Configure Resource Collections (Select Folder for Importing)



Browse to the Folder where the Programmer will be placing completed ShopNCFiles that are ready to import into ShopFloorManager's Database & Assigned to this Resource Collection simultaneously.

Click the OK Button and the Following Window will be displayed.

Configure Resource Collections (Properties Import Path)

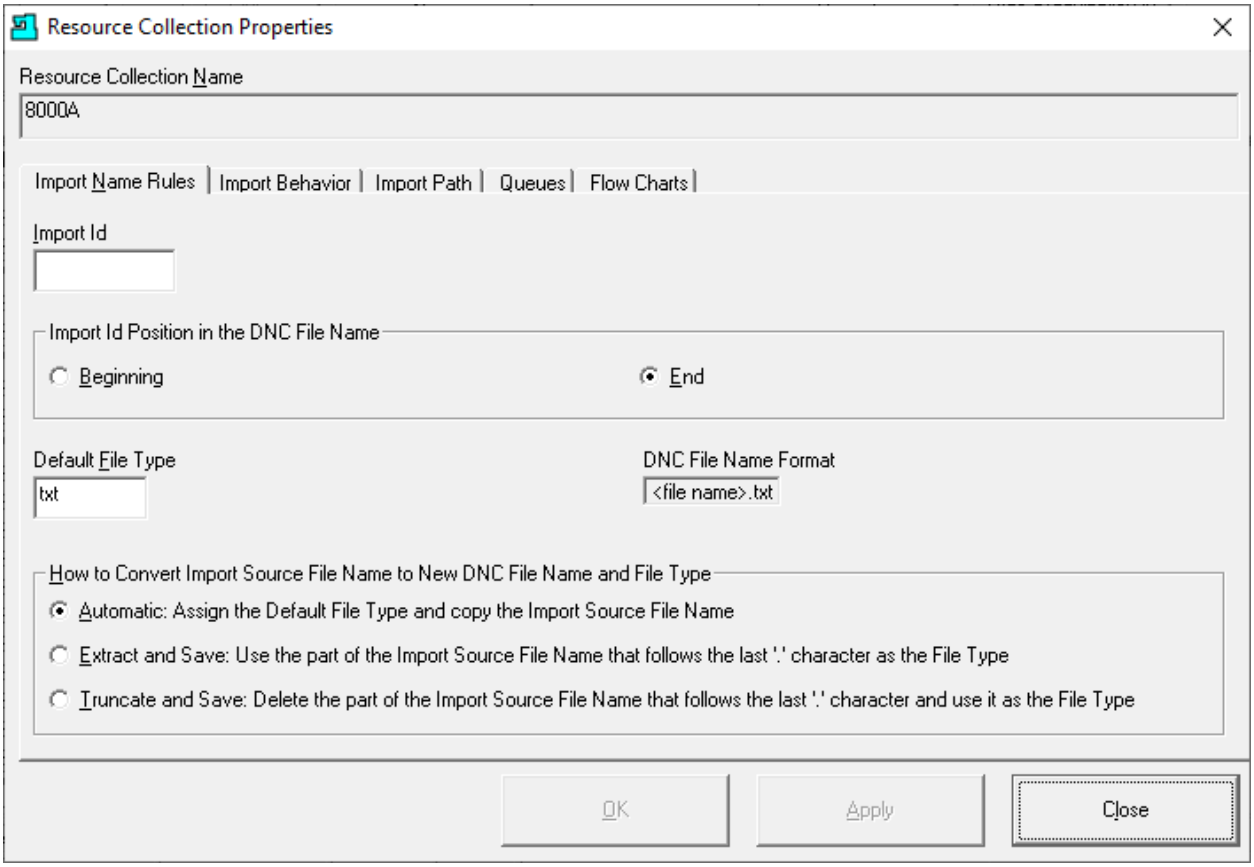


Click the OK Button then the Close Button and the Following Window will be displayed.

Note:

1. See the Manage ShopOperations section for information on Importing ShopOperations.
2. Whenever possible use Network Paths!

Configure Resource Collections (Properties – Import Name Rules)

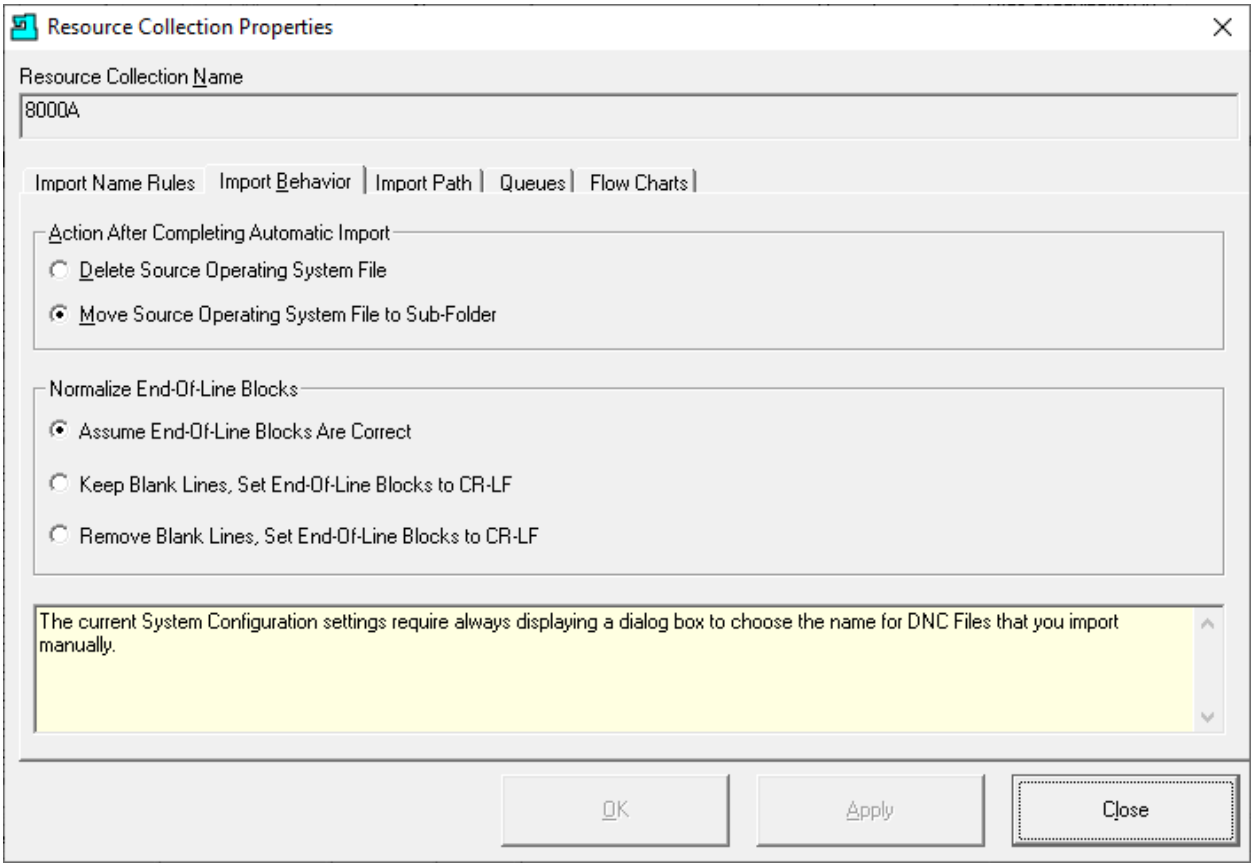


Import Name Rules:

Import Id
This additional "name extension" is generally used when there is a possibility two files with the same name in different folders might collide. ShopFloorManager requires unique file names!
Import Id Positioning in the ShopNCFile Name
Choose to add at the beginning or end of the imported file!
Default File Type
You can use any File Type you would like but make sure Windows has an association with this file type. ShopFloorManager uses this when opening Files with a Native Application!
How to Convert Import Source File Name to New ShopNCFile Name and File Type
Choose from the three options. Generally, one is most often chosen.

Click on the Import Behavior Tab and the following Window will be displayed.

Configure Resource Collections (Properties-Import Behavior)

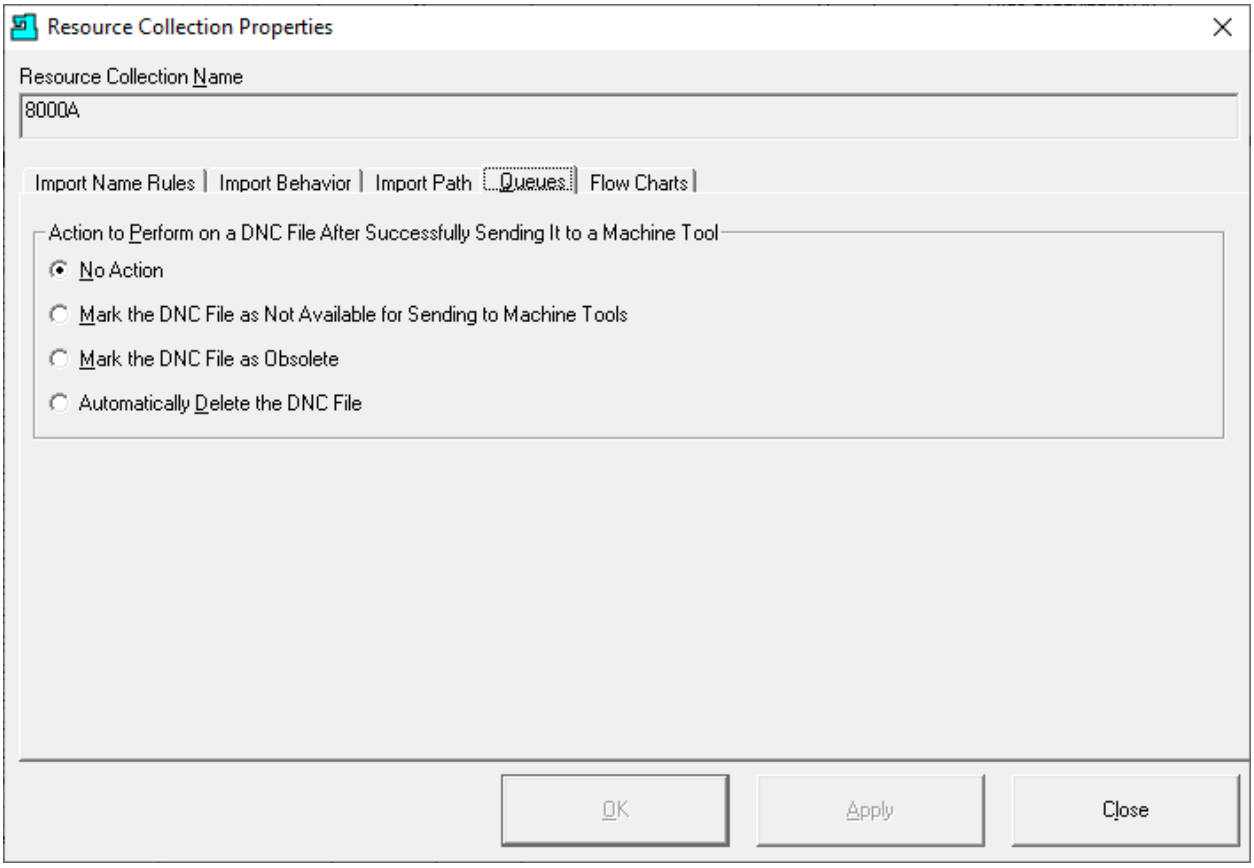


Here are a few Import Behaviors:

- **Action After Completing Automatic Import**
  The second option is generally the default. Change as needed. If you have backups copies of the imported files you can use option one!
- **Normalize End of Line Blocks**
  The first option is generally the default. Change as needed. Call CCI if you have questions. 1-781-933-9500.
- **Information Text Area in Yellow**
  This information reflects settings on manually importing files set in another section!

Click the Queues Tab and the following Window will be displayed.

Configure Resource Collections (Properties-Queues)



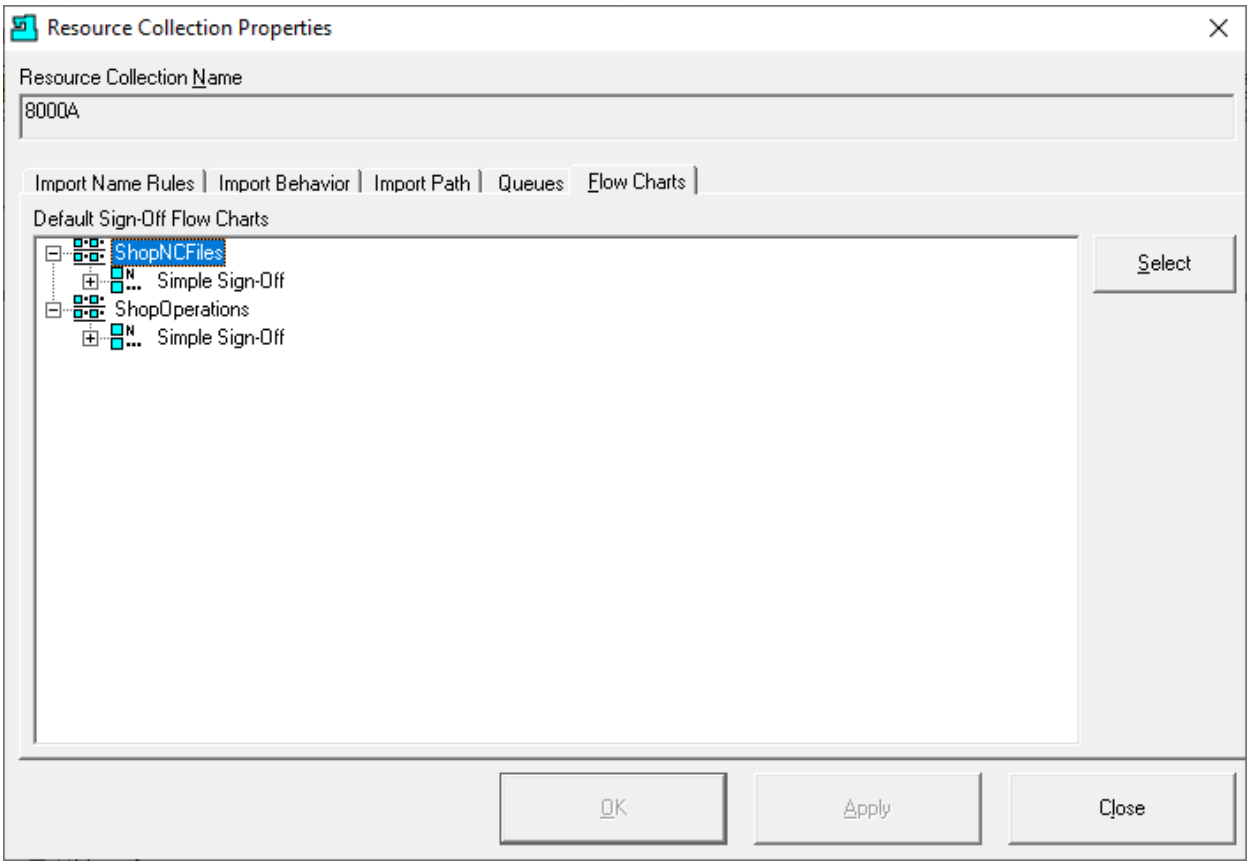
Action to Perform on a ShopNCFile….

Select the options that best meets the needs of your company!

Click on the “Flow Charts” Tab and the following Window is displayed!

Note: See Obsolete & Delete of ShopNCFiles. Deleting an Obsolete file follows the section on Obsolete!

Configure Resource Collections (Properties-Flow Charts)



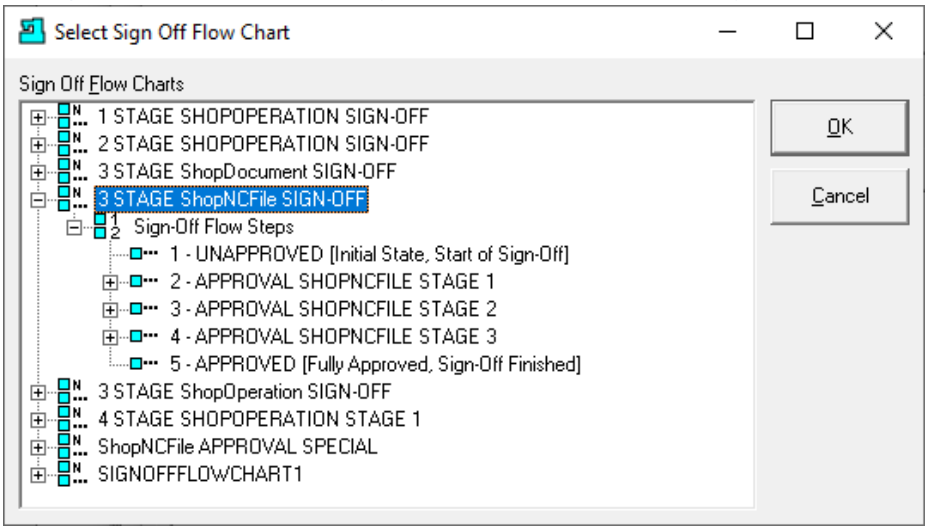
This Flow Chart Form determines which Sign Off Flow Chart is assigned to a newly imported ShopNCFile or ShopOperation. I.E. Upload from CNC, Import by Maintenance Engine or Drag-Drop as appropriate!

If you do NOT select a template Sign-Off Flow Chart in this Form, then any time you upload or import a new ShopNCFile SFM will automatically associate a Simple Sign-Off Flow Chart to this new ShopNCFile. This also applies to a ShopOperation when imported!

You can select a more robust Sign Off Flow Chart if you wish. Highlight the ShopNCFile Icon and click the Select Button and the following Window is displayed.

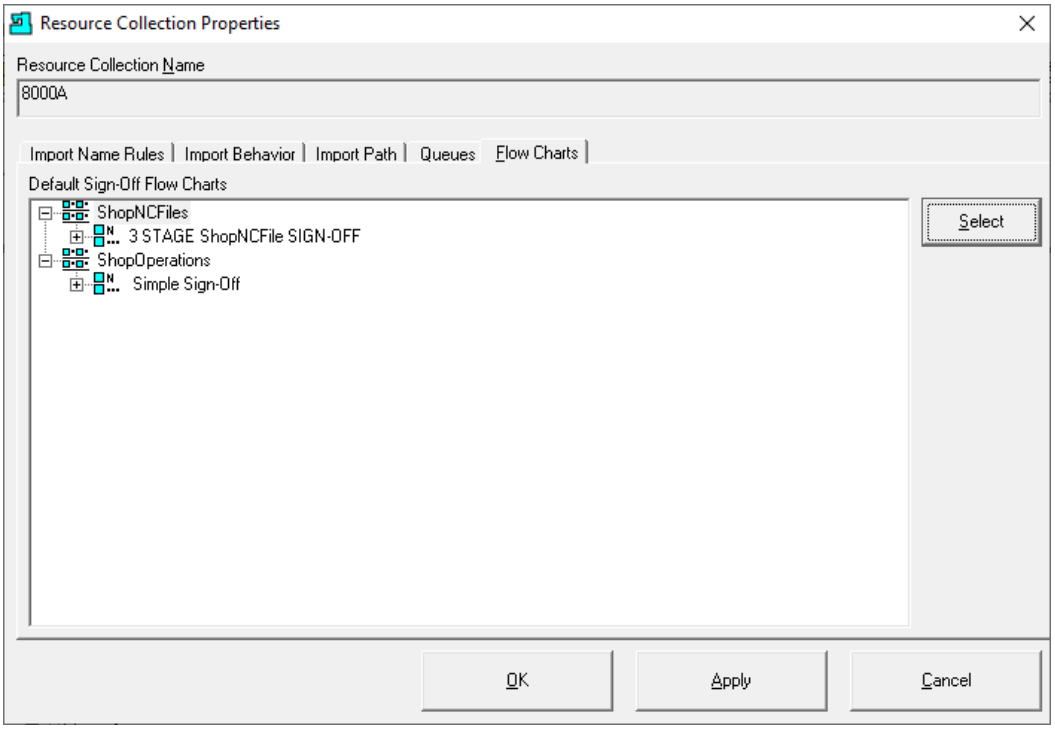
Note: You can repeat the following Process for ShopOperations if needed!

Configure Resource Collections (Properties-Flow Charts Selection)



Let's select the 2 STAGE ShopNCFile SIGN-OFF Flow Chart and click the OK Button and the following Window is displayed! Click these Links for additional Information: Sign-Off Flow Charts & Sign-Off States!

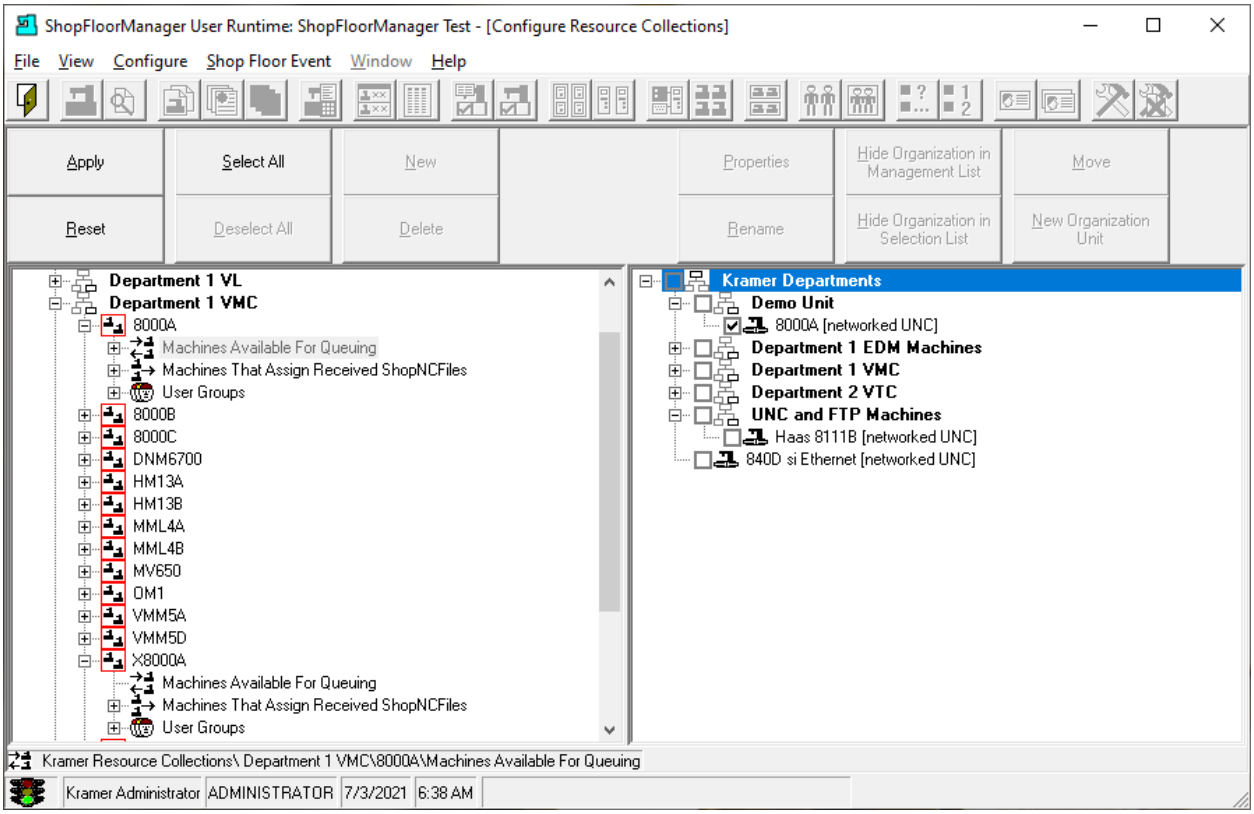
Configure Resource Collections (Properties-Flow Charts Updated)



As you can see the Simple Sign-Off Flow Chart has been replace with the 3 STAGE ShopNCFile SIGN-OFF Flow Chart!

Click the Apply Button and then the Close Button on this Form and the following Window is displayed.

Configure Resource Collections (Machines Available For Queuing 8000A)



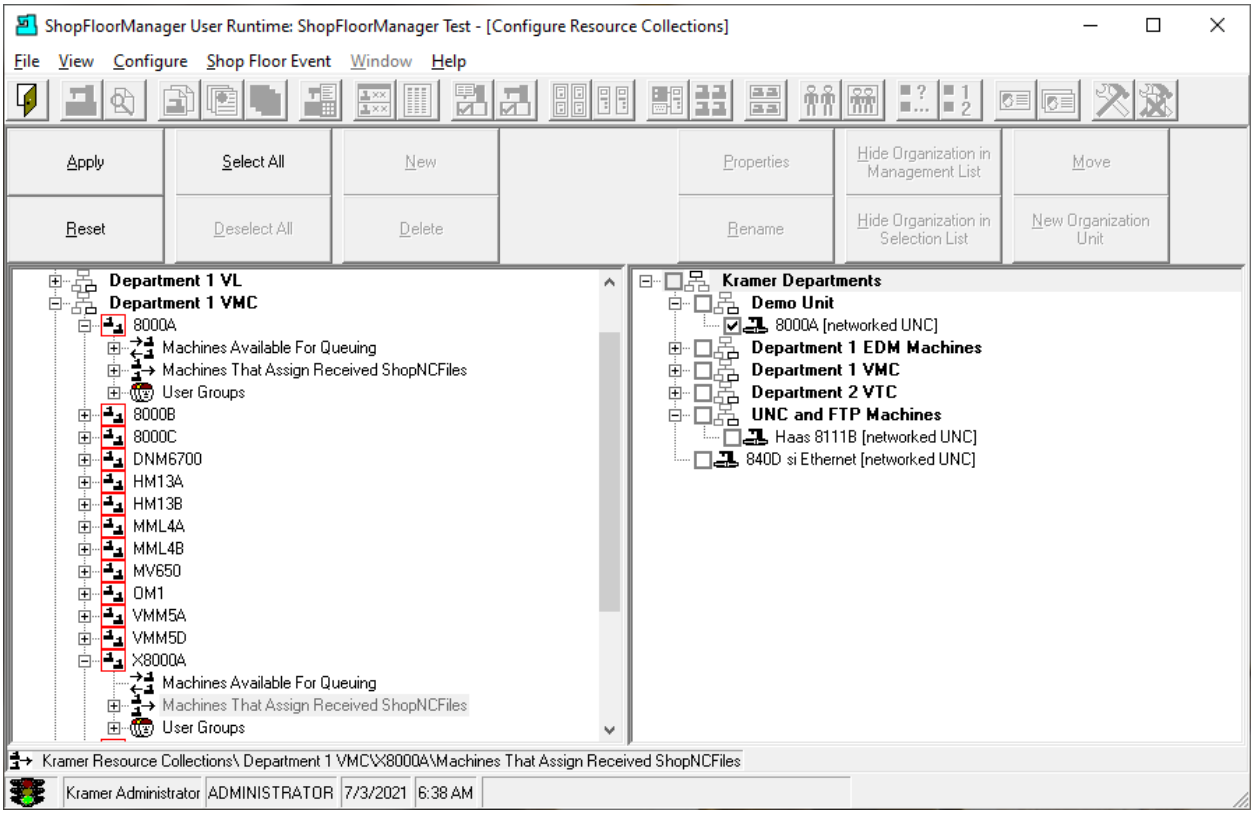
We will now establish which machines can access ShopNCFiles from this Resource Collection. You can associate as many machines as needed!

Obviously, these machines should be able to execute these ShopNCFiles!

Wait, if it's Obvious, why did I have to write this sentence? Ahhh, I like to write Manuals? Time for a coffee break! Why not join me, I don't see your Boss? The coffee was great. Back to work!

After selecting the machines in the Right-Hand Pane click the Apply Button and continue to the next Page!

Configure Resource Collections (Machines That Assign Received ShopNCFiles X8000A)



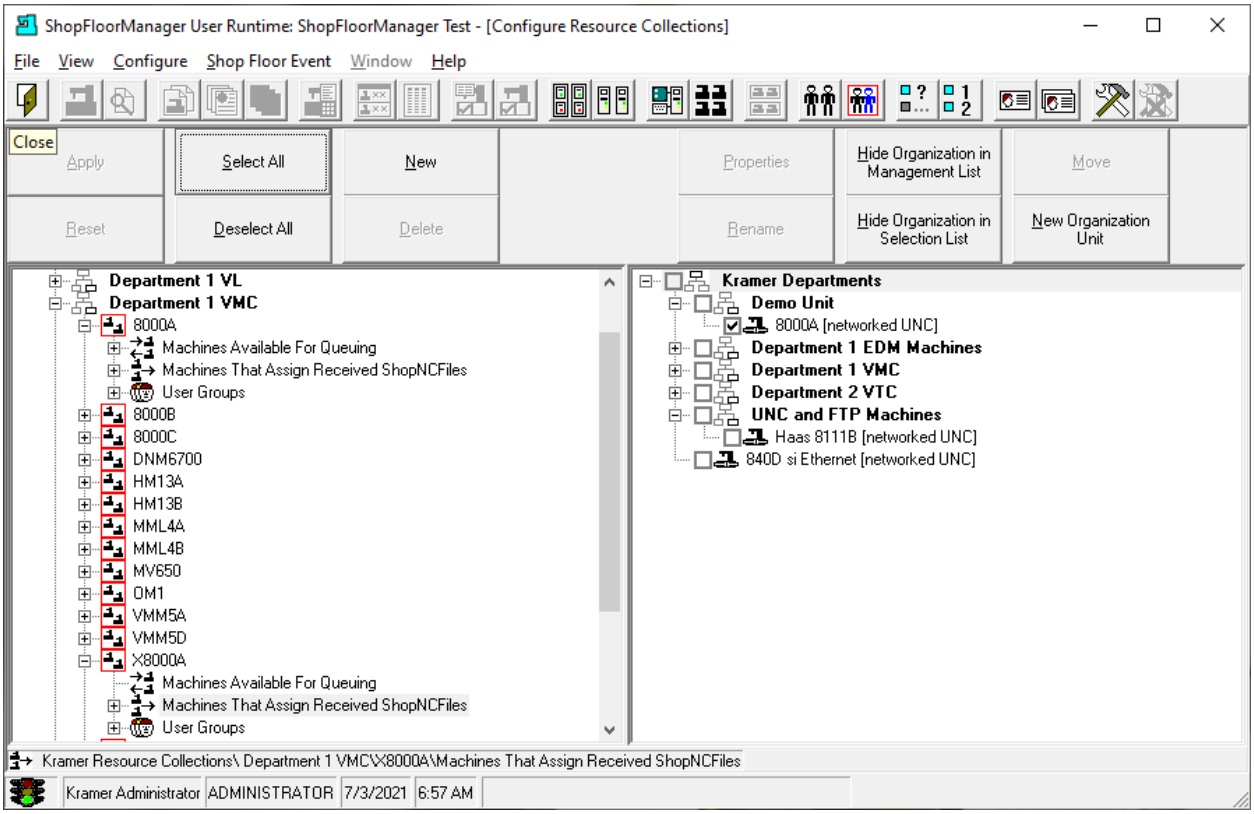
We will now establish which Machines can upload to the selected Resource Collection (X8000A). We have chosen a Resource Collection that doesn't have any machines that can download from this Resource Collection! We have also named it to reflect which Machines are associated with it. You can name it with any naming convention the works for you!

What this provides us is the ability to upload files that may have been modified and need to be approved/checked before moving them to a Resource Collection used for downloading!

This is another Quality Protection provided by ShopFloorManager!

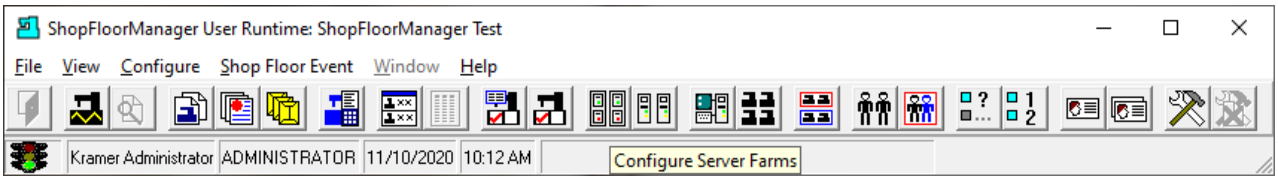
After selecting the machines in the Right-Hand Pane click the Apply Button and continue to the next Page!

Configure Resource Collections… (Close)



Click the Close Icon and the Following Window will be displayed.

Configure Server Farms (Get your Overalls on, we have to Feed all those Servers!)



If you need help with Server Farm(s) please give CCI a call at 1-781-933-9500. This is rarely used!

Introduction:

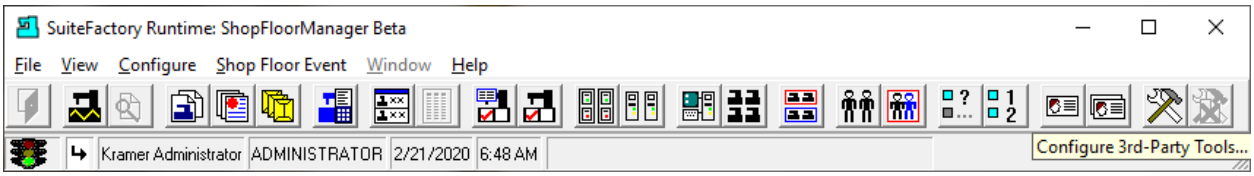
Starting with release V7.3.54, SuiteFactory has built-in support for Citrix Presentation Server/XenApp™ and similar server farm virtualization software platforms. These platforms run on top of Microsoft Terminal Services and give you the ability to load software applications on only a small number of server farm host computers (often only one or two) but deploy these applications to many, many clients. These applications run only on the farm's servers but appear to run on the end users' PC's or thin client terminals. The end users access these applications either through a client-side plug-in program using remote login or via a web browser. **Note! If you allow internet access to your server farm via a secure gateway, then applications loaded onto the farm servers can be accessed anywhere on the web by users with proper credentials.**

See the Appendix Citrix Server Farm Support

Configure Shop3rdPartyTools (Make your 3rd-party Apps Part of ShopFloorManager)

ShopFloorManager securely stores third-party ShopDocuments and allows Third-Party Applications to access these ShopDocuments. How do we accomplish this?

Configure Shop3rdPartyTools (Configure 3rd-Party Tools…)

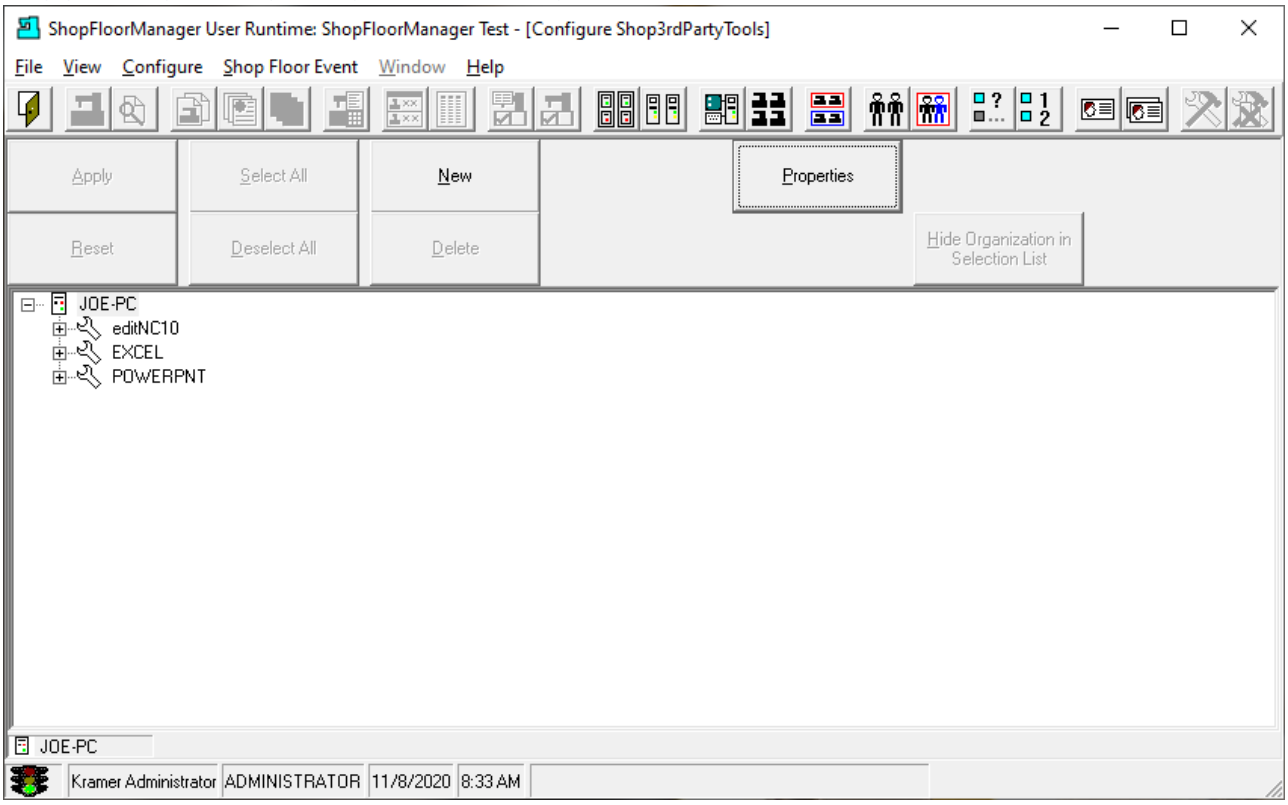


We will be creating a communication channel between ShopFloorManager's ShopNCFiles & ShopDocuments with Third-Party Applications using ShopFloorManager's Shop3rdPartyTools.

Note: ShopFloorManager provides document storage, security, recording of History Changes and revision control for Third-Party Application Documents.

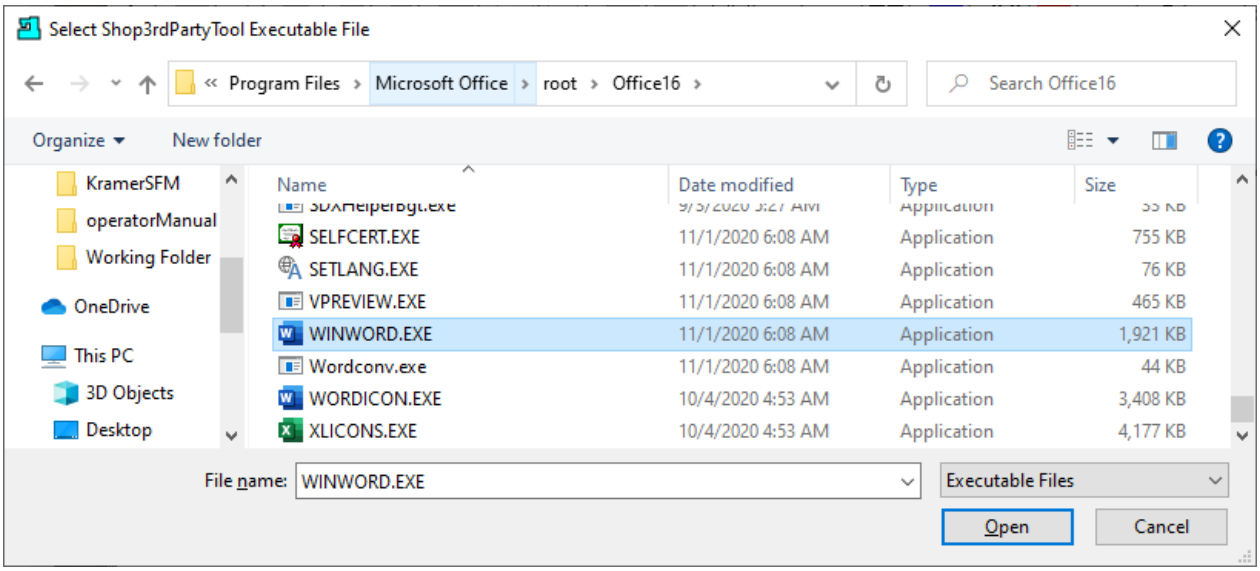
Click the Configure Shop3rdPartyTools and the following Window will be displayed.

Configure Shop3rdPartyTools (New 3rd-Party Tool)



Click the New Button and the following Window will be displayed.

Configure Shop3rdPartyTools (Select Application)



Use the Browse Window to locate the 3rd-Party Tools Application you want to add to ShopFloorManager's list of 3rd-Party Applications.

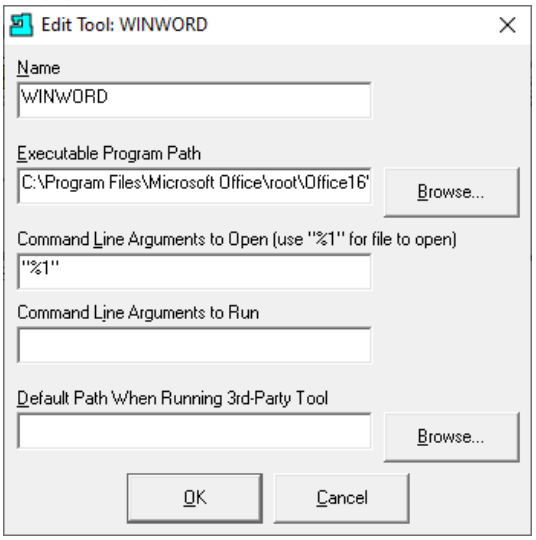
Click the Open Button and the following Window is displayed.

Configure Shop3rdPartyTools (Select Application Name)

Enter the Name you would like presented in ShopFloorManager for this application and click the OK Button and the following Window for setting the needed parameters for the Application is Displayed.

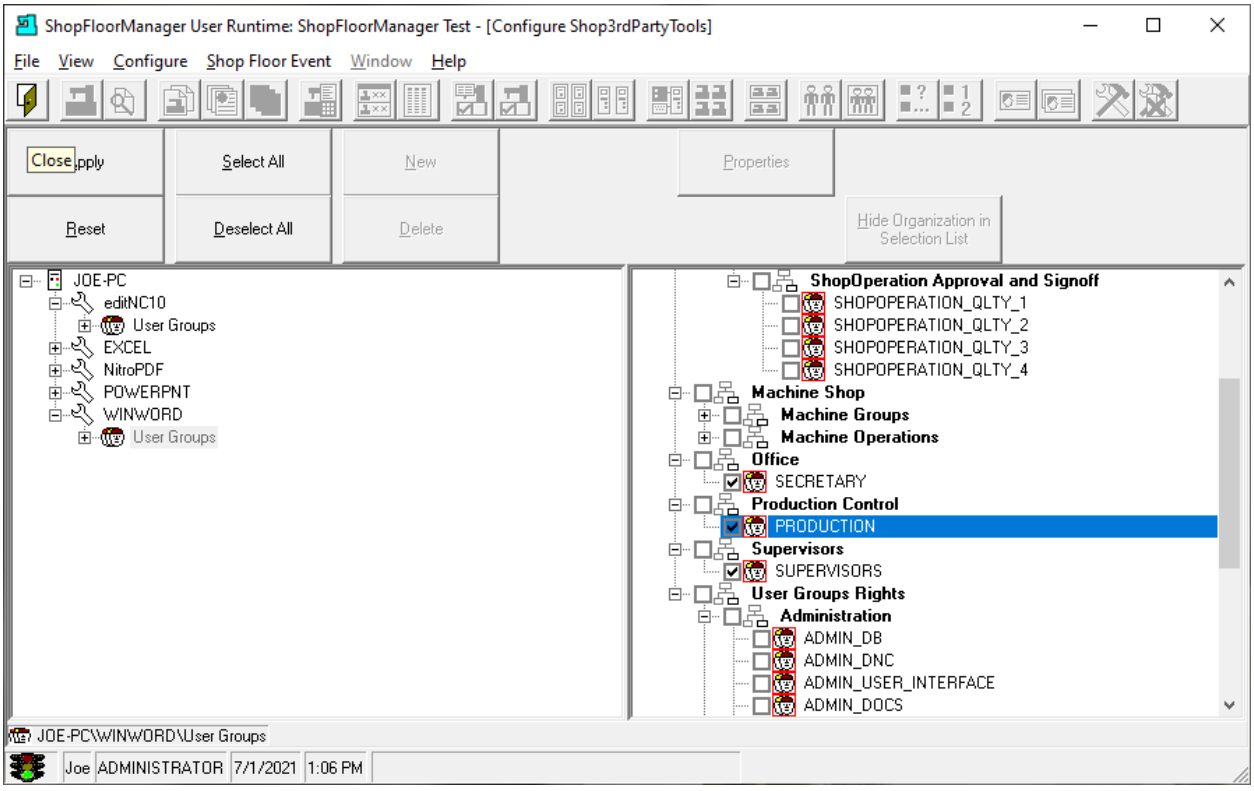
Note: Changing the Third-Party Tool Name in this Form has no effect on the Executable name!

Configure Shop3rdPartyTools (Edit Application Parameters)



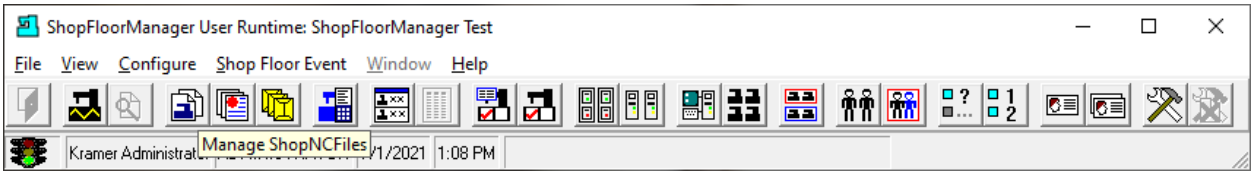
These are the Standard Microsoft Command-Line Arguments! Make changes as needed. Normally you would use defaults values. When completed click the OK Button and the Following Window is displayed.

Configure Shop3rdPartyTools (WinWord added)



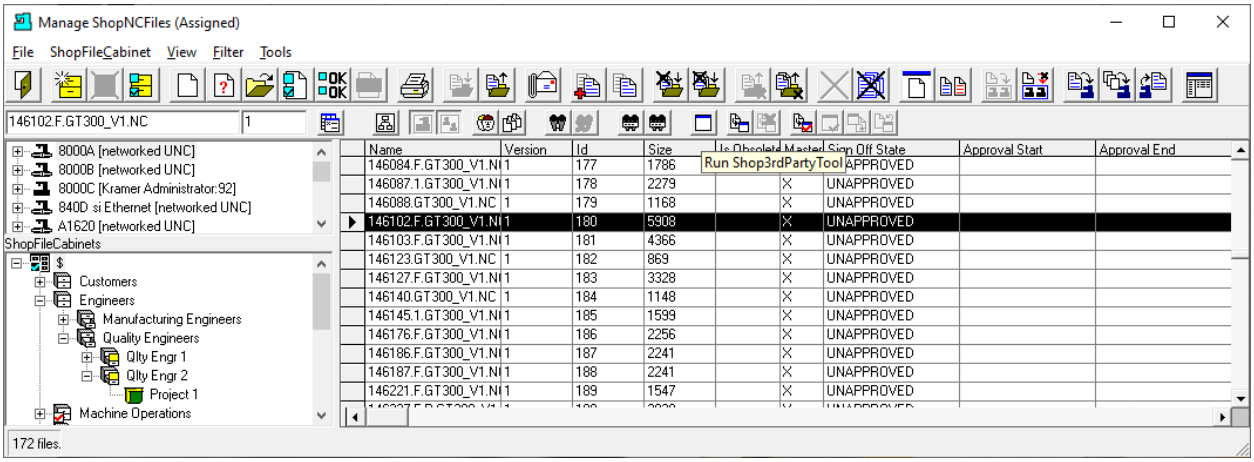
Highlight the User Group Icon and check the various checkboxes for the User Groups that will have access to this Shop3rdPartyTool. Click the Apply Button and the Close Icon in the upper-left corner under the File Menu and the following Window will be displayed.

Configure Shop3rdPartyTools (Manage ShopNCFiles)



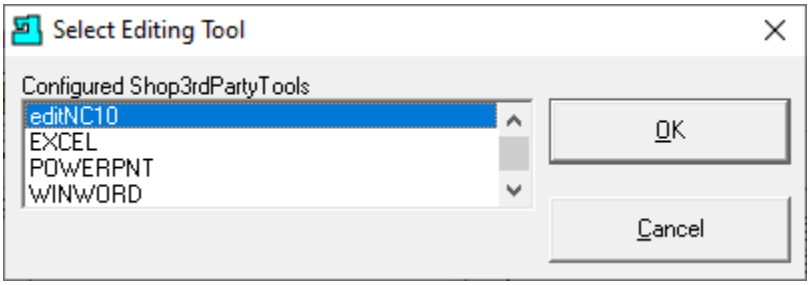
Let's demonstrate the use of Shop3rdPartyTools! Click on the "Manage ShopNCFiles" Icon and the following Window will be displayed.

Configure Shop3rdPartyTools (Run a 3rd-Party Tool)



Select a ShopNCFile and click on the Run Shop3rdPartyTool Icon and the following Window will be displayed.

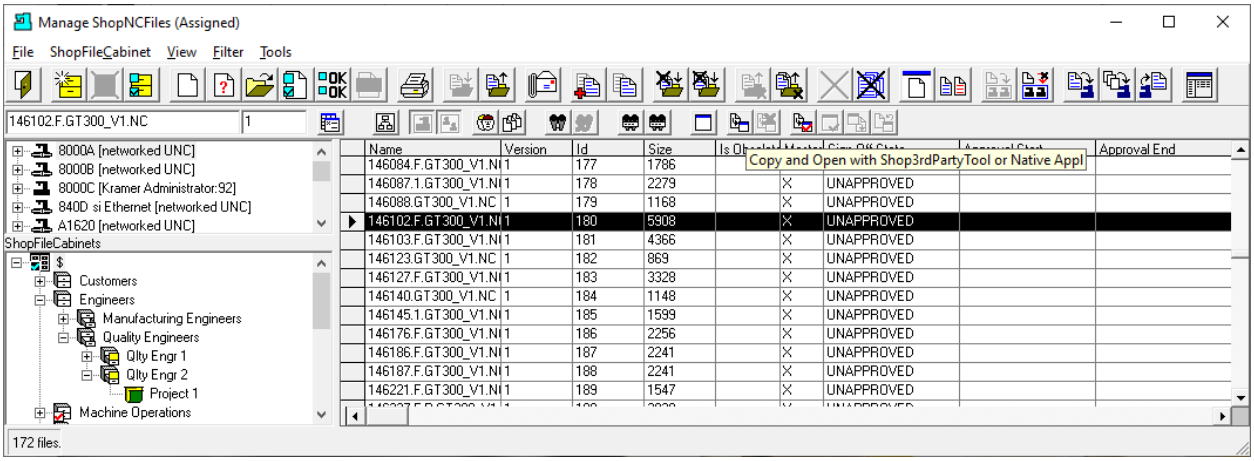
Configure Shop3rdPartyTools (Selecting Editing Tool)



This option will only allow you to startup an Application that has been added to "Shop3rdPartyTools". If you only want to start up an Application, highlight the Application above & then the OK Button! You will not be allowed to select a Document stored in ShopFloorManager's Database using this option!

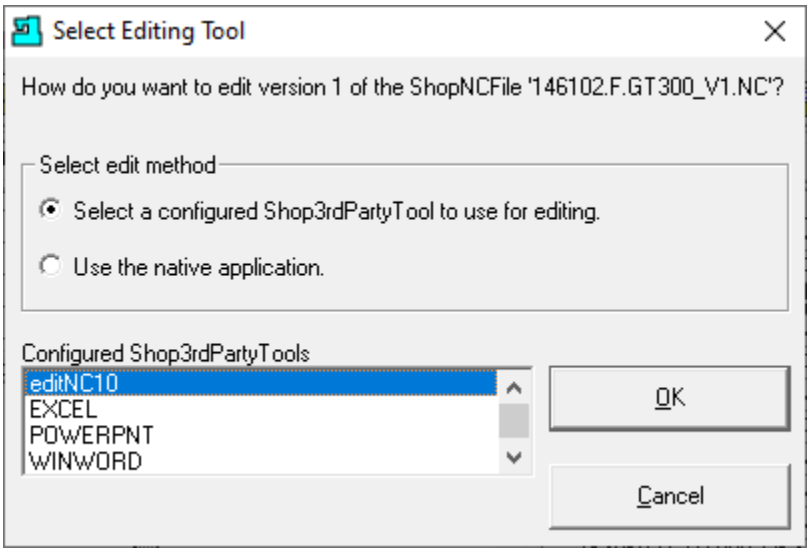
Let's try a different option.

Configure Shop3rdPartyTools (Copy and Open with Shop3rdPartyTools or Native Application)



Select a File you want to “Edit” with a Third-Party Application and click on the “Copy and Open with Shop3rdPartyTool or Native Application” Icon and the following Window is displayed. Select a Third-Party Application and click the OK Button and you are ready to “Edit” this file.

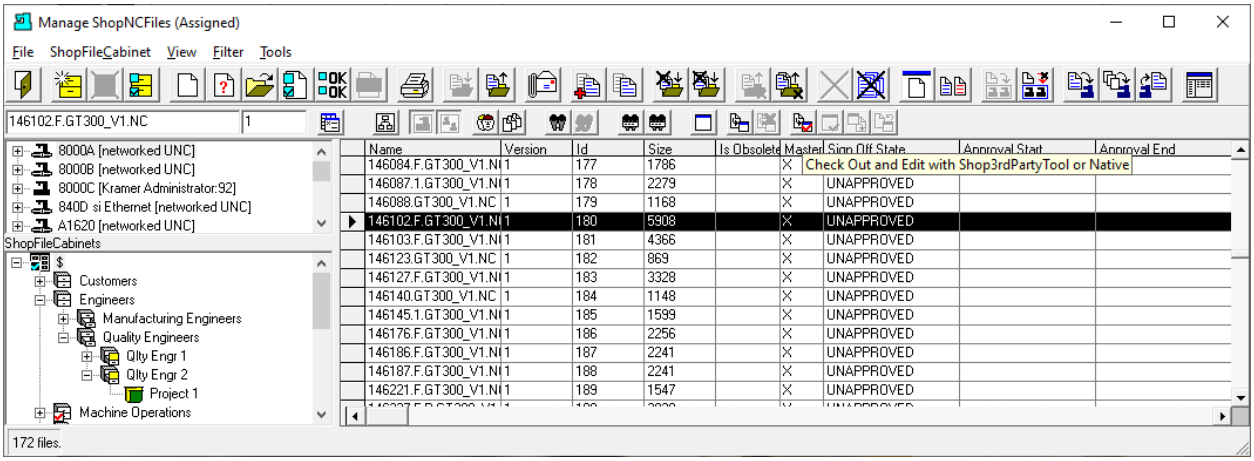
Configure Shop3rdPartyTools (Selecting Editing Tool)



Using the Third-Party Tool in this way only copies a file for use for this Application but any changes are outside of ShopFloorManager control! The original file in ShopFloorManager is not changed! Click the Cancel Button and the following Window will be displayed.

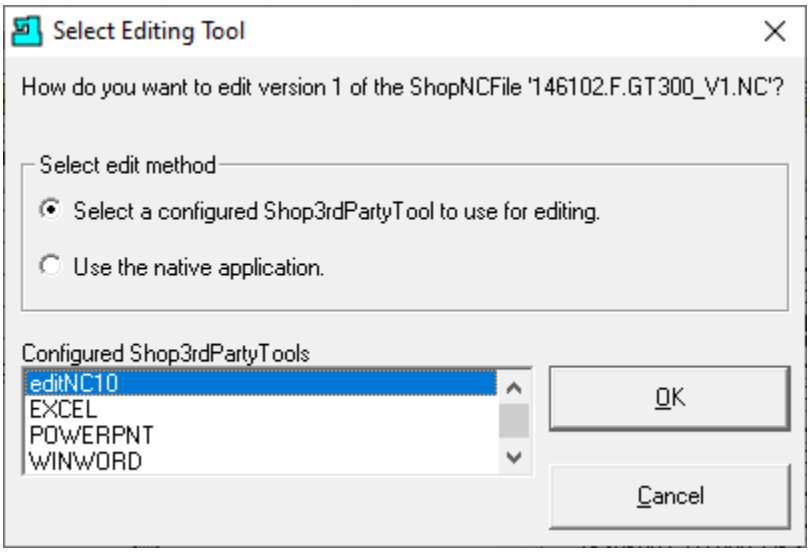
Let’s try another option!

Configure Shop3rdPartyTools (Check Out and Edit with Shop3rdPartyTool or Native Application)



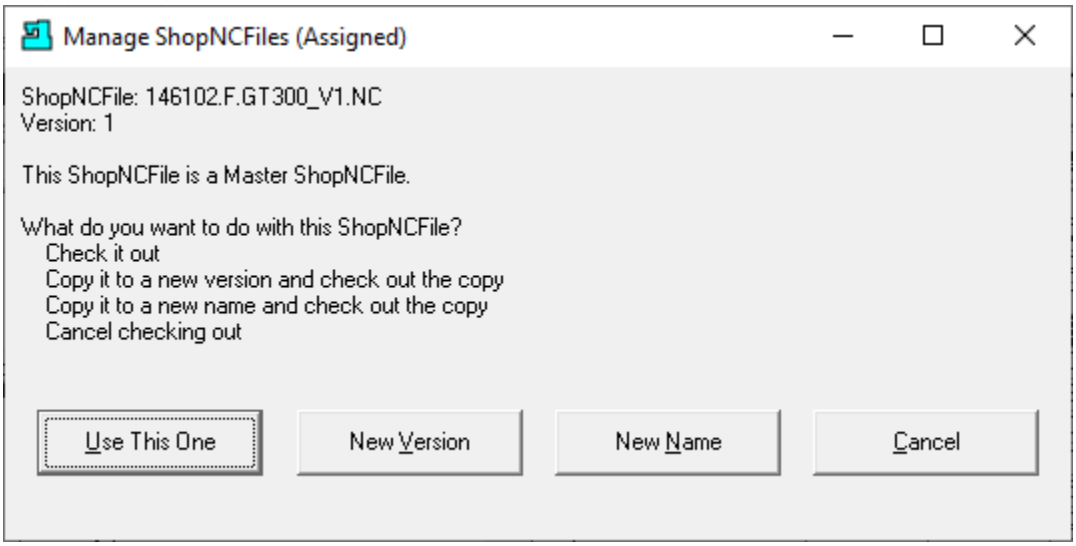
Select a File you want to “Edit” and eventually save in ShopFloorManager’s Database with a Third-Party Application and click on the “Check Out and Edit with Shop3rdPartyTool or Native Application” Icon and the following Window is displayed. Select a Third-Party Application and click the OK Button and you are ready to “Edit” this file.

Configure Shop3rdPartyTools (Selecting Editing Tool editNC10)



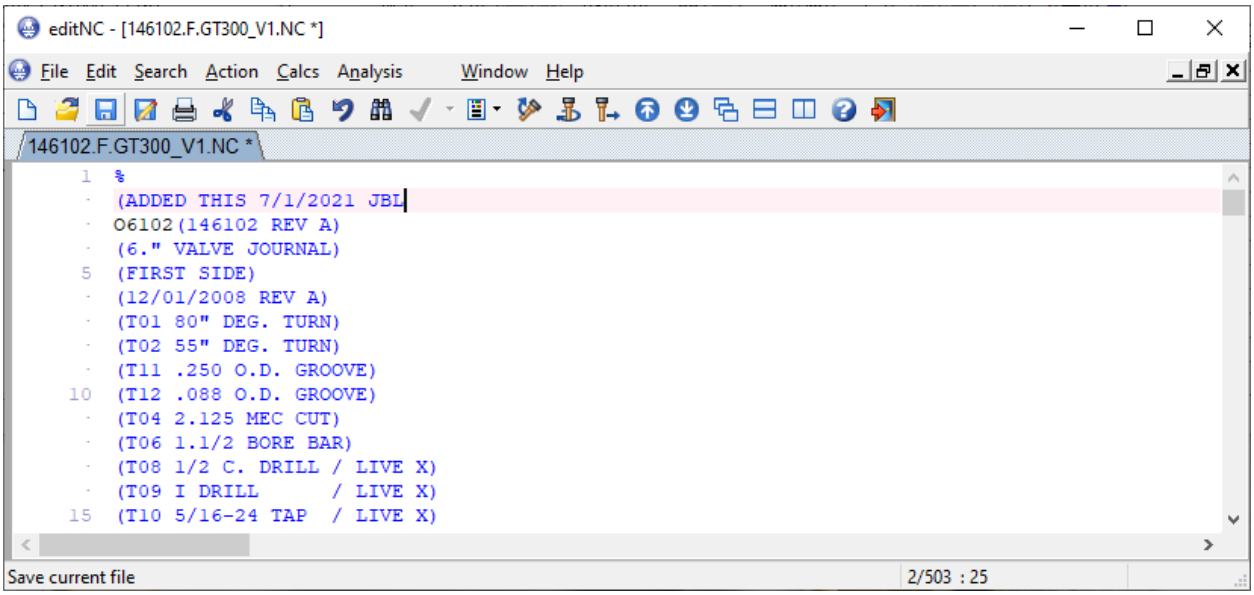
Select the Shop3rdPartyTool Application for the list, click the OK Button and the following Window will be displayed.

Configure Shop3rdPartyTools (Editing Choices)



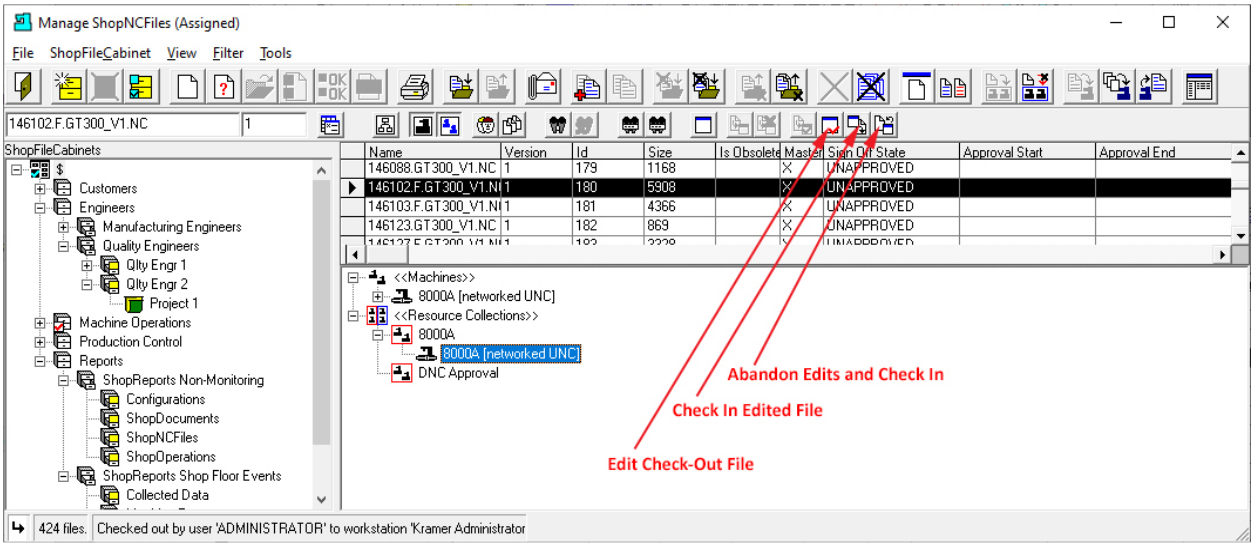
For this Demonstration click on the “Use This One”! The following Window will be displayed.

Configure Shop3rdPartyTools (editNC use for Editing)



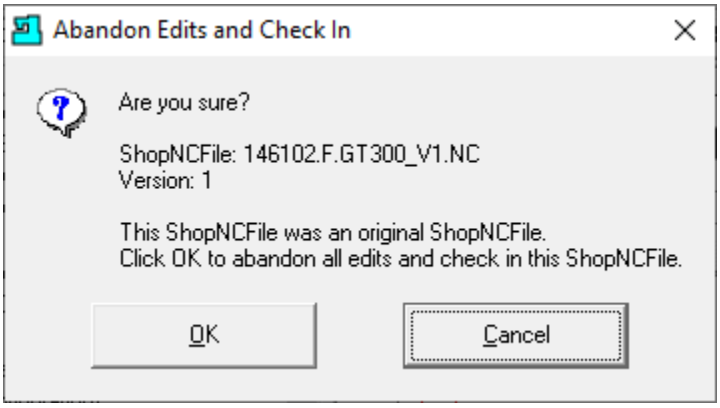
We have used the Third-Party Application, editNC, to edit this ShopNCFile! We have added the line (Added THIS 7/1/2021 JBL) to this File. Save this file like you do normally then Close the Application and the following Window will be displayed.

Configure Shop3rdPartyTools (Options for Handling Check-Out File)



The present state of the file is check-out, edited & the Editing Application has been closed! In this state you have the following three choices:

Edit Check-Out File (Click this to continue Editing)
This procedure is exactly like the original for checking out the file for editing!
Abandon Edits and Check-In (Click this Icon and you will be asked to confirm)

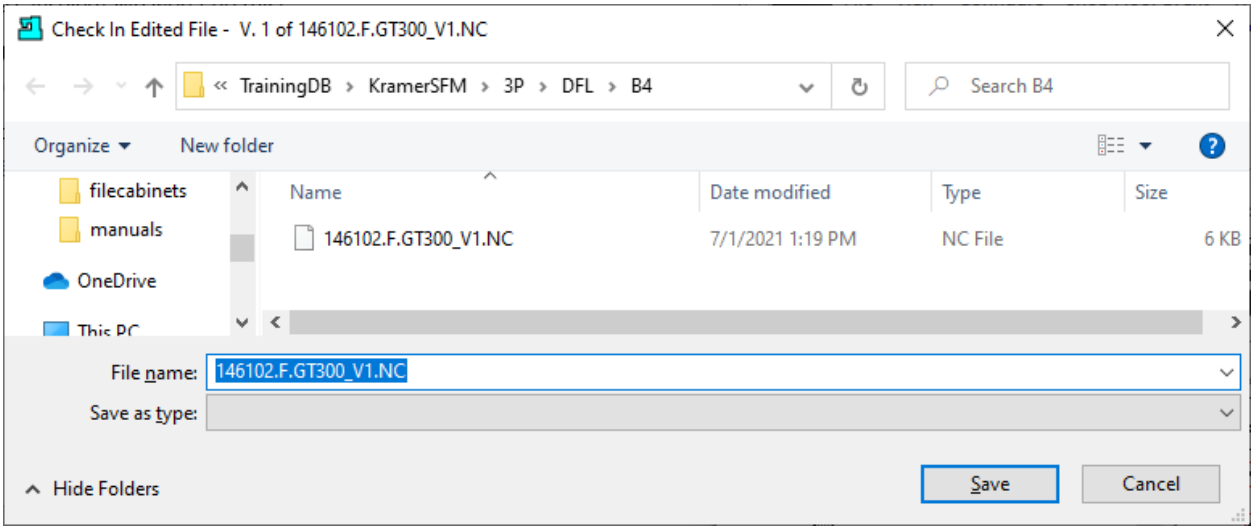


If you click OK and the Editing will be canceled! We won't do this!

Check-In Edited File (Click this Icon to update the original file in ShopFloorManager)
Click the OK Button and the following Window will be displayed!

Note: When a "Document" is Checked Out it can't be used by any User in ShopFloorManager! To view files that have been checked out see the Change View and choose the "Checked-Out Files" option!

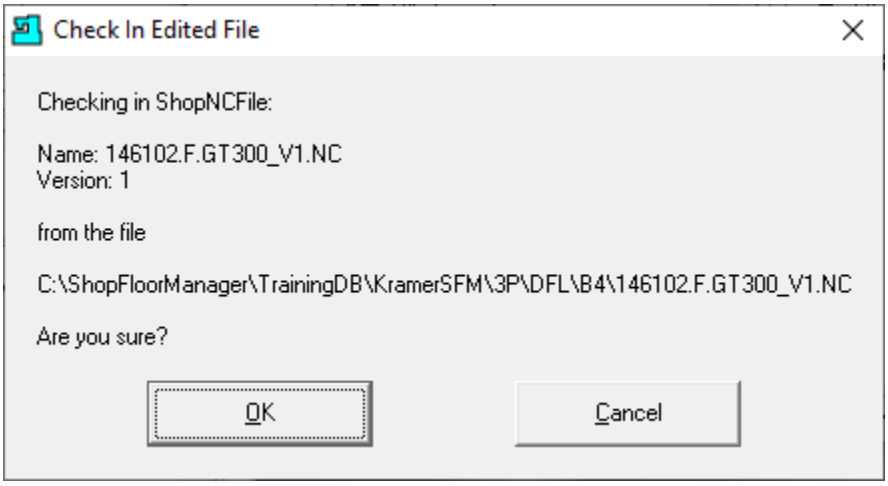
Configure Shop3rdPartyTools (Check-In Edited File)



In the previous page if we clicked the "Check-In Edited File" the Window above would be displayed! Try the other options at your convenience.

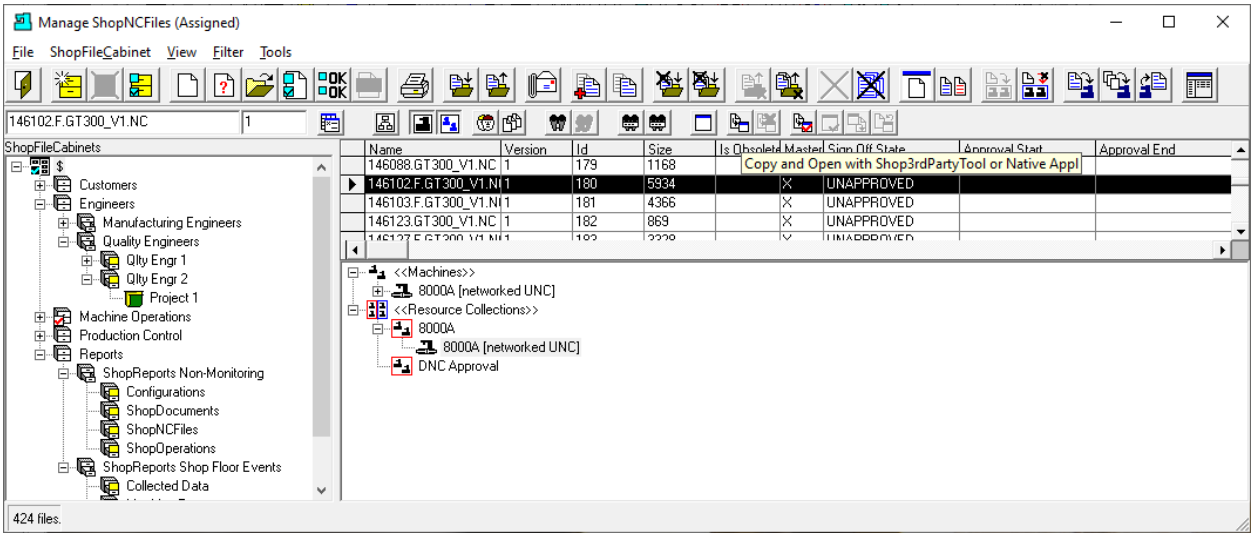
Click Save and the following Window will be displayed.

Configure Shop3rdPartyTools (Confirmation Window)



Click the OK Button and the following Window will be displayed.

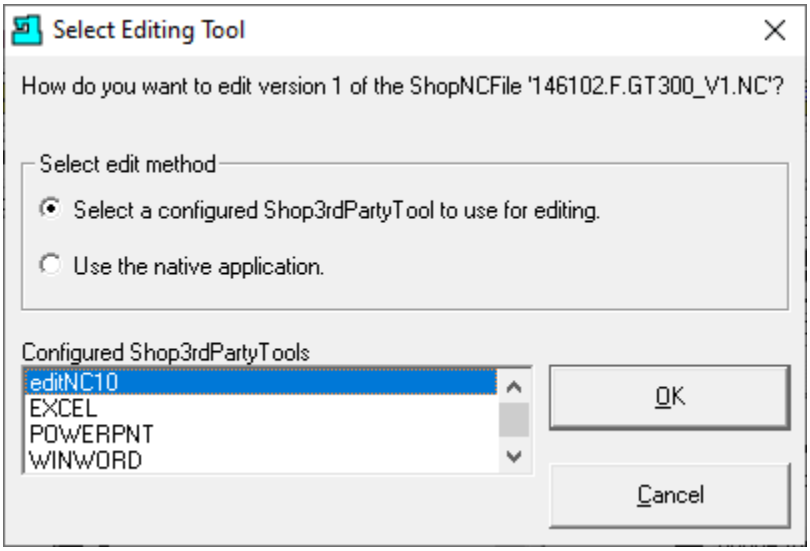
Configure Shop3rdPartyTools (Check-In File)



Let's View this ShopNCFile to verify the Edits made with editNC were successful! We could choose to either use ShopFloorManager's View capability or use the selection "Copy and Open with Shop3rdPartyTool or Native Application" Icon.

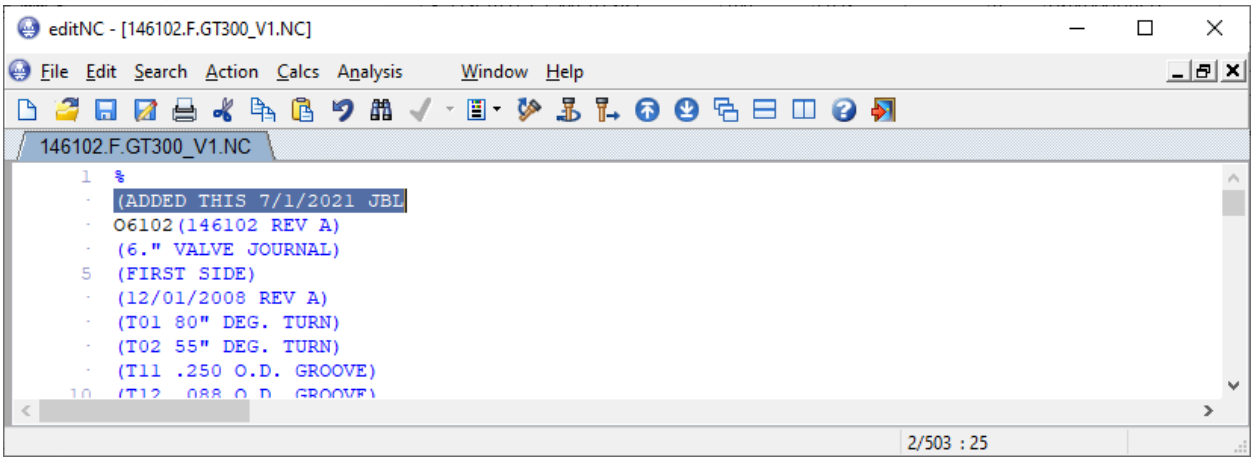
We will click on the "Copy and Open with Shop3rdPartyTool or Native Application" Icon and the following Window will be displayed.

Configure Shop3rdPartyTools (Select Editing Tool - View File)



Select editNC10 and click OK Button and the following Window will be displayed.

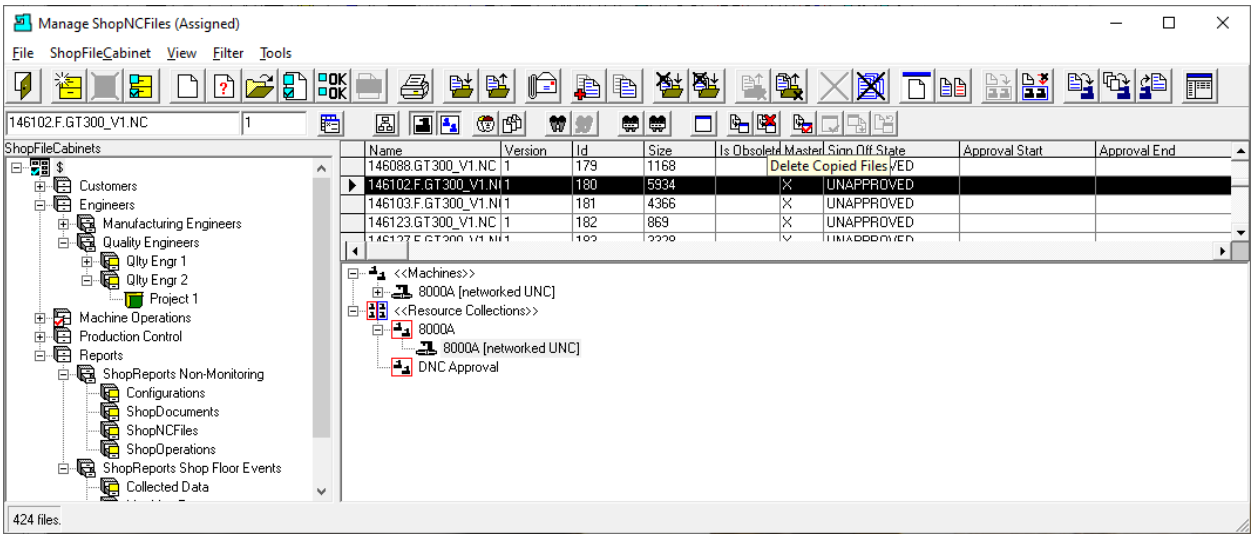
Configure Shop3rdPartyTools (Third-Party Application editNC)



As you can see the file contains the edits we made!

Close the Application and the following Window will be displayed.

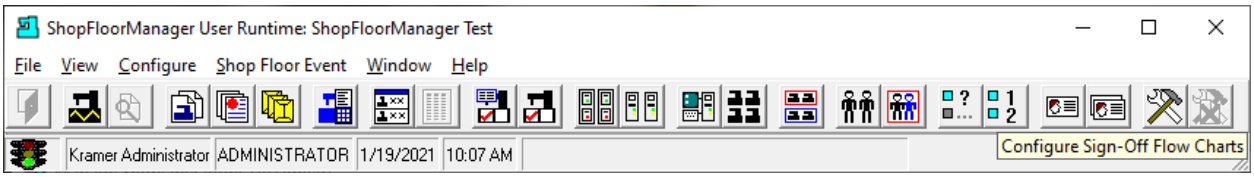
Configure Shop3rdPartyTools (Delete Copied Files – Temp Files)



Click the Delete Copied Files Icon to cleanup Temp Files that were used in process!

We are ready to move onto the next Section!

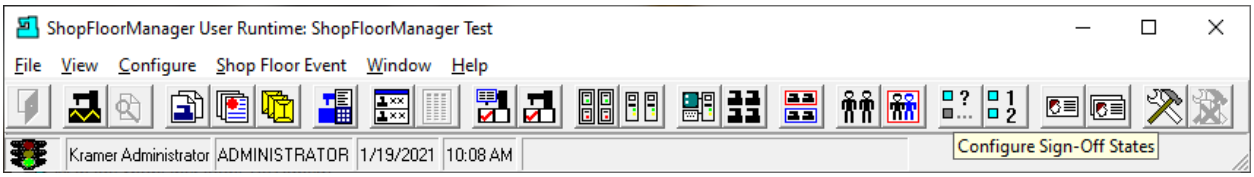
Configure Sign-Off Flow Charts (ISO Flow Charts a Road Map for Signing Off Your Documents)



"Configure Sign-Off Flow Charts" is critical in the Approval Methodology of ShopNCFiles, ShopDocuments & ShopOperations.

For details on how they are created and used in the Approval Methodology click this Sign-Off Flow Charts for details!

Configure Sign-Off States (ISO Signoff States for all Documents. Who's ISO?)

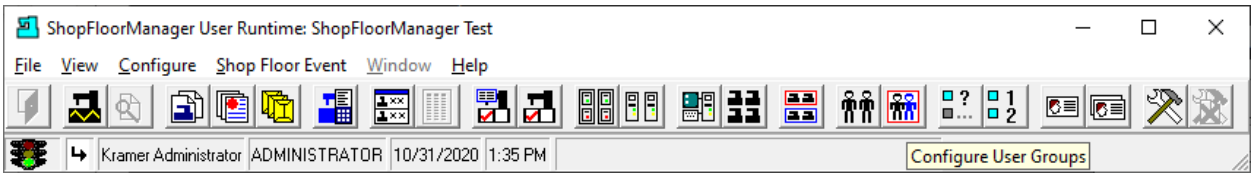


"Configure Sign-Off State" is critical in the Approval Methodology of ShopNCFiles, ShopDocuments & ShopOperations.

For details on how they are created and used in the Approval Methodology click this Sign-Off States for details!

Next let's look at User Groups!

Configure User Groups (Security & System Access. Want in? Password Required!)



Overview

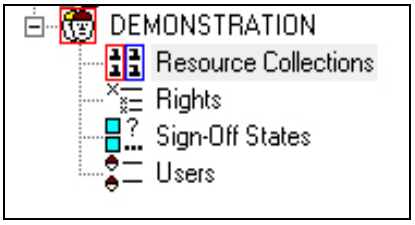
A User Group is the Base building block for securely accessing all of ShopFloorManager's Features, Resources, Applications, etc.

User Groups have a built-in structure for configuring & controlling access to the various "Features, "Resources", Users….

Users can be assigned to any number of User Groups inheriting the "Rights" from each of the User Groups to which they belong!

By carefully analyzing what different Users of ShopFloorManager need to access, you can determine how many unique **Class 1** User Groups, next page, need to be created!

Configure User Groups (Structure)



User Group Structure:

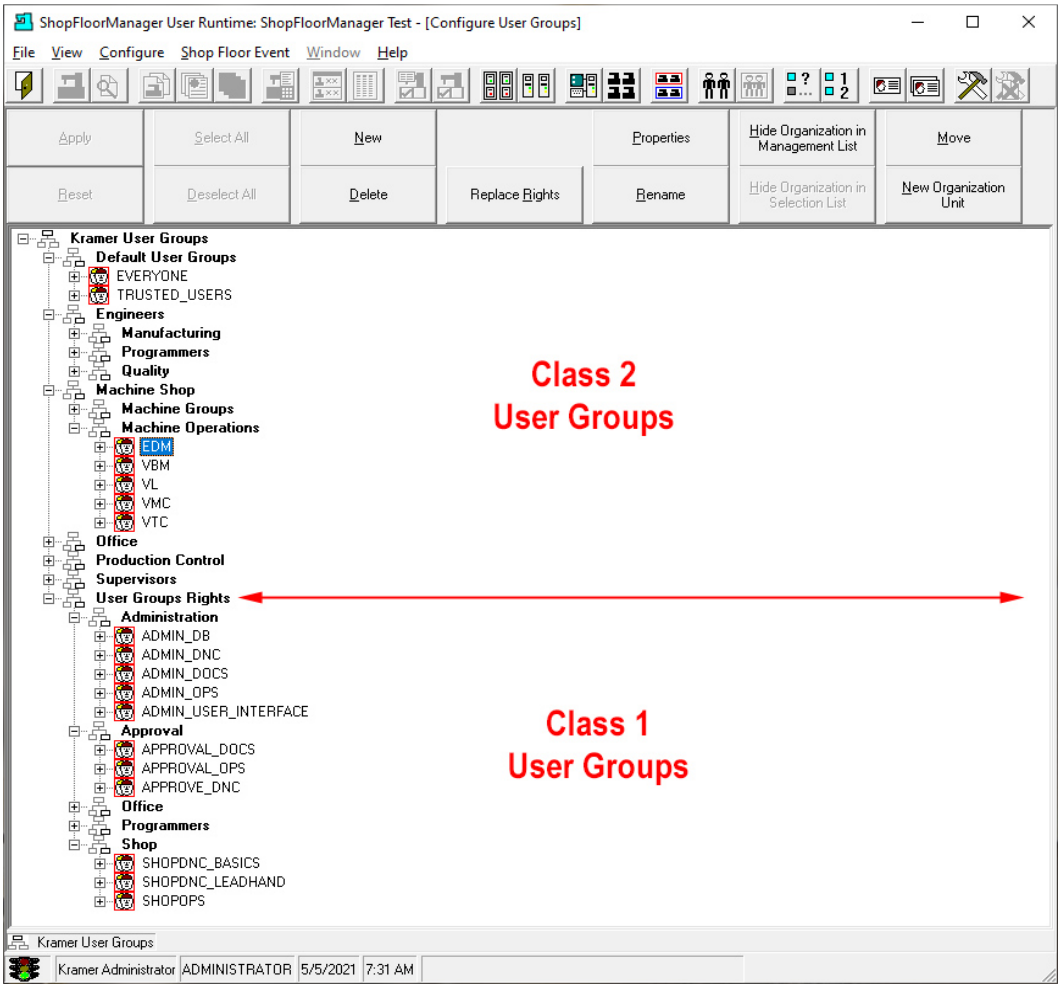
- Resource Collections
- Rights
- Sign-Off States
- Users

During the Creation of a User Group, you can click on each of its Icons, and the associated Resources, Rights, Features, Applications & available Users will be displayed allowing you to configure, select or assign these Users to the selected User Group.

This flexibility addresses the needs of any size manufacturing facility. User Groups can be configured for: Manufacturing Engineers, Quality Engineers, Production Control Personnel, Shopfloor Manufacturing Personnel, Office Personnel, System Administrators, etc.

The following is a base Model of a "Structure" of User Groups that meet most of requirements of a discrete manufacturing facility. You can add and delete from the Model as needed to build your company's Unique Structure!

Configure User Groups (Structure Overview)



Before we get into the weeds let's discuss the general structural approach when setting "Rights"! The **Red** Arrow above separates the User Groups in this Model into two classes:

1. **Class 1** is only used for assigning "Rights"
2. **Class 2** is for all of the other "Resources"!

The main reason for doing this is to provide one place to establish a Base set of "Rights" for the various User Groups associated with specific Manufacturing Duties! Set one place, change Globally!

Experience has shown if not followed you will end up with a larger # of User Groups with no coherent Structure. When a change is made every User-Group needs to be checked & possible updated! Painful!

You will find Managing User Groups using this approach is considerably easier! Should it become necessary to tweak a User Group in **Class 2** then and only then should you add a "Right" to this **Class 2** User Group. If this happens enough consider putting this "Right" in the appropriate **Class 1** User Group, the goal being to assign "Rights" only in **Class 1** User Groups!

Note: All User Groups have two default "Rights": One in "Machine Rights" & One in "ShopFileCabinets"!

Configure User Groups (Structure Overview Cont.)

The view above is a suggested Model "Structure" that will allow a Discrete Manufacturing Company to address the requirements of almost any size facility!

First you will notice that the User Groups are contained in an Organizational Units which are designed to aid in the management and organization of User Groups, Users, Machines, etc.

Let's review each of the User Groups associated with a separate 'Tree" of the Organizational Units!

Configure User Group (Default User Group Organization Unit):

EVERYONE (Can't be deleted):

This User Group applies to Every User of ShopFloorManager. If any "Rights" or other "Resources" are associate with this User Group, these will apply to "**EVERYONE**". This Category should only be used if the intention is to have any selected "Rights" & "Resources" apply to "**Everybody**"! If used, use carefully!

TRUSTED_USERS (Can't be deleted):

This User Group applies to the User, ADMINISTRATOR, and any other Created User given **TRUSTED_USERS "**Rights**"! Never associate any Created User with this Group**.

Any User in this Group has complete access to ShopFloorManager and has the ability to modify & delete everything.

The User ADMINISTRATOR should always have a Password word! This User can never be deleted and is only Associated the User Group Trusted_Users! If a Password is used make sure to keep a record of it. If it is lost, you may never be able to fully access all of ShopFloorManager's Features!

Notes:

We are suggesting that the following Organization Units & User Groups should/could be the model for setting up your Organization Units & User Groups! This is your decision!

The Rights & Resource Collections chosen for any particular User Group would in general not be the same as other Groups. As an example, Engineers may have more "Rights" to Access & Modify Files, ShopDocuments & ShopOperations then other User Groups but granted minimal "Rights" to make Management, User Interface…, etc. changes.

It is important not to give more "Rights" and Access Privileges then the bare minimum that is required for Users' User Group to perform their Roles! This can't be stressed enough! If you want confusion don't follow this Rule!

Never include Cross Role "Rights" as this will blur the Roles that each Group Plays. The way to handle Cross Role "Rights" is to create separate User Groups that have limited & well-defined Roles! Then any User that belongs to these User Groups inherits all of "Rights" from each of these User Group without Cross Role "Rights"!

Configure User Group (Engineers Organization Unit):

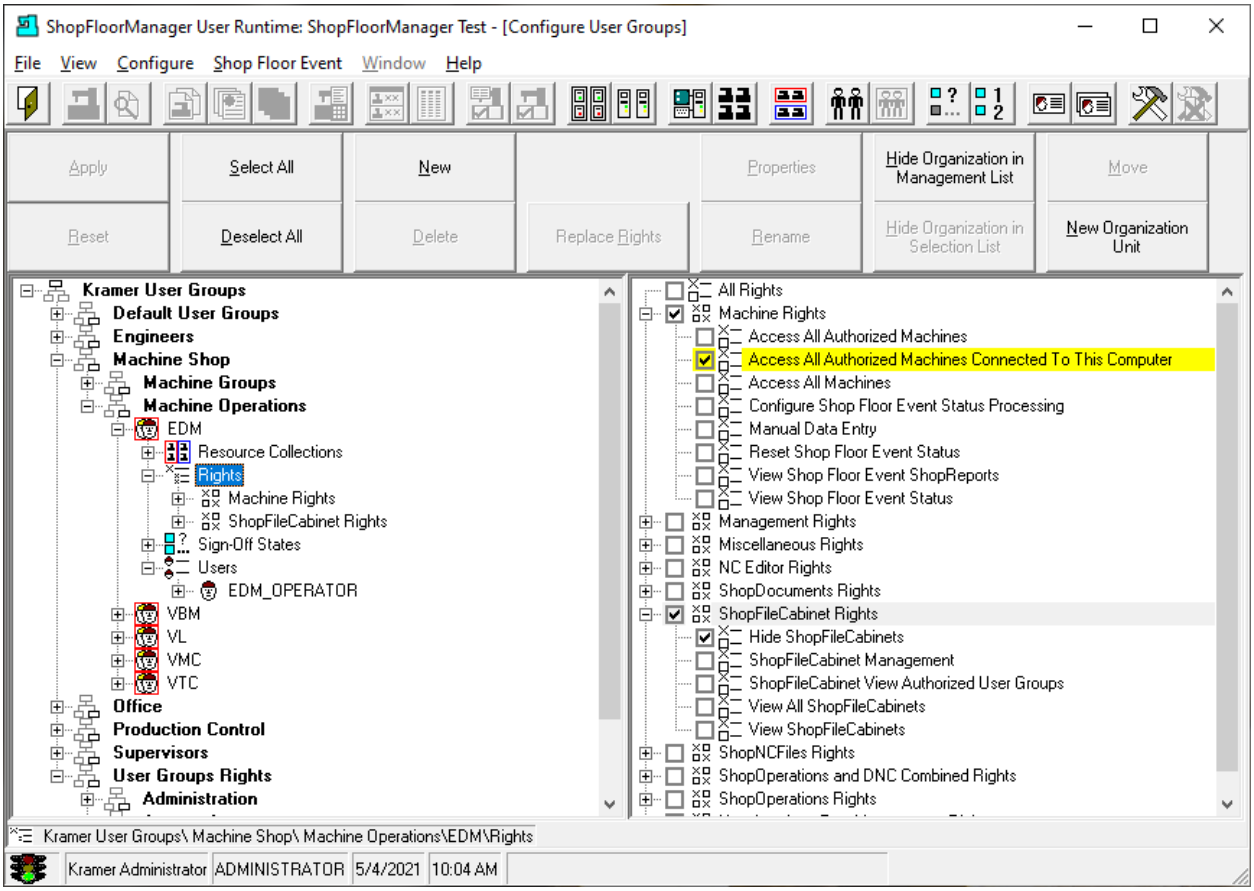
Any User Groups in this category would be classified as Manufacturing, Process or Quality Control Engineers.

Configure User Group (Machine Shop Organization Unit)

This is an umbrella category for the following Groups that exist on the Shopfloor!

Configure User Group (Machine Operations Organization Unit)

Configure User Group (Suggested Structure & Settings for Machine Operations)



Let's investigate the various "Categories" in the above structure analyzing each of these to provide a basis for creating your "Structure".

Configure User Group (Overview of Feature Access)

Viewing the above structure, you should be able to determine Visually what a Machine Operator's access to ShopFloorManager is and the "Rights" & "Resources" needed for this access!

These Areas need a bit of explanation.

Resource Collections

Resource Collections can "contain" ShopNCFiles that can be accessed by Machine Tools that are assigned to these Resource Collections. They allow Machine Tools access to the contained ShopNCFiles for downloading and uploading of these ShopNCFiles! You can use separate Resource Collections for down & uploading of ShopNCFiles. This allows uploaded ShopNCFiles to be segregated for Quality Checks & Change Approval before further use in Production!

Sign-Off States

Sign-Off States are used for Approval stages for ShopNCFiles! Any number of Sign-Off States can be used in conjunction with Sign-Off Flow Charts to provide a multi-step Approval Process.

Rights (Class 1 **User Groups**)

There are multiple categories in ShopFloorManager with their own "Rights" providing User Groups, thus Users, access to ShopFloorManager Functions! By judiciously assigning these you can limit access to ShopFloorManager's Features and increase security! Always select the minimum "Rights" needed to perform a basic function! By using this philosophy, a User can be assigned to multiply User Groups to accumulate the needed functionality to perform their Jobs!

Note: As an example, a basic function for a CNC Operator would allow them to Manage a Transfer Queue, Download, Upload & View ShopNCFiles. A lead hand may need in addition to these the ability to Copy, Edit, Save, Email, etc. Rather than creating a new User Group duplicating the "Rights" from the first User Group and adding the additional "Rights", you should create two different User Groups with separate "Rights". A lead hand belonging to both User Groups would acquire the needed "Rights" without User Group Bloat & creating one off User Groups which cause confusion when using large number of User Groups!

Users

Can assign any number of Users to a User Group allowing them to perform their basic Tasks limited by the inherited & **if needed**, limited local "Rights".

Machine Operations

These User Groups Support Operators who use Traveler Operations (ShopOperations) to perform their Jobs. Users of these Groups generally need more process documentation involving ShopNCFiles, ShopDocuments, ShopOperations, and access to native applications such as Word, Excel, PowerPoint, and third-party Applications such EditNC, etc. See the Organizational Units "User Groups Rights". User Groups to use are the **Class 1: SHOPOPS** & **SHOPDNC_BASICS**!

Note: These **Class 1** Groups should not be associated with any Resource Collections. This is an important rule to follow. The only files that should be accessed by Users in this User Group should be contained in the **Class 2** User Groups! For an example look in the section Manage ShopOperations!

Configure User Group (Production Control Organization Unit)

Any User Groups in this category would have the limited Role of activating & de-activating Operations (ShopOperations) for use on the shopfloor for specific Machine Tools & Qualified Users.

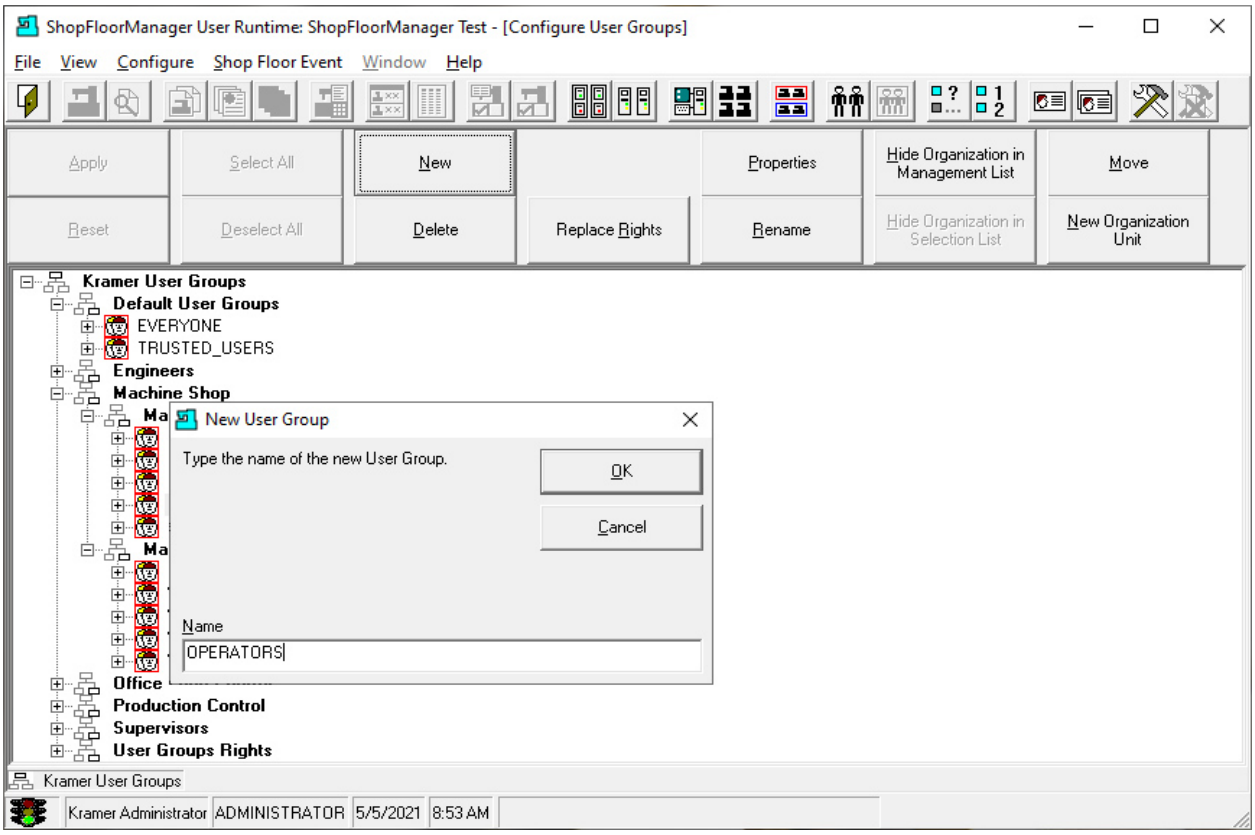
User Group (Programmers Organization Unit)

Any User Groups in this Category would have the "Rights", **Class 1: PROG_BASICS**, and access privileges for creating N/C Programs and the needed documentation. In certain cases, this classification overlaps Mfg. Engineering.

User Group (Supervisors Organization Unit)

Any User Groups in this category would be responsible for supporting the above User Groups in a Managerial sense. **Class 1: SHOPDNC_BASICS**, **SHOPDNC_LEADHAND** & **SHOPOPS**!

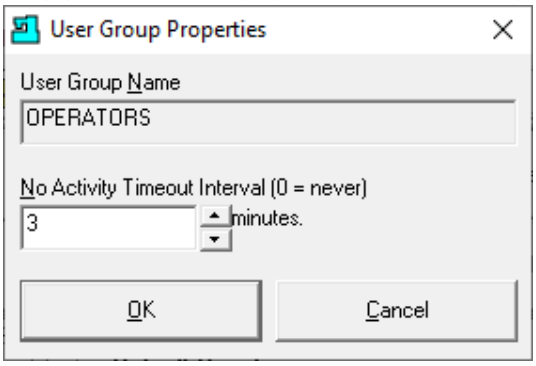
Configure User Groups (Creating New User Group)



Select the Organizational Units Tree "Machine Groups" and click the New Button and enter the name of the User Group that you want to create. We chose "OPERATORS" for this demonstration.

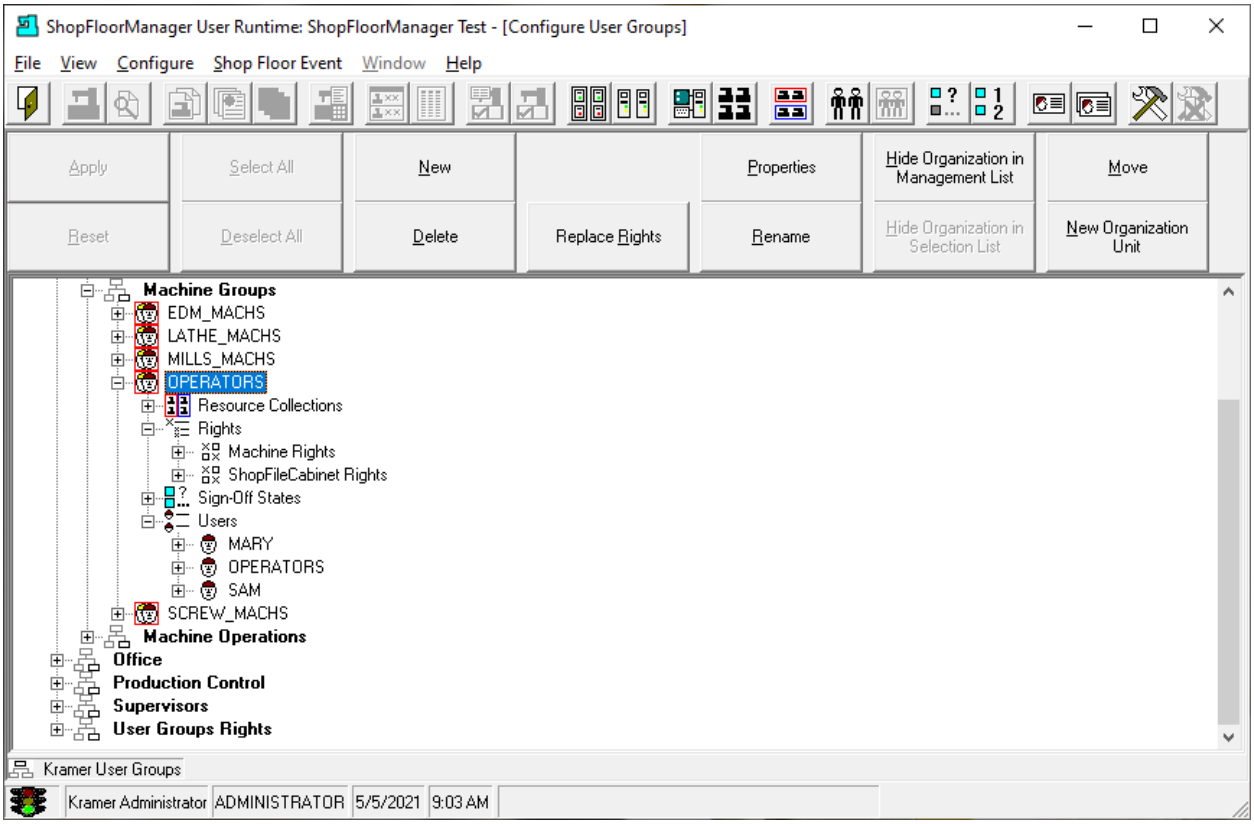
Click the OK Button when finished and the following Window will be displayed.

Configure User Groups (User Group Properties)



If you are going to use a password for Users, you should enter a timeout time in minutes for auto no activity logout. After entering the time click the OK Button and the following Window will be displayed.

Configure User Groups (Operators)



As you can see above the New User Group “Operators” has four categories associated with it. Here is a quick Overview of each Category.

Categories:

Assigning Resource Collections

A Resource Collection is a virtual File Folder that contains any number of ShopNCFiles, ShopOperations & can be associated with any number of Machine Tools. This combination limits a Machine Tools’ access to the ShopNCFiles contained in this Resource Collection.

Assigning Rights (Class 1: SHOPOPS & SHOPDNC_BASICS)

There are over 120 Rights from 10 Categories to which you can assign to this User Group. This configuration is used to control Access to ShopFloorManager’s Features for any User in this Group.

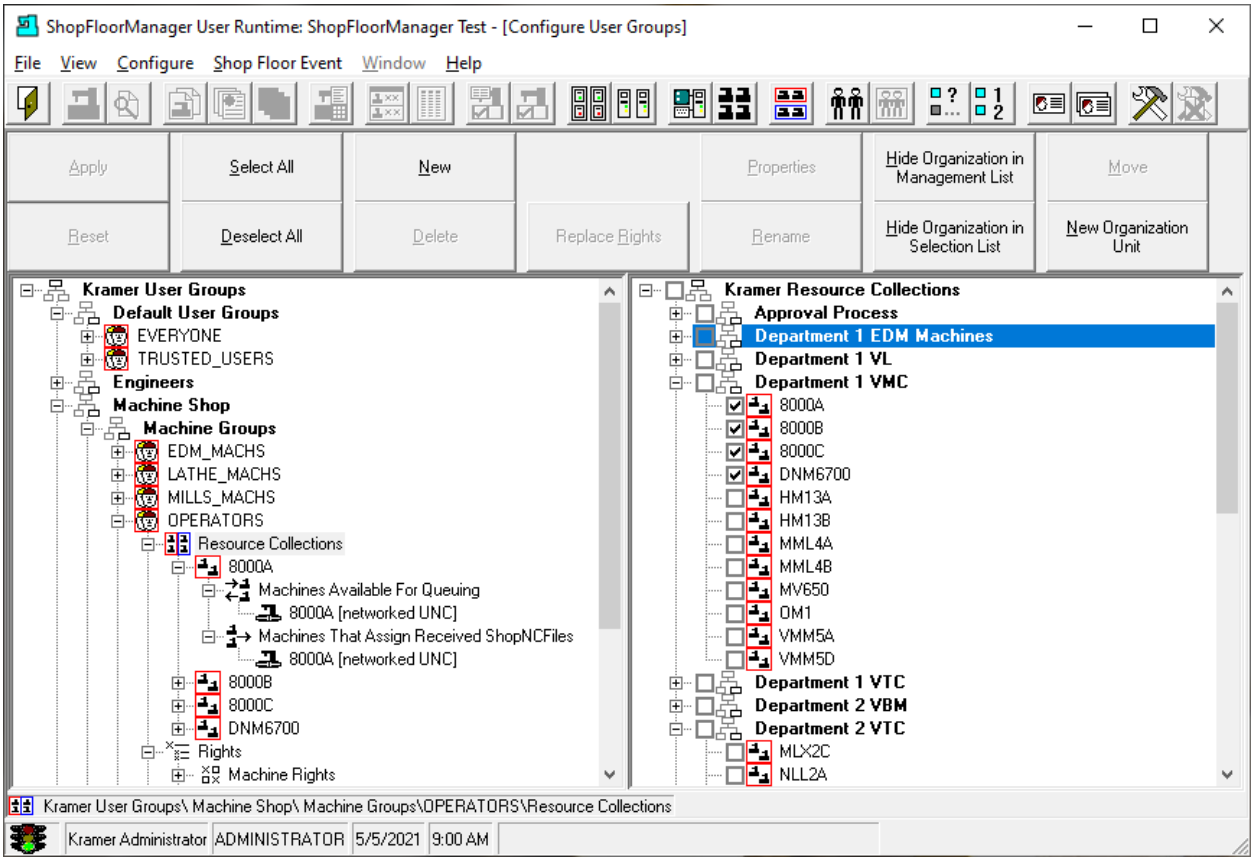
Selecting Sign-Off States

ShopFloorManager provides a base Sign-Off & Approval for ShopNCFiles, ShopDocuments & ShopOperations. This can be extended by providing sign-off & approval stages to allow multiple departments to approve any ShopNCFile and or ShopDocument before release to production.

Adding Users

Any number of Users can be created and associated with this User Group. A User associated with this User Group inherits all the Rights & Privileges of this Group.

Configure User Groups (Resource Collections)



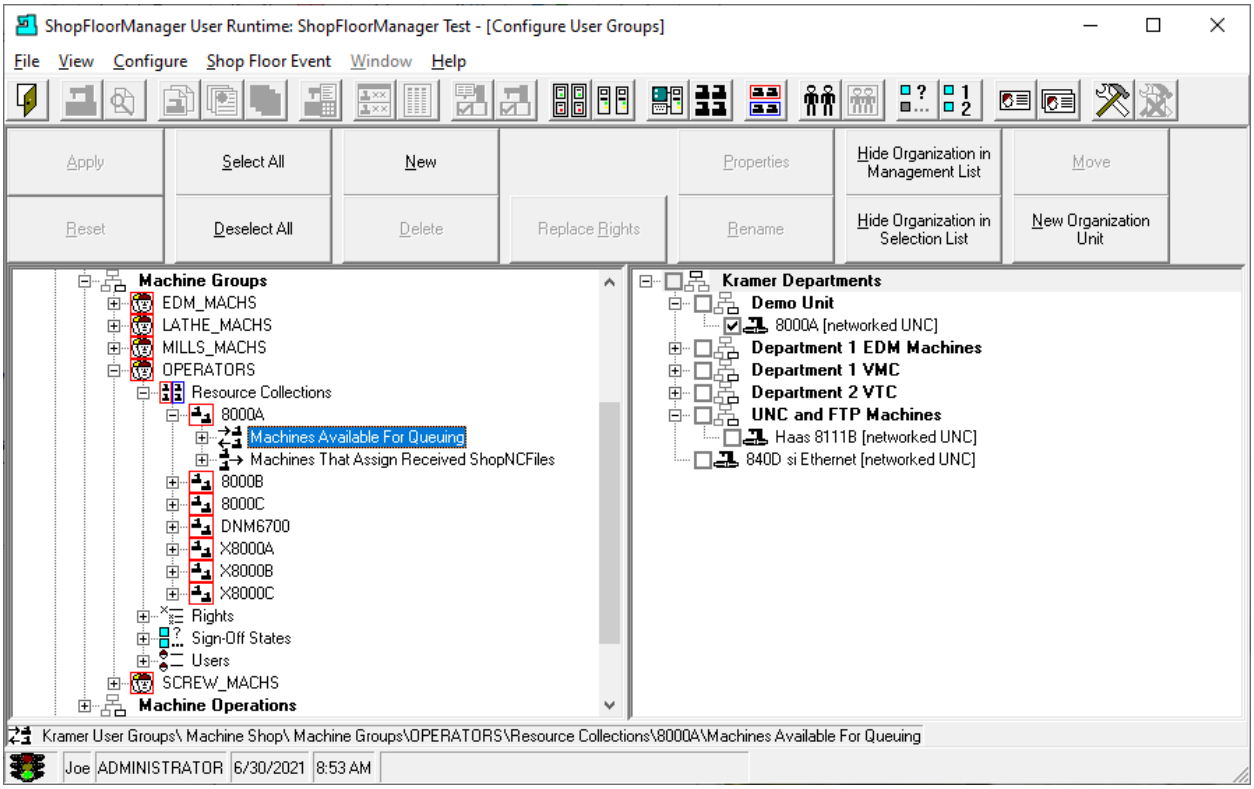
A Resource Collection is a virtual File Folder that contains any number of ShopNCFiles, ShopOperations & is associated with any number of Machine Tools.

This combination controls a Machine Tools' access to specific ShopNCFiles.

This Window allows you to select any number of Resource Collections to Associate with this User Group thus allowing any User of this Group Access to all the Files in all the Resource Collections associated with this User Group.

Note: Only select the Resource Collections to which User Group needs access.

Configure User Groups (Resource Collections Machines Available for Queuing)

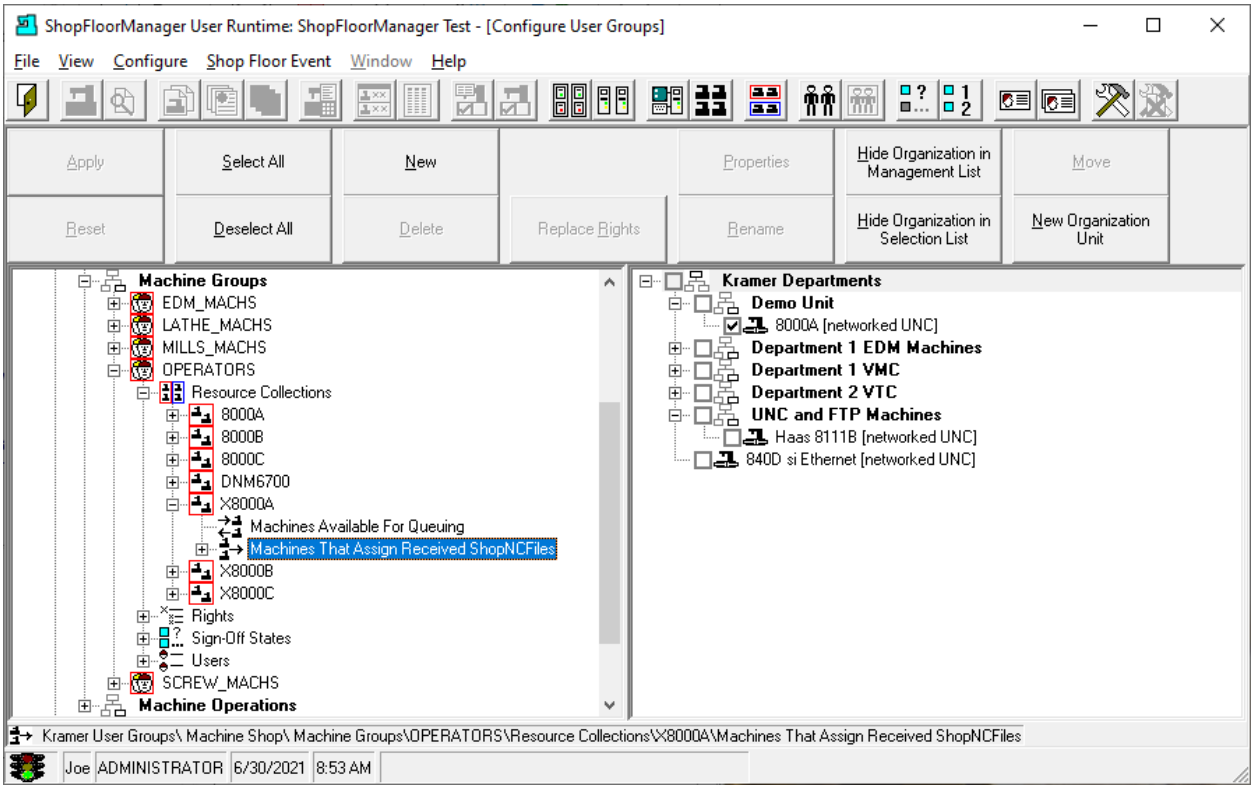


In order to access files that are to be associated with particular Machine Tools we need to assign Machine Tools to this Resource Collection. Click the plus sign next to the 8000A Resource Collection and then select the Label "**Machines Available for Queuing**". A list of all available Machines Tools is displayed in the right-hand Pane!

You can then associate any number of Machine Tools with the selected Resource Collection. This association allows any logged in User of this User Group access to these Machine Tools and to any ShopNCFiles contained in this Resource Collection for downloading and other functions granted through the User Groups this User belongs to!

Click the Apply Button when finished selecting "**Machines Available for Queuing**".

Configure User Groups (Resource Collections Machines That Assign Received ShopNCFiles)



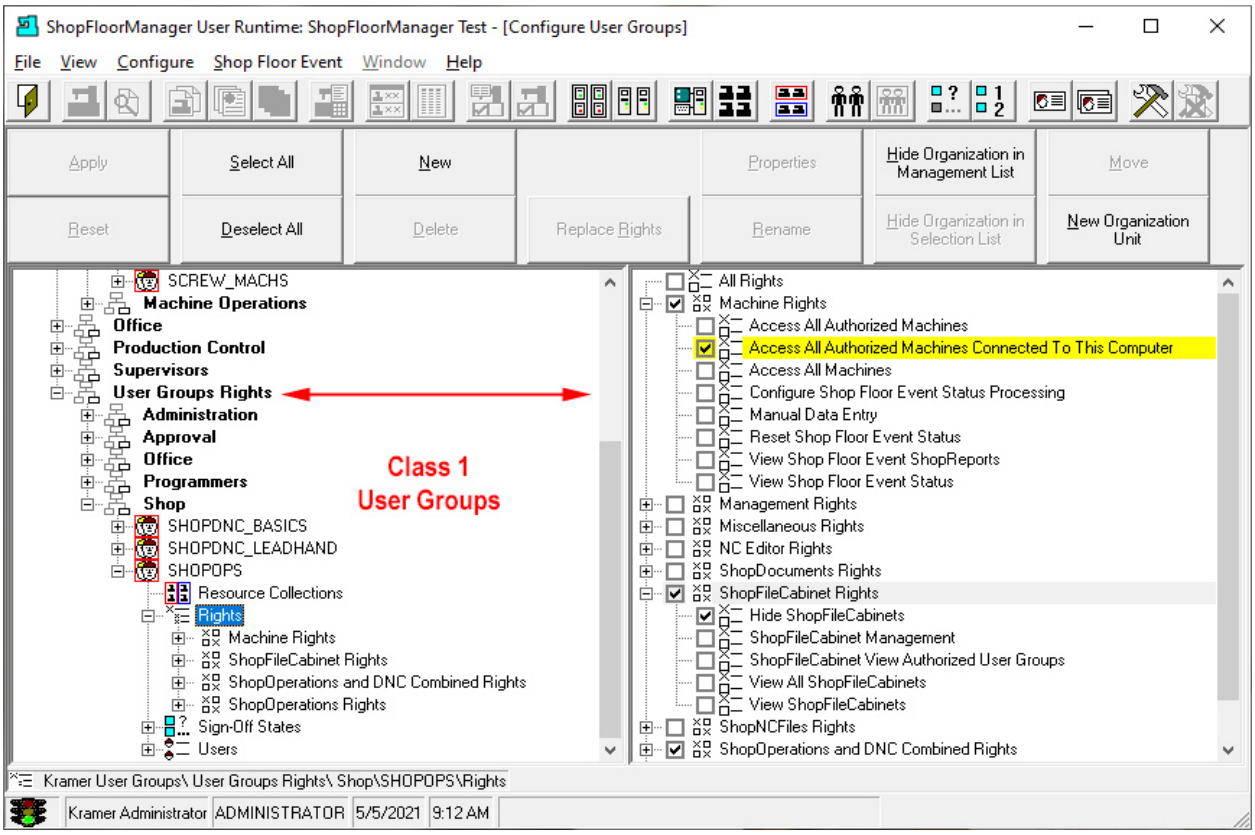
In order to save files from particular Machine Tools to this Resource Collection you need to associate these Machines with a selected Resource Collection. This association allows any User of this User Group to upload using RS232 and or upload using UNC for any ShopNCFiles from these Machines to this Resource Collection.

Note: The uploading of a file from the Machine Tool to ShopFloorManager is usually done to save a file modified at the Machine Tool. Usually, you would select a different Resource Collection then the one used for holding production files! This assures these uploaded files can't be used in production until they are reviewed and moved to a Resource Collection used for downloading production files!

These files can then be reviewed for changes and Approved for Production before being reassigned to a Production Resource Collection.

Note: Normally if you were using the Resource Collection 8000A for downloading ShopNCFiles you would create and name the Resource Collection X8000A for uploading ShopNCFiles! In this way you keep edited files separate from approved ShopNCFile for Production! The Resource Collection X8000A would never be assigned to Machine Tools that are allowed to Download/Queue!

Configure User Groups (Rights)



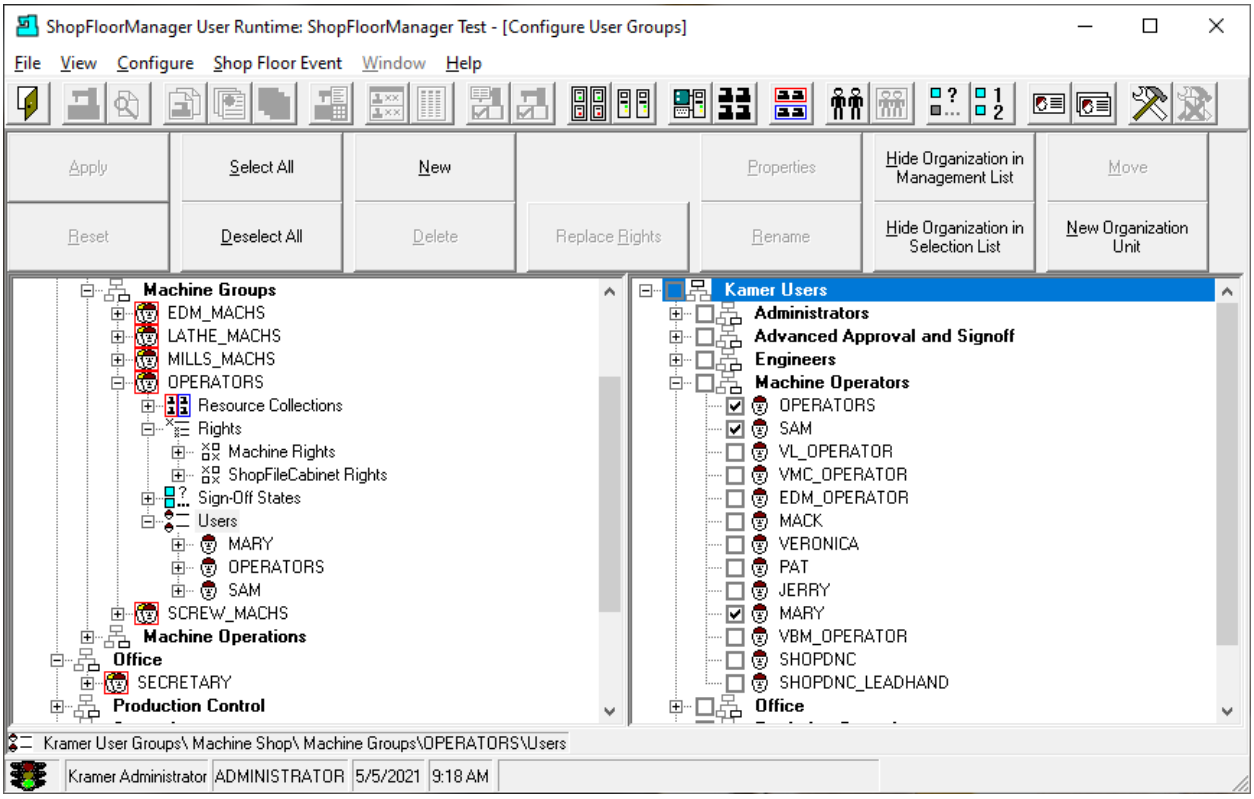
Clicking on the plus sign next to the Icon Rights displays all the categories with selectable 'Rights':

1. **ShopDocument Rights**
2. **ShopNCFiles Rights**
3. **ShopFileCabinets Rights**
4. **Machine Rights**
5. **Management Rights**
6. **Miscellaneous Rights**
7. **NC Editor Rights**
8. **ShopOperations and ShopNCFile Combined Rights**
9. **ShopOperations Rights**
10. **User Interface Text Management Rights**

You can set individual Rights in all these categories for associated User Group.

Any User in this User Group inherits all the Rights from any User Groups to which they belong.

Configure User Groups (Assigning Existing Users)



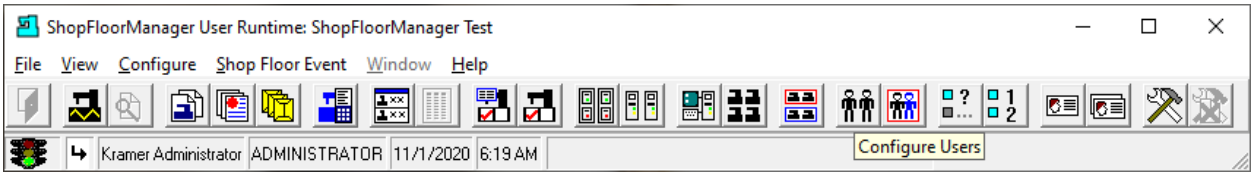
Users of User Groups have access to all the Resources associated with these User Groups. Following describes how Users become members of a User Group.

Click on the Icon Users and the list of all available ShopFloorManager Users is displayed.

You can then associate any number of Users with the selected User Groups. This association allows any logged in User of this User Group access to all the features & resources granted (Rights) to this User Groups.

After Adding the User “OPERATORS” click on the Apply Button and then on the Close Icon and the following Window will be displayed.

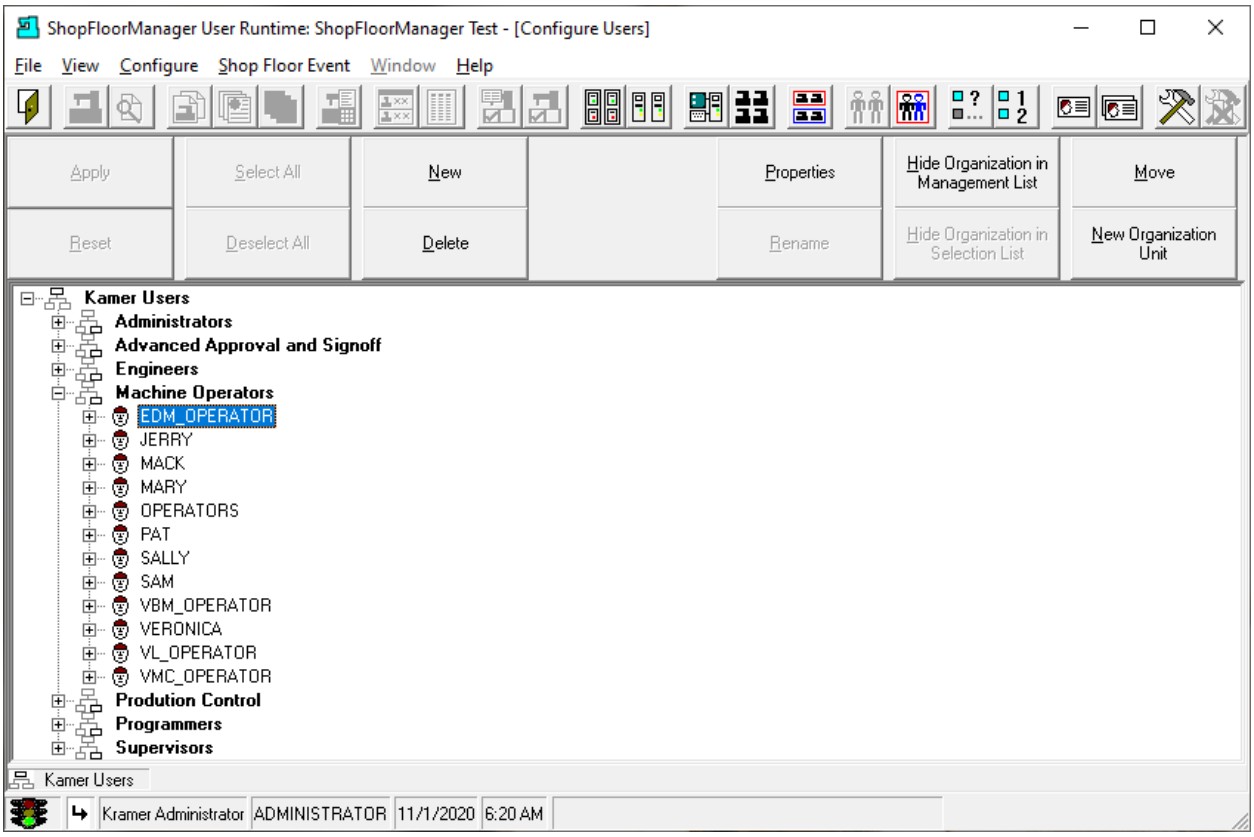
Configure Users (Users! You Create Them & Then you have to Manage Them! Who Thought?)



User are associated with any number of User Groups and provide the gateway into ShopFloorManager.

Select the Users… Icon, click and the following Window will be displayed.

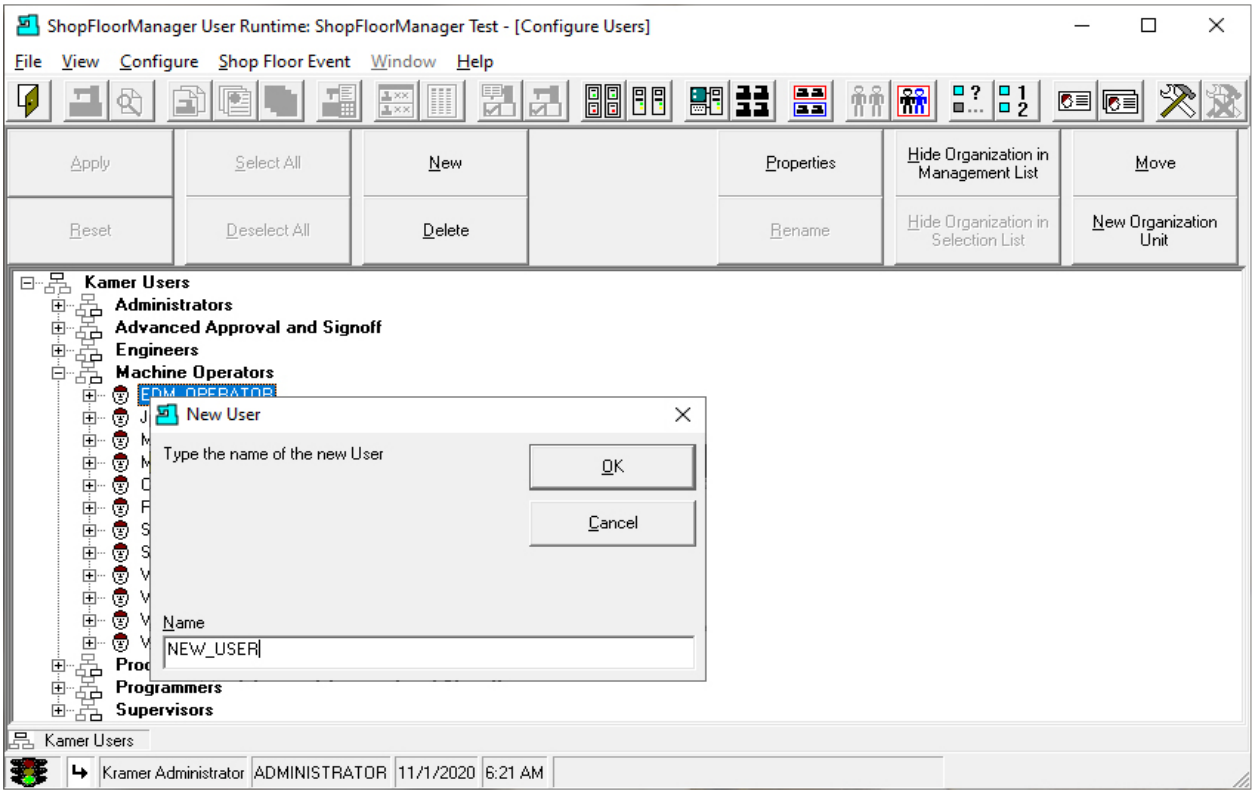
Configure Users (Create Users)



We will demonstrator how to create a new User and associate it with User Groups!

Click on the New Button and the following Window will be displayed.

Configure Users (New User)

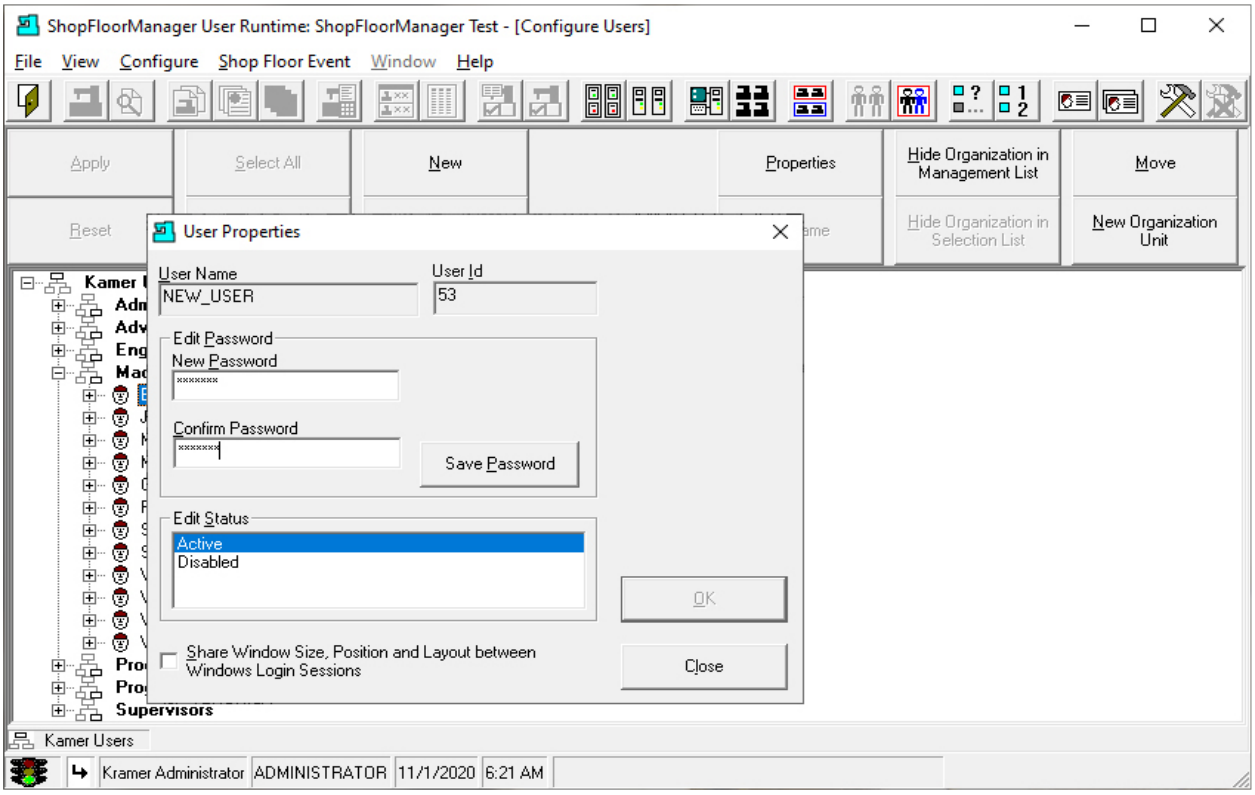


Enter the unique name of the New User in the Name Text Block.

For this demonstration we have created the User New_User and will associate it with the User Group “OPERATORS”.

Click the OK Button and the following Window is displayed.

Configure Users (Setting Password)

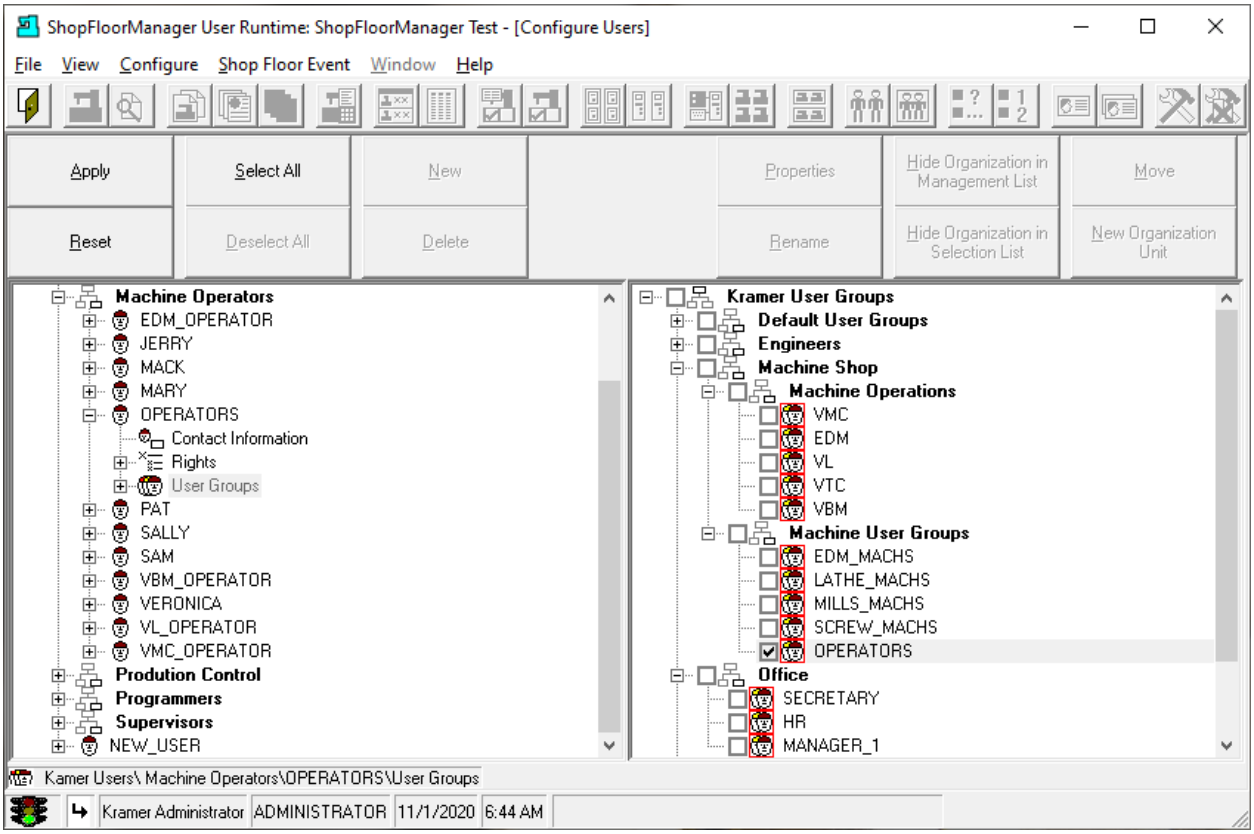


If you use passwords, we recommend you do, you have the option of setting a Password word for this User. If Security is a concern, you should use a Password.

The Password works in conjunction with the User Group which can have an activity time associated with it. The User will be logout if there is no activity for the set time

Click the Save Password Button and then the Close Button.

Configure Users (Selecting a User Group)



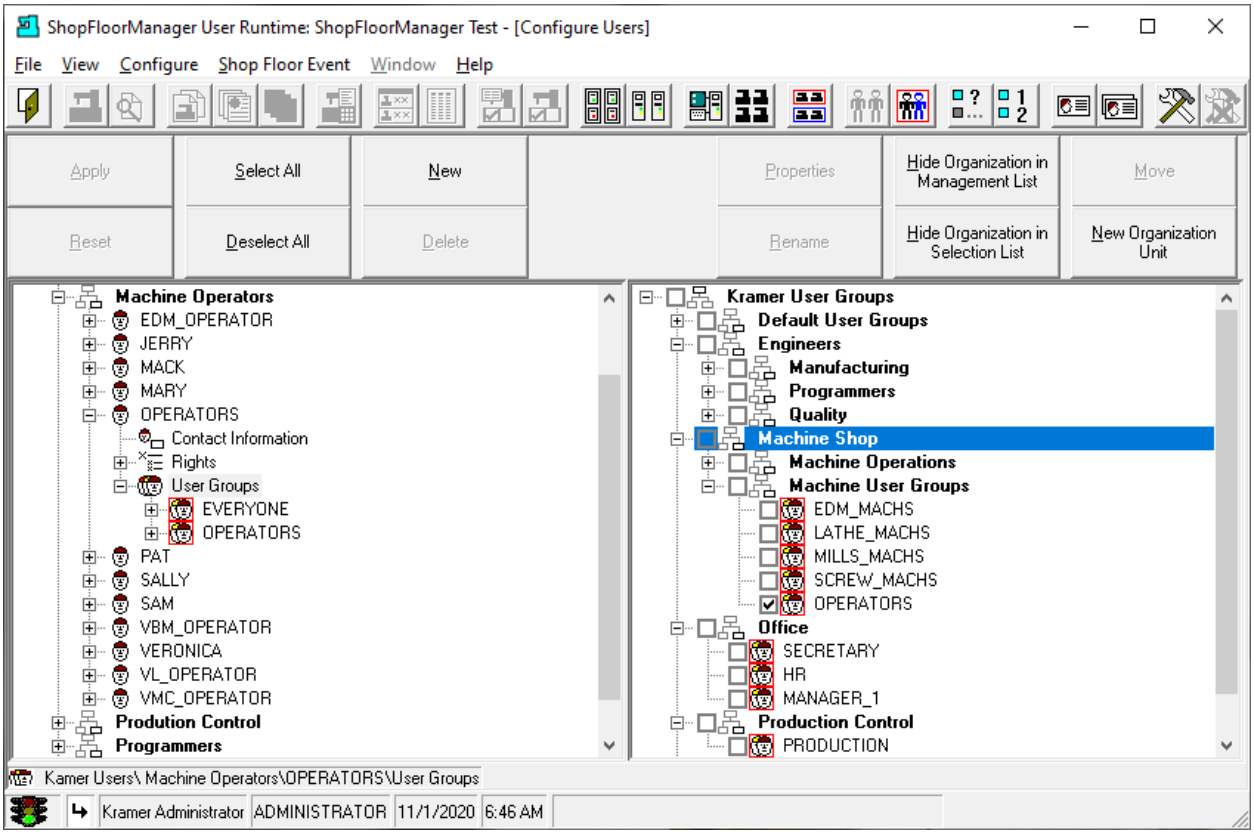
We now associate this User (we will use OPERATORS) with at least one of the User Groups.

We will choose the User Group OPERATORS by clicking on the Checkbox next to the User Groups listed in the right-hand window located in the Organizational Units "Machine User Group"!

We are not arbitrarily selecting a User Group, but we are selecting a User Group that has the needed Rights for this User!

Click on the Apply Button and the following Window will be displayed.

Configure Users (Inheriting Rights from User Group)



In the left-hand window click on the Plus sign next to the User Groups and highlight this Icon! In the right-hand Window click on the Organizational Unit(s) “Machine Shop/Machine User Groups”!

Note: We have associate this User with the “Operators” User Group but any User who belongs to muliptle User Groups inherits the ‘Rights’ of each User Group!

Click the Apply Button and then the Close Button in the upper-hand corner of ShopFloorManager.

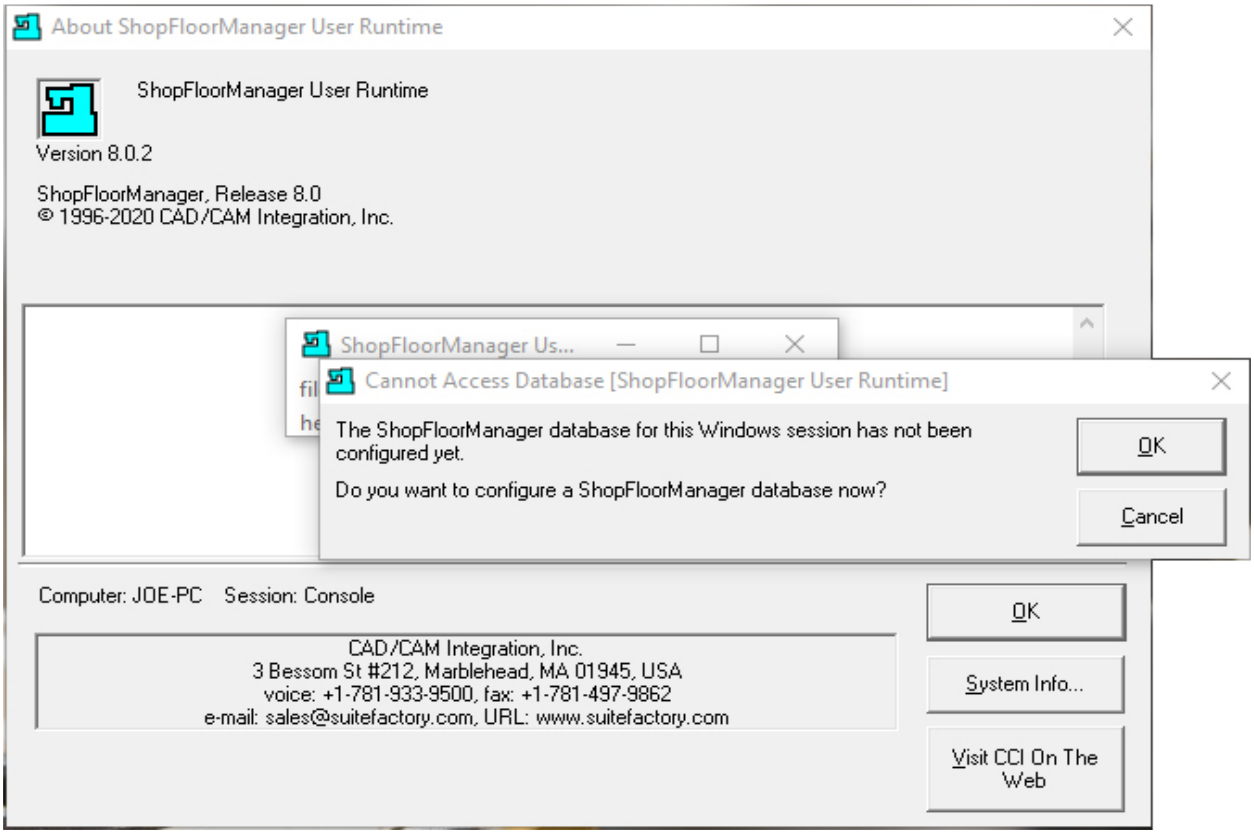
We have finished the section Configuring Users.

Create a ShopFloorManager Access Database (Do I want Access? What's in it for Me?)

If ShopFloorManager is not already installed!

Note: We suggest you completely read this section from start to finish before proceeding with the installation!

Create ShopFloorManager Database Access (Setting up Database)



Startup ShopFloorManager if not already running! If you are updating from an earlier version, you will see activity updating the database and ShopFloorManager will be displayed with a login screen! You don't need to go any further in this section!

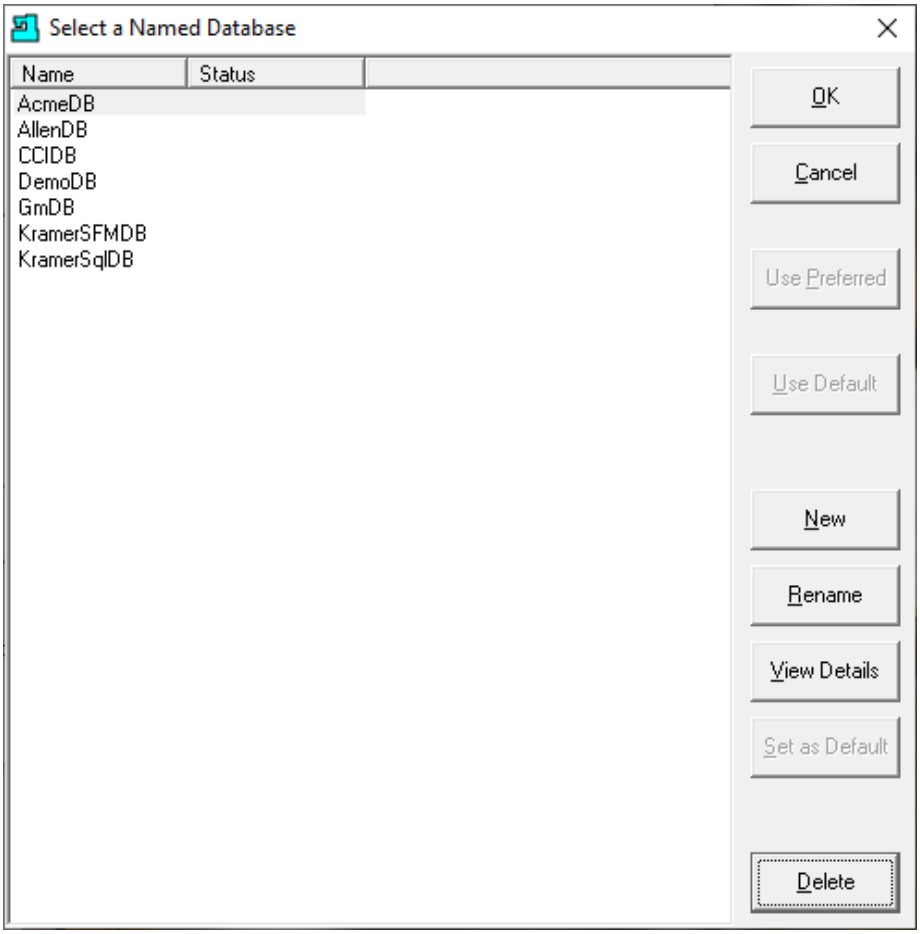
You may see a lot of messages indicating that Database Tables & Indexes are being updated. If this is the case when ShopFloorManager Runtime is displayed, you should logout and login again and repeat until there are no more messages indicting the Database Tables & Indexes are being updated!

Normally this takes three cycles! What ShopFloorManager is doing is updating Indexes and Tables in a particular sequence, and this requires several cycles!

If this is a new installation you will need to create an Access Database!

Click the OK Button and the following Window will be displayed.

Create ShopFloorManager Database Access (Setting up Database Cont.)



We need to establish/create a “Folder” to locate the Database & other files. Will also need to give a local user created name to this database!

Click the New Button and the following Window will be displayed.

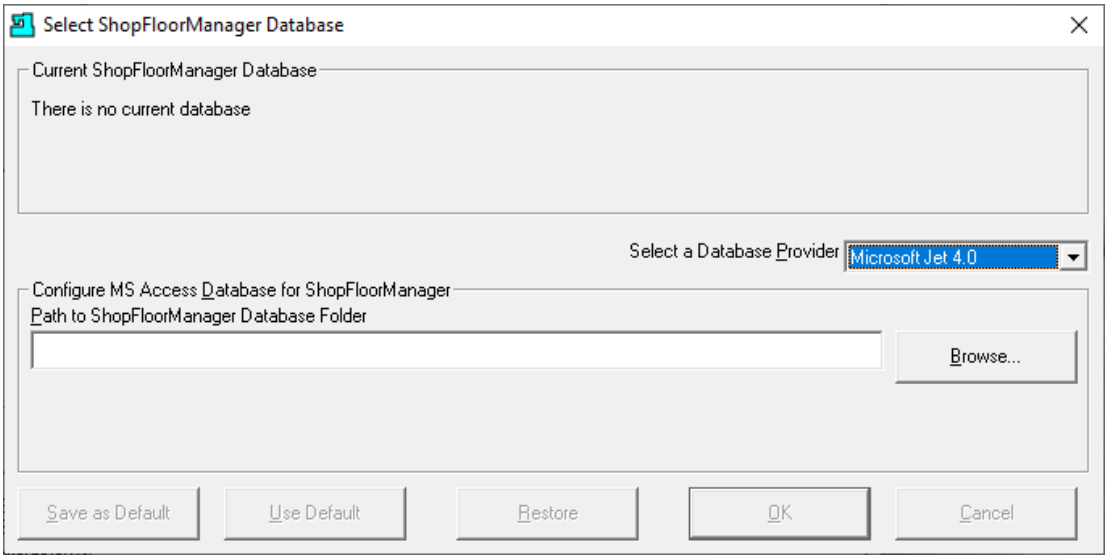
Note:

1. **If this is a new system, the above list will be empty!**

2. **If this is for the Pre-Installation System create/search for the following directory: C:\ShopFloorManager\TrainingDB\KramerSFM.**

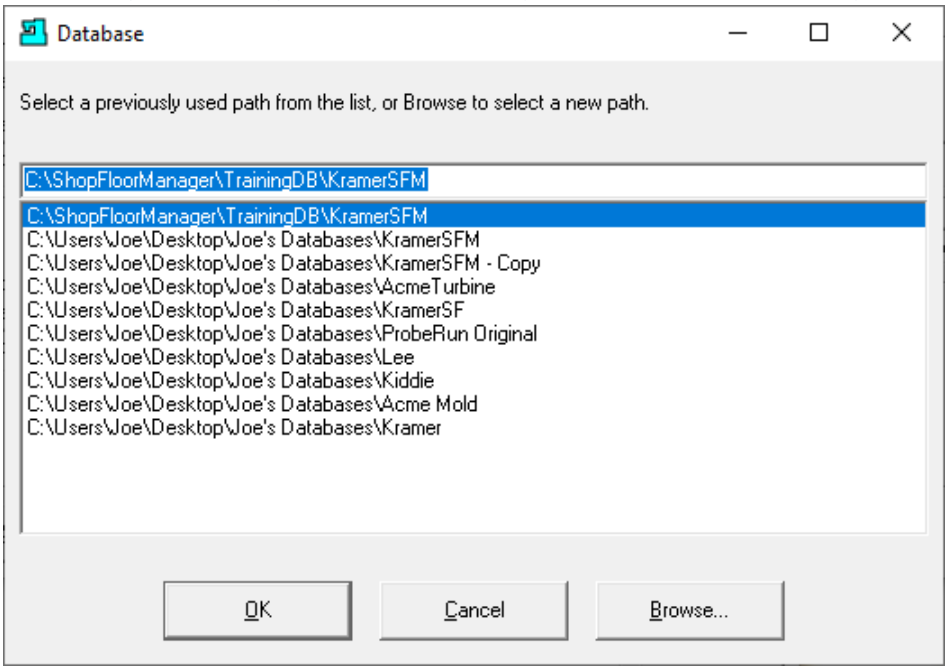
3. **If you are just attaching to an existing Database**
   See below for details

Create ShopFloorManager Database Access (Microsoft Jet 4.0 Form)



Select the Microsoft Jet 4.0 and click the Browse Button and the following Window is displayed.

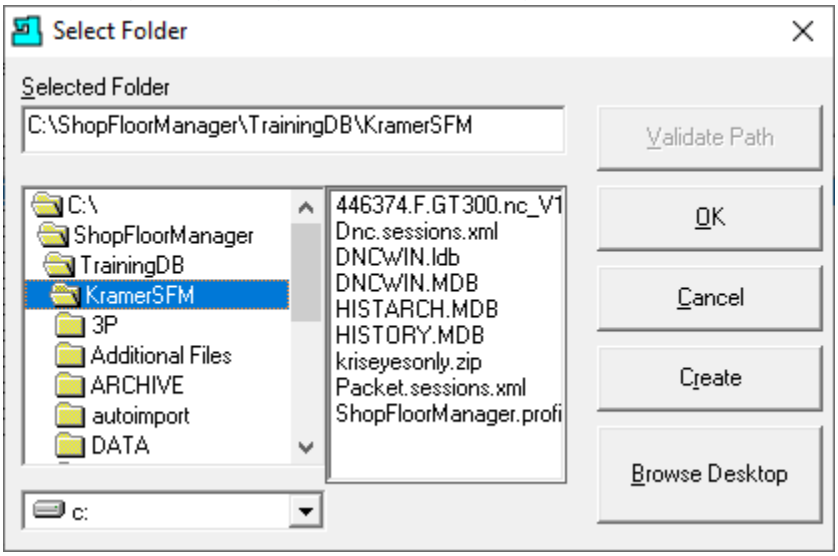
Create ShopFloorManager Database Access (Select Existing Path or Browse)



If this is an existing System, choose from above or Browse to the directory/network of interest. When ShopFloorManager Runtime appears if it is grayed out see Workstations!

If this is a New System click on the Browse Button and the following Window will be displayed.

Create ShopFloorManager Database Access (Choose Directory & Create Folder)

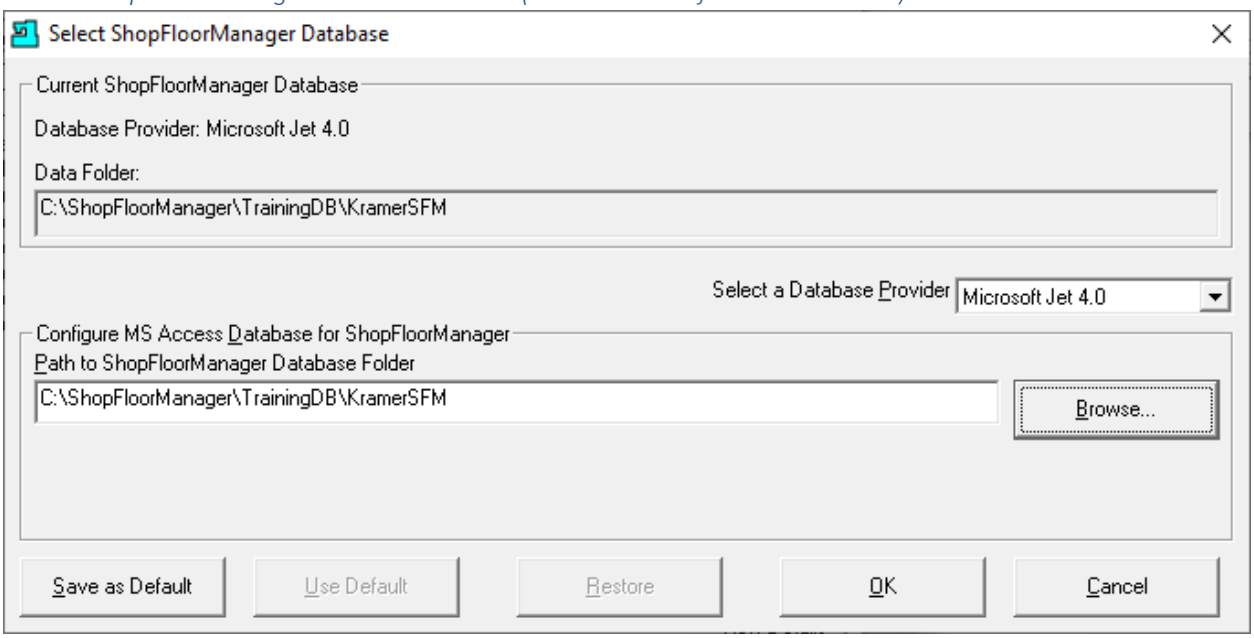


Search for the directory where you want to install the Access Database!

Click the OK Button and the following Window will be displayed.

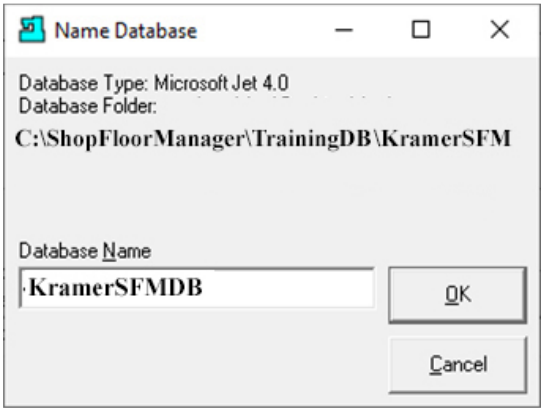
Note: If folder doesn't exist you will need to create it! ***No Root Directories***!

Create ShopFloorManager Database Access (Create Microsoft Jet 4.0 Database)



Click the OK Button and the following Window will be displayed.

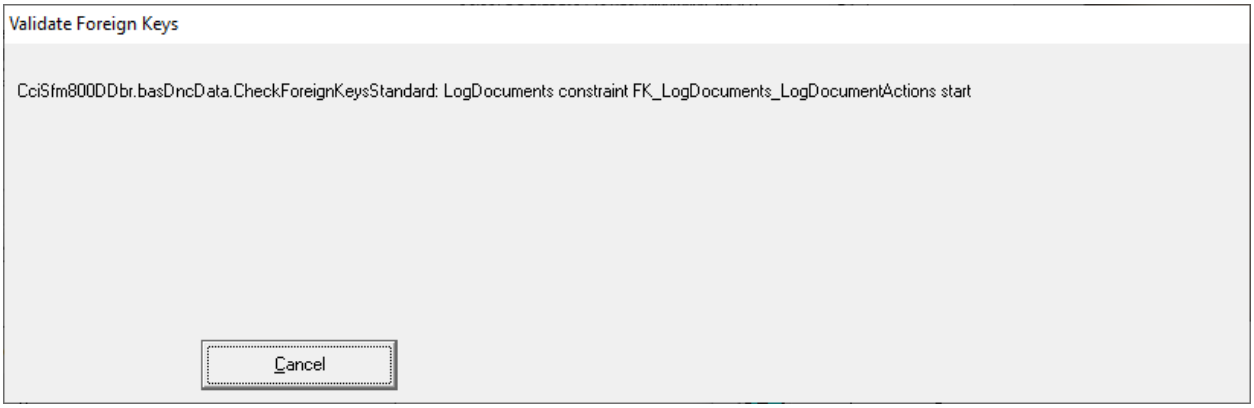
Create ShopFloorManager Database Access (Name Database)



Name the local database by typing in the Database Name textbox. This must be unique! You will be warned if it is a duplicate!

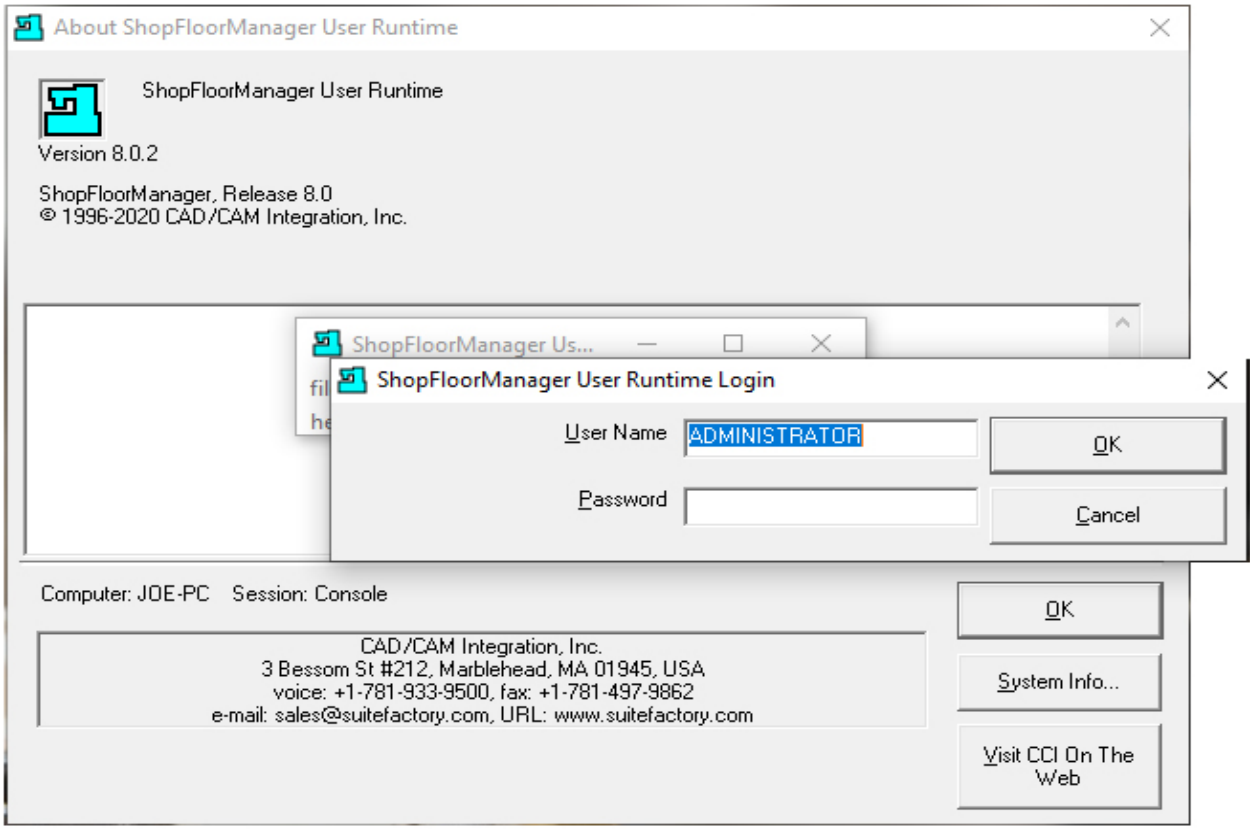
Click the OK Button and the following informational screens will be displayed as ShopFloorManager starts to create an Access Database.

Create ShopFloorManager Database Access (Informational screens)



This is just screens updating you as to the progress of create the database structure! When finished it will display the following Window!

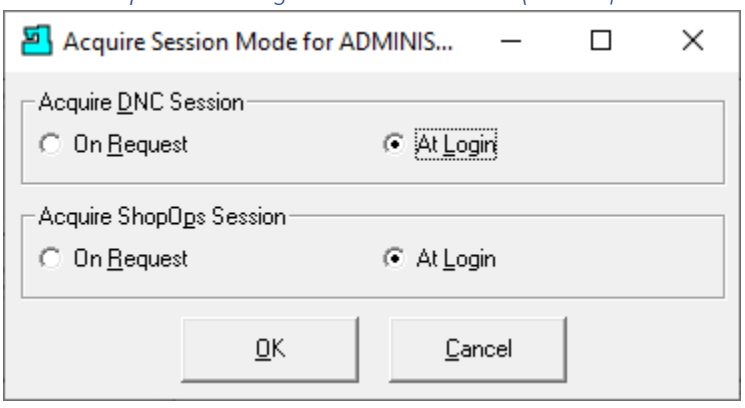
Create ShopFloorManager Database Access (Login screen using default Administrator User)



If the User Name “ADMINISTRATOR” is not shown type it in! Case is not important for User Name, but Passwords are! There is no Password for a new installation!

Click the OK Button and the following Window will be displayed.

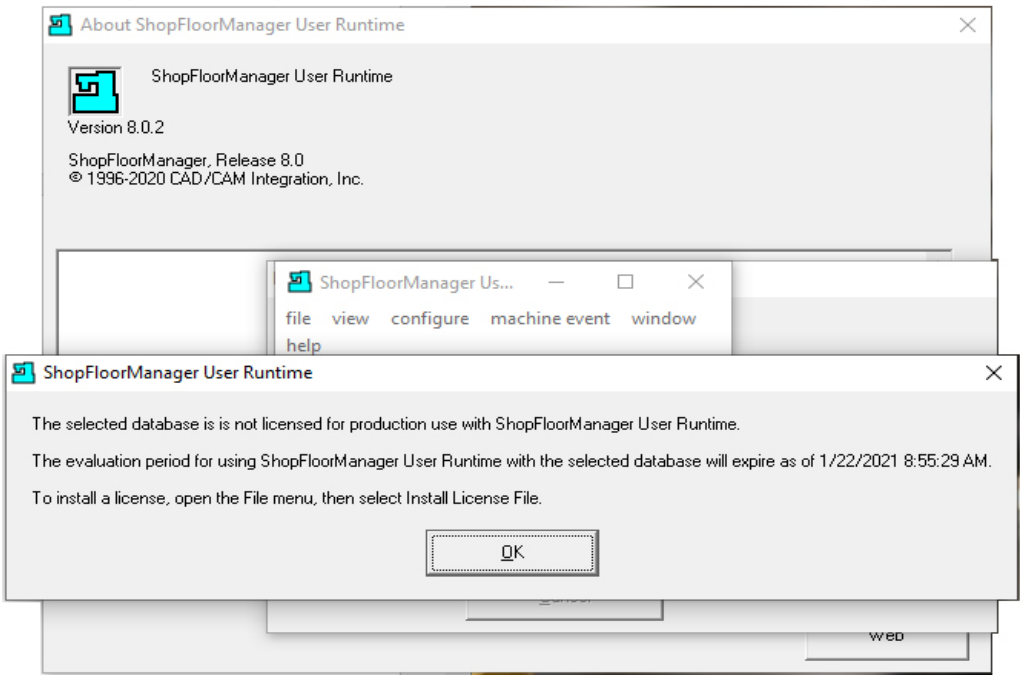
Create ShopFloorManager Database Access (Set Acquire DNC & ShopOps Sessions)



We will set the Acquire DNC Session & Acquire ShopOperation (Document Control) both to happen at Login or else every time ShopFloorManager start you will have to make those selections.

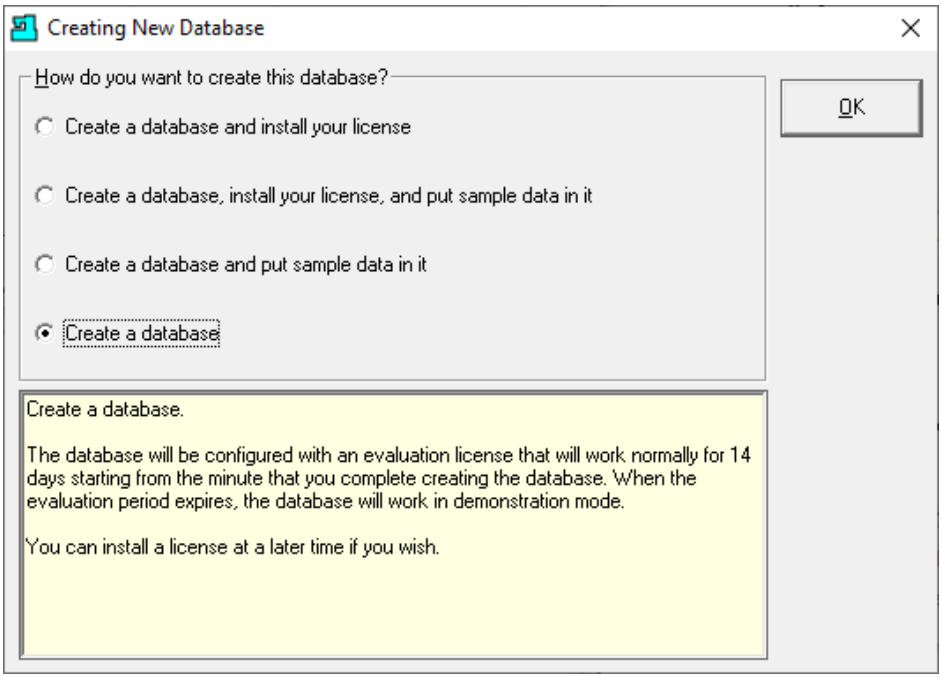
Click the OK Button and the following Window will be displayed.

Create ShopFloorManager Database Access (Informational screen alerting you have a temporary License)



Click the OK Button and the following Window is displayed!

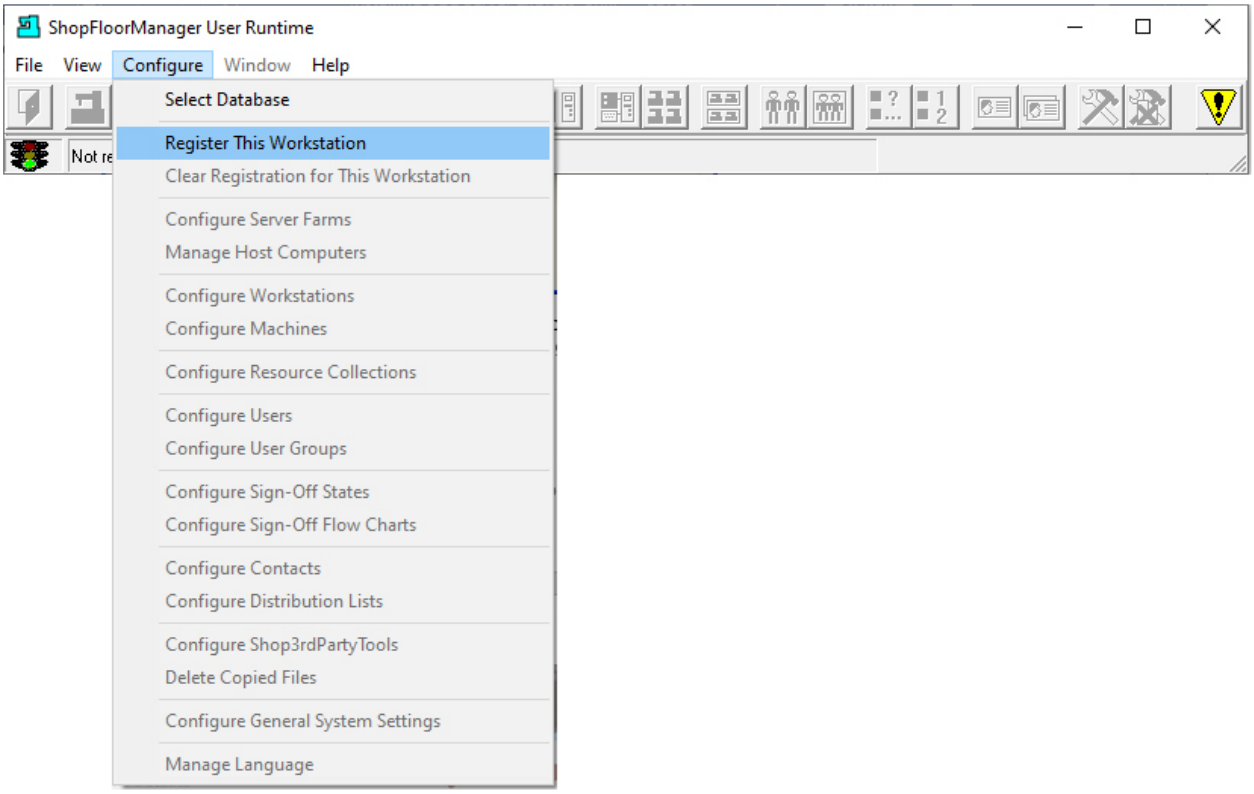
Create ShopFloorManager Database Access (Select how to create a database)



We will select the fourth option: Create a database!

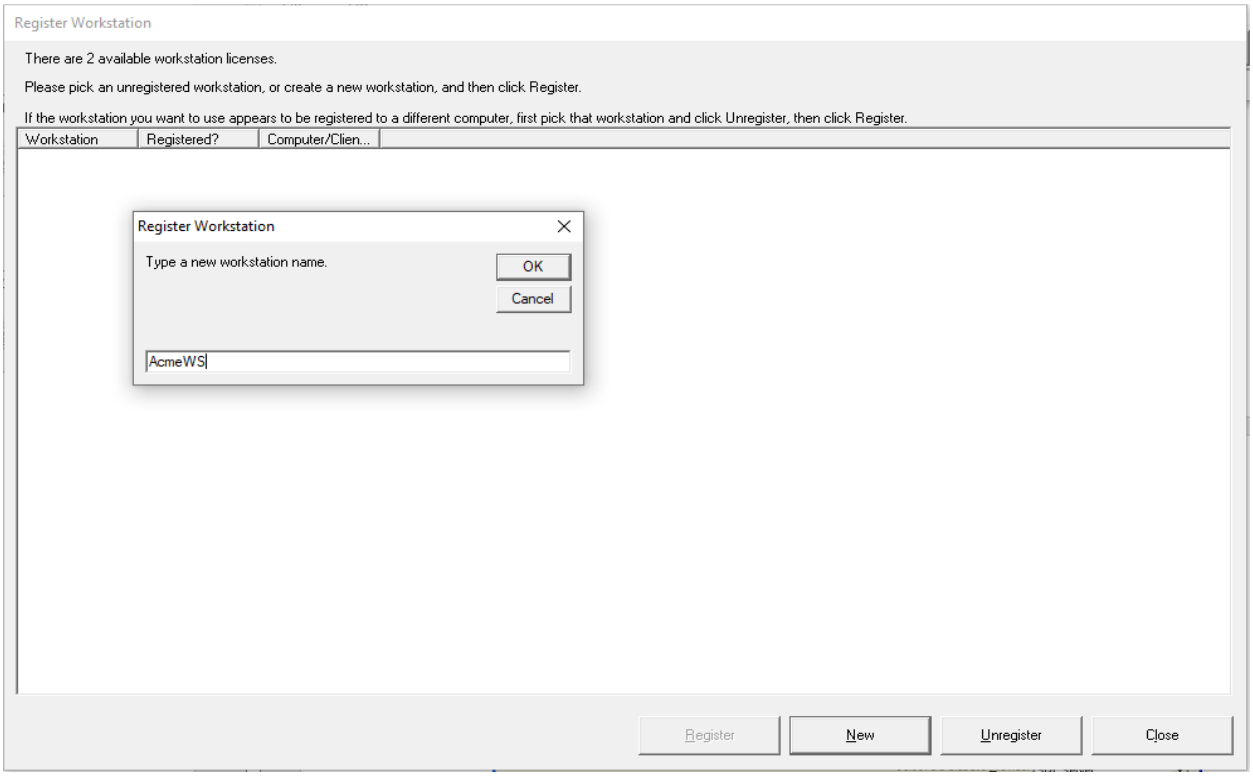
Click the OK Button and after the creation process the following Window will be displayed.

Create ShopFloorManager Database Access (ShopFloorManager Runtime Grayed Out)



Click the “Register This Workstation” and the following Window is displayed.

Create ShopFloorManager Database Access (ShopFloorManager Register Workstation)

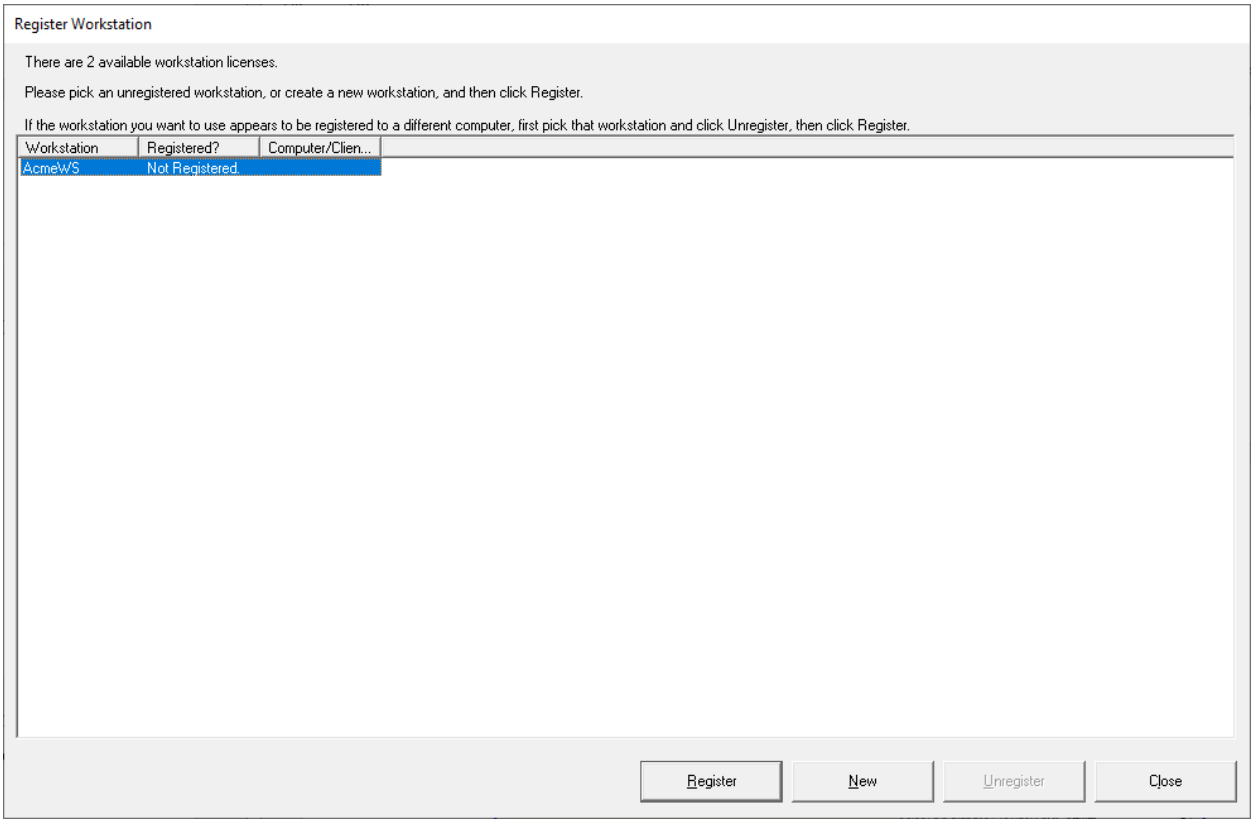


After the Form is displayed click the New Button and name the Workstation you want registered to this Physical PC! Workstations are Virtual and belong to a User or multiple Users!

If a User moves to another Workstation when they login they can chose this Workstation, and all of the previous setting will be maintained!

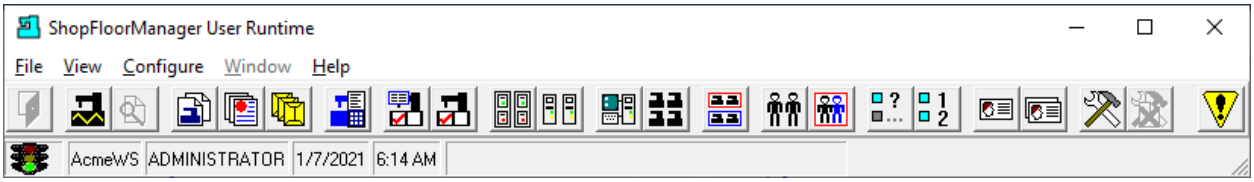
Click the OK Button and the following Window is displayed.

Create ShopFloorManager Database Access (ShopFloorManager Workstation AcmeWS)



Highlight this Workstation and click the Register Button and the following Window will be displayed.

Create ShopFloorManager Database Access (ShopFloorManager Runtime)



You are ready to enter the License and Activation Key and Activate ShopFloorManager!

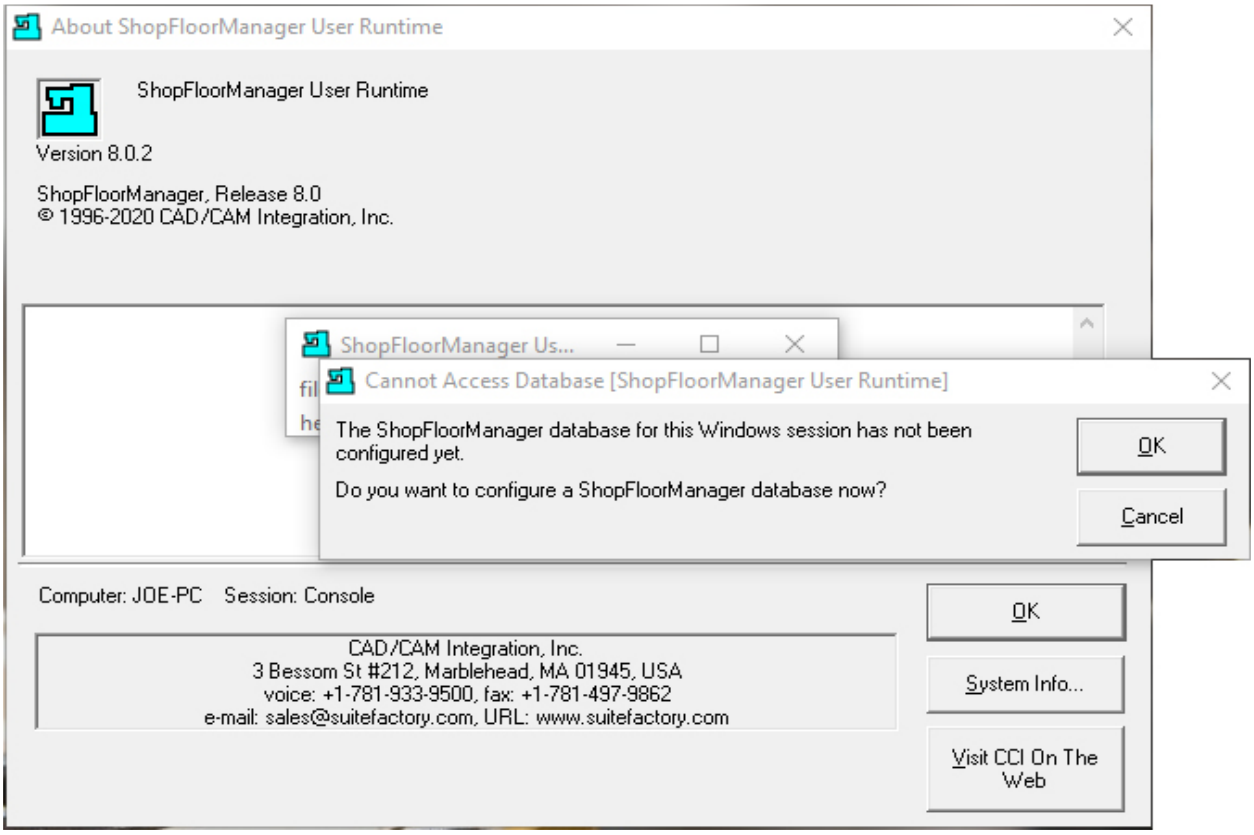
If you need a license, call CCI 1-781-933-9500.

Create a ShopFloorManager SQL Database (Another Database to deal with! I'm going Home!)

If ShopFloorManager is not already installed!

Note: We suggest you completely read this section from start to finish before proceeding with the installation!

Create ShopFloorManager Database SQL (Setting up a SQL Database)

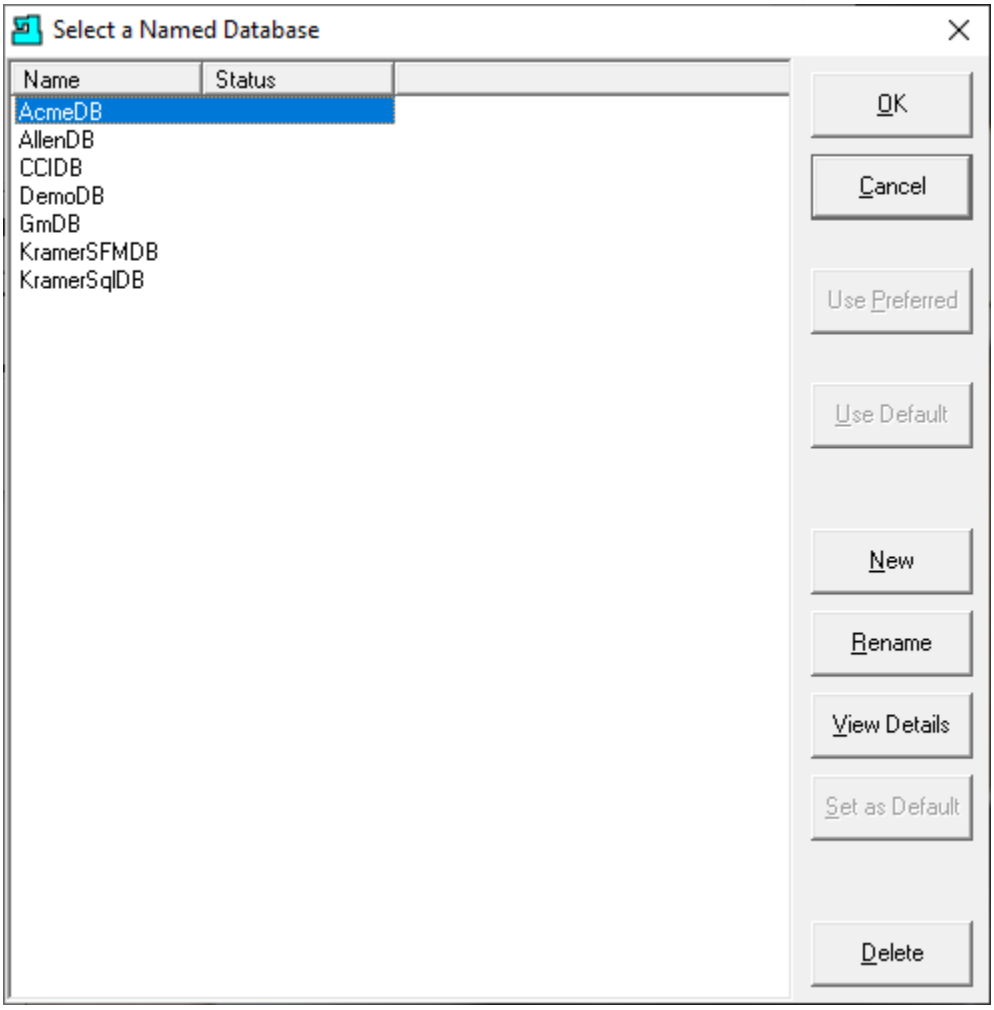


Startup ShopFloorManager if not already running! If you are updating from an earlier version, you will see activity updating the database and ShopFloorManager will be displayed with a login screen!

If this is a new installation you will need to create a SQL database!

Click the OK Button.

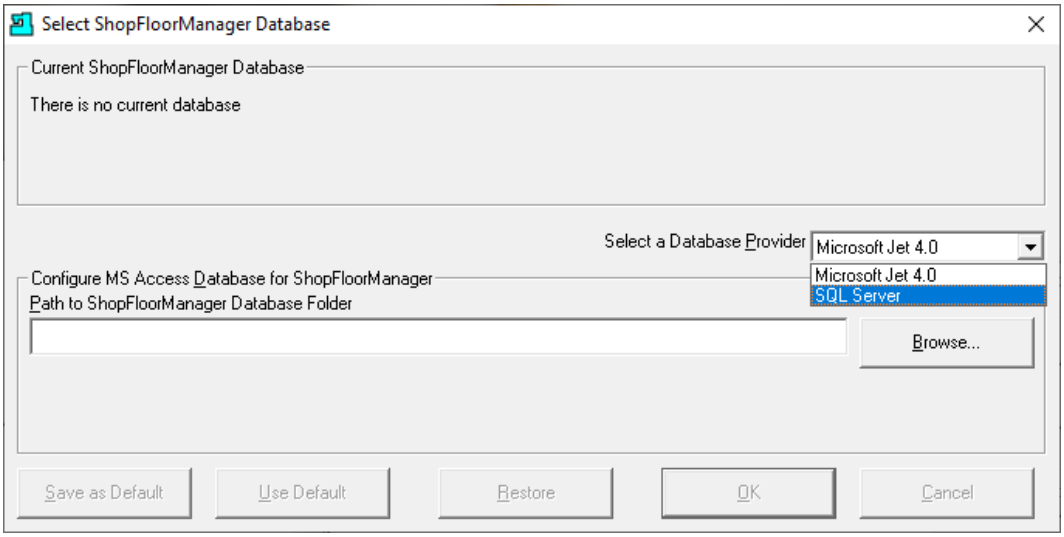
Create ShopFloorManager Database SQL (Select a Named Database - New)



Click the New Button and the following Window will be displayed.

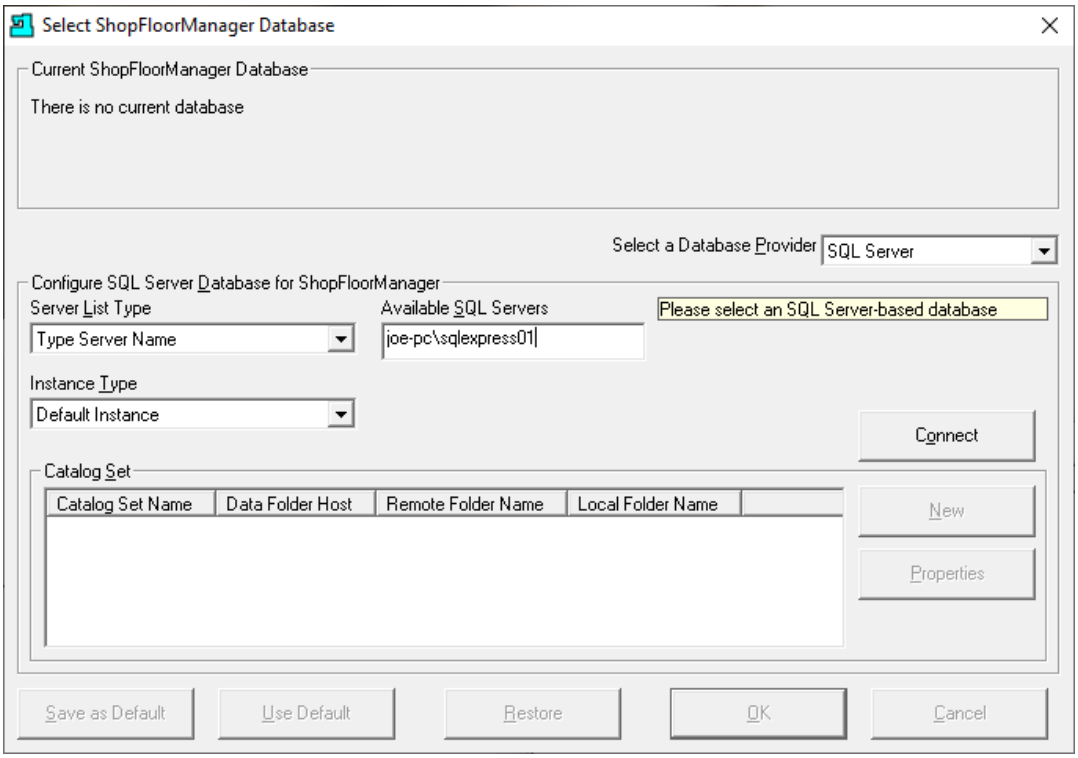
Note: If this is a new system the above list will be empty!

Create ShopFloorManager Database SQL (Select ShopFloorManager Database)



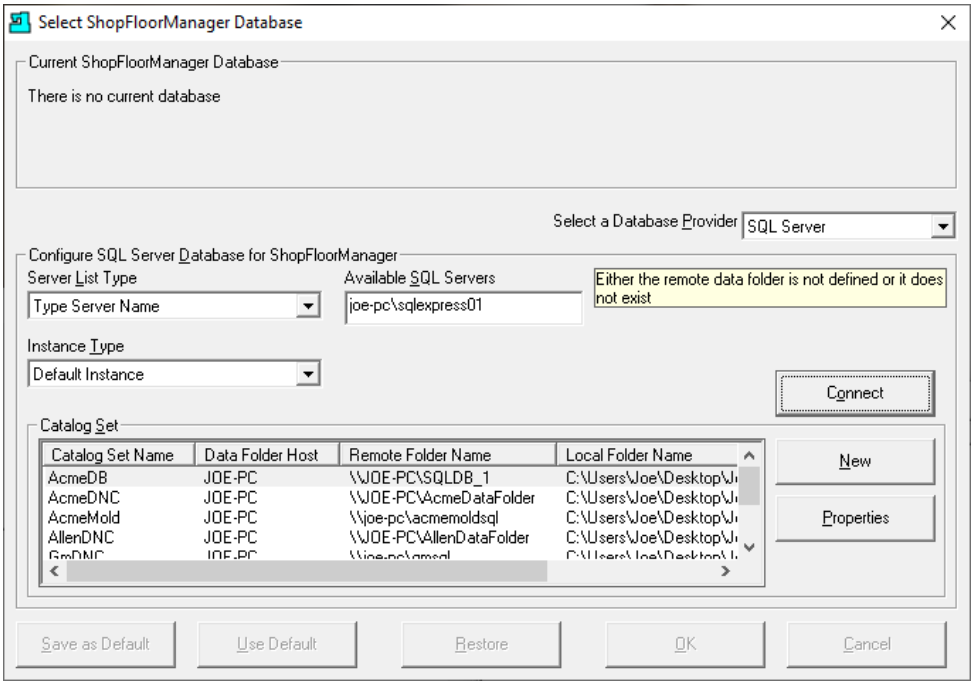
Click on the “Select a Database Provider” and select SQL Server and the following Window will be displayed.

Create ShopFloorManager Database SQL (Available SQL Servers)



In the “Server List Type” drop-down list select “Type Server Name” & type “Joe-pc\sqlexpress01” in the “Available SQL Servers” text box. The follow Window is displayed! You may need to talk to “IT” for the Server Name! Click the Connect Button and the following Window will be displayed.

Create ShopFloorManager Database SQL (joe-pc\sqlexpress01 New)

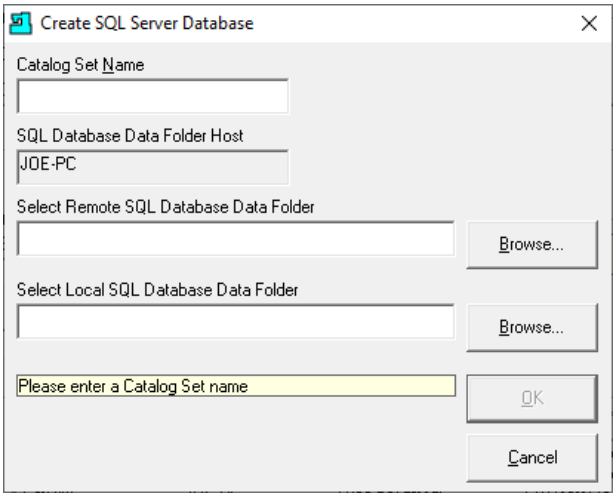


Click the New Button and the following Window will be displayed.

Note: The above "Catalog Set" Window may be empty if this is the first database created!

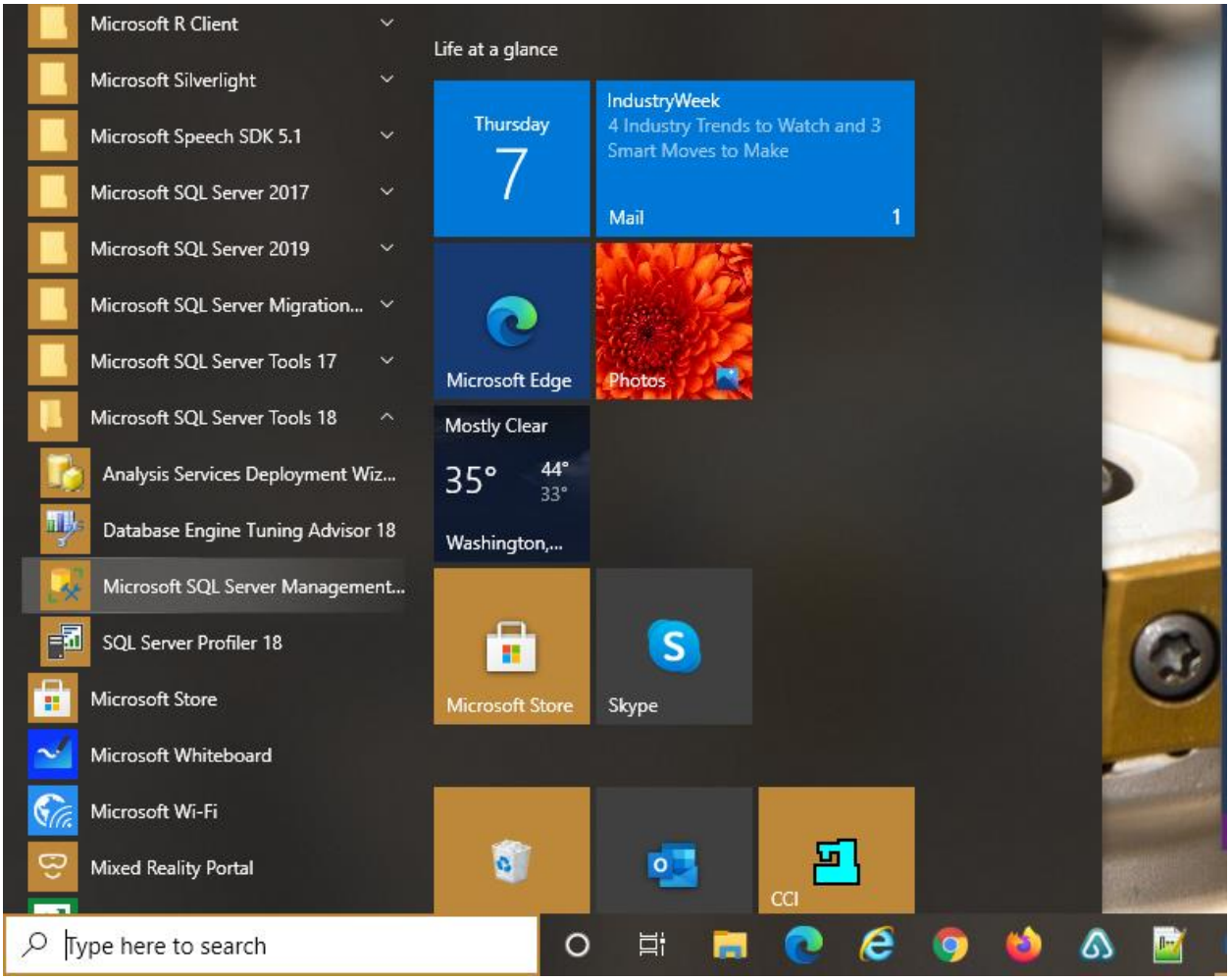
If one of these databases is the one you want to connect to, select it and click the OK Button. Now click this link or see the follow the following instructions.

Create ShopFloorManager Database SQL (Create SQL Server Database Form)



Before we add anything to this Form let's start up the Microsoft SQL Management Studio and take a look at its present list of Databases!

Create ShopFloorManager Database SQL (Desktop Start Menu – Microsoft SQL Server Management…)



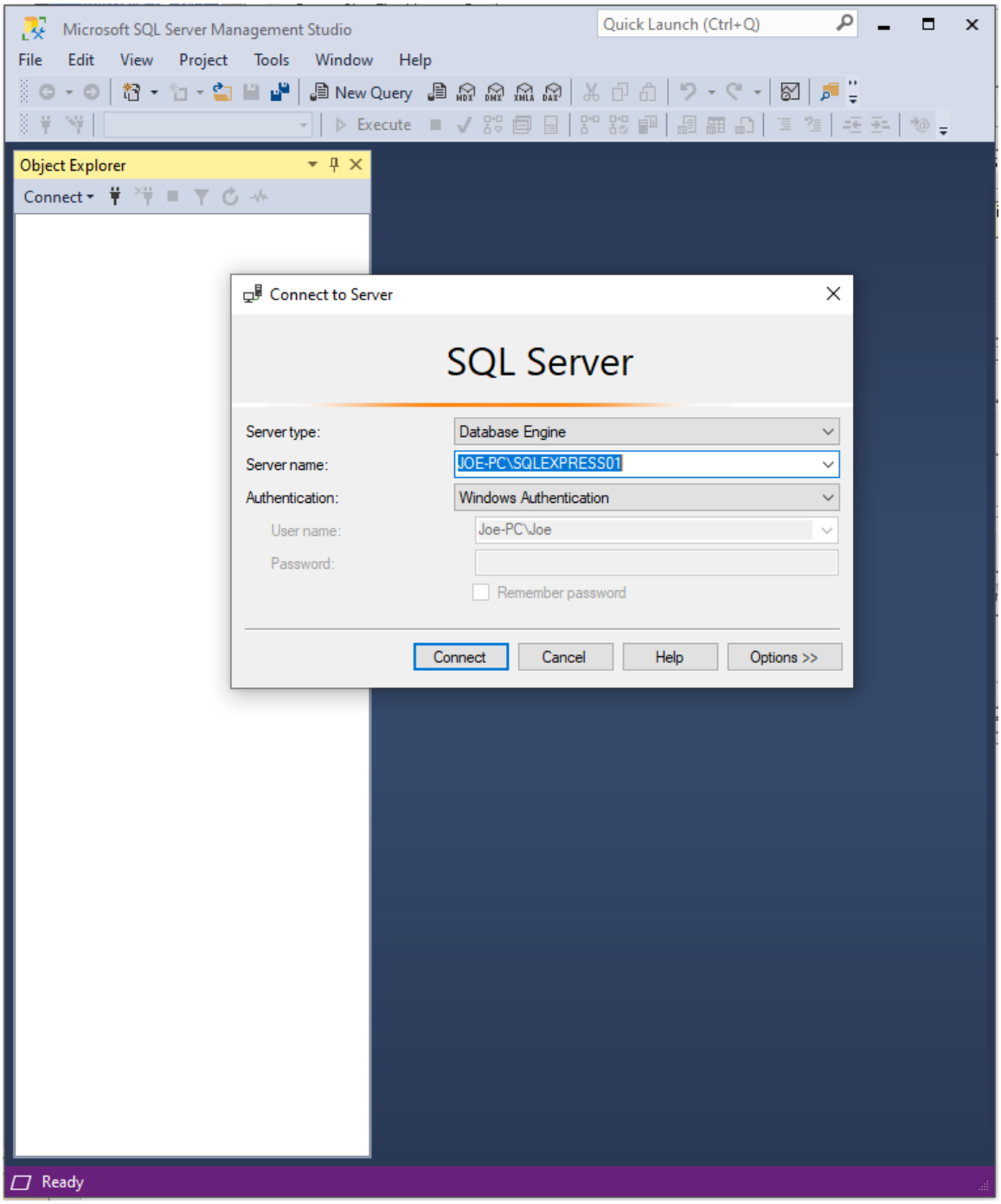
If Microsoft SQL Server Management… hasn't been installed yet click on this link!

From the Start menu look for Microsoft SQL Server Tools 18 (may be different if you have installed a different version).

Click on the "Microsoft SQL Server Management Studio" and the following Application will be displayed. This may take several minutes before becoming active.

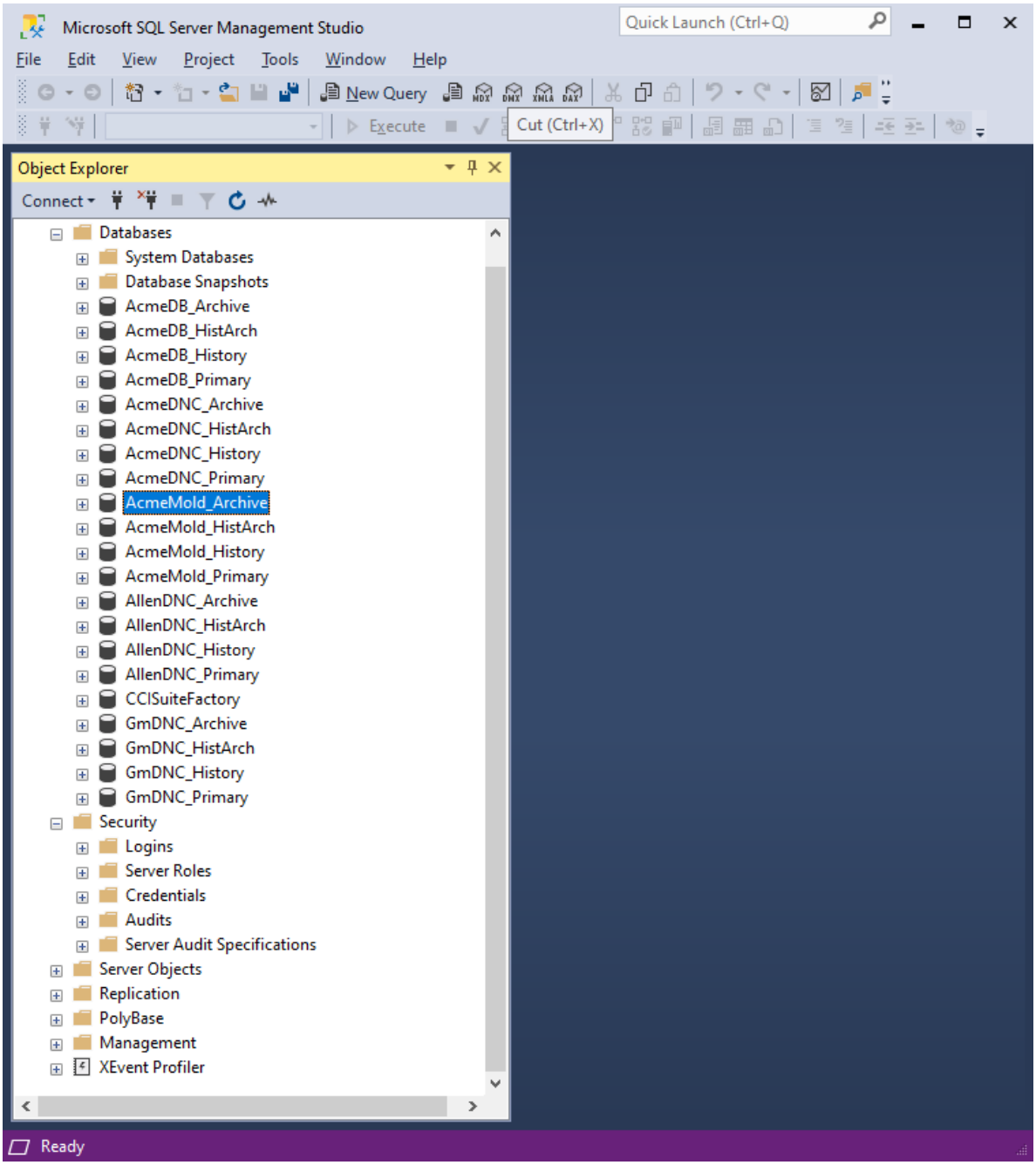
Note: Read the section on Making a user a SQL Server System Administrator!

Create ShopFloorManager Database SQL (SSMS - JOE-PC\SQLEXPRESS01- Connect)



Chose the Server name which in this case is “JOE-PC\SQLEXPRESS01”. Your selection will be different! See “IT” if needed! Click the Connect Button and the following Window will be displayed.

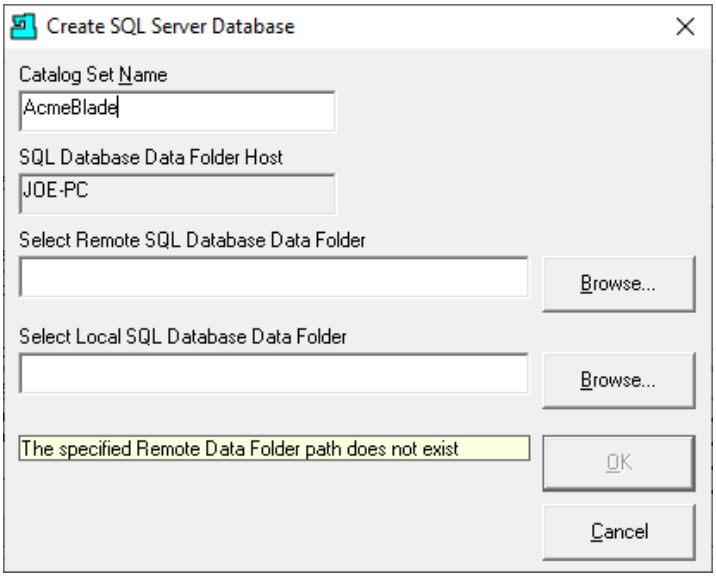
Create ShopFloorManager Database SQL (SSMS - JOE-PC\SQLEXPRESS01)



Look at the list of Databases! We will return to this Application shortly after we have created a new set of databases!

Now back to Create SQL Server Database Form!

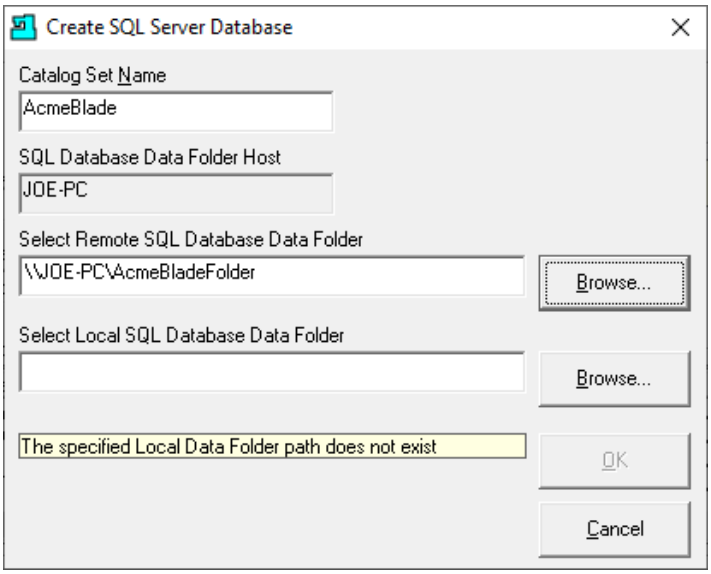
Create ShopFloorManager Database SQL (Create SQL Server Database - AcmeDNC)



We will be typing AcmeBlade in the “Catalog Set Name” text box!

Click on the Browse Button “Select Remote SQL Database Data Folder” and the following Window will be displayed.

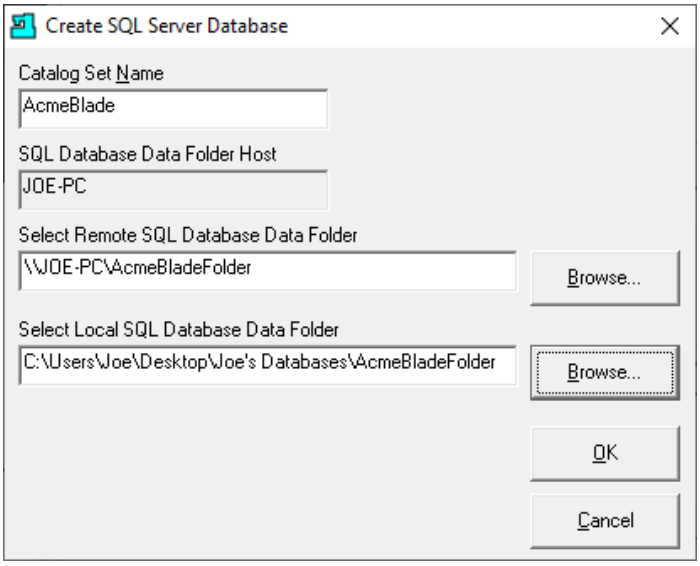
Create ShopFloorManager Database SQL (Create SQL Server Database – Select Remote…)



Browse to “\\JOE-PC\AcmeBladeFolder” Shared Network Data Folder. This has to be a Network Drive name!

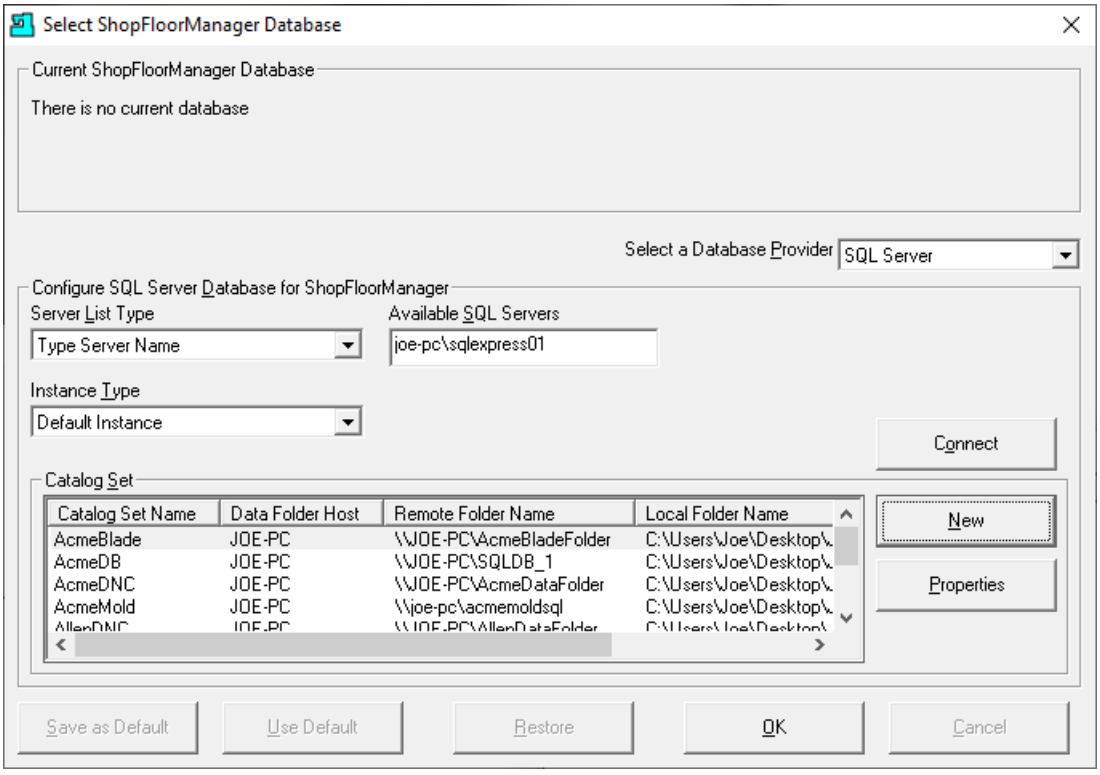
Click on the Browse Button “Select Local SQL Database Data Folder” and the following Window will be displayed.

Create ShopFloorManager Database SQL (Create SQL Server Database – Select Local...)



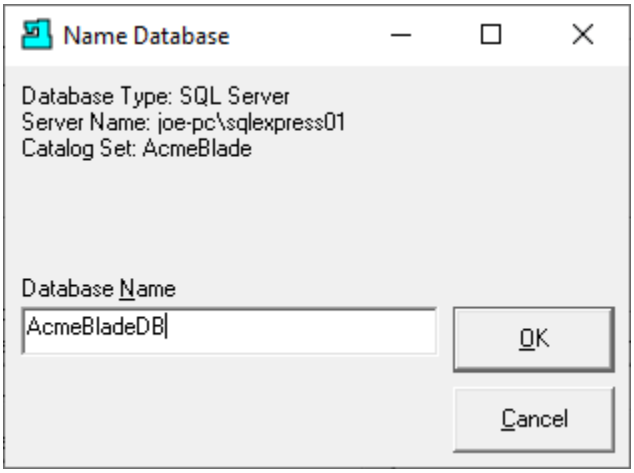
Click the OK Button and the following Window will be displayed.

Create ShopFloorManager Database SQL (Available SQL Servers-AcmeDNC Catalog Set Name)



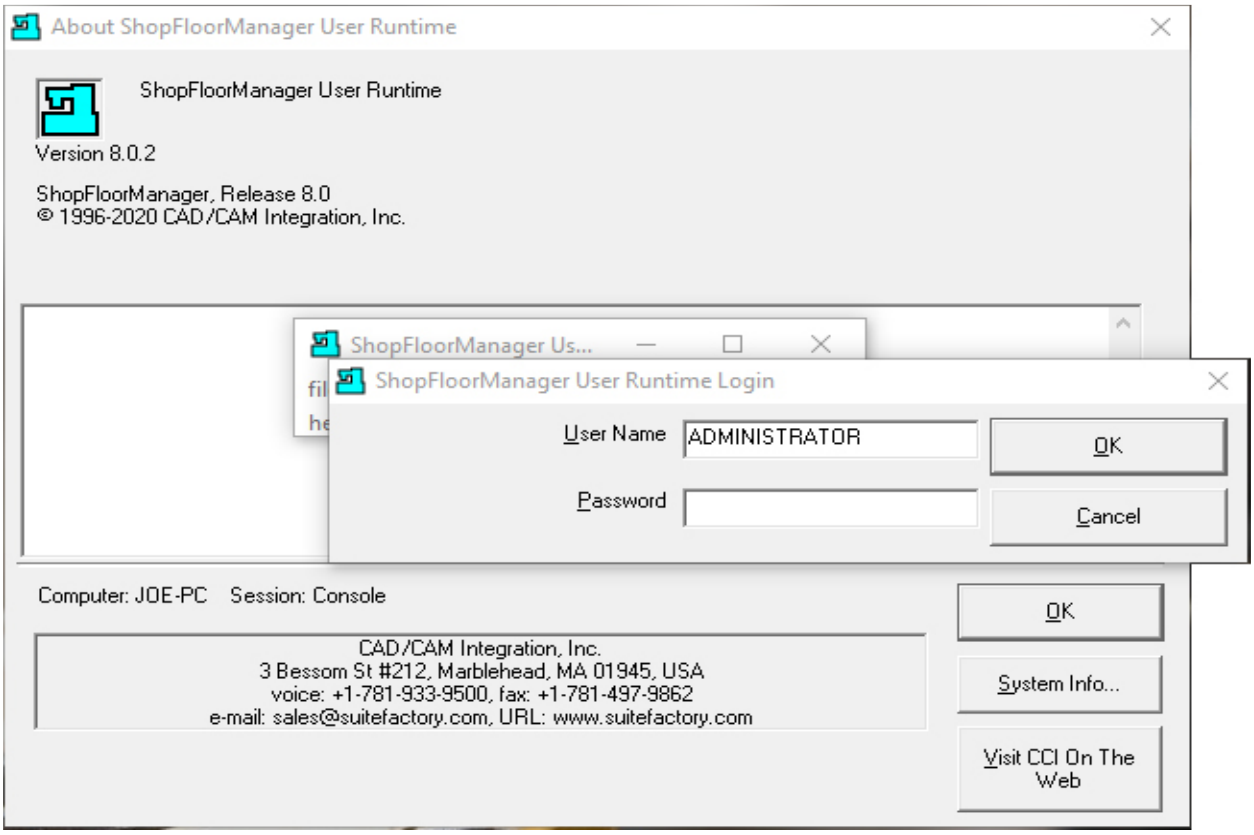
Select the AcmeBlade catalog set & Click the OK Button and the following Window will be displayed.

Create ShopFloorManager Database SQL (Name Database - AcmeDB)



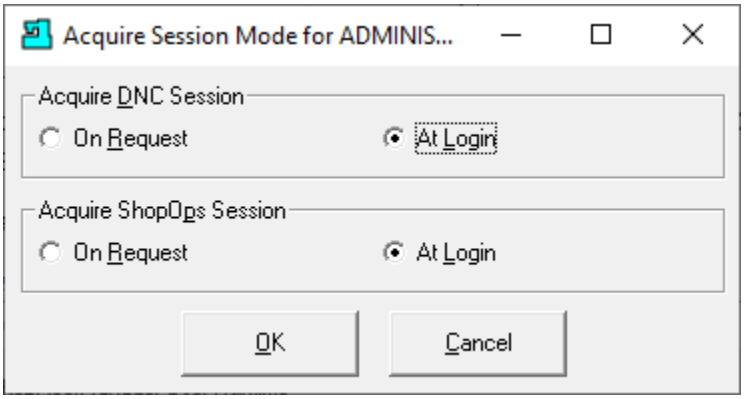
We need to create a Local Name (Arbitrary) for the database! Enter AcmeBladeDB, yours will be different, and click the OK Button and the following Window will be displayed. This may take a few minutes.

Create ShopFloorManager Database SQL (ShopFloorManager Login Window)



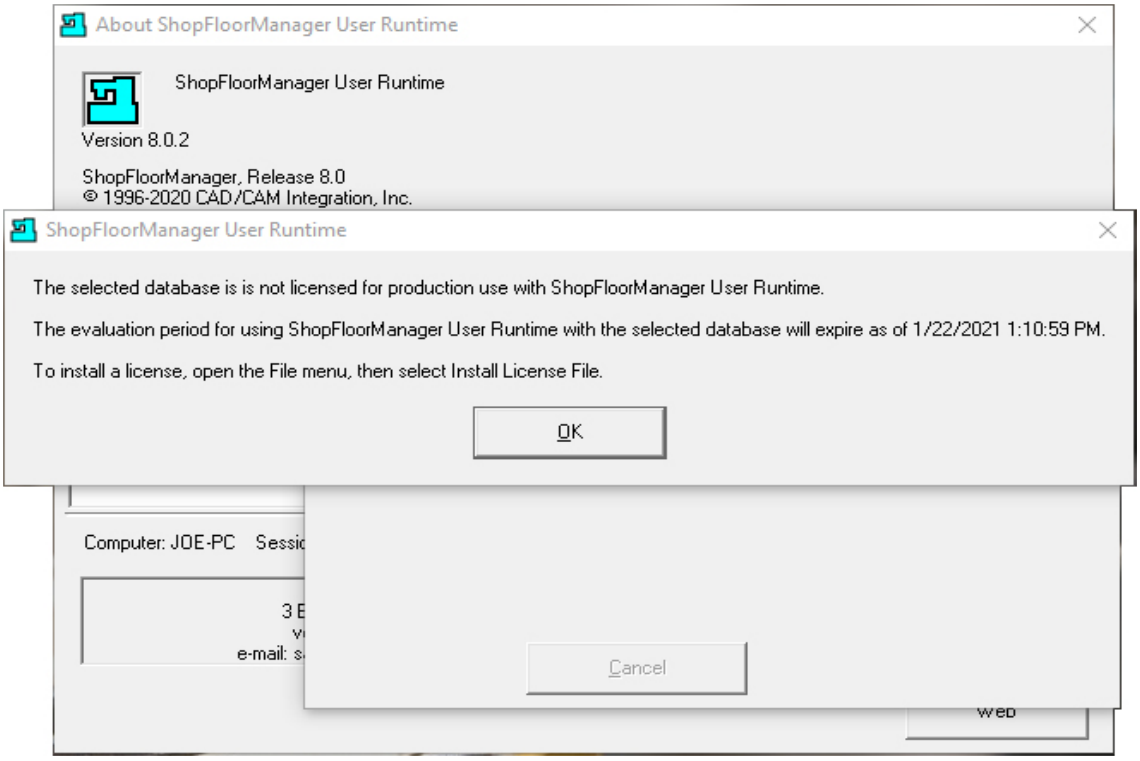
Click the OK Button and the following Window is displayed.

Create ShopFloorManager Database SQL (ShopFloorManager Acquire Session Mode…)



Set the options as displayed above for now and click the OK Button and the following Window is displayed.

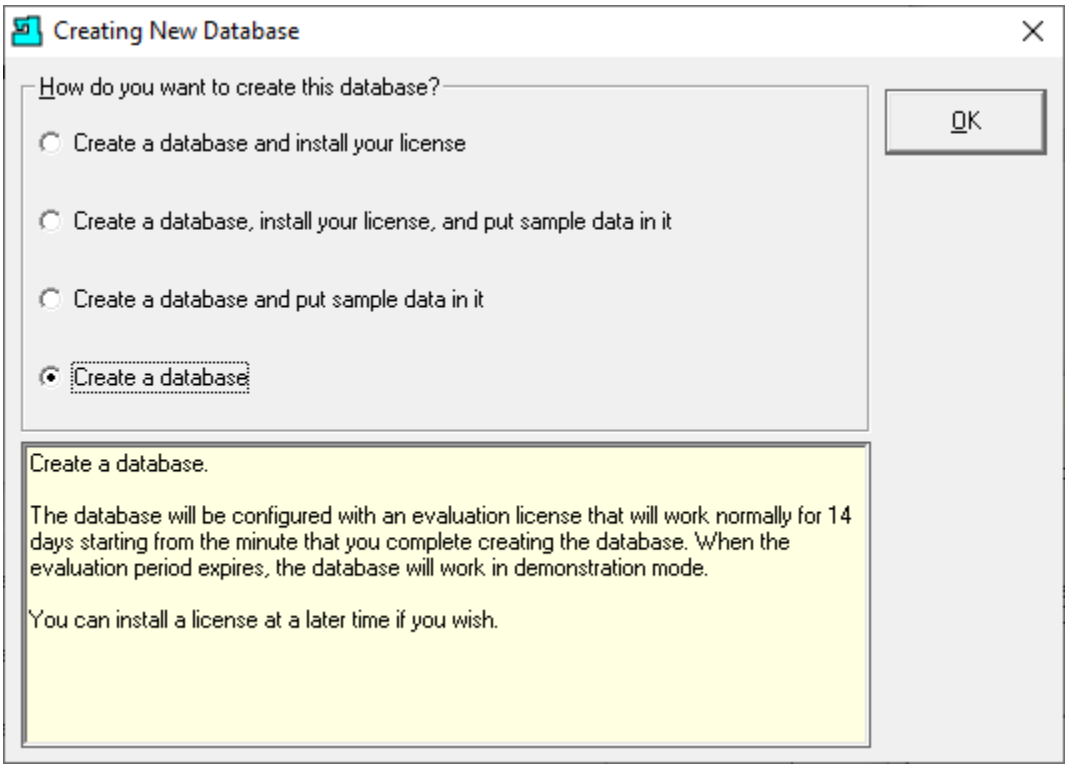
Create ShopFloorManager Database SQL (Name Database – AcmeDB Informational)



This Window is informational letting you know you will need to add a License & Key.

Click the OK Button and if this is not an empty database, such as a one produced by migrating an existing Access database to SQL, the ShopFloorManager Login screen is displayed. If it is an empty database, the following Window is displayed.

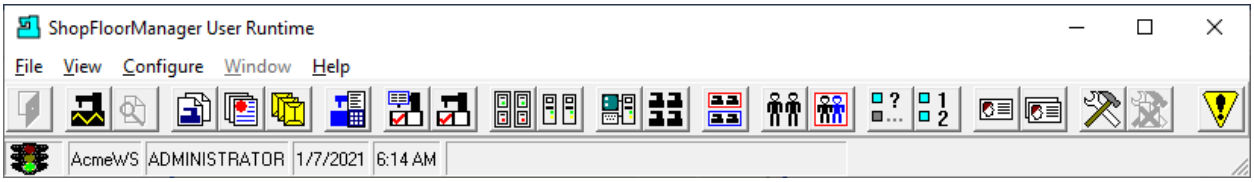
Create ShopFloorManager Database SQL (ShopFloorManager Create New Database Structure)



Normally you would not select the “Create a database and put sample data in it” Option. Make your selection and click the OK Button!

Note: Before the following Window is displayed you may see multiple Informational Windows being displayed as ShopFloorManager finishes creating a new SQL Database Structure!

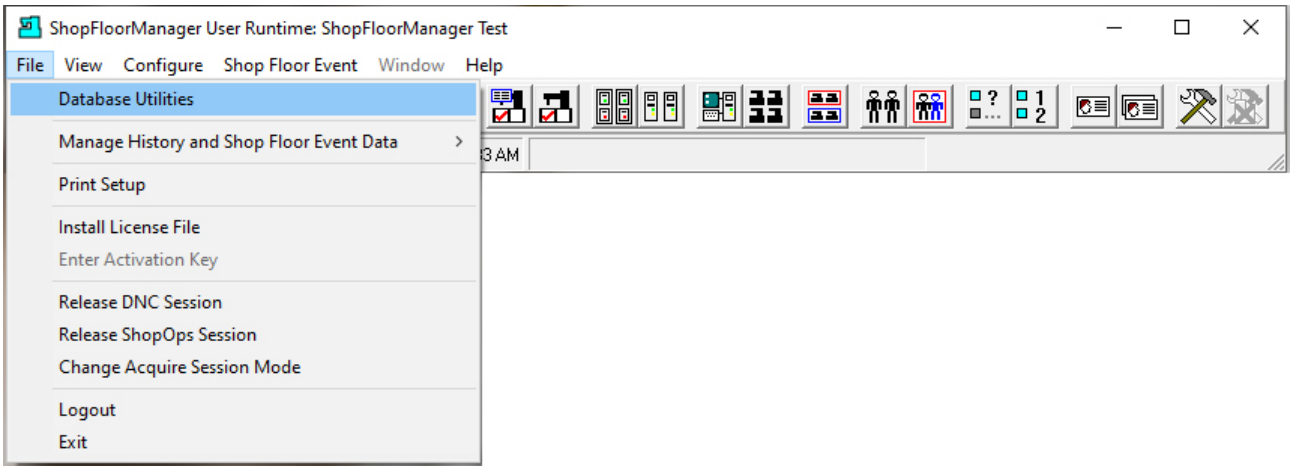
Create ShopFloorManager Database SQL (ShopFloorManager Runtime)



You are ready to enter the License and Activation Key and Activate ShopFloorManager!

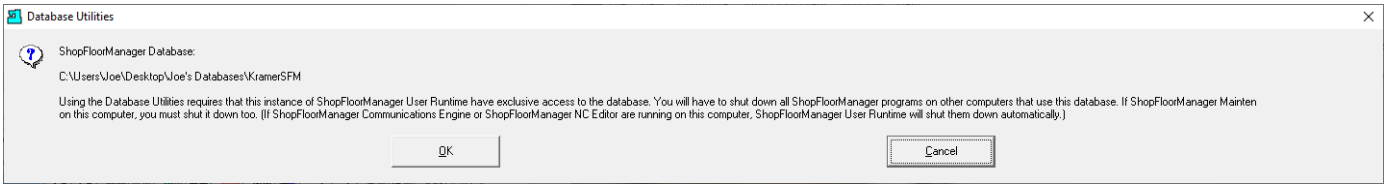
If you need a license and are a current customer, call CCI 1-781-933-9500.

Database Utilities (Applies to Access Databases only! Don't cry SQL, you have MSSM!)



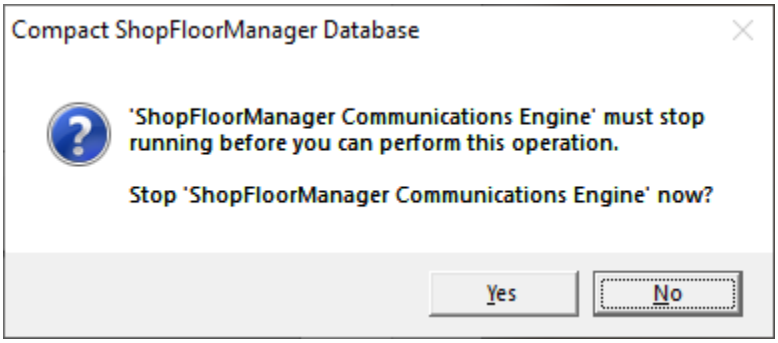
Clicking on the Database Utilities displays the following informational Window.

Database Utilities (Informational Window)



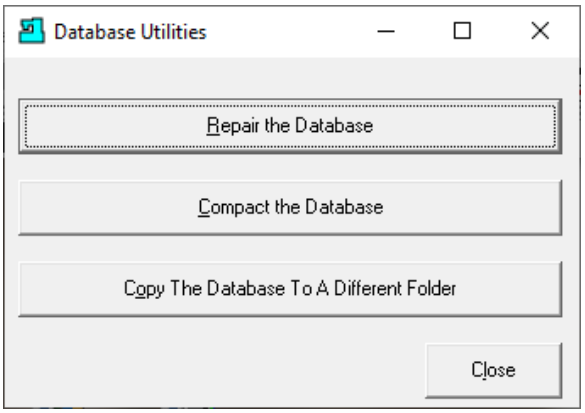
Clicking OK will display the following Window.

Database Utilities (Waring Window of need to shutdown Communications Window)



Once the Communications Engine Stops the following Window is displayed.

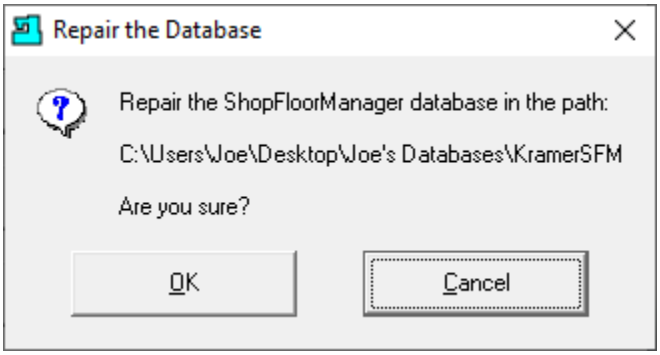
Database Utilities (Utilities Window)



There are three options available:

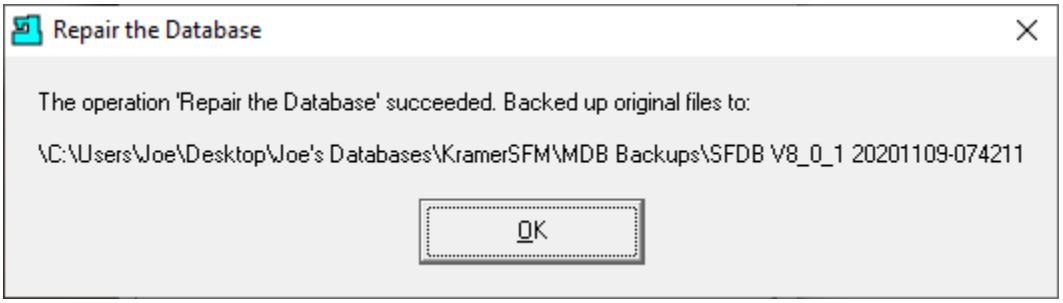
Clicking on the Repair the Database Button displays the following Window.

Database Utilities (Repair Informational Window)



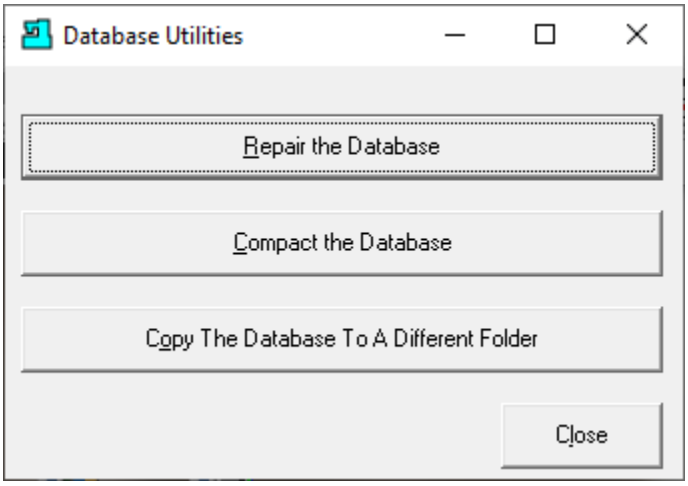
Click the OK Button and the database will be Repaired and Compacted and the following Window be displayed. This is sometimes used when the headlight on the lower left corner of Runtime is displaying Red! This means the database has grown larger than the selected size. Access Database need to be compressed at least every month!

Database Utilities (Informational Window database repaired)



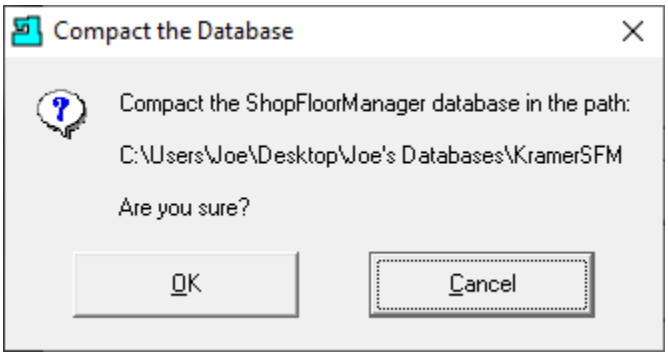
Click the OK Button and the following Window will be displayed.

Database Utilities (Utilities Window)



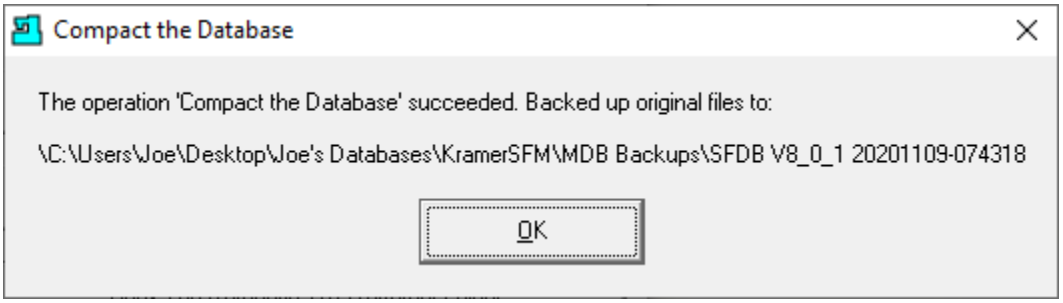
Clicking on the Compact Database Button displays the following Window.

Database Utilities (Compact Informational Window)



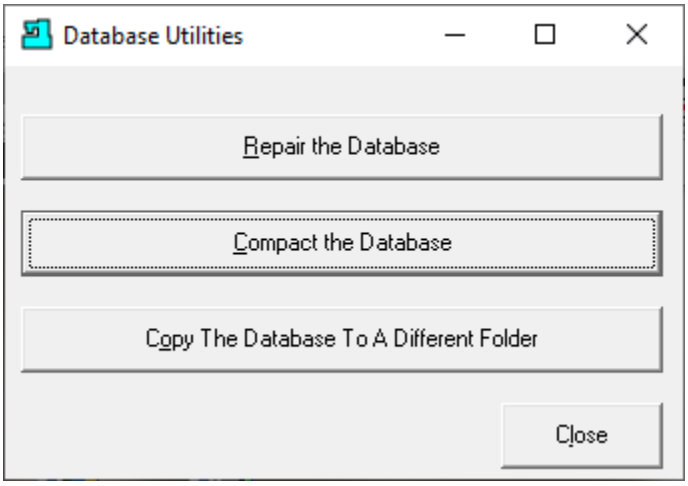
Click the OK Button and the database will be Repaired and Compacted and the following Window be displayed.

Database Utilities (Informational Window database Compact)



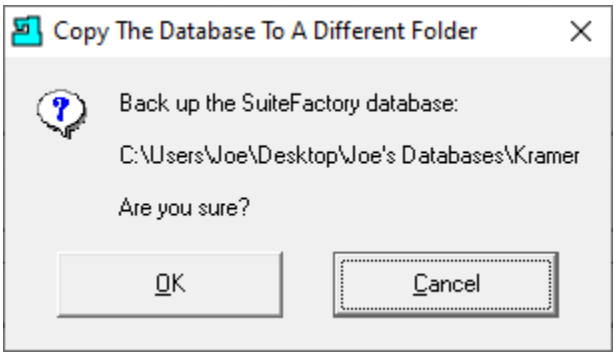
Click the OK Button and the following Window will be displayed.

Database Utilities (Utilities Window)



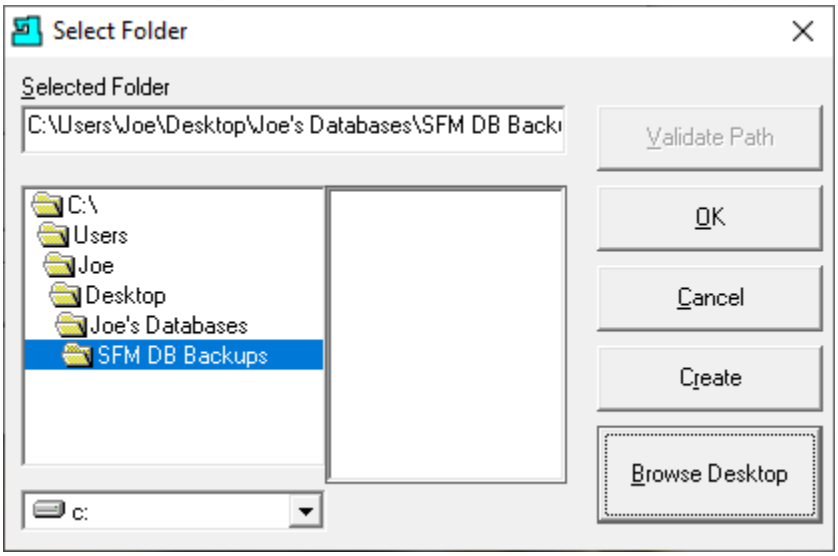
Clicking on the “Copy the to a Different Folder” Database Button displays the following Window.

Database Utilities (Compact Informational Copy the database to…)



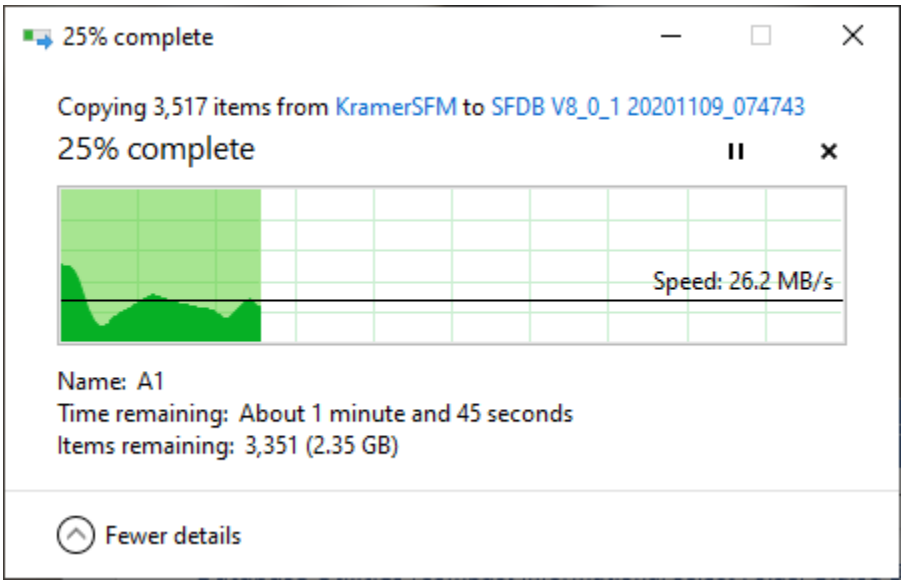
Click the OK Button and the database will be Repaired and Compacted and the following Window be displayed.

Database Utilities (Compact Informational Select Folder Dialog Box)



Click the Validate Path if Active & then select the desired folder, must be outside on the existing database folder, and click the OK Button and the following Window will be displayed.

Database Utilities (Compact Informational Progress Window)



When finished you will be brought back to the Database Utilities Window.

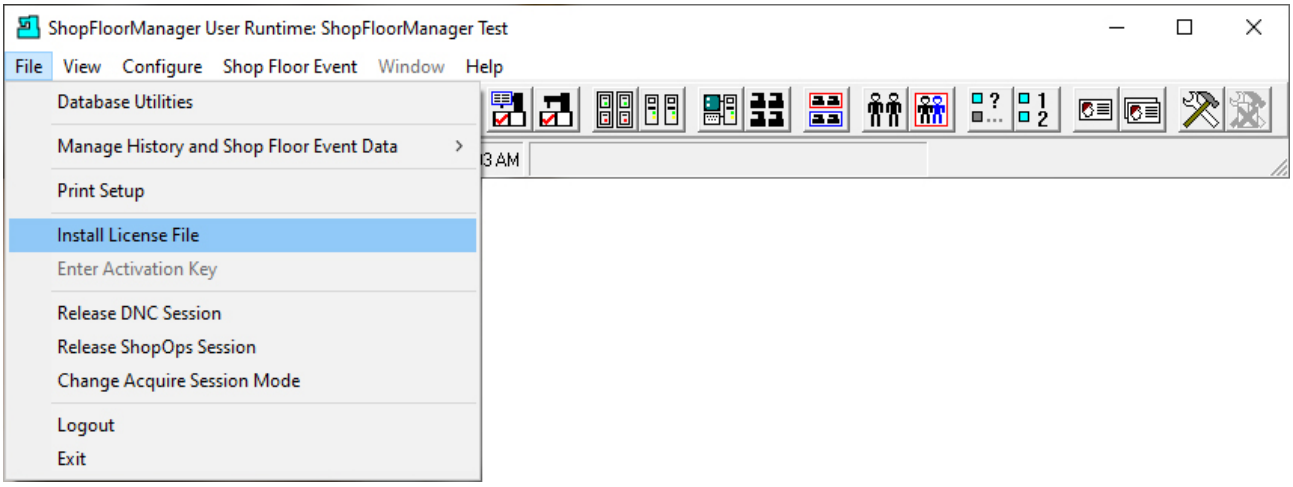
Click the Close Button and the Communications Engine will startup and you will be back to normal operations.

This section is complete so let's move to the next section!

Install License File (Bring ShopFloorManager's Different Features to Life. Feels good to Create!)

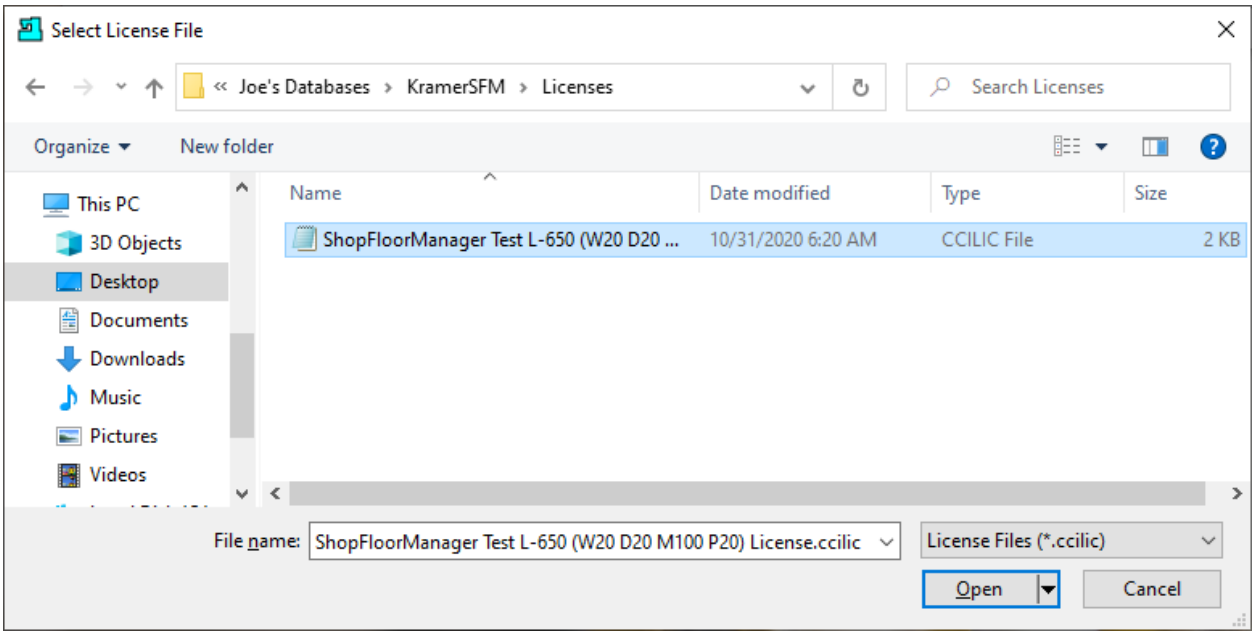
If ShopFloorManager is running at more than one computer, choose one computer to install the license & activation key and shut down all the other ShopFloorManager computers including the Maintenance Engine if it's running! **Use the following Procedure when you see the warning "Running in Demo Mode" or a future invalidation date!**

Install License File (Instructions)



Click on the File Menu and select the Install License File.

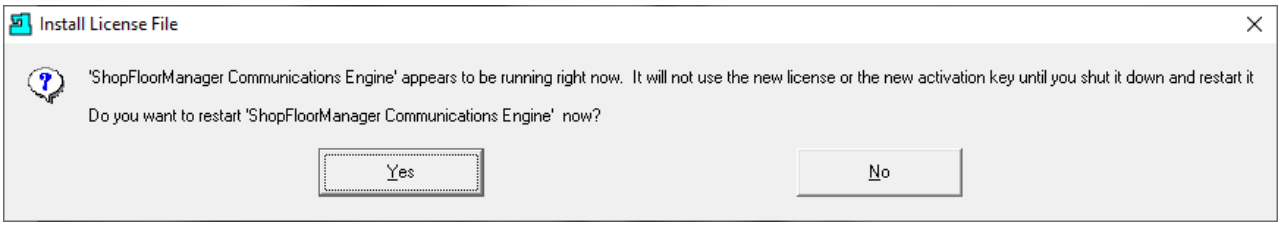
Install License File (Browse to License File)



Browse to the License, highlight, and click the Open Button and the following Window is displayed.

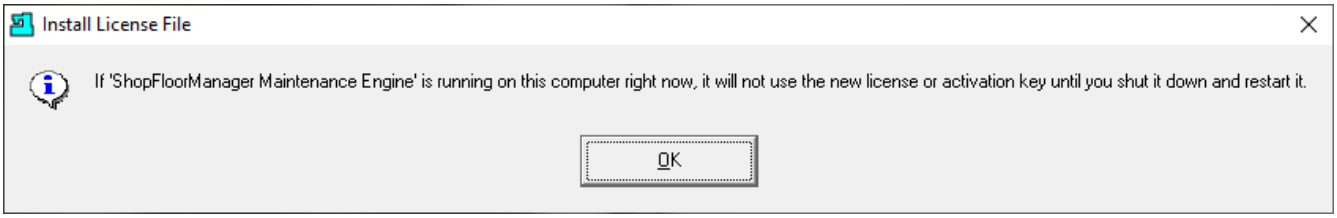
Note: ShopFloorManager's License determines what flavor of Shopfloor Automation you install! From Simple DNC to a Shopfloor Monitoring System & it's only a license away! No new installation Required!

Install License File (Informational Window letting you know to shutdown Comm Engine)



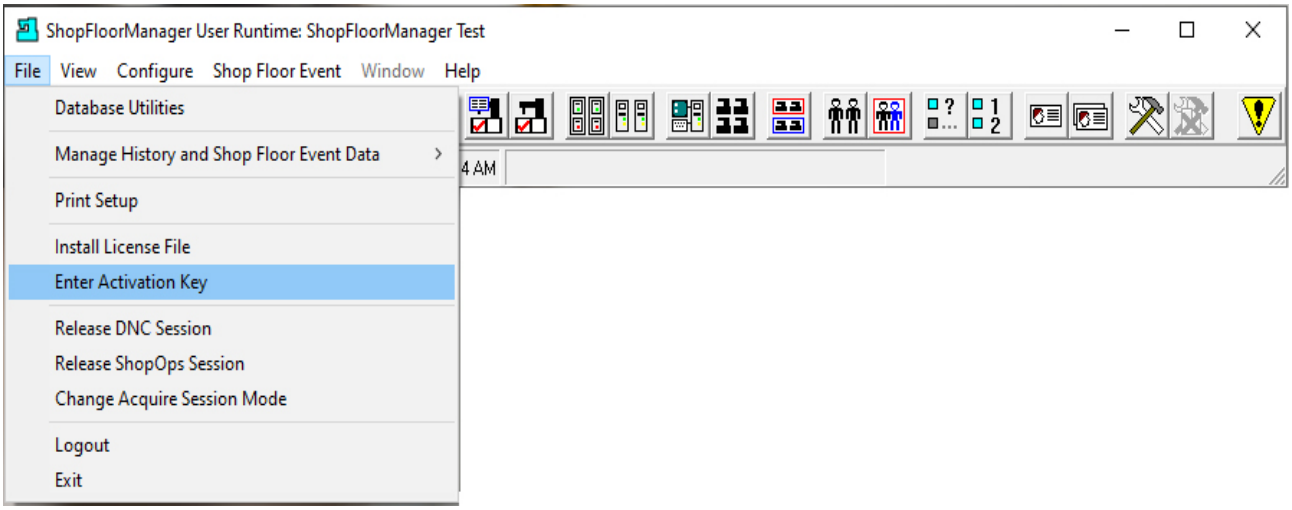
If the Maintenance Engine is running shut it down before continuing. Click the Yes Button and the following Window will be displayed.

Install License File (Informational Window letting you know to shutdown Maintenance Engine)



Click the OK Button and the following Window will be displayed.

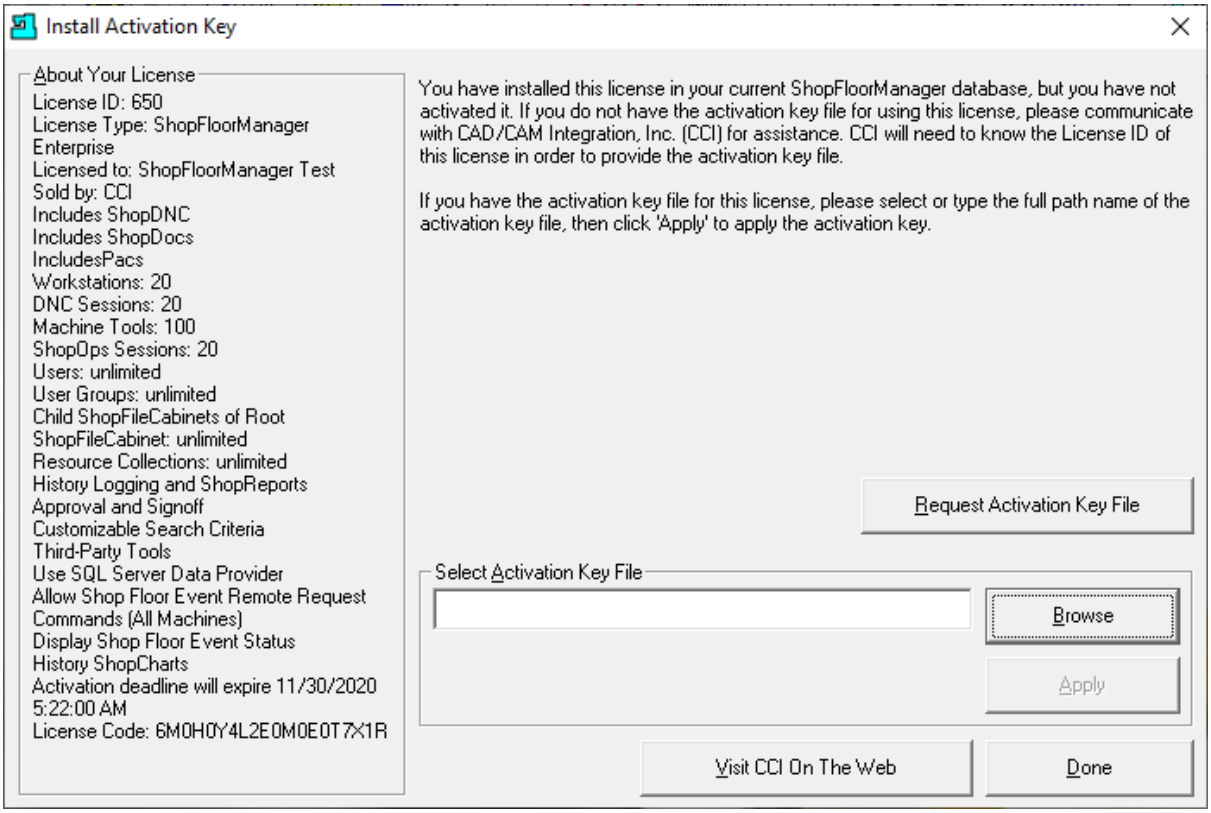
Install License File (Activation Key - Browse to Activation Key)



Click on the Enter Activation Key menu and the following Window is displayed.

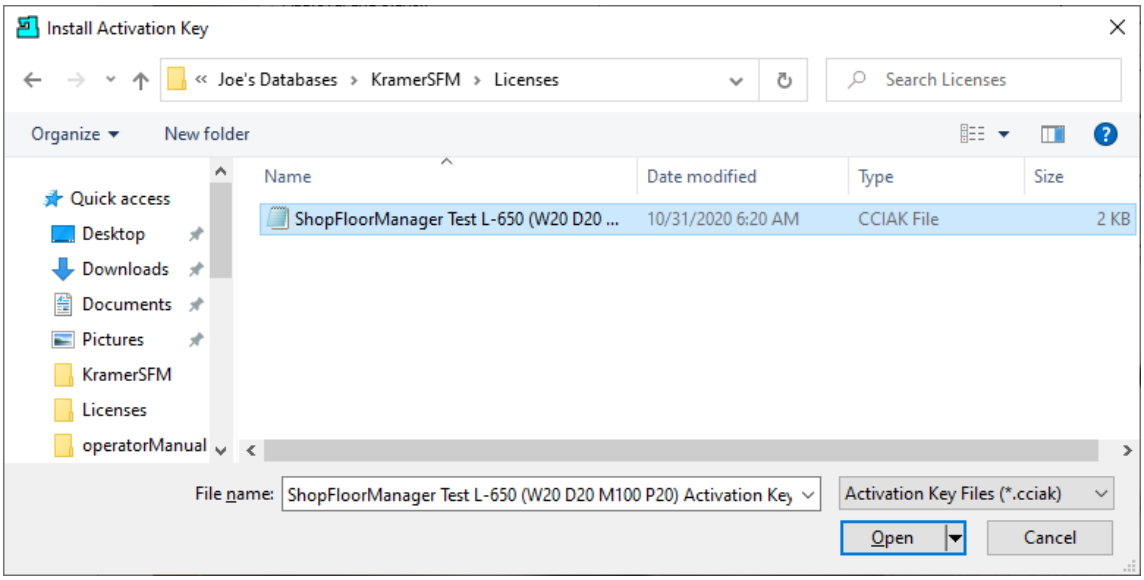
Note: ShopFloorManager's License brings many Features to Life depending on your particular License. The License starts with Basic DNC and can include Complete Machine & Production Monitoring! Ask if you need more than basic DNC!

Install License File (Activation Key: Browse Button)



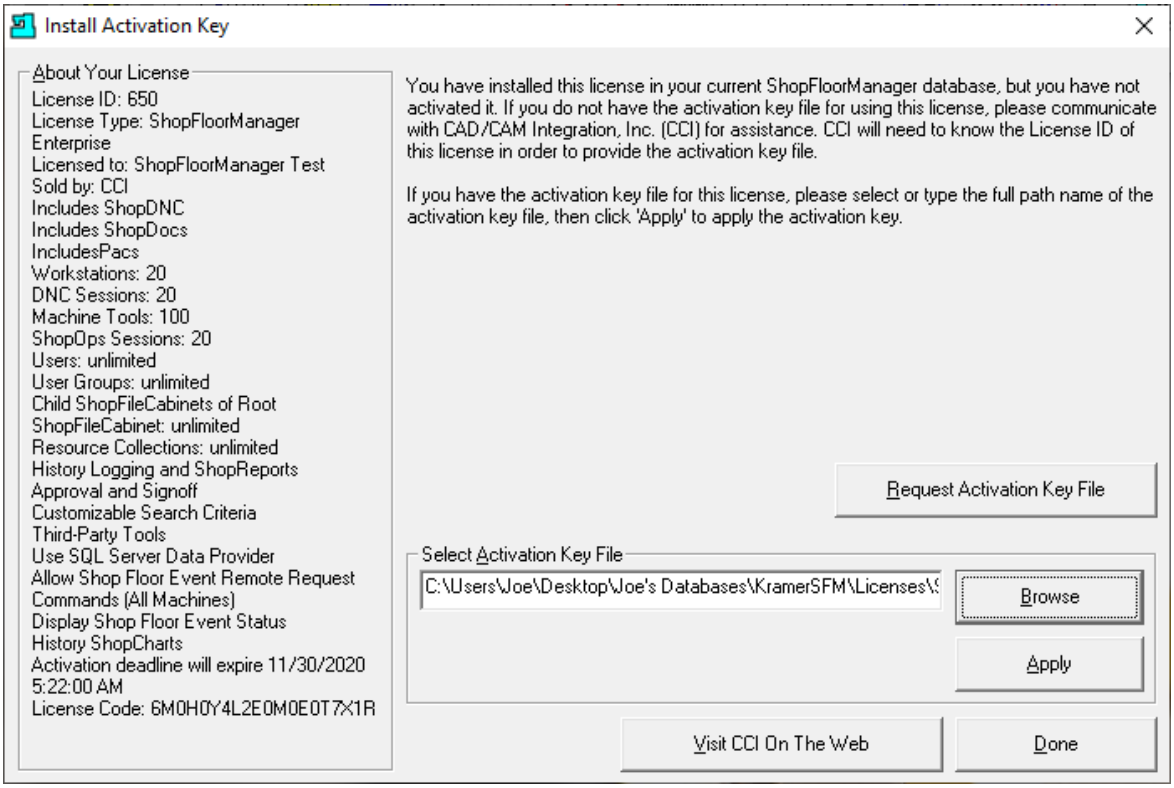
Click the Browse Button and the following Window will be displayed.

Install License File (Browse to Activation Key)



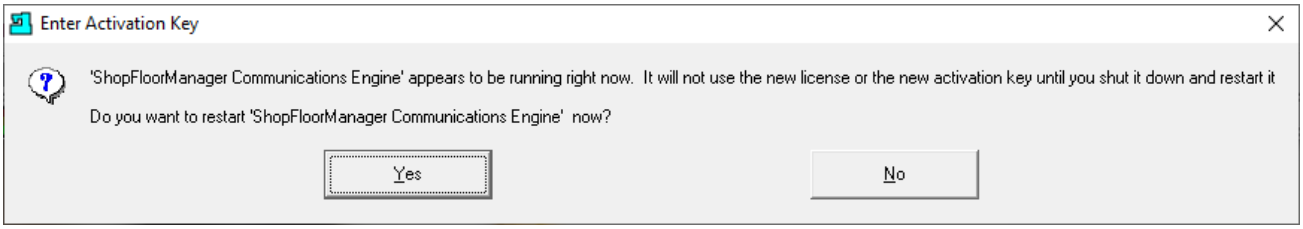
Browse to where the Activation Key is, highlight and click the Open Button and the following Window is displayed.

Install License File (Activation Key located)



Click the Apply Button and the following Window will be displayed.

Install License File (Informational Window letting you know to shutdown Comm Engine)



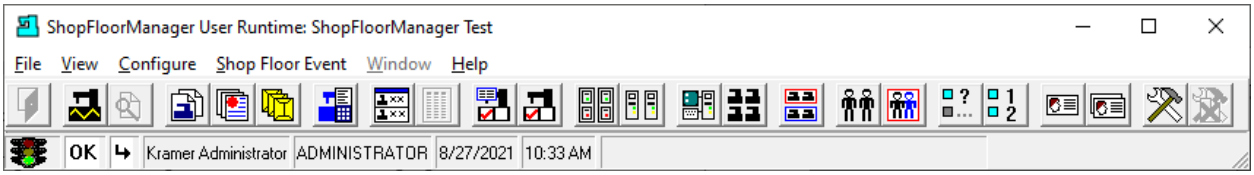
If the Maintenance Engine is running shut it down before continuing. Click the Yes Button and the following Window will be displayed.

Install License File (Informational Window letting you know to shutdown Maintenance Engine)

Click the OK Button and the following Window will be displayed after Communications Engine starts.

Take a Coffee Break and Nap you look tired! Tell your Boss it's OK! Good Luck! By the way don't mention my Name!

Install License File (License & Key Installation complete. ShopFloorManager Runtime is displayed)



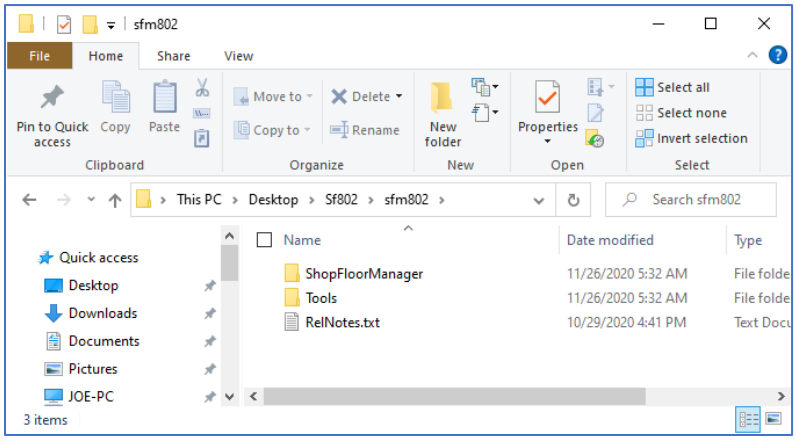
The License and Key has been installed!

Note: You **will not** have to install the License and Key at any other Workstation!

Install ShopFloorManager (Is this a Democracy? Can we recall that Manager?)

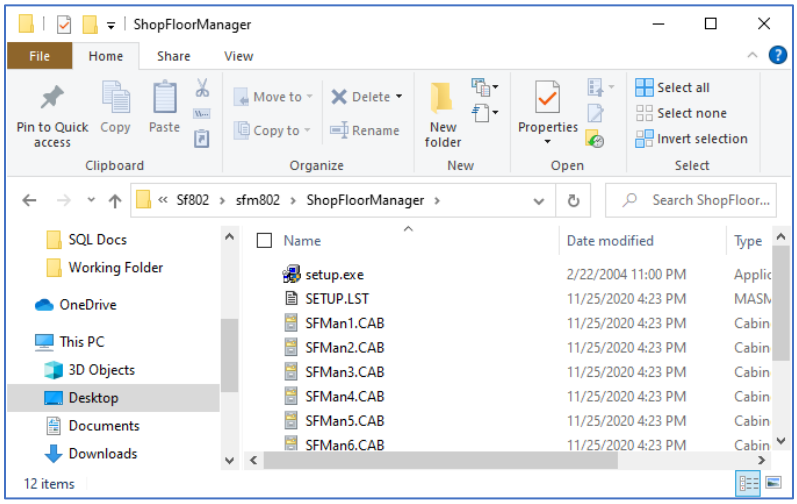
Important! Make sure to uninstall the old ShopFloorManager version before continuing!

Install ShopFloorManager (ShopFloorManager - Installation set)



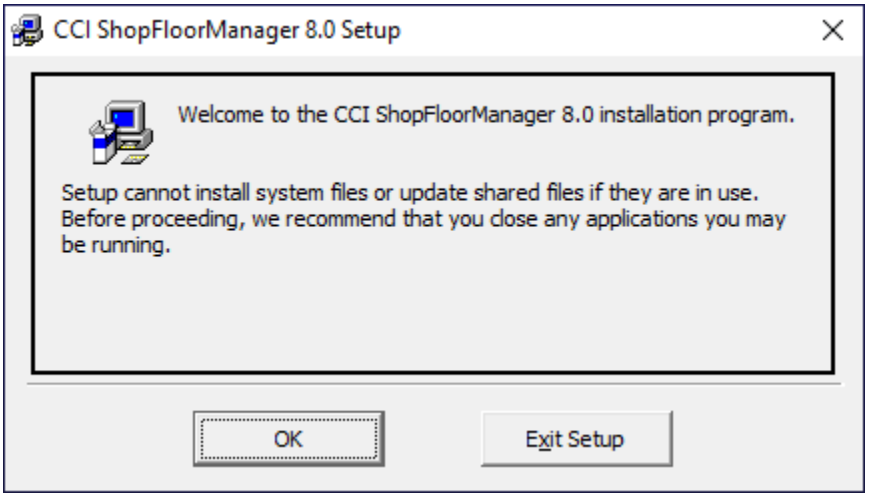
Locate the installation folder, click on ShopFloorManager folder. The following Window is displayed.

Install ShopFloorManager (ShopFloorManager – setup.exe)



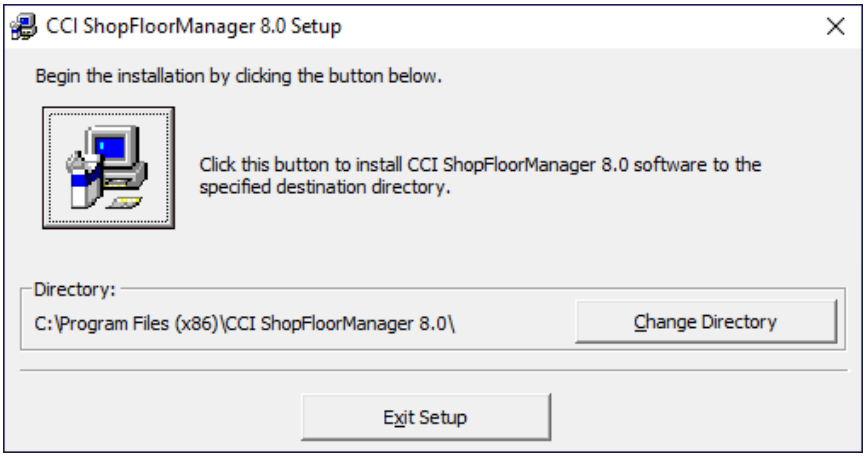
Click on the setup.exe and the following Window will be displayed.

Install ShopFloorManager (ShopFloorManager – Informational)



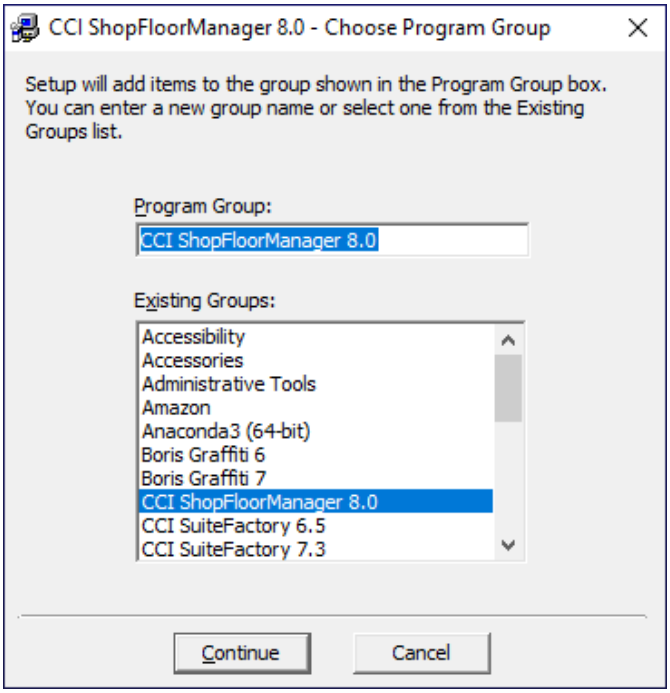
Click the OK Button and the following Window is displayed.

Install ShopFloorManager (ShopFloorManager – 8.0 Setup)



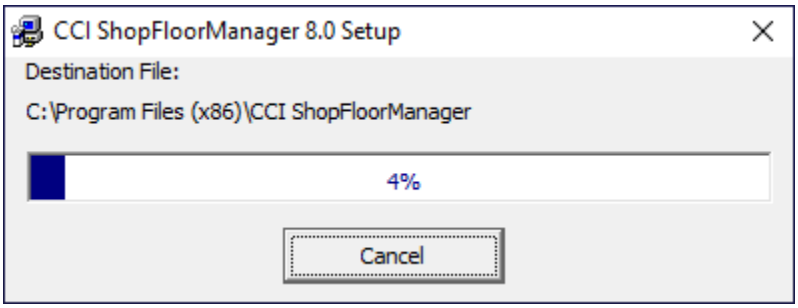
Click the Install Button and the following Window is displayed.

Install ShopFloorManager (ShopFloorManager – 8.0 Setup Name Window)

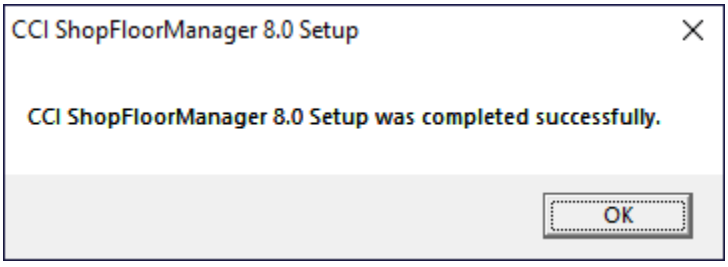


Click the continue Button and the following Window will be displayed.

Install ShopFloorManager (ShopFloorManager – 8.0 Setup Installation Information)



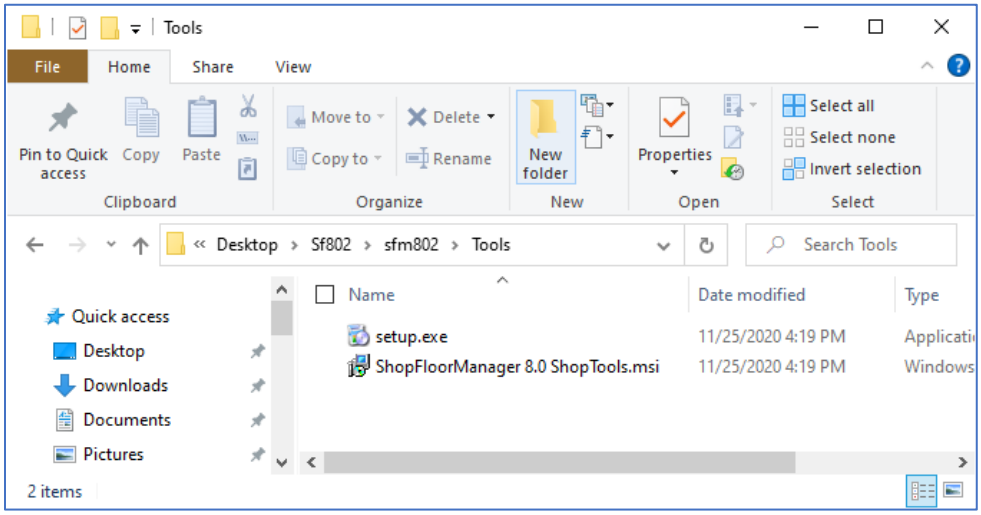
Install ShopFloorManager (ShopFloorManager – 8.0 Setup Installation OK)



Click the OK Button and the following Window will be displayed.

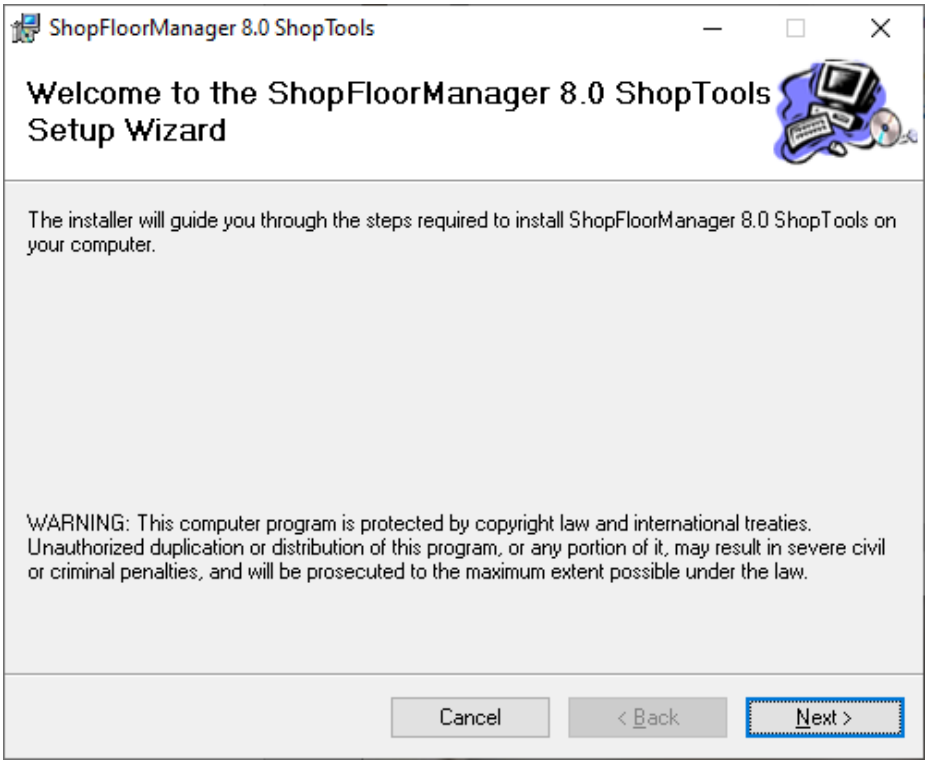
Install ShopFloorManager (ShopFloorManager – 8.0 Setup Installation set Tools Folder)

Go to where the Installation sets are located and click on the Tools folder and the following Window is displayed. **Important!** Make sure to uninstall the old Tools version before continuing!



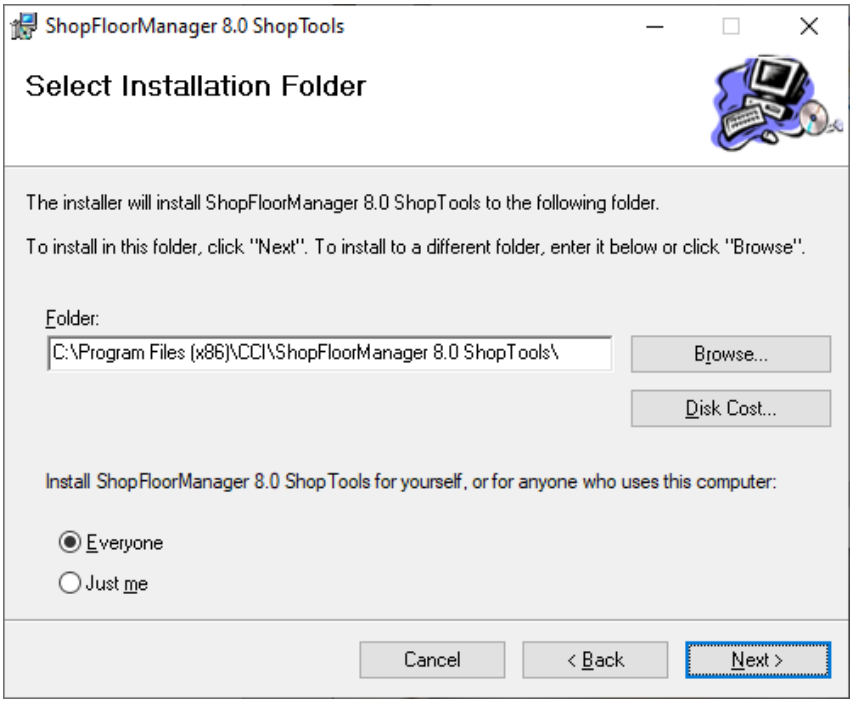
In the Tools installation folder click the setup.exe and the following Window is displayed.

Install ShopFloorManager (ShopFloorManager – 8.0 Setup Tools Setup Window)



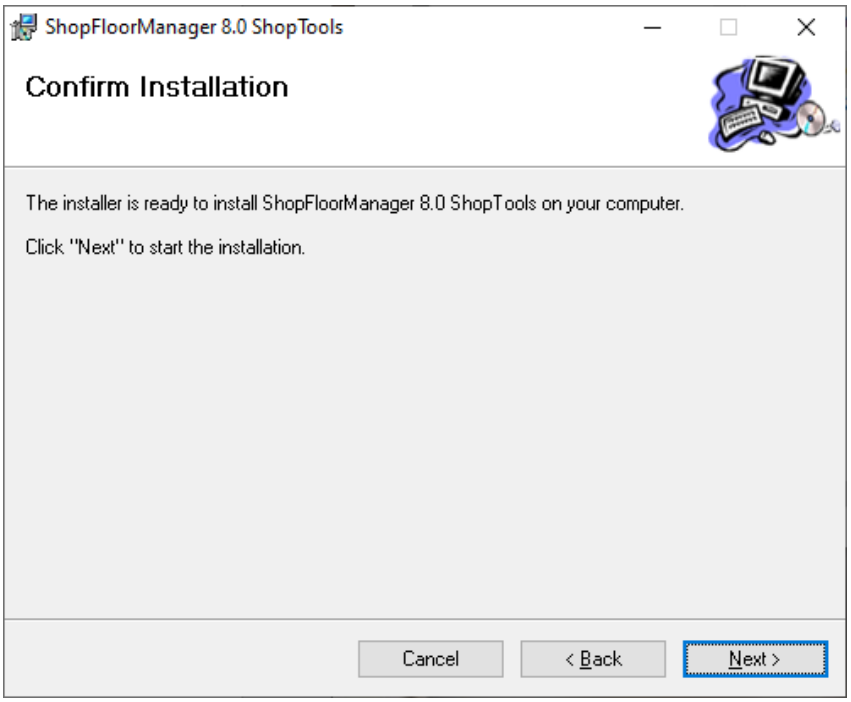
Click the Next Button and the following Window is displayed.

Install ShopFloorManager (ShopFloorManager – 8.0 Setup Tools Installation Folder Location)



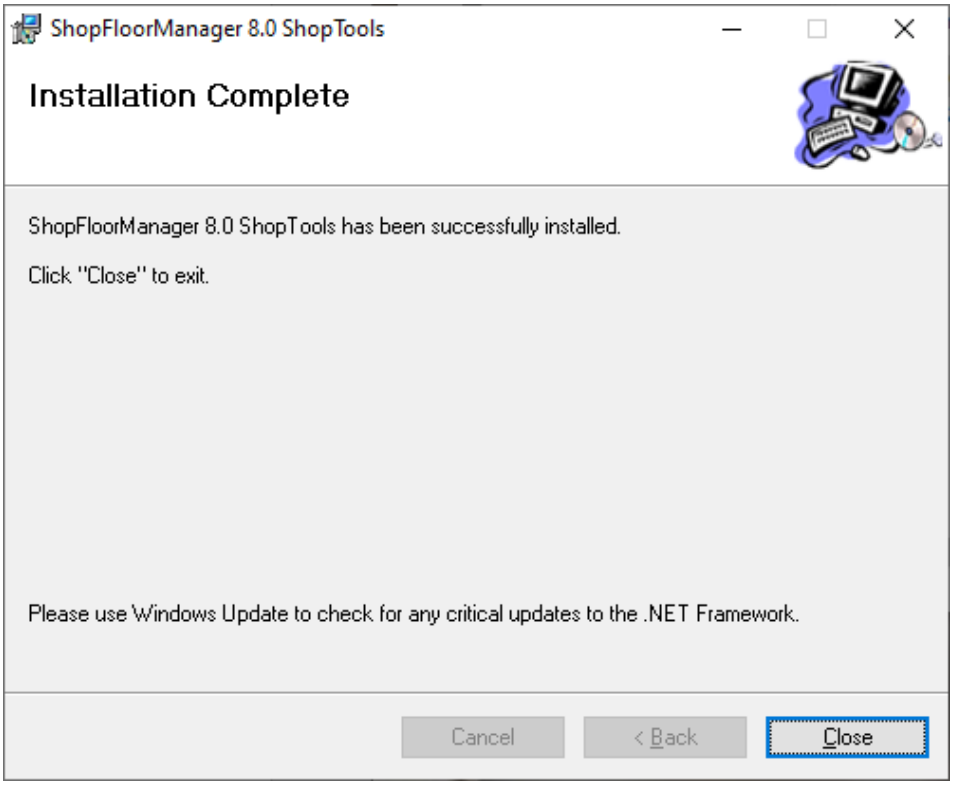
Click the Next Button and the following Window is displayed.

Install ShopFloorManager (ShopFloorManager – 8.0 Setup Tools Installation Next)



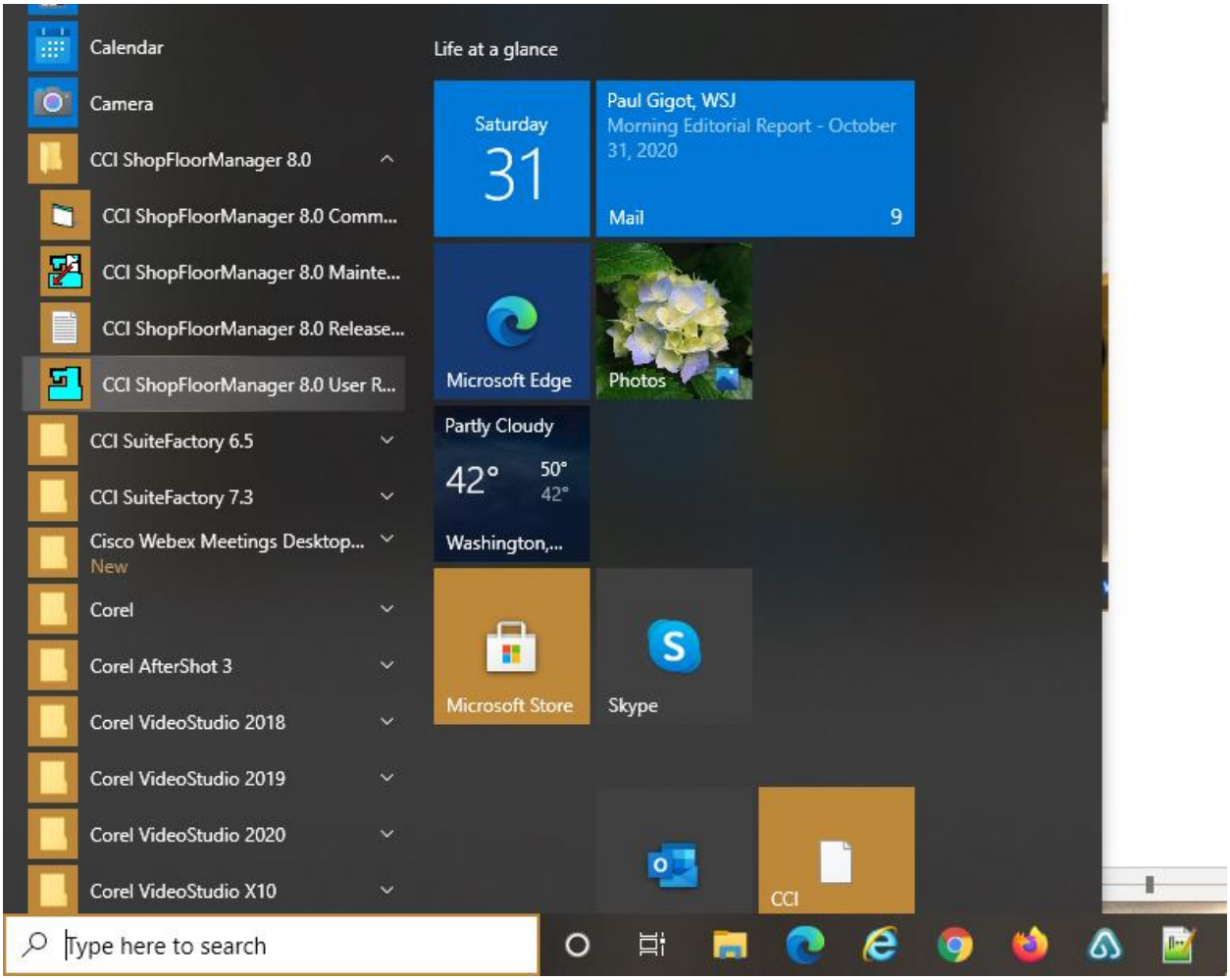
Click the Next Button and the following Window is displayed.

Install ShopFloorManager (ShopFloorManager – 8.0 Setup Tools Installation Confirmed)



Click the Close Button and see the next Window.

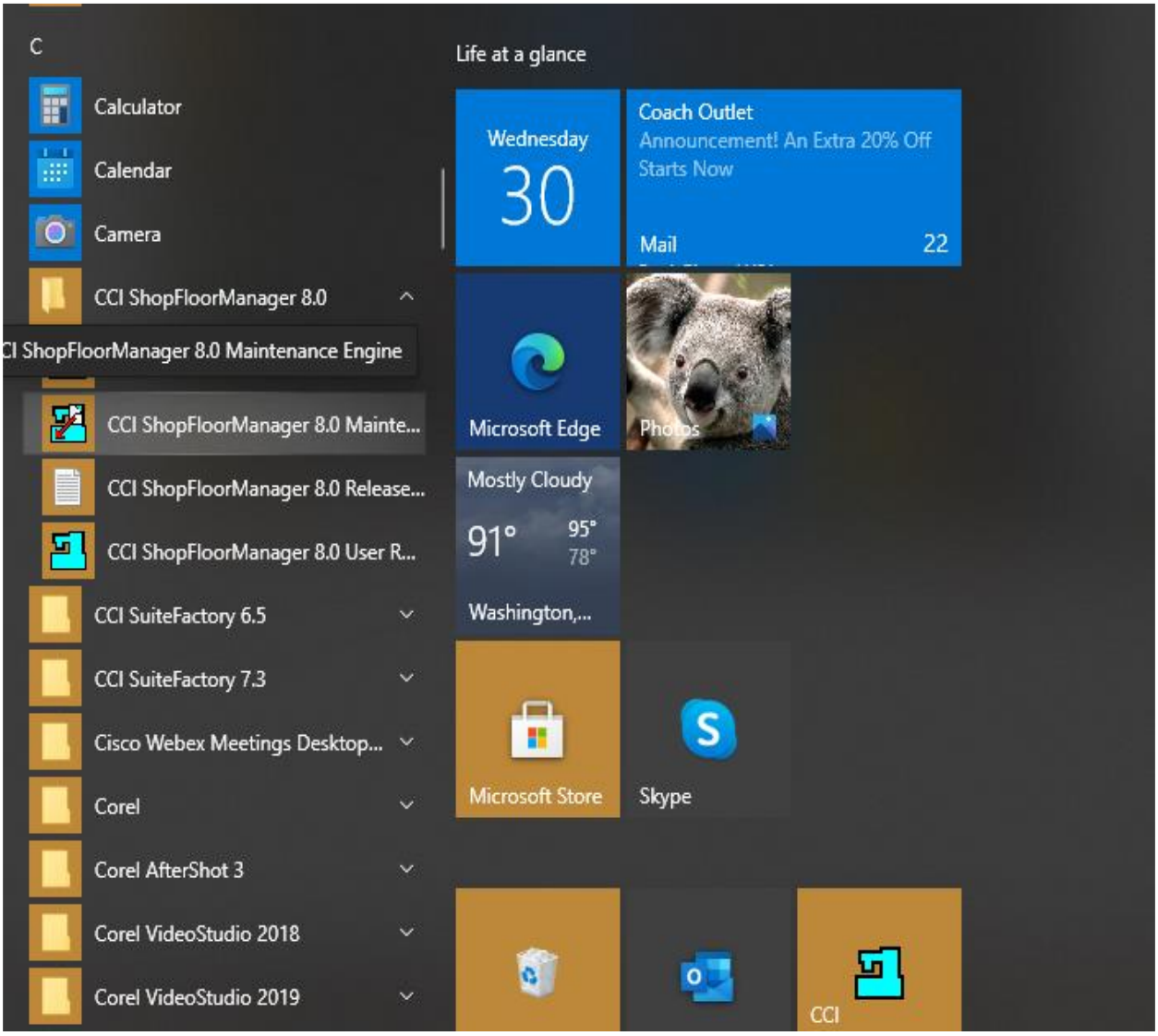
Install ShopFloorManager (Start Menu -> CCI ShopFloorManager 8.0 R…)



Click on the CCI ShopFloorManager 8.0 User R… and the following Window will be displayed.

You can now proceed to Create ShopFloorManager Database Access or Create ShopFloorManager Database SQL!

Maintenance Engine (Are your Files Outsiders? Auto Import & Make Them Insiders)



If the Maintenance Engine is not running, click on the Menu “CCI ShopFloorManager 8.0 Maintenance Engine”.

See the next page for additional information!

The Maintenance Engine is used to automatically import ShopNCFiles, ShopDocuments & ShopOperations into ShopFloorManager's Database.

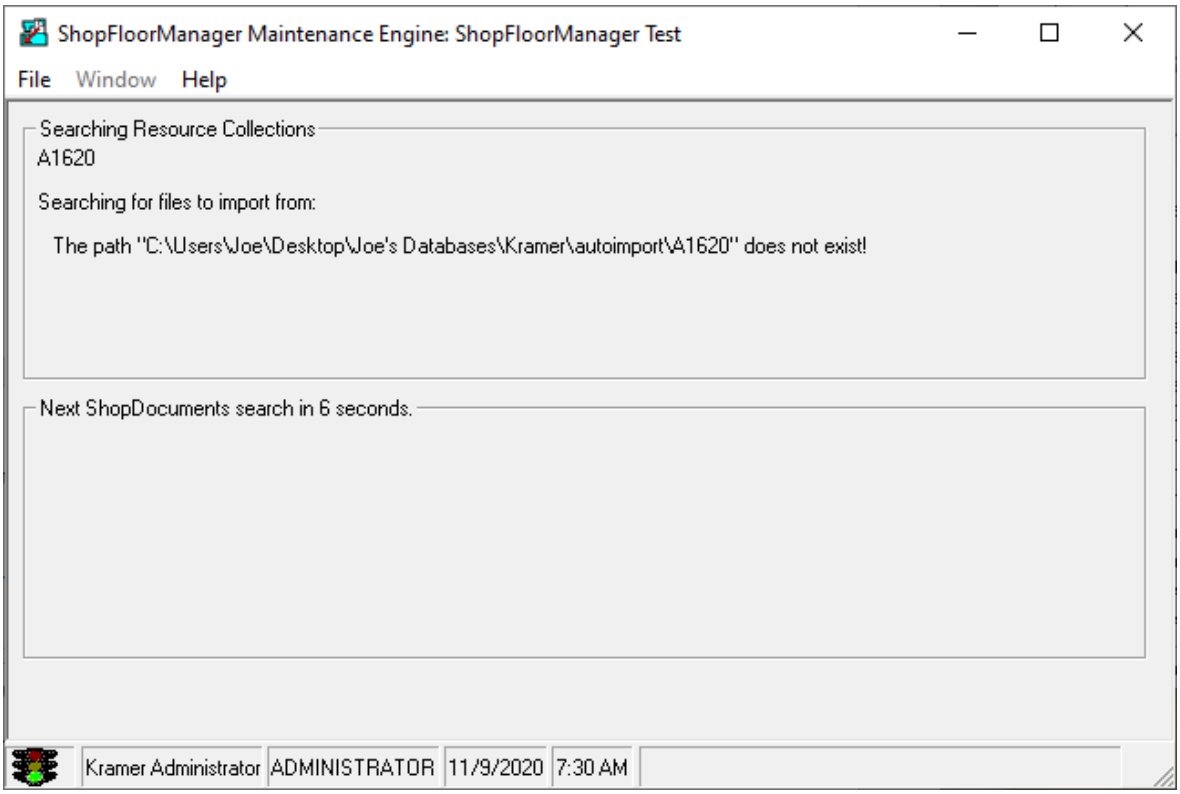
There are settings into the objects Resource Collections & ShopFileCabinets where you can select & create Paths & Folders that are used to Import ShopNCFiles, ShopDocs & ShopOperations.

These Folders are used by Programmers and Mfg. Engineers to place ShopNCFiles, ShopDocuments & ShopOperations for importing into ShopFloorManager's Database and appropriate Object. These will also be imported into ShopFloorManager's Database! I.E. Drop into the Folder and Import, it's that easy!

Any of these Items that are placed into the appropriate Folders will be imported into ShopFloorManager's Database and related Objects.

The Maintenance Engine can be started up from the Start "Icon". It can be found in the "CCI ShopFloorManager 8.0.xx" or Equivalent Folder. It will start up at login if placed in the Startup Folder!

Maintenance Engine (Screen Shot of Engine)



Only one instance of the Maintenance Engine can be running at any time. You can see the various paths the Engine visits and determines if it needs to Import ShopNCFiles, ShopDocuments or ShopOperations.

Maintenance Engine (Screen Shot of Engine Cont.)

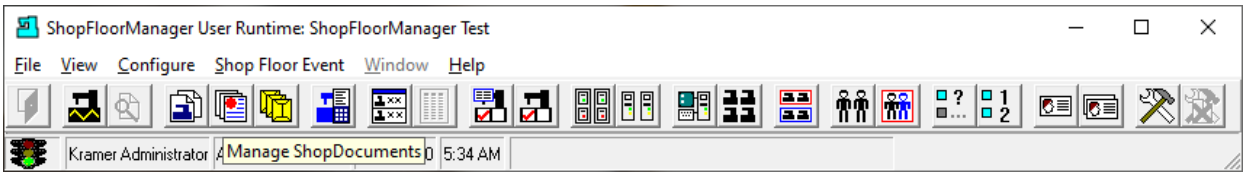
After they are Imported the Items remaining in the Folders are handled as configured in the Configuration Sections.

References:

- ShopNCFiles
- ShopDocuments
- ShopOperations
- Resource Collections
- ShopFileCabinets

This section is complete so let's move to the next section!

Manage Archived ShopDocuments (A Home for Retired ShopDocuments. Aging Gracefully!)



An important aspect of File Management is how you deal with deleted ShopDocuments. As ShopDocuments are deleted there are at least three ways to handle them. Most Applications just delete them and it's up to you & Windows to retrieve or purge these.

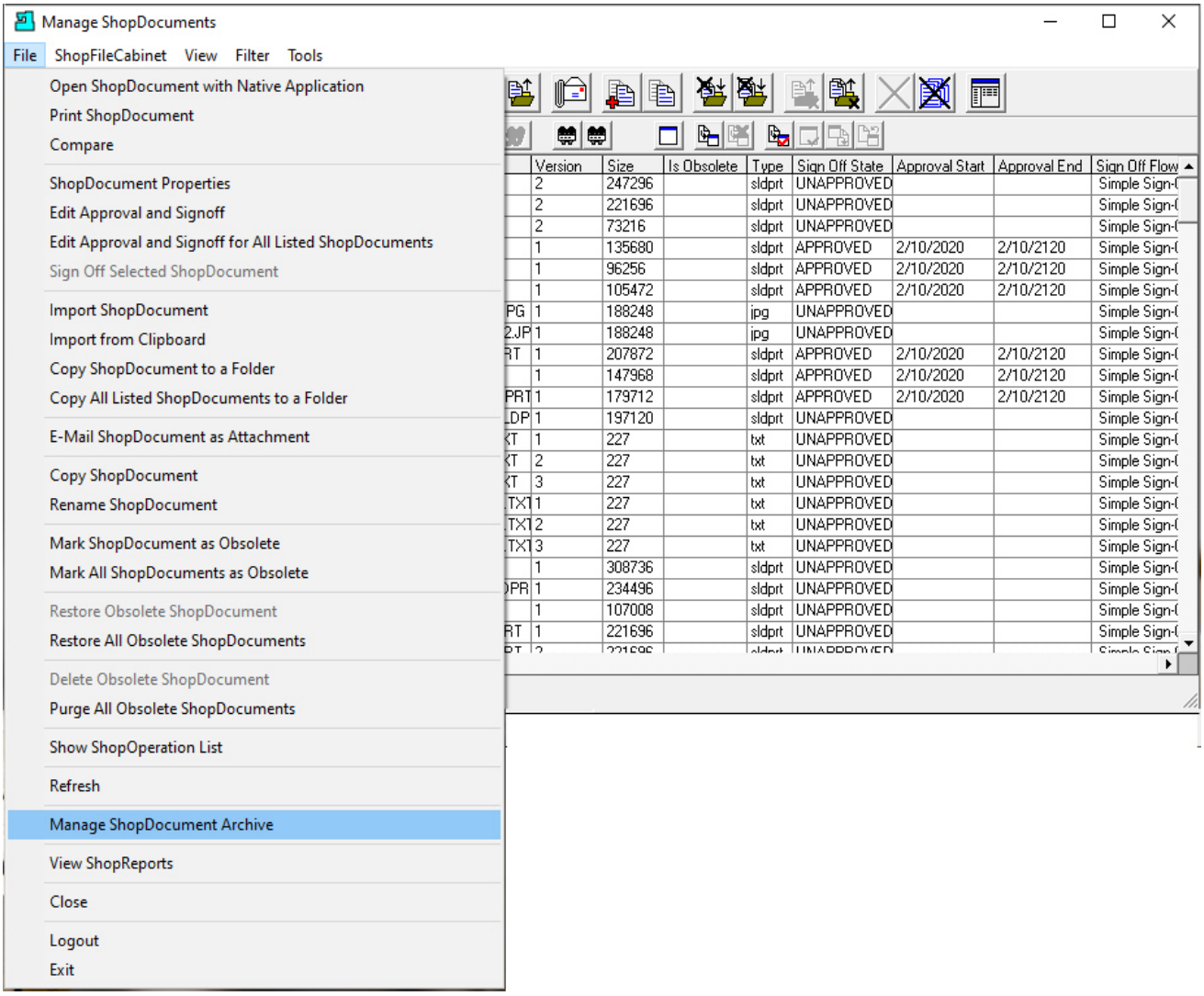
ShopFloorManager takes a more File Management approach by keeping these deleted ShopDocument in an Archive for a quick retrieval to insert it back into the ShopFloorManager's Database or if at the end of its life allow a File Manager to purge specific ShopDocuments!

One of the benefits of a File Management System, it addresses the inevitable when a User deletes a ShopDocument by mistake! They don't have to fret just retrieve it from the Archive.

Let's see how ShopFloorManager deals with Archived ShopDocuments!

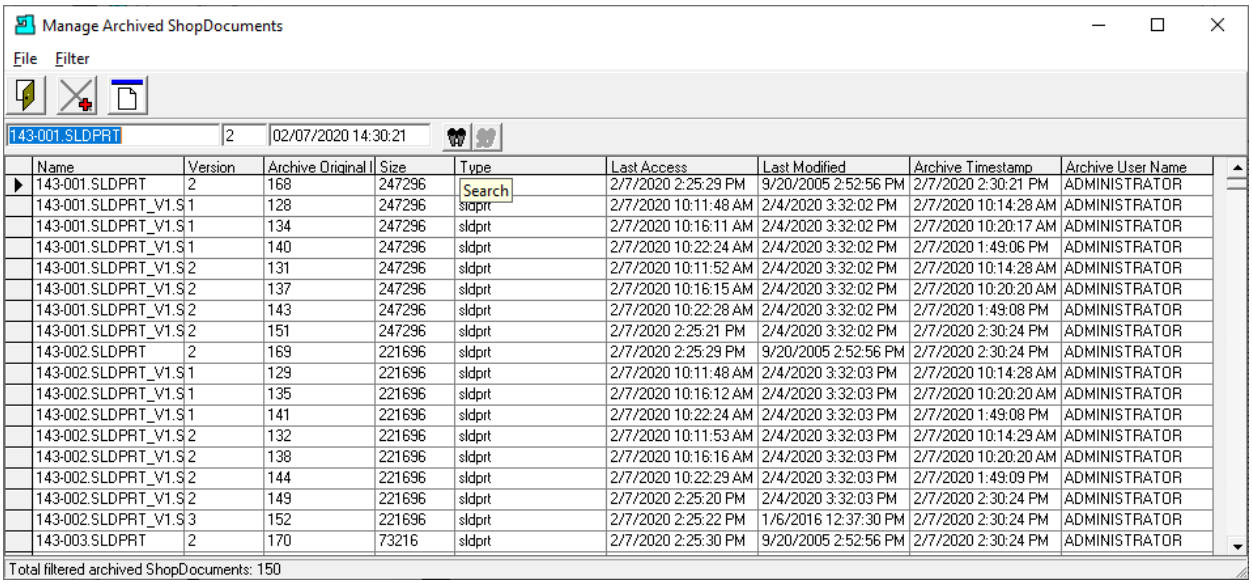
Click on the Manage ShopDocuments Icon and the following Window will be displayed.

Manage Archived ShopDocuments (Select Manage Archive)



Click on the File Menu and then on the Manage Archive Menu and the following Window will be displayed.

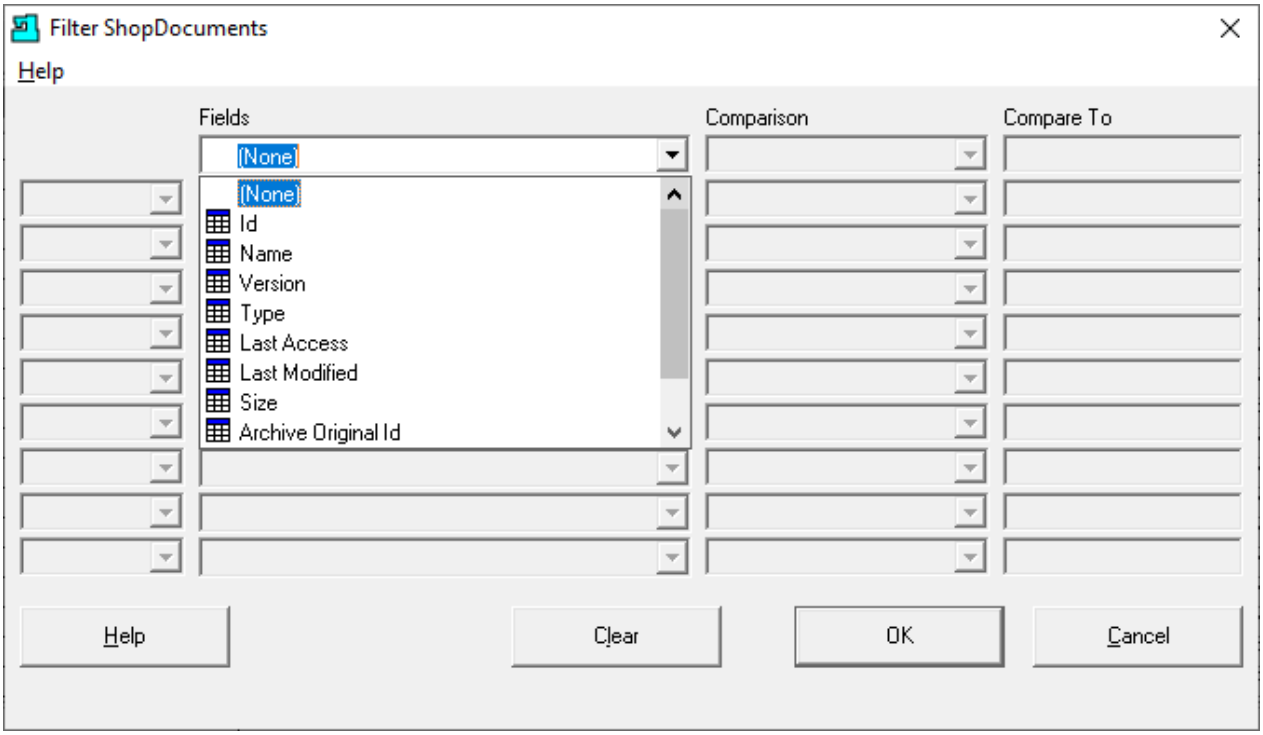
Manage Archived ShopDocuments (Search Icon)



Name	Version	Archive Original I	Size	Type	Last Access	Last Modified	Archive Timestamp	Archive User Name
143-001.SLDPRT	2	168	247296	sldprt	2/7/2020 2:25:29 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:21 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	128	247296	sldprt	2/7/2020 10:11:48 AM	2/4/2020 3:32:02 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	134	247296	sldprt	2/7/2020 10:16:11 AM	2/4/2020 3:32:02 PM	2/7/2020 10:20:17 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	140	247296	sldprt	2/7/2020 10:22:24 AM	2/4/2020 3:32:02 PM	2/7/2020 1:49:06 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	131	247296	sldprt	2/7/2020 10:11:52 AM	2/4/2020 3:32:02 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	137	247296	sldprt	2/7/2020 10:16:15 AM	2/4/2020 3:32:02 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	143	247296	sldprt	2/7/2020 10:22:28 AM	2/4/2020 3:32:02 PM	2/7/2020 1:49:08 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	151	247296	sldprt	2/7/2020 2:25:21 PM	2/4/2020 3:32:02 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT	2	169	221696	sldprt	2/7/2020 2:25:29 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	129	221696	sldprt	2/7/2020 10:11:48 AM	2/4/2020 3:32:03 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	135	221696	sldprt	2/7/2020 10:16:12 AM	2/4/2020 3:32:03 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	141	221696	sldprt	2/7/2020 10:22:24 AM	2/4/2020 3:32:03 PM	2/7/2020 1:49:08 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	132	221696	sldprt	2/7/2020 10:11:53 AM	2/4/2020 3:32:03 PM	2/7/2020 10:14:29 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	138	221696	sldprt	2/7/2020 10:16:16 AM	2/4/2020 3:32:03 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	144	221696	sldprt	2/7/2020 10:22:29 AM	2/4/2020 3:32:03 PM	2/7/2020 1:49:09 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	149	221696	sldprt	2/7/2020 2:25:20 PM	2/4/2020 3:32:03 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	3	152	221696	sldprt	2/7/2020 2:25:22 PM	1/6/2016 12:37:30 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-003.SLDPRT	2	170	73216	sldprt	2/7/2020 2:25:30 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR

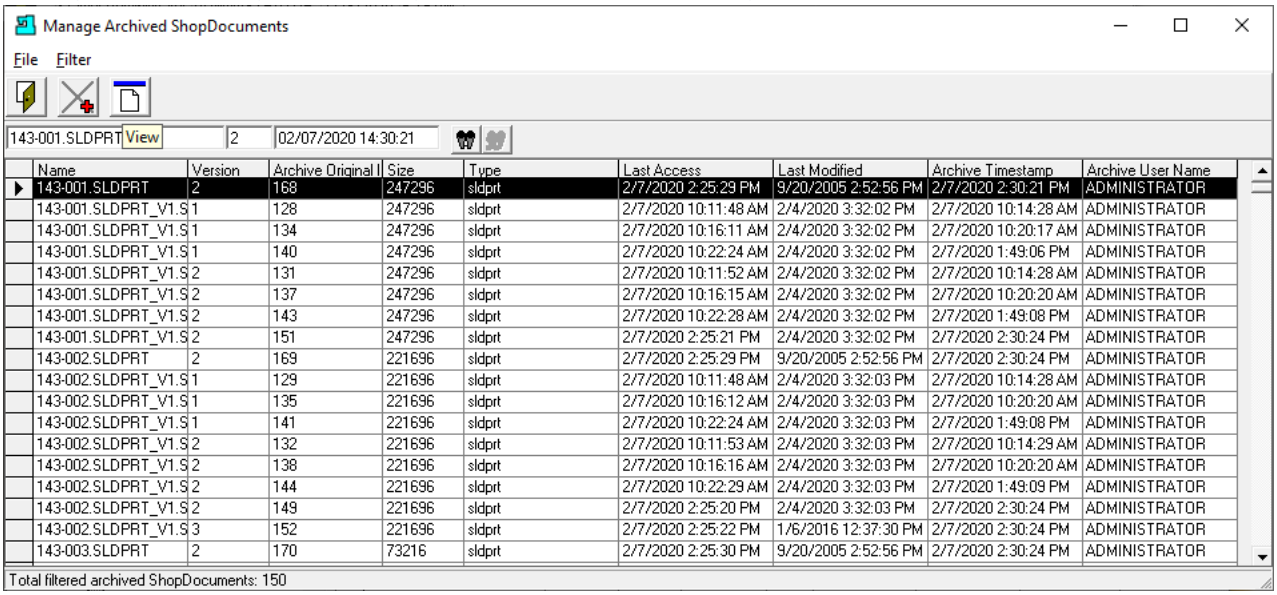
Before we can deal with Managing any particular ShopDocument we need to be able to locate it. To locate a particular group or individual ShopDocument click the Search Icon and the following Window will be displayed!

Manage Archived ShopNCFiles (Manage Archived ShopNCFiles – Search Engine)



We won't get into the details on using the Search Engine for a ShopDocument here as this is discussed in another section of the Manual. Click the Close Button and the following Window will be displayed.

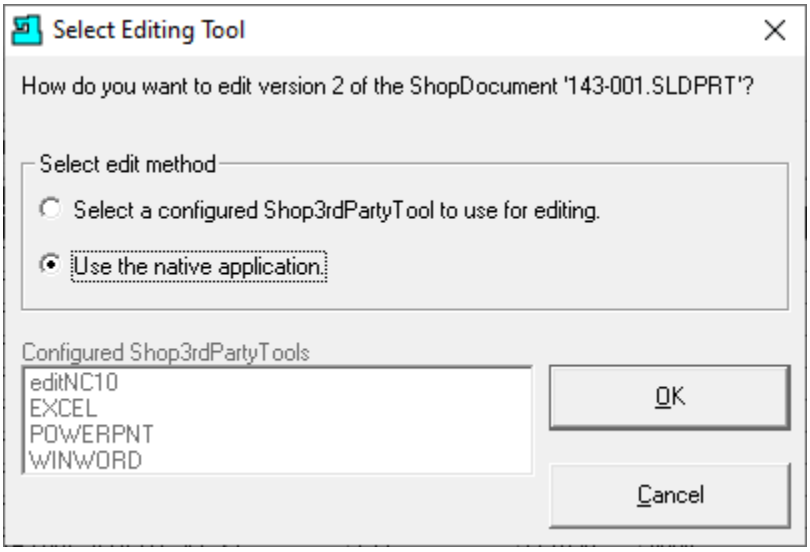
Manage Archived ShopDocuments (View Archived ShopDocuments)



Name	Version	Archive Original I	Size	Type	Last Access	Last Modified	Archive Timestamp	Archive User Name
143-001.SLDPRT	2	168	247296	sldprt	2/7/2020 2:25:29 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:21 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	128	247296	sldprt	2/7/2020 10:11:48 AM	2/4/2020 3:32:02 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	134	247296	sldprt	2/7/2020 10:16:11 AM	2/4/2020 3:32:02 PM	2/7/2020 10:20:17 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	140	247296	sldprt	2/7/2020 10:22:24 AM	2/4/2020 3:32:02 PM	2/7/2020 1:49:06 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	131	247296	sldprt	2/7/2020 10:11:52 AM	2/4/2020 3:32:02 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	137	247296	sldprt	2/7/2020 10:16:15 AM	2/4/2020 3:32:02 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	143	247296	sldprt	2/7/2020 10:22:28 AM	2/4/2020 3:32:02 PM	2/7/2020 1:49:08 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	151	247296	sldprt	2/7/2020 2:25:21 PM	2/4/2020 3:32:02 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT	2	169	221696	sldprt	2/7/2020 2:25:29 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	129	221696	sldprt	2/7/2020 10:11:48 AM	2/4/2020 3:32:03 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	135	221696	sldprt	2/7/2020 10:16:12 AM	2/4/2020 3:32:03 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	141	221696	sldprt	2/7/2020 10:22:24 AM	2/4/2020 3:32:03 PM	2/7/2020 1:49:08 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	132	221696	sldprt	2/7/2020 10:11:53 AM	2/4/2020 3:32:03 PM	2/7/2020 10:14:29 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	138	221696	sldprt	2/7/2020 10:16:16 AM	2/4/2020 3:32:03 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	144	221696	sldprt	2/7/2020 10:22:29 AM	2/4/2020 3:32:03 PM	2/7/2020 1:49:09 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	149	221696	sldprt	2/7/2020 2:25:20 PM	2/4/2020 3:32:03 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	3	152	221696	sldprt	2/7/2020 2:25:22 PM	1/6/2016 12:37:30 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-003.SLDPRT	2	170	73216	sldprt	2/7/2020 2:25:30 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR

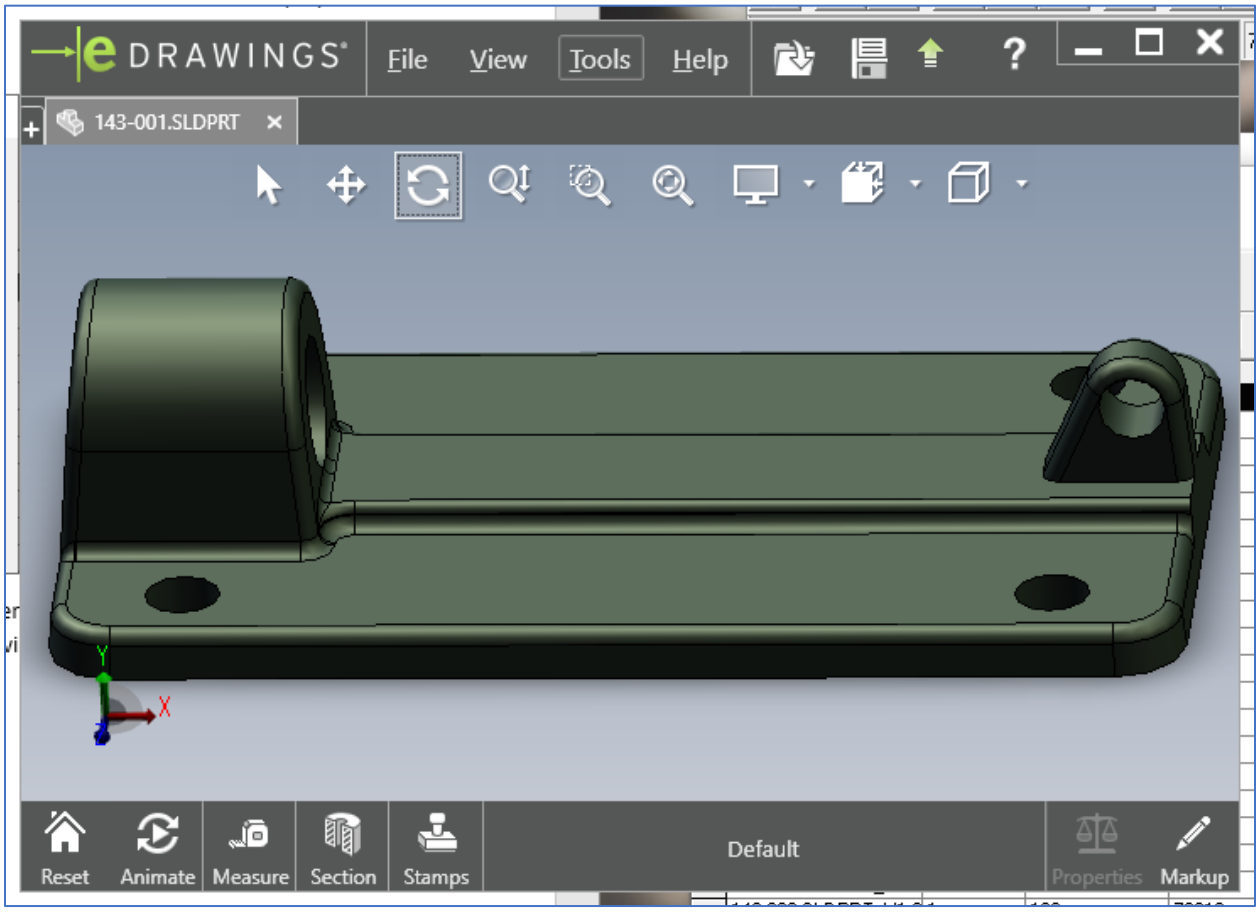
You can retrieve, view, and recover a deleted. Highlight the ShopDocument and click View Menu and following Window is displayed with various choices.

Manage Archived ShopDocuments (Select Editing Tool)



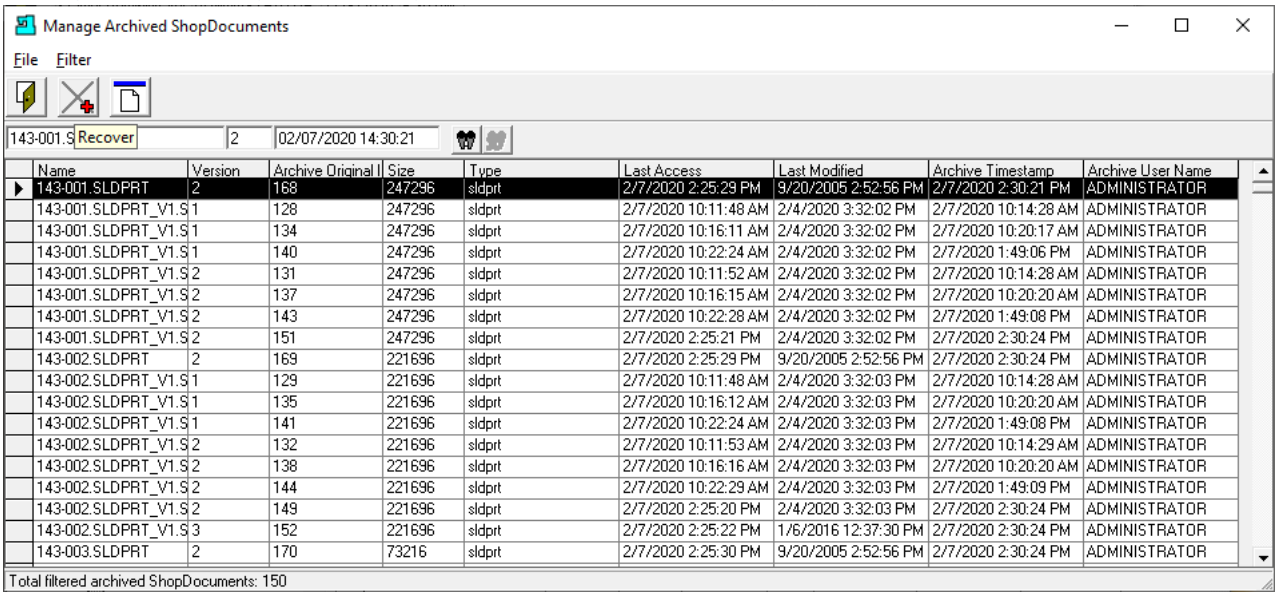
We have selected the “Use the native application” since the Document’s Application is not in the Configure Shop3rdPartyTools select. Click the OK Button and the following Window will be displayed.

Manage Archived ShopDocuments (View Archived ShopDocument in Native Viewer)



Close the App when Finished and the following Window will be displayed.

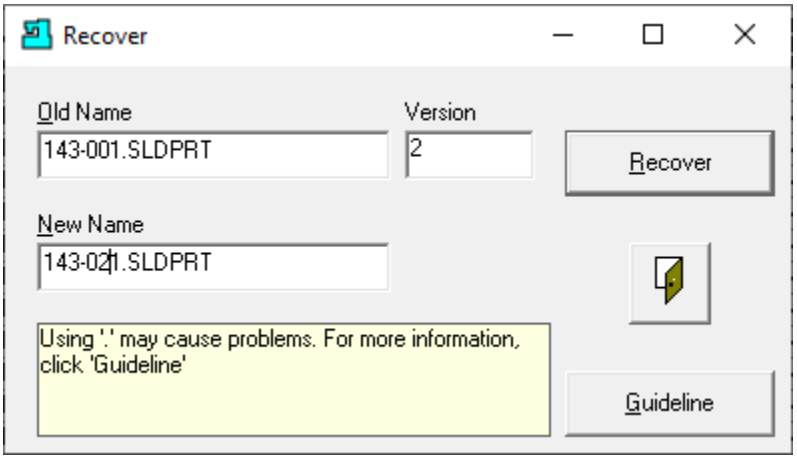
Manage Archived ShopDocuments (Recover Archived ShopDocument)



Name	Version	Archive Original I	Size	Type	Last Access	Last Modified	Archive Timestamp	Archive User Name
143-001.SLDPRT	2	168	247296	sldprt	2/7/2020 2:25:29 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:21 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	128	247296	sldprt	2/7/2020 10:11:48 AM	2/4/2020 3:32:02 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	134	247296	sldprt	2/7/2020 10:16:11 AM	2/4/2020 3:32:02 PM	2/7/2020 10:20:17 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	1	140	247296	sldprt	2/7/2020 10:22:24 AM	2/4/2020 3:32:02 PM	2/7/2020 1:49:06 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	131	247296	sldprt	2/7/2020 10:11:52 AM	2/4/2020 3:32:02 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	137	247296	sldprt	2/7/2020 10:16:15 AM	2/4/2020 3:32:02 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	143	247296	sldprt	2/7/2020 10:22:28 AM	2/4/2020 3:32:02 PM	2/7/2020 1:49:08 PM	ADMINISTRATOR
143-001.SLDPRT_V1.S	2	151	247296	sldprt	2/7/2020 2:25:21 PM	2/4/2020 3:32:02 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT	2	169	221696	sldprt	2/7/2020 2:25:29 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	129	221696	sldprt	2/7/2020 10:11:48 AM	2/4/2020 3:32:03 PM	2/7/2020 10:14:28 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	135	221696	sldprt	2/7/2020 10:16:12 AM	2/4/2020 3:32:03 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	1	141	221696	sldprt	2/7/2020 10:22:24 AM	2/4/2020 3:32:03 PM	2/7/2020 1:49:08 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	132	221696	sldprt	2/7/2020 10:11:53 AM	2/4/2020 3:32:03 PM	2/7/2020 10:14:29 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	138	221696	sldprt	2/7/2020 10:16:16 AM	2/4/2020 3:32:03 PM	2/7/2020 10:20:20 AM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	144	221696	sldprt	2/7/2020 10:22:29 AM	2/4/2020 3:32:03 PM	2/7/2020 1:49:09 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	2	149	221696	sldprt	2/7/2020 2:25:20 PM	2/4/2020 3:32:03 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-002.SLDPRT_V1.S	3	152	221696	sldprt	2/7/2020 2:25:22 PM	1/6/2016 12:37:30 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR
143-003.SLDPRT	2	170	73216	sldprt	2/7/2020 2:25:30 PM	9/20/2005 2:52:56 PM	2/7/2020 2:30:24 PM	ADMINISTRATOR

Click in the Recover Icon and the following Window is displayed.

Manage Archived ShopDocuments (Change Original ShopDocument Name - Optional)



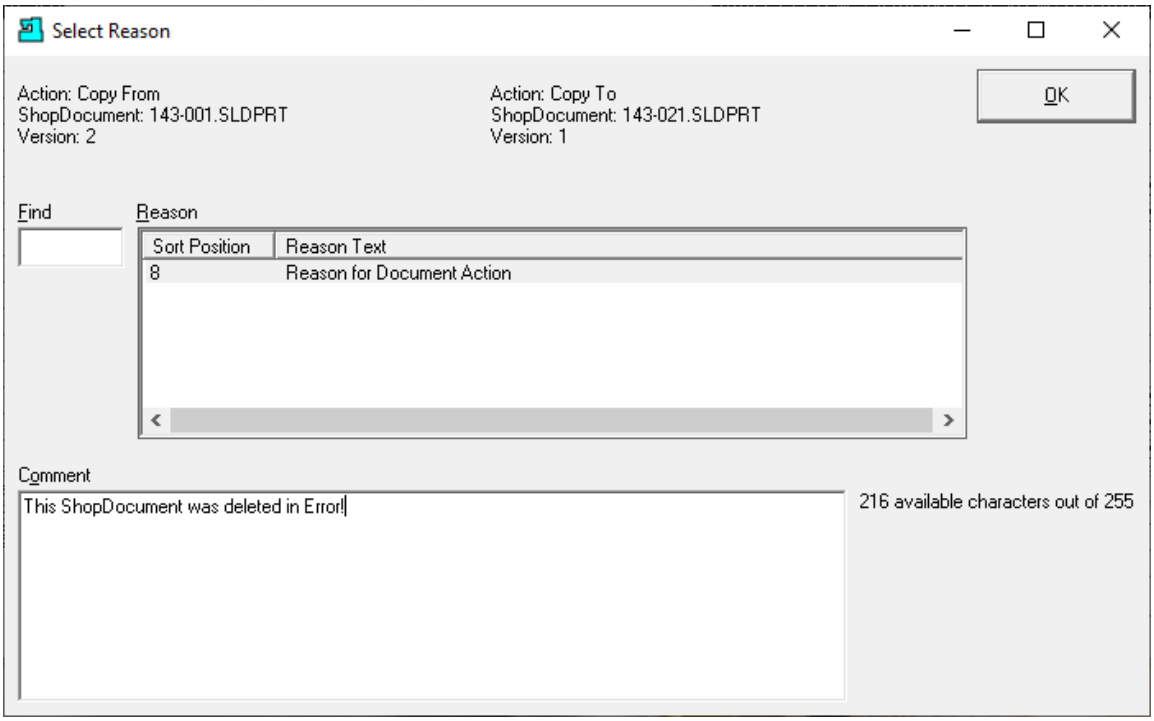
If you keep the same name, there are two things that could happen. If your system is setup to have multiple versions and a Document with the same version exists, the name will stay the same but with the next higher version number!

If your system only allows one version the existing ShopDocument will be replaced with this ShopDocument! Beware of Recovering ShopDocuments with single version systems!

We have changed the Original Name!

Click the Recover Button and the following Window will be displayed.

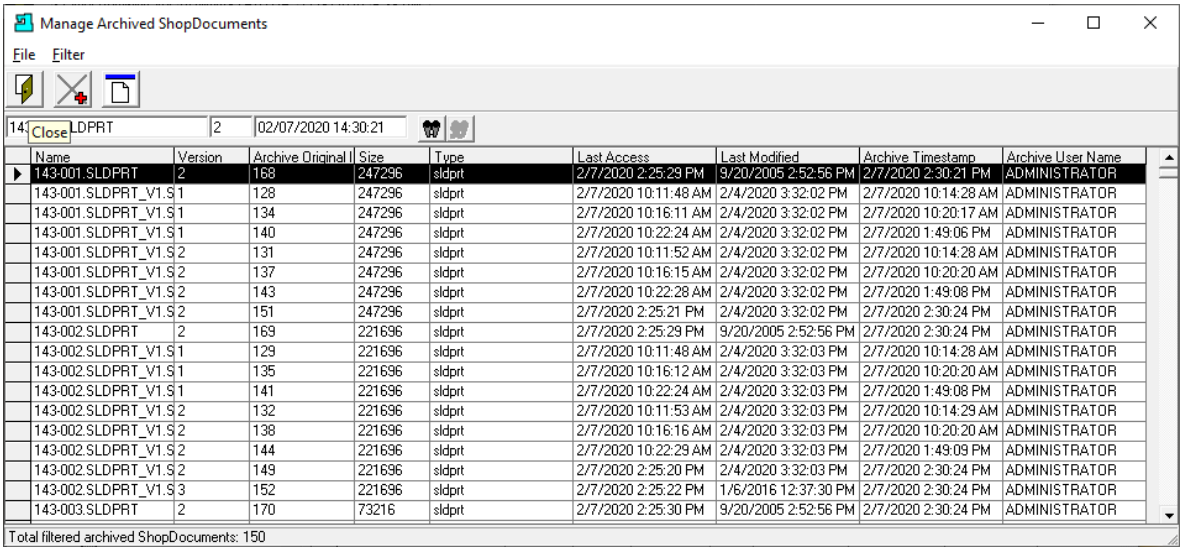
Manage Archived ShopDocuments (Change Reason Required)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

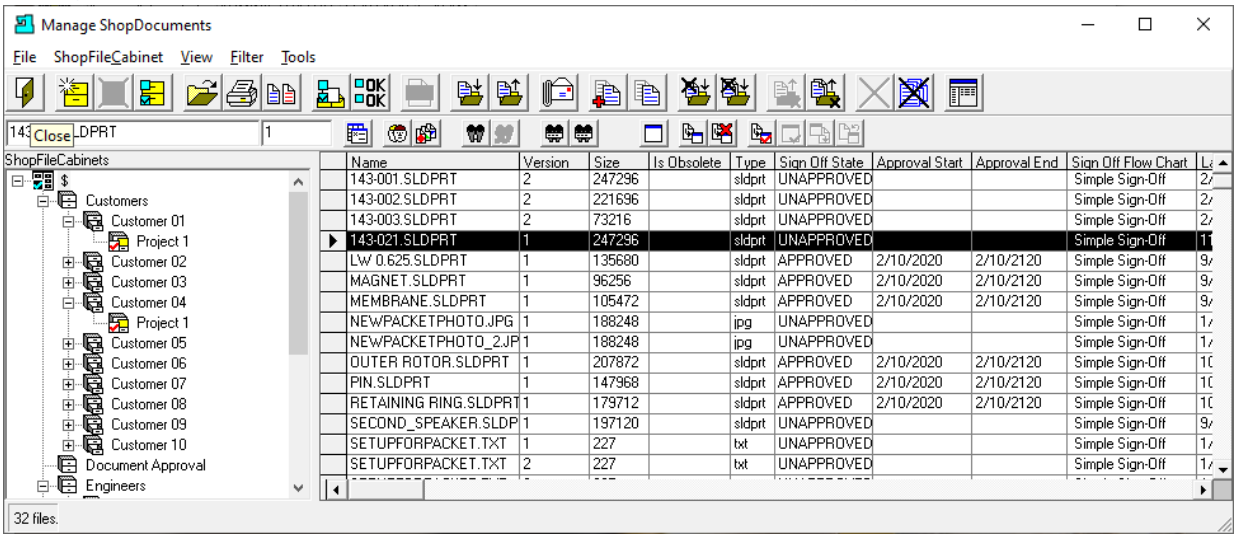
The Following Window will be displayed.

Manage Archived ShopDocuments (Recovered Document highlighted)



Click the Close Icon and the following Window will be displayed.

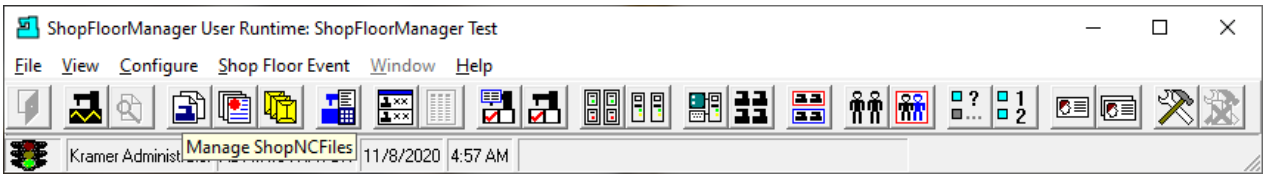
Manage Archived ShopDocuments (View Recovered Archived ShopDocument)



As you see the Archived Document has been recovered and assigned to the Root $ ShopFileCabinets. It's Approval state Unapproved! For managing ShopDocuments Archive see the Configure General System Settings Allow Deleting and Purging Archived ShopDocuments from the Archive.

Click the Close Icon and the following Window is displayed.

Manage Archived ShopNCFiles (A Home for Retired ShopNCFiles. Aging Gracefully!)



An important aspect of File Management is how you deal with deleted ShopNCFiles. As ShopNCFiles are deleted there are at least three ways to handle them. Most Applications just delete them and it's up to you & Windows to retrieve or purge these.

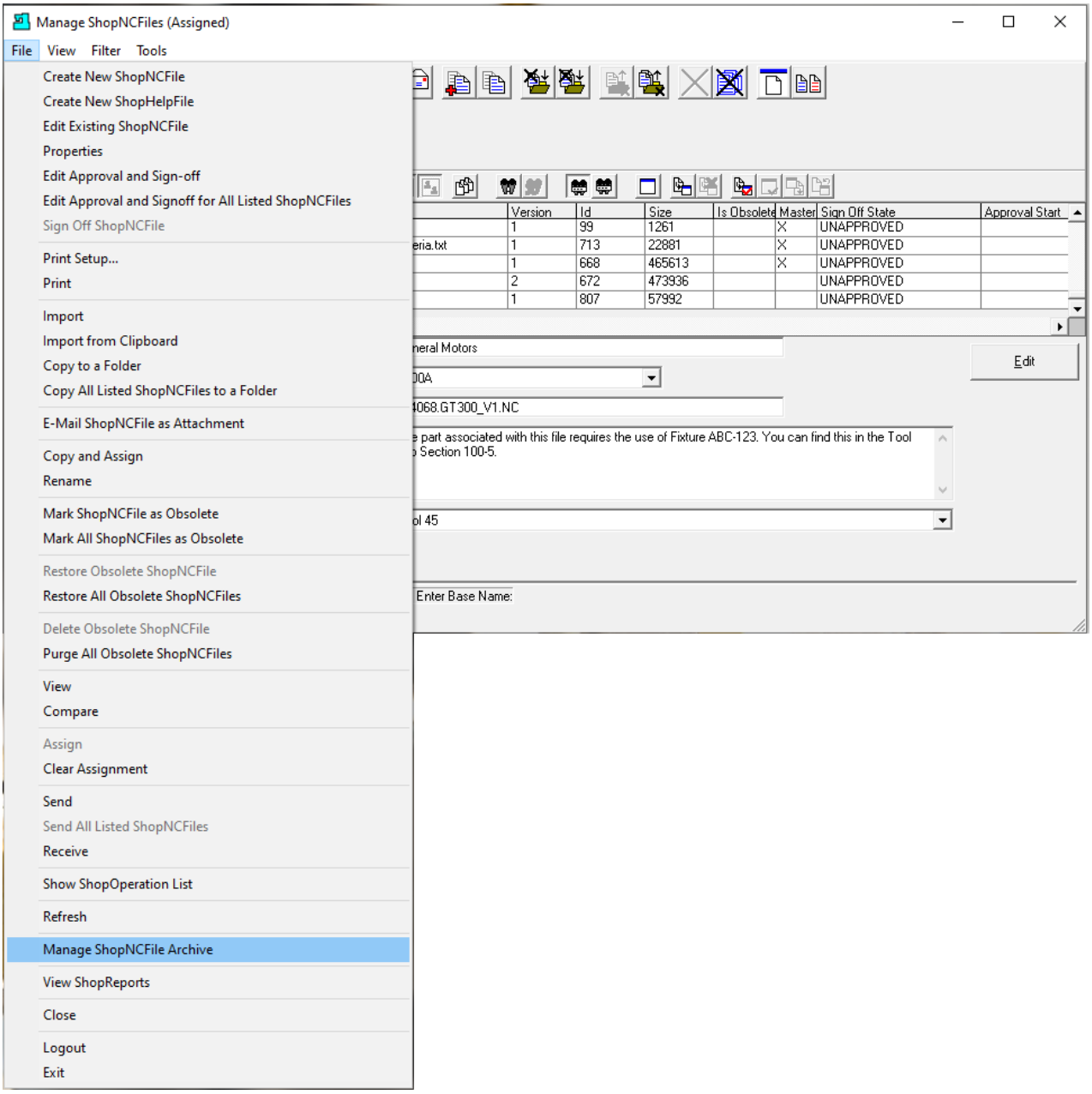
ShopFloorManager takes a more File Management approach by keeping these deleted ShopNCFiles in an Archive for a quick retrieval to insert it back into the ShopFloorManager's Database or if it's at the end of its life allows a File Manager to purge specific ShopNCFiles!

One of the benefits of a File Management System, it addresses the inevitable when a User deletes a ShopNCFile by mistake! They don't have to fret just retrieve it from the Archive.

Let's see how ShopFloorManager deals with Archived ShopNCFiles!

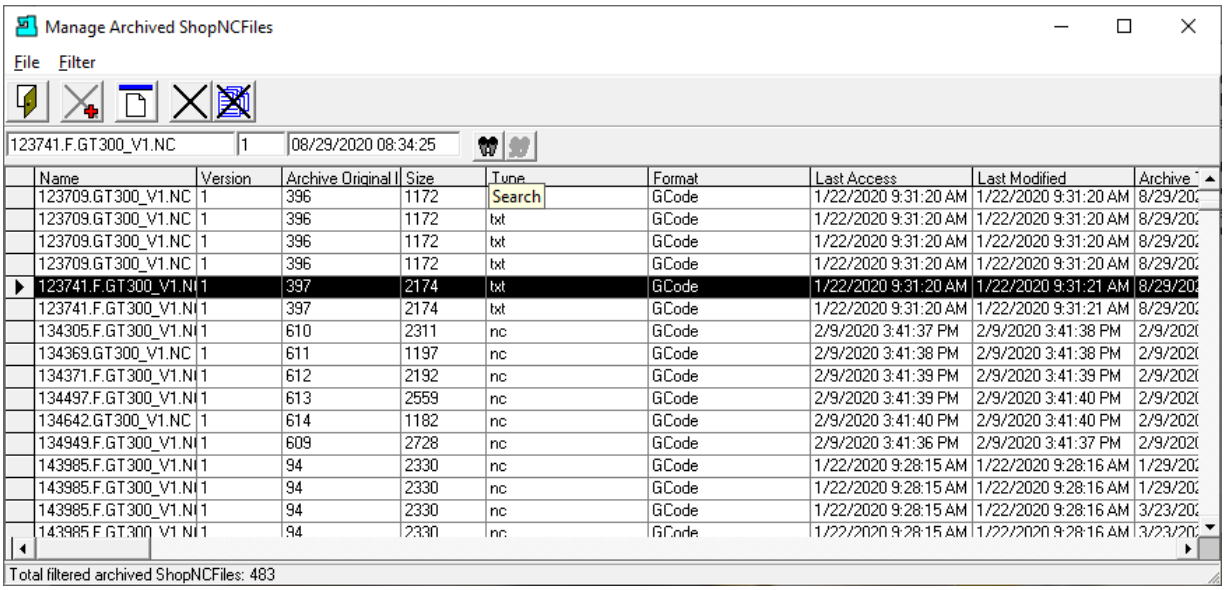
Click on the Manage ShopNCFiles Icon and the following Window will be displayed.

Manage Archived ShopNCFiles (Select Manage ShopNCFile Archive)



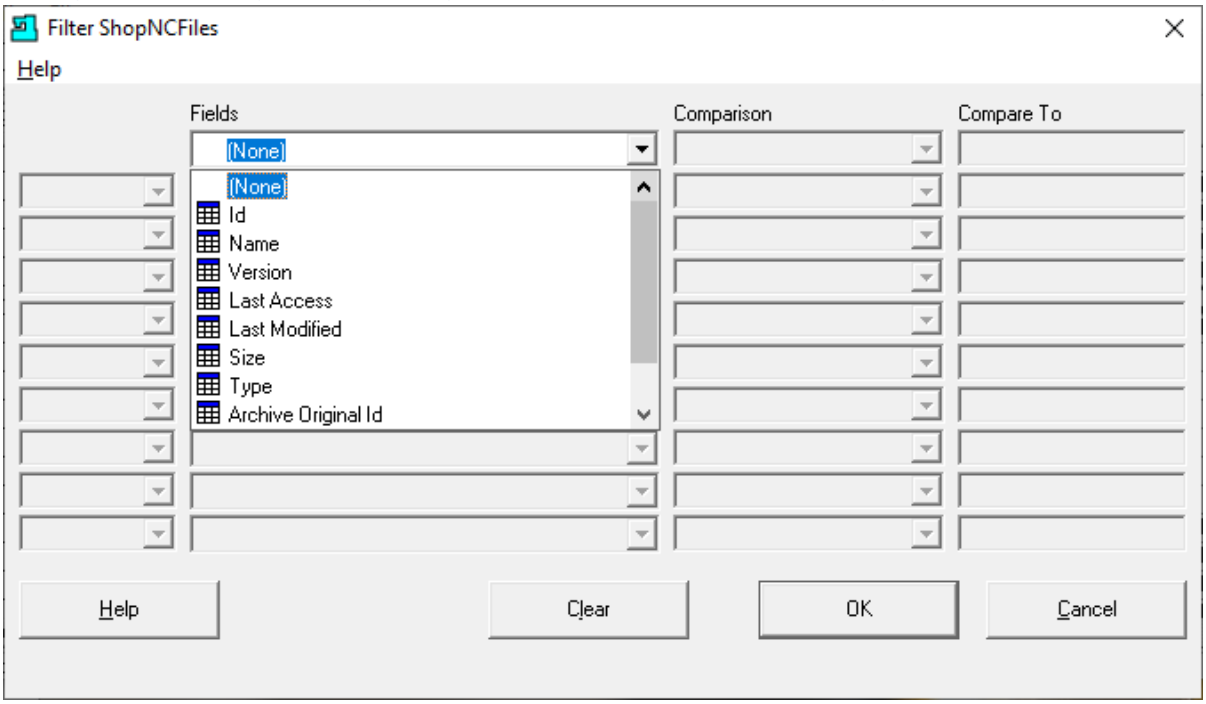
Click on the File Menu and then on the Manage ShopNCFile Archive Menu and the following Window will be displayed.

Manage Archived ShopNCFiles (Manage Archived ShopNCFiles - Search)



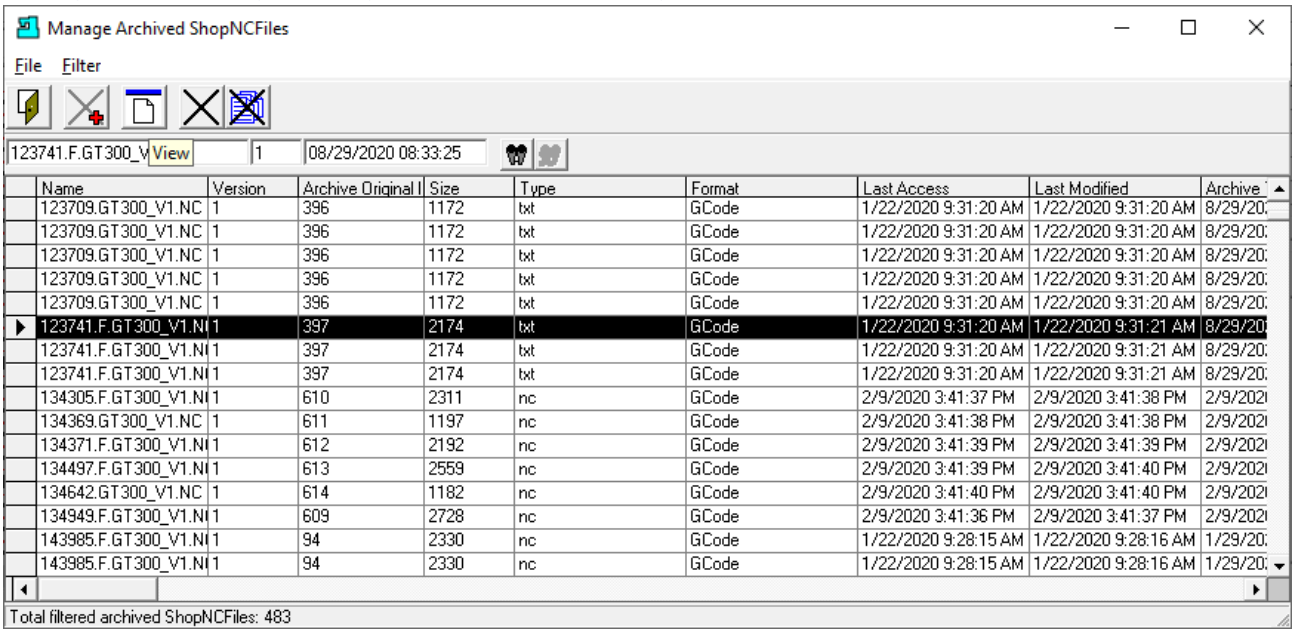
Before we can deal with Managing any particular ShopNCFile we need to be able to locate it. To locate a particular group or individual ShopNCFile click the Search Icon and the following Window will be displayed!

Manage Archived ShopNCFiles (Manage Archived ShopNCFiles – Search Engine)



We won't get into the details on using the Search Engine for a ShopNCFile here as this is discussed in another section of the Manual. Click the Close Button and the following Window will be displayed.

Manage Archived ShopNCFiles (View Archived ShopNCFiles)

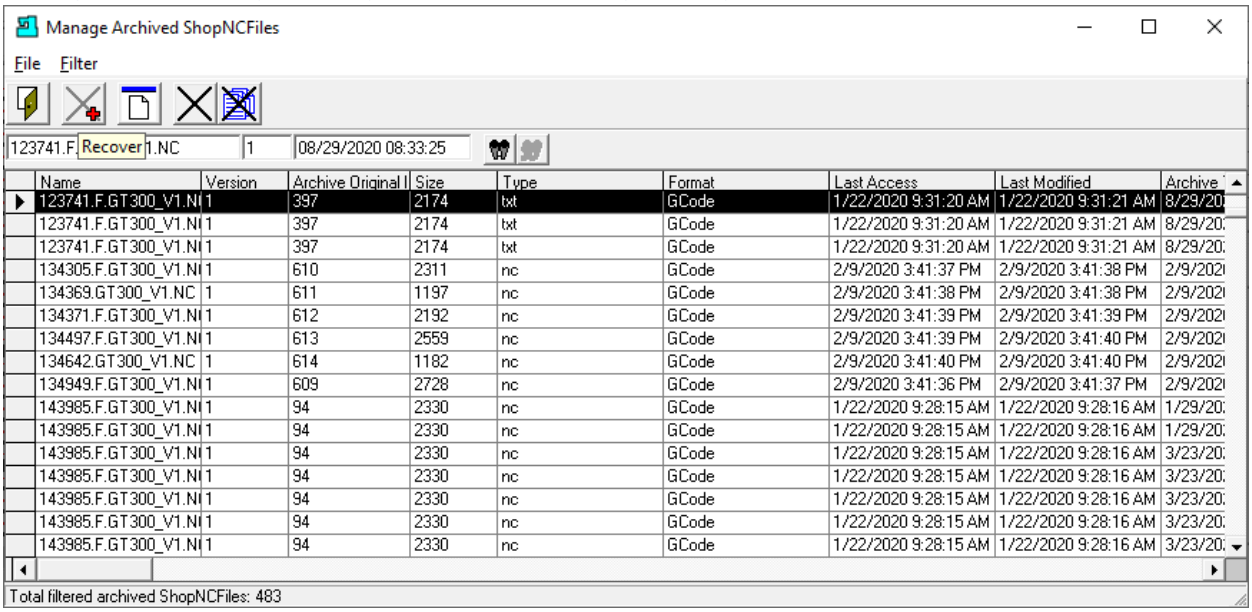


There are three options when using the Manage Archive ShopNCFiles App. You can retrieve a deleted file, view a deleted file, or purge a deleted file. Let's click on the View Menu and the standard View displays the File.

Manage Archived ShopNCFiles (View Archived ShopNCFile)

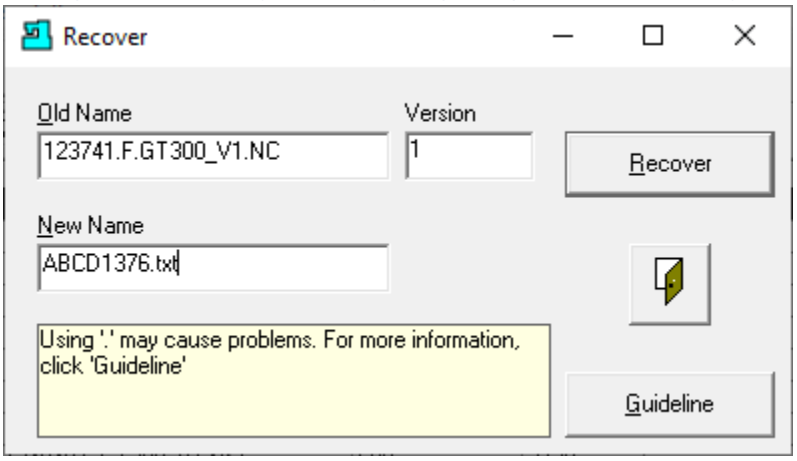
Click the Cancel Button and the following Window is displayed.

Manage Archived ShopNCFiles (Recover Archived ShopNCFiles)



Click in the Recover Icon and the following Window is displayed.

Manage Archived ShopNCFiles (Change Original File Name - Optional)

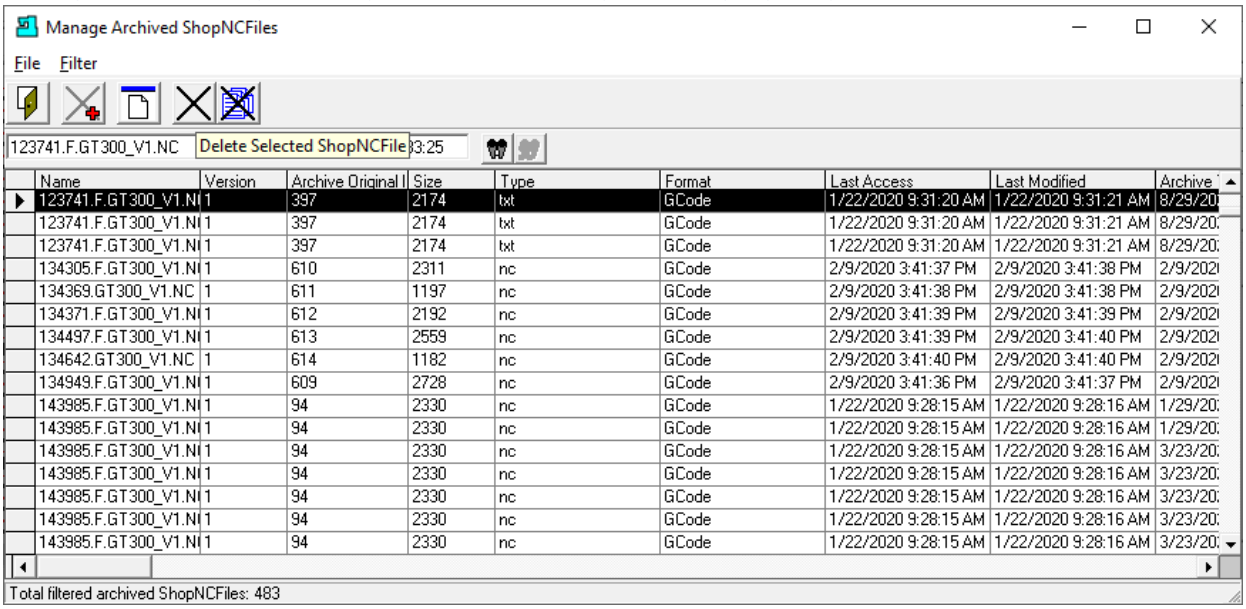


If you keep the same name, there are two things that could happen. If your system is setup to have multiple versions and a file with the same version exists, the name will stay the same but with the next higher version number!

If your system only allows one version the existing file will be replaced with this file! Beware of Recovering file with single version systems! We have renamed the and have changed the ending to txt! You should use your company's standard convention when adding ShopNCFile endings.

Click the Recover Button and the following Window will be displayed.

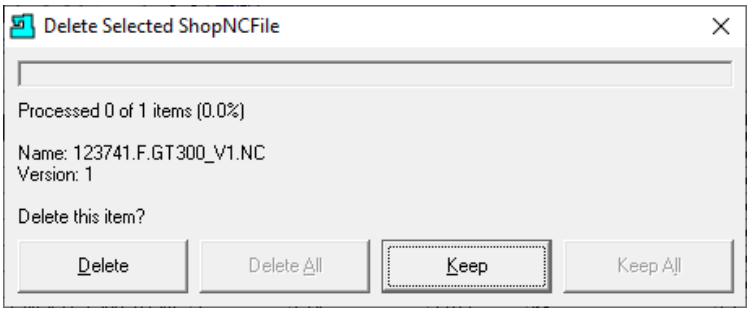
Manage Archived ShopNCFiles (Delete Selected ShopNCFile highlighted)



We are now going to Delete/Purge a ShopNCFile from the Archive. Once completed the ShopNCFile will no longer be recoverable!

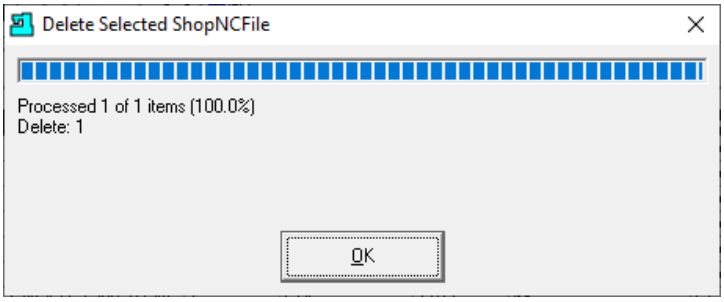
Click the Delete Selected ShopNCFile Icon and the following Window will be displayed.

Manage Archived ShopNCFiles (Delete Selected ShopNCFile Window)



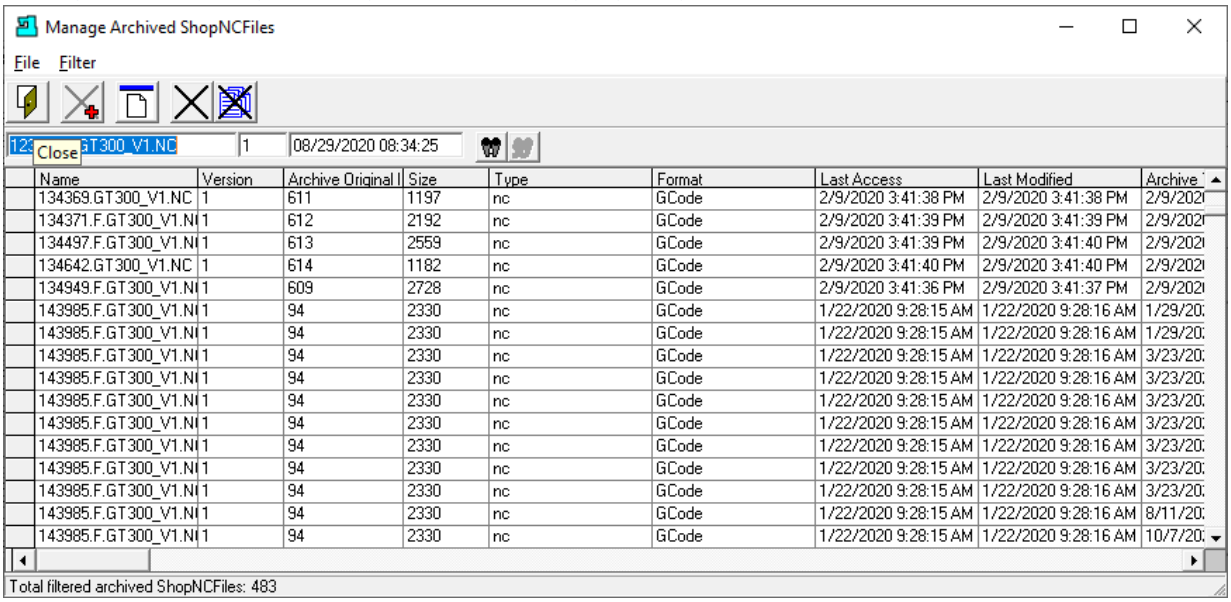
Click the Delete Button and the following Window will be displayed!

Manage Archived ShopNCFiles (Delete ShopNCFile Informational Window)



Click the OK Button and the following Window is displayed.

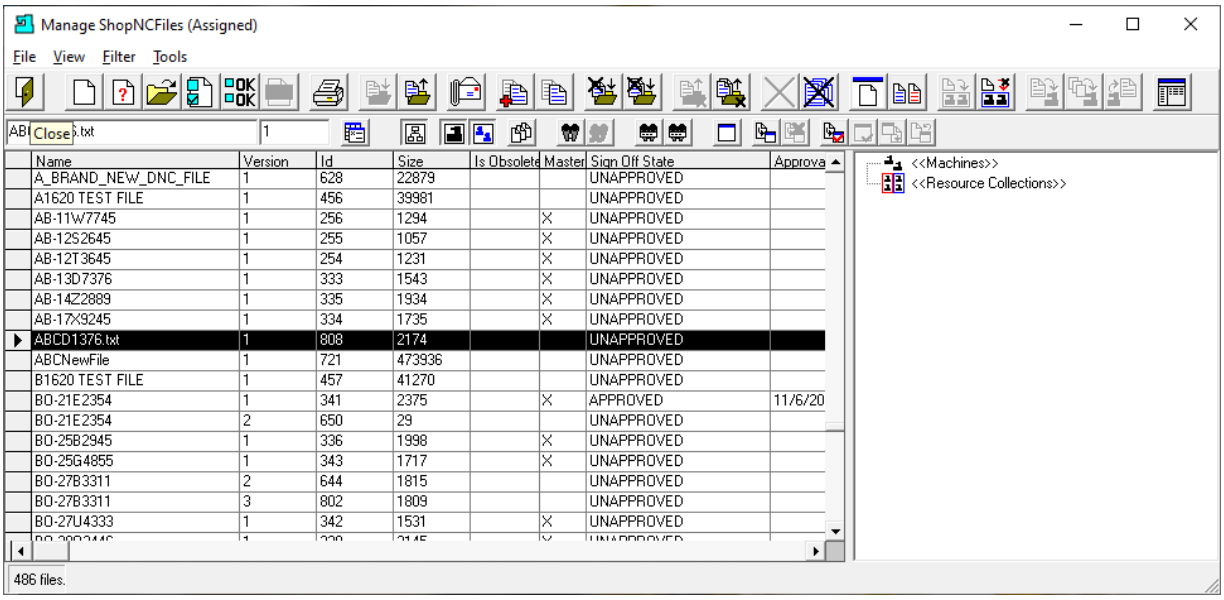
Manage Archived ShopNCFiles (Recovered File highlighted)



We will close this Window and look for the recovered ShopNCFile “ABCD1376.txt”.

Click the Close Icon and the following Window will be displayed.

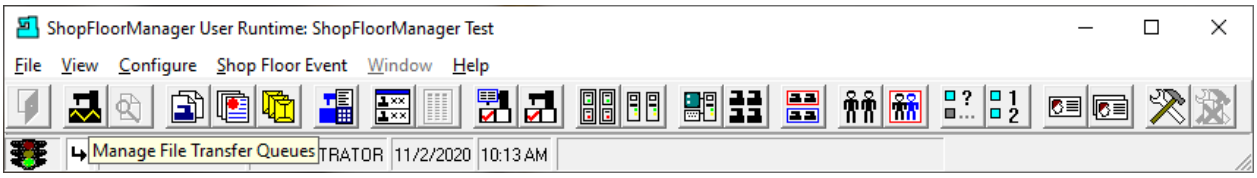
Manage Archived ShopNCFiles (View Recovered Archived ShopNCFile)



As you see the Archived file has been recovered but it is now an Orphaned File! This means it is not associated with any Resource Collection and is Unapproved! For managing ShopNCFile Archives see the Configure General System Settings Queues and Archive Section.

Click the Close Icon and the following Window will be displayed.

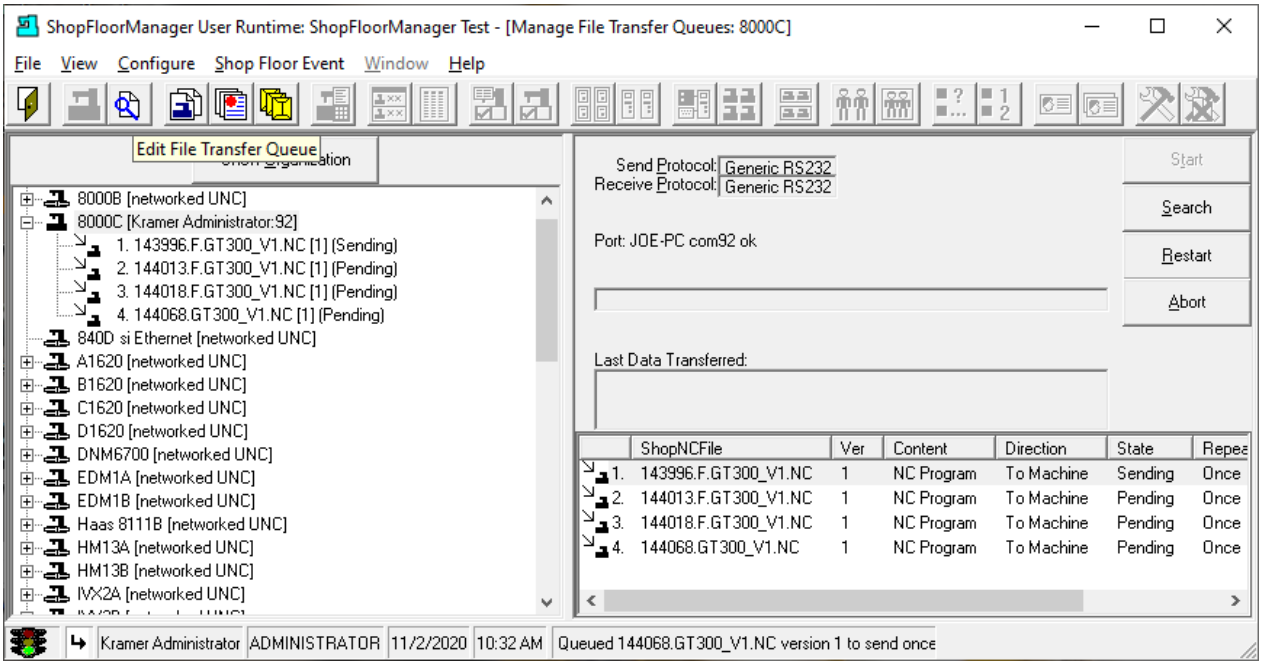
Manage File Transfer Queues (File Transfers won't Cooperate! Take them to the Woodshed!)



Let's investigate how ShopFloorManager Manages Machine Queues. As we will see it displays real-time file communications as you Manage the Machines Queues.

Click on the "Manage File Transfer Queues" Icon and the following Window will be displayed.

Manage File Transfer Queues (8000C Edit File Transfer Queue)

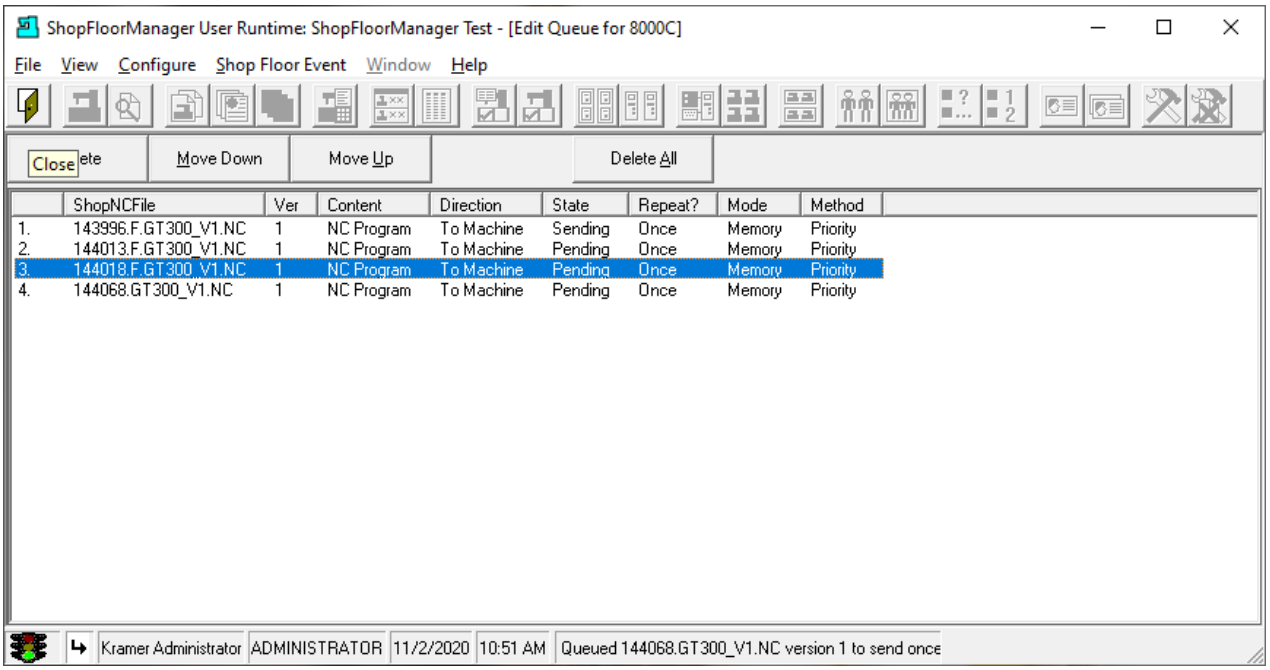


You can see we have 4 Files queued for Machine 8000C. The top file on the queue can be aborted, restarted from the beginning of the ShopNCFile or can be searched & restarted at any point in the File!

If Remote Requests are made from any Machine Tool you will also be able to Manage & Visually see the communications. Normally you wouldn't interfere with any communications as these are controlled by the operators on the shopfloor.

ShopFloorManager also provides for managing the Queue. Click on the "Edit File Transfer Queue" Icon and the following Window will be displayed.

Manage File Transfer Queues (Edit Queue of 8000C)



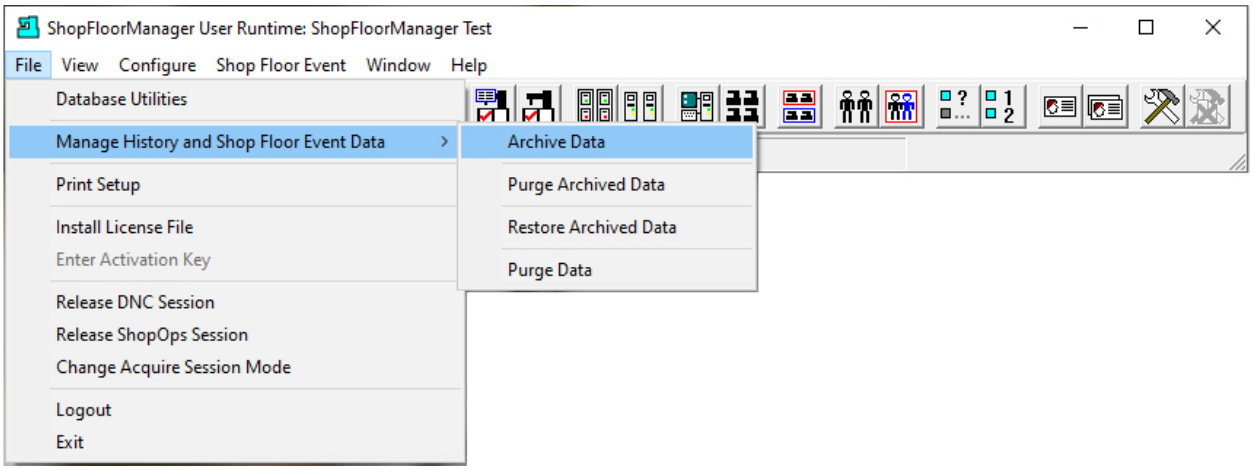
Options available for any files not presently active on the Queue are:

Delete: Removes from the Queue completely.
Move Down: Moves the file down in the Queue.
Move Up: Moves the file Up in the Queue.
Delete All: Clears the Queue of all files!

After making the needed changes click on the Close Icon to return.

Let's move on to the next section.

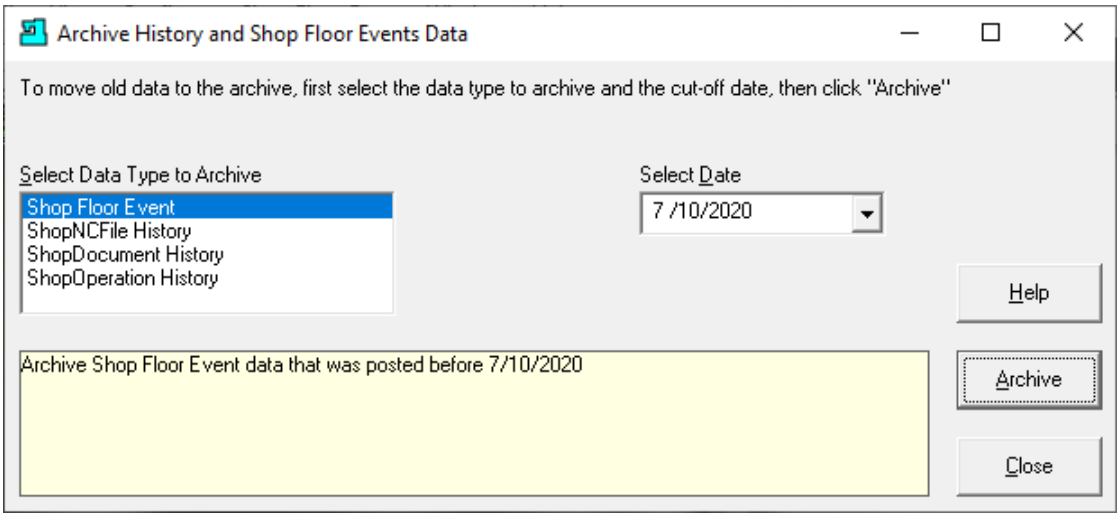
Manage History and Shop Floor Event Data (Don't Hoard! Manage All That Collected Data)



ShopFloorManager provides for collecting Histories of Events, ShopNCFiles, ShopDocuments & ShopOperations and provides for managing the storage of this data. Let's investigate.

Click on the File Menu->Manage History and Shop Floor Event Data Menu->Archive Data Menu and the following Window will be displayed.

Manage History and Shop Floor Event Data (Archive Shop Floor Event)



Moving old data to an Archive:

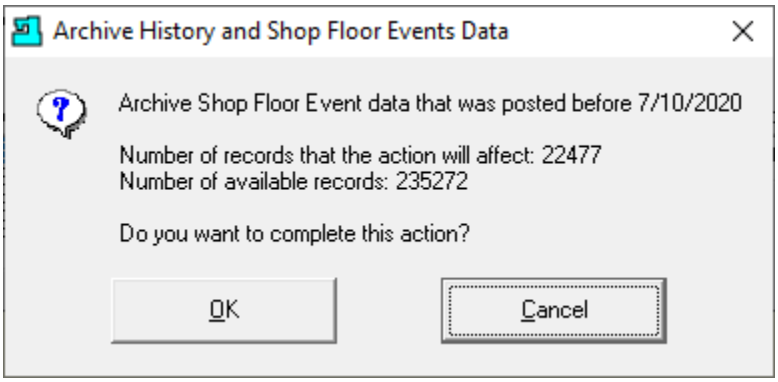
Highlight "Shop Floor Event" and select the end date of the History Archive for a particular Data Type. Click on the Archive Button and the following Window will be displayed.

Manage History and Shop Floor Event Data (Archive Shop Floor Event (Cont.)

Note: This action will remove this data from the active History Database to the Archive History database. The relationships that now exist will be maintained until the History Archive is purged. At that time, it is lost forever!

> This is the same procedure used for the other three selections so we will only deal with Shop Floor Events!
> To manage the File & Document Archives go to the File->Manage Archive in the: Manage Archived ShopNCFiles; Manage Archived ShopDocuments. These Archives are not the same as the History Archives!

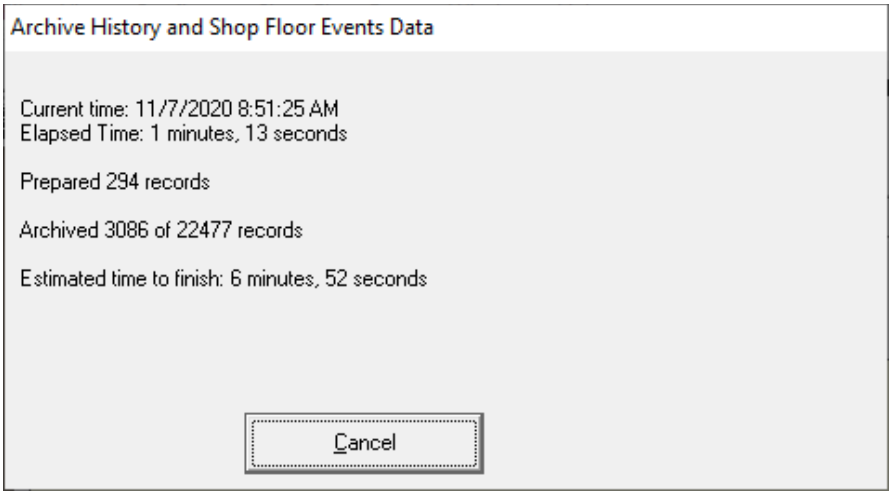
Manage History and Shop Floor Event Data (Archive History Shop Floor Events Data)



As you can see there are 22477 data records that are going to be Archived!

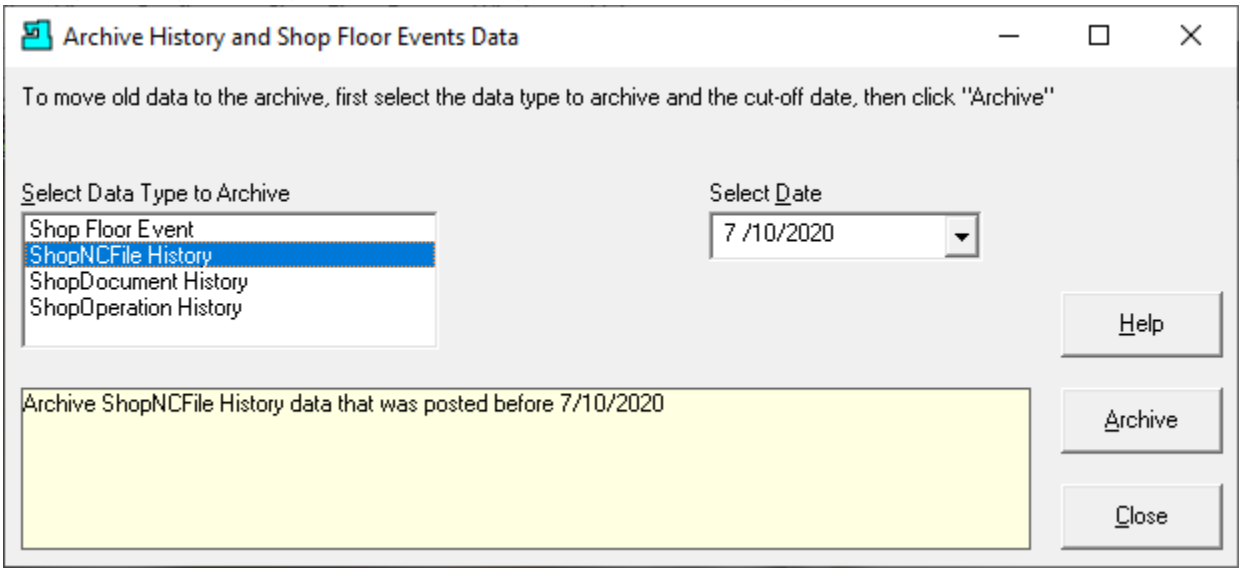
Clicking on the OK Button displays the following Window.

Manage History and Shop Floor Event Data (Informational Window Archiving History Shop Floor Events)



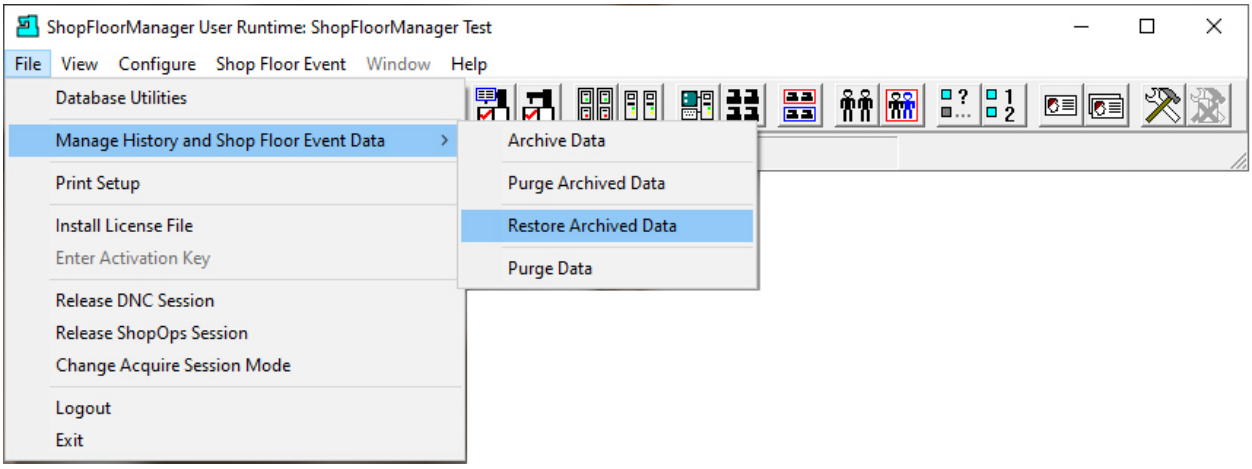
When finished it will bring you back to the Archive History and Shop Floor Events Data Window!

Manage History and Shop Floor Event Data (Archive Shop Floor Event)



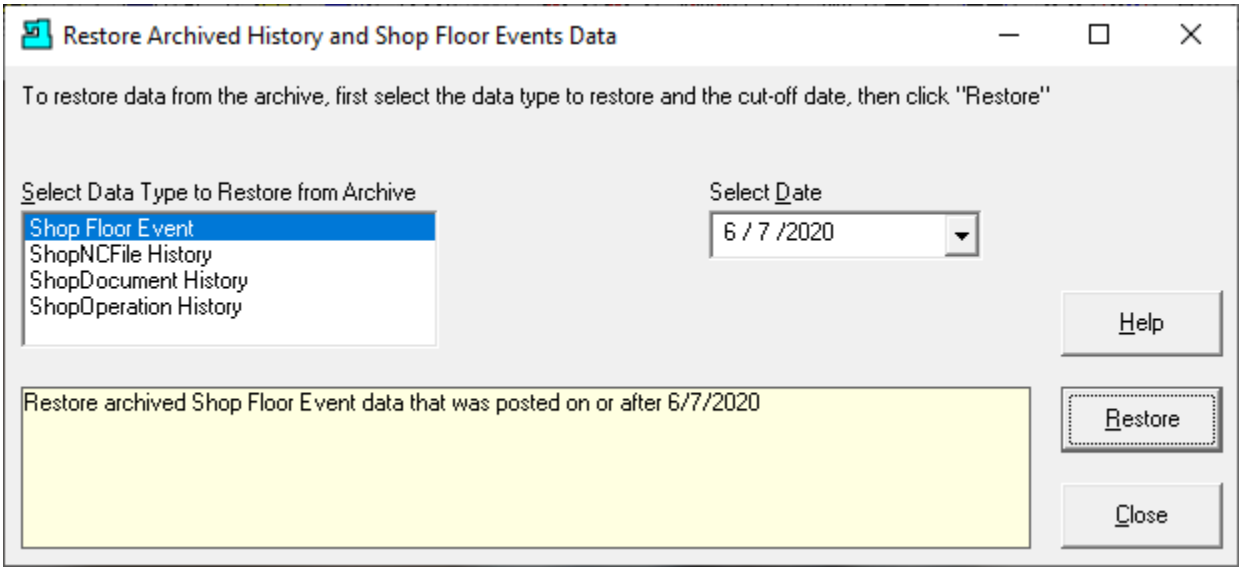
Close this Window and the following Window will be displayed.

Manage History and Shop Floor Event Data (Restore Archived Data – History)



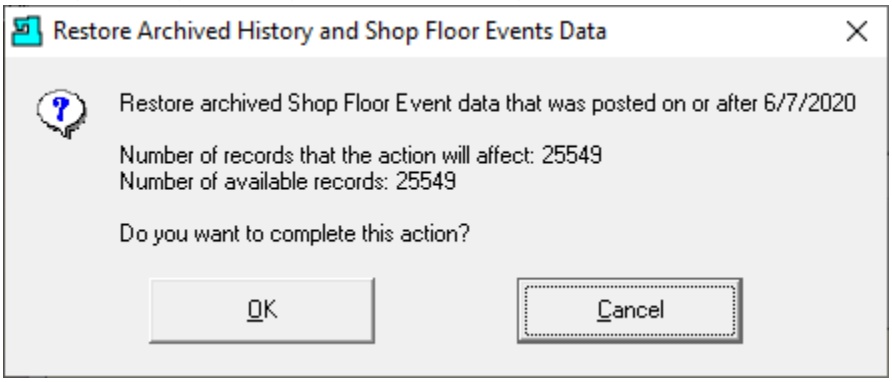
Click the Restore Archived Data menu and the following Window is displayed.

Manage History and Shop Floor Event Data (Restore Archived History and Shop Floor Events Data)



Pick a date in the past that you would like to restore the History from and click the Restore Button and the following Window will be displayed.

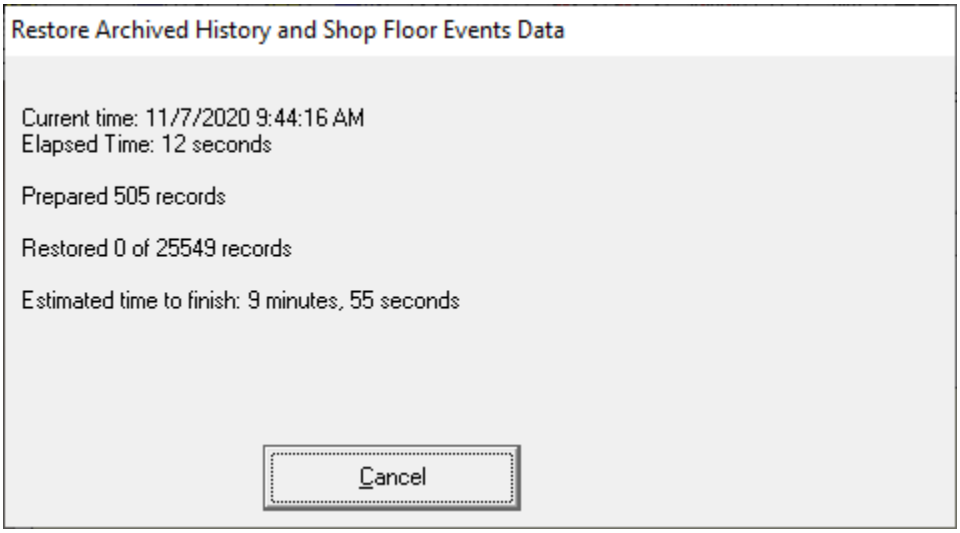
Manage History and Shop Floor Event Data (Restore Archive History Shop Floor Events Data)



As you can see there are 25549 data records that are going to be Restored!

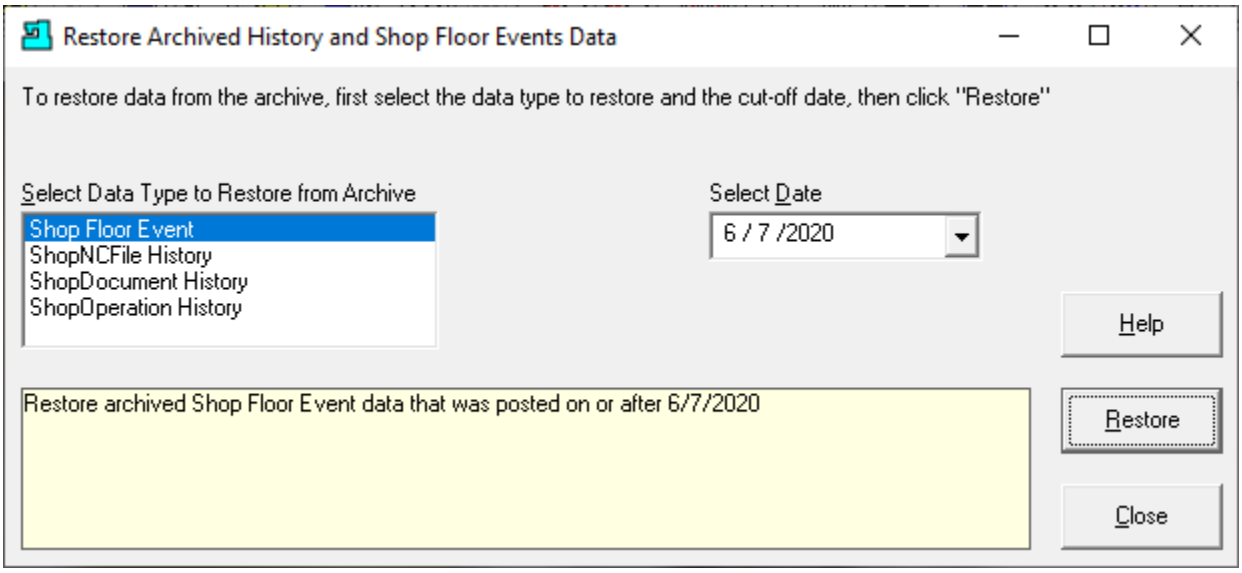
Clicking on the OK Button displays the following Window.

Manage History and Shop Floor Event Data (Informational Window Restoring History Shop Floor Events)



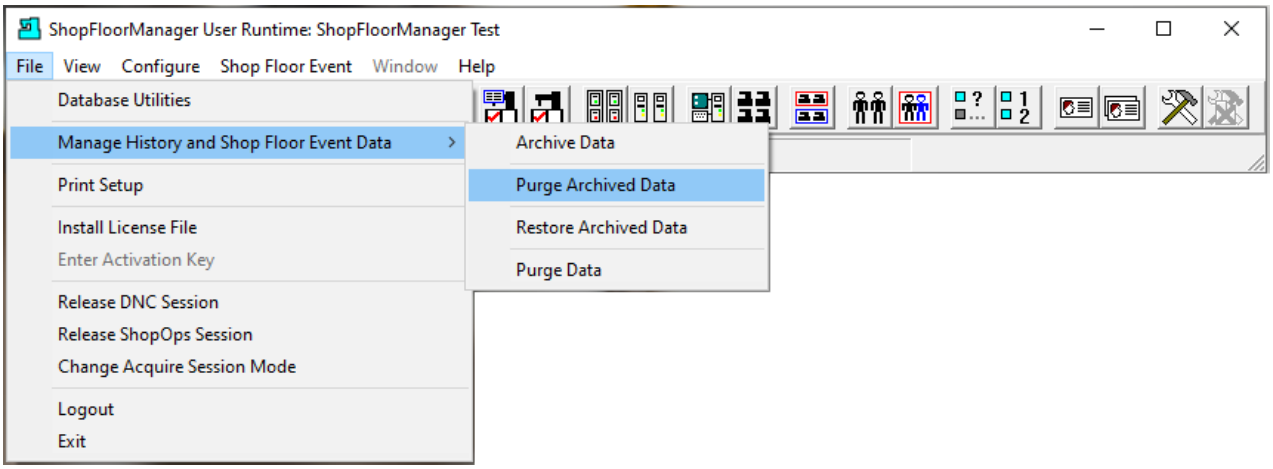
When finished it will bring you back to the Archive History and Shop Floor Events Data Window!

Manage History and Shop Floor Event Data (Restore Archive Shop Floor Event)



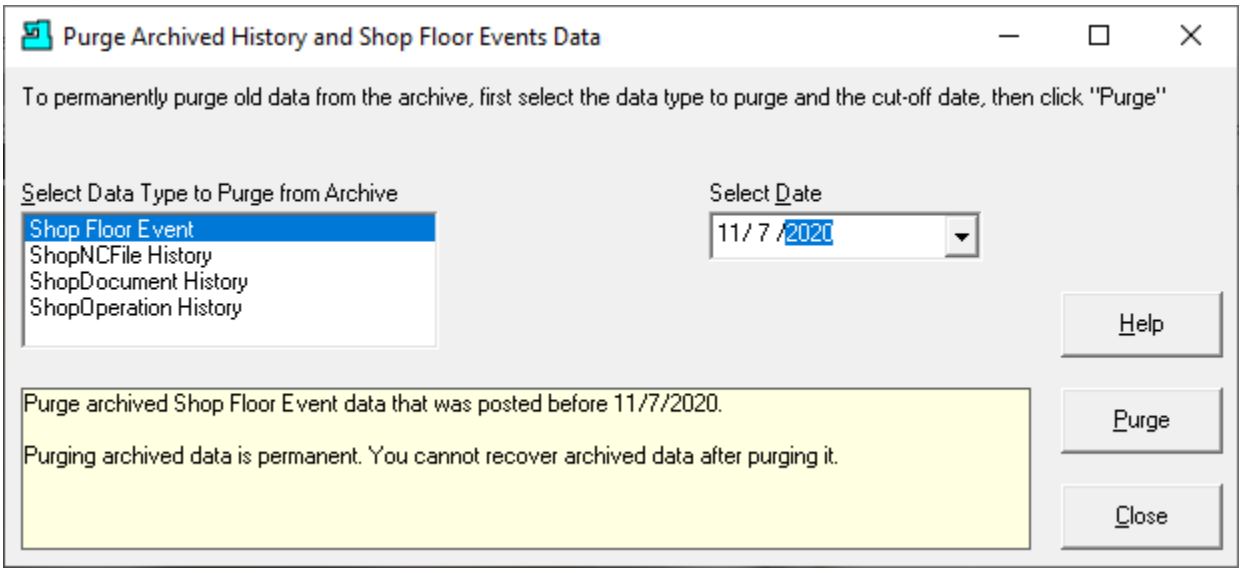
Close this Window and the following Window will be displayed.

Manage History and Shop Floor Event Data (Purge Archived Data – History)



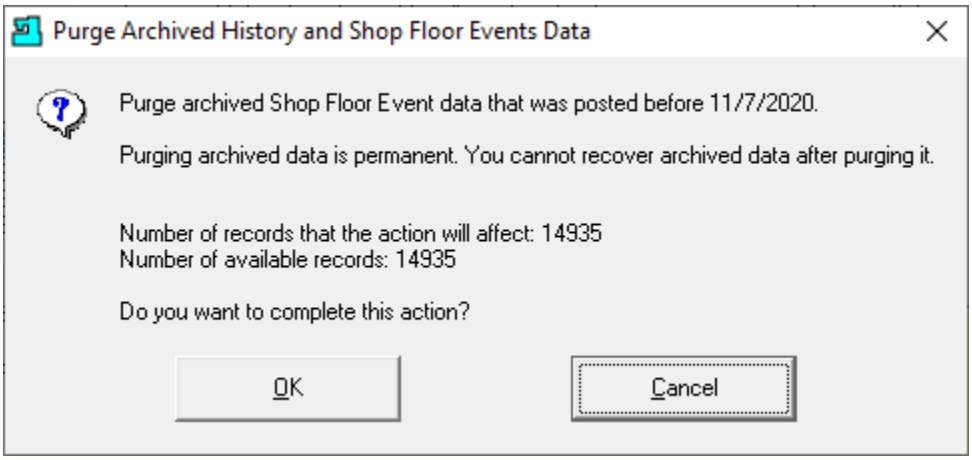
Click on the Purge Archived Data menu and the following Window is displayed.

Manage History and Shop Floor Event Data (Purge Archived History and Shop Floor Events Data)



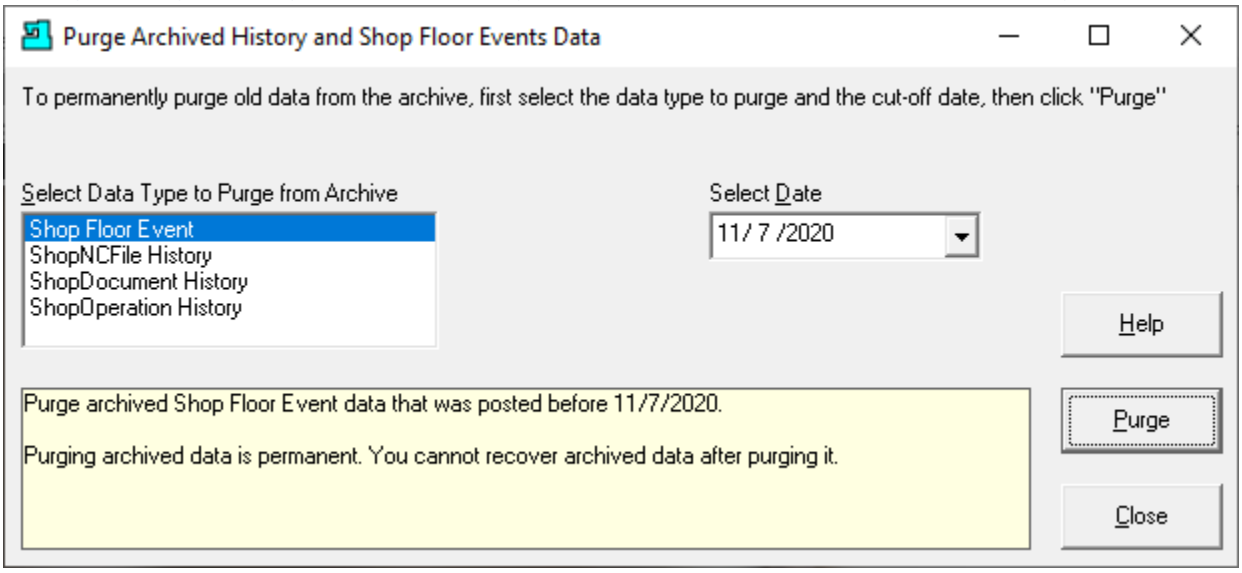
Click on the Purge Button and the following Window will be displayed.

Manage History and Shop Floor Event Data (Informational Window purging History Shop Floor Events)



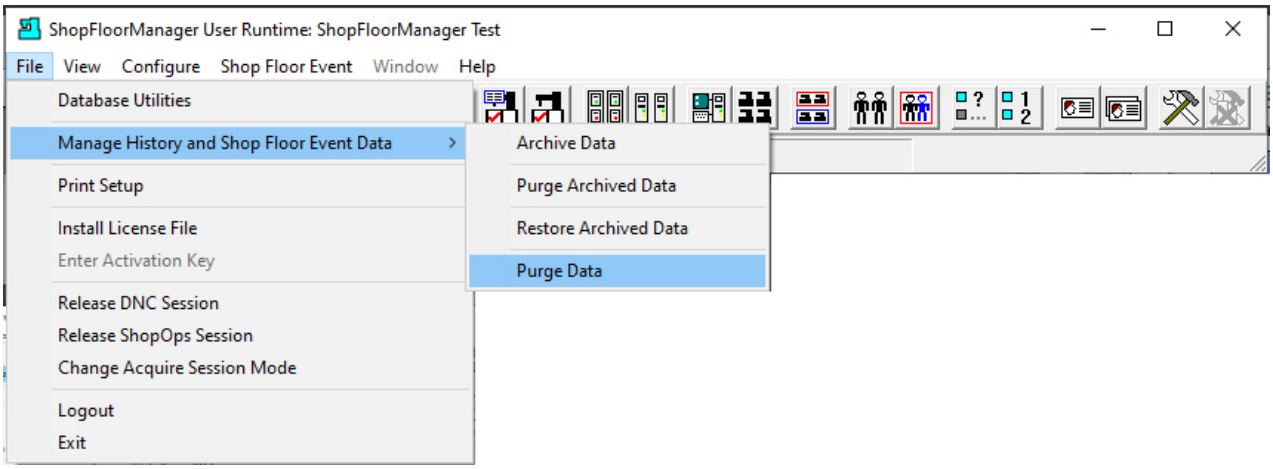
Click the OK Button and the following Window will be displayed.

Manage History and Shop Floor Event Data (Purge Archived History and Shop Floor Events Data)



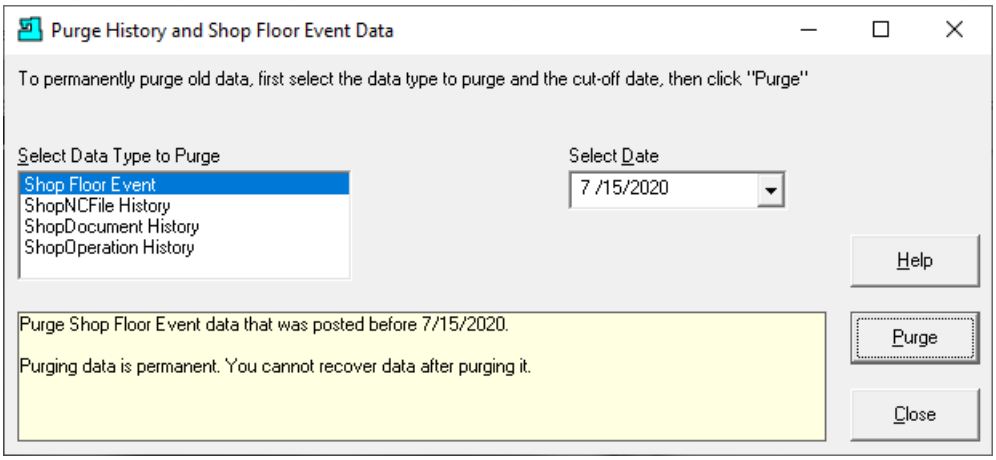
Click the Close Button and the following Window will be displayed.

Manage History and Shop Floor Event Data (Purge Data – History)



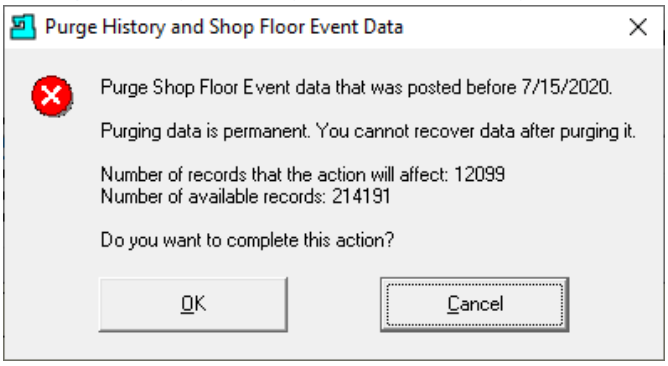
Click on the Purge Data menu and the following Window is displayed.

Manage History and Shop Floor Event Data (Purge History and Shop Floor Events Data)



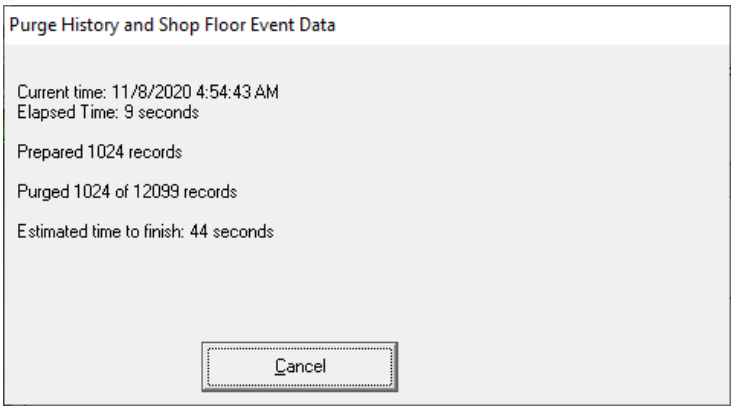
Click the Purge Button and the following Window is displayed.

Manage History and Shop Floor Event Data (Informational Window Purging History and Shop Floor Events)



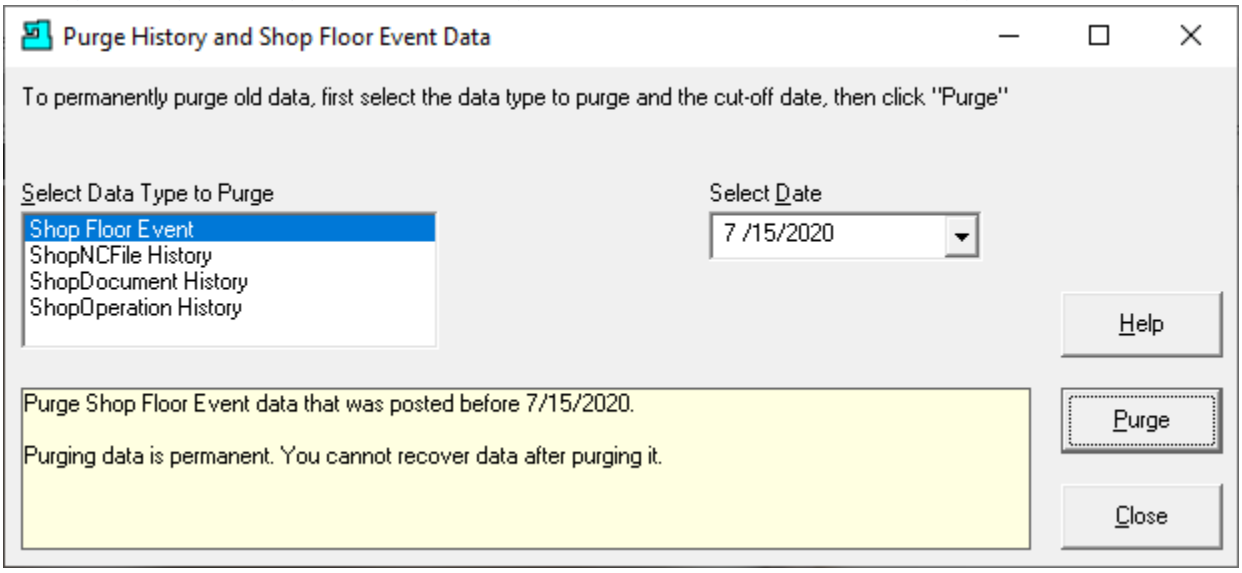
This Window warns that if you click the OK Button this data will not be recoverable. Click the OK Button and the following Window will be displayed.

Manage History and Shop Floor Event Data (Purging History and Shop Floor Events)



The Window above displays the progress of records being deleted.

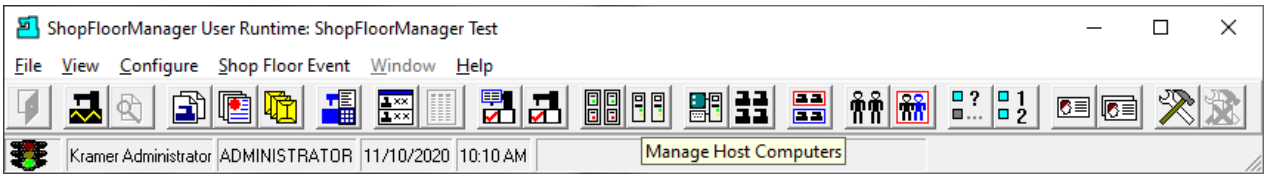
Manage History and Shop Floor Event Data (Purge History and Shop Floor Events Data)



We are finished with the “Manage History and Shop Floor Event Data” sections!

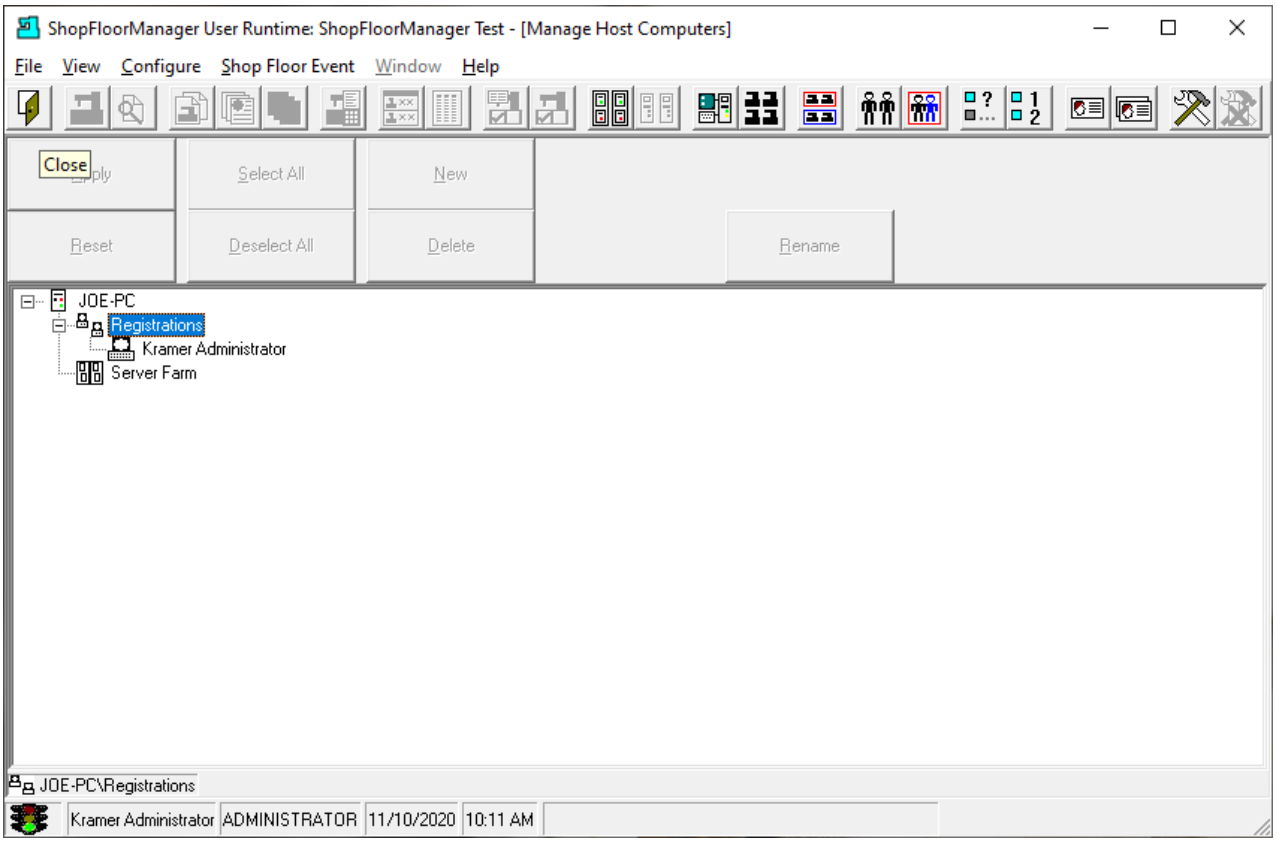
Click the Close Button and the following Window will be displayed.

Manage Host Computers (Company Workstations & Associated SFM Virtual Workstations)



Click on the “Manage Host Computers” Icon and the following Window will be displayed.

Manage Host Computers (All Real Workstations associated with ShopFloorManager Workstations)



This view shows all Real Network Workstations that are used to host ShopFloorManager Workstations. This is strictly informational!

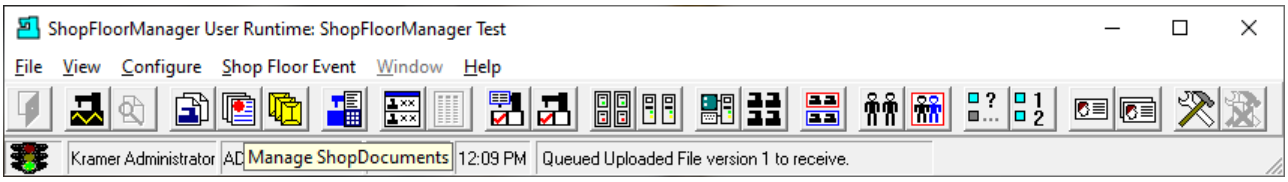
As you can see the ShopFloorManager Workstation “Kramer Administrator” is associated with this Network Workstation “JOE-PC”.

For Details of which Workstations are connected to each of these Real Computers see Workstations.

See the Server Farm section for details on Server Farms.

Click the Close Icon and the following Window is displayed.

Manage ShopDocuments (Why Documents? More Documents more Work! No Thanks)



ShopFloorManager supports the Storage and Management of ShopDocuments. ShopDocuments as used in ShopFloorManager are not ShopNCFiles even though a ShopNCFile can be saved as a Document but it then loses it's "ShopNCFile" properties!

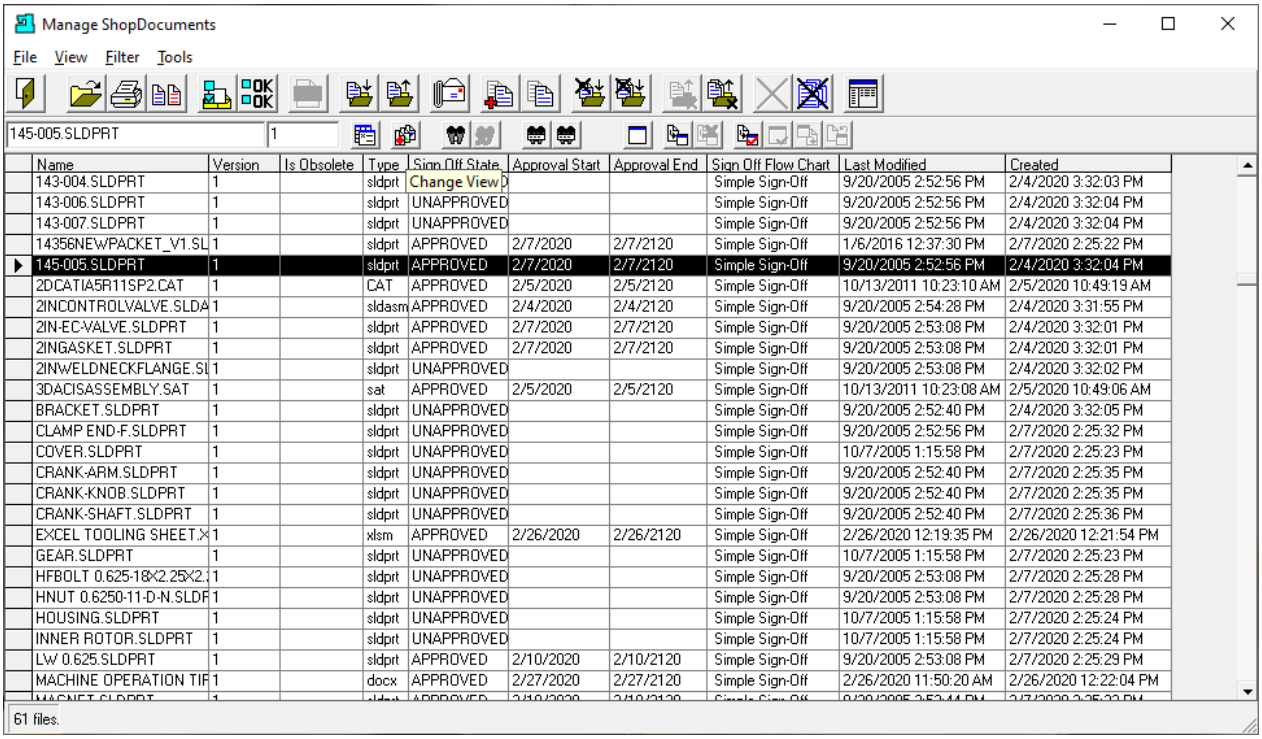
ShopDocuments are used to assist Users in performing their Jobs. These ShopDocuments can be of varied types such as Microsoft's Suite of Applications: Word; Excel; PowerPoint; etc. They can include CAD Drawings, Third-Party Application Data such as used by editNC, Document Compare, and so forth.

To enhence the use of ShopDocuments and ShopNCFiles they can be integrated into ShopFloorManager's ShopOperations which can be configured as a basic Traveler. ShopOperations are covered in another section of this Manual!

Let's investigate how ShopDocuments are used in ShopFloorManager.

Click on the "Manager ShopDocuments" Icon and the following Window will be displayed.

Manage ShopDocuments (Change View)



Name	Version	Is Obsolete	Type	Sign Off State	Approval Start	Approval End	Sign Off Flow Chart	Last Modified	Created
143-004.SLDPRT	1		sldprt	Change View			Simple Sign-Off	9/20/2005 2:52:56 PM	2/4/2020 3:32:03 PM
143-006.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:52:56 PM	2/4/2020 3:32:04 PM
143-007.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:52:56 PM	2/4/2020 3:32:04 PM
14356NEWPACKET_V1.SL	1		sldprt	APPROVED	2/7/2020	2/7/2120	Simple Sign-Off	1/6/2016 12:37:30 PM	2/7/2020 2:25:22 PM
145-005.SLDPRT	1		sldprt	APPROVED	2/7/2020	2/7/2120	Simple Sign-Off	9/20/2005 2:52:56 PM	2/4/2020 3:32:04 PM
2DCATIA5R11SP2.CAT	1		CAT	APPROVED	2/5/2020	2/5/2120	Simple Sign-Off	10/13/2011 10:23:10 AM	2/5/2020 10:49:19 AM
2INCONTROLVALVE.SLDA	1		sldasm	APPROVED	2/4/2020	2/4/2120	Simple Sign-Off	9/20/2005 2:54:28 PM	2/4/2020 3:31:55 PM
2IN-EC-VALVE.SLDPRT	1		sldprt	APPROVED	2/7/2020	2/7/2120	Simple Sign-Off	9/20/2005 2:53:08 PM	2/4/2020 3:32:01 PM
2INGASKET.SLDPRT	1		sldprt	APPROVED	2/7/2020	2/7/2120	Simple Sign-Off	9/20/2005 2:53:08 PM	2/4/2020 3:32:01 PM
2INWELDNECKFLANGE.SL	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:53:08 PM	2/4/2020 3:32:02 PM
3DACISASSEMBLY.SAT	1		sat	APPROVED	2/5/2020	2/5/2120	Simple Sign-Off	10/13/2011 10:23:08 AM	2/5/2020 10:49:06 AM
BRACKET.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:52:40 PM	2/4/2020 3:32:05 PM
CLAMP END-F.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:52:56 PM	2/7/2020 2:25:32 PM
COVER.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	10/7/2005 1:15:58 PM	2/7/2020 2:25:23 PM
CRANK-ARM.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:52:40 PM	2/7/2020 2:25:35 PM
CRANK-KNOB.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:52:40 PM	2/7/2020 2:25:35 PM
CRANK-SHAFT.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:52:40 PM	2/7/2020 2:25:36 PM
EXCEL TOOLING SHEET.X	1		xlsm	APPROVED	2/26/2020	2/26/2120	Simple Sign-Off	2/26/2020 12:19:35 PM	2/26/2020 12:21:54 PM
GEAR.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	10/7/2005 1:15:58 PM	2/7/2020 2:25:23 PM
HFBOLT 0.625-18X2.25X2.	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:53:08 PM	2/7/2020 2:25:28 PM
HNUT 0.6250-11-D-N.SLDF	1		sldprt	UNAPPROVED			Simple Sign-Off	9/20/2005 2:53:08 PM	2/7/2020 2:25:28 PM
HOUSING.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	10/7/2005 1:15:58 PM	2/7/2020 2:25:24 PM
INNER ROTOR.SLDPRT	1		sldprt	UNAPPROVED			Simple Sign-Off	10/7/2005 1:15:58 PM	2/7/2020 2:25:24 PM
LW 0.625.SLDPRT	1		sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off	9/20/2005 2:53:08 PM	2/7/2020 2:25:29 PM
MACHINE OPERATION TIP	1		docx	APPROVED	2/27/2020	2/27/2120	Simple Sign-Off	2/26/2020 11:50:20 AM	2/26/2020 12:22:04 PM

For the most part all of the operations you can perform on ShopDocuments are identical with what you can perform on ShopNCFiles, so we will not cover these operations as you can find a full discussion under Manage ShopNCFiles in this Manual. Of course, you don't download or upload ShopDocuments!

You will find that some of these operations require that you enter different values than ShopNCFiles, but these are obvious!

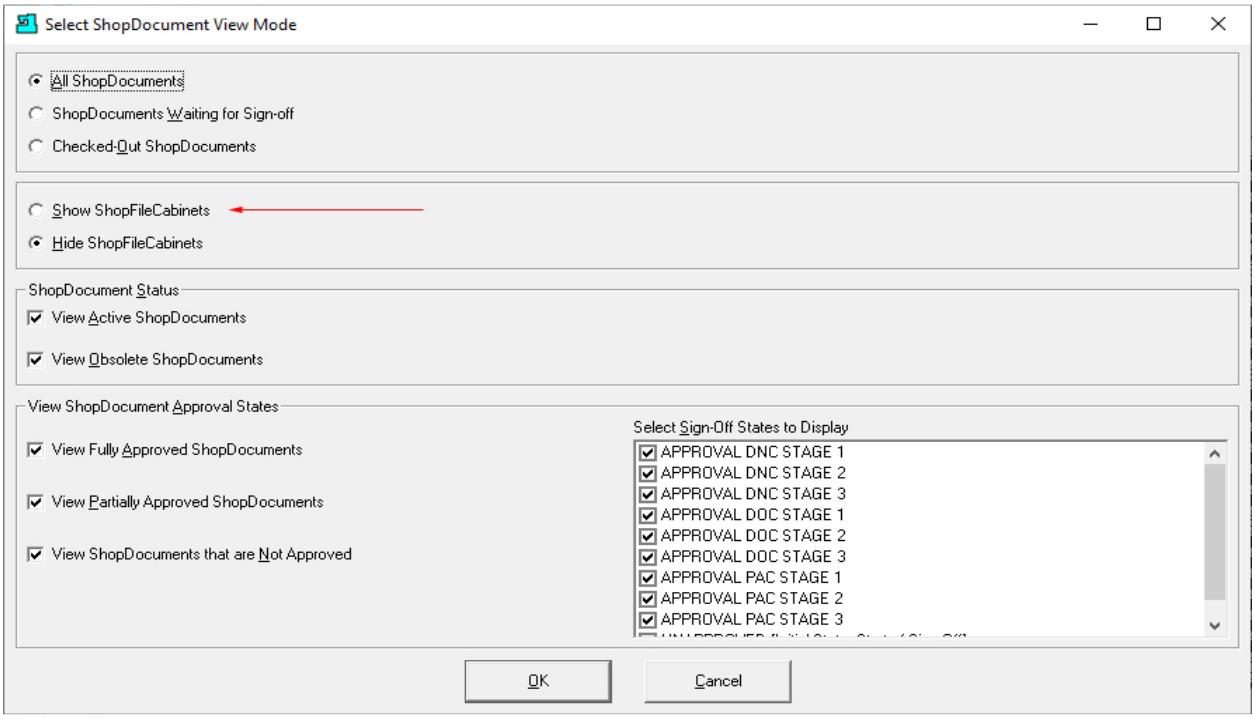
We don't directly support any Web access (ignore references in ShopFloorManager as these will be removed shortly) but if there are links in ShopDocuments they work as normal! If there are 3rd-Party Applications that provide Web access and follow Microsoft's Command Line arguments these will simply work!

That is one of the reasons we have stopped supporting Web access directly as Shop3rdPartyTools do it better!

Let's look at Views and associations that ShopDocuments support.

Click on the "Change View" Icon and the following Window is displayed.

Manage ShopDocuments (ShopDocument View mode)



To get the most out of this explanation you should just choose the different "ShopDocument View Mode" settings and see how these affect the different ShopDocument Views. This is the best way to learn to use this feature. Go ahead and give it a whirl!

The one view that needs a little more explanation is changing from Hide ShopFileCabinets to Show ShopFileCabinets. See the red arrow above

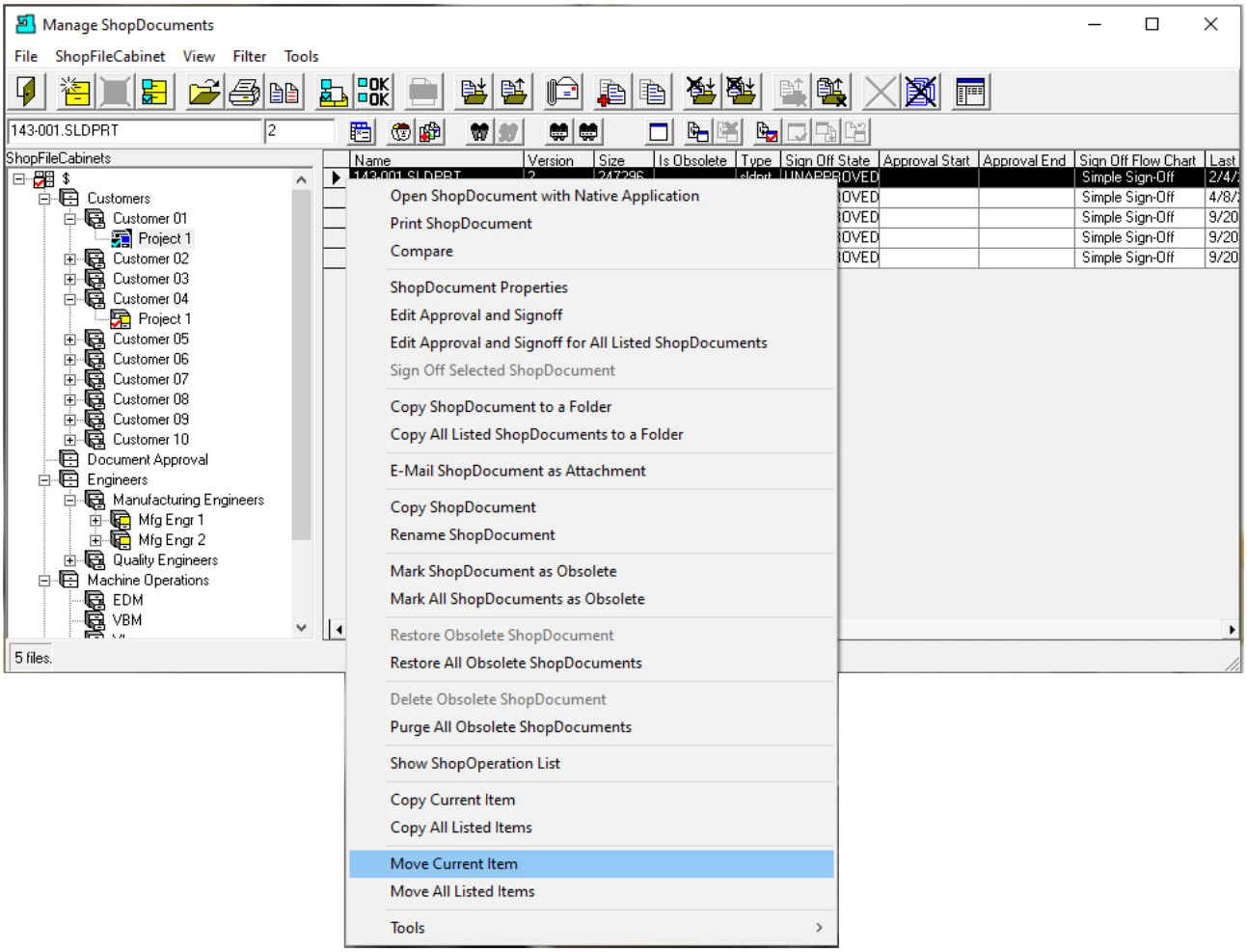
Let's make this change and click the OK Button and the following Window will be displayed.

Manage ShopDocuments (ShopDocument View Mode - Show ShopFileCabinets)

This View Mode allows you associate individual ShopDocuments with a particular ShopFileCabinets. You can drag & drop ShopDocuments from one ShopFileCabinets to another.

See Manage ShopOperations, Manage ShopFileCabinets & Manage ShopNCFiles in other sections of this Manual for details including how ShopDocuments are used to help Users perform their Jobs.

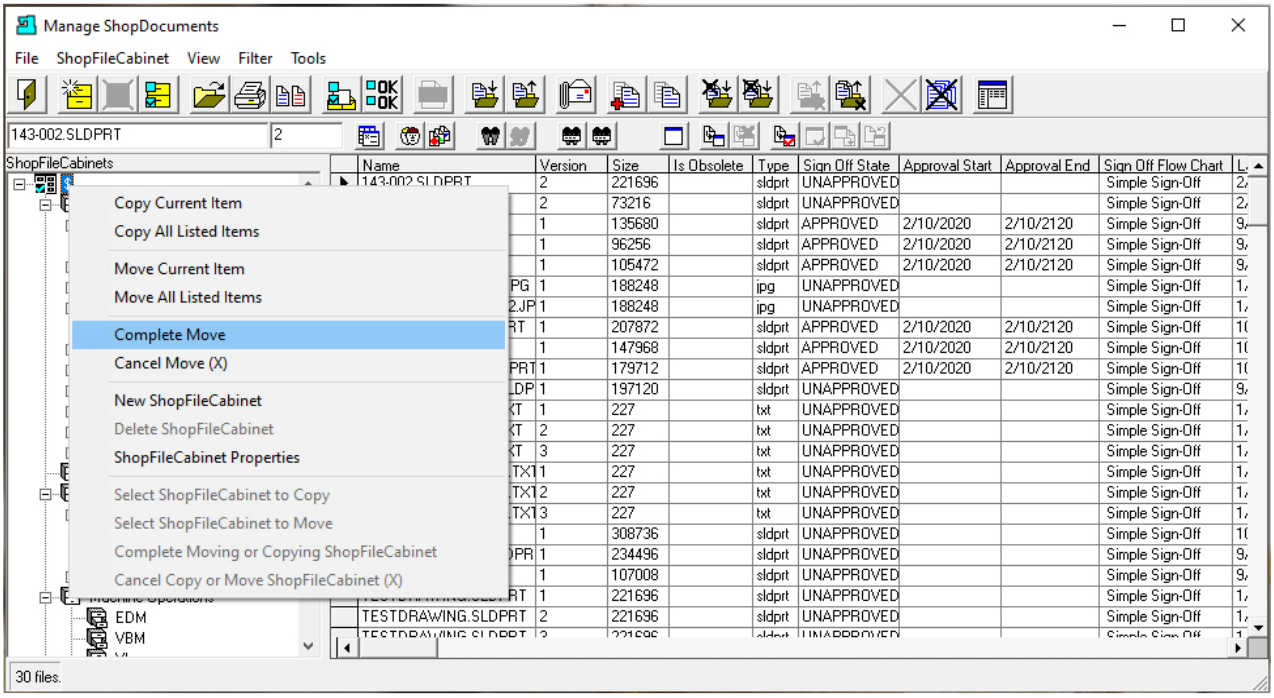
Note: A Document can only be associated with one ShopFileCabinets at a time! But you can associate a Document with any number of ShopOperations which can then be associated with different ShopFileCabinets!



Since it is difficult to show graphics when dragging and dropping, we will demonstrate how to move a Document from one ShopFileCabinets to another using ShopFloorManager's Menus!

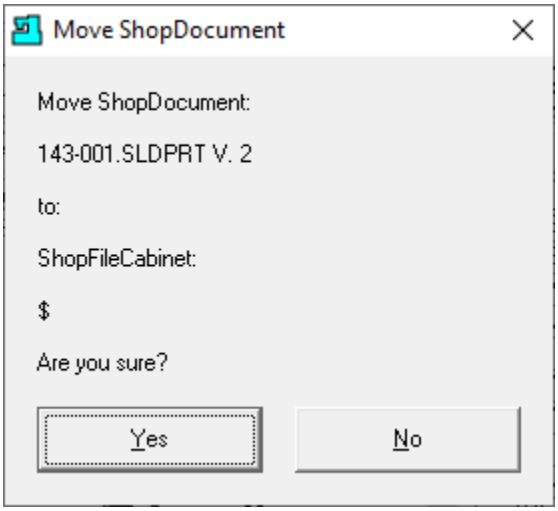
Highlight the Document of interest, right click the mouse on the Arrow Head next to the Document and click on the Move Current Item and the following Window is displayed.

Manage ShopDocuments (Complete Move from Project 1 to Root $ ShopFileCabinets)



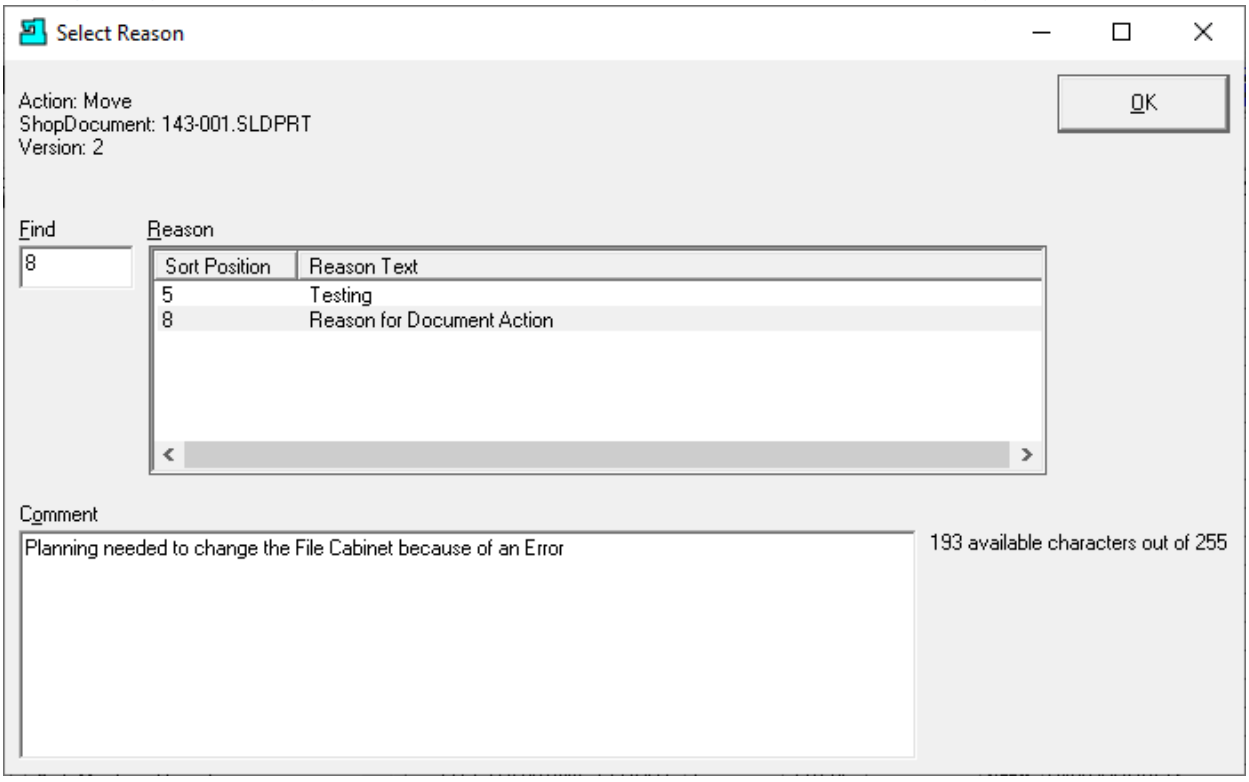
Right Click on the Root $ ShopFileCabinets and click the Complete Move Menu and the following Window will be displayed.

Manage ShopDocuments (Move from Project 1 to Root $ ShopFileCabinets)



Click the Yes Button and the following Window will be displayed.

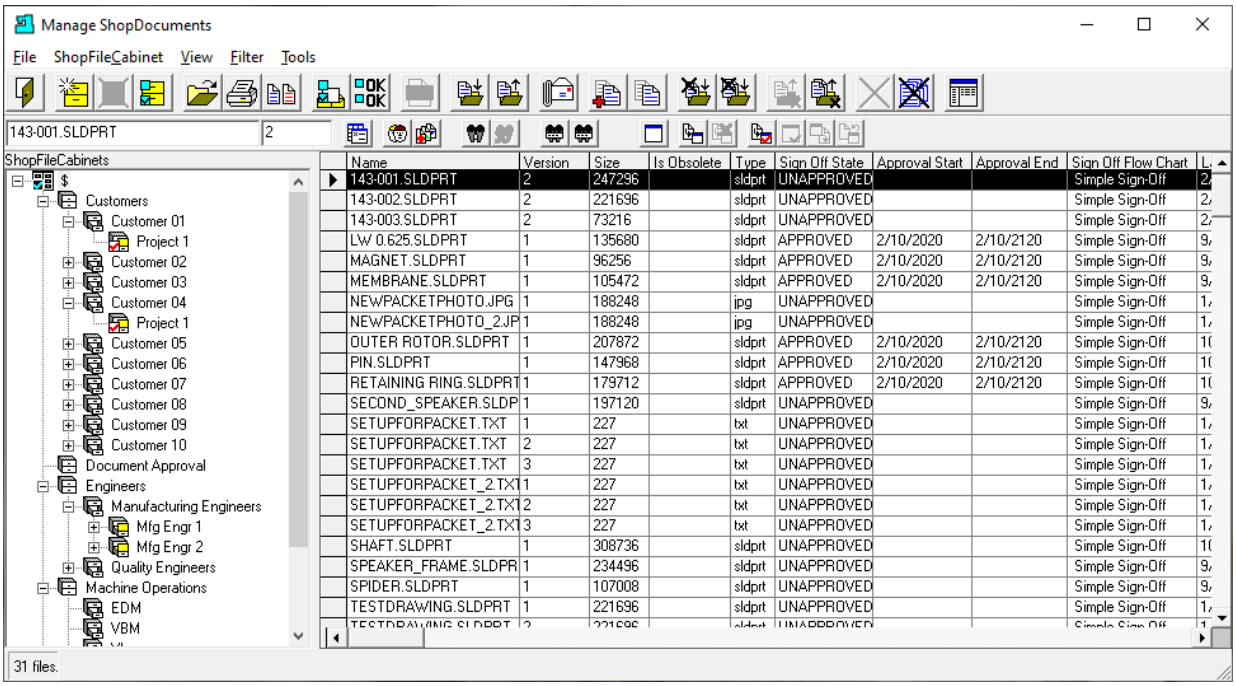
Manage ShopDocuments (Reason for Moving from Project 1 to Root $ ShopFileCabinets)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

Enter the Reason and click the OK Button and the following Window will be displayed.

Manage ShopDocuments (Document Moved from Project 1 to Root $ ShopFileCabinets)

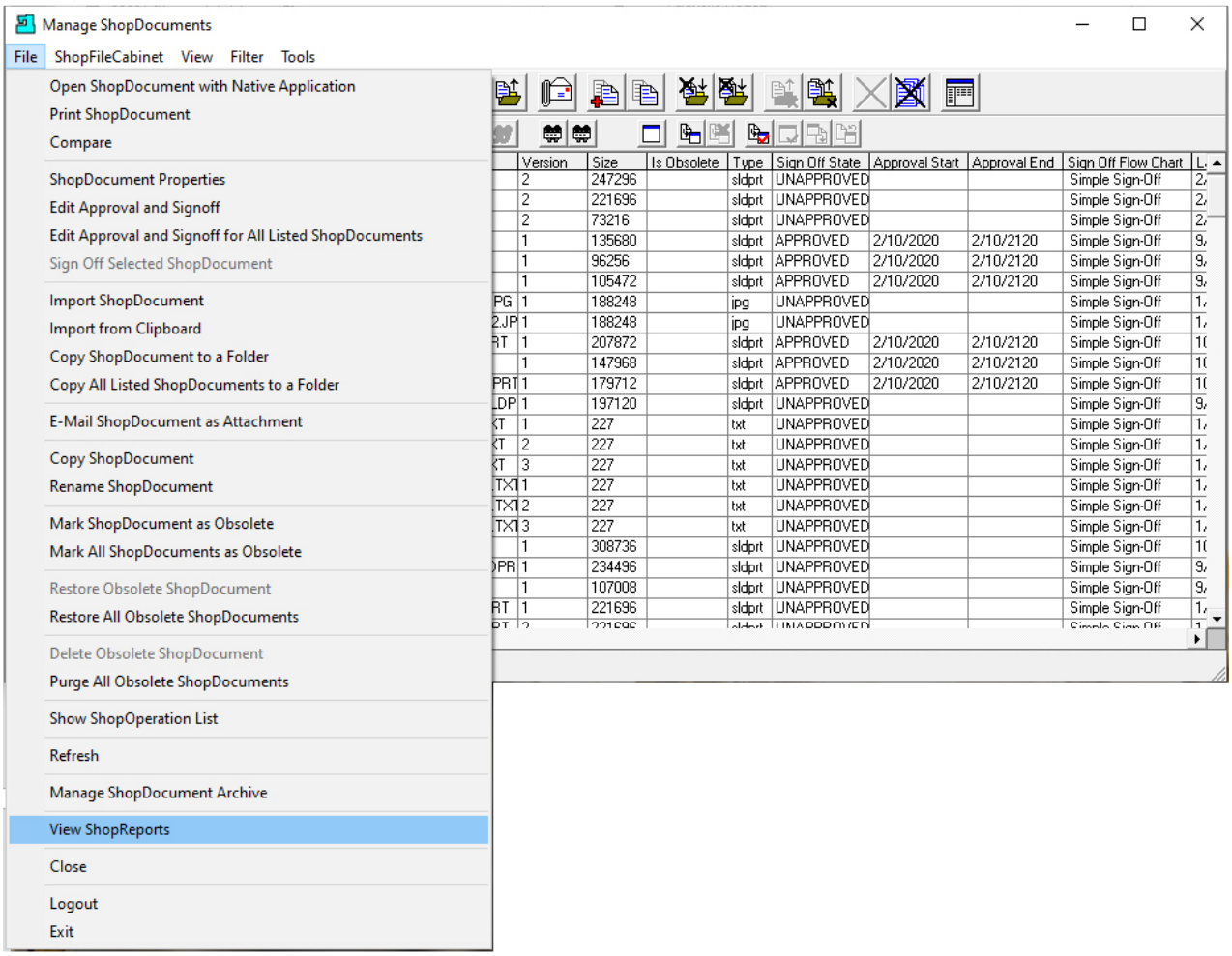


Name	Version	Size	Is Obsolete	Type	Sign Off State	Approval Start	Approval End	Sign Off Flow Chart
143-001.SLDPRT	2	247296		sldprt	UNAPPROVED			Simple Sign-Off
143-002.SLDPRT	2	221696		sldprt	UNAPPROVED			Simple Sign-Off
143-003.SLDPRT	2	73216		sldprt	UNAPPROVED			Simple Sign-Off
LW 0.625.SLDPRT	1	135680		sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
MAGNET.SLDPRT	1	96256		sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
MEMBRANE.SLDPRT	1	105472		sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
NEWPACKETPHOTO.JPG	1	188248		jpg	UNAPPROVED			Simple Sign-Off
NEWPACKETPHOTO_2.JP	1	188248		jpg	UNAPPROVED			Simple Sign-Off
OUTER ROTOR.SLDPRT	1	207872		sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
PIN.SLDPRT	1	147968		sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
RETAINING RING.SLDPRT	1	179712		sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
SECOND_SPEAKER.SLDP	1	197120		sldprt	UNAPPROVED			Simple Sign-Off
SETUPFORPACKET.TXT	1	227		txt	UNAPPROVED			Simple Sign-Off
SETUPFORPACKET.TXT	2	227		txt	UNAPPROVED			Simple Sign-Off
SETUPFORPACKET.TXT	3	227		txt	UNAPPROVED			Simple Sign-Off
SETUPFORPACKET_2.TXT	1	227		txt	UNAPPROVED			Simple Sign-Off
SETUPFORPACKET_2.TXT	2	227		txt	UNAPPROVED			Simple Sign-Off
SETUPFORPACKET_2.TXT	3	227		txt	UNAPPROVED			Simple Sign-Off
SHAFT.SLDPRT	1	308736		sldprt	UNAPPROVED			Simple Sign-Off
SPEAKER_FRAME.SLDPR	1	234496		sldprt	UNAPPROVED			Simple Sign-Off
SPIDER.SLDPRT	1	107008		sldprt	UNAPPROVED			Simple Sign-Off
TESTDRAWING.SLDPRT	1	221696		sldprt	UNAPPROVED			Simple Sign-Off

As you can see the Document was moved successfully to the Root $ ShopFileCabinet.

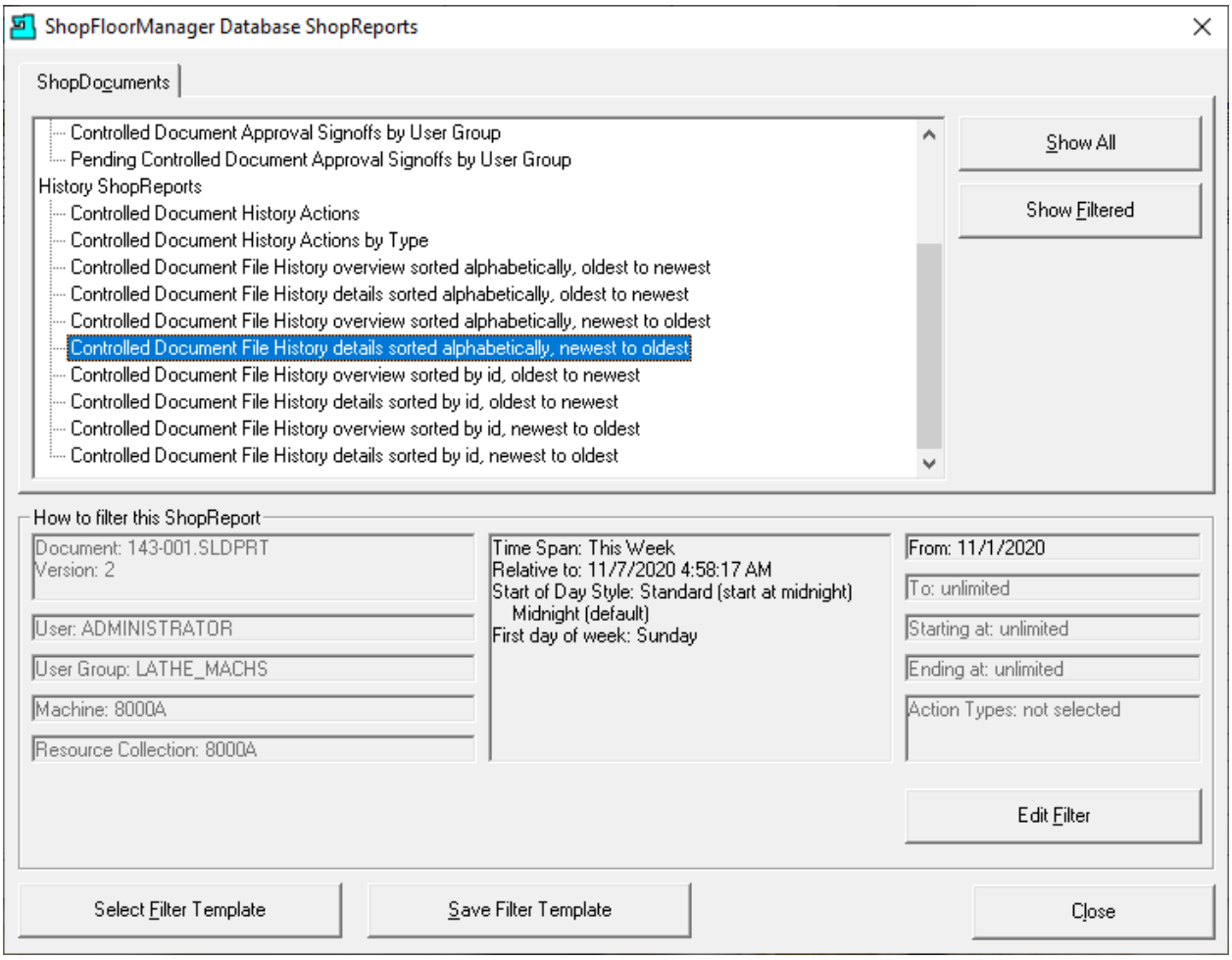
Let's take a bit of a diversion and take a look at the History of this document to see that this move was recorded in the Document Histories. As a note we had previously set the system to record Document Histories! See the Following Window!

Manage ShopDocuments (File Menu select View ShopReports)



Click on the File Menu and then the View ShopReports Menu and the following Window is displayed.

Manage ShopDocuments (ShopDocuments History ShopReports)

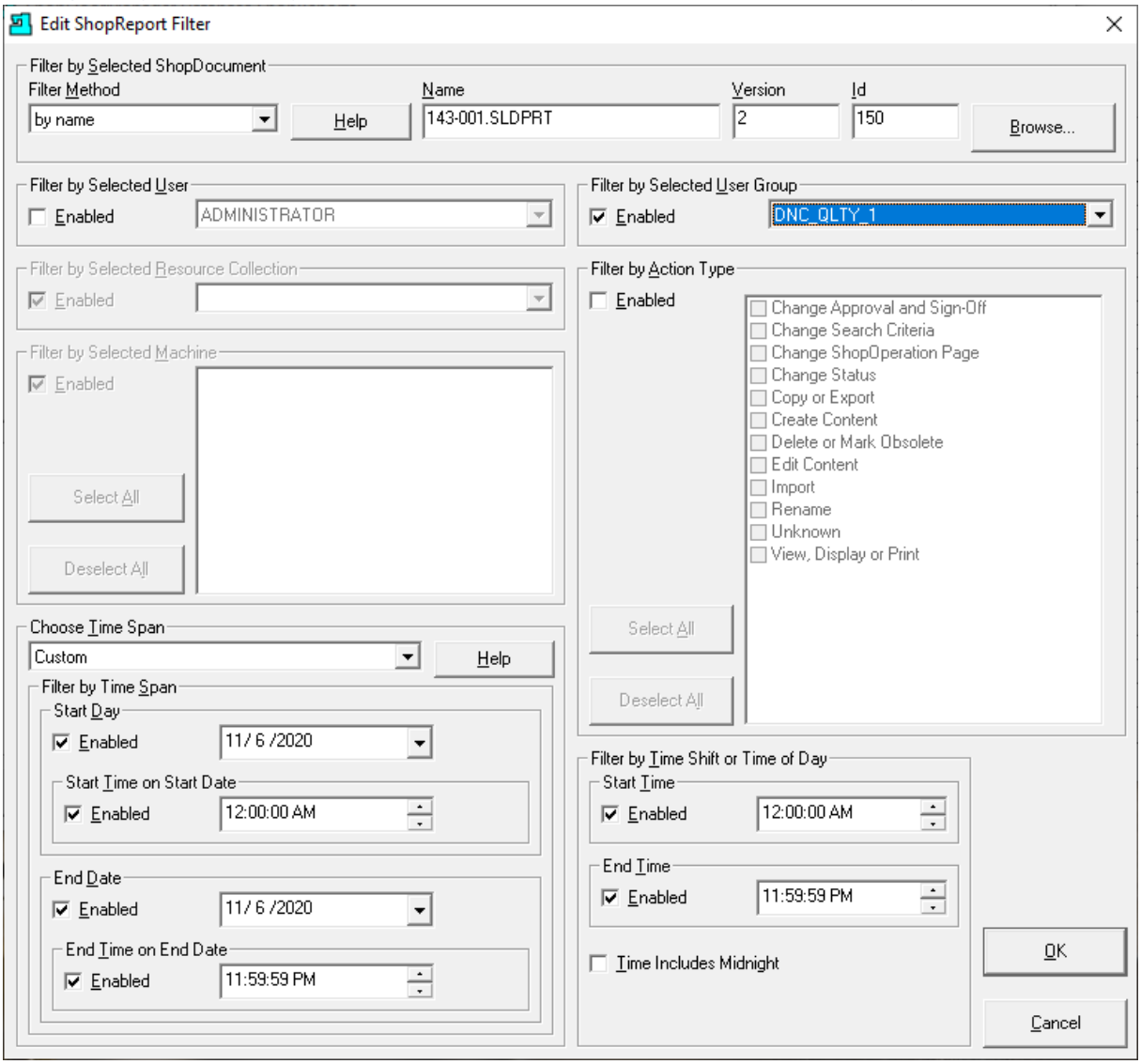


This Window provides access to all of the ShopDocuments ShopReports that are available. Without getting too deep into the workings let's investigate the basic procedures you would use to generate a history report on the Document 143-001.SLDRT.

As there maybe thousands of documents we need a way of narrowing down the search for locating these ShopDocument. That's where the "Edit Filter" comes in handy.

Click on the "Edit Filter" Button and the following Window is displayed.

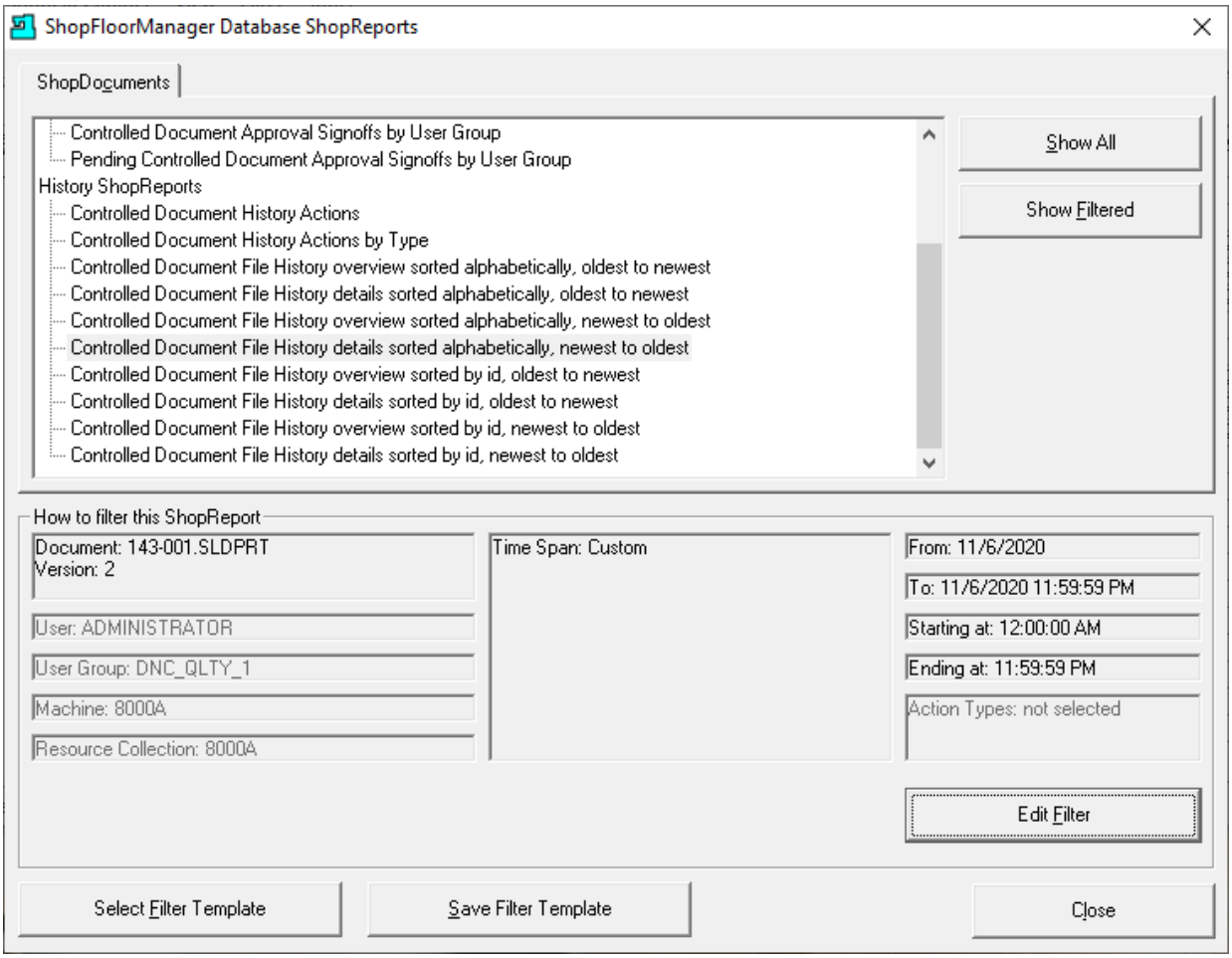
Manage ShopDocuments (ShopDocuments History ShopReports Edit ShopReports Filter)



This Form is used to narrow down the search options for any particular file or files according to configured settings! We won't get into the nitty gritty, but it is obvious by looking at the Form above how these settings effect the search.

Click the OK Button and the following Window is displayed.

Manage ShopDocuments (ShopDocuments History ShopReports – After updating Edit Filter)



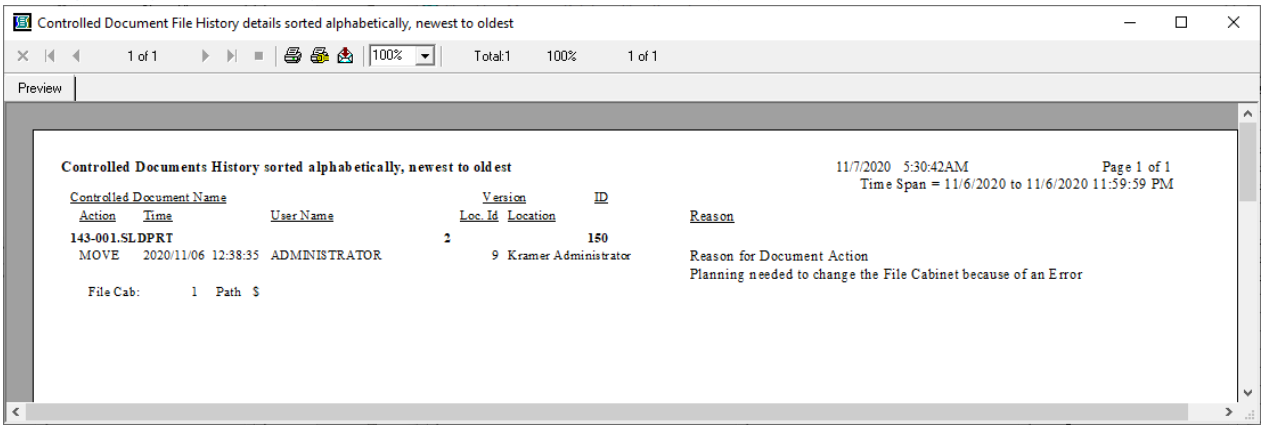
You will notice that at the bottom on the Filter Page the Sections “How to filter this “ShopReport” now displays the changes made to the ShopReport Filter.

To generate a ShopReport you have two Buttons that you can select. “Show All” and “Show Filtered”. Selecting the “Show All” will display all of the records that are available which in the case you had thousands of ShopDocuments would not be helpful!

Selecting the “Show Filtered” would us the setting configured in the ShopReport Filter which would narrow the search considerably!

Click on the “Show Filtered” Button and the following Window is displayed.

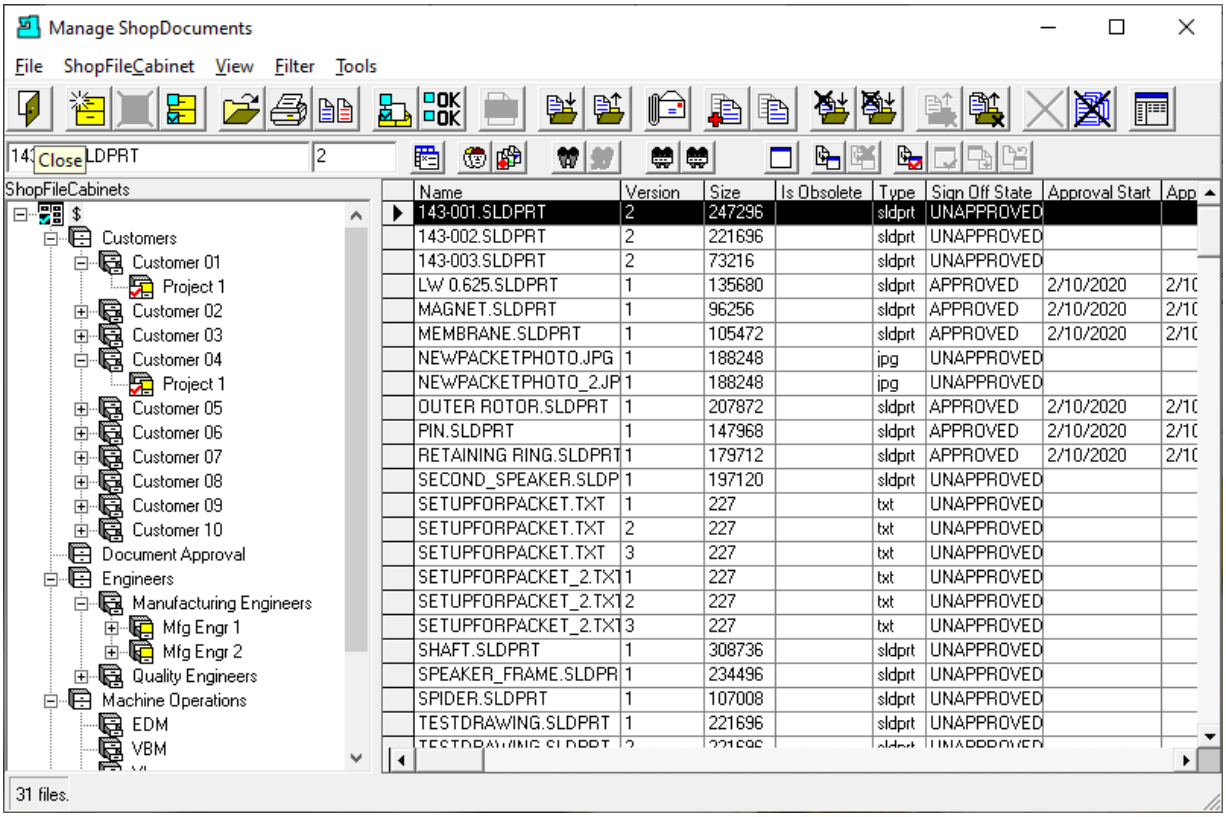
Manage ShopDocuments (ShopDocuments History ShopReports)



See the Record including the date/time when the Document Was moved! See ShopReports for more Details.

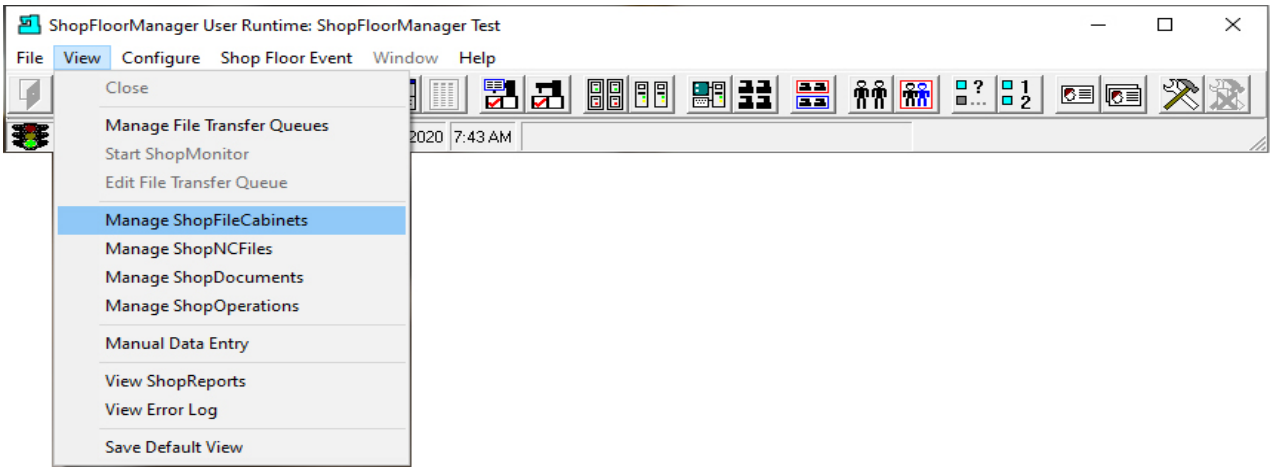
Close this report and the ShopFloorManager ShopReports Window and the following Window is displayed.

Manage ShopDocuments (Document Moved from Project 1 to Root $ ShopFileCabinets)



We have finished this section so click the Close Icon to proceed.

Manage ShopFileCabinets (All You've Ever Wanted To Know About Virtual File Cabinets)

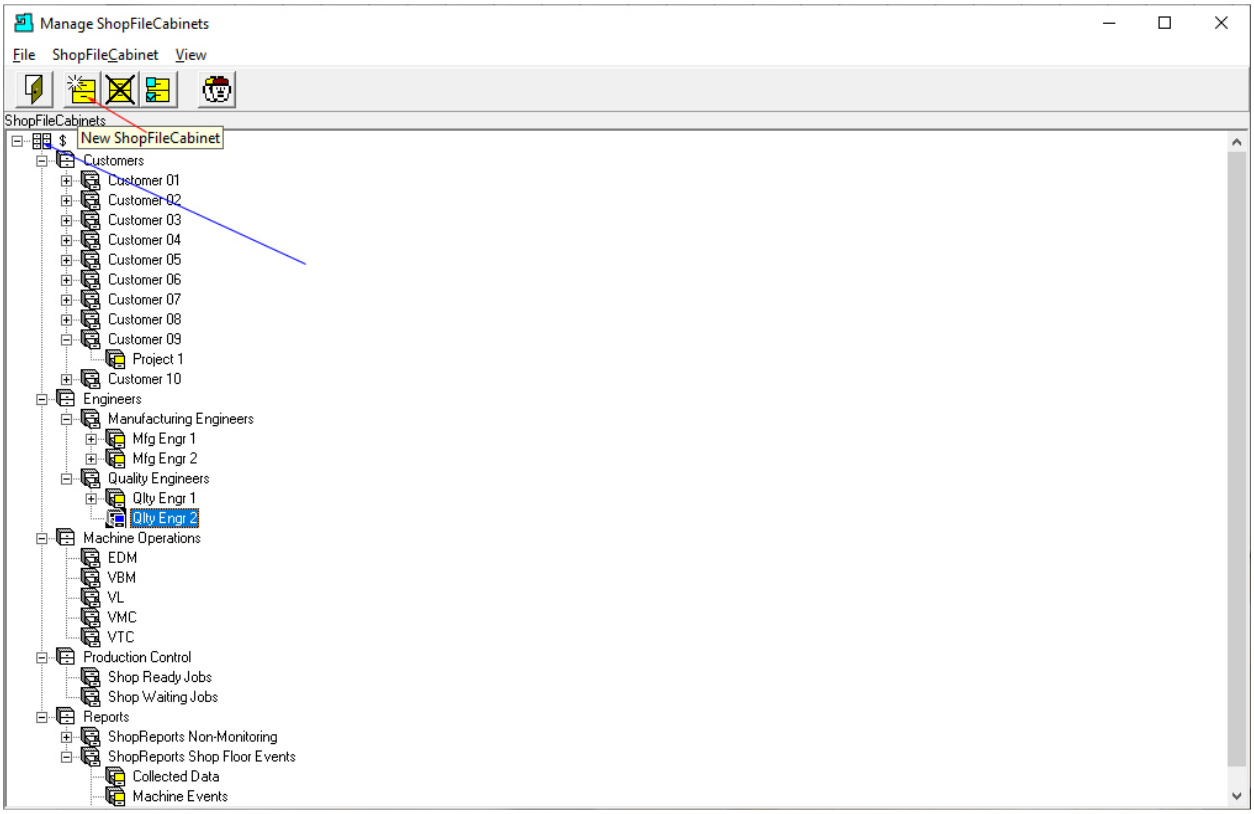


Let see how ShopFloorManager uses one of its "Document" Control Features to provide security, quick 'Document' location, control & reports for a complete 'Document' Management system!

We will be covering multiple ShopFloorManager features that are of importance to Document Control.

Click on the View Menu then click on the Manage ShopFileCabinets Menu and the following Window will be displayed.

Manage ShopFileCabinets (Existing Structure)

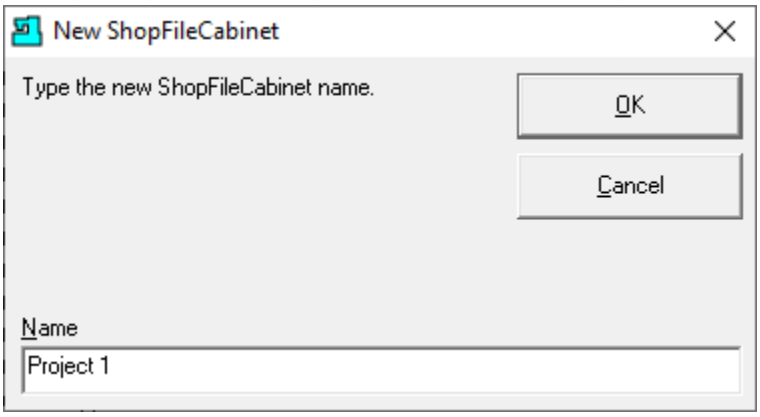


Click on the ShopFileCabinets Quality Engr 2. When we create a new ShopFileCabinets it will become a "Draw" in this ShopFileCabinet". See **red** arrow above!

Note: See the **blue** arrow signifying the Root $ ShopFileCabinet.

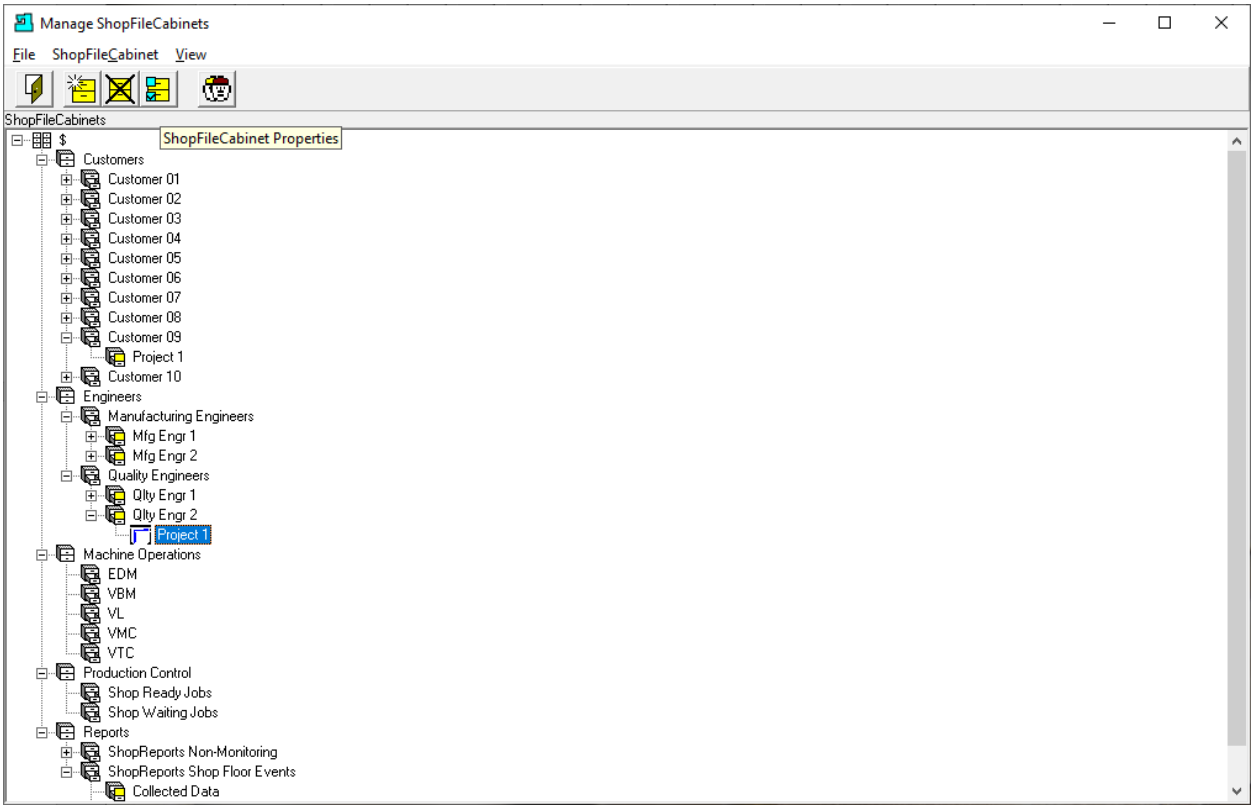
Now click on the "New ShopFileCabinets Icon and the following Window will be displayed.

Manage ShopFileCabinets (Create new ShopFileCabinet)



Let's name this ShopFileCabinet 'Project 1. Click the OK Button and the following Window will be displayed.

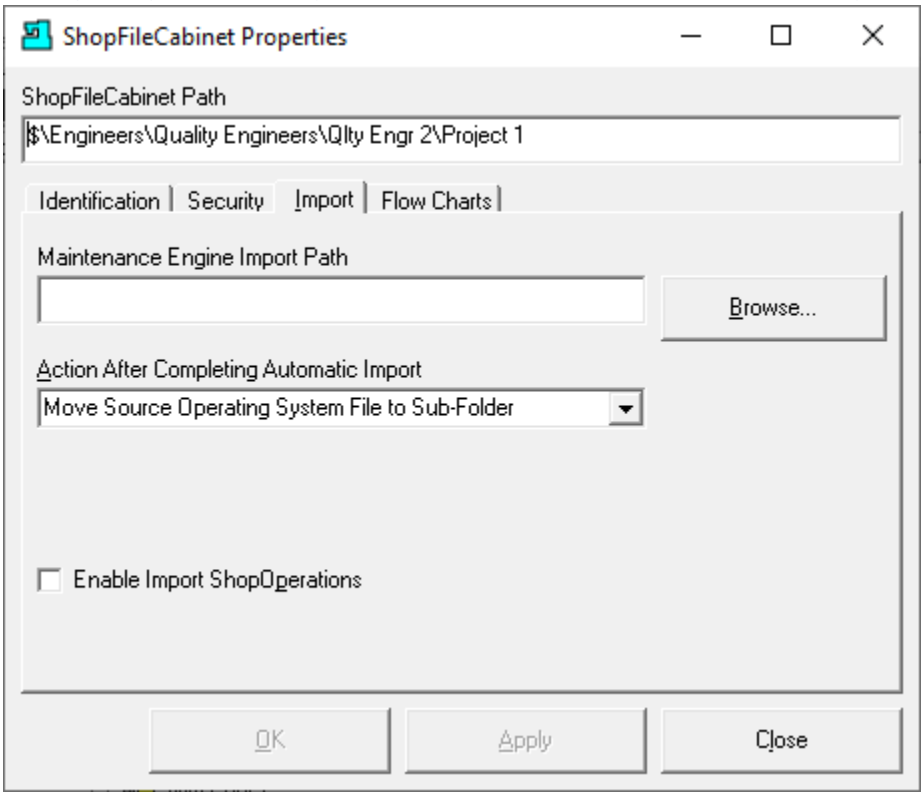
Manage ShopFileCabinets (Qlty Engr 2 sub-Cabinet Project 1)



We need to set security on this “ShopFileCabinets”. Make sure the “ShopFileCabinets” Project 1 is highlighted as shown above.

Click on the ShopFileCabinets Properties Icon and the following Window will be displayed.

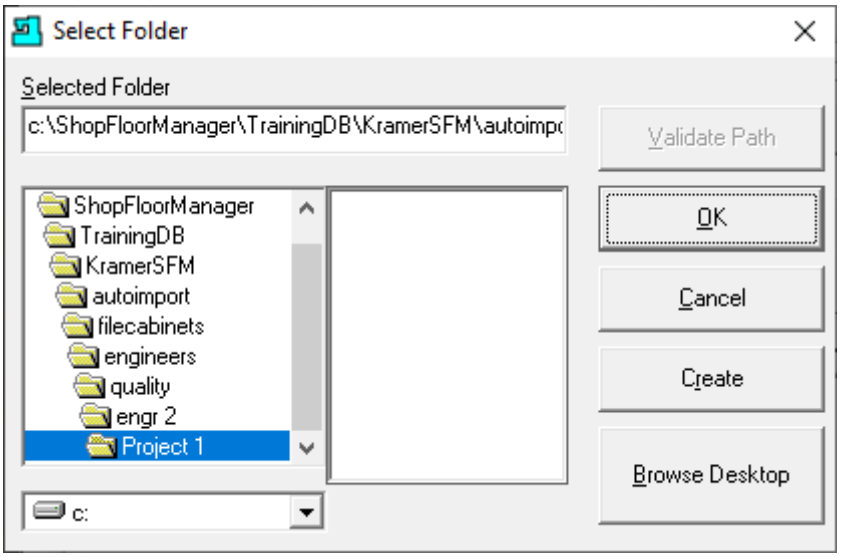
Manage ShopFileCabinets (ShopFileCabinet Properties Document Import Path)



This Window is used to select & set several “ShopFileCabinets” properties. We have chosen the Tab Import allowing us to set a path/folder for place where ShopDocuments can be deposited for Importing directly into this ShopFileCabinet. Any ShopDocuments that are place in this folder will be imported into this ShopFileCabinets. The Maintenance Engine must be running to active importing!

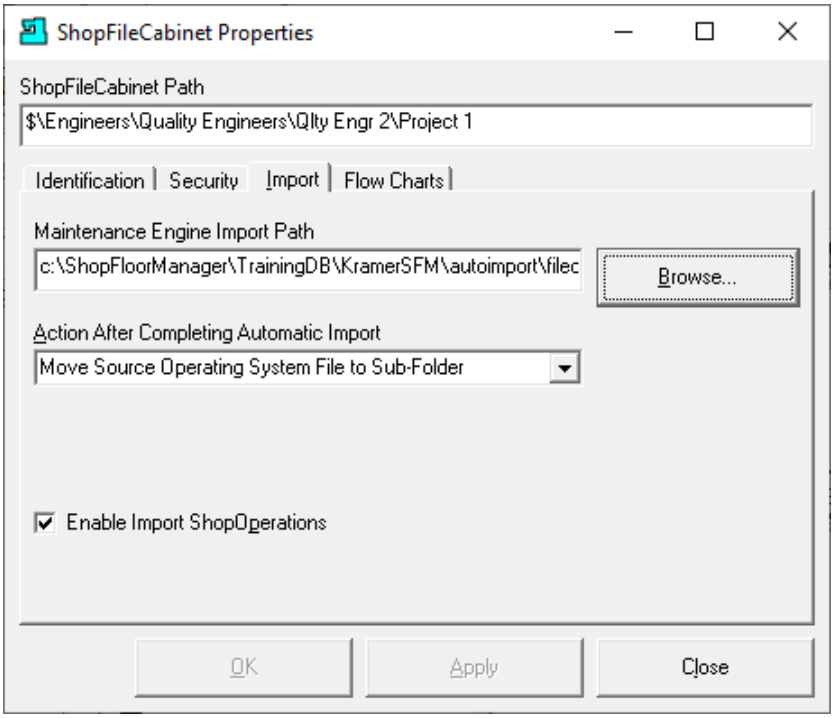
Click on the Browse Button and select the Folder for Importing either ShopDocuments and or ShopOperations and the following Window will be displayed. Generally, this folder is located in the Folder that contains the Data Folder!

Manage ShopFileCabinets (ShopFileCabinet Path Selection)



Click the OK Button and the following Window will be displayed.

Manage ShopFileCabinets (ShopFileCabinet Properties with Selected Import Path)

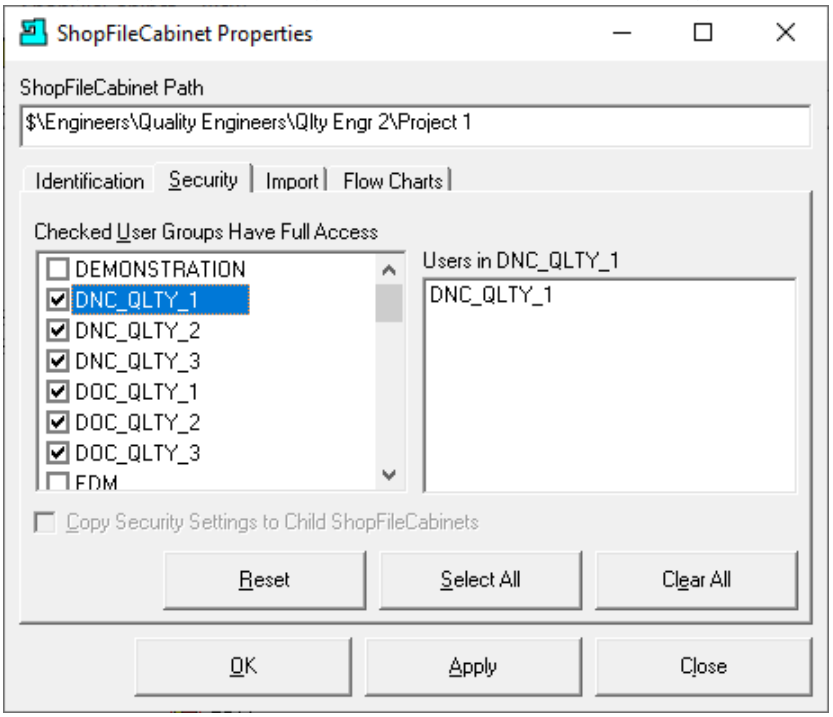


Note:

1. The Maintenance Engine must be running for importing.
2. Whenever possible use Network Paths!

That click on the Security Tab and the following Window will be displayed.

Manage ShopFileCabinets (ShopFileCabinet Properties Security)



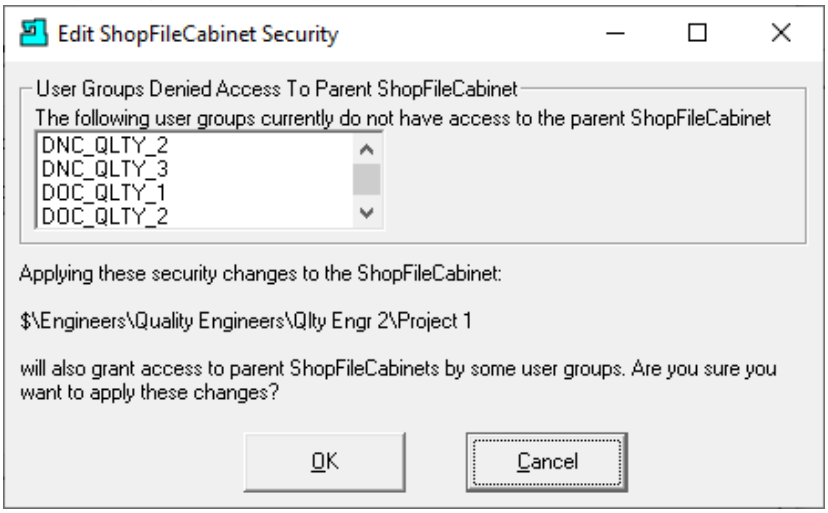
All access to “Resources” in ShopFloorManager is controlled via User Groups. ShopFileCabinets is designed to use User Groups access “Rights” for providing ShopFileCabinets security!

In the Window above select the User Groups you wish to grant access to this “ShopFileCabinet”. Once selected all the selected User Group’s Users will have access to this “ShopFileCabinet”.

Note: If there are ShopNCFiles, ShopDocuments and or ShopOperations contained in a ShopFileCabinet a User needs access privileges to access them.

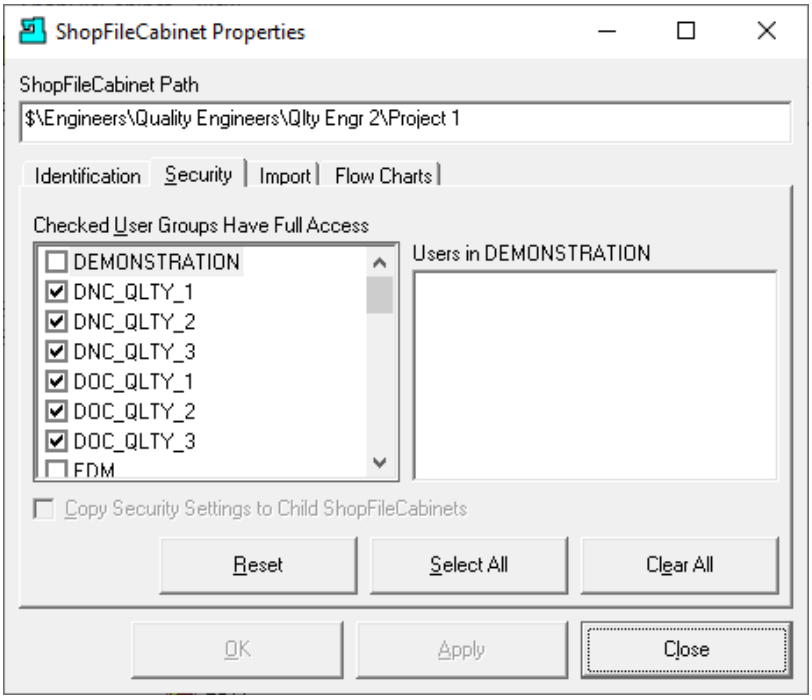
Click the Apply Button and the following Window will be displayed.

Manage ShopFileCabinets (ShopFileCabinet Properties Edit ShopFileCabinets Security Quality)



This is informational notifying the User once the OK Button is clicked all Users in this User Group will have access to this “ShopFileCabinets”. Click the OK Button and the following Window will be displayed.

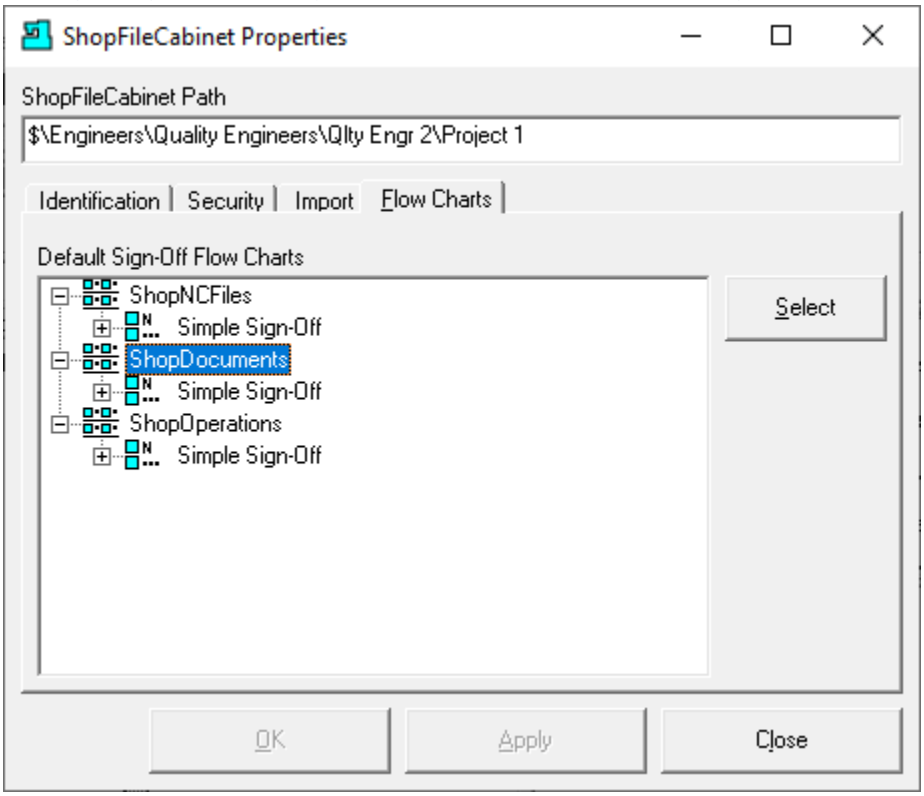
Manage ShopFileCabinets (ShopFileCabinet Properties Edit ShopFileCabinets Security Updated)



These selected User Groups & their Users are granted access to this “ShopFileCabinets”.

Click on the Flow Charts Tab and the following Window will be displayed.

Manage ShopFileCabinets (ShopFileCabinet Properties Flow Charts)



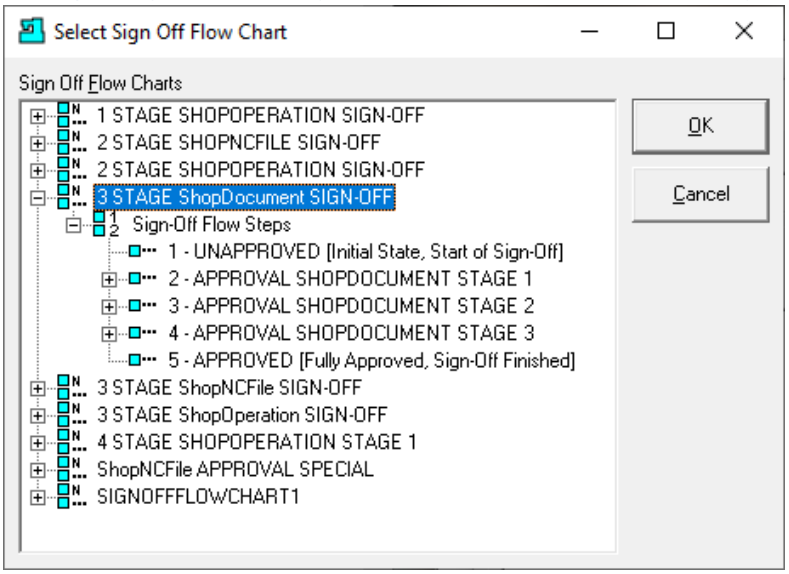
This Flow Chart Form determines which Sign Off Flow Chart is assigned to a newly imported ShopDocuments or ShopOperations if Enabled. I.E. Import by Maintenance Engine or Drag-Drop!

If you do NOT select a template Sign-Off Flow Chart in this Form, then any time you import a new ShopDocument or ShopOperations SFM will automatically associate a Simple Sign-Off Flow Chart to this new ShopDocument or ShopOperation!

You can select a more robust Sign Off Flow Chart if you wish. Highlight the ShopDocuments Icon and click the Select Button and the following Window is displayed.

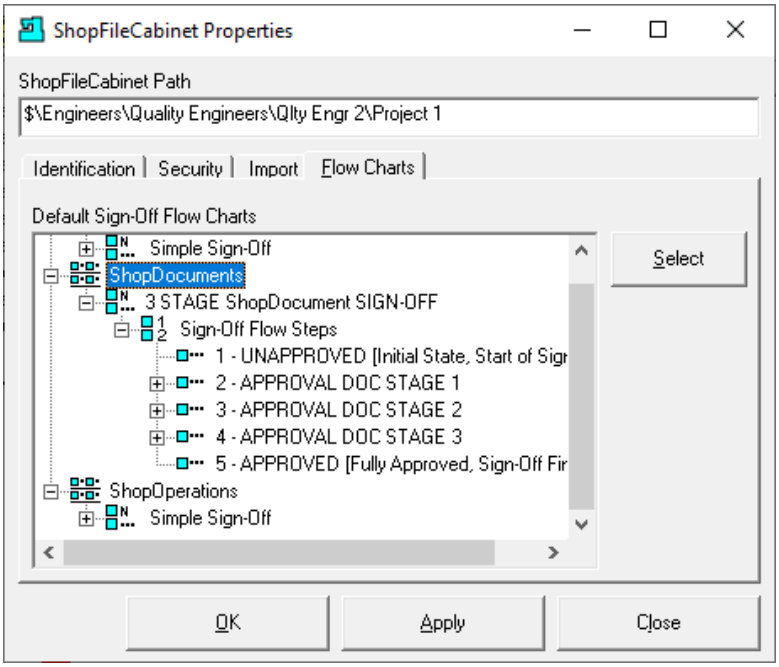
Note: You can repeat the previous Process for ShopOperations if needed!

Manage ShopFileCabinets (ShopFileCabinet Properties Flow Charts)



Let's select the THREE STAGE DOC SIGN-OFF Methodology and click the OK Button and the following Window is displayed.

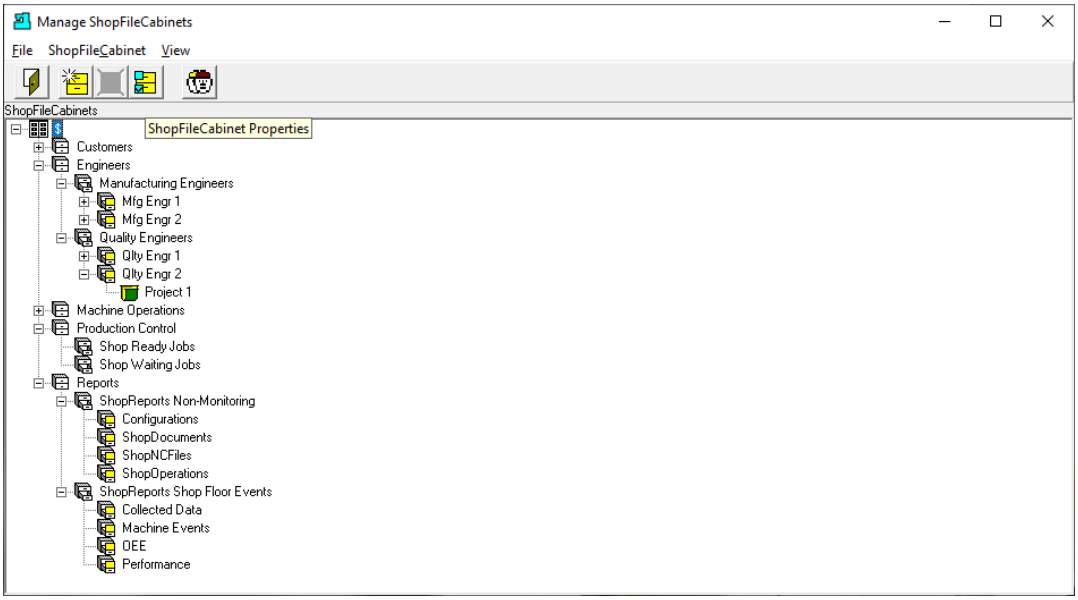
Manage ShopFileCabinets (ShopFileCabinet Properties Flow Charts Updated)



We are now finished "ShopFileCabinets" so click the Apply Button to save Changes and the Close Button and the following Window is displayed.

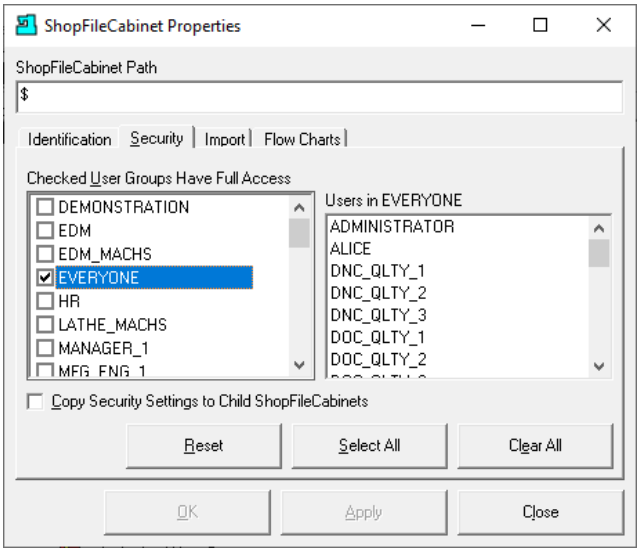
Note: Click here to find out more information about Approval Methodology!

Manage ShopFileCabinets ($ Root)



The Root $ ShopFileCabinets is of special interest since every new ShopNCFile, ShopDocument & ShopOperation created is associated with it by default unless you specifically associate with another ShopFileCabinet. Click on the ShopFileCabinet Properties Icon and the following Window is displayed!

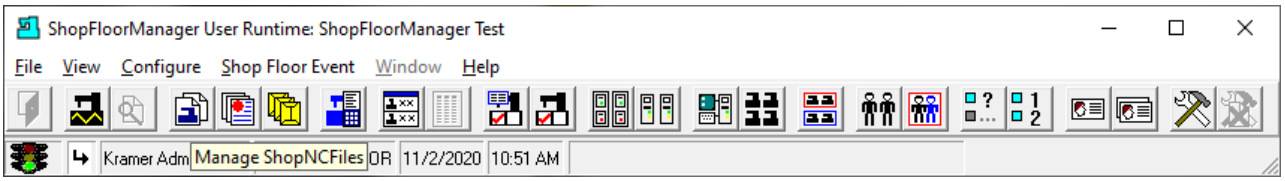
Manage ShopFileCabinets (ShopFileCabinet Properties – Security Everyone)



The User Group Everyone is always checked thus all Users have access to any ShopNCFile, ShopDocument & ShopOperation contained in the Root $ ShopFileCabinet! In general, you would not check the “Copy Security Settings to Child ShopFileCabinets” but chose for each of the other individual ShopFileCabinets!

Click on the Close Button and then close the Manage ShopFileCabinets Window. Let’s Continue.

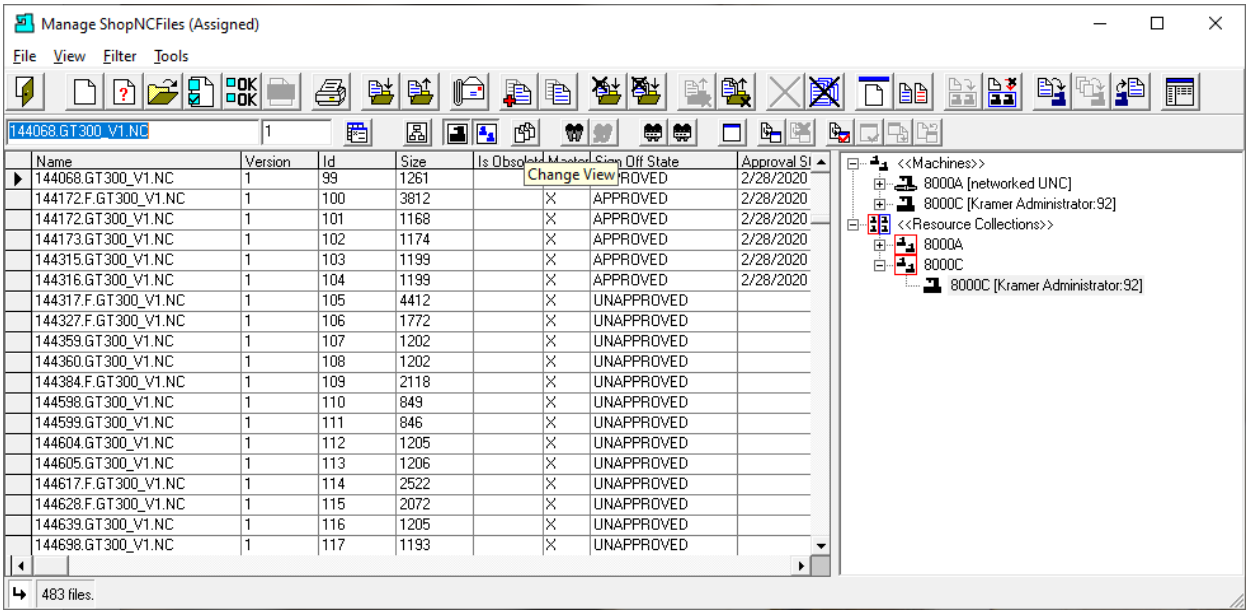
Manage ShopNCFiles – ShopDNC (Where ShopNCFiles Live & CNC Communications Start!)



This section investigates everything dealing with ShopNCFiles (ShopDNC) from "Creation" to "Death"!

Click on the Manage ShopNCFiles Icon and the following Window will be displayed.

Manage ShopNCFiles (Change View)



Name	Version	Id	Size	Is Obsolete	Master	Sign Off State	Approval St
144068.GT300_V1.NC	1	99	1261			ROVED	2/28/2020
144172.F.GT300_V1.NC	1	100	3812		X	APPROVED	2/28/2020
144172.GT300_V1.NC	1	101	1168		X	APPROVED	2/28/2020
144173.GT300_V1.NC	1	102	1174		X	APPROVED	2/28/2020
144315.GT300_V1.NC	1	103	1199		X	APPROVED	2/28/2020
144316.GT300_V1.NC	1	104	1199		X	APPROVED	2/28/2020
144317.F.GT300_V1.NC	1	105	4412		X	UNAPPROVED	
144327.F.GT300_V1.NC	1	106	1772		X	UNAPPROVED	
144359.GT300_V1.NC	1	107	1202		X	UNAPPROVED	
144360.GT300_V1.NC	1	108	1202		X	UNAPPROVED	
144384.F.GT300_V1.NC	1	109	2118		X	UNAPPROVED	
144598.GT300_V1.NC	1	110	849		X	UNAPPROVED	
144599.GT300_V1.NC	1	111	846		X	UNAPPROVED	
144604.GT300_V1.NC	1	112	1205		X	UNAPPROVED	
144605.GT300_V1.NC	1	113	1206		X	UNAPPROVED	
144617.F.GT300_V1.NC	1	114	2522		X	UNAPPROVED	
144628.F.GT300_V1.NC	1	115	2072		X	UNAPPROVED	
144639.GT300_V1.NC	1	116	1205		X	UNAPPROVED	
144698.GT300_V1.NC	1	117	1193		X	UNAPPROVED	

The Manage ShopNCFiles Window is the busiest Window in ShopFloorManager. There are multiple views available for viewing ShopNCFiles and their relationships with Resource Collections, Machine Tools, ShopFileCabinets, Organization Units and the various States these files are in such as: Assigned, Unassigned, Approved, Unapproved, Obsolete, etc.

Let's look at the different views of these relationships and file States.

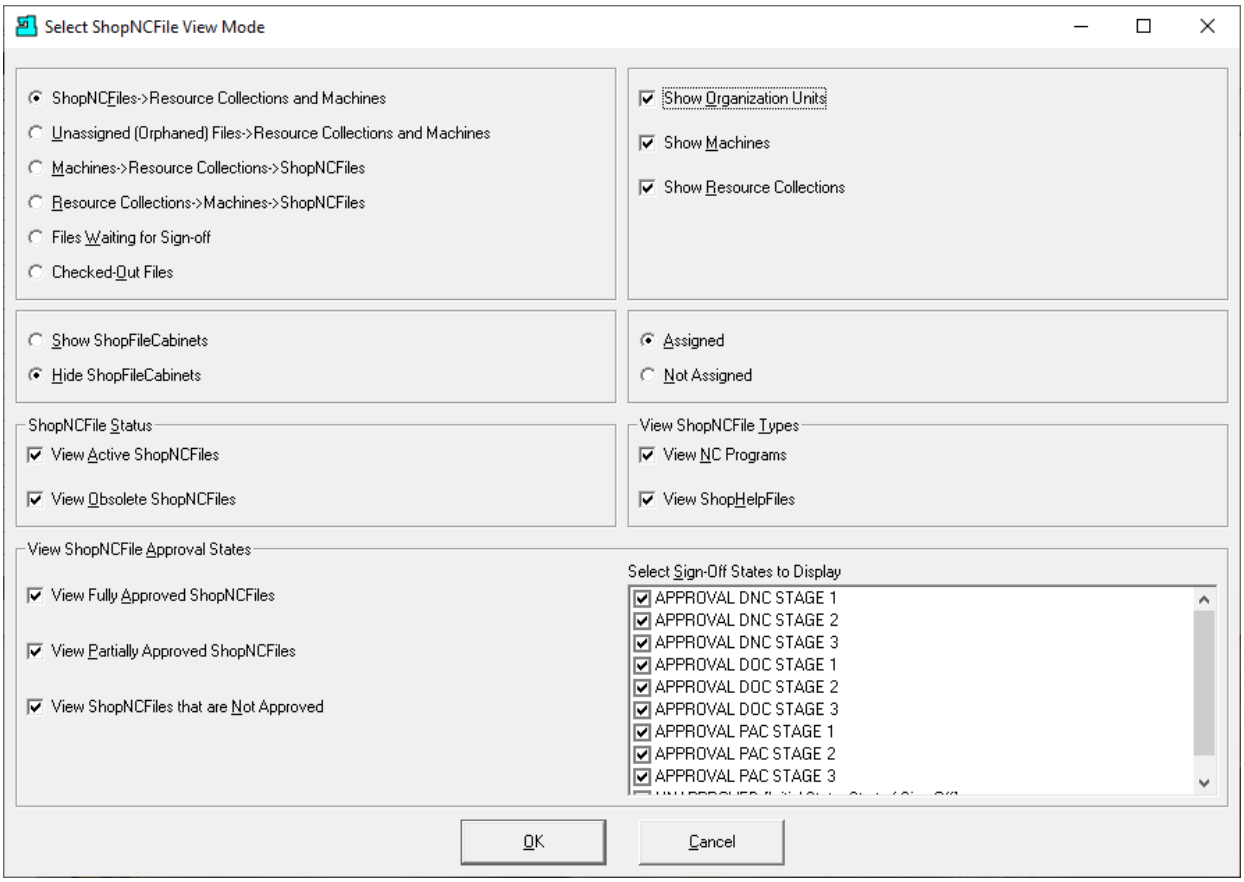
Before we look at these different Relationship Views, please note the view above is one of the most useful of all Relationship views! If you are in a different view and are not sure of the file relationships, go back to this View and select the file of interest.

ShopFloorManager will always maintain the present relationships if you don't select another File. **When changing views always click the Refresh Icon to update the view**! See the Refresh Icon at the right end of the top most Icons!

Let's look at an example where this is useful! We have chosen the File 'Watch This File' in this View.

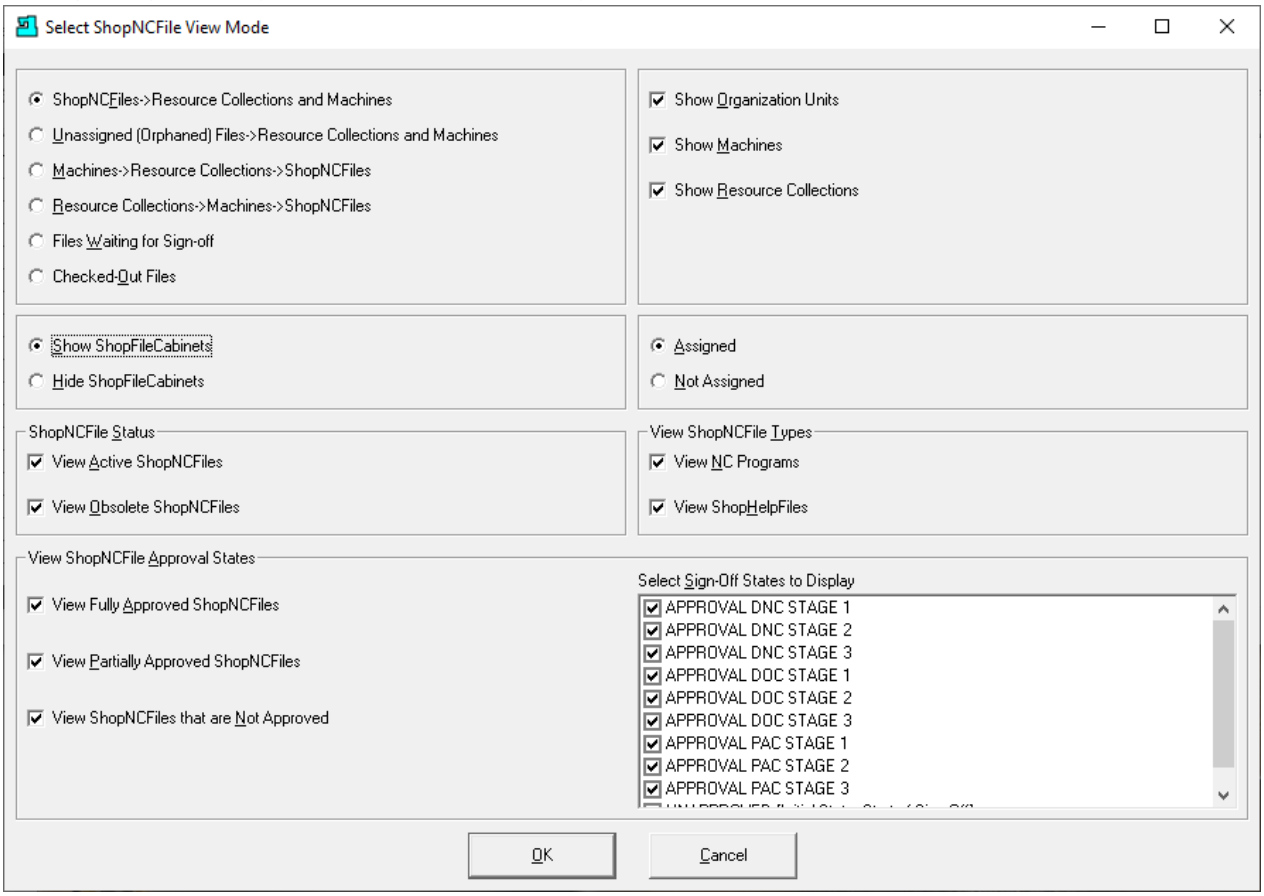
Click on the "Change View" Icon and the following Window will be displayed.

Manage ShopNCFiles (Select ShopNCFile View Mode)



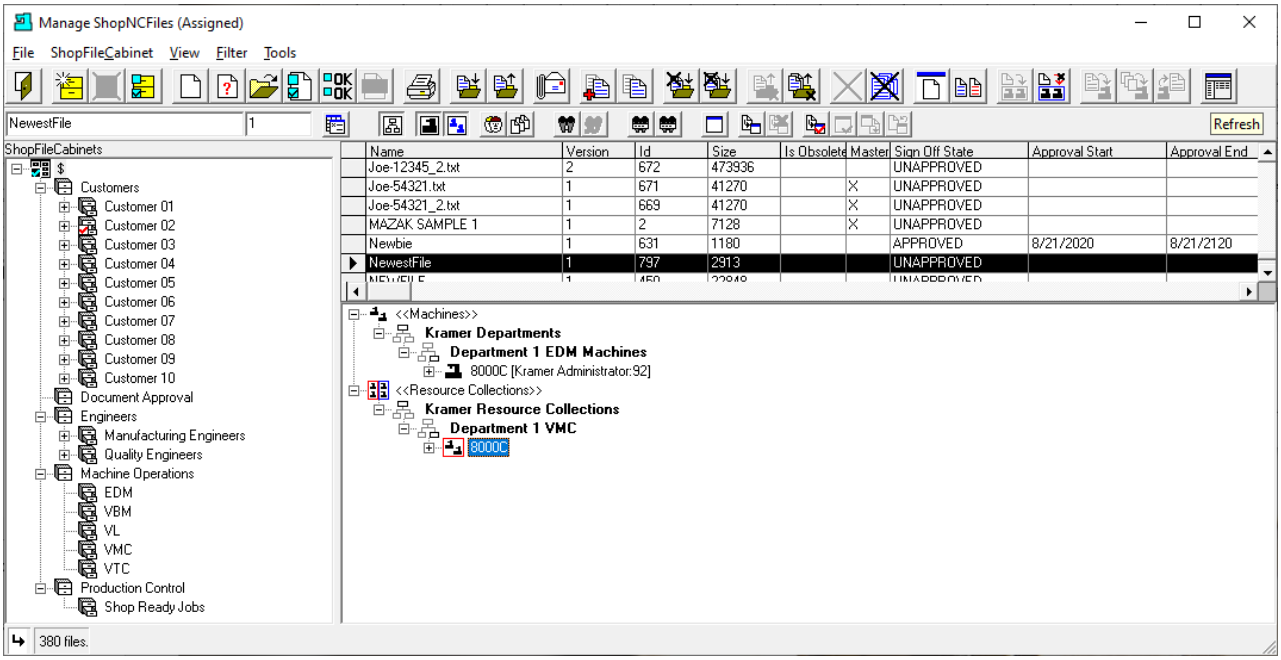
The previous View was generated based on options chosen above. Let's change one of the options and generate a new View. See the following Window with the changed options.

Manage ShopNCFiles (Select ShopNCFile View Mode)



We have changed the View to 'Show ShopFileCabinets' Click the OK Button and the following Window will be displayed.

Manage ShopNCFiles (Modified View)



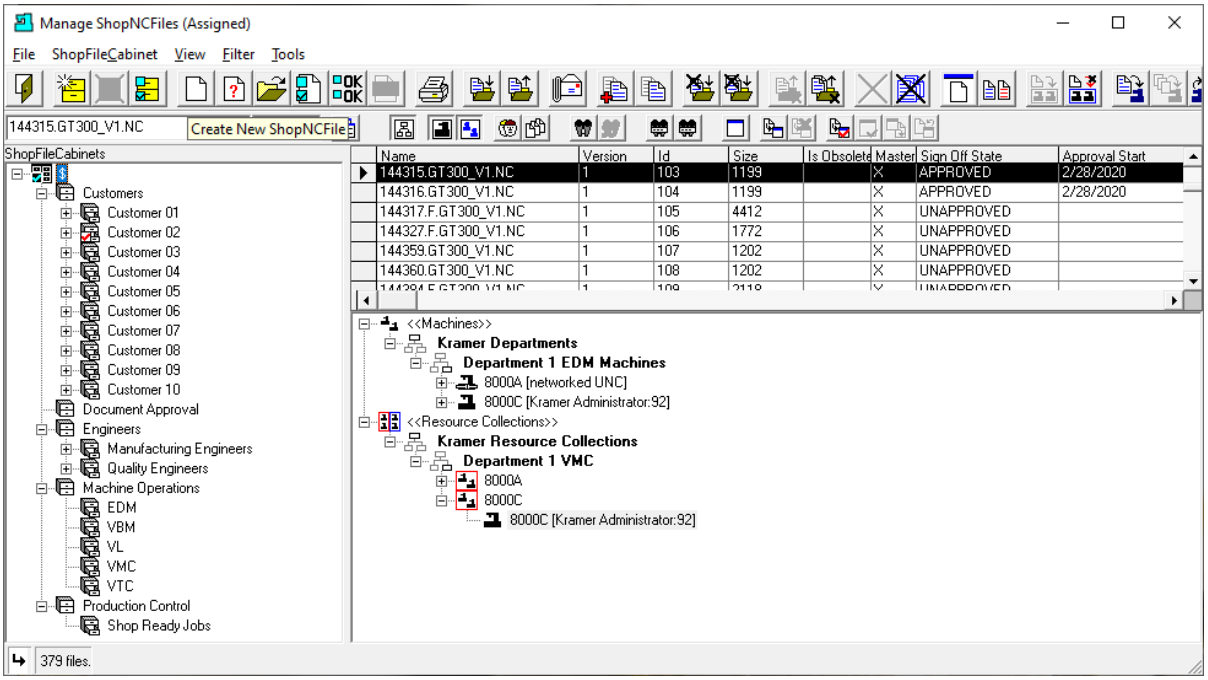
First thing to do is to click the Refresh Icon! As you can see even though we changed the View the previous relationships are clearly maintained.

Th File NewestFile is associate with the Root $ ShopFileCabinets & the Resource Collections 8000C and any associate Machine Tool.

We will use this view to visit and explain each of the Functions. We will only deal with Functions that directly deal with ShopNCFiles.

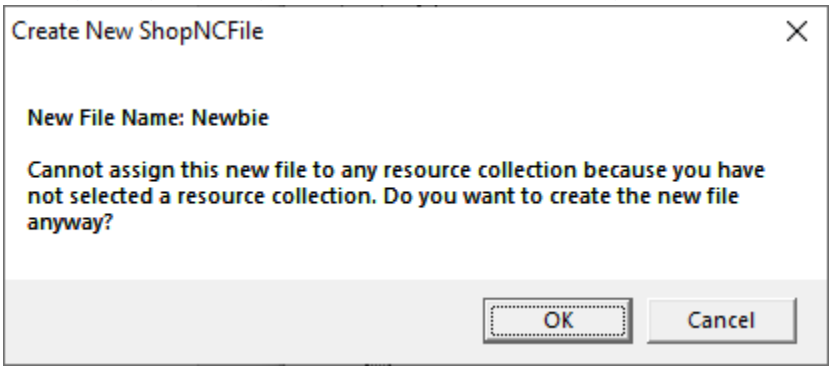
Next, we will show have create a new ShopNCFile.

Manage ShopNCFiles (Create New ShopNCFile)



First enter the name of a New File (Newbie) in the File Window text block and click the Create New ShopNCFile Icon and the following Window will be displayed.

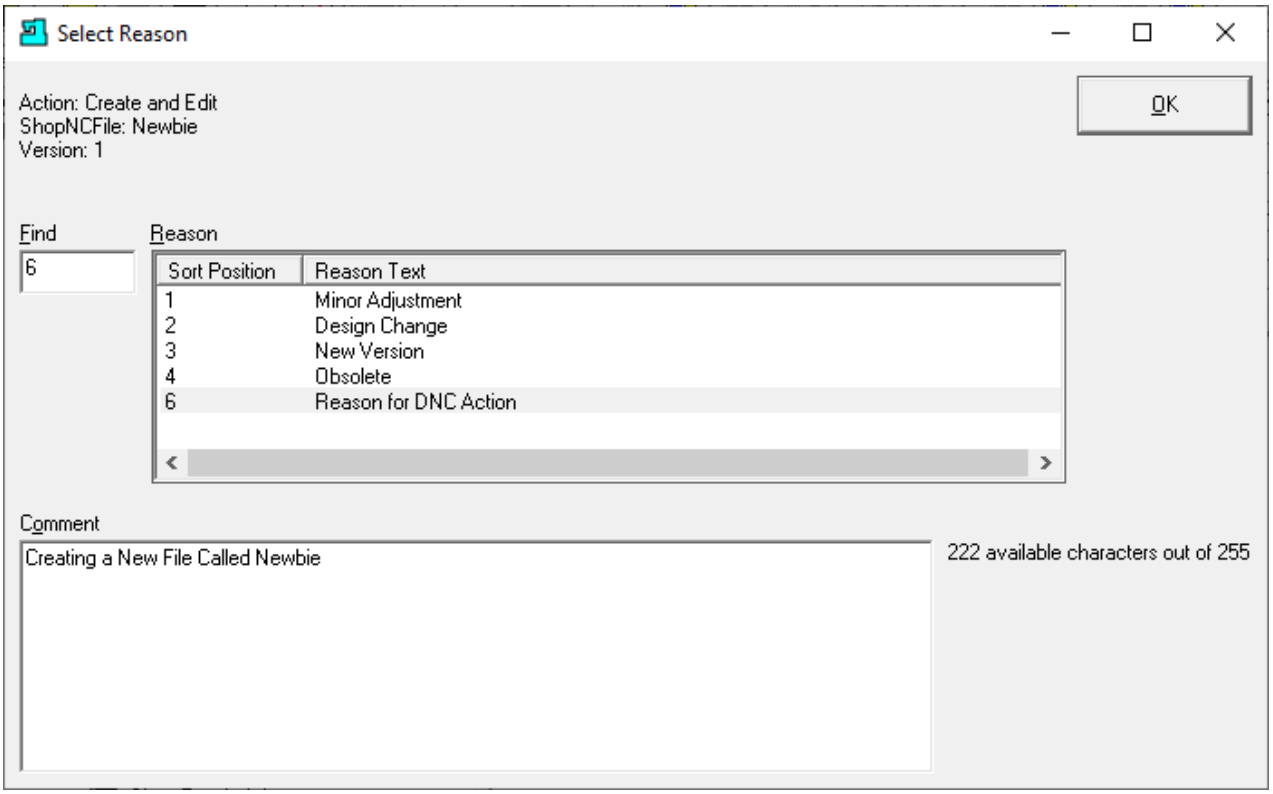
Manage ShopNCFiles (Create New ShopNCFile Warning)



Cancel and associate this file with the Resource Collections 8000C by highlighting the Resource Collection 8000C and the Root ShopFileCabinets ($)!

Now click the “Create New ShopNCFile” Icon and the following Window will be displayed.

Manage ShopNCFiles (Select Reason)



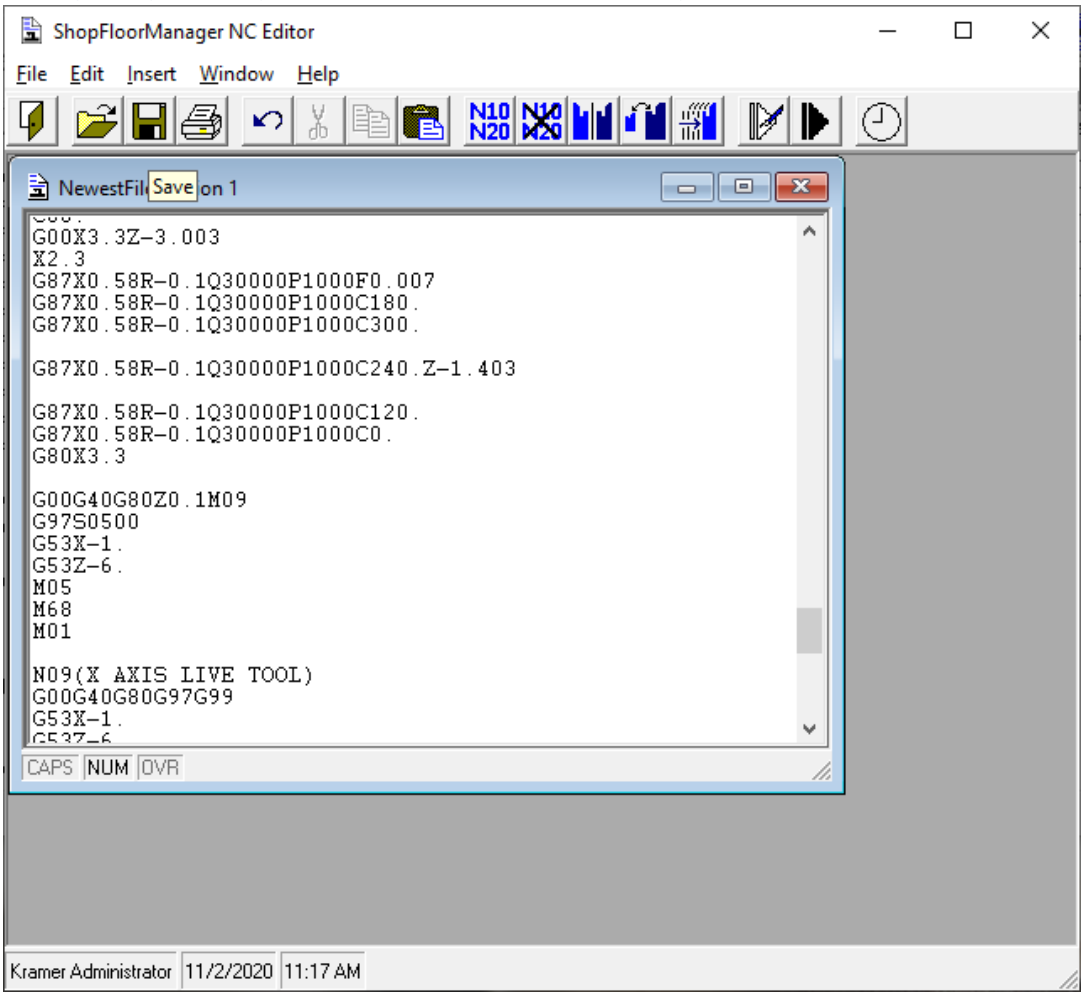
If Enable History Logging and ShopReports was set this or similar Window will be displayed. Select a Reason Topic and supply a brief comment.

The User is asked to select a reason and enter a brief description why the file was Changed!

This data will be used in the various generated ShopReports for Company & ISO Reports!

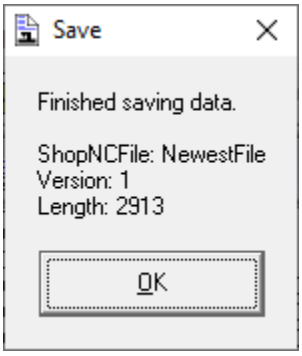
Click the OK Button and the following Window will be displayed.

Manage ShopNCFiles (ShopFloorManager's NC Editor Newbie)



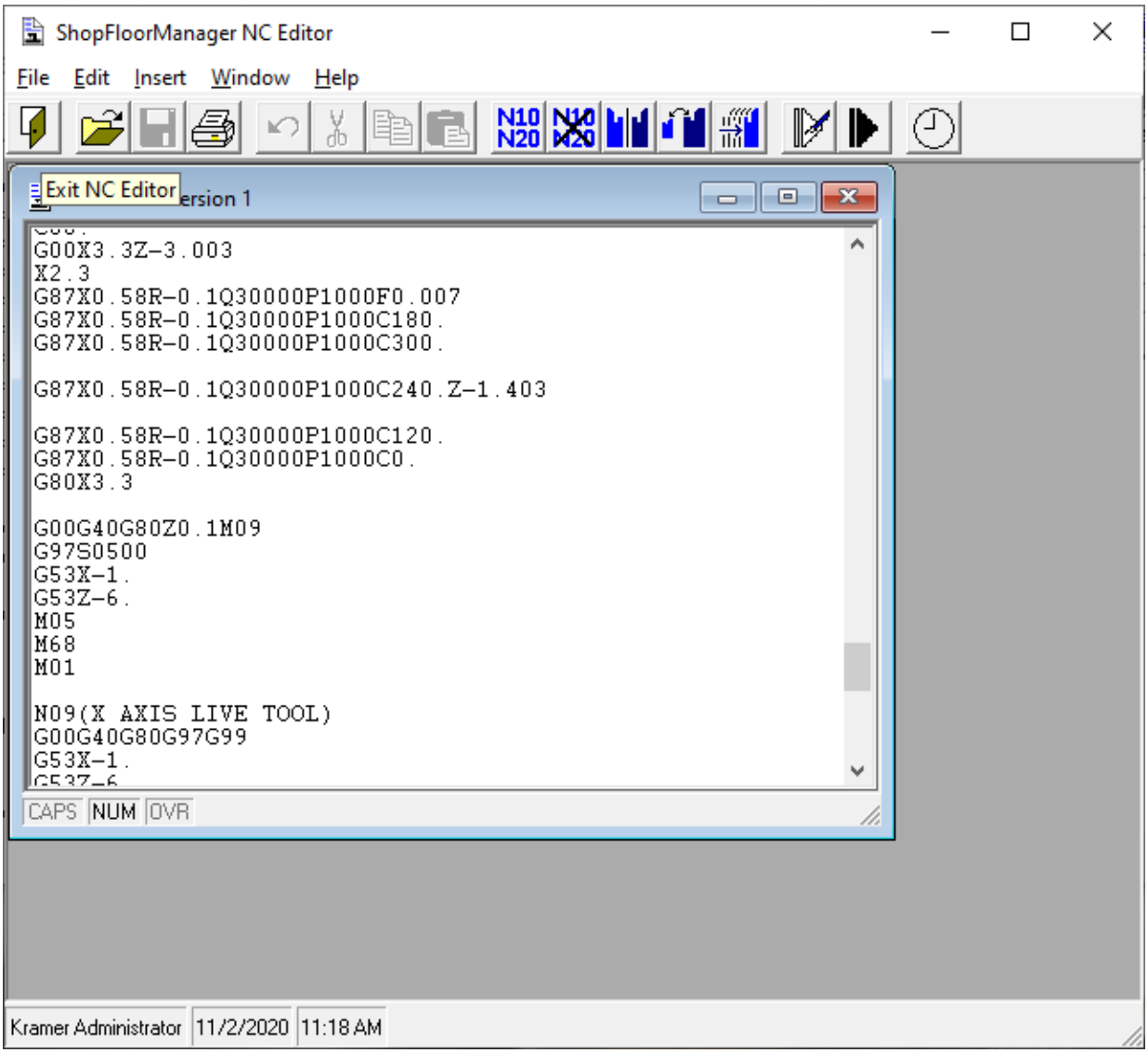
The NC Editor will display a Blank File. You can add code from outside of ShopFloorManager via Drag and Drop, open up existing ShopFloorManager ShopNCFiles and copy to and from and or add code manually as needed! When finished click the Save Button and the following Window will be displayed.

Manage ShopNCFiles (ShopFloorManager's NC Editor Newbie-Informational)



Click the OK Button and the following Window will be displayed.

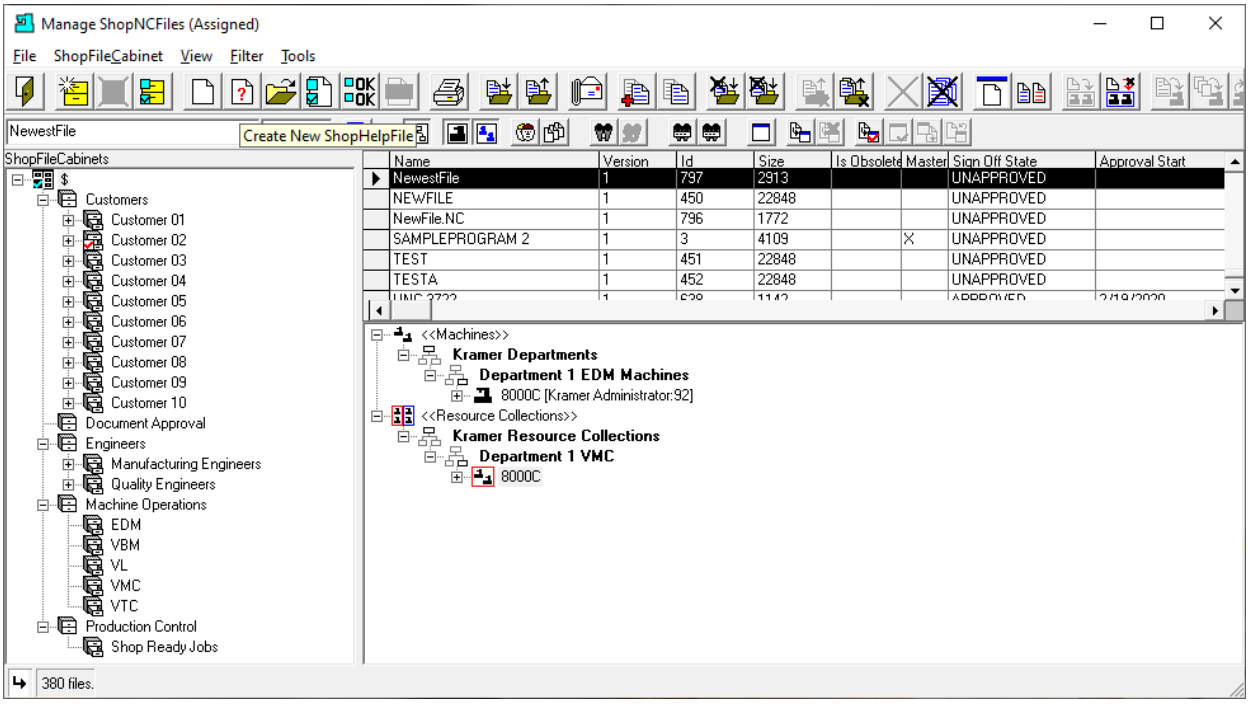
Manage ShopNCFiles (ShopFloorManager's NC Editor Newbie Saved to database)



To view the various modifications that can be made to this File, click NC Editor! Some of modifications these include adding Line Numbers, Mirroring, Scaling, Translating, and using Macros. Macros will be explained later in the Manual.

Click the Exit NC Editor and the following Window will be displayed.

Manage ShopNCFiles-ShopHelpFiles (Create New Help Topic)



ShopFloorManager provides Operator's access to ShopHelpFiles that can contain any general information that is created by Mfg. Engineers, Programmers, Quality, etc. These are wrapped in Comments which in effect make these files digital ShopDocuments available using Remote Requests! No paper work just up to date information: Process Sheets; OSHA ShopDocuments, etc.

ShopHelpFiles For CNCs Basics Include:

Generation of Generic Help Topics (Applies to all Machine Tools)

Generation of Default Help Topics (Default Topic at each Machine Tool)

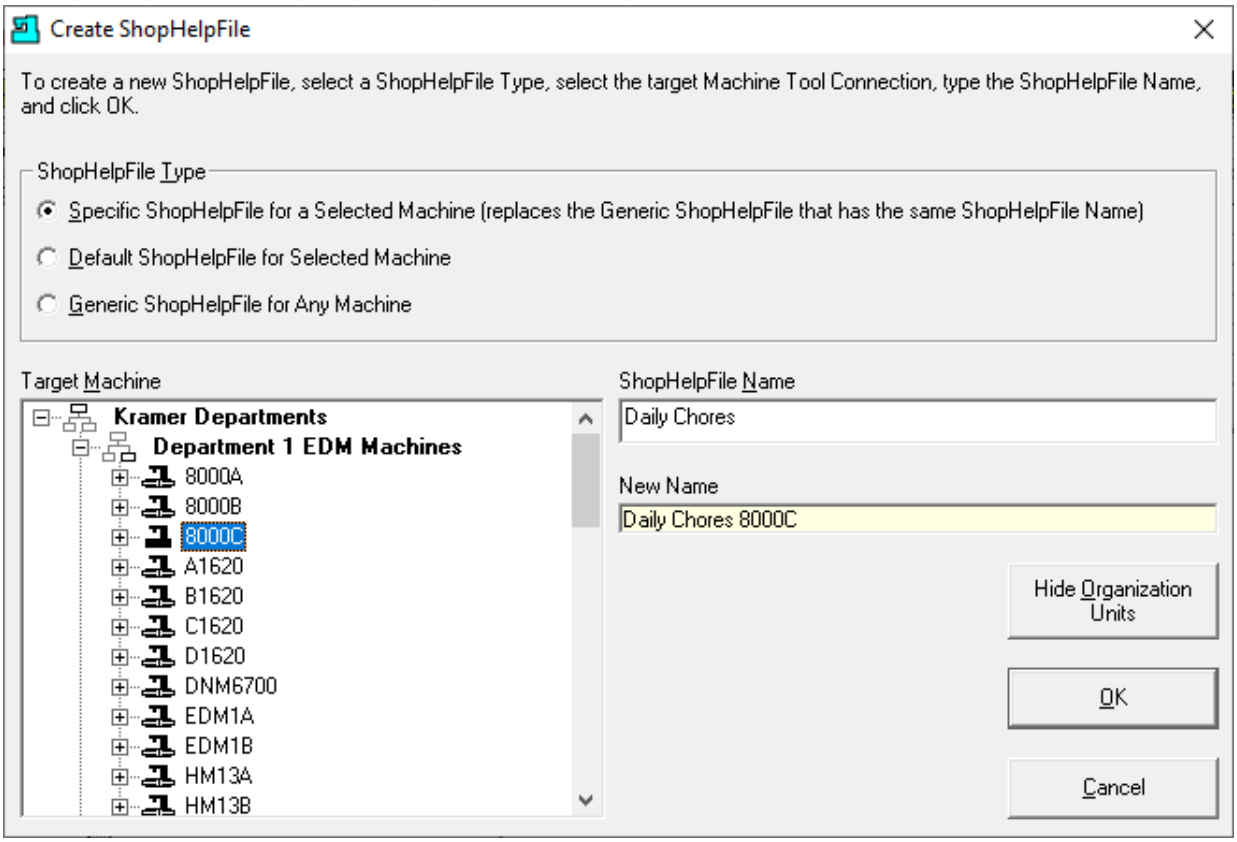
Generation of Specific Help Topics (Applies to this Machine Tool Only)

Note: ShopHelpFiles can be used as Process Sheets, Tooling Sheets, Instruction Sheets, etc. not just for basic Help Files.

If you need Simple Text Base Information at a Machine Tool and want to include it as part of an "Operation" use ShopHelpFiles to create & Manage your Simple Text Based Files.

Click on the "Create New ShopHelpFile" Icon and the following Window will be displayed.

Manage ShopNCFiles-ShopHelpFiles (Create Help Topic)



For a Specific Topic start by selecting a Machine!

ShopHelpFiles provide information to Operators replacing notes, basic instructions, OSHA requirements, etc. that are used daily by all Operators! Operators don't have to hunt through torn & dirty books for various pieces of information build up over the years.

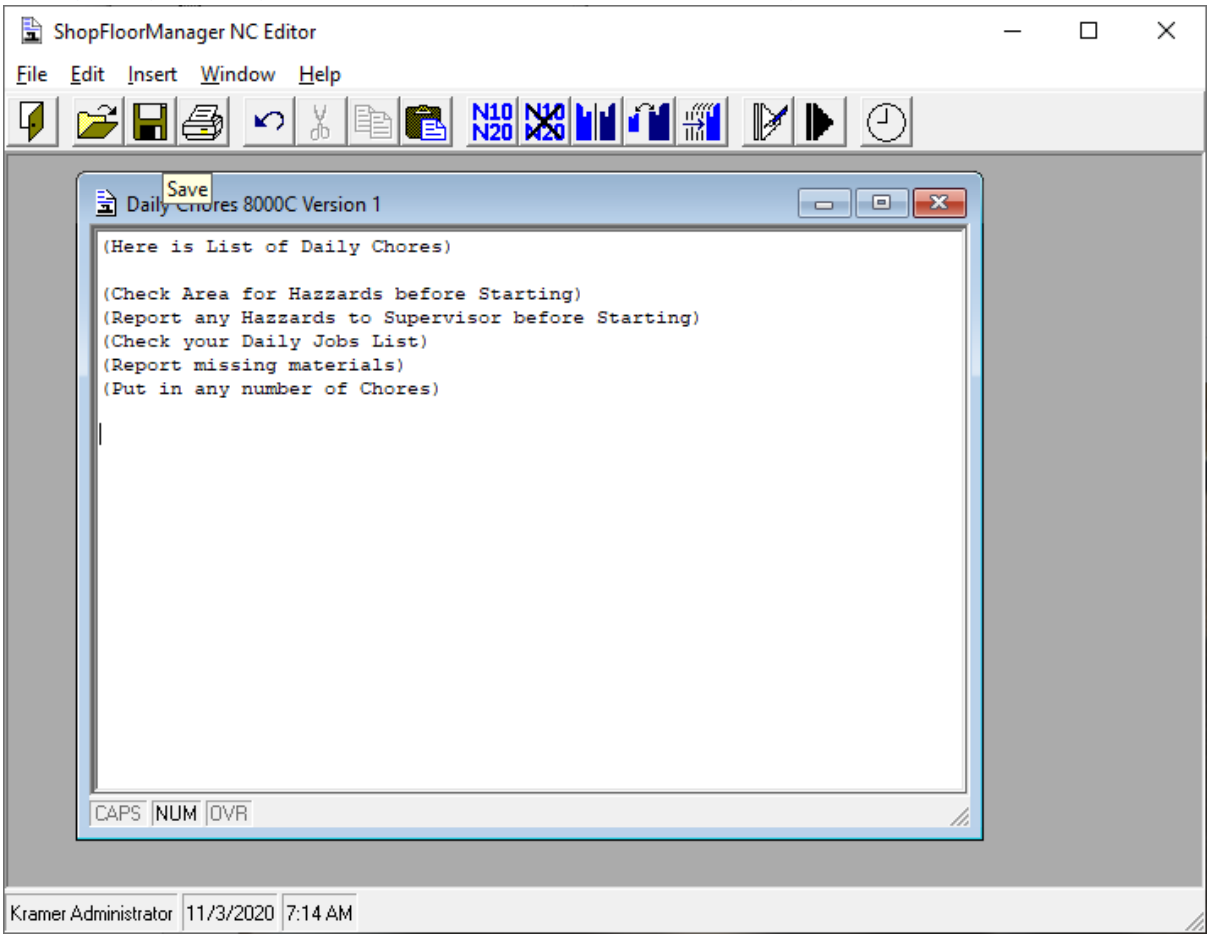
They are created using ShopFloorManager's NC Editor using parentheses so they can be displayed in any Controller. They can be requested just like any other ShopNCFile.

There are three specific Help File Types:

Specific
Create a Topic that only applies to this Machine Tool. This Topic Name can be the same as other Topic Names used for other Machines but will only apply to this Specific Machine!
Default
This should be the most used & relevant ShopHelpFile. It could consist of important contacts, resources, etc. You only must remember the default file name to access!
Generic
Create a Generic Topic that applies to all Machine Tools and must have a unique topic name.

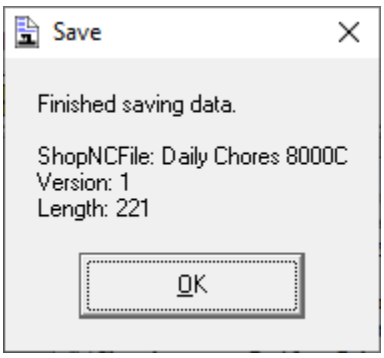
Click on the OK Button and the Following Window will be displayed.

Manage ShopNCFiles (ShopFloorManager NC Editor Daily Chores 8000A)



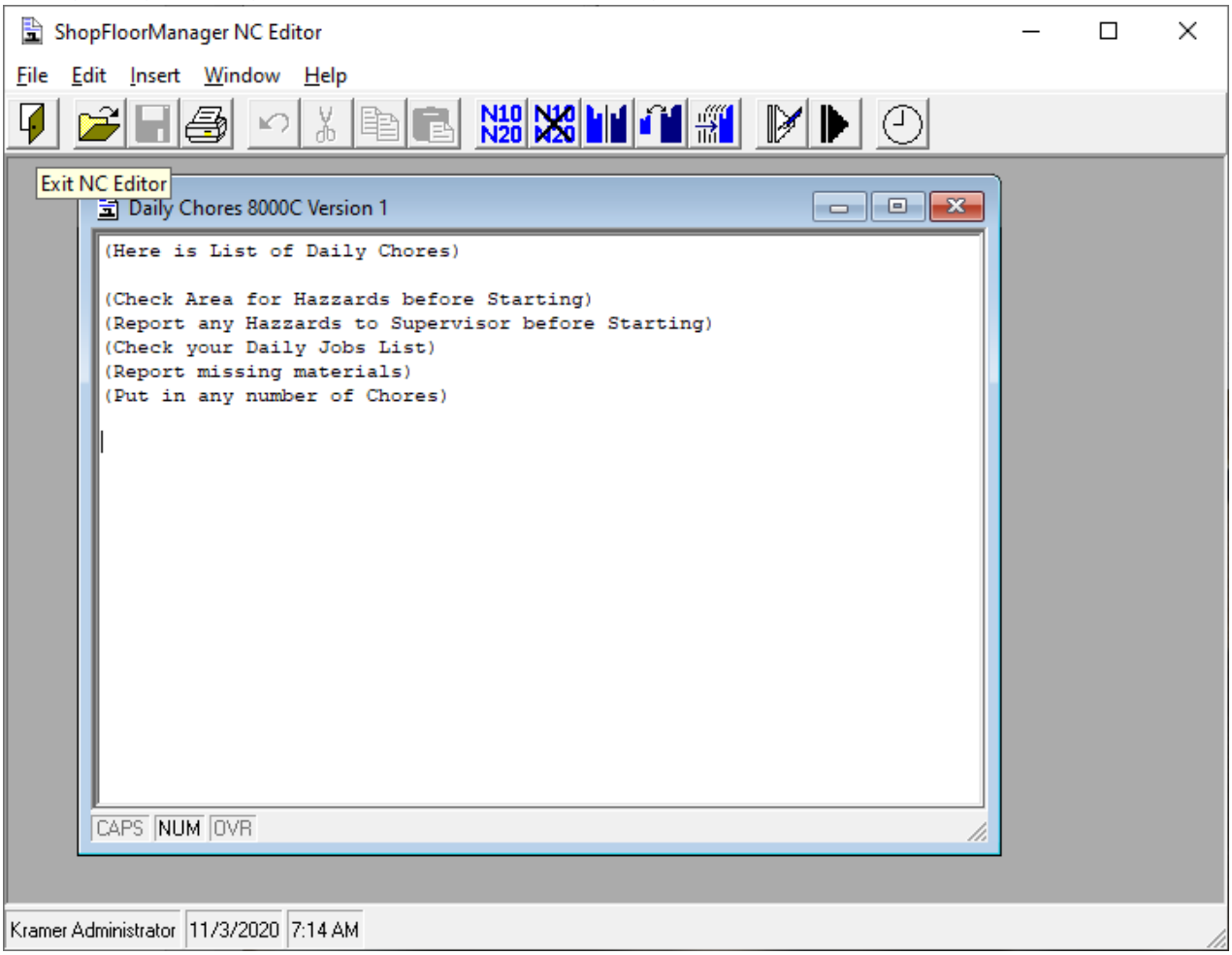
Create the Help File using parentheses around 'Chores'. See NC Editor for details on use.

Click the Save Button when complete and the following Window will be displayed.



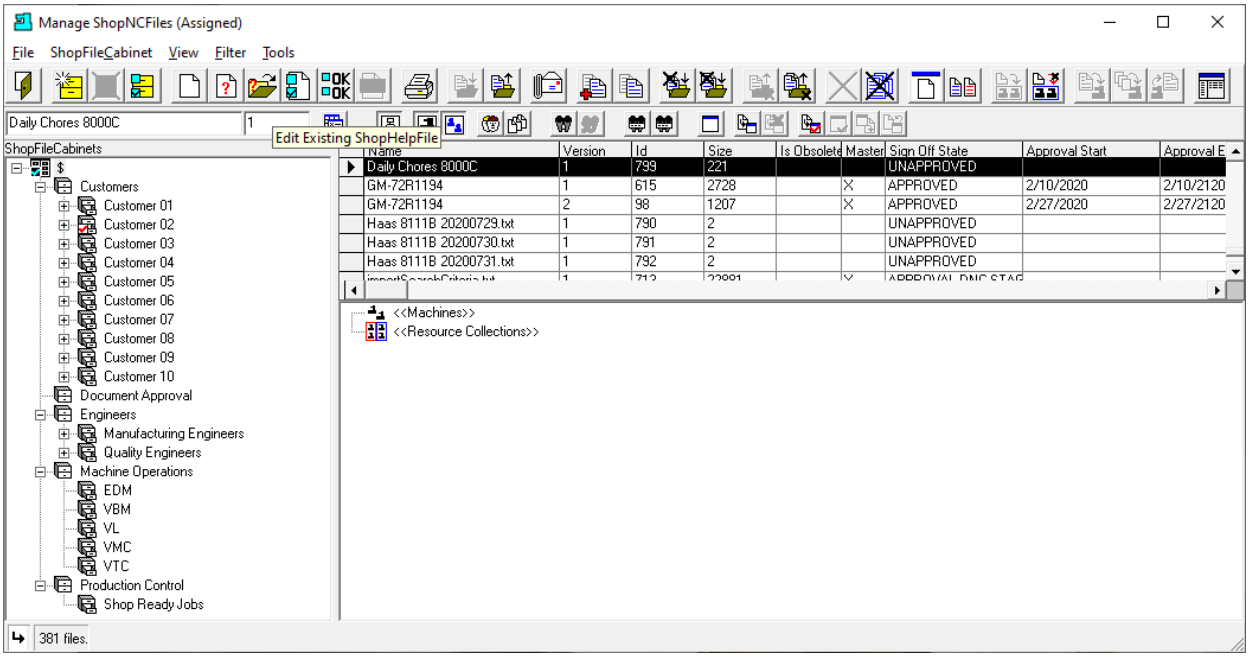
Click Ok and the following Window will be displayed.

Manage ShopNCFiles (ShopFloorManager Exit NC Editor Icon)



Click on the Close Button and the following Window will be displayed.

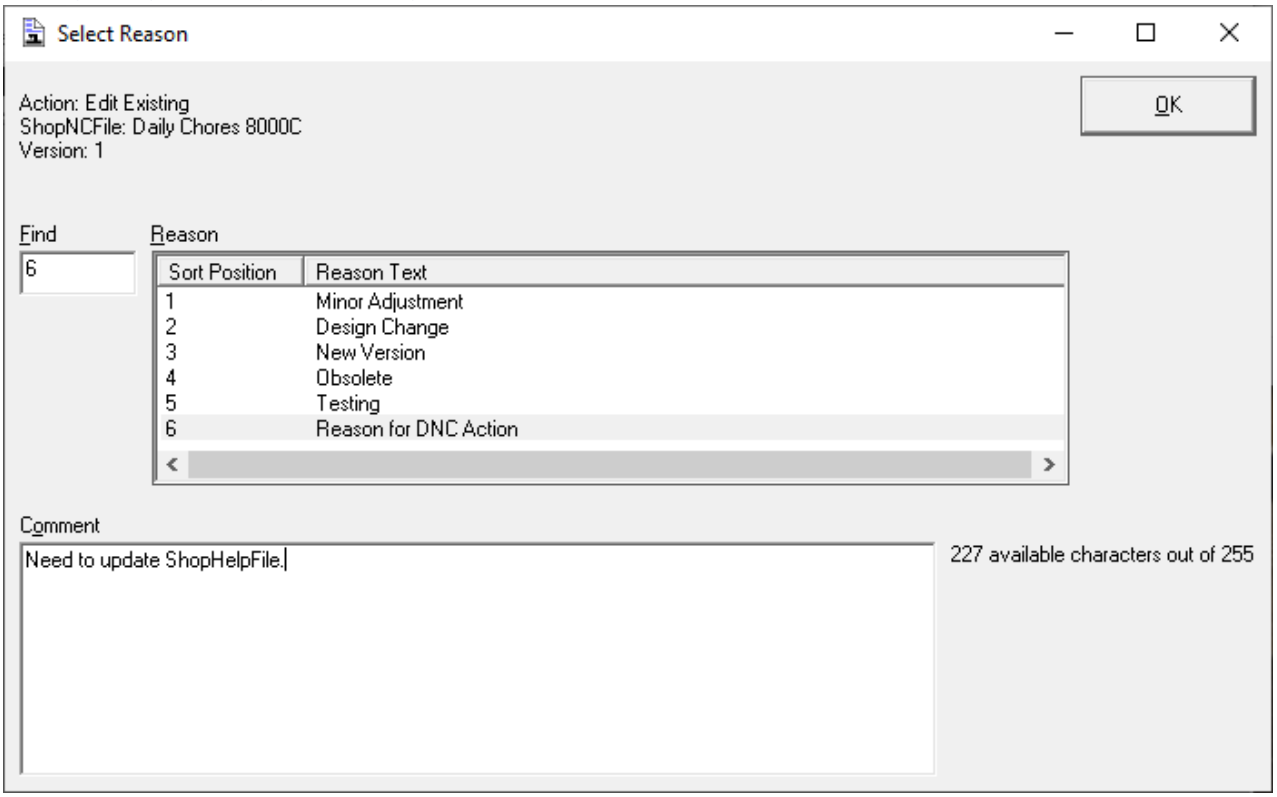
Manage ShopNCFiles (Edit Existing Help Topic)



To Edit an existing Help File, highlight the Help File, and click the Edit Existing Help Topic Icon and the following Window is displayed.

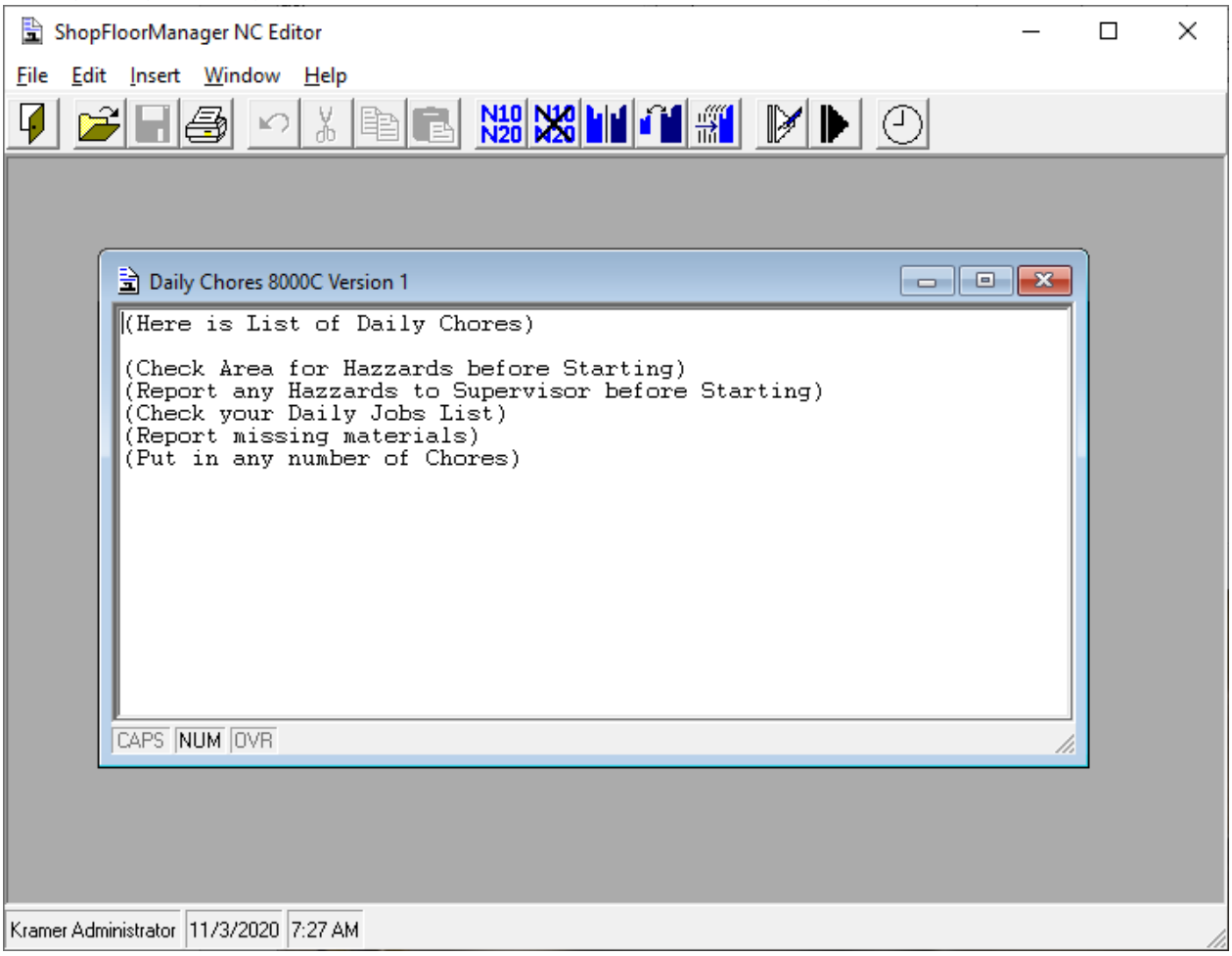
Note: To locate only ShopHelpFiles click on the Change View Icon and change the View to “View ShopHelpFiles”.

Manage ShopNCFiles (Select Reason)



If Enable History Logging and ShopReports was set this Window will be displayed. Select a Reason Topic and supply a brief comment. Click the OK Button and the following Window will be displayed.

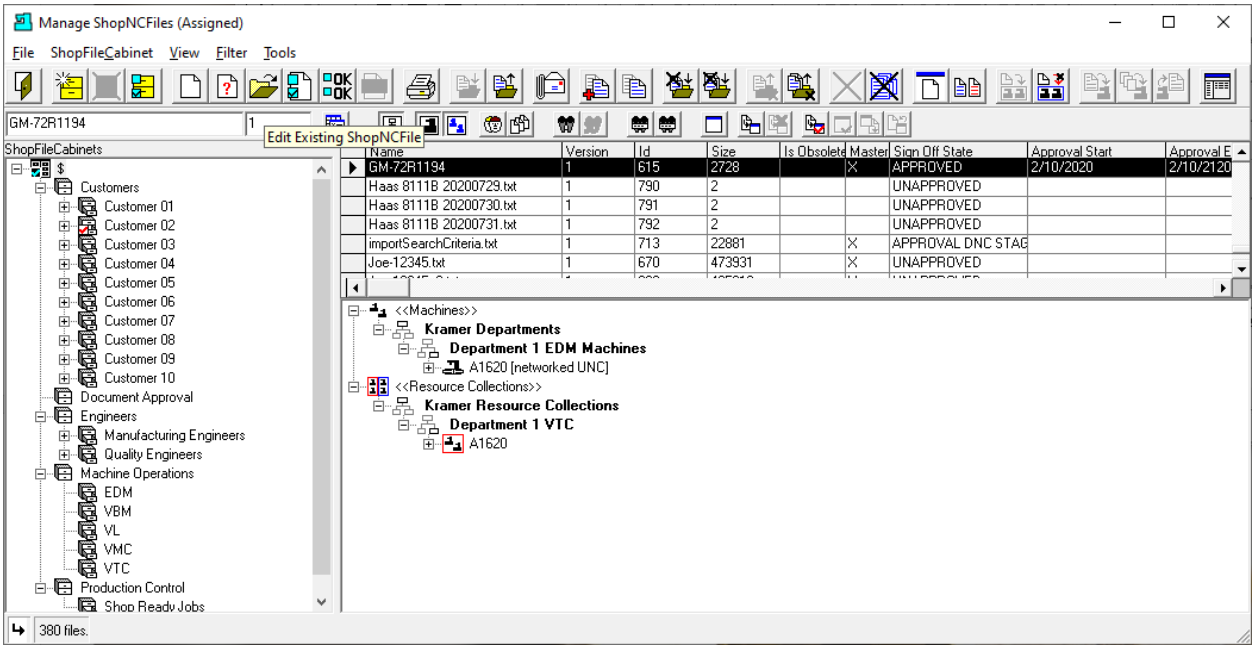
Manage ShopNCFiles (ShopFloorManager NC Editor Edit Save Help File & Exit)



After Editing, Save this file and close this Window and the following Window will be displayed.

Note: If you changed the view you will need to reset the view to its previous configuration.

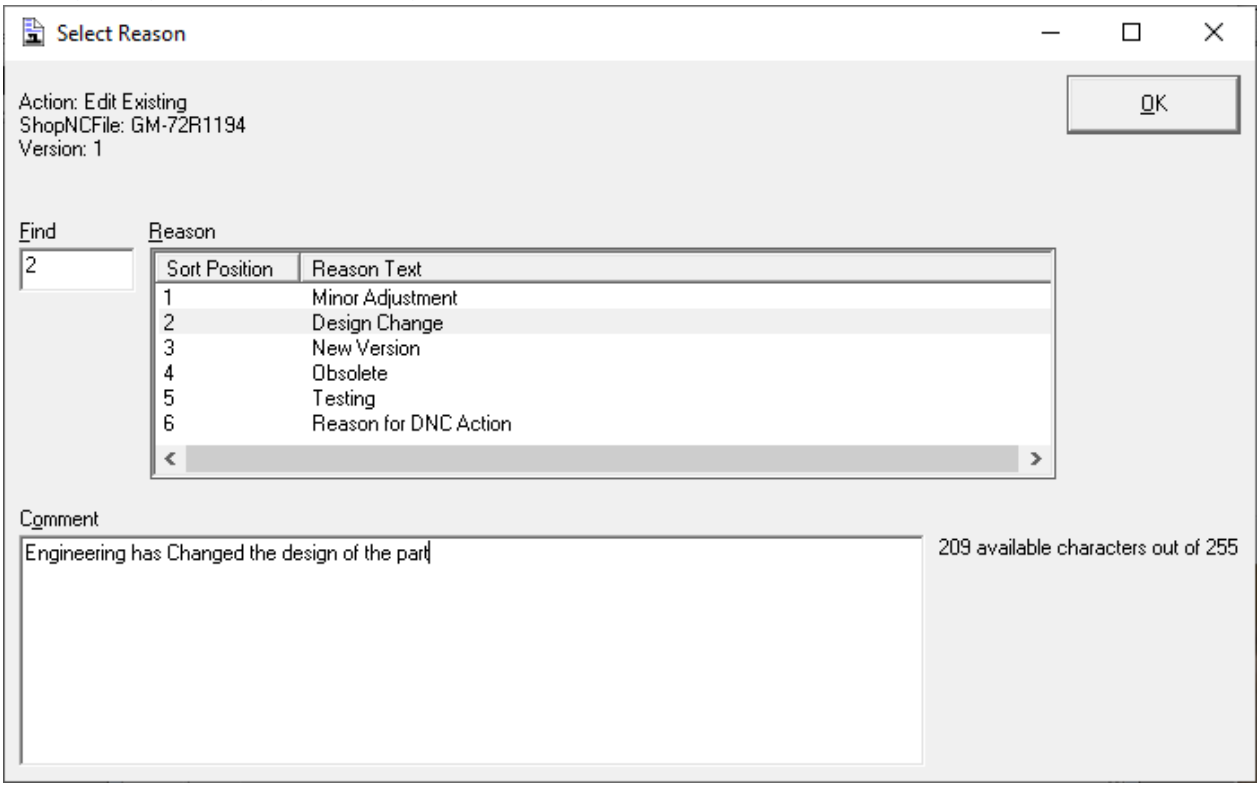
Manage ShopNCFiles (Edit Existing ShopNCFile)



ShopFloorManager provides basic NC Editor with most features that are needed for editing ShopNCFiles. It also supports Shop3rdPartyTools where you can use your favorite Editor.

Select the File you want to edit and click the “Edit Existing ShopNCFile” Icon and the following Window will be displayed.

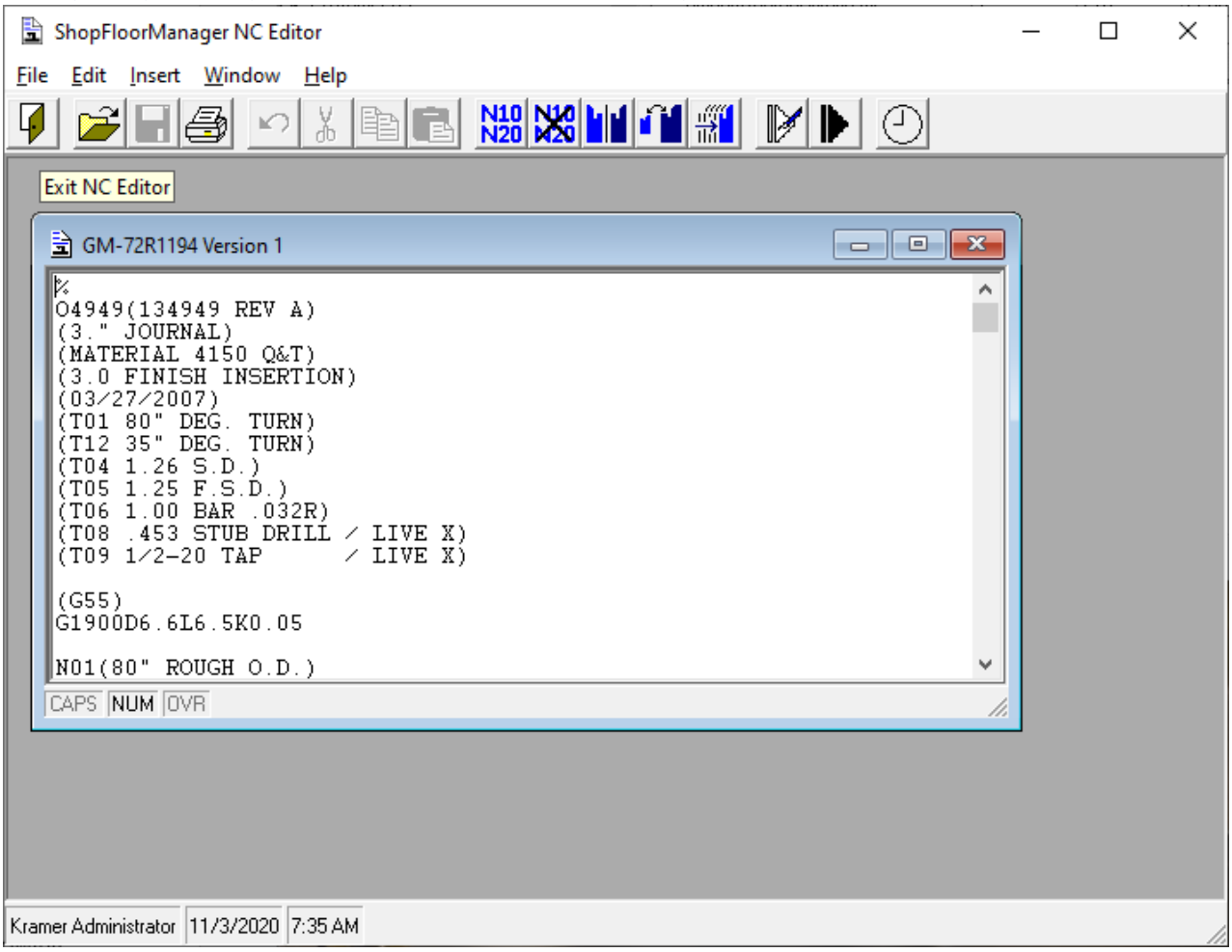
Manage ShopNCFiles (Select Reason)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

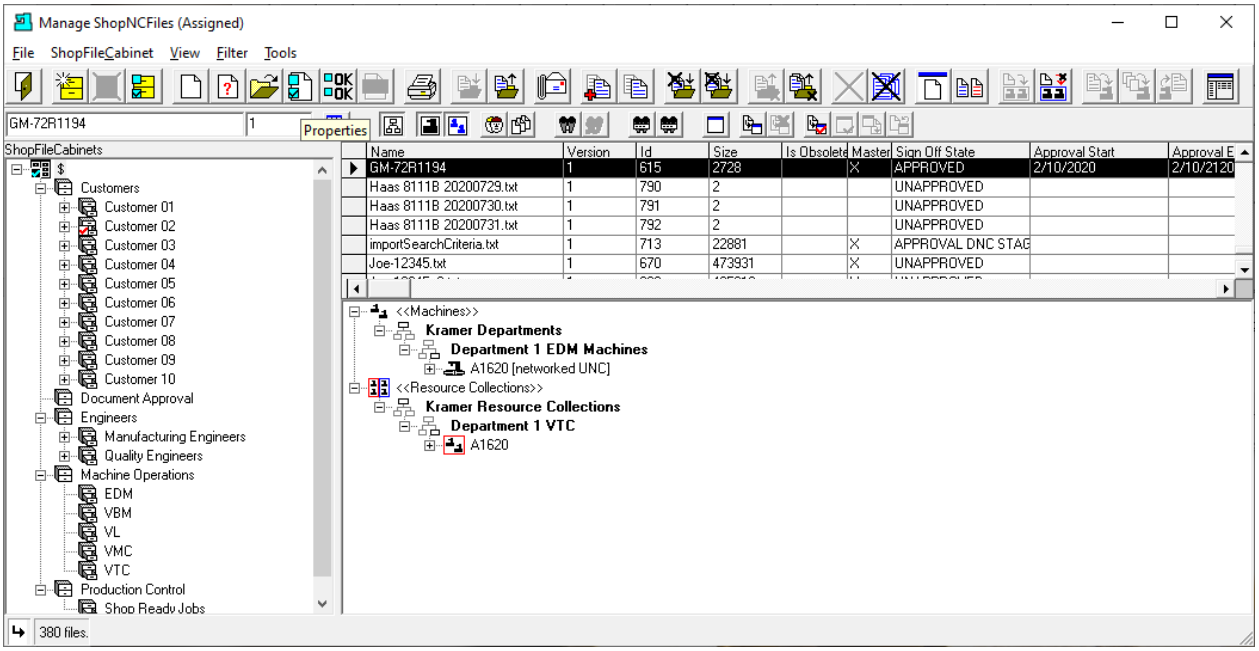
The following Window will be displayed.

Manage ShopNCFiles (ShopFloorManager NC Editor Existing File)



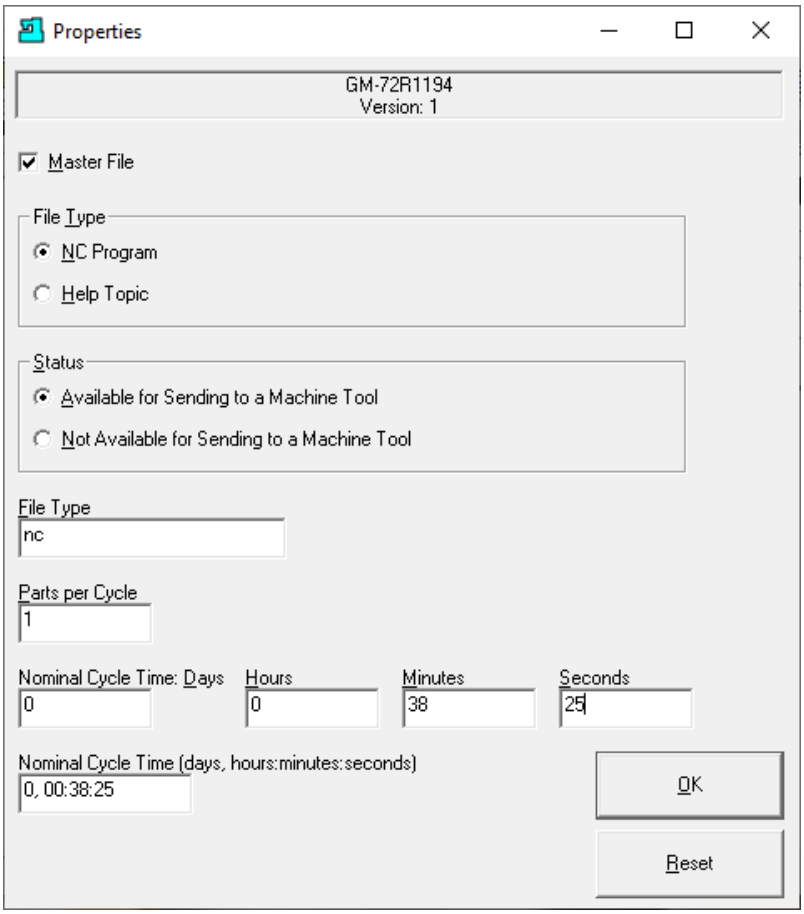
For details on using the editor see previous explanation on creating a New File. Click the “Exit NC Editor” Icon and the following Window will be displayed.

Manage ShopNCFiles (Properties)



Every ShopNCFile has some basic properties that can be changed. Select the file you are interested in click the Properties Icon and the following Window will be displayed.

Manage ShopNCFiles (Properties GM-72R1194)

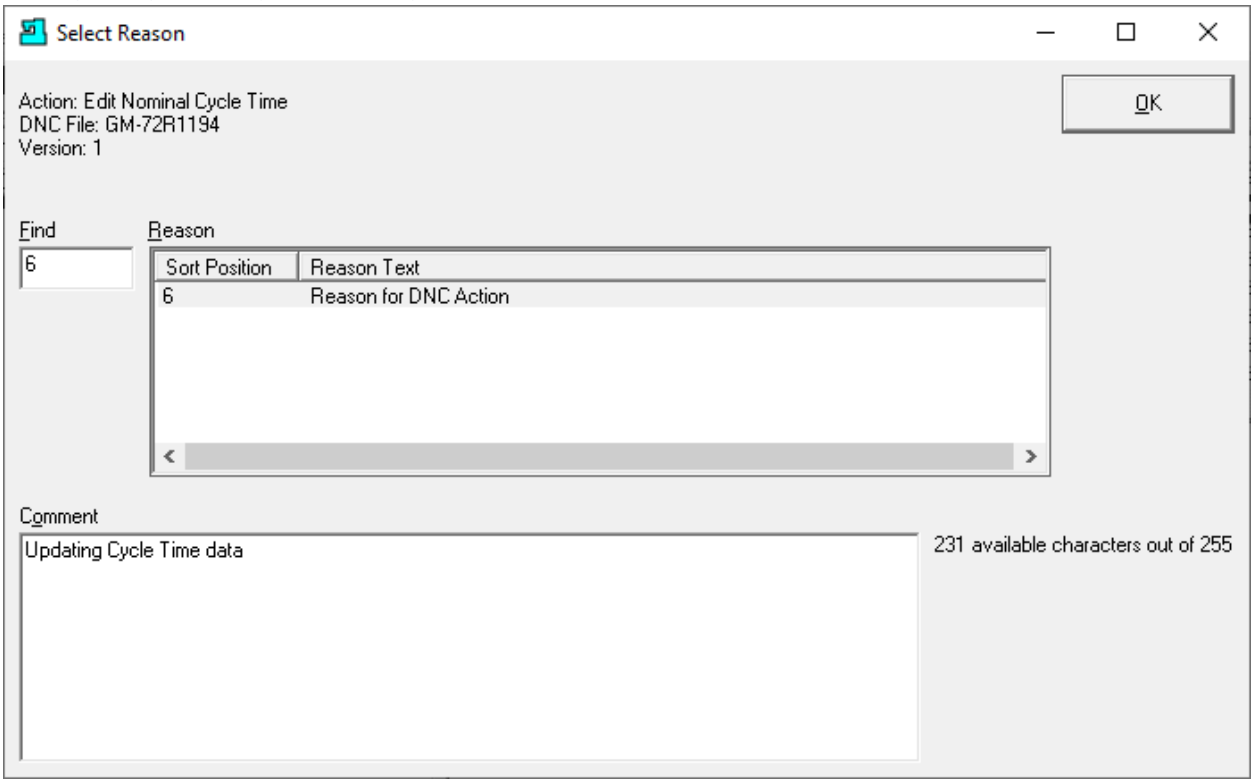


Properties that you can change:

Master File:
Master Files are special files in ShopFloorManager. Generally, don't change! You need special Rights to modify these Files. They are considered Base Files! All imported Files are Master Files!
File Type:
This determines if this is a ShopNCFile or ShopHelpFile. Generally, don't change!
Status:
Select whether you want this ShopNCFile to be available for downloading This is sometimes set by a setting in Resource Collections after downloading a File!
File Type Extension:
This value is used to determine the possible default Windows file type
Parts per Cycle:
This value is used in calculating OEE
Nominal Cycle Time:
This value is used in calculating OEE

Make any changes needed and click he OK Button and the following Window will be displayed.

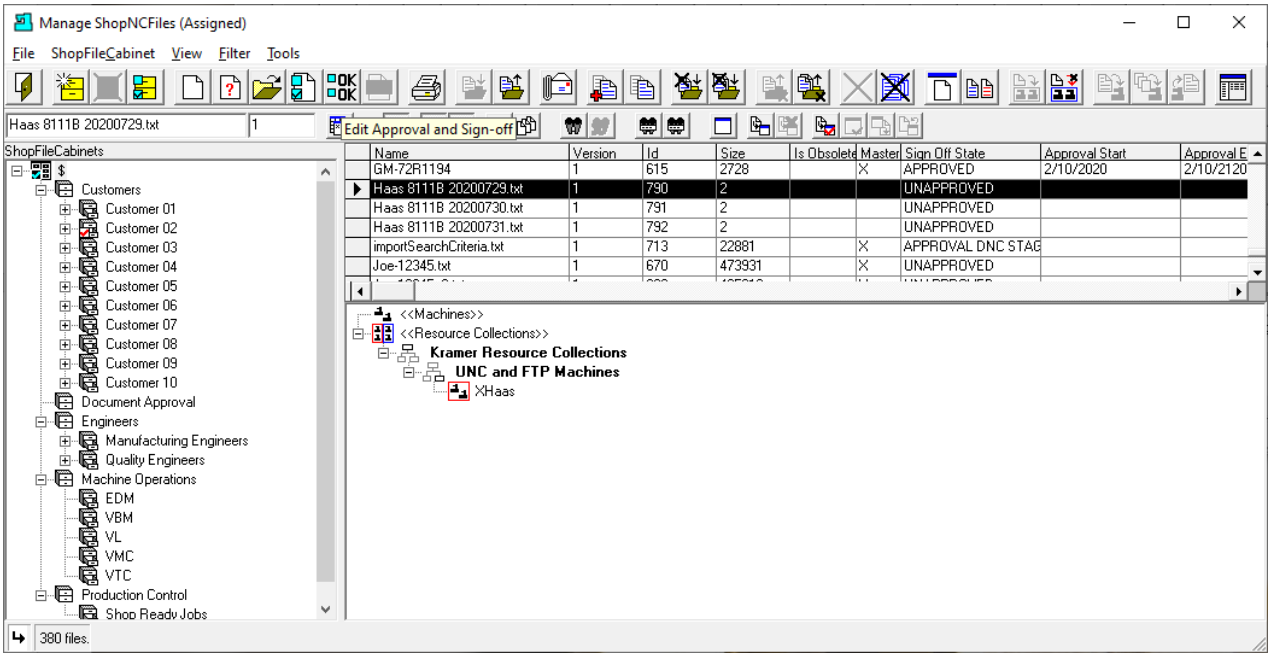
Manage ShopNCFiles (Select Reason)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

The following Window will be displayed.

Manage ShopNCFiles (Haas 8111B 20200729.txt Unapproved)



As part of the Approval Process in ShopFloorManager we are going demonstrate how to assign a ShopNCFile to Sign-Off Flow Chart and the sign-off procedure for one sign-off stage.

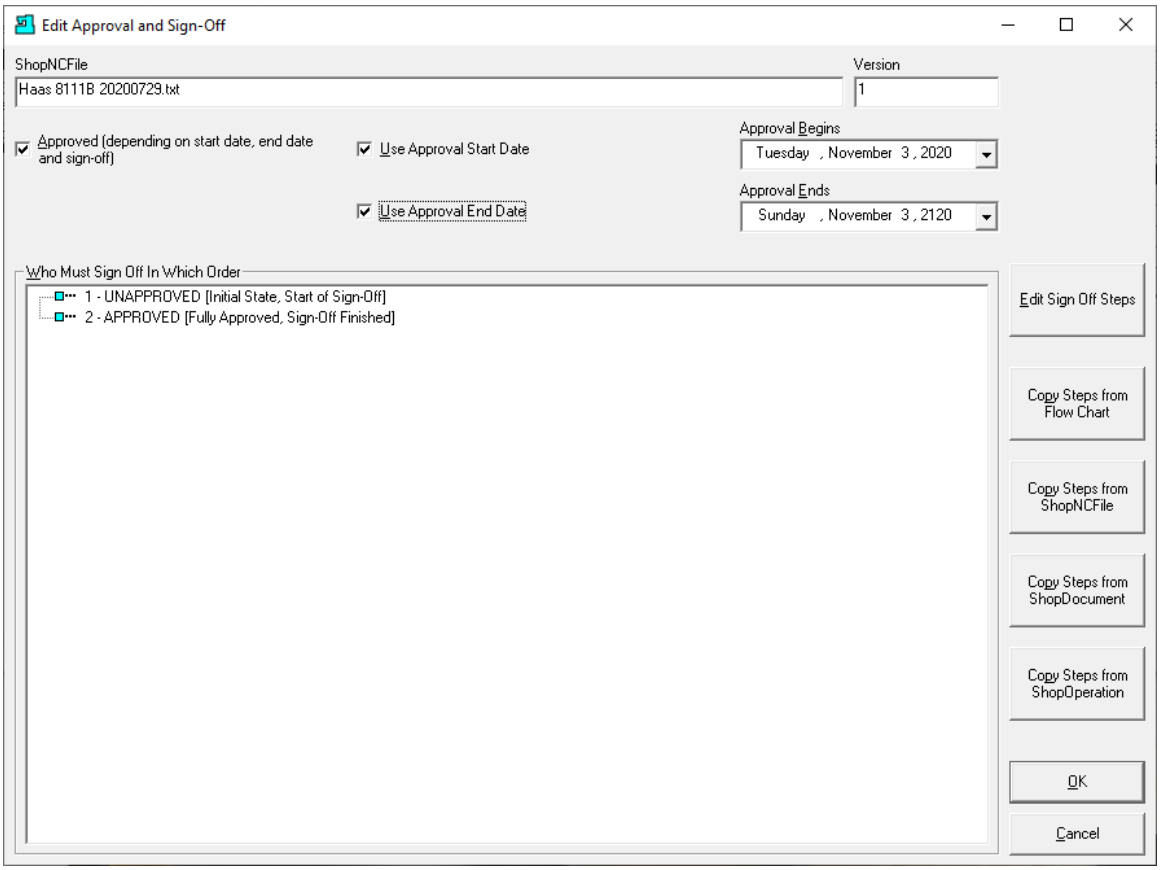
Note: You may have to Change View in order to locate this specific ShopNCFile.

If the Enable Approval and Signoff has been set in the Configure General System Settings section, then every file needs to be approved for any User that doesn't have the 'Right' to access unapproved ShopNCFiles directly.

Generally, operators on the shopfloor should not have access to files that have not been approved!

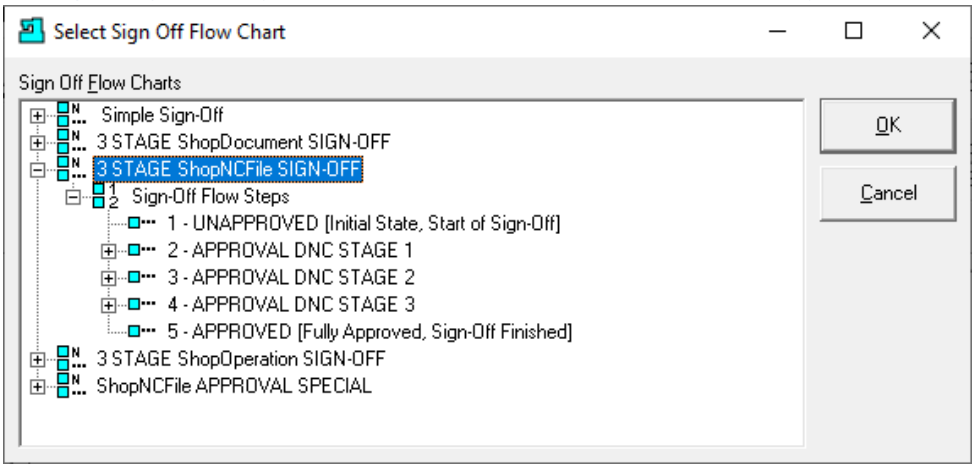
Select the File to be Approved and click the Edit Approval and Sign-off Icon and the following Window will be displayed.

Manage ShopNCFiles (Edit Approval and Sign-Off Haas 8111B 20200729.txt)



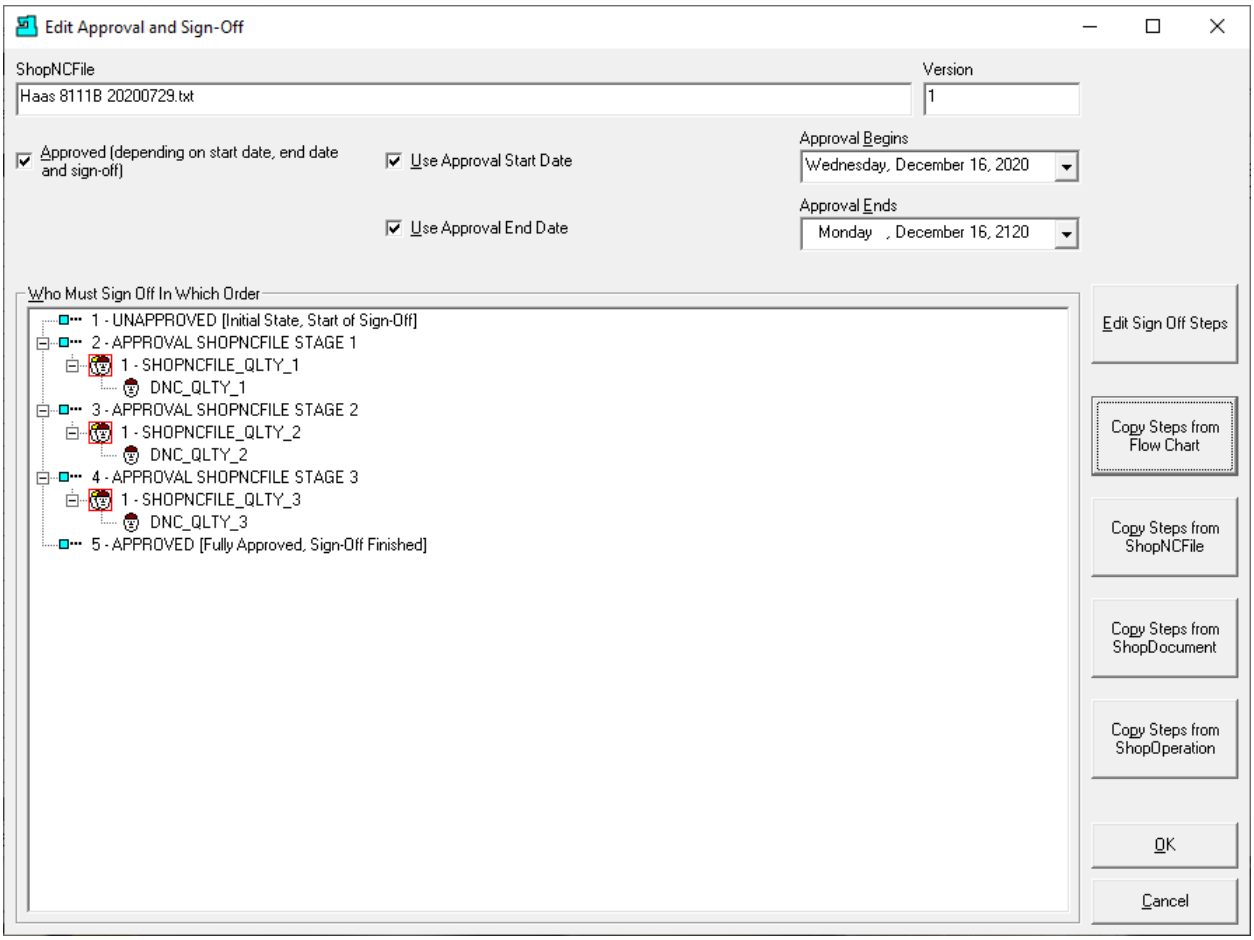
Click on the “Copy Steps from Flow Chart” Button and the following Window will be displayed.

Manage ShopNCFiles (Select the 3 STAGE ShopNCFile SIGN-OFF Approval)



Select the “3 STAGE ShopNCFile SIGN-OFF” Approval Process and click the OK Button and the following Window will be displayed.

Manage ShopNCFiles (3 STAGE ShopNCFile SIGN-OFF Process displayed for Haas 8111B 20200729.txt)



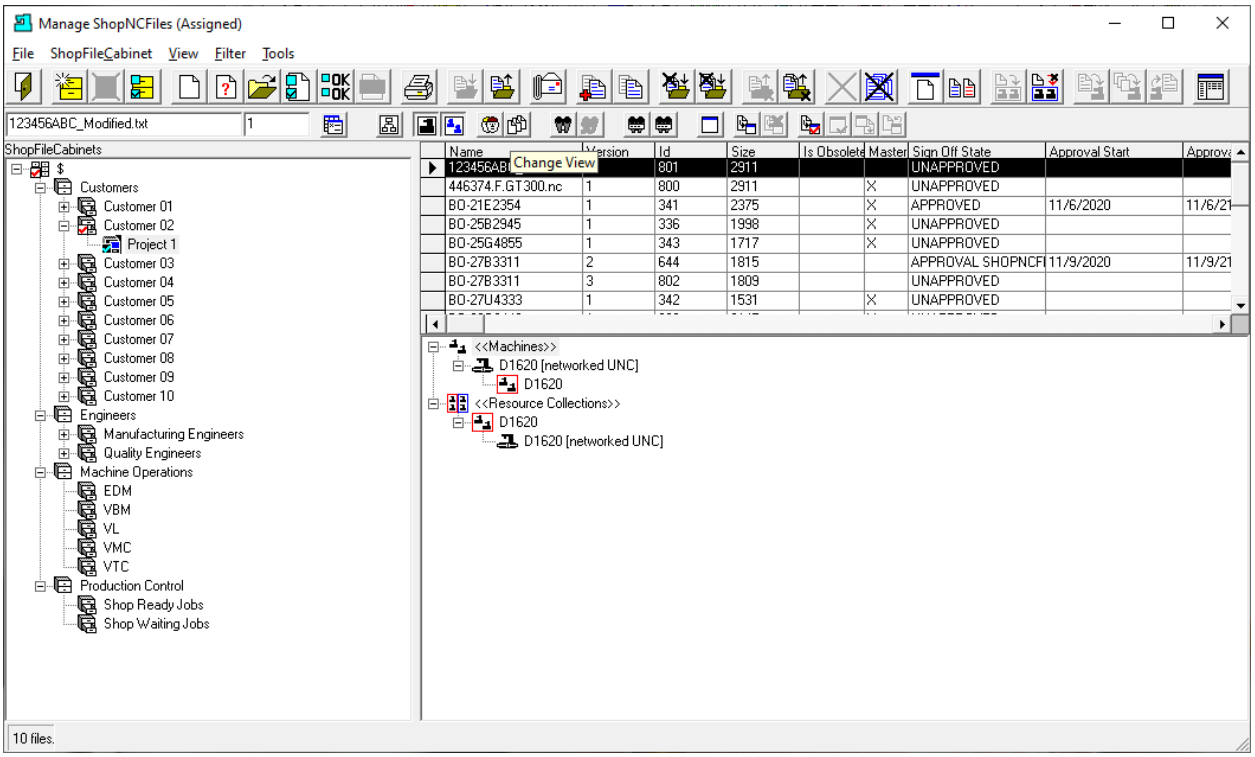
This is a three stage Approval Process the File Haas 8111B 20200729.txt has to traverse in order to be fully approved for a User that doesn't have the "Right" to see Unapproved ShopNCFiles. This is typically an Operator (User) on the Shopfloor.

For a User to approve the various approval stages that User need to have the "Right" to Approve any particular Approval Stage and must have access the ShopNCFiles that are being Approved.

Let's investigate how this is accomplished for this File! We will be displaying a View that doesn't have access to this File. We will demonstrate how to change the View to access this File.

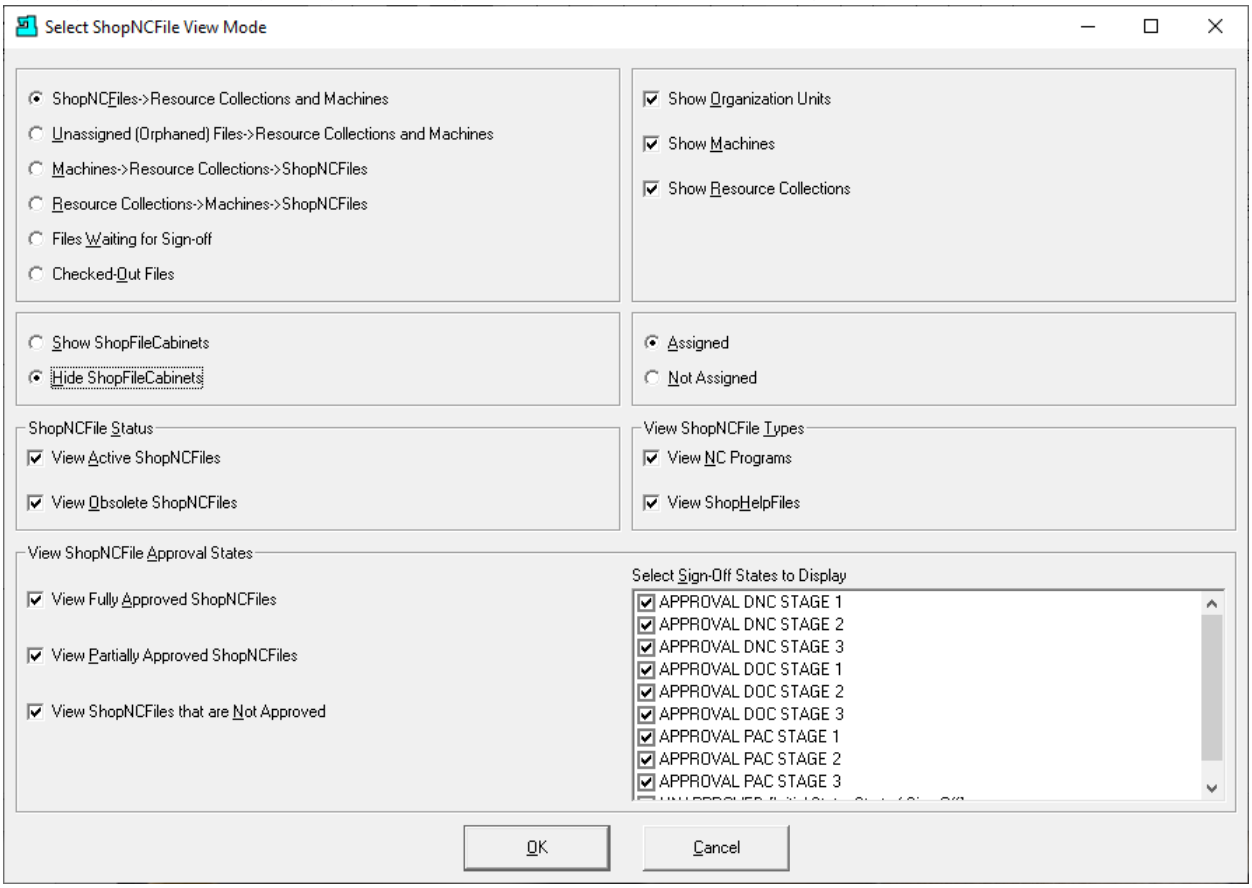
Click the OK Button and the following Window is displayed.

Manage ShopNCFiles (Change View to find Haas 8111B 20200729.txt)



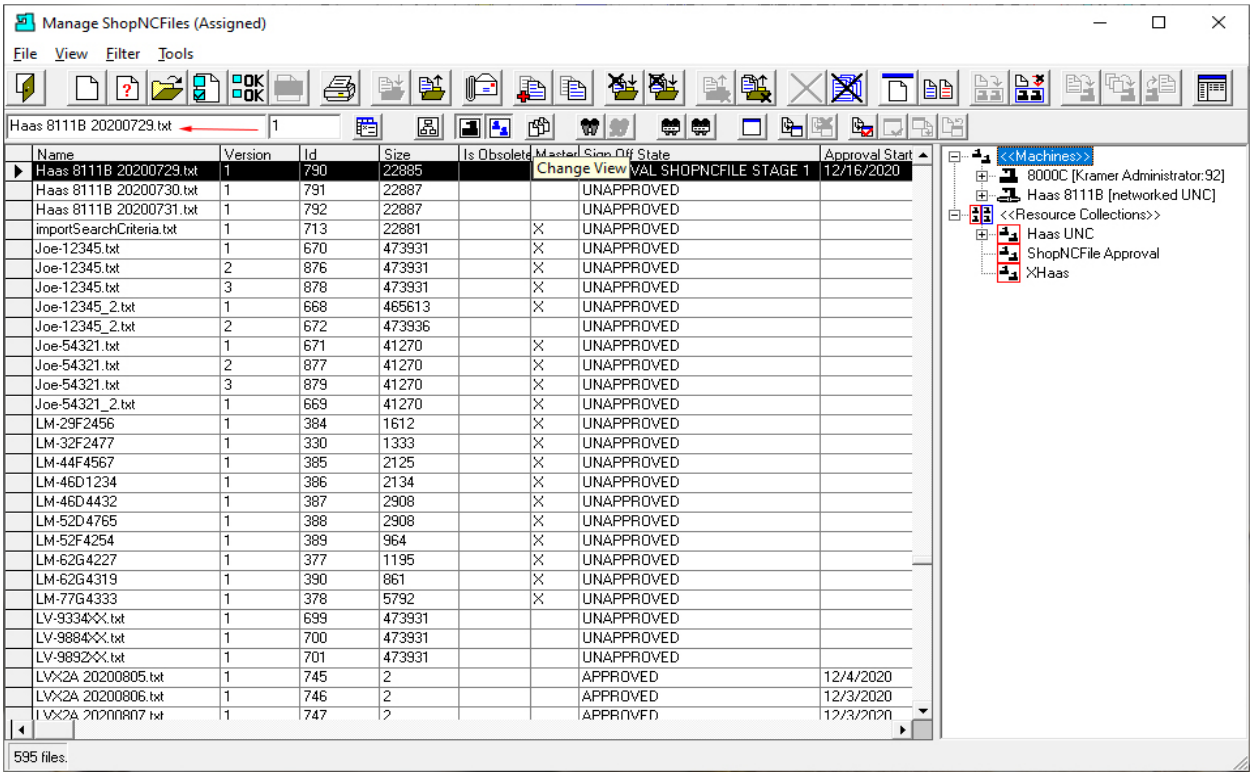
Click on the “Change View” Icon and the following Window will be displayed.

Manage ShopNCFiles (Change View to find Haas 8111B 20200729.txt)



Change the View Mode form as above and click the OK Button and the following Window is displayed.

Manage ShopNCFiles (New View Haas 8111B 20200729.txt)



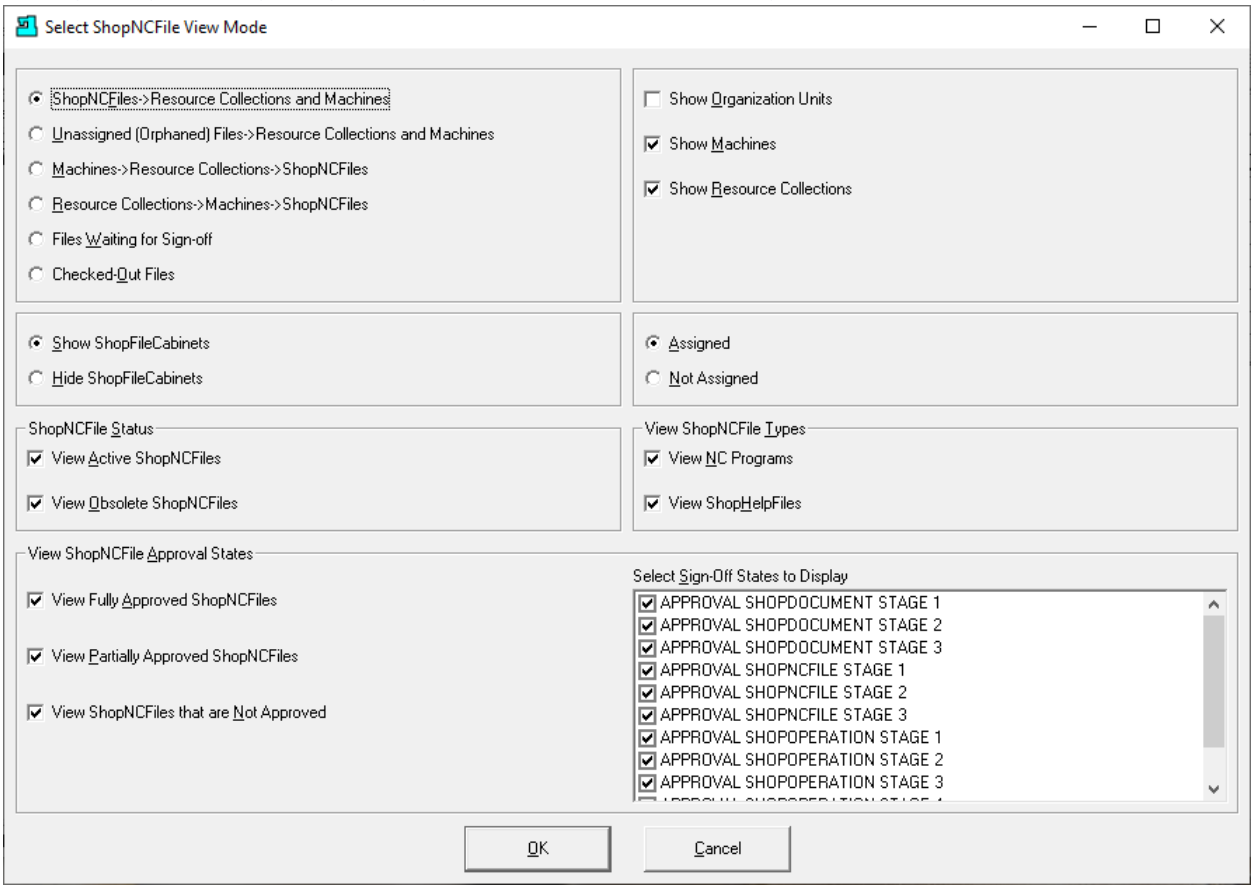
Name	Version	Id	Size	Is Obsolete	Master Sign Off State	Approval Start
Haas 8111B 20200729.txt	1	790	22885		VAL SHOPNCFILE STAGE 1	12/16/2020
Haas 8111B 20200730.txt	1	791	22887		UNAPPROVED	
Haas 8111B 20200731.txt	1	792	22887		UNAPPROVED	
importSearchCriteria.txt	1	713	22881	X	UNAPPROVED	
Joe-12345.txt	1	670	473931	X	UNAPPROVED	
Joe-12345.txt	2	876	473931	X	UNAPPROVED	
Joe-12345.txt	3	878	473931	X	UNAPPROVED	
Joe-12345_2.txt	1	668	465613	X	UNAPPROVED	
Joe-12345_2.txt	2	672	473936		UNAPPROVED	
Joe-54321.txt	1	671	41270	X	UNAPPROVED	
Joe-54321.txt	2	877	41270	X	UNAPPROVED	
Joe-54321.txt	3	879	41270	X	UNAPPROVED	
Joe-54321_2.txt	1	669	41270	X	UNAPPROVED	
LM-29F2456	1	384	1612	X	UNAPPROVED	
LM-32F2477	1	330	1333	X	UNAPPROVED	
LM-44F4567	1	385	2125	X	UNAPPROVED	
LM-46D1234	1	386	2134	X	UNAPPROVED	
LM-46D4432	1	387	2908	X	UNAPPROVED	
LM-52D4765	1	388	2908	X	UNAPPROVED	
LM-52F4254	1	389	964	X	UNAPPROVED	
LM-62G4227	1	377	1195	X	UNAPPROVED	
LM-62G4319	1	390	861	X	UNAPPROVED	
LM-77G4333	1	378	5792	X	UNAPPROVED	
LV-9334XX.txt	1	699	473931		UNAPPROVED	
LV-9884XX.txt	1	700	473931		UNAPPROVED	
LV-9892XX.txt	1	701	473931		UNAPPROVED	
LVX2A 20200805.txt	1	745	2		APPROVED	12/4/2020
LVX2A 20200806.txt	1	746	2		APPROVED	12/3/2020
LVX2A 20200807.txt	1	747	2		APPROVED	12/3/2020

This View displays all assigned ShopNCFiles.

Start to enter the name of the ShopNCFile you are looking for In the Textbox above upper left, see **red** arrow, and ShopFloorManager immediately starts to search for the ShopNCFile.

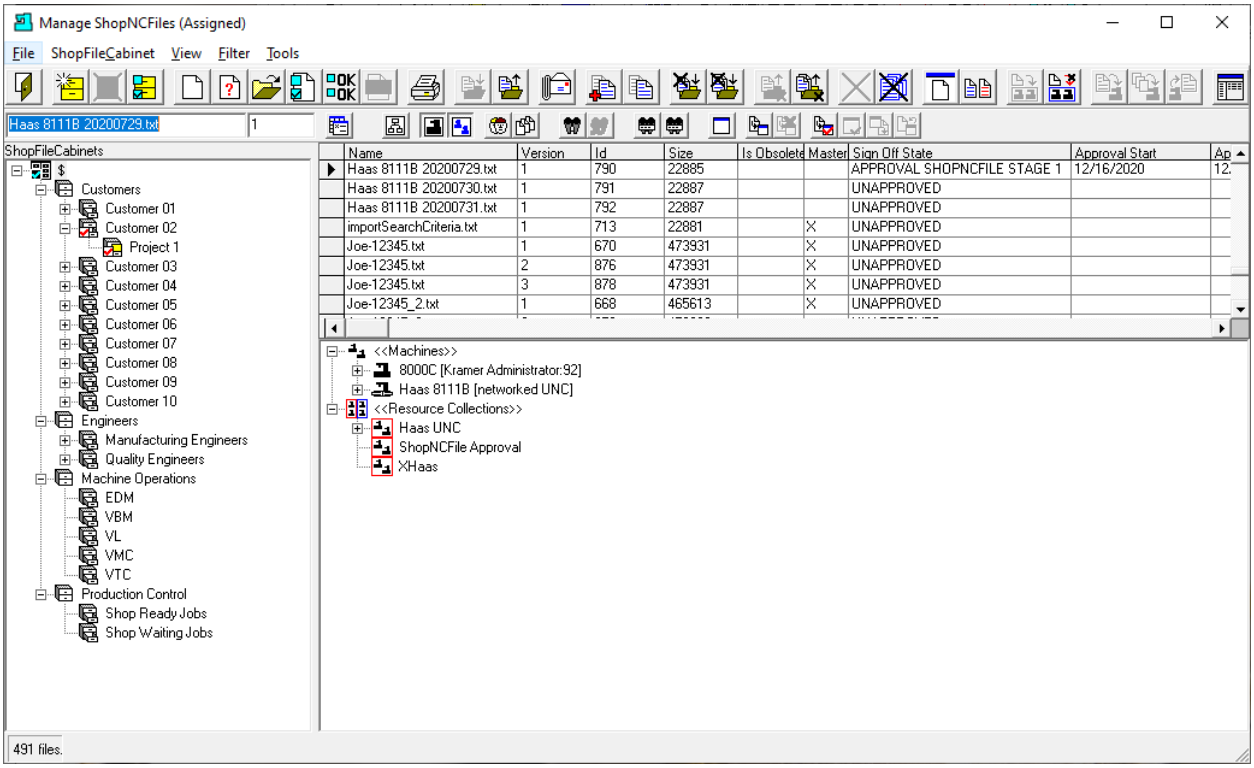
When you locate the ShopNCFile click the “Change View” Icon and the following Window is displayed.

Manage ShopNCFiles (Change View for Haas 8111B 20200729.txt)



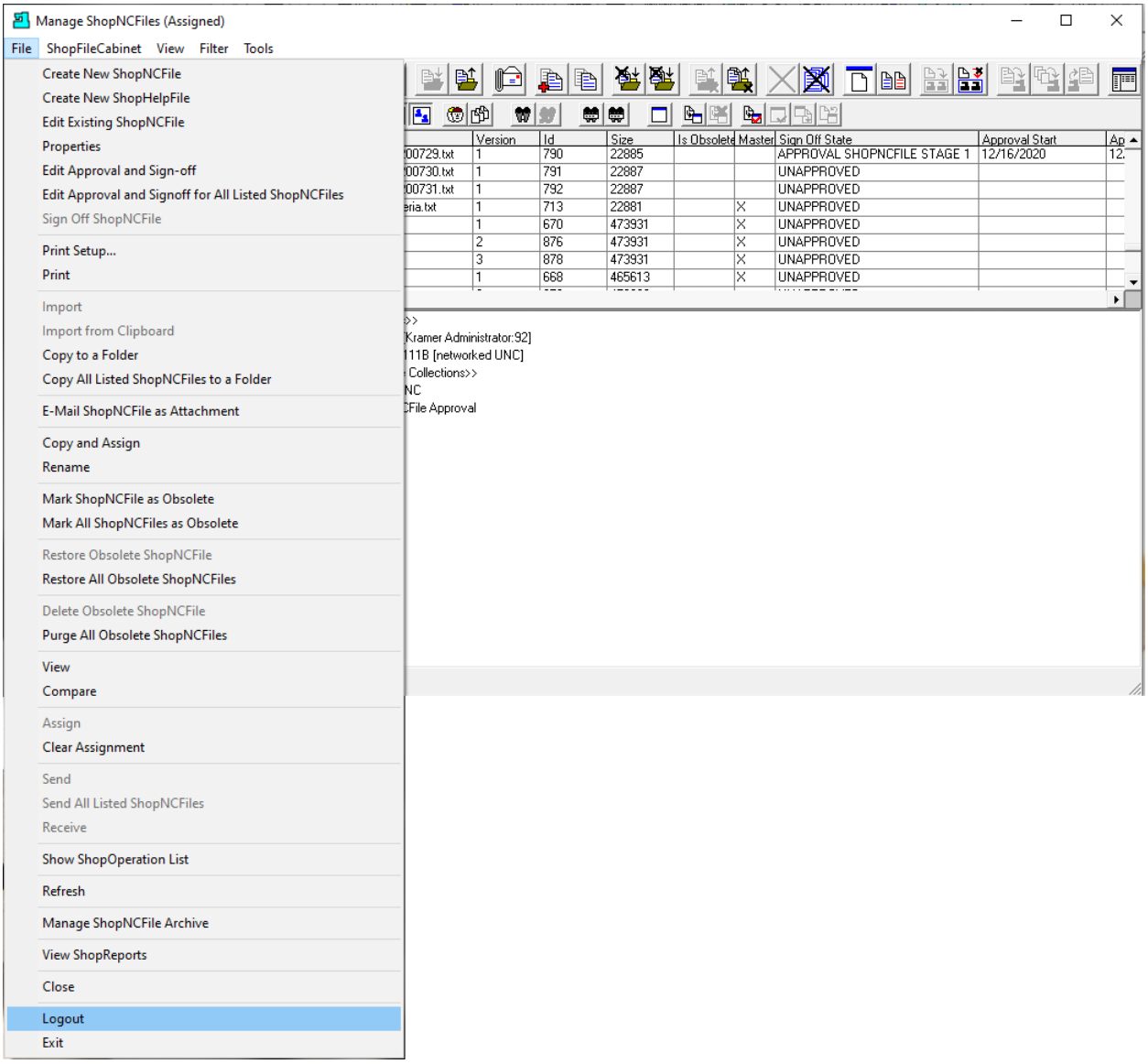
Change the View Mode form as above and click the OK Button and the following Window is displayed.

Manage ShopNCFiles (New View Haas 8111B 20200729.txt)



Click on the File Menu and the following Window is displayed!

Manage ShopNCFiles (Haas 8111B 20200729.txt ready for Approval ShopNCFile Stage 1)

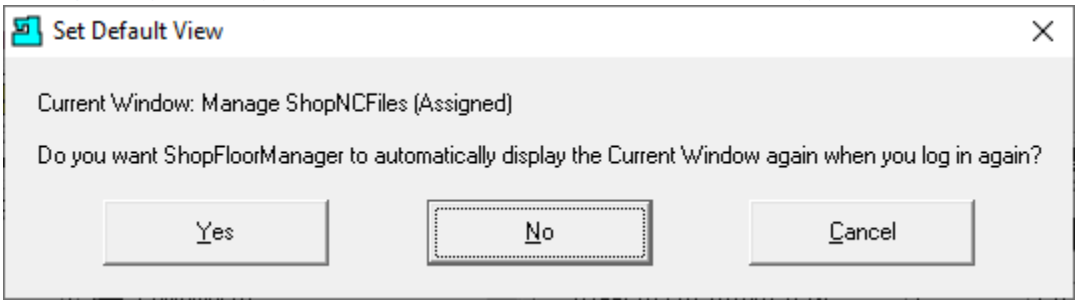


As you can see this file is ready to proceed to the first stage of the approval process. This User, Administrator, doesn't have the "Right" to Approve the present Stage 1 of this file. In order to Approve Stage 1, we have to logout of Administrator and login as a User who has that "Right".

Let's do that so you can see the first stage of the Approval Process for this File.

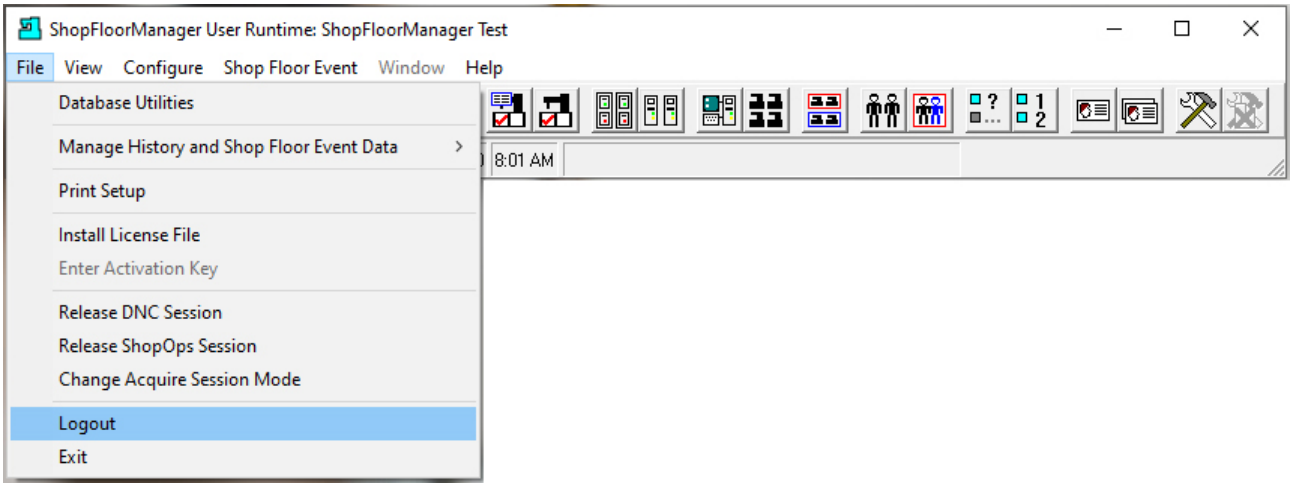
Click the File Menu and then the Logout Menu and the following Window is displayed.

Manage ShopNCFiles (Select the 3 STAGE ShopNCFile SIGN-OFF Approval)



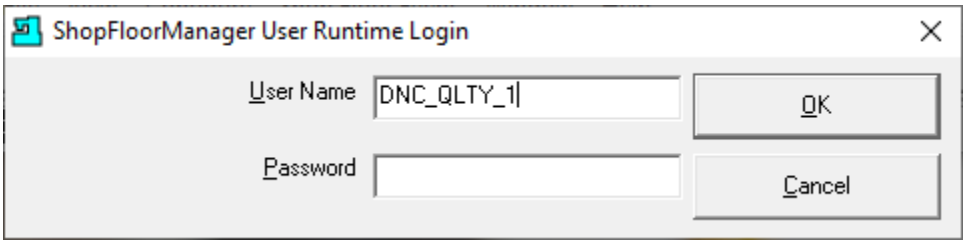
Click the Yes Button so when we return the View will remain the Same. See the following Window.

Manage ShopNCFiles (Login User DNC_QLTY_1)



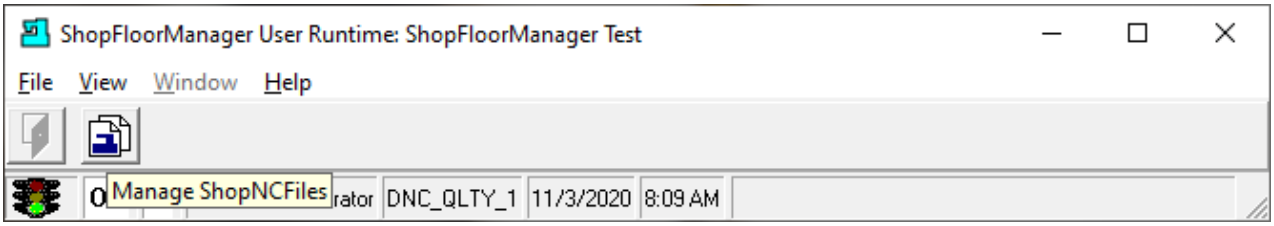
Click on the File Menu and then the Logout Menu and the following Window is displayed.

Manage ShopNCFiles (Login as DNC_QLTY_1)



Enter the User who will be Approving the First Stage of the ShopNCFile Approval and click the OK Button and the following Window is displayed.

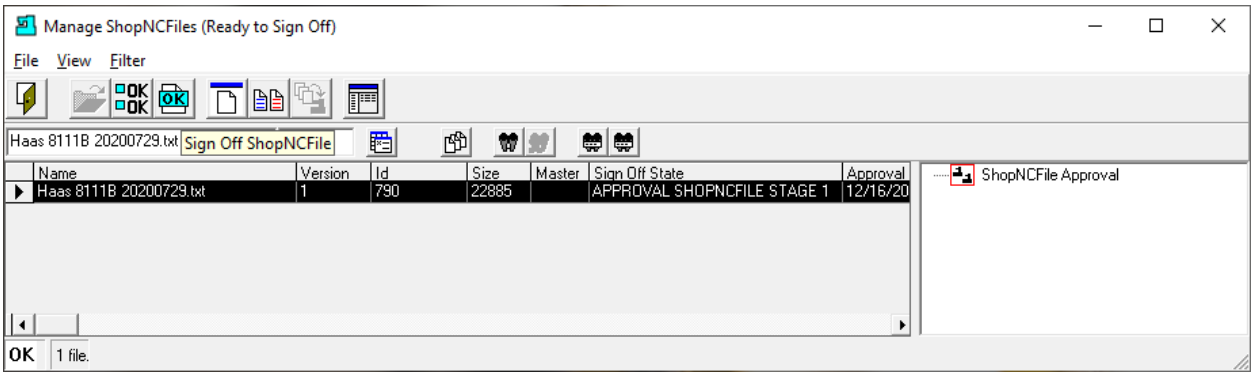
Manage ShopNCFiles (Logged in as DNC_QLTY_1)



As you can see the “Rights” granted to this User only allow them to Approve ShopNCFiles! That is why there are so few Features available! ShopFloorManager is very Secure!

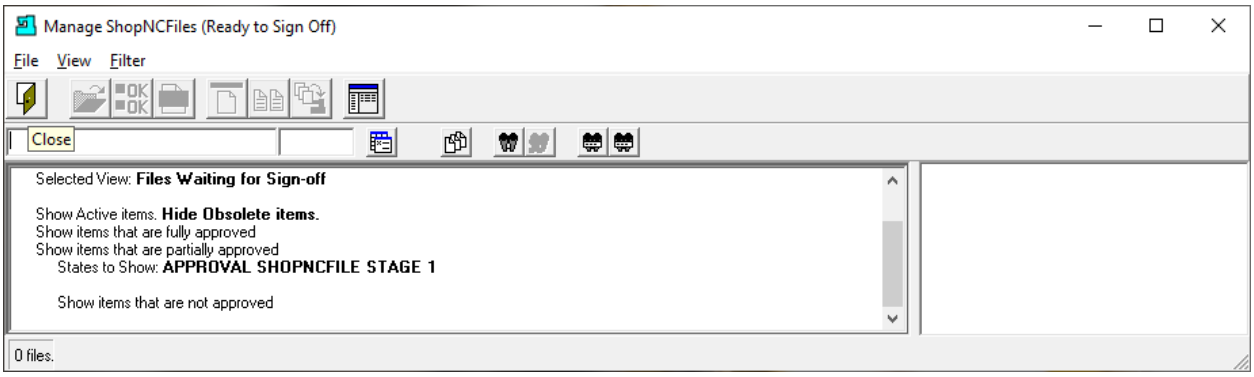
Click the Manage ShopNCFiles Icon and the following Window is displayed.

Manage ShopNCFiles (Login as DNC_QLTY_1)



In order to Approve this ShopNCFile Stage 1, click the OK Button and the following Window is displayed.

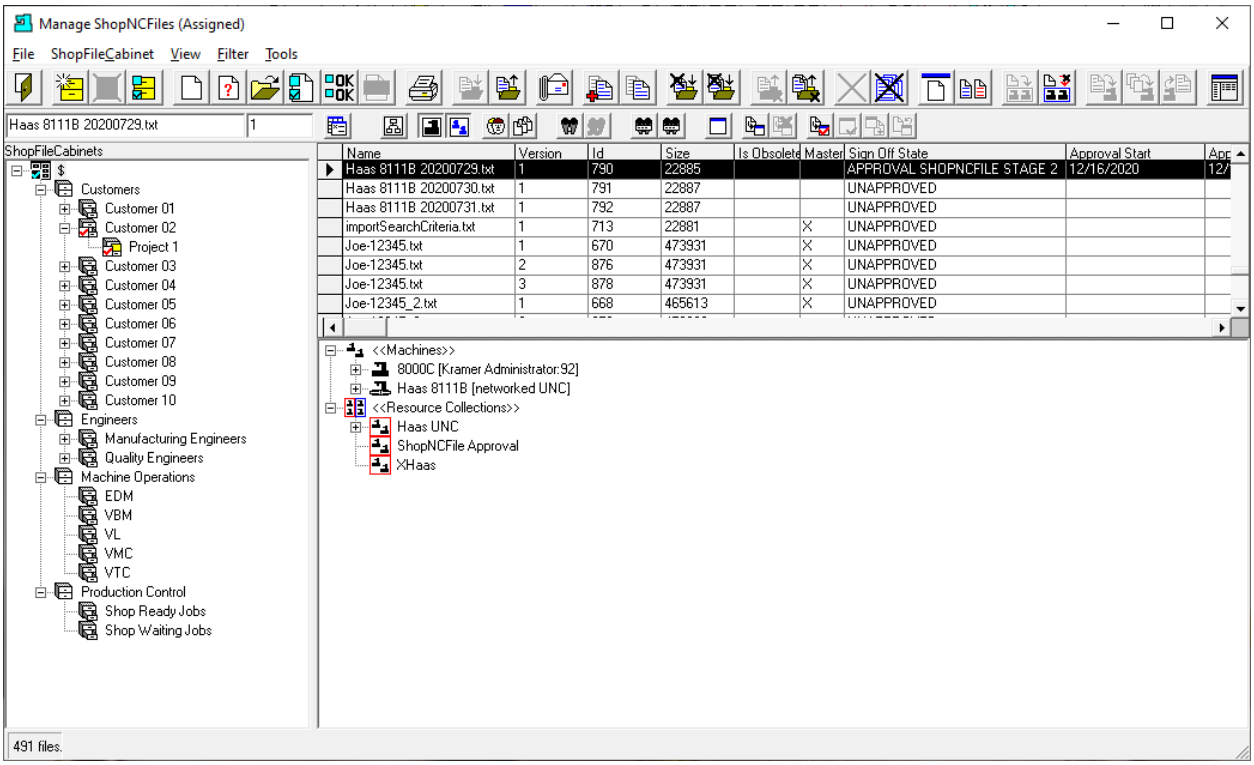
Manage ShopNCFiles (Blank Screen)



The ShopNCFile has been Approved and there are no other ShopNCFiles to be Approved. This is why the present Window is Blank!

Click the Close Icon and return to the previous Window and Click the File menu then the Logout Menu. Next login as Administrator and the following Window will be displayed.

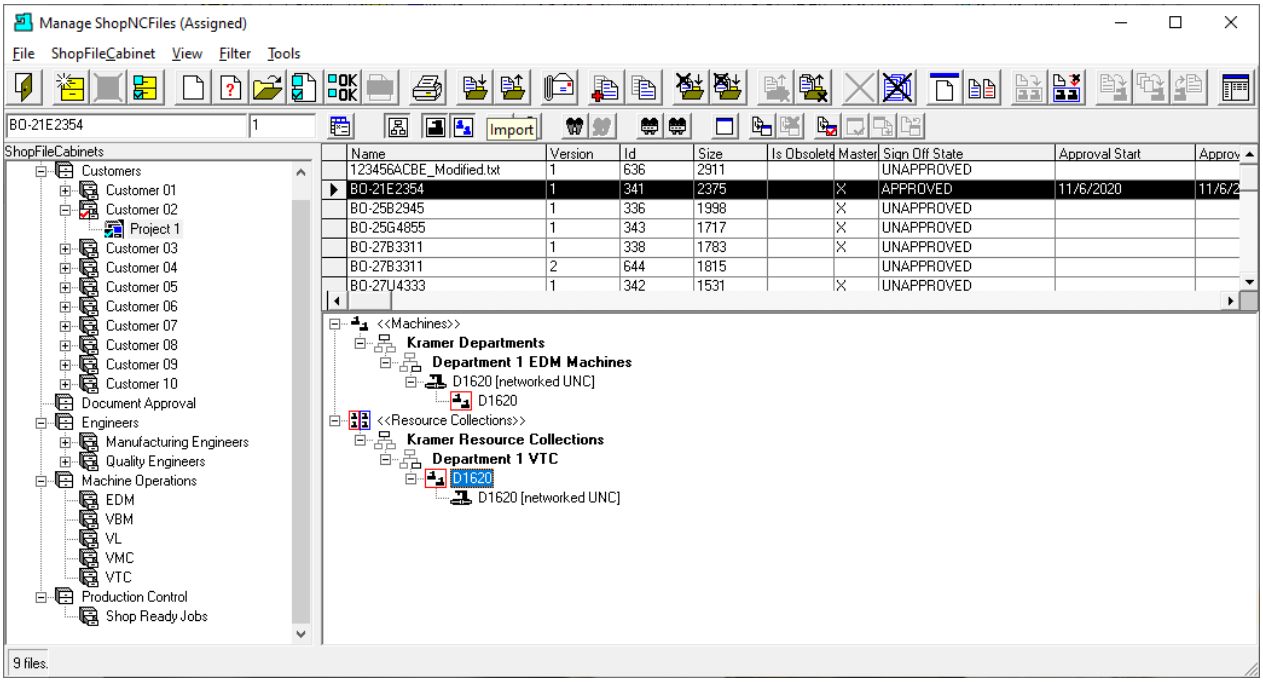
Manage ShopNCFiles (Haas 8111B 20200729.txt Moved to “Approval ShopNCFile Stage 2”)



As you can see this ShopNCFile has been Approved for Stage 1 and is ready for Approval for Stage 2. Until this ShopNCFile is completely Approved at all the Stages it won’t be ready for Production Operators.

To see how the Full Approval Process is create click the Approval Process.

Manage ShopNCFiles (Import)



There are several ways to Import ShopNCFiles into ShopFloorManager:

Manual Import
ShopFloorManager locates ShopNCFiles using Microsoft's File Explorer through ShopFloorManager.
Drag & Drop Importing
You can select ShopNCFiles from a folder and Drag & Drop them to a Resource Collection. In this View it would be D1620!
Maintenance Engine **Importing**
You can use ShopFloorManager's Maintenance Engine to Automatically Import any Files placed in a designated Folder. See Resource Collections for details.

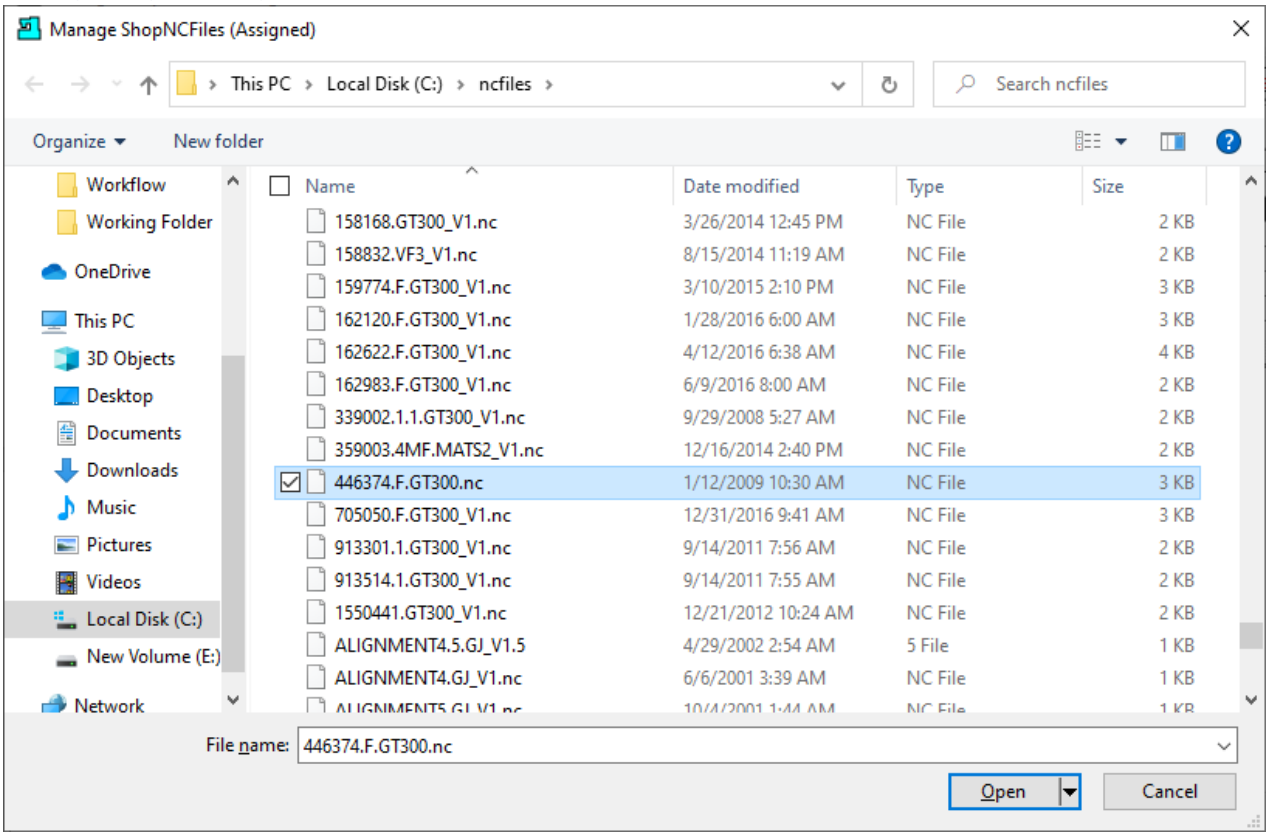
Note: In the above View you need to select a Resource Collection (D1620) and a ShopFileCabinet (Customer 02/Project 1) as the Imported ShopNCFile needs to be associated with both.

If the View chosen doesn't display ShopFileCabinets the imported ShopNCFiles will be placed in the Root ShopFileCabinet ($) by default!

We will demonstrate the use of Manal Import as the other choices are covered in other parts of this Manual.

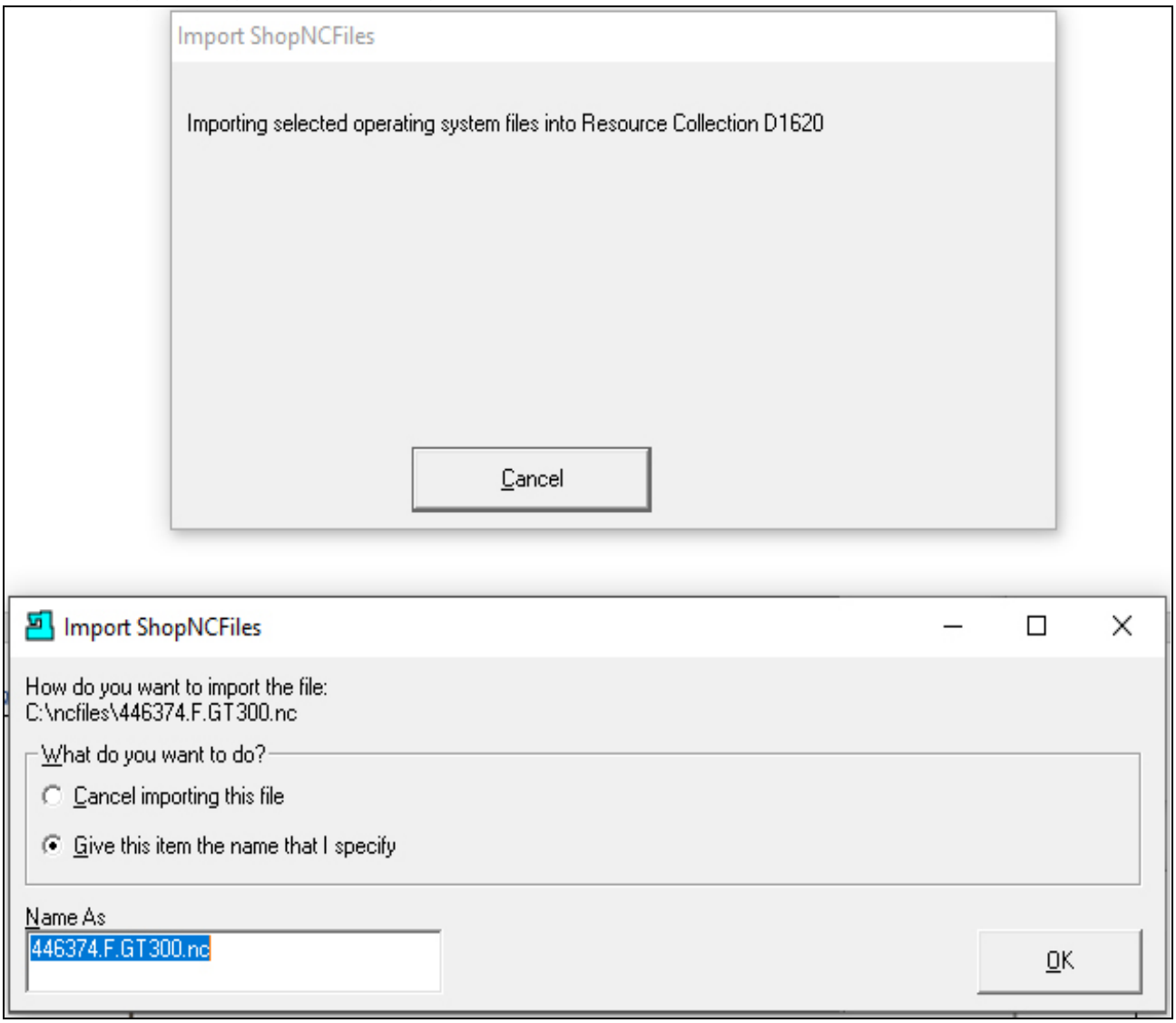
Click on the Import Icon and the following Window is displayed.

Manage ShopNCFiles (Manual Import 446374.F.GT300.nc)



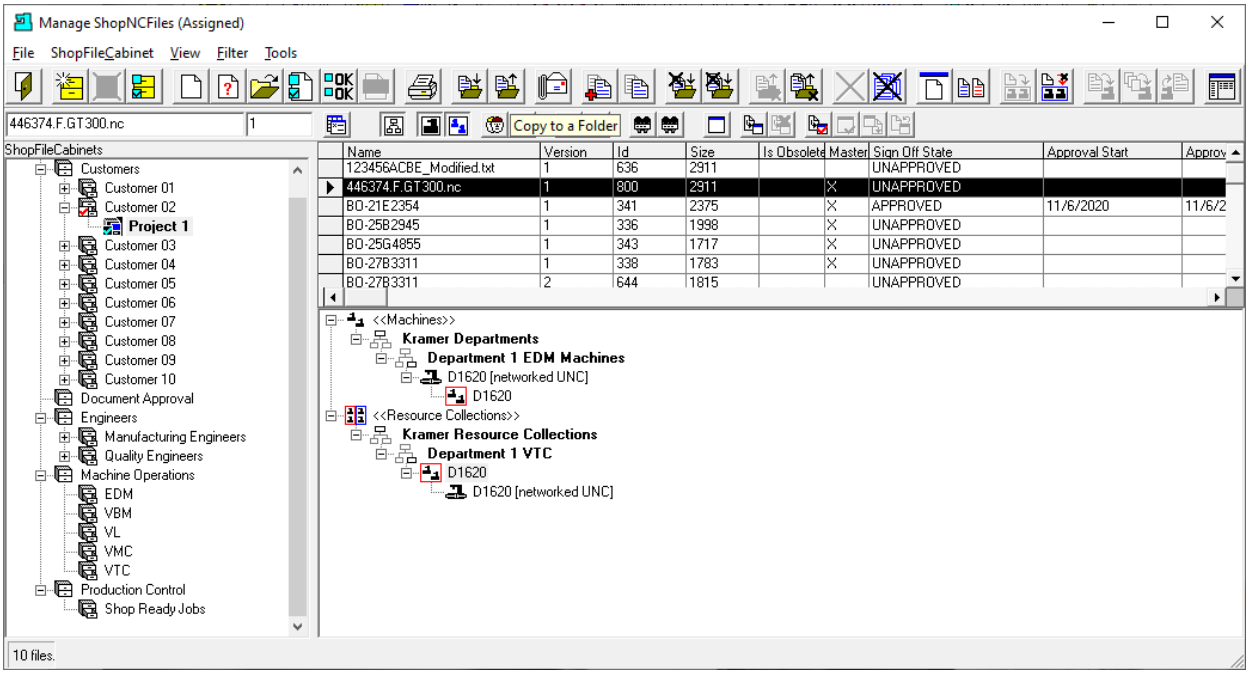
We have traversed several directories and have selected the ShopNCFile 446374.F.GT300.nc. Click the Open Button and the following Window is displayed.

Manage ShopNCFiles (Import ShopNCFiles)



We will accept the file name and click the OK Button and the following Window will be displayed.

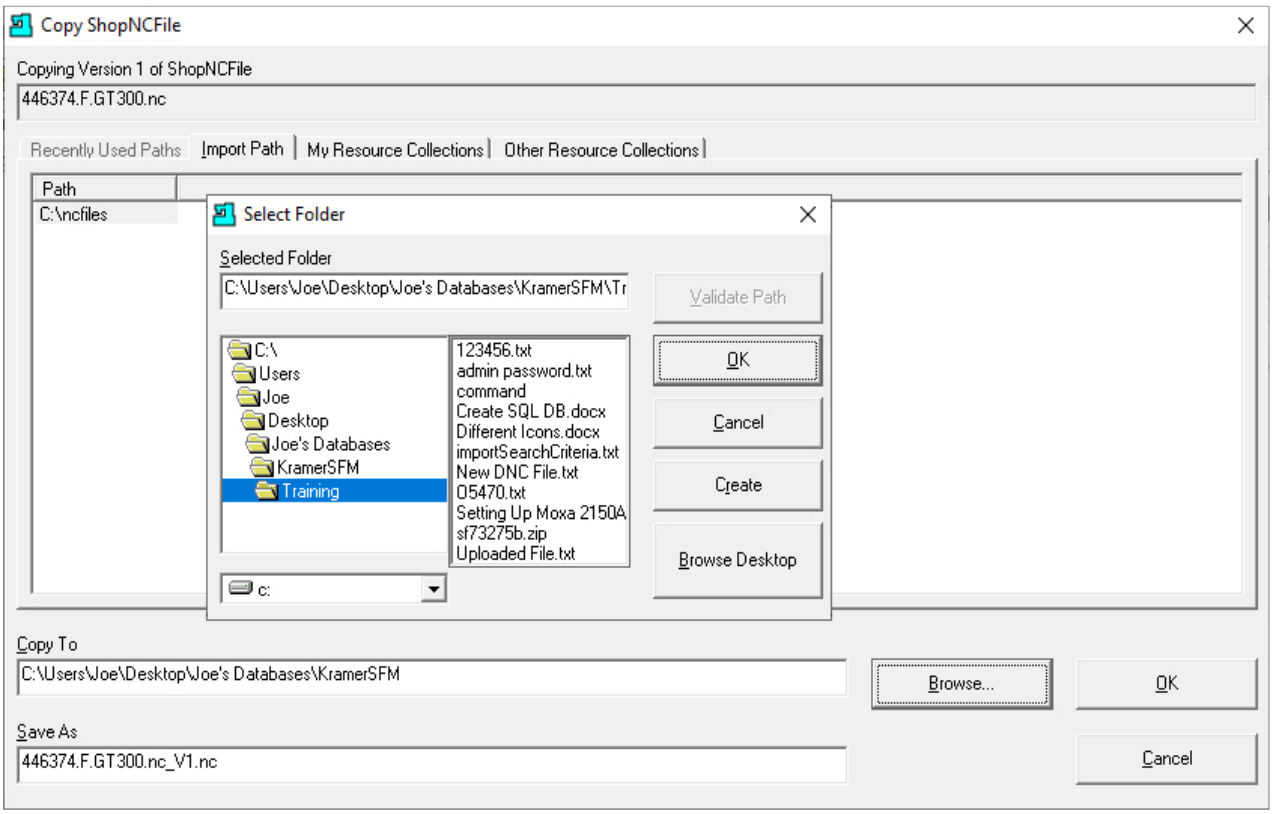
Manage ShopNCFiles (446374.F.GT300.nc Imported)



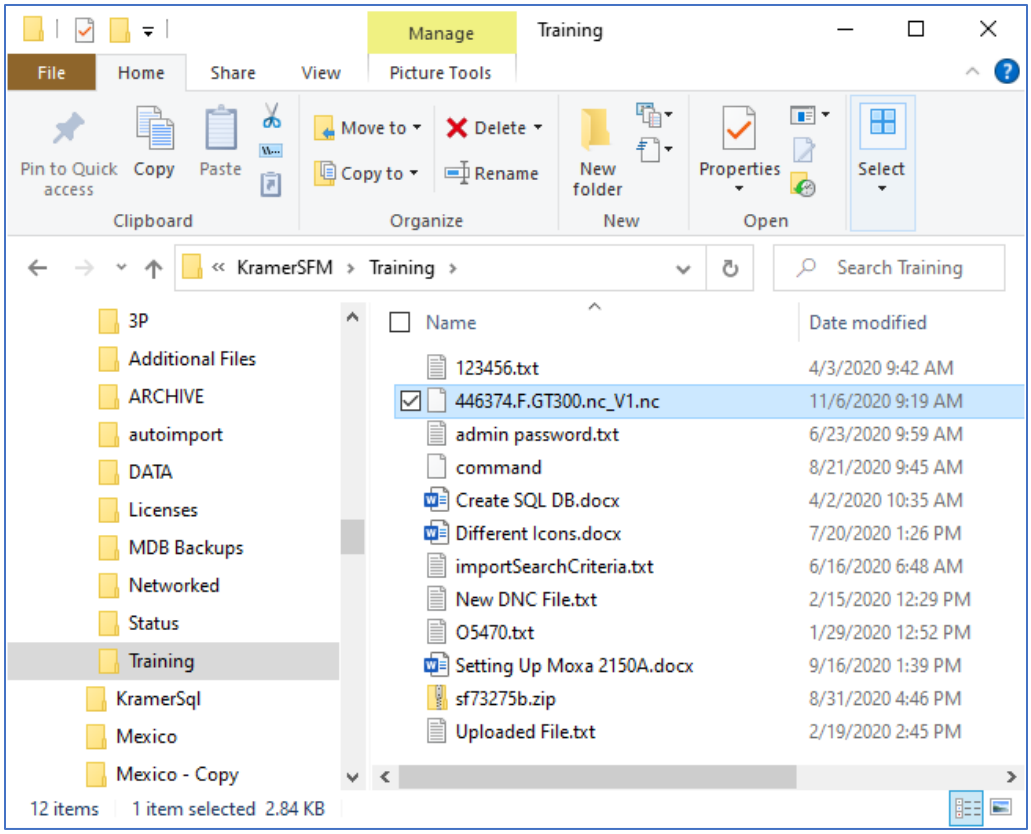
As you see the ShopNCFile was imported and associated with the Resource Collection D1620 & ShopFileCabinets Customer 02/Project 1. This file is Unapproved after being Imported!

Now let's see how to Copy a ShopNCFile to a Window's Folder. Select a ShopNCFile and click the Copy to a Folder Icon and the following Window will be displayed.

Manage ShopNCFiles (Copying ShopNCFile to a Folder)

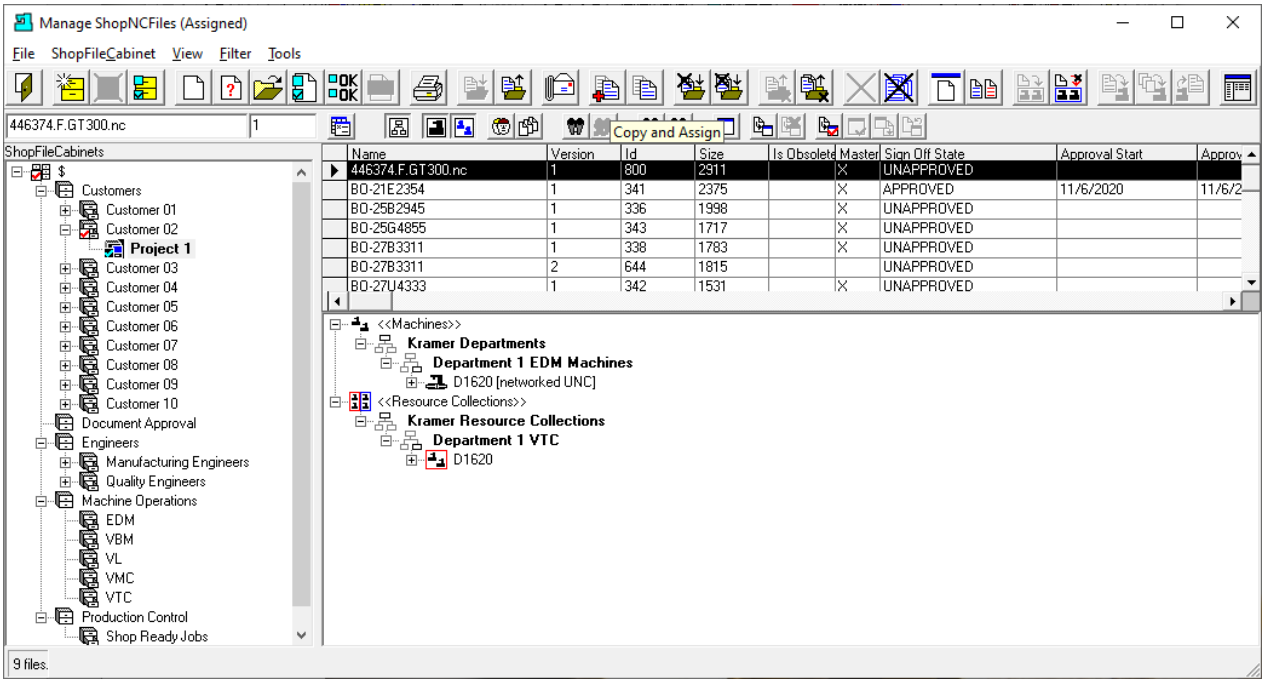


Browse to the Folder where you want to copy the File and click the OK Button and then click the OK Button on the Copy ShopNCFile. Following is a snapshot of the Folder:



As you can see this folder contains the copied file! Continue to the next Window.

Manage ShopNCFiles (Copy and Assign)

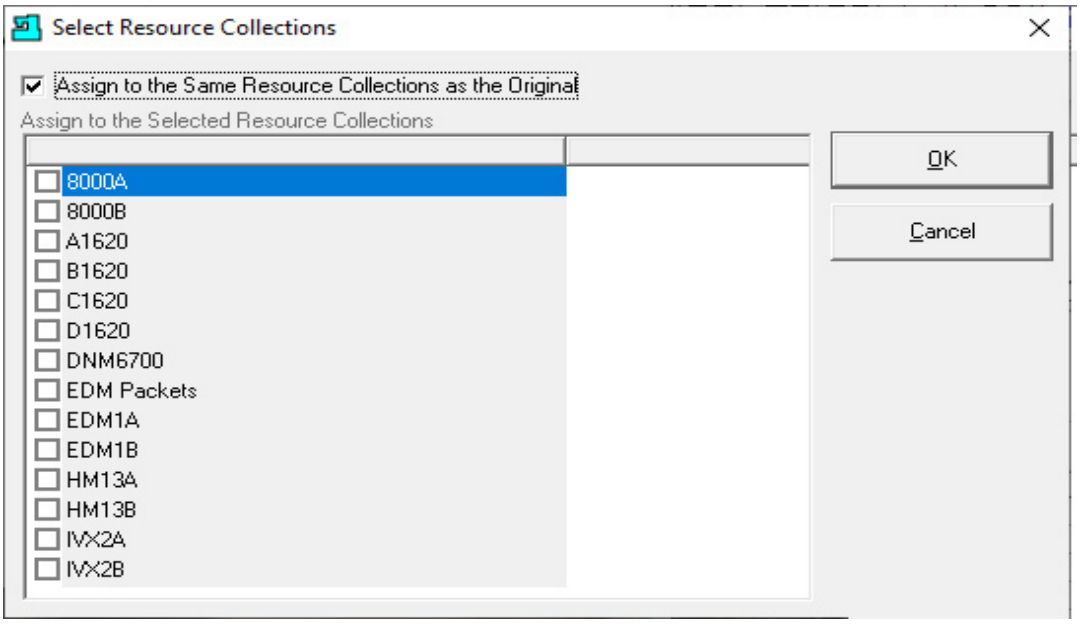


There are times when we need a new ShopNCFile that is almost identical in content as an existing ShopNCFile. Here is one way to create that file.

We can copy an existing ShopNCFile, rename it, and assign it to the same Resource Collection as the original.

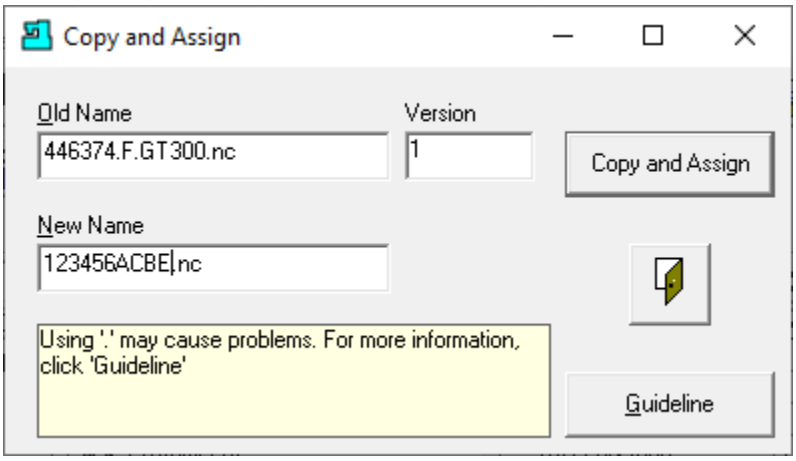
Select a ShopNCFile and click the Copy and Assign Icon and the following Window is displayed.

Manage ShopNCFiles (Copy & Assign Assign)



You can assign this ShopNCFile to the original Resource Collection or any other combination. Click the OK Button and the Following Window is displayed.

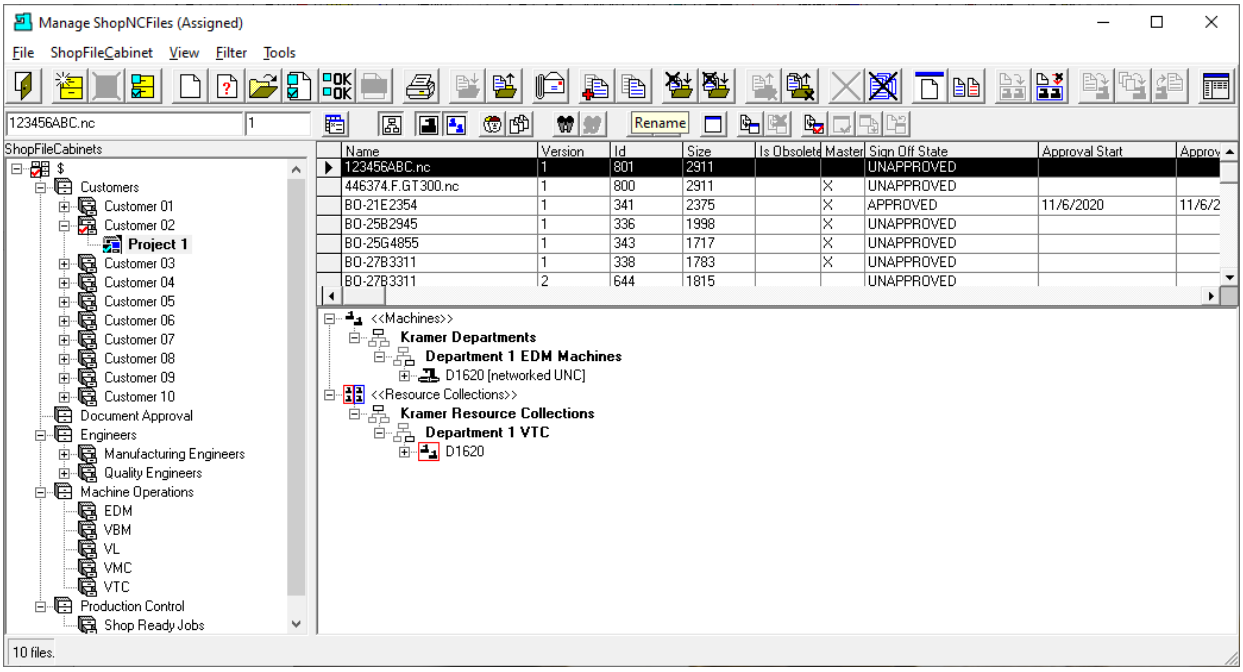
Manage ShopNCFiles (Copy & Assign New Name)



Enter the New Name and click the Copy and Assign Button and the following Window is displayed.

Note: If you kept the name the same the next version would be generated if your system is set for multi-version! If not, you would have to enter a new name!

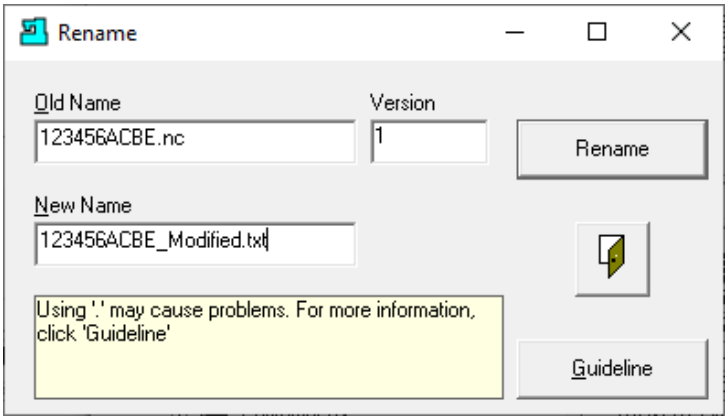
Manage ShopNCFile (Rename)



As you can see the existing ShopNCFile was copied to the new name. This ShopNCFile is Unapproved! Let's change the name of the ShopNCFile to another name.

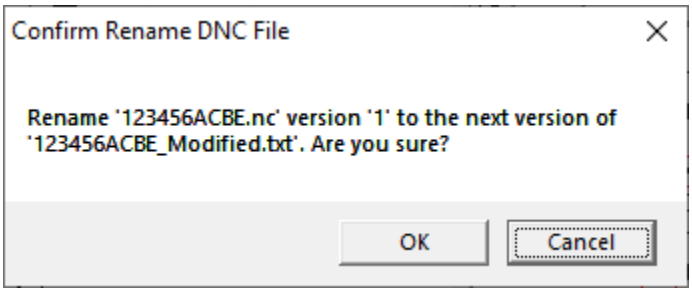
Click on the Rename Icon and the following Window is displayed.

Manage ShopNCFile (Rename)



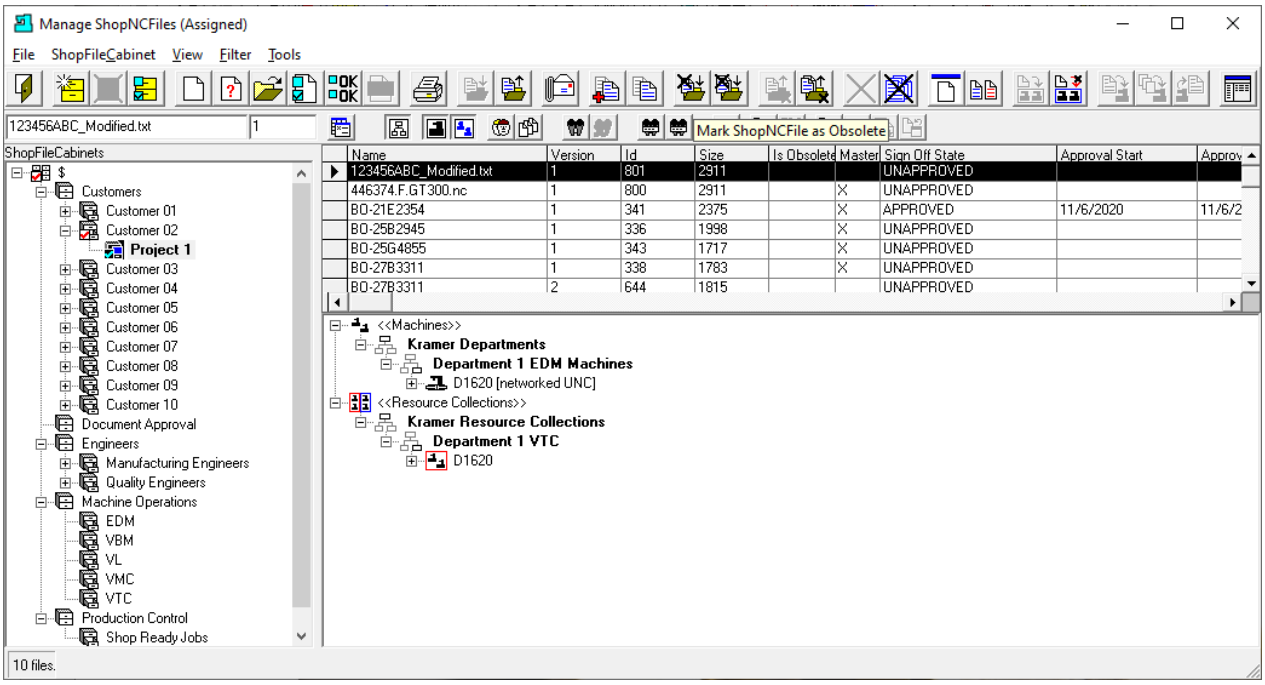
Enter the new name and click the Rename Button and the following Window will be displayed.

Manage ShopNCFile (Confirmation Window Rename)



Click the OK Button and the following Window will be displayed.

Manage ShopNCFiles (Mark Obsolete)

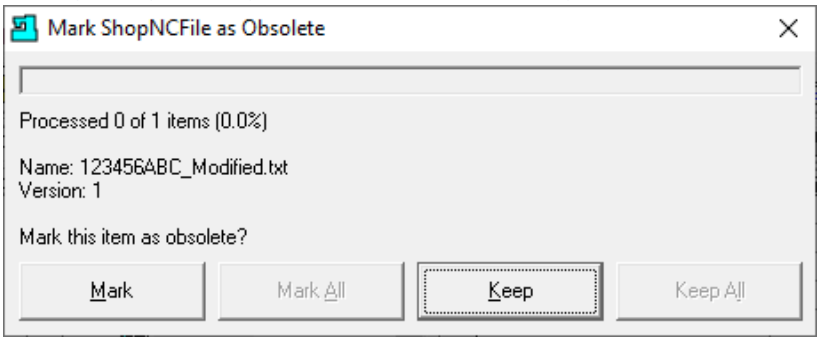


As you can see the name was changed!

Now let's mark this ShopNCFile as Obsolete. Click the "Mark ShopNCFile as Obsolete" Icon and the following Window will be displayed.

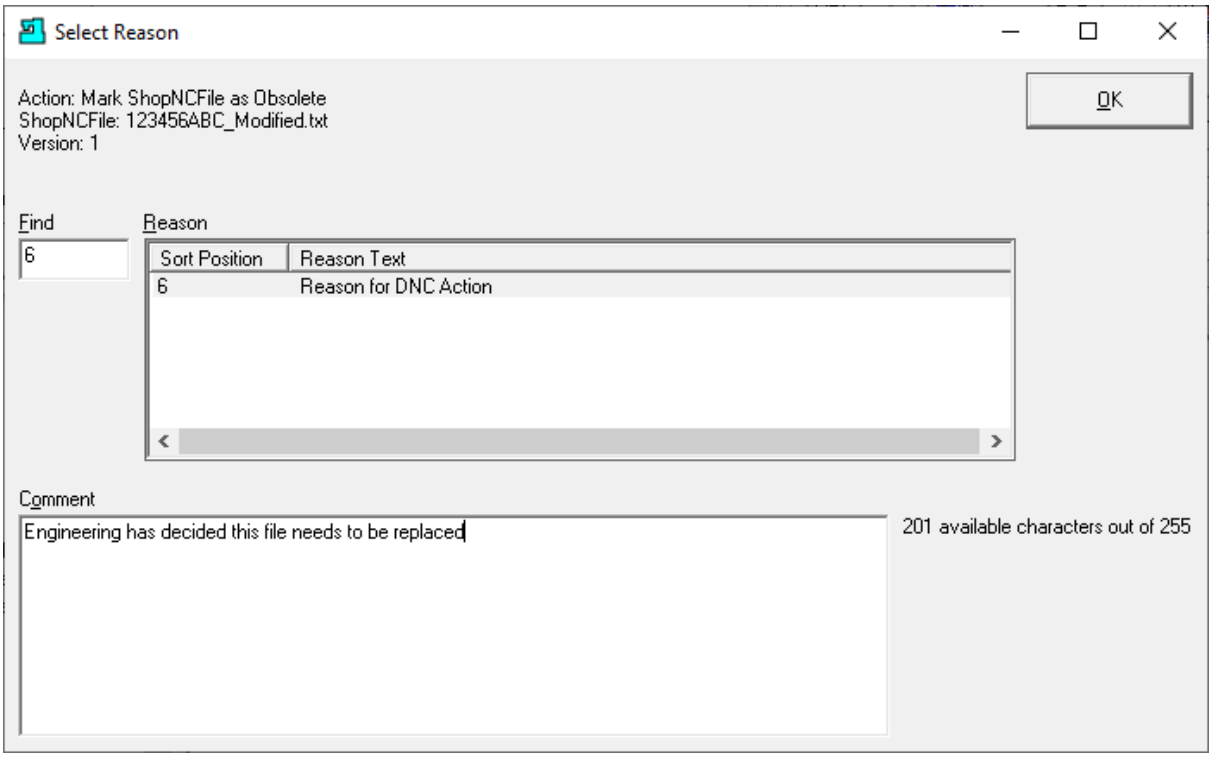
Note: See the Section "How to delete ShopNCFiles and ShopDocuments" on how to handle Obsoleting & Deleting ShopNCFiles, ShopDocuments or ShopOperations. If these are marked Obsolete, they will not be accessible to anybody who doesn't have the "Right" to access Obsolete Files. These files will still maintain the normal references in the database so if they are ever reset to Normal Files status, they will maintain those references.

Manage ShopNCFile (Mark ShopNCFile as Obsolete)



Click on the Mark Button and the Following Window will be displayed.

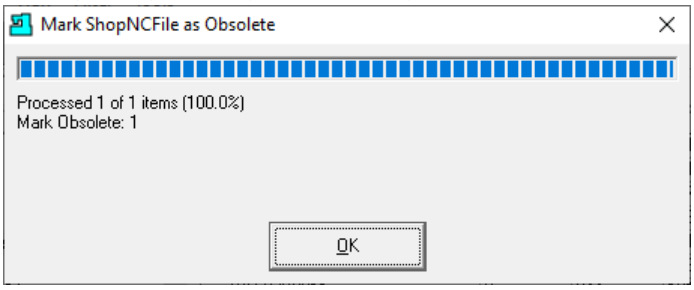
Manage ShopNCFile (Select Reason Obsolete)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

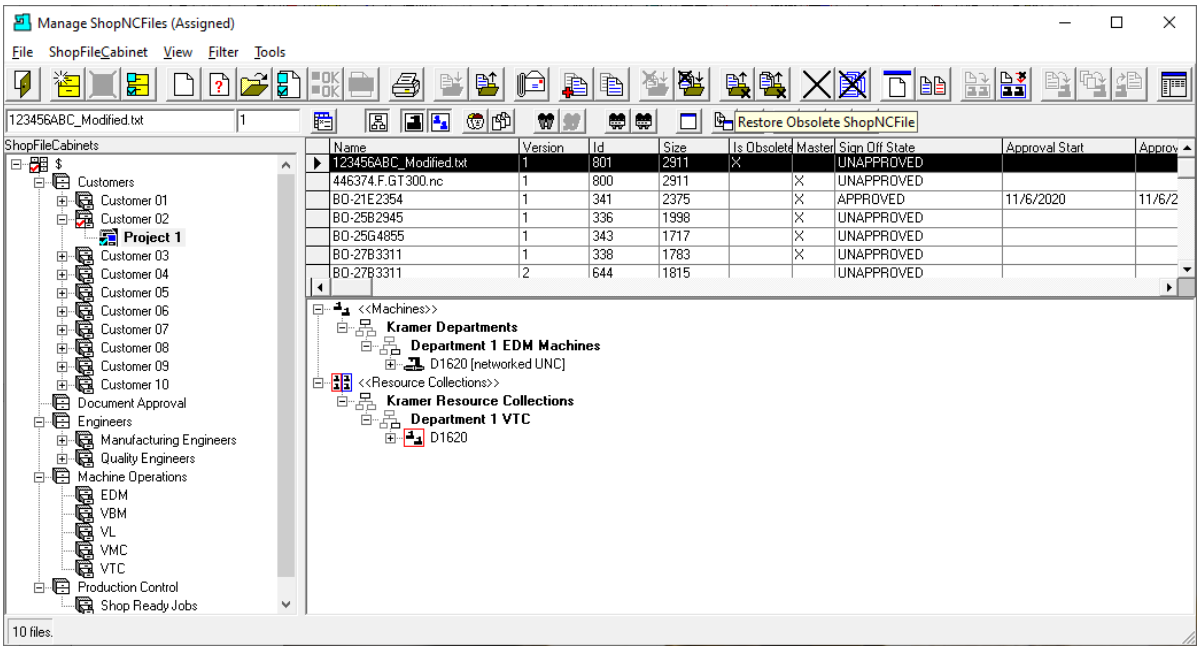
The following Window is displayed.

Manage ShopNCFile (Update Notice)



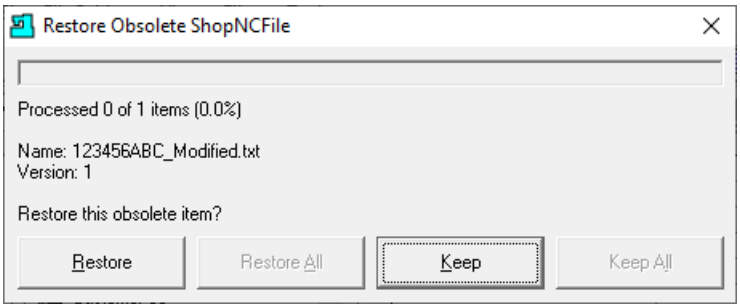
Click the OK Button and the following Window is displayed.

Manage ShopNCFiles (Restore Obsolete ShopNCFile)



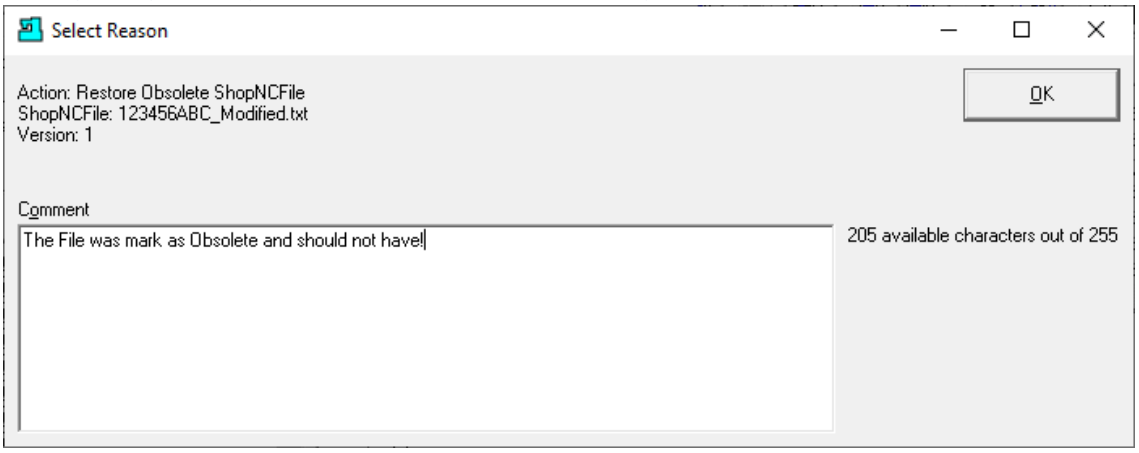
As you can see the file was Marked Obsolete. We will now restore the ShopNCFile to a 'normal' ShopNCFile. Select the ShopNCFile and click the Restore Obsolete ShopNCFile and the following Window will be displayed.

Manage ShopNCFile (Restore Obsolete ShopNCFile)



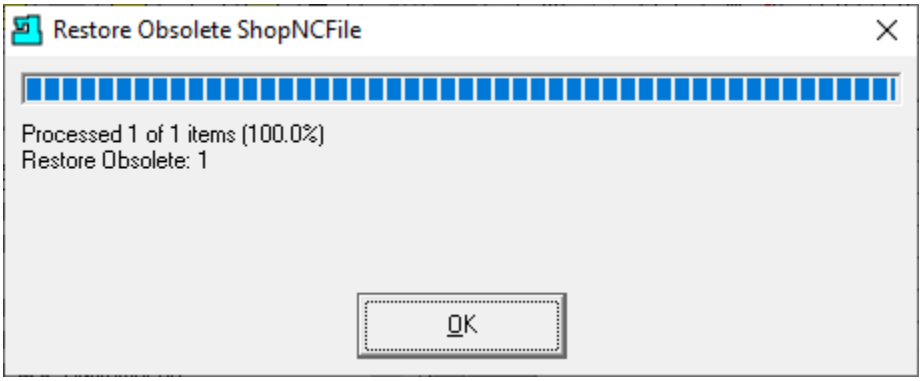
Click the Restore Button and the following Window will be displayed.

Manage ShopNCFile (Restore Obsolete ShopNCFile Reason)



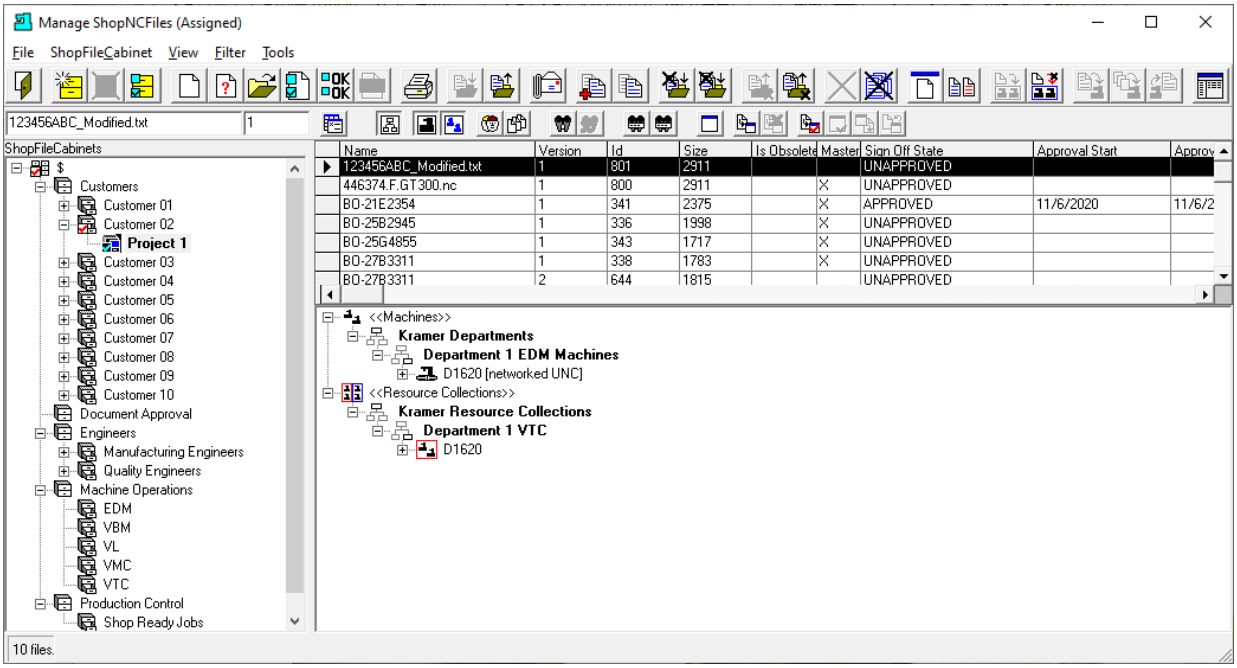
Type in a Reason for restoring the ShopNCFile to Normal and click the OK Button and the following Window is displayed!

Manage ShopNCFile (Update Notice)



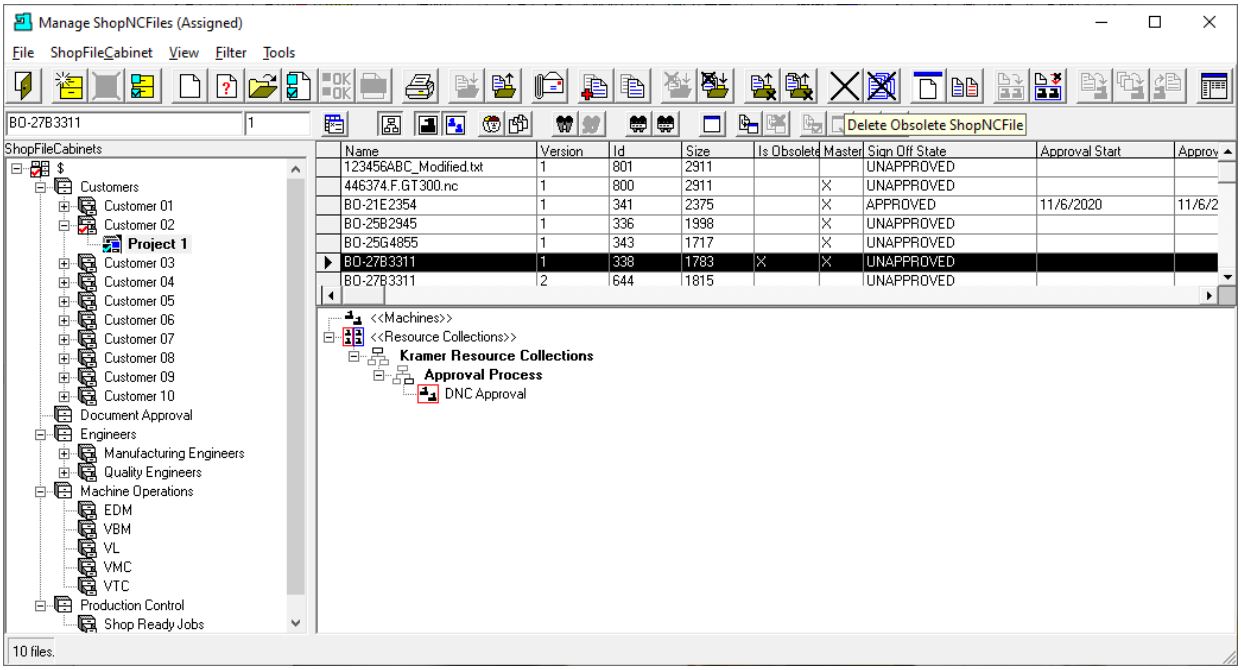
Click the OK Button and the following Window will be displayed.

Manage ShopNCFiles (Restored file from Obsolete to ‘normal’)



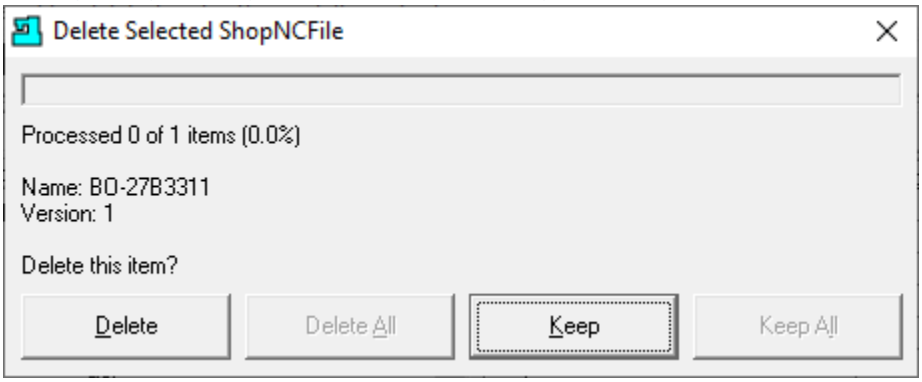
You can see the file has been restored to a ‘normal’ ShopNCFile.

Manage ShopNCFile (Delete a File Marked as Obsolete)



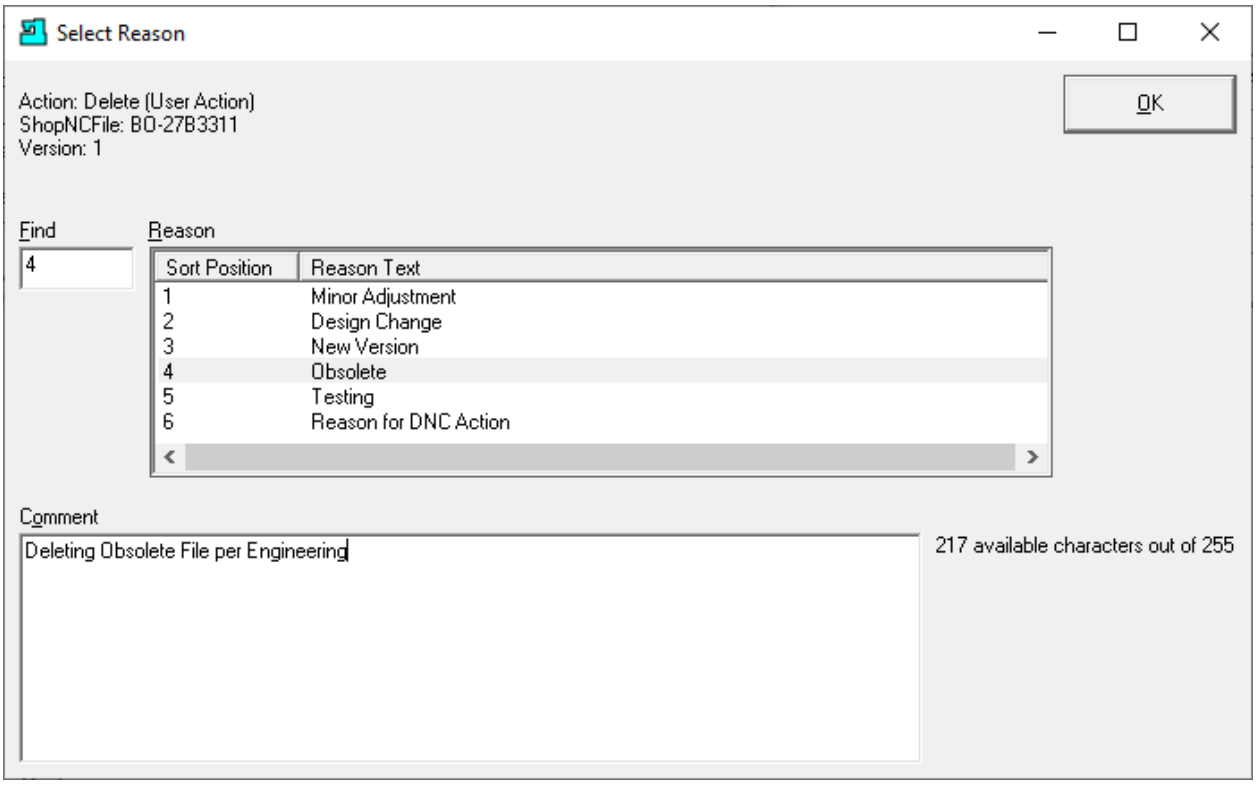
To delete an Obsolete ShopNCFile click on the “Delete Obsolete ShopNCFile” Icon & the following Window will be displayed.

Manage ShopNCFile (Delete Selected ShopNCFile)



Click the Delete Button and the following Window will be displayed.

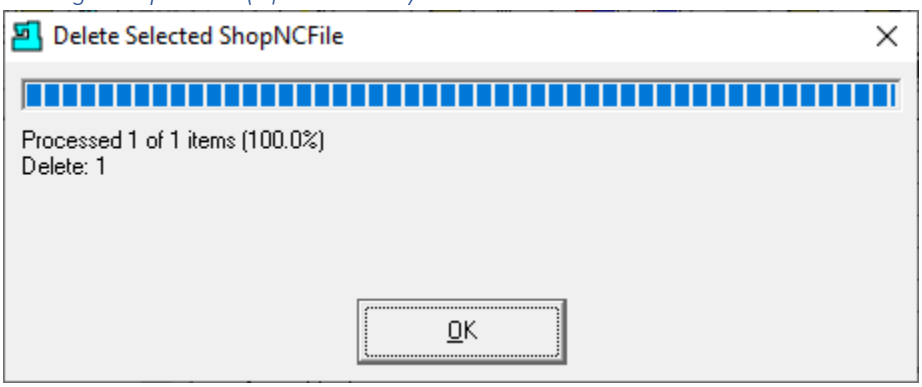
Manage ShopNCFile (Select Reason)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

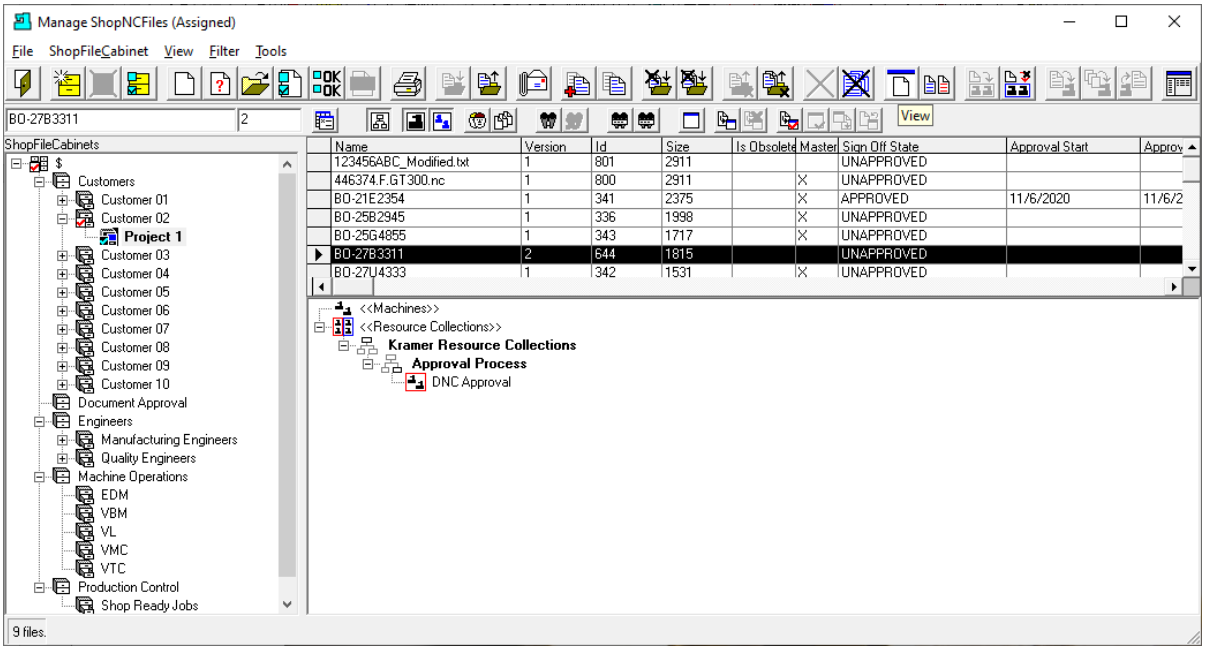
The following Window is displayed.

Manage ShopNCFile (Update Notice)



Click the OK Button and the following Window will be displayed.

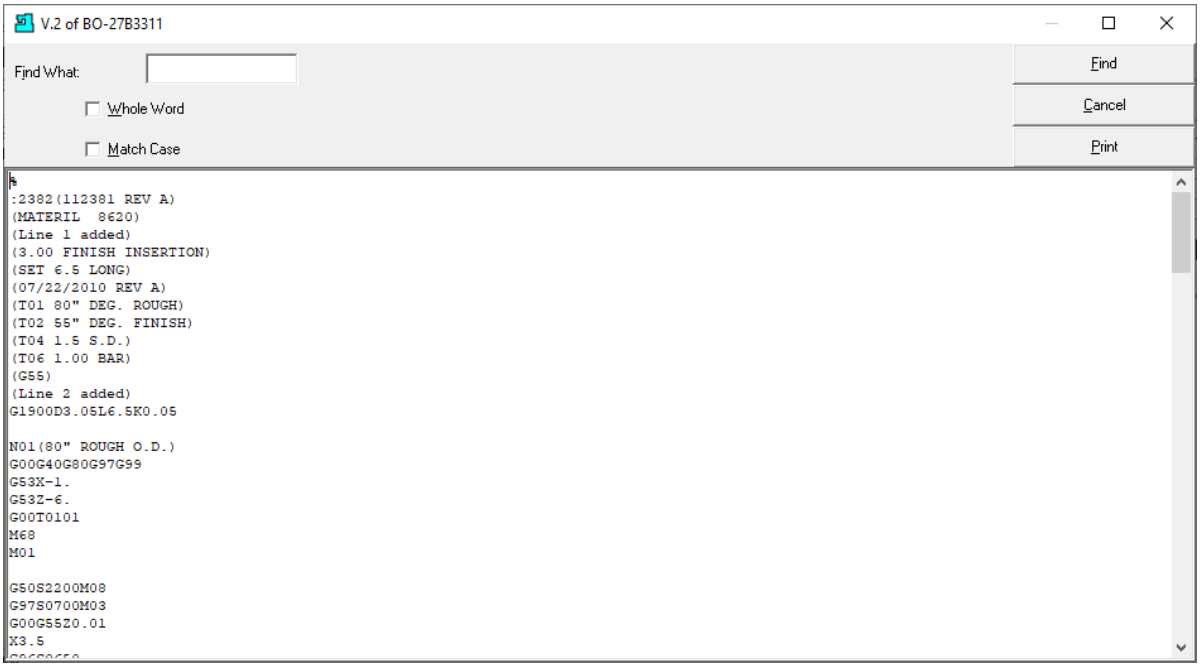
Manage ShopNCFiles (View File's Content)



As you can see the previous Obsolete ShopNCFile was deleted and automatically Archived. See Manage Archived ShopNCFiles and Manage Archived ShopDocuments for more information!

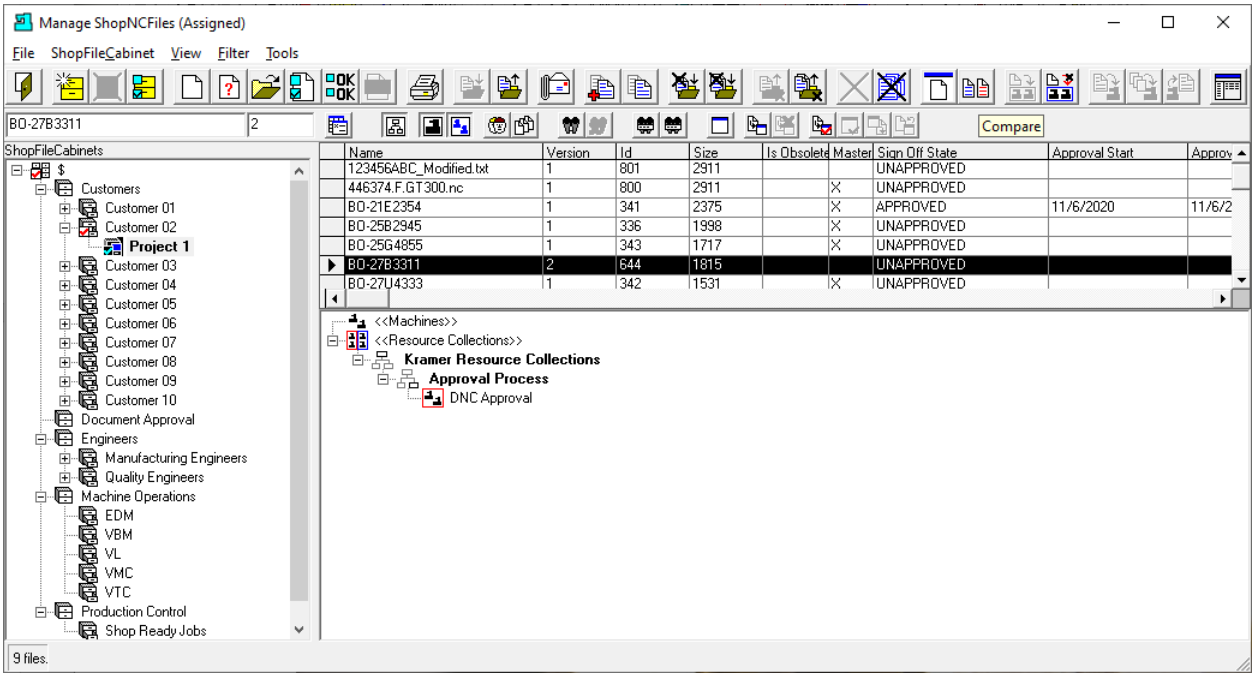
To View the contents of a ShopNCFile select the ShopNCFile of interest and click the View Button and the following Window will be displayed.

Manage ShopNCFile (Viewing File B0-27B3311)



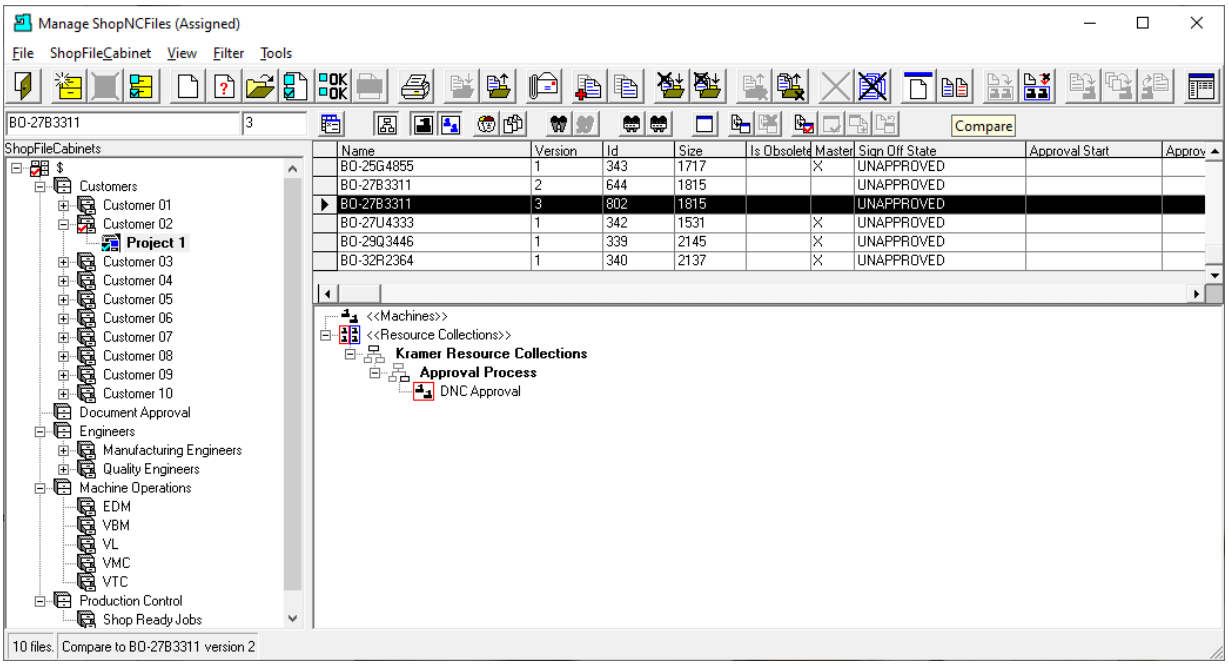
After viewing the ShopNCFile click the Cancel Button and the Following Window will be displayed.

Manage ShopNCFiles (Compare: Choose first File BO-27B3311 ver. 2)



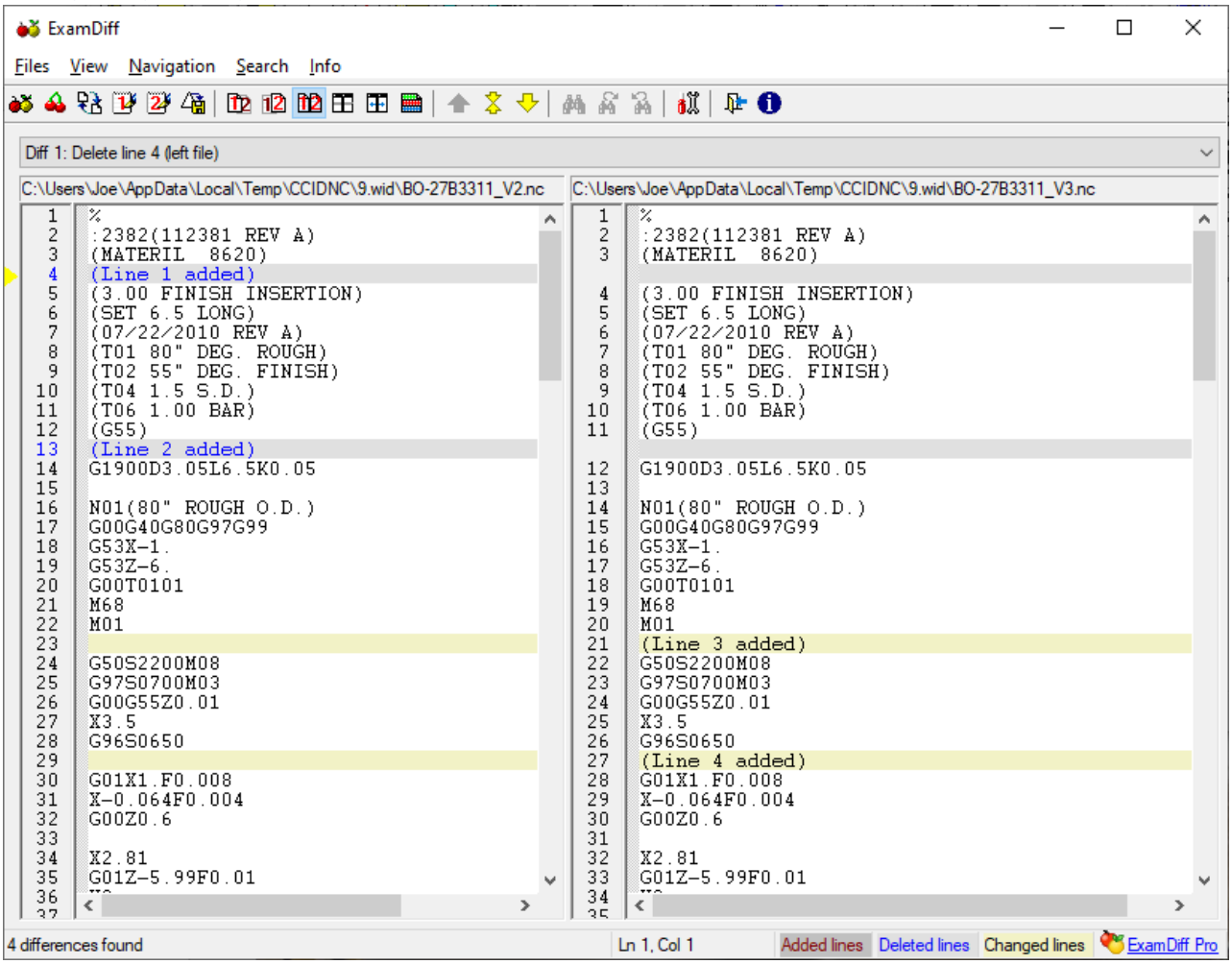
There are times when you need to check the difference between two ShopNCFiles. Select the first ShopNCFile & click on the Compare Icon and the following Window is displayed.

Manage ShopNCFiles (Compare: Choose second File BO-27B3311 ver. 3)



Now select the second ShopNCFile & click on the Compare Icon and the following Window is displayed.

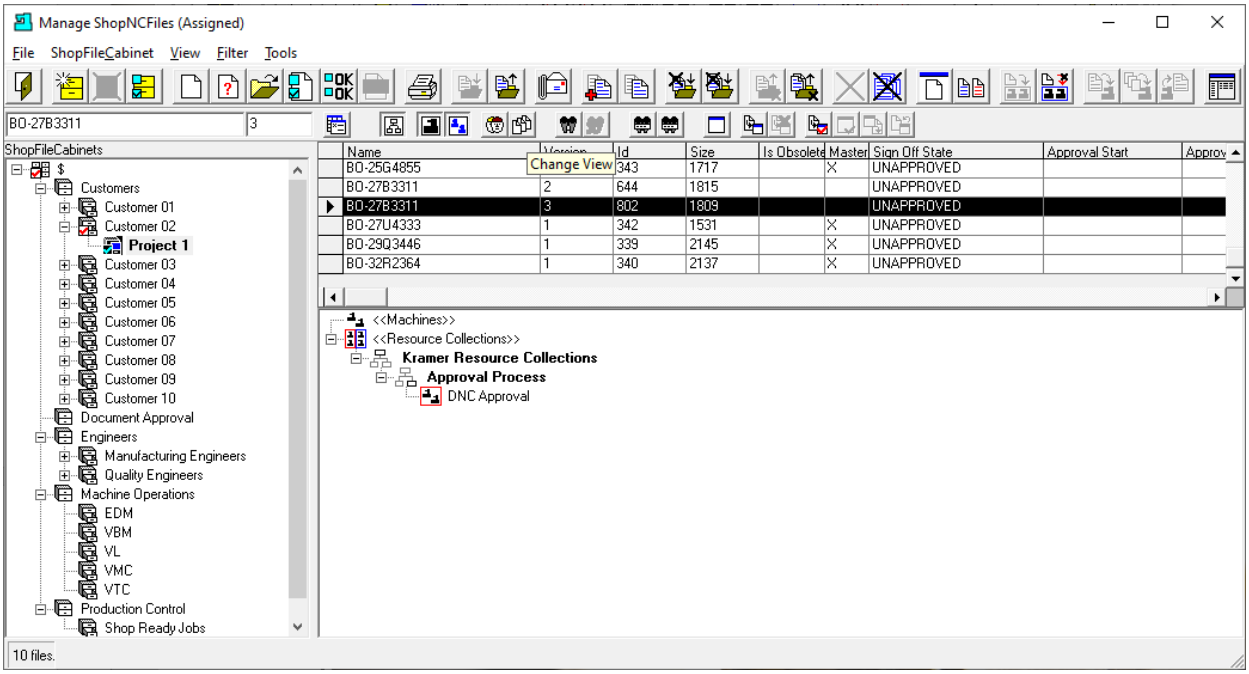
Manage ShopNCFile (Compare Application)



You can see that this Application displays the differences in the selected ShopNCFiles. There are several versions of this compare application available. Call CCI for details. 1-781-933-9500.

Close the Application when done and the following Window is displayed.

Manage ShopNCFiles (Change View)

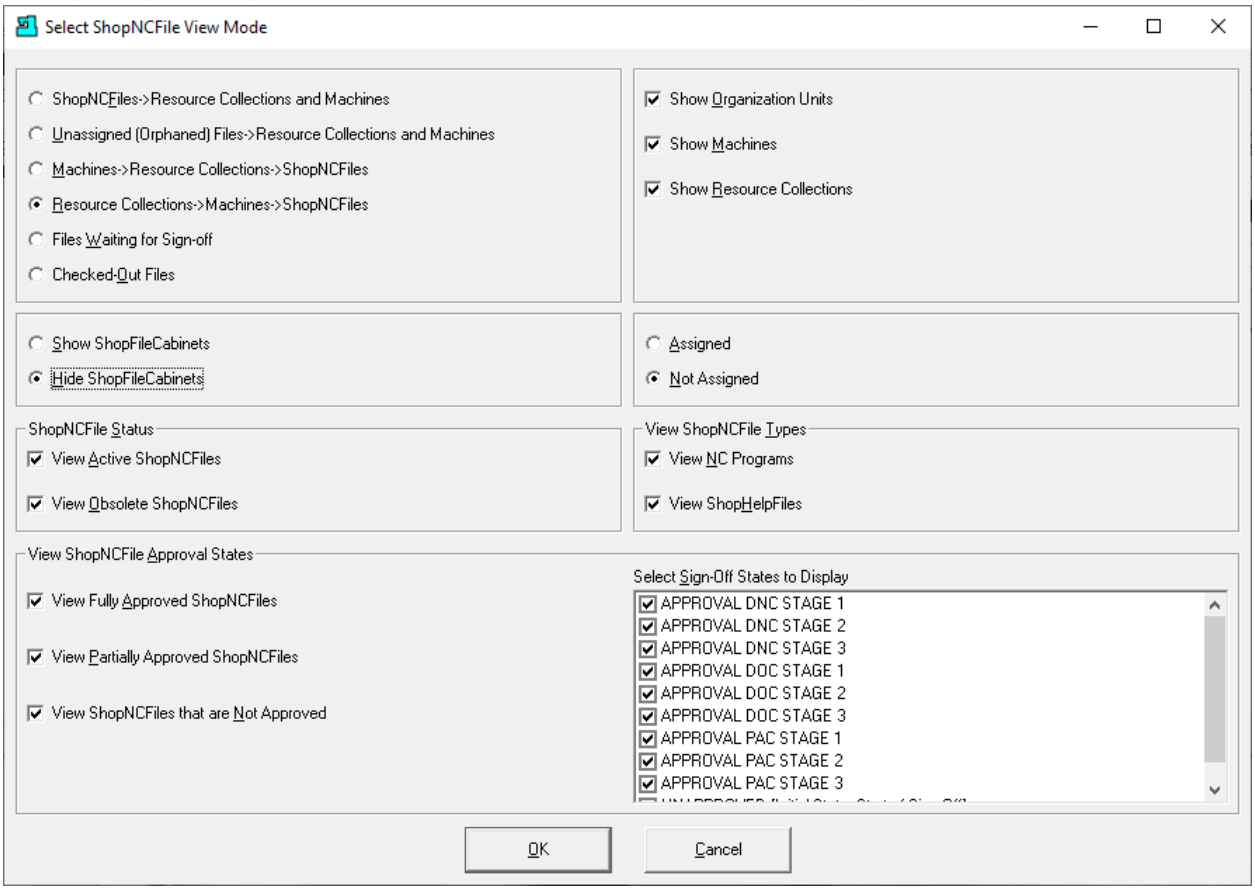


When working with Files there are times when it is more productive if we could view their relationships in a different perspective! That's where the ShopFloorManager's "ShopNCFile View Mode" comes in handy.

Let's use ShopFloorManager's "ShopNCFile View Mode" to change how we view these ShopNCFile Relationships. We are presently looking at ShopNCFiles that are Assigned to Resource Collections. What we would like to view is ShopNCFiles that have not been associate with particular Resource Collections.

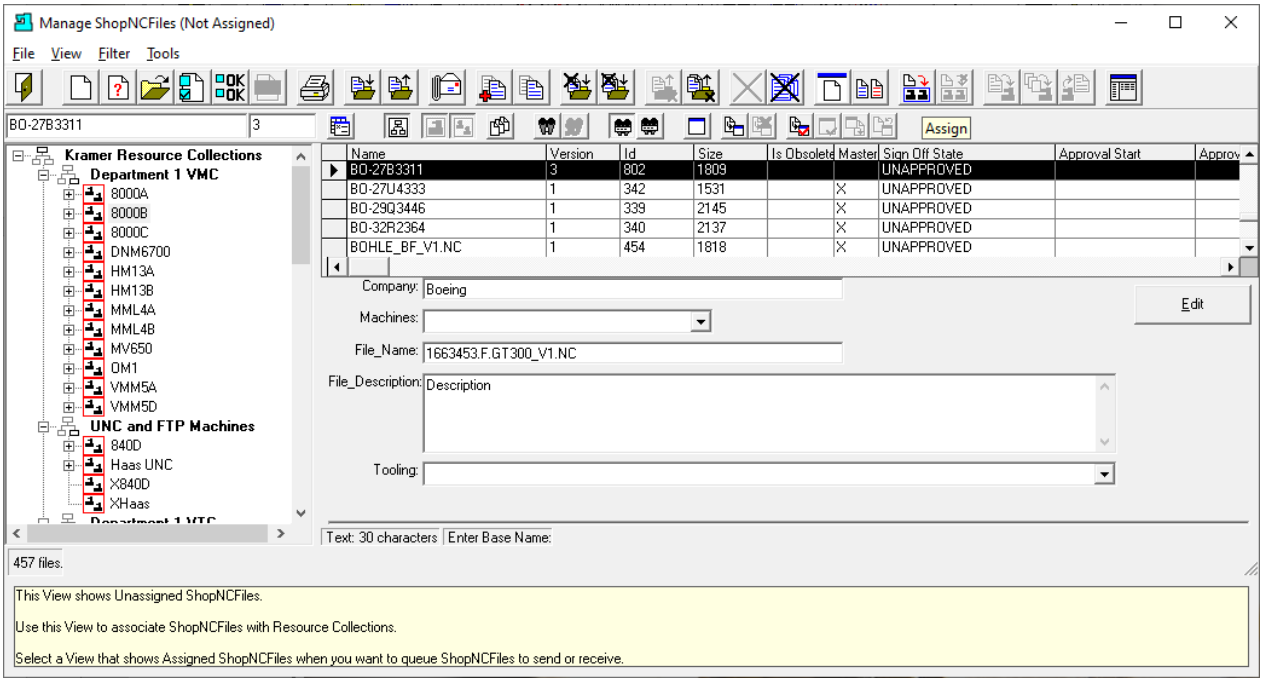
Click on the Change View and the following Window will be displayed.

Manage ShopNCFile (Select ShopNCFile View Mode - Assigned to Not Assigned)



After changing ‘Assigned’ to ‘Not Assigned’, ‘ShopNCFiles->Resource Collections and Machines’ to ‘Resource Collections->ShopNCFiles’ and ‘Show ShopFileCabinets’ to ‘Hide ShopFileCabinets’, click the OK Button and the following Window will be displayed.

Manage ShopNCFiles (Unassigned)



The selected Change View might not be the best view for each User but with a little experience you will be able to select the options that work best for you.

Choose the Resource Collection you want to associate with a particular File. Remember that Resource Collections can be associated with Machine Tools, ShopNCFiles & ShopOperations.

If you are choosing associations between Resource Collections & ShopNCFile(s) based on a particular relationship you may want to User ShopFloorManager's Search Engine to help locate these Files.

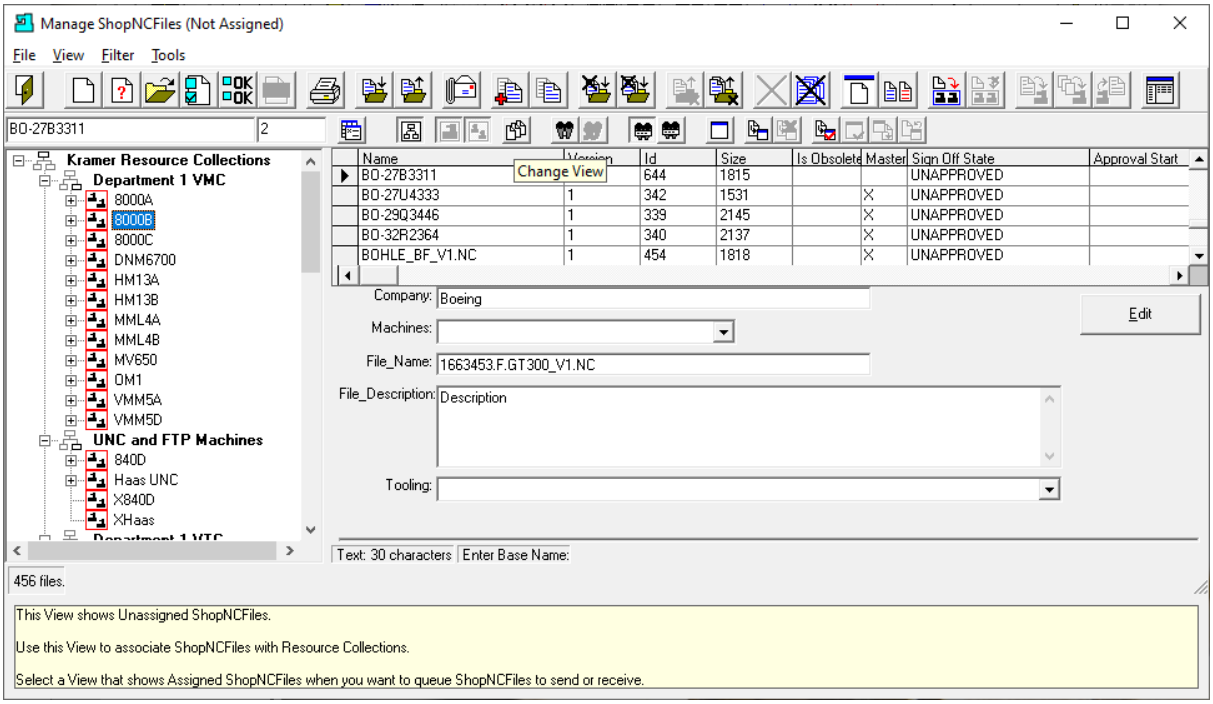
Using ShopFloorManager a User can create Key Fields to associate with ShopNCFiles, ShopOperations & ShopDocuments. These Key Fields are populated with data relevant to each of these.

These Key to Data associations can be used to help locate the appropriate Files you are looking to associate with a Resource Collection.

You can see the associate Key Fields and Data for this particular File. To find all files that are associated with particular Key Fields you can use ShopFloorManager's Search Engine. (Use described elsewhere)

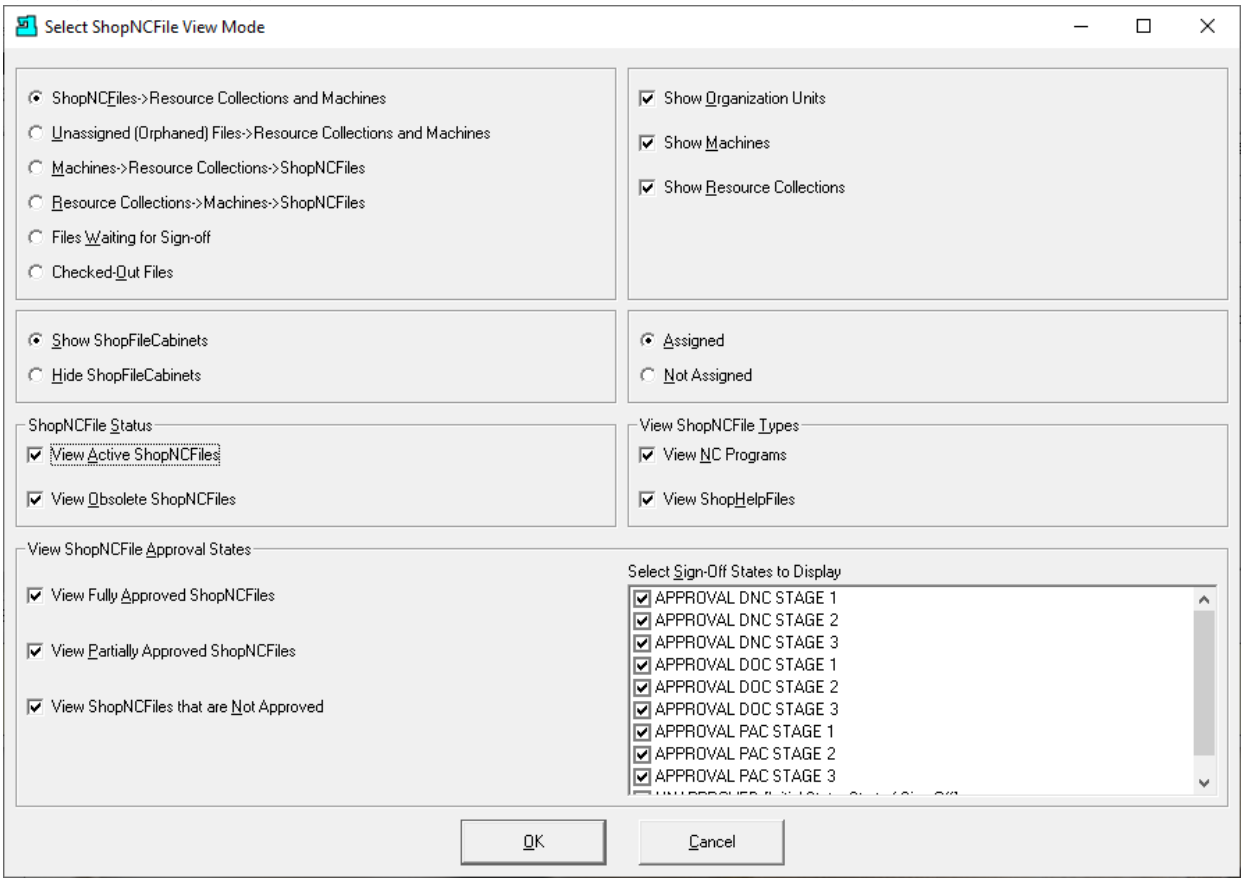
Once you have associated the chosen Resource Collection (8000B) with a ShopNCFile click the Assign Icon and the following Window will be displayed.

Manage ShopNCFiles (BO-27B331 Version 2 was Assigned)



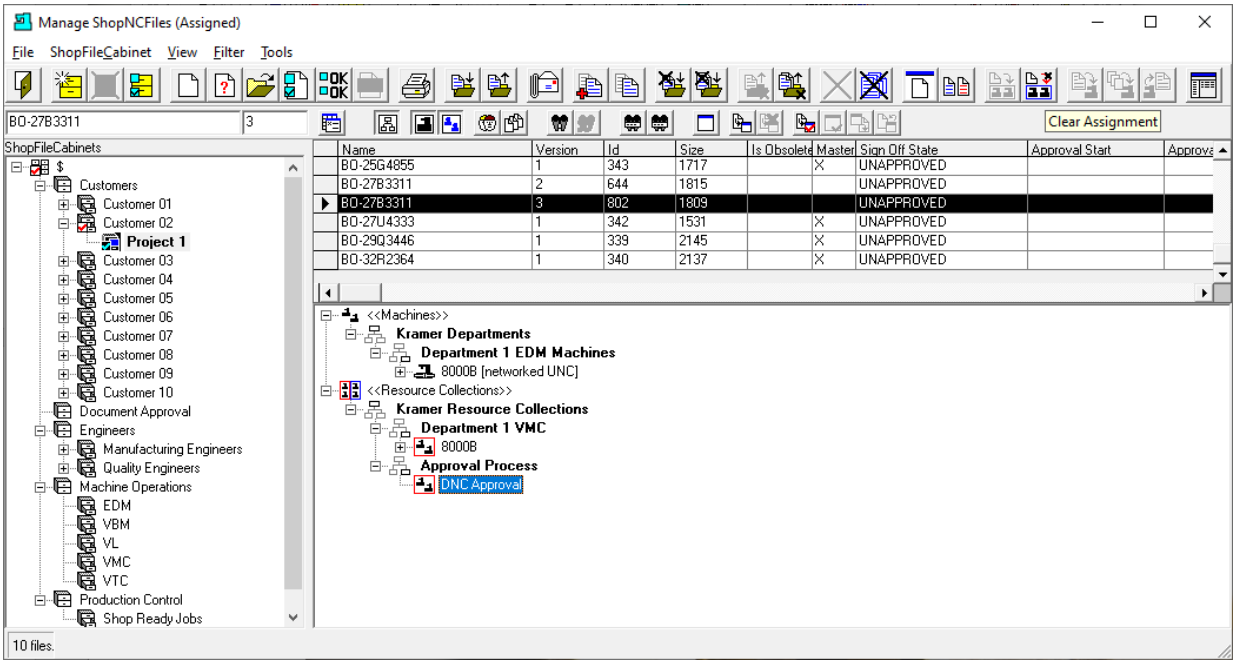
You will notice the file just Assigned is not displayed in this view anymore since it has been Assigned to this Resource Collection and we are in the Not Assigned Window! We will change the View back to the original View and the following Window will be displayed.

Manage ShopNCFile (Select ShopNCFile View Mode – make following changes)



Let's reset the View options as shown above. When finished click the OK Button and the following Window will be displayed.

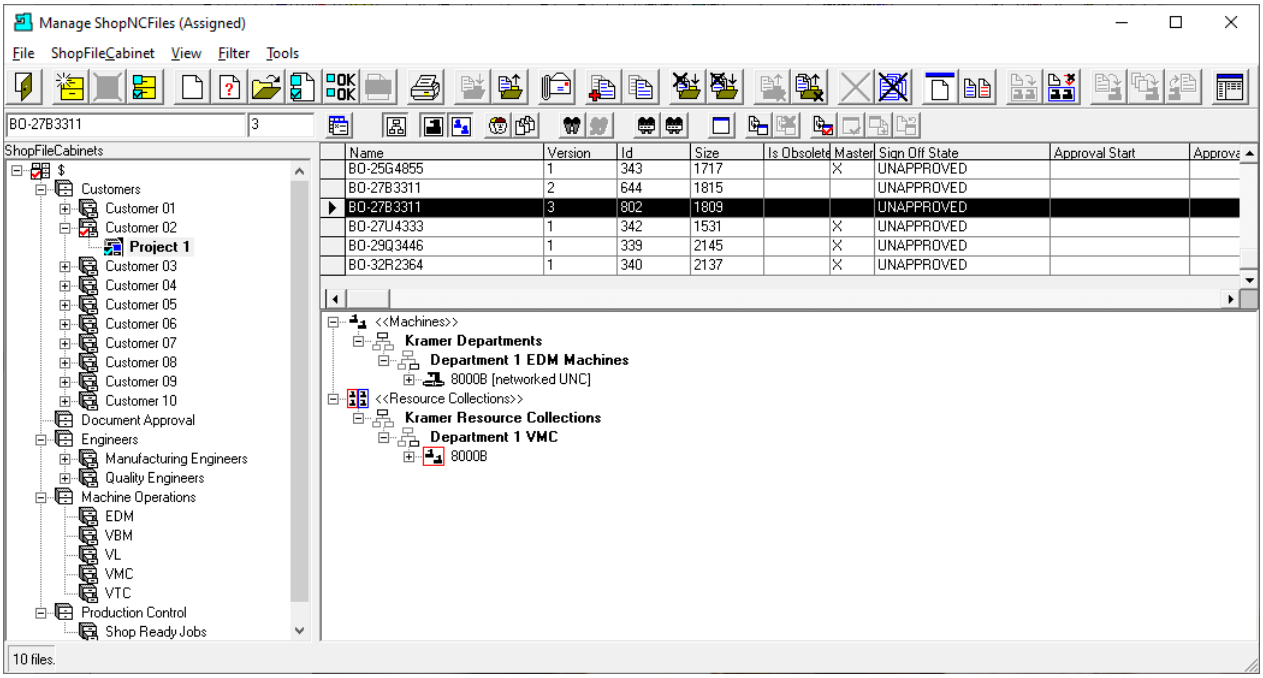
Manage ShopNCFiles (BO-27B3300 now Assigned to 8000B)



Let's see how we can clear an assignment of a file to a Resource Collect. We have changed the previous View slightly to include viewing the Resource Collections. We did this so it would be clearer which Assignment we were clearing!

Select the File you want to clear from Resource Collection "DNC Approval" and click on the Clear Assignment Icon and the following Window is displayed.

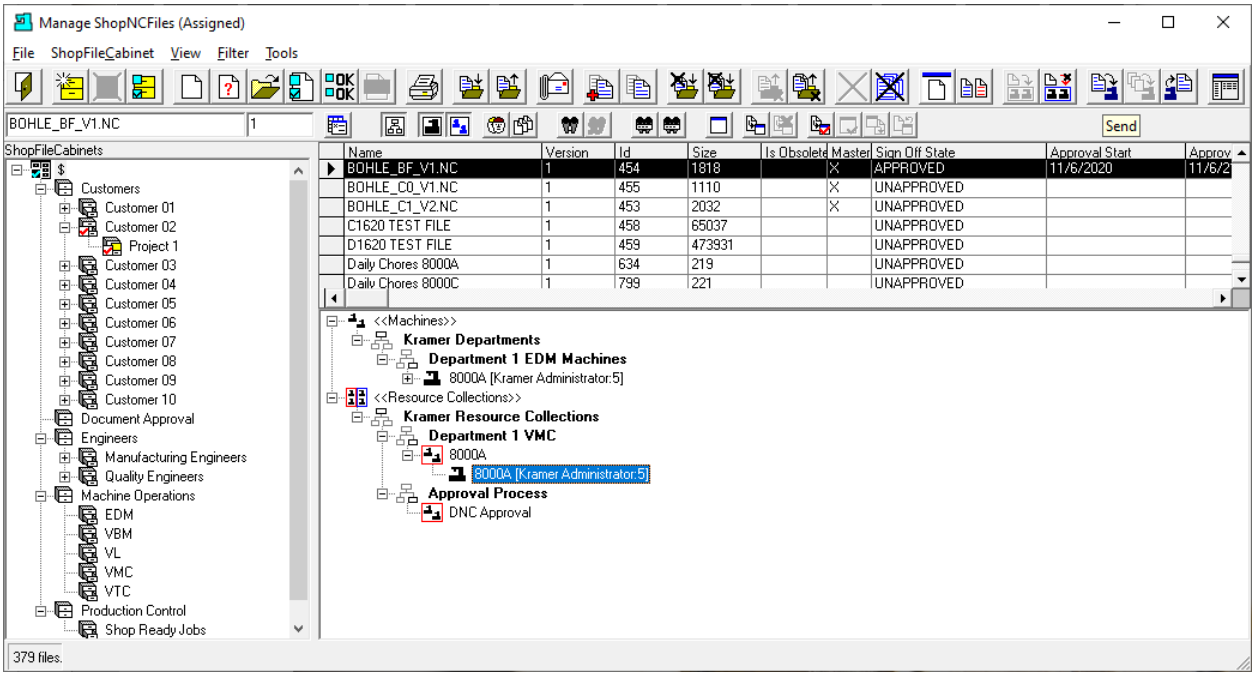
Manage ShopNCFiles (BO-27B311 Version 2 Unassigned to DNC Approval)



This view clearly shows that File BO-27B311 Version 3 is no longer Assigned to DNC Approval.

Before moving on to the next page click on the ShopFileCabinet Root $ in the upper left-hand Window, select the Machine Tool 8000A and select the File BOHLE_BF_V1.NC and the following Window will be displayed.

Manage ShopNCFiles – ShopDNC (RS232 Send selected ShopNCFile)



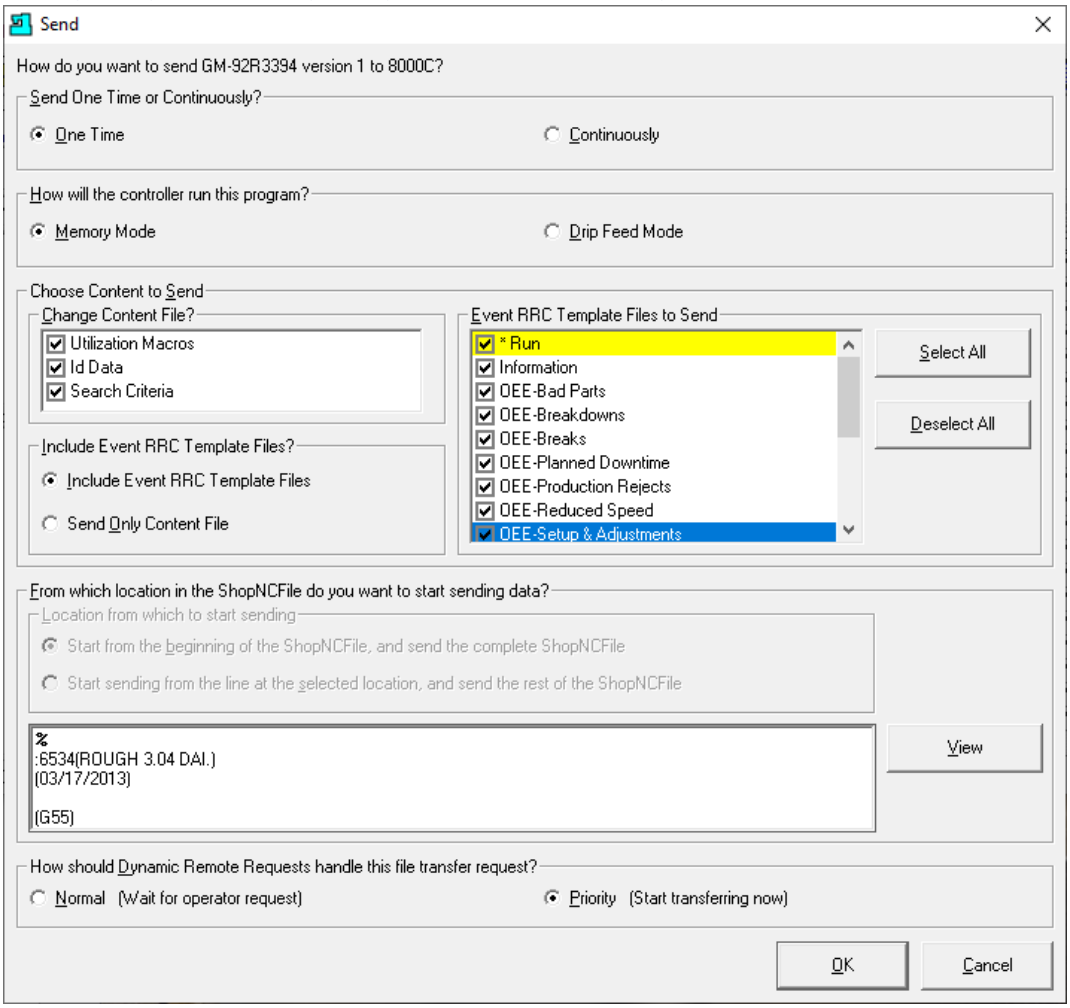
Let's see how to send a file to a Machine Tool. We have selected a file that is assigned to Resource Collection 8000A and highlighted a Machine Tool associated with this Resource Collection.

Even though there is only one machine associated with 8000A Resource Collection there could many. Make sure to choose the correct Machine Tool.

Also note that the chosen file has been approved so operators on the shopfloor can accessed these files as they only have 'Rights' to Approved Files!

Note: If you would like to see this File's communication activities when sending to the Machine Tool open both the Manage ShopNCFiles & Manage File Transfer Queues Windows. Both can be opened from the ShopFloorManager Runtime. Once complete click the Send Icon and the following Window is displayed.

Manage ShopNCFile – ShopDNC (RS232 Send Queue Form)

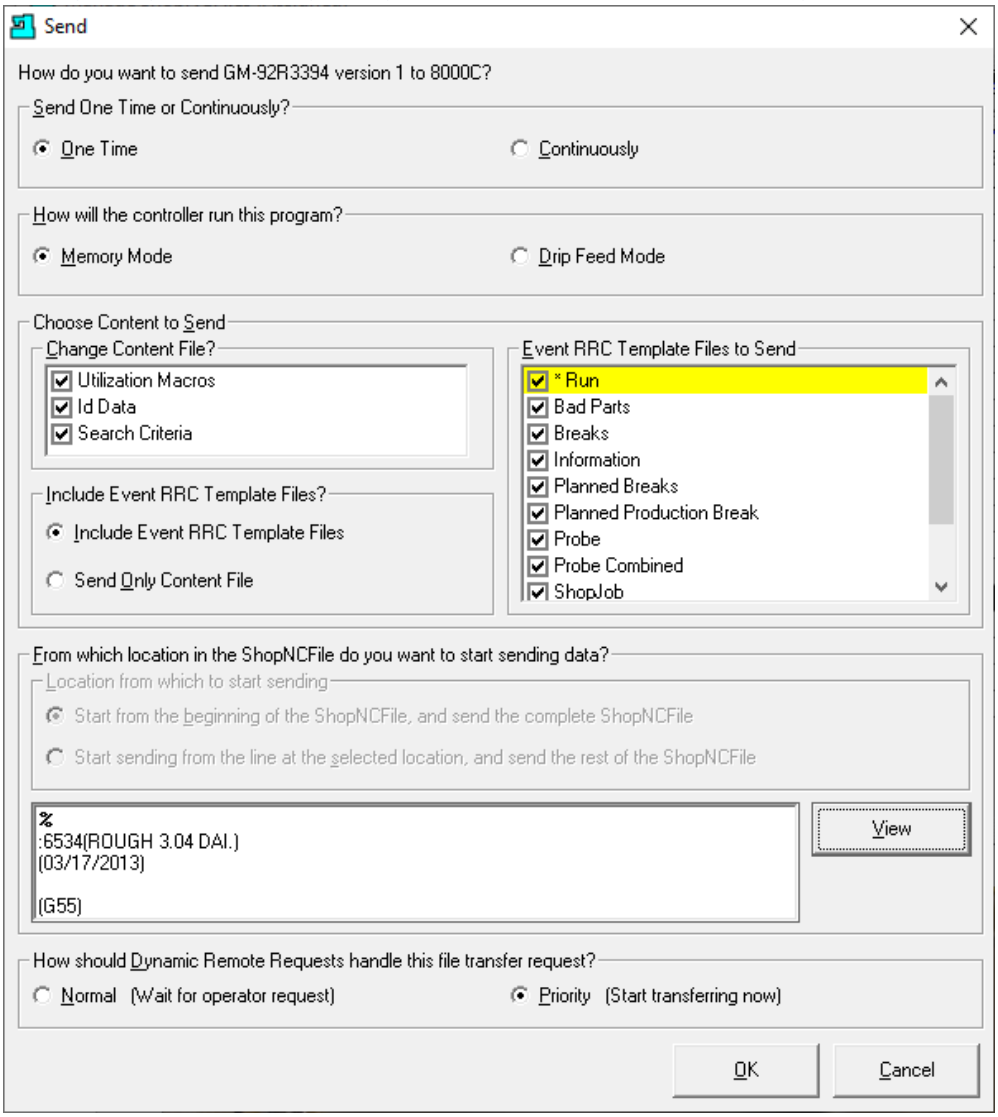


This Form allows for setting various parameters when Queuing a ShopNCFile to send to a Machine Tool. The same functionality using Remote Request Commands is described in another section of this Manual.

One Time
This mode is used when downloading only once to a Machine Controller.
Continuously
This mode is used when downloading to a Machine that will run the File in drip-feed mode continuously.
Memory Mode
This mode is used when downloading to a Machine that will store the File in the Controller.
Drip Feed Mode
This mode is used when downloading to a Machine that will run the File in drip-feed mode.

Note: Drip Feed mode is when the Machine Tool uses external storage that is feed to the Machine Tool as needed. Generally, this mode is used when the Machine's Memory is not large enough to hold the program!

Manage ShopNCFile – ShopDNC (RS232 Send Queue Form Continued_1)



Choose Content to Send

If you are using Shop Floor Events (Machine Monitoring) and want ShopFloorManager to automatically insert Macros into the Program, check the Utilization Macro's checkbox. If you would like to insert, Id Data, about the ISO File Properties (could be used in an ISO audit), check the checkbox Id Data. If you would like the Search Criteria inserted into the File, check the checkbox Search Criteria. You should investigate "Machine Status", "ShopCharts & ShopReport_ShopCharts_and_Supporting_2", and "ShopReports: Configurations" if you are using Machine Monitoring!

Manage ShopNCFile – ShopDNC (RS232 Send Queue Form Continued_2)

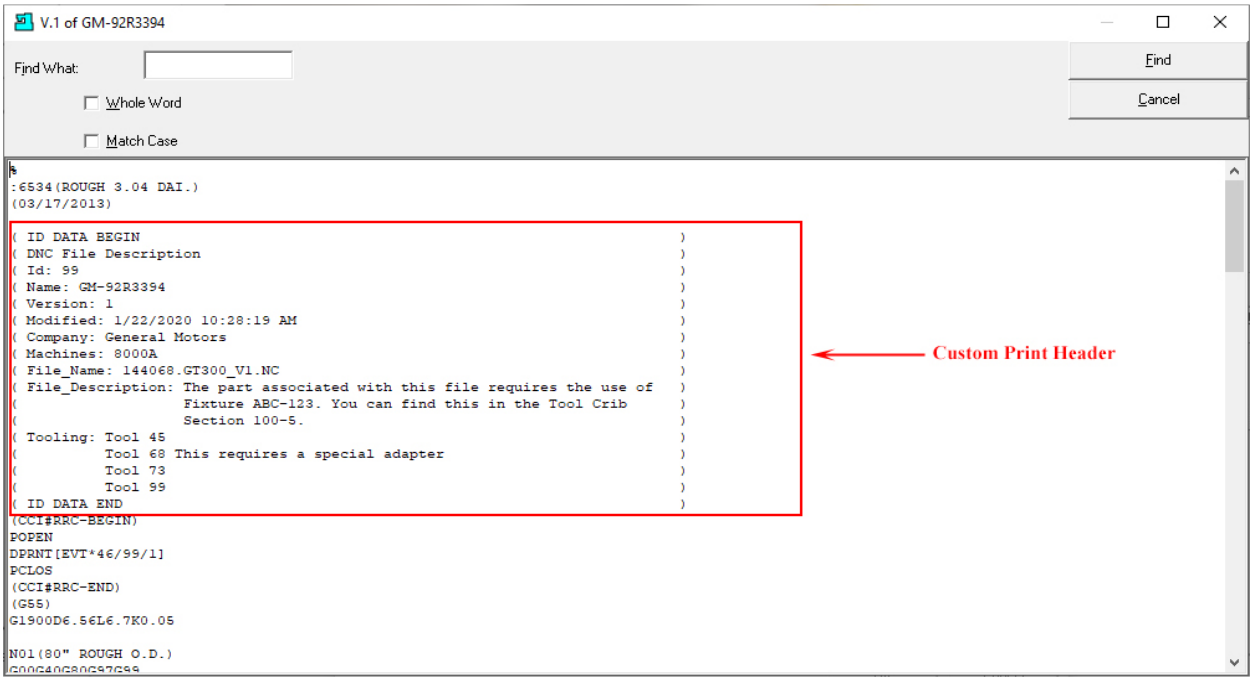
Event RRC Template Files to Send

You can check the Macro Files you want to include in the Download. These Macro Files are automatically Generated based on the ShopMonitor Default & User created Monitoring Programs.

The default, RUN, is always downloaded if you have checked the Utilization Macro's checkbox. This particular Macro is automatically inserted into N/C Files when Monitoring Cycle Times! The other Macros are created and downloaded as OEE-Controller-based-MDI Files.

Click on the View Button to see what is added to the File for the selected Options. Only Macro file displayed is the Default RUN Macro when the Utilization Macro's checkbox is checked!

Manage ShopNCFile – ShopDNC (View of File with Chosen Content to Send)



To zoom in the above view, hold the Ctrl Key and move the Mouse Wheel to zoom in and out!

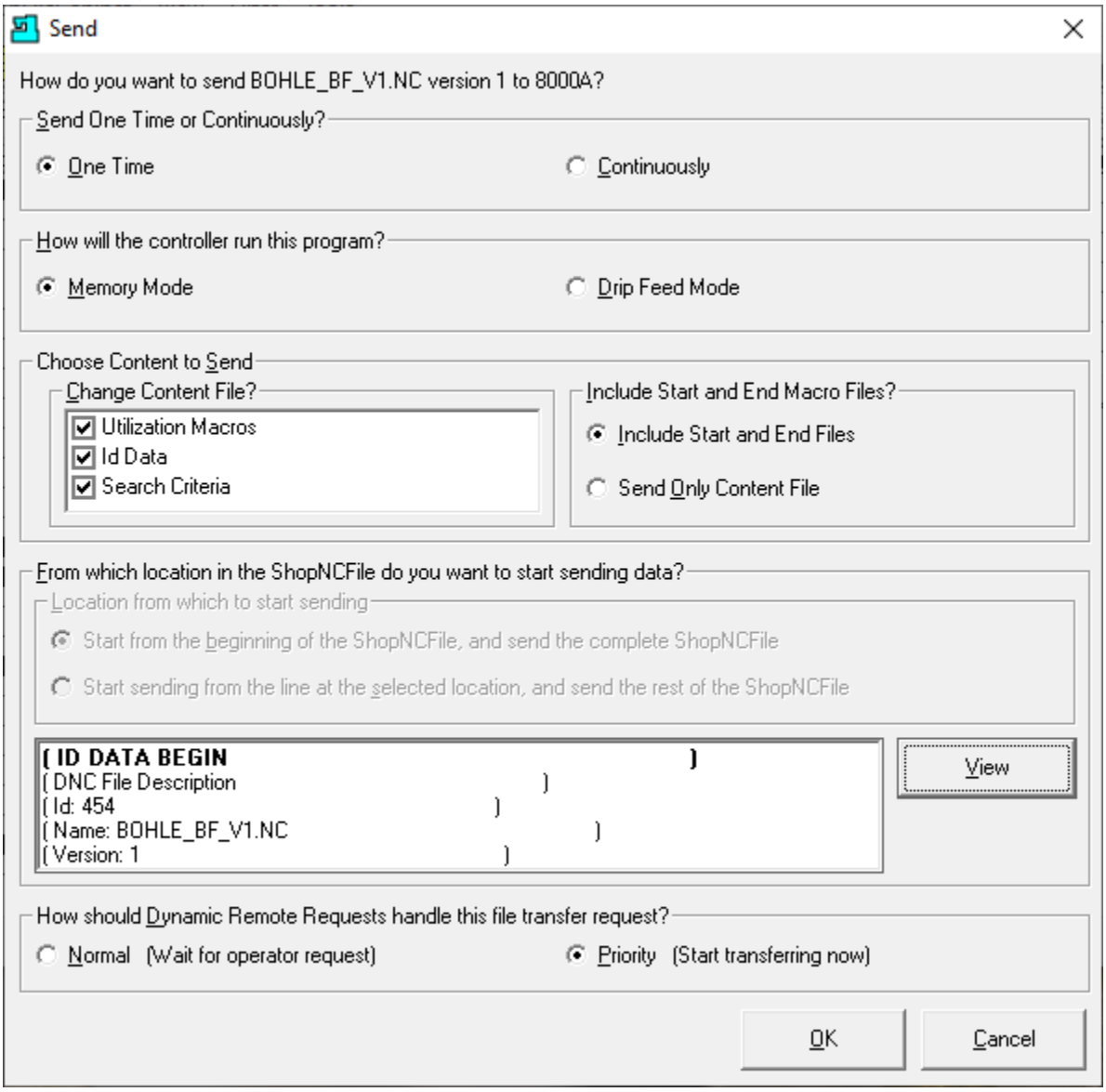
After clicking on the Queue View Button, you can see the Id information inserted in file and Immediately after the Search Criteria has been inserted. Parameters for locating the Id position are set during Machine Tool Creation & Parameter setting!

You will also see the Macro Event statements starting with (CCI#RRC-BEGIN) and ending with (CCI#-END)!

Note: Click the Custom Print Header for details on creating!

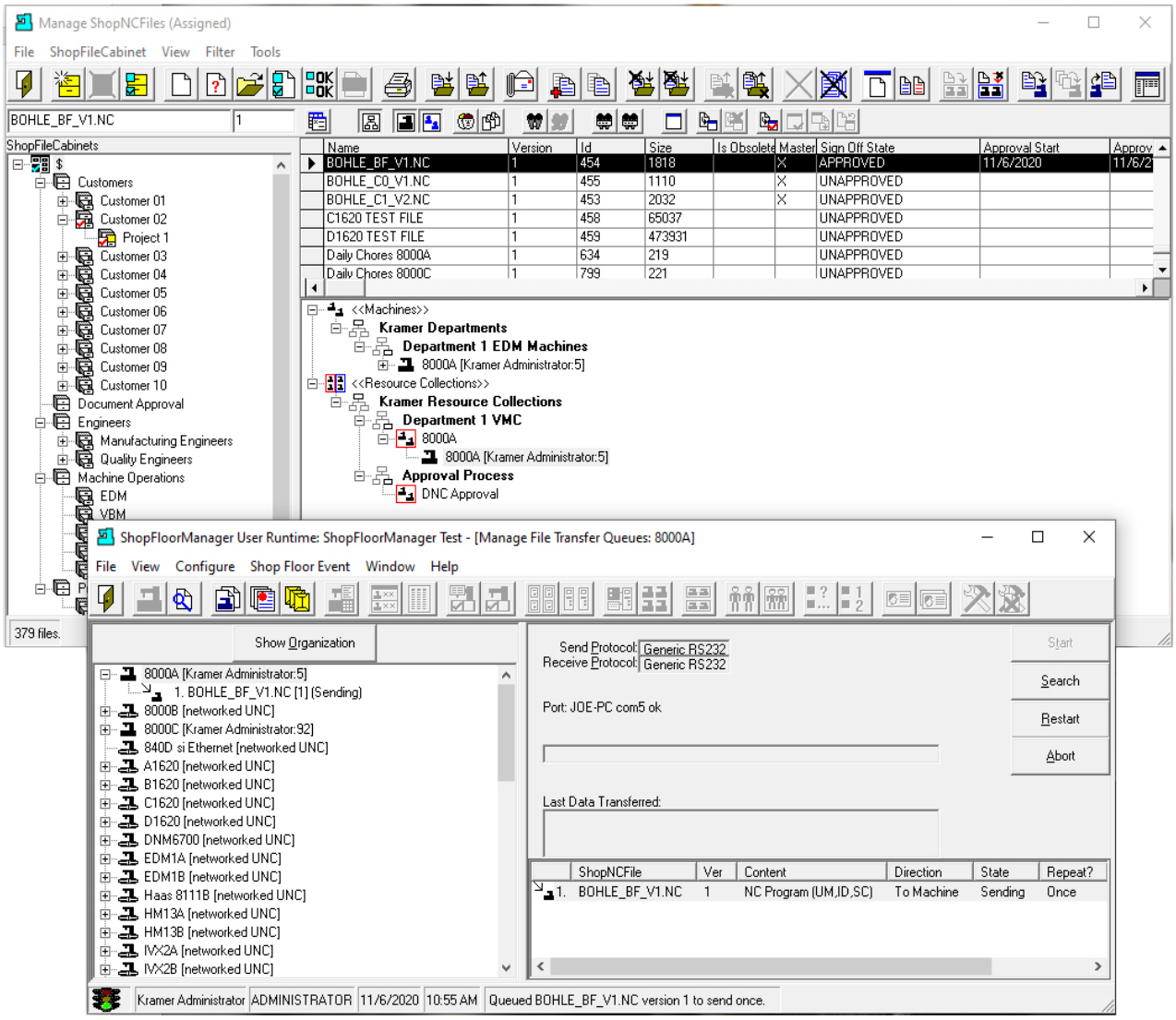
Click Cancel and the following Window will be displayed.

Manage ShopNCFile – ShopDNC (RS232 Send Queue Form Continued)



To send (Queue) the file click the OK Button and the following Window(s) will be displayed. We are assuming you open both the Manage ShopNCFiles & Configure Machines Windows.

Manage ShopNCFiles – ShopDNC (Manage ShopNCFiles & Manager Transfer Queues Windows)



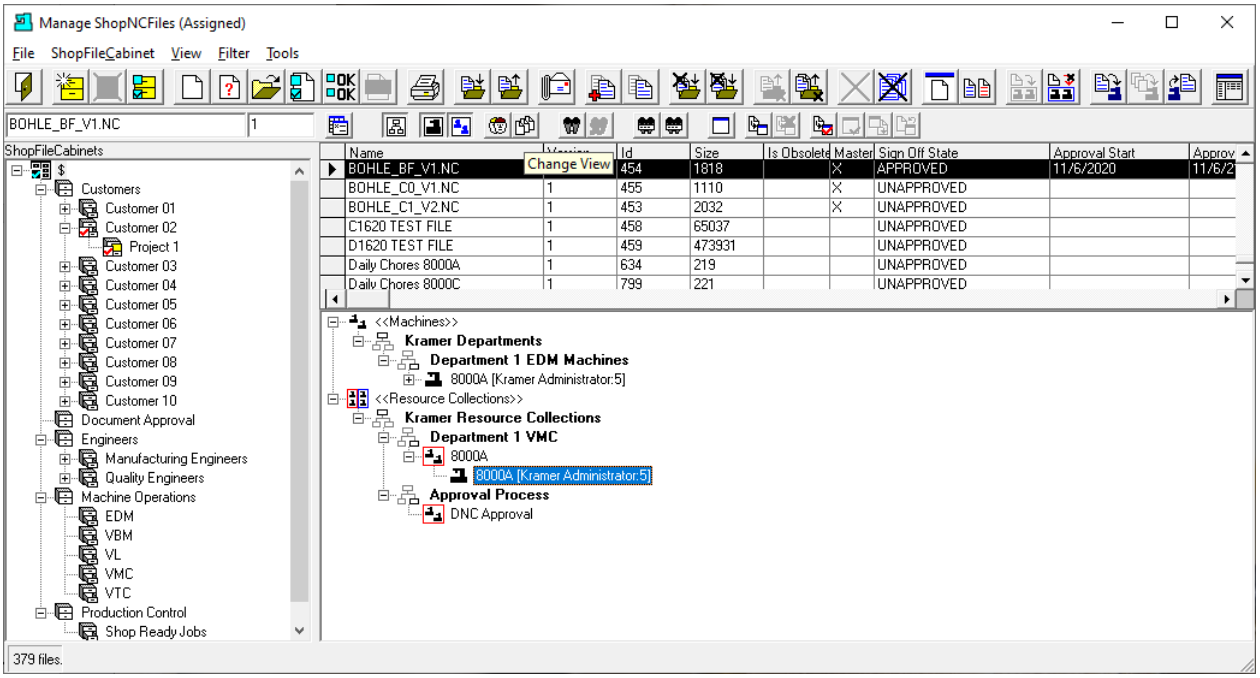
The Manage ShopNCFiles Window is used to Queue the N/C BOHLE_BF_V1.NC File for the Machine Tool 8000A!

We have opened the Manage File Transfer Queues Window so you can see the interaction between queuing and downloading!

In the "Manage File Transfer Queues" Window you can see that the File BOHLE_BF_V1.NC has been Queued to send to Machine 8000A! The Machine Operator would now push the Read Button!

Now let's investigate how to receive Jobs from a Machine Tool.

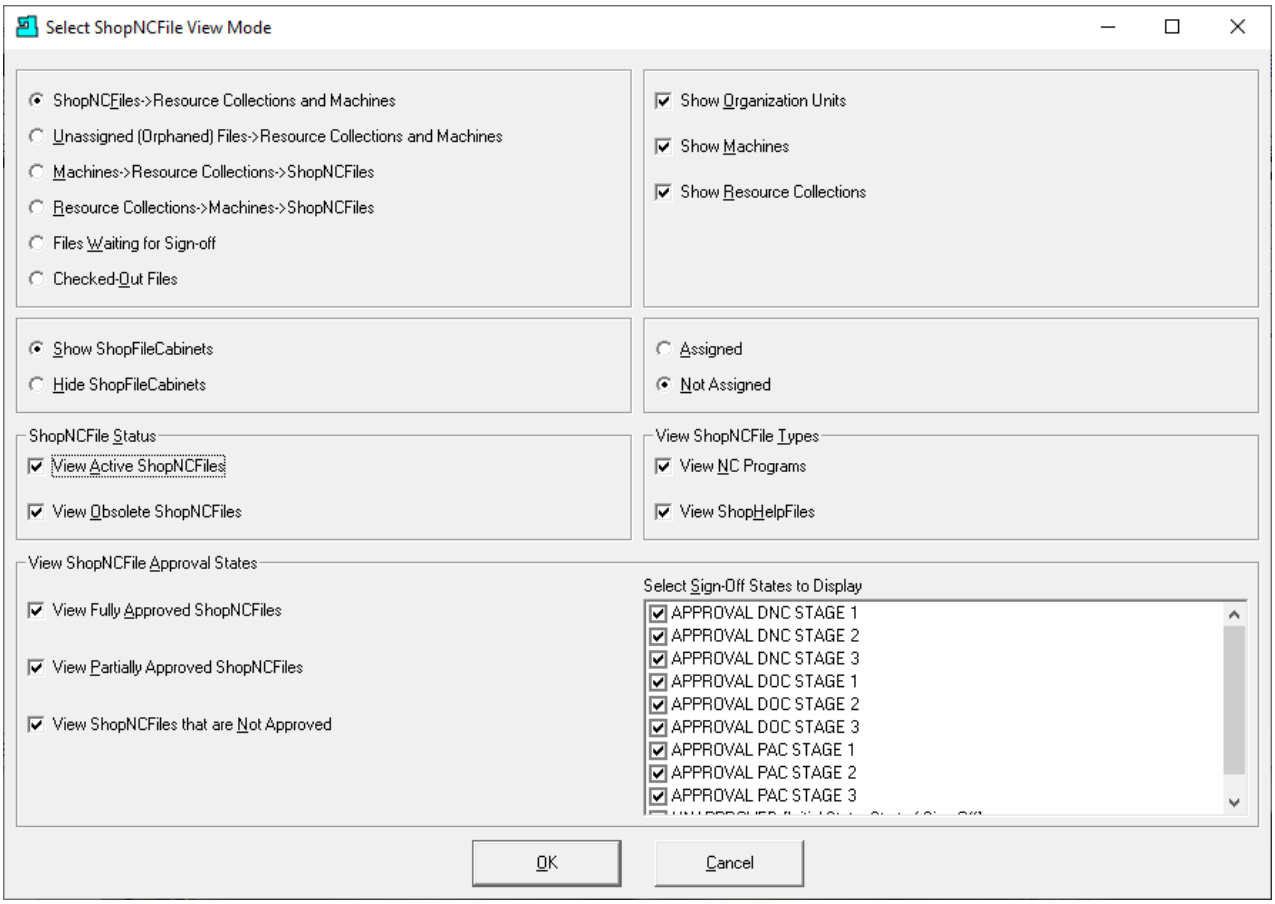
Manager ShopNCFiles – ShopDNC (RS232 Upload from Machine Tool)



In order to have a better view of ShopFloorManager receiving a ShopNCFile from a Machine Tool, we will change the current View.

Click on the Change View Icon and the following Window will be displayed.

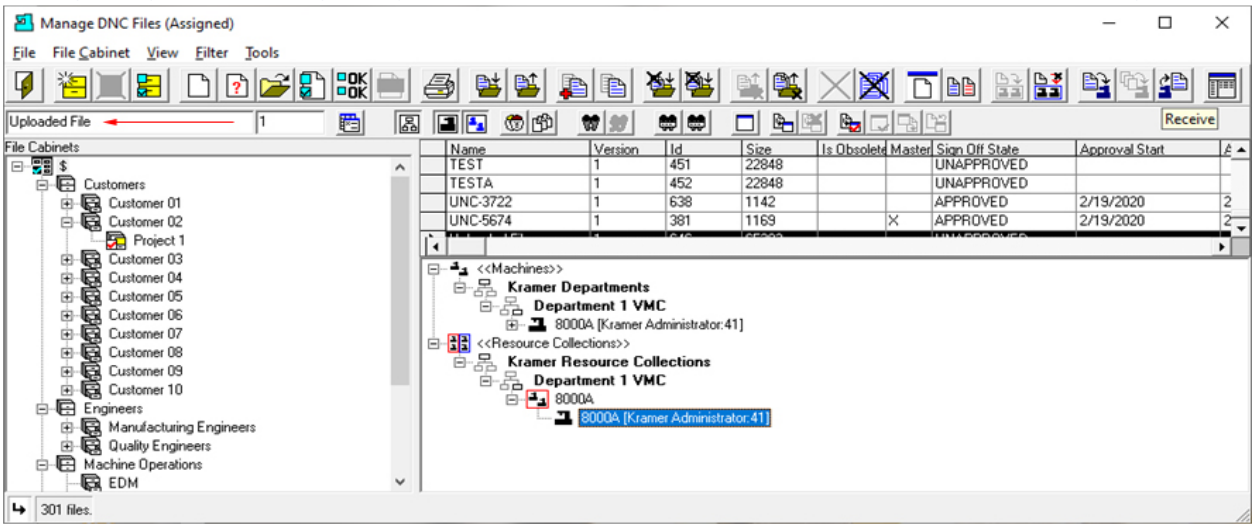
Manage ShopNCFiles – ShopDNC (ShopNCFile View Mode)



Make the Changes as show above and click the OK Button and the following Window is displayed.

Note: We have chosen the Not Assigned since we want to Assign this File to a Specific Resource Collection!

Manage ShopNCFiles – ShopDNC (RS232 Upload from 8000A to RC 8000A & 'ShopFileCabinets' Root $)

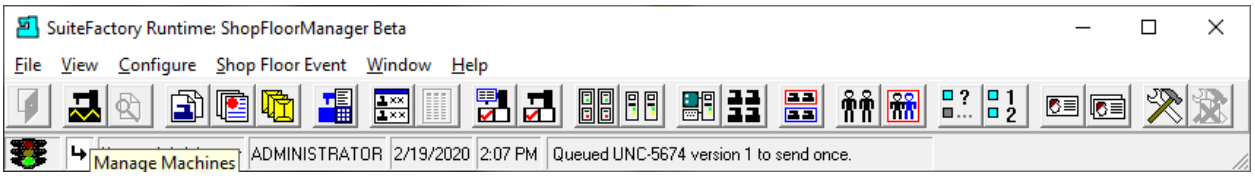


In this View we selected the Machine Tool 8000A to upload to & associate this to a new ShopNCFile we are naming 'Uploaded File'. See **red** arrow above. This will be associated with the ShopFileCabinet Root $ and automatically associated with the Resource Collection 8000A by the Machine Tool association!

Click the Receive Icon before proceeding.

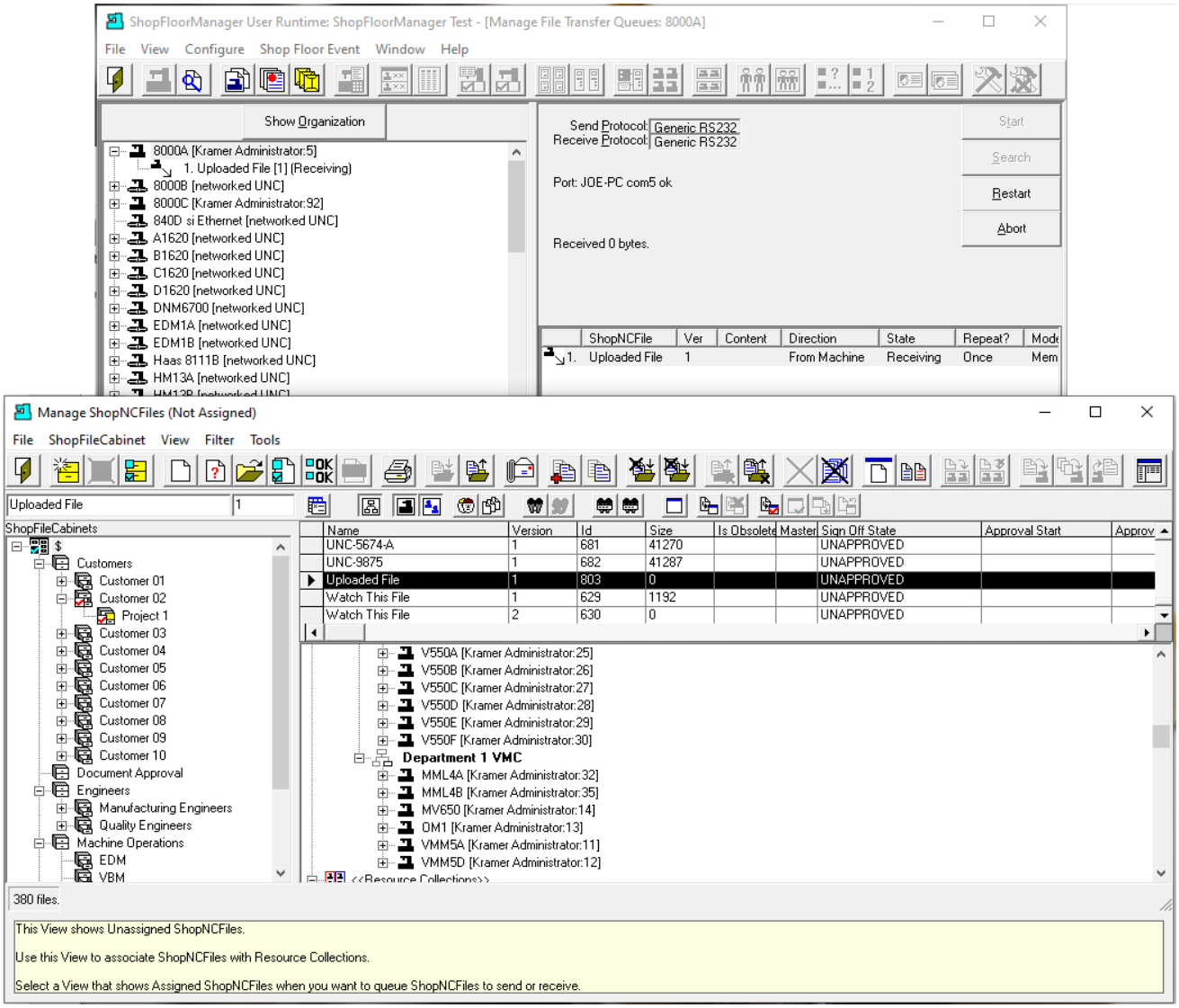
At this point to see the file being uploaded you need to open up the 'Manage File Transfer Queues' Window from ShopFloorManager Runtime as follows.

Manage ShopNCFiles – ShopDNC (ShopFloorManager Runtime Manager Machines)



Click the Manage File Transfer Queues before proceeding so both Windows will be displayed.

Manage ShopNCFiles – ShopDNC (Configure Machines & RS232 Queuing a File to Receive)

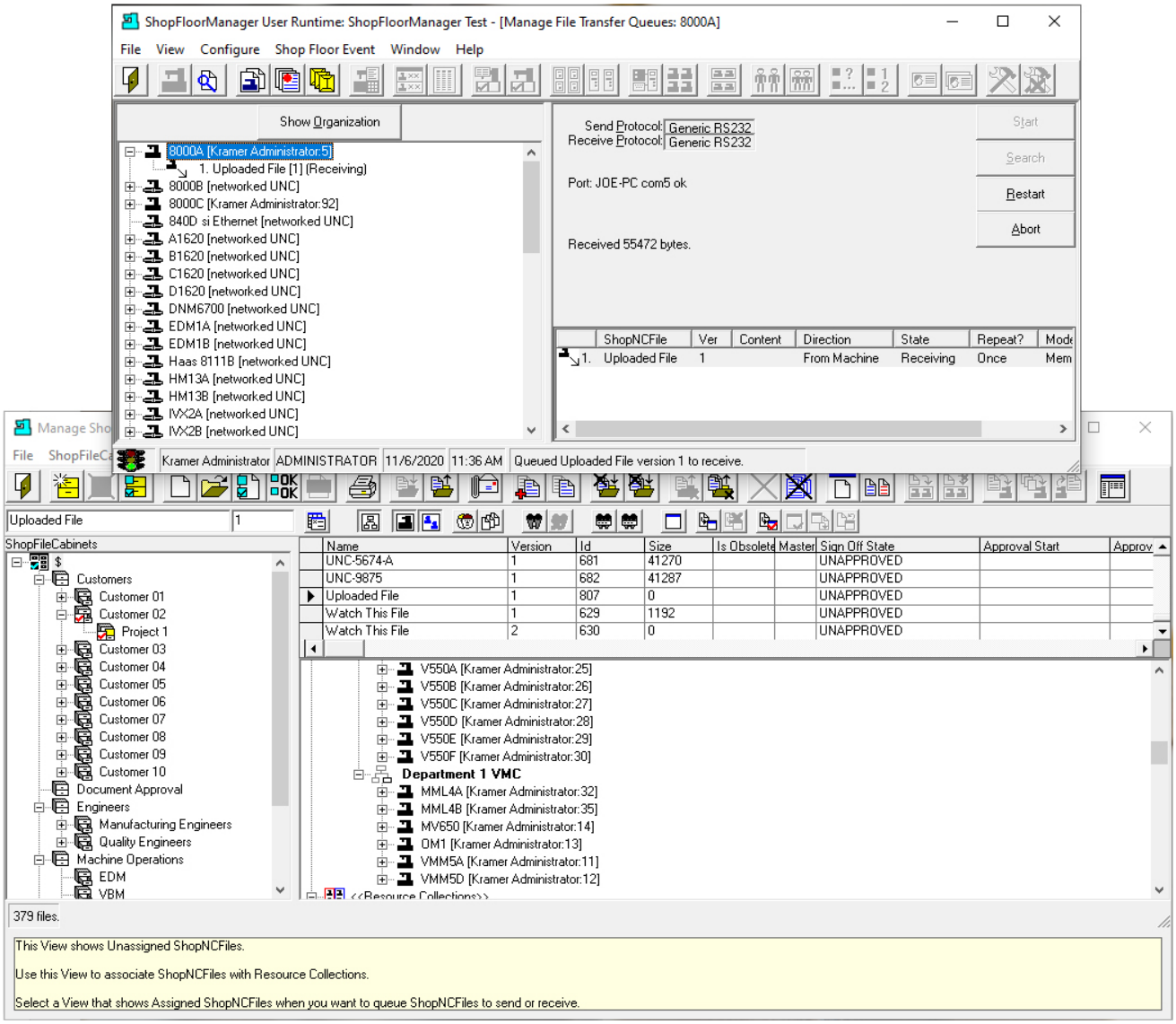


We have arranged the Configure Machines & Manage ShopNCFiles Windows as above so you can see the interactions between these Windows!

Looking at the Manage File Transfer Queues Window you can see that the file “Upload File” is queued for receiving.

Now all the operator needs to do is to punch out the ShopNCFile from their Machine Tool and it will be received by ShopFloorManager and stored in its database. This ShopNCFile will automatically be associated with the Resource Collection 8000A & ShopFileCabinet Root $ after the upload!

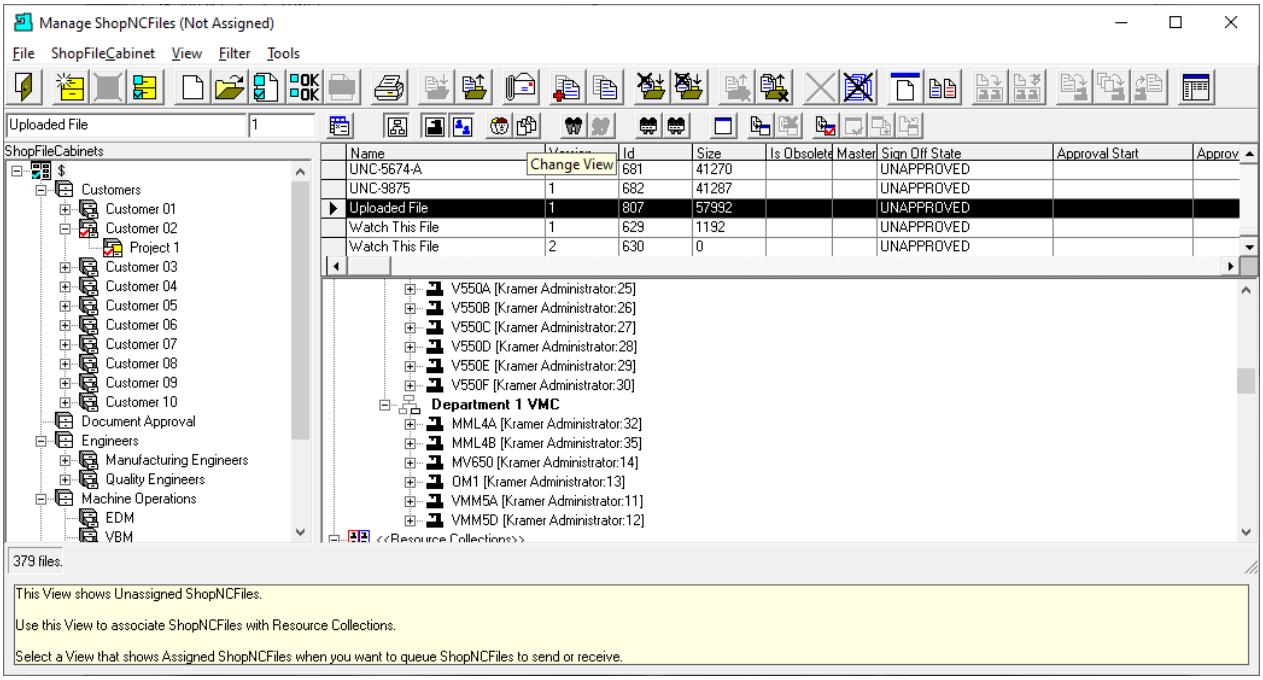
Manage ShopNCFiles – ShopDNC (Manage File Transfer RS232 Queues & Upload File Receiving)



After the Operator Punched out the ShopNCFile you can see the Manage File Transfer Queues Window showing 55472 bytes being Received.

Let's look at the Manage ShopNCFiles Window after receiving the File and refreshing the Window.

Manage ShopNCFiles – ShopDNC (RS232 Uploaded File)

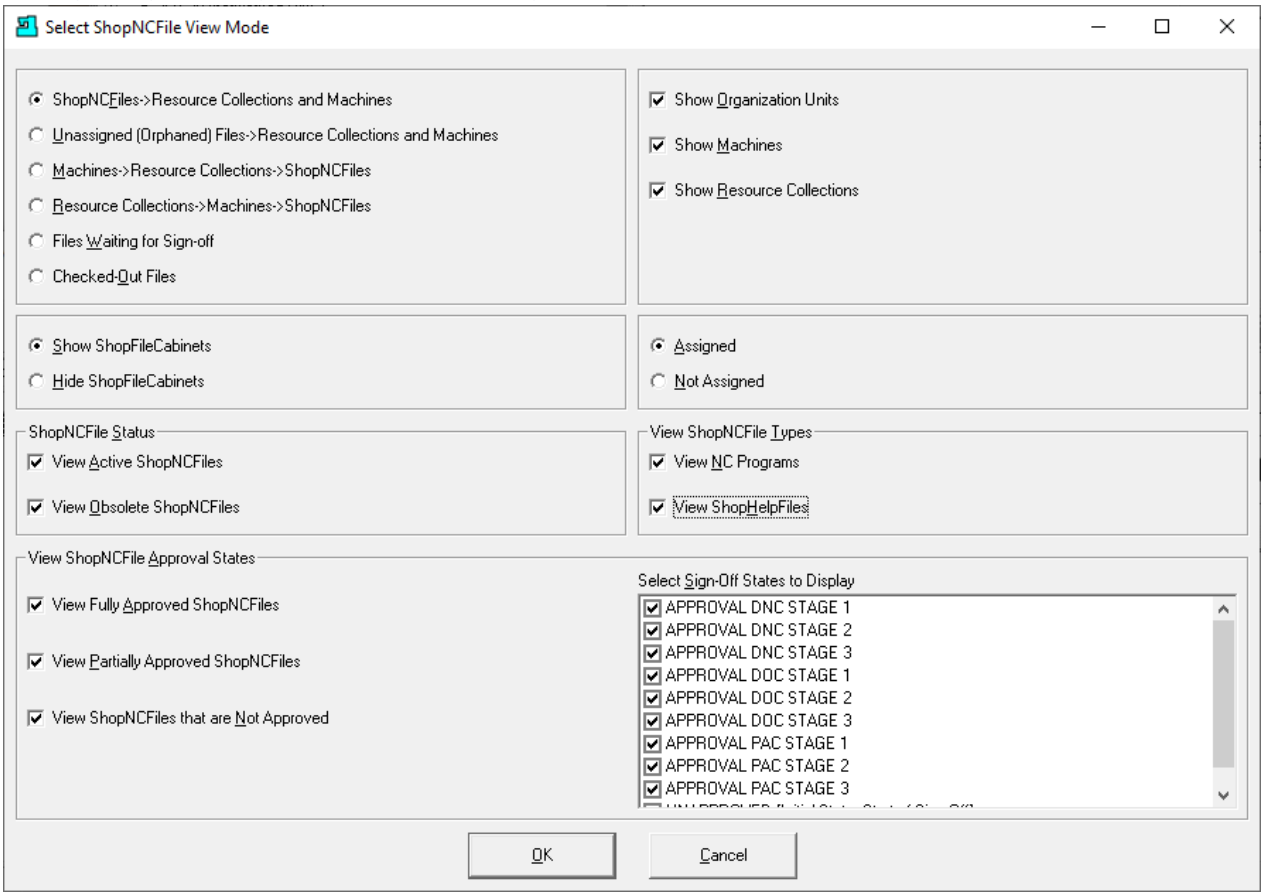


As you can see the ShopNCFile was received into ShopFloorManager's database and associate with the ShopFileCabinets Root $! You may need to click on the Refresh Icon (Last on Main Bar) to update view!

After completing the upload, we need to change the View back to Assigned so those relationships can be seen.

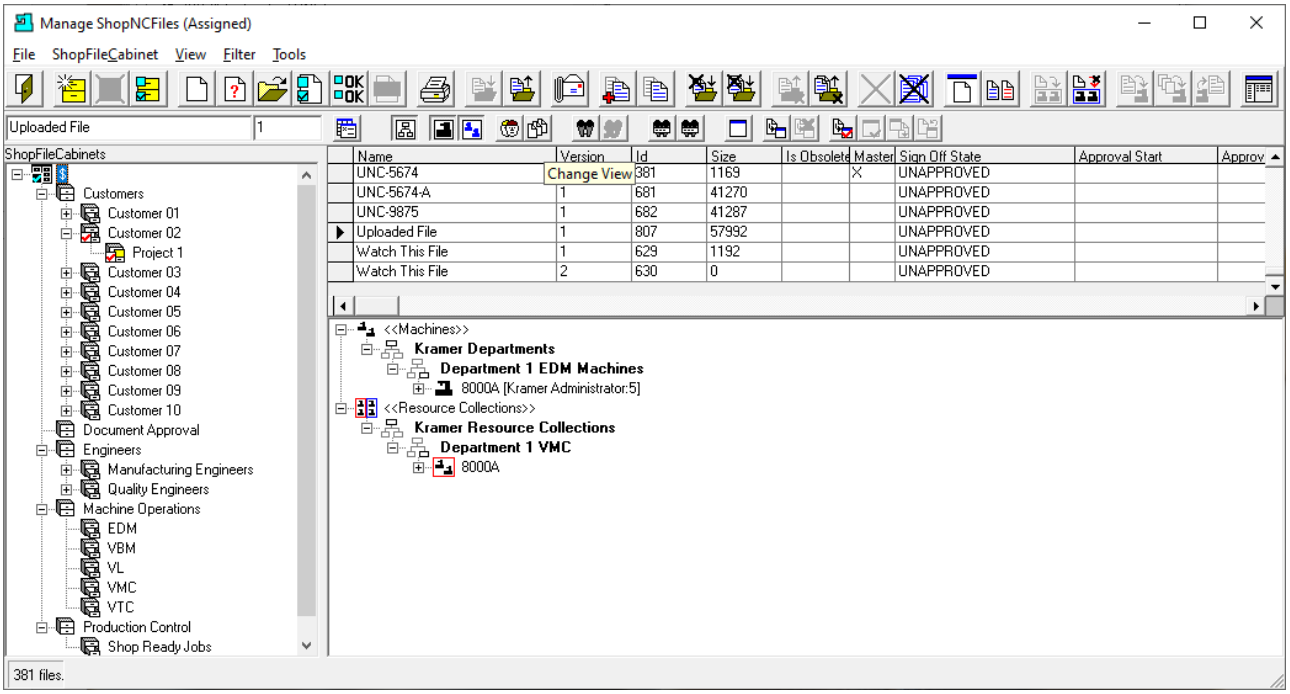
Click on the "Change View" Icon and the following Window will be displayed.

Manage ShopNCFiles (Change View to Assigned)



We need to return to the previous View to see the full relationships of the uploaded ShopNCFile! Click the OK Button and the following Window is displayed.

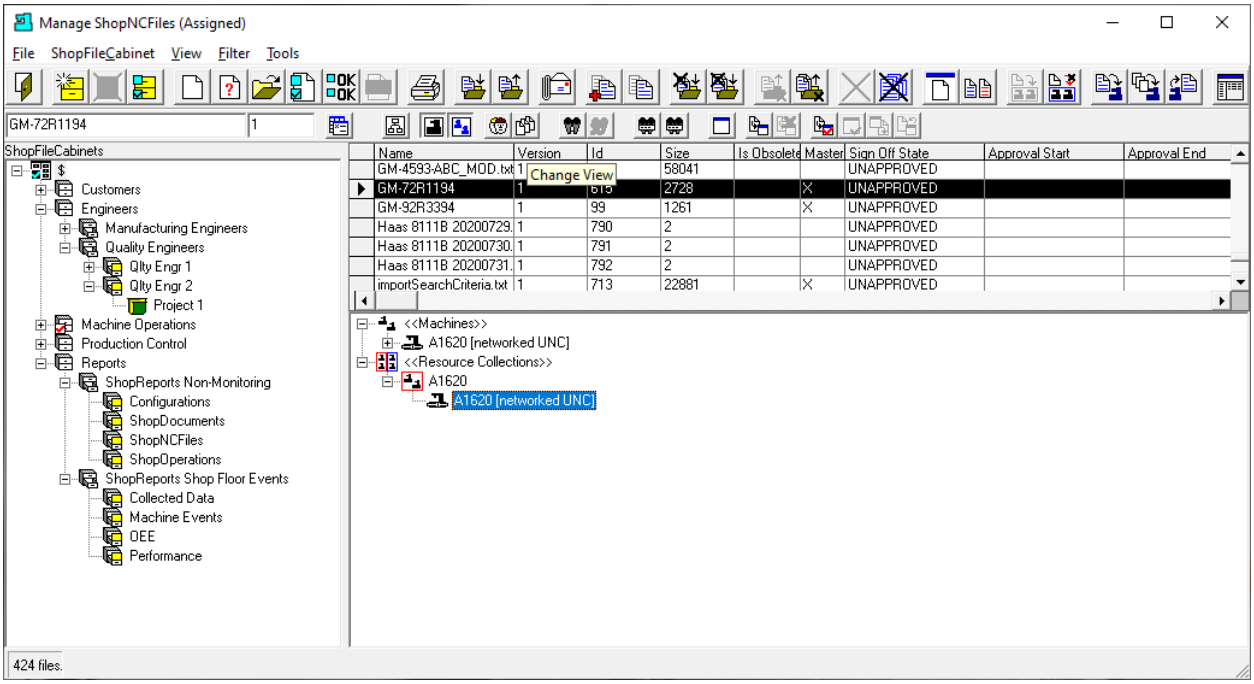
Manage ShopNCFiles (RS232 Uploaded File with View of the Various associations)



This uploaded ShopNCFile is associated with the ShopFileCabinets Root $ & Resource Collection 8000A.

Let's take a look at how to send and receive files from UNC base Machines!

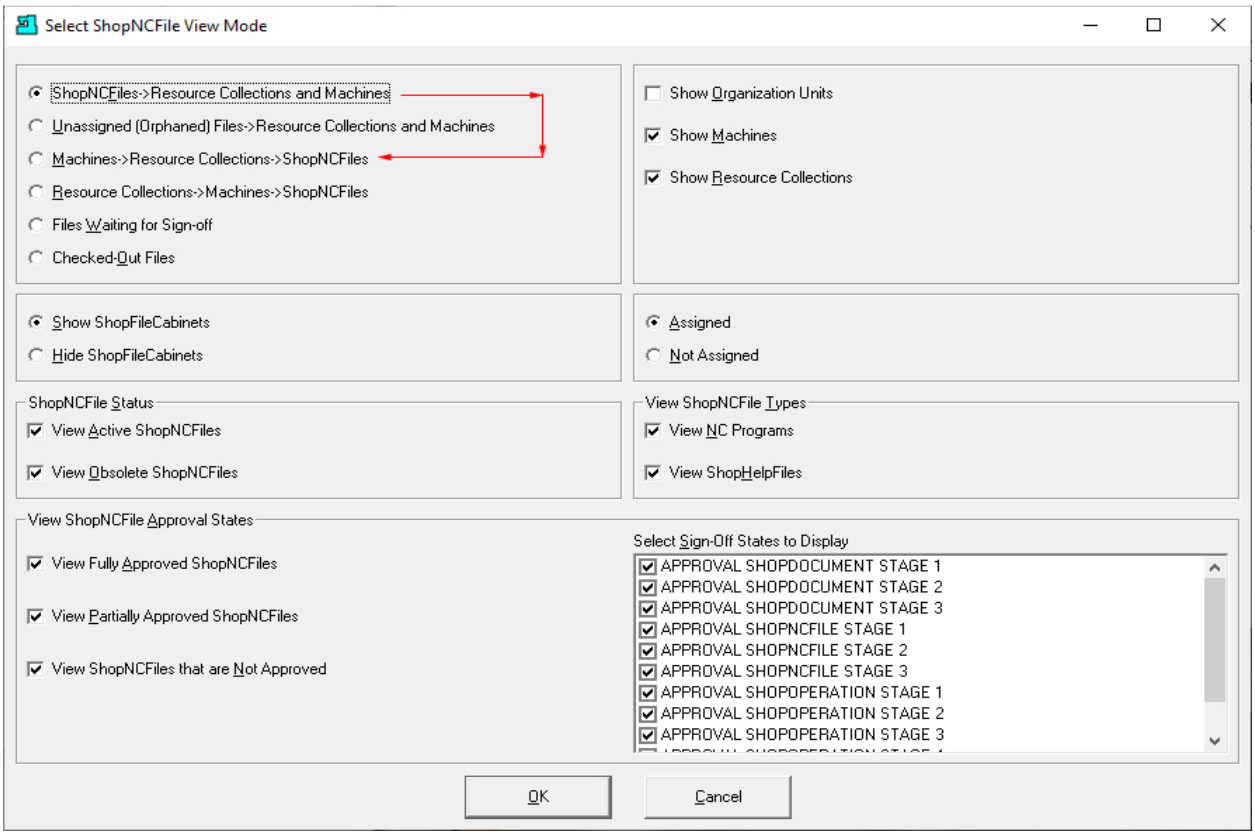
Manage ShopNCFiles – ShopDNC (UNC Send selected ShopNCFile)



We will now investigate how to send(download) files to an UNC Machine. Since UNC Machines can download multiple Files at the same time, we will select a View that is Machine Centric since we only want to download files associated with Machine A1620.

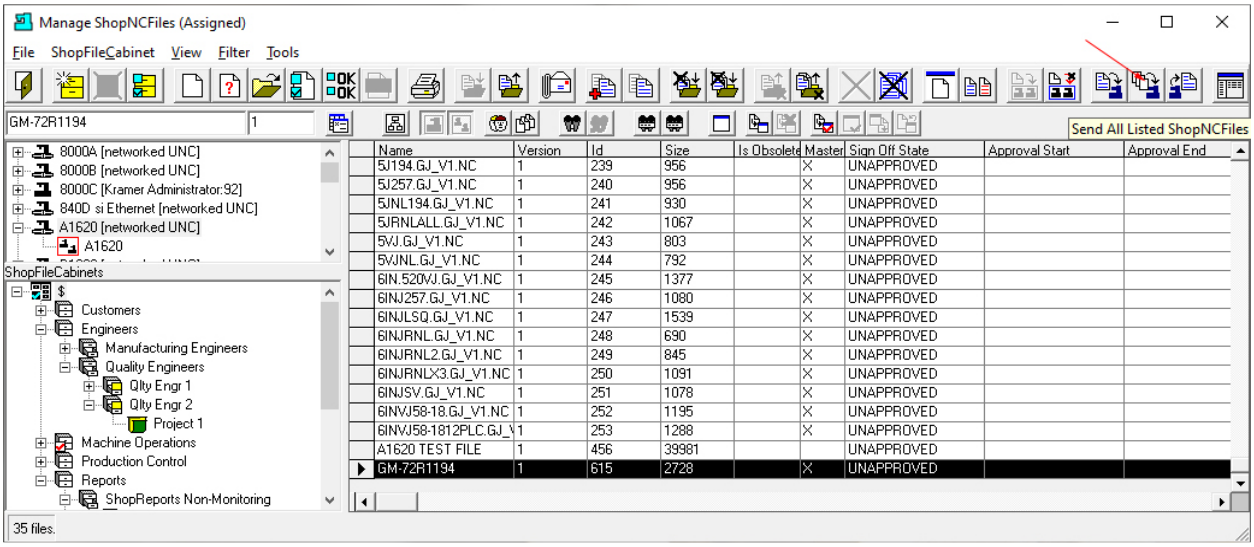
Click on the Change View and the following Window is displayed.

Manage ShopNCFiles – ShopDNC (UNC Send selected ShopNCFile Change View)



The previous View was configured as shown above. We are going to change this view indicated by the **Red Arrows**! After making this change click on the OK Button and the following Window is displayed!

Manage ShopNCFiles – ShopDNC (UNC Send All Listed ShopNCFiles)



We will now investigate how to send(download) files to an UNC Machine. UNC Machines allow you to download multiple files, see **Red Arrow**, at the same time.

The Files that it downloads all come from the same Resource Collections that Machine A1620 is associated with subject to the Rights granted to the presently logged in User!

We will be demonstrating the downloading using the “Send All Listed ShopNCFiles” mode since sending one file at a time is a subset of this mode!

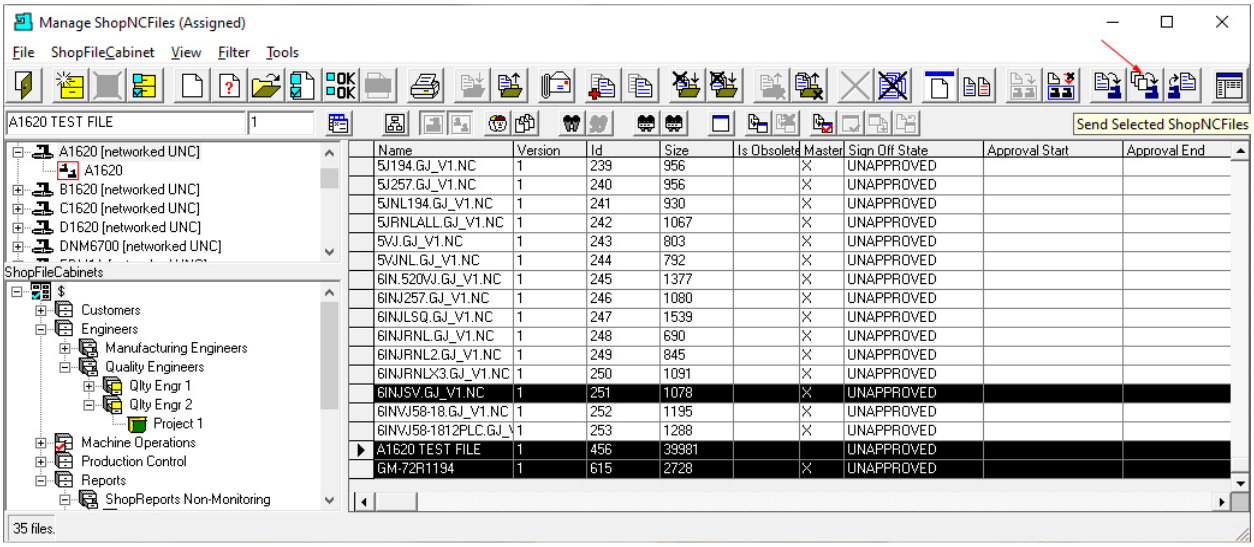
Additionally, we need to provide a way to limit the files we download! This can be done in many ways. Following are the most used ways!

1. Select the Files from within the displayed Grid
2. Use the Search Engine to select the Files.

We will use method 1 above by selecting three files!

Continued on the next page.

Manage ShopNCFiles – ShopDNC (UNC Send All Listed ShopNCFiles – Three Files)



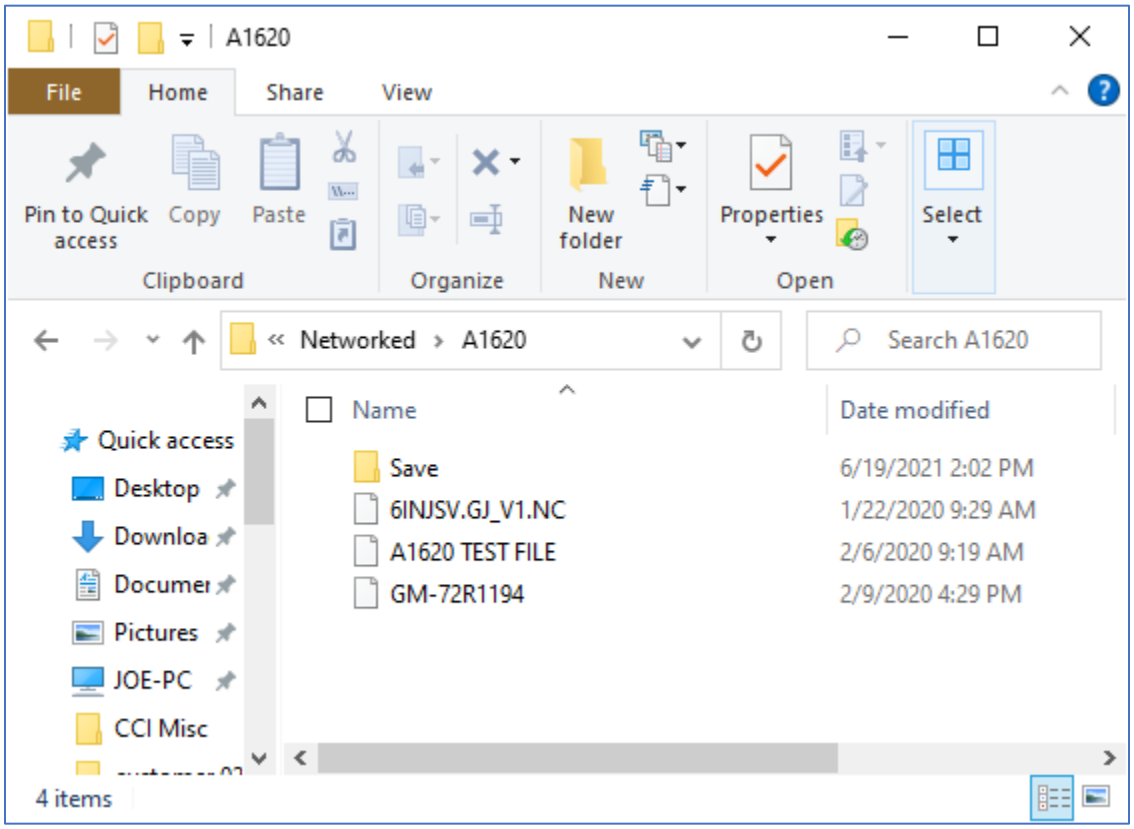
You can select multiple ShopNCFiles by clicking next to the First ShopNCFile, hold the Shift Key and click the the last ShopNCFile and they will all be highlighted.

If some of the ShopNCFiles are not contiguous hold the Cntr Key and select those individual ShopNCFiles. You can use both methods during the selection process to select both contiguious and non-contiguious ShopNCFiles!

Now click the “Send Selected ShopNCFiles” Icon and we show the folder where these files are sent. Remember UNC Machines use Folders to exchange files, Remote Requests & Responses. See the following Page!

Note: All selections should be selected in the column with the Black Arrow Head!

Manage ShopNCFiles – ShopDNC (UNC Send All Listed ShopNCFiles – Three Files - sent)

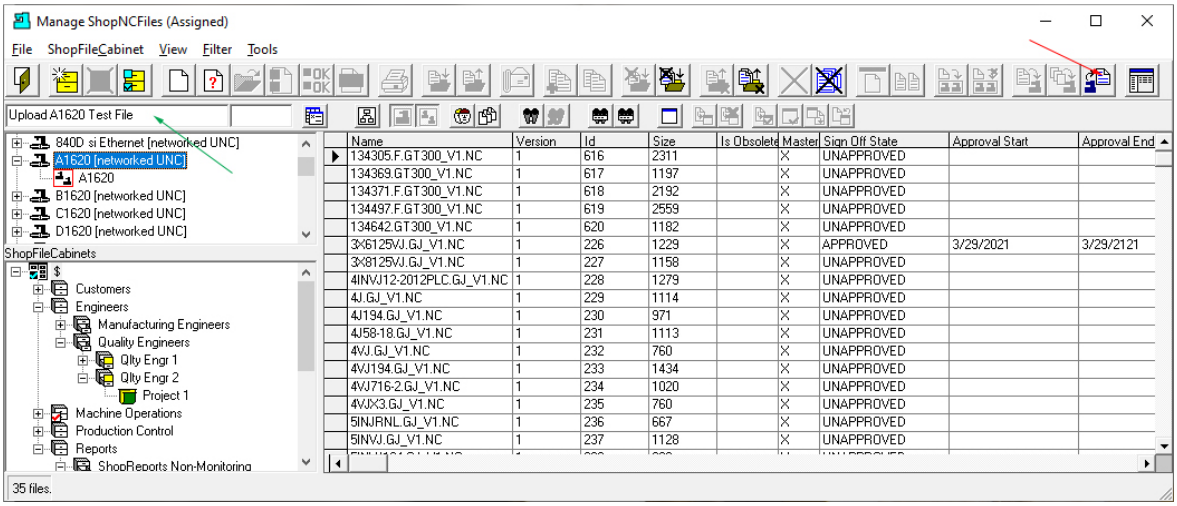


These Files were sent to the Path set (Machine 8000C Illistrated) in the Properties Window for the Machine A1620.

Lets see how a file is received by ShopFloorManager using the “Manage ShopNCFiles” Window!

Note: Click this link to see how these are handled by an UNC Machine Operator using Remote Requests. Some of these methods are also used for normal send & receive by a UNC Machine!

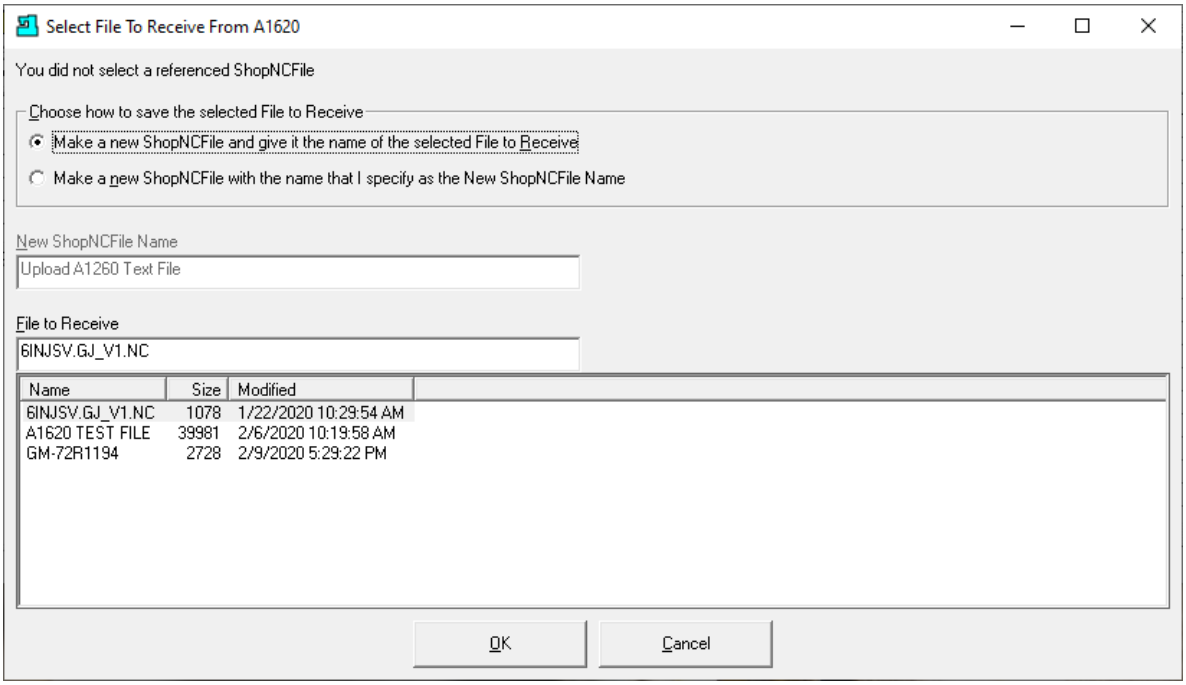
Manage ShopNCFiles – ShopDNC (UNC Receive File)



Highlight the Machine Tool from which you want to Upload/Receive a File! Name the file you want to upload in the text area indicated by the **Green Arrow**! Now click the Receive Icon, **Red Arrow**, and the following Window is displayed!

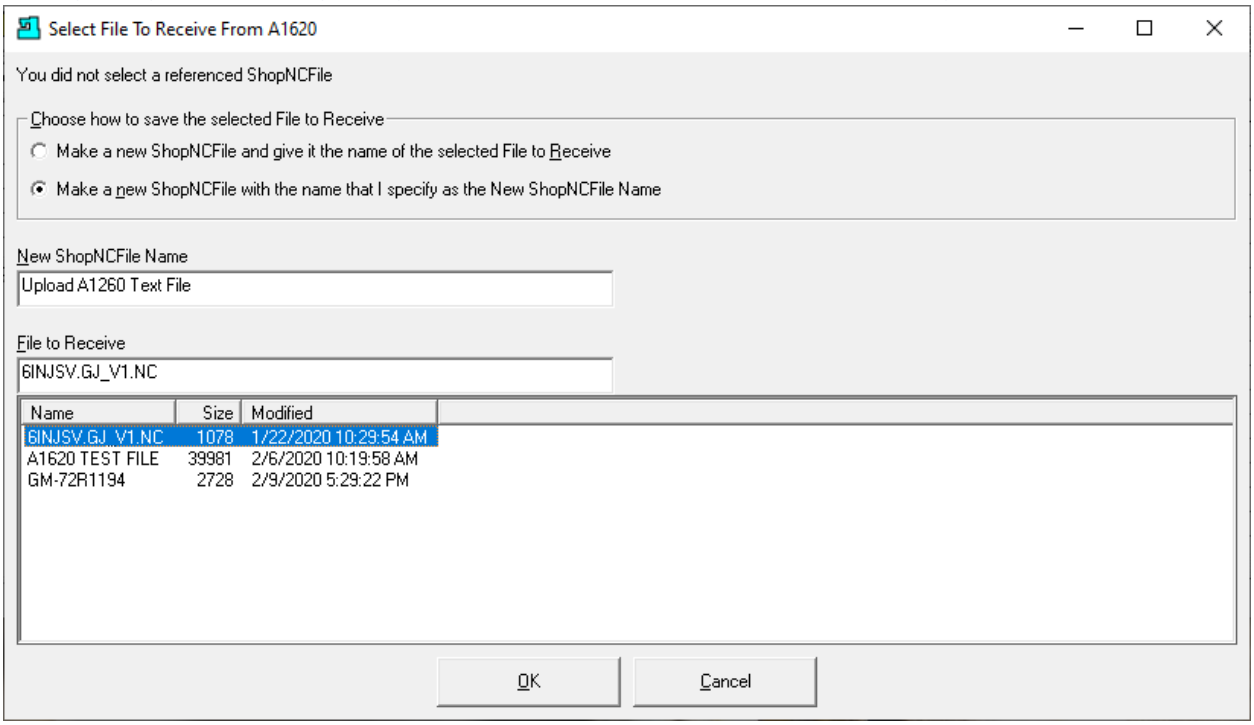
Note: The File will be uploaded to the Resource Collection set in the Machines That Assign Received ShopNCFiles (Machine 8000A illustrated) ! In this case it will be XA1620!

Manage ShopNCFiles – ShopDNC (UNC Upload/Receive Selected File – Radio Button 1)



Select the first radio button and highlight the file you want to upload. This mode assumes this file has been modified and you are saving it with the same name but a new version if multiple version! If your system is set to single version, it will overwrite the original! Take Care! See second option next page.

Manage ShopNCFiles – ShopDNC (UNC Upload/Receive Selected File – Radio Button 2)

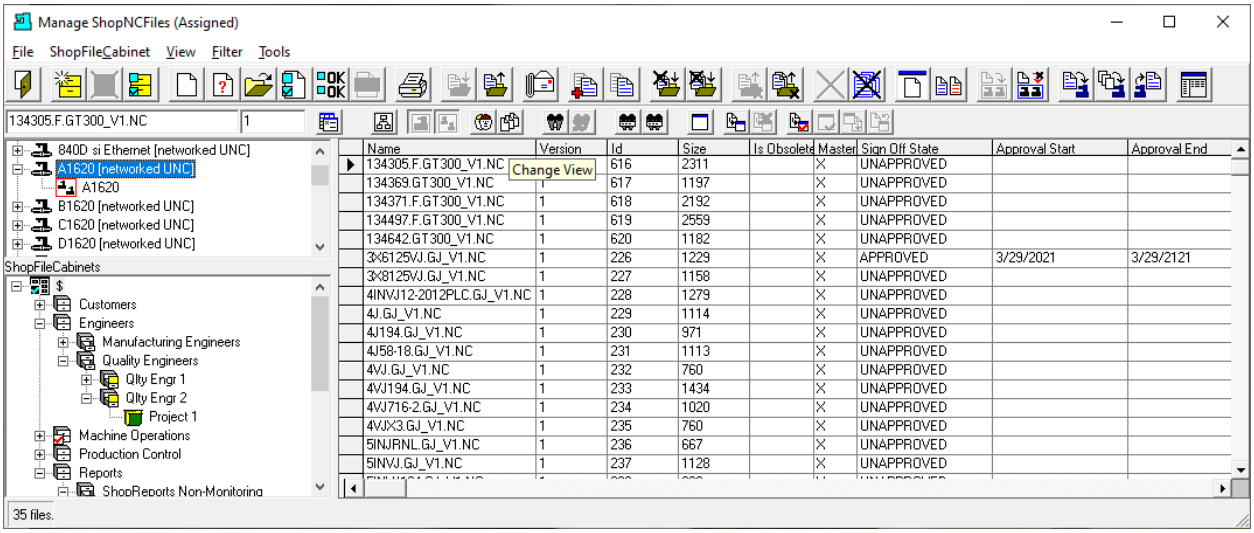


Select the second radio button and highlight the file you want to upload. This mode assumes you are going to name this file the same as you placed in the text area marked with the **Green Arrow** on a previous page! This name has been copied into the "New ShopNCFile Name" text area in the above form.

For this demo we will choose this method! Click the OK Button and the following Window is displayed.

Note. The Files you see above are the files located in the typical Path set in the Machine Tool Properties Window. This Path/Folder is where the UNC Operator & ShopFloorManager exchange Files!

Manage ShopNCFiles – ShopDNC (UNC Change View)

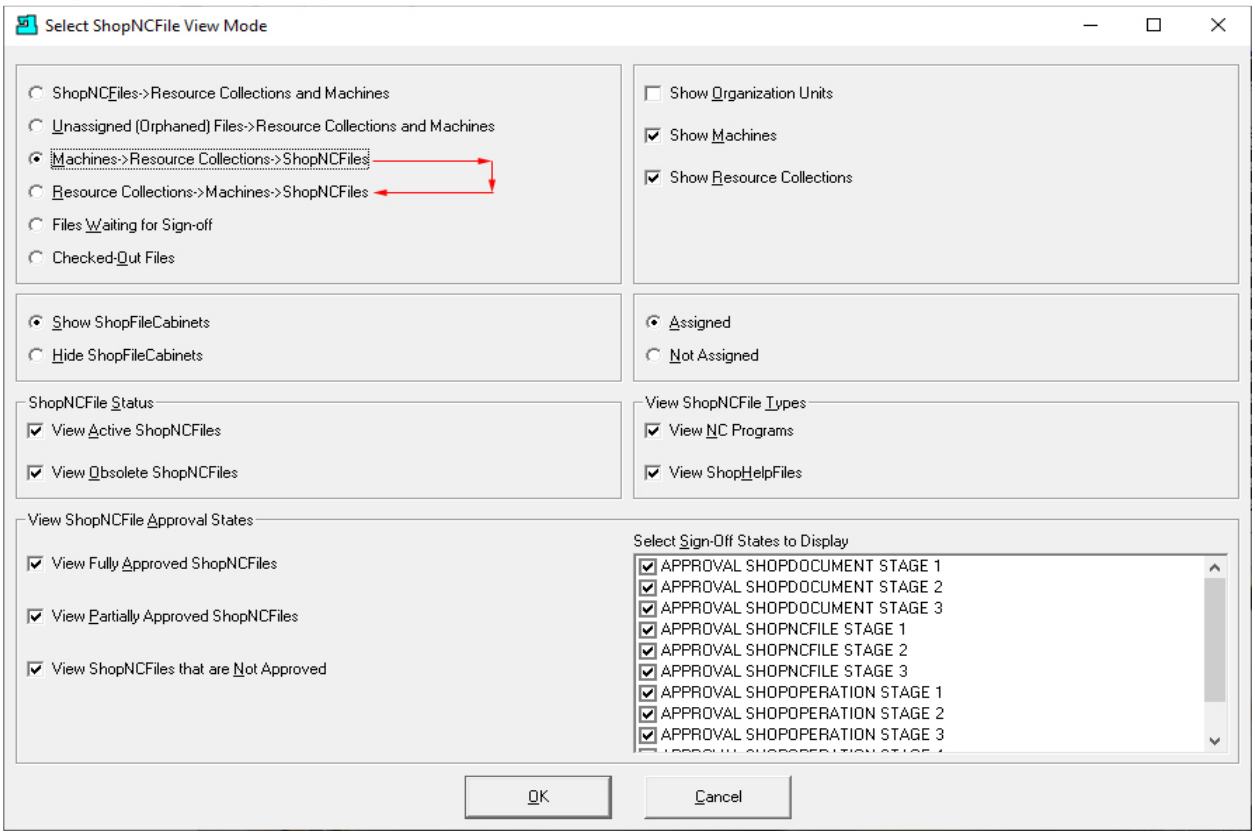


After Uploading the ShopNCFile, we need to click on the “Change View” Icon. The reason being the present view doesn’t show the Resource Collection to which the ShopNCFile was uploaded!

We have used the Resource Collection XA1620 to receive uploaded files from Machine A1620 as set in the Machines That Assign Received ShopNCFiles (Machine 8000A illustrated). This setting was left blank on Resource Collection A1620!

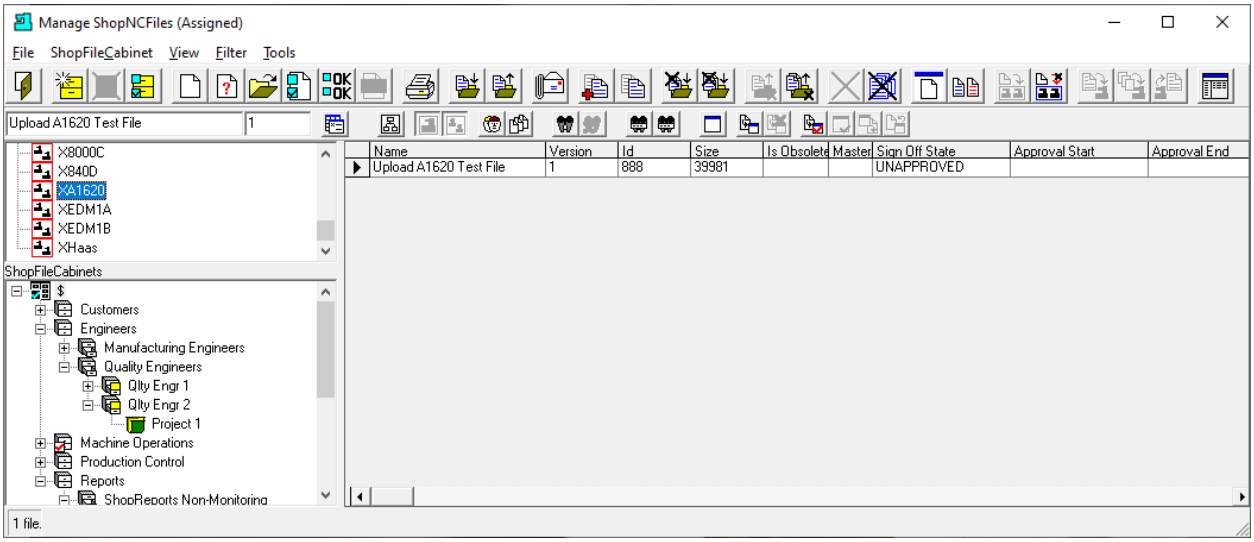
After clicking on the “Change View” the following Window is displayed!

Manage ShopNCFiles – ShopDNC (UNC uploaded/received ShopNCFile Change View)



The previous View was configured as shown above. We are going to change this view indicated by the **Red Arrows**! After making this change click the OK Button and the following Window is displayed!

Manage ShopNCFiles – ShopDNC (UNC Changed View)



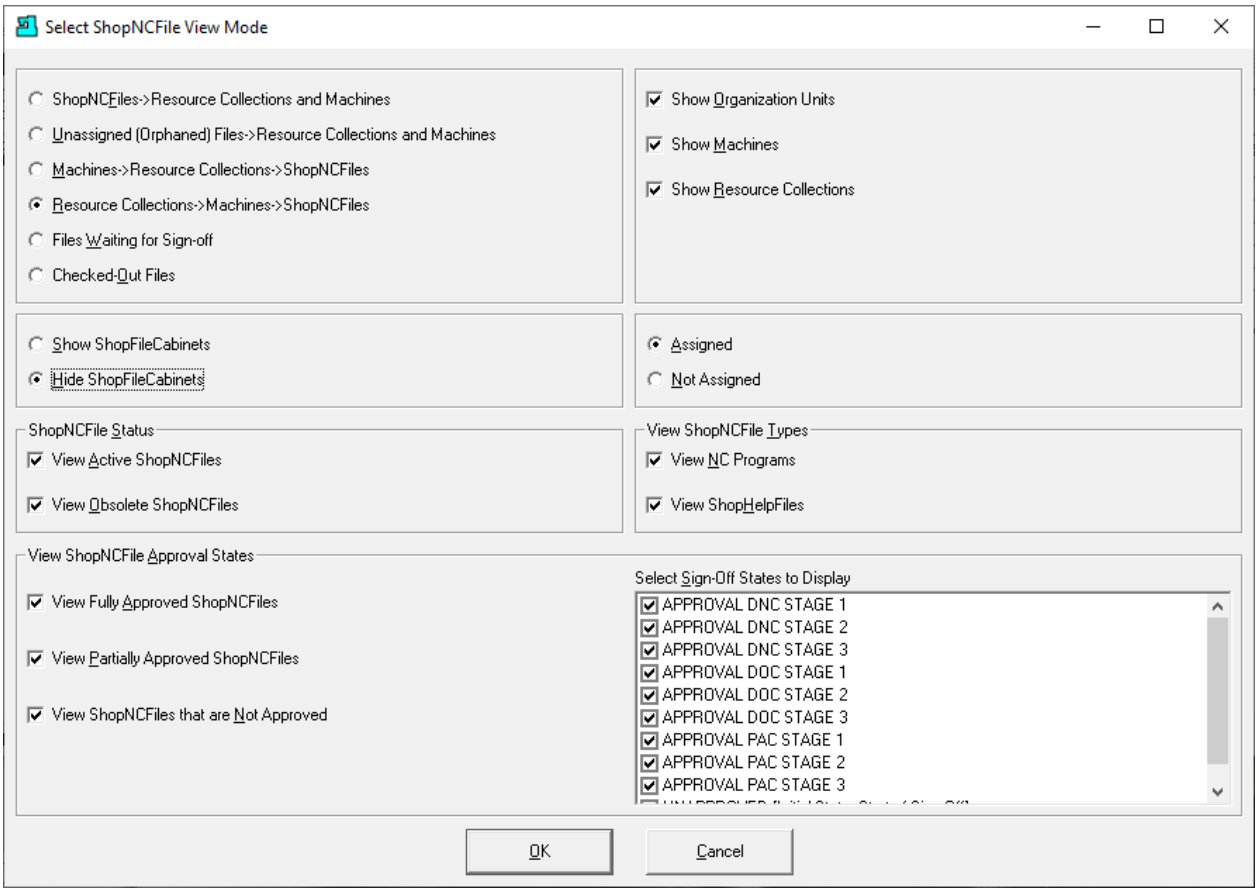
As you can see the Uploaded/Received ShopNCFile was assigned to the Resource Collection XA1620 as set in the Machines That Assign Received ShopNCFiles (Machine 8000A illustrated)!

We have finished the Manage ShopNCFile Section!

As we promised earlier, we are going to show how to change the name of a System ShopNCFile. In order to do this, we need to change this View.

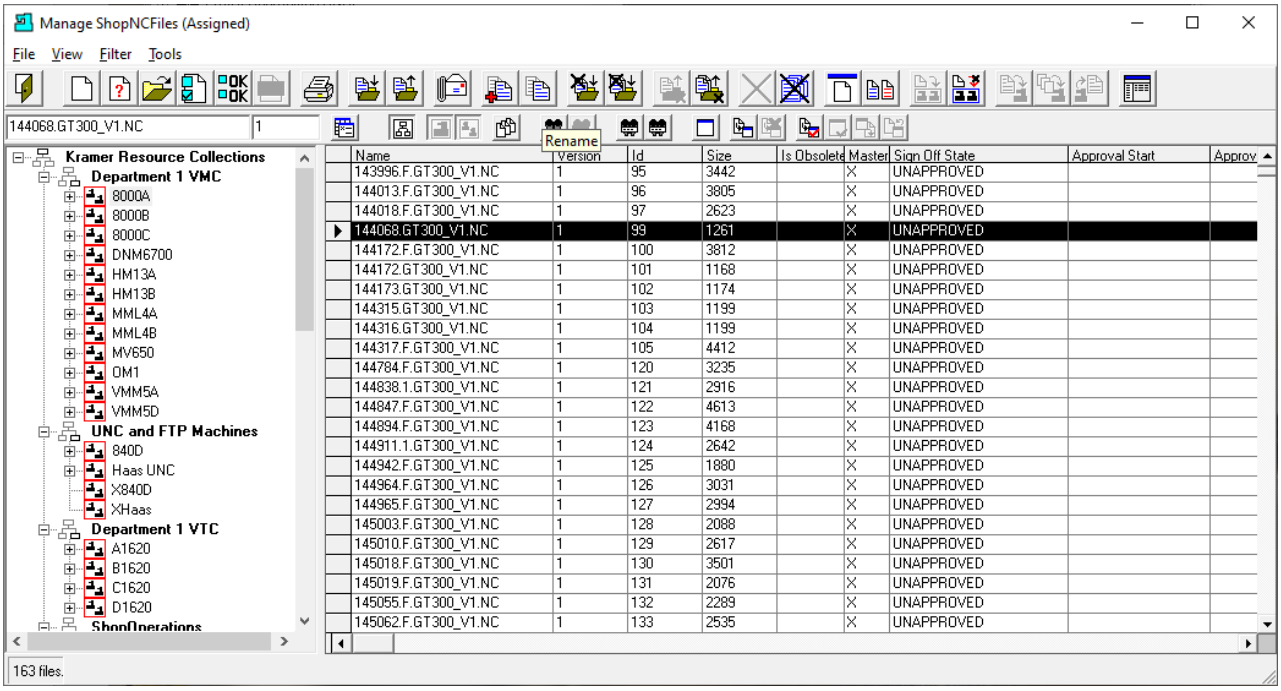
Click on the “Change View” Icon and the following Window will be displayed.

Manage ShopNCFiles (Change View Mode)



After making the changes as shown above click the OK Button and the following Window will be displayed.

Manage ShopNCFiles (Change System File Name)

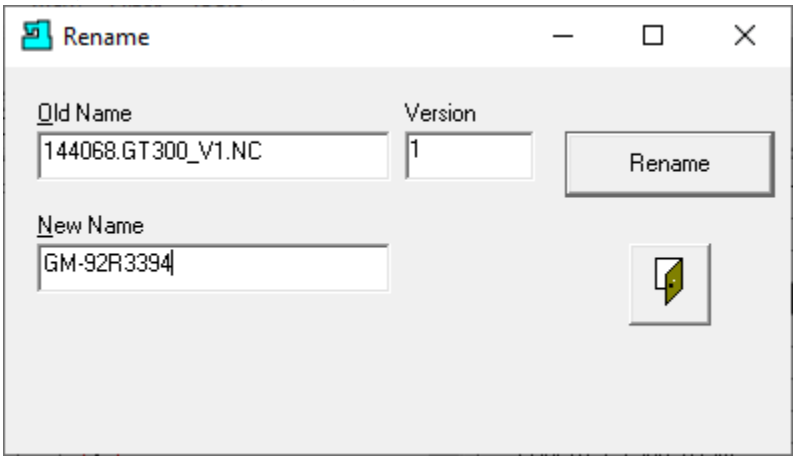


Changing a System ShopNCFile Name to conform to your Company's file naming Convention.

We will now change a System ShopNCFile Name to a ShopNCFile name that meets your ShopNCFile naming convention.

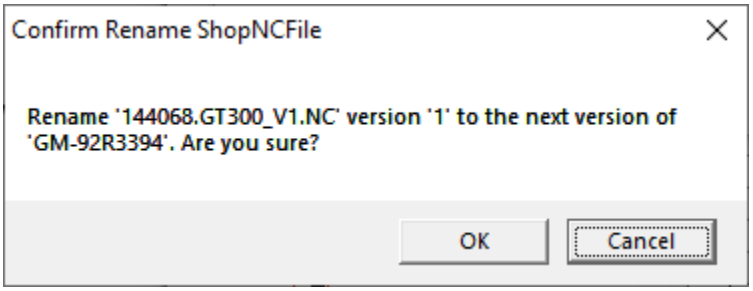
To change a System ShopNCFile Name, select the ShopNCFile you want to change and click on Rename Icon and the following Window will be displayed.

Manage ShopNCFiles (Rename)



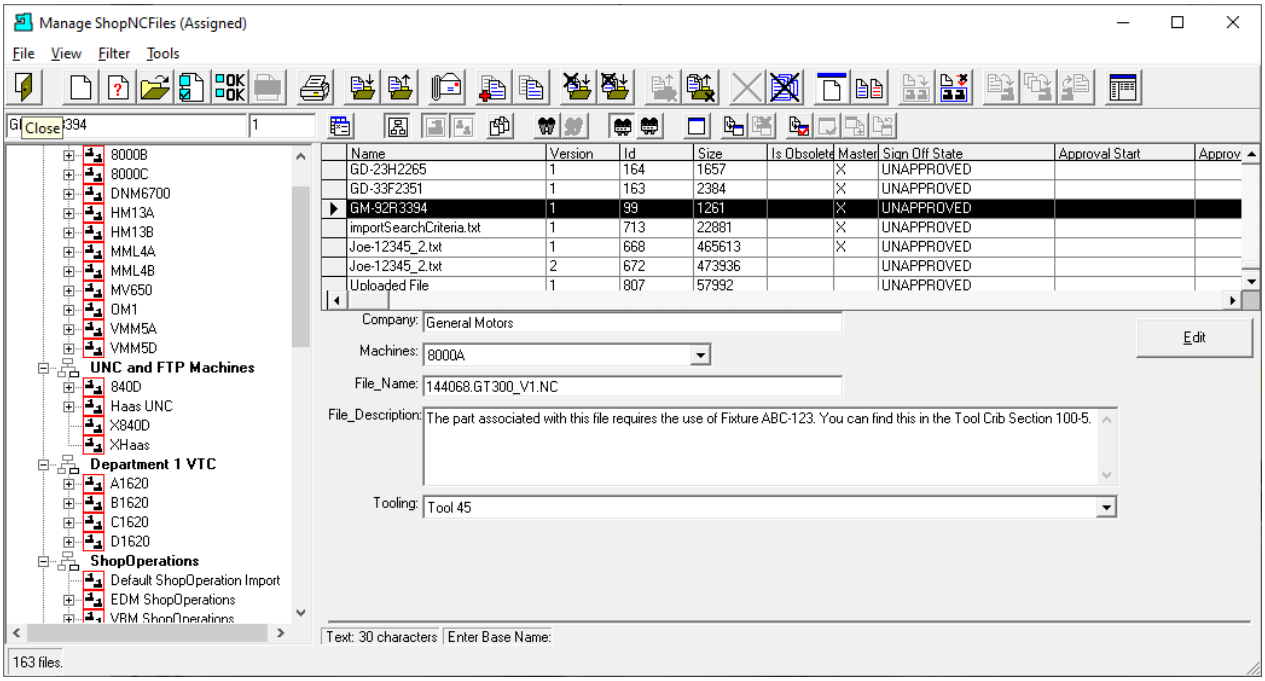
Change the ShopNCFile Name to your naming convention and click the Rename Button and the following Window will be displayed.

Manage ShopNCFiles (Confirm Rename ShopNCFile)



Click the OK Button and the Following Window will be displayed.

Manage ShopNCFiles (Change System File Name)



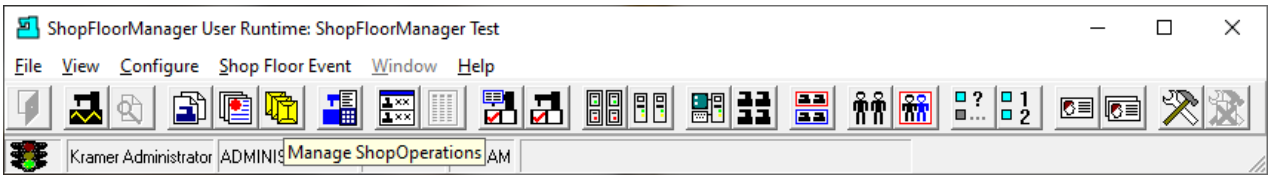
We have demonstrated how to change a System ShopNCFile's Name to meet your Company's Naming convention.

We have added and populated all the Keys for this ShopNCFile.

To demonstrate how we can use the Keys & Key data to aid Users in finding Files click Search Engine. After finishing that section return to this page by holding the CTRL Key and clicking on the left Arrow Key.

Click on the Close Icon and the following Window will be displayed.

Manage ShopOperations (When ShopNCFiles are Not Enough! A Traveler's Uplifting Story!)



A ShopOperation is a sophisticated Structure that can include any number of ShopNCFiles, ShopDocuments, Uncontrolled Documents & Sub-ShopOperations.

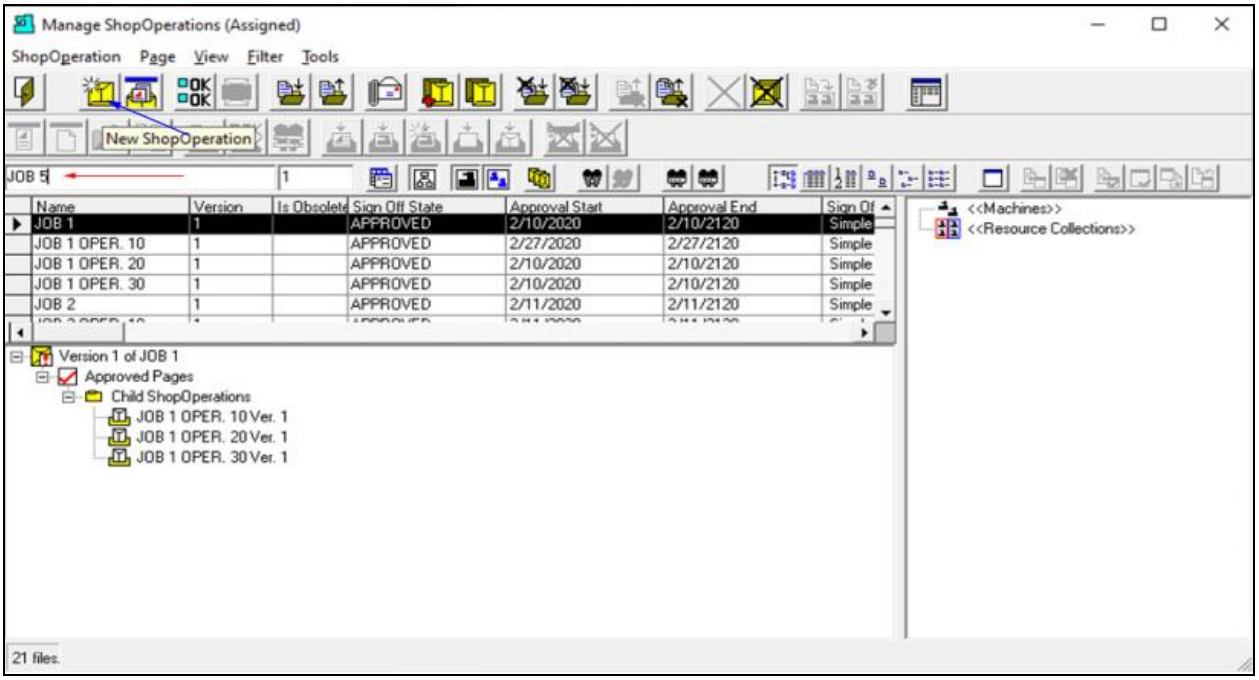
They can be used by Production Control, Quality Engineers, Manufacturing Engineers, Programmers, and by Operators as they perform their tasks in the Engineering Office and on the shopfloor!

Engineers can maintain their projects as organized collections of ShopOperations which are stored in secure ShopFileCabinets.

By investigating how ShopOperations are created and used in Manufacturing you will not only learn how to create ShopOperations but will learn how and why they are used to help organize Engineers, Programmers, Operators, etc. in performing their Jobs!

Click on the "Manage ShopOperations" Icon and the following Window will be displayed.

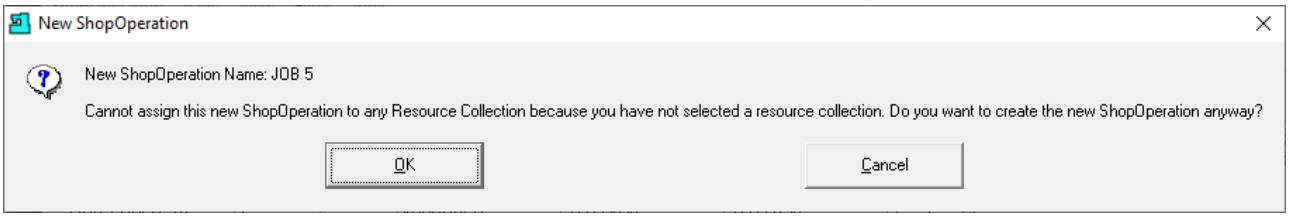
Manage ShopOperations (New ShopOperation)



Let's start by creating a new ShopOperation named JOB 5. We have entered the name in the upper-left hand Text Box! See the **Red Arrow**!

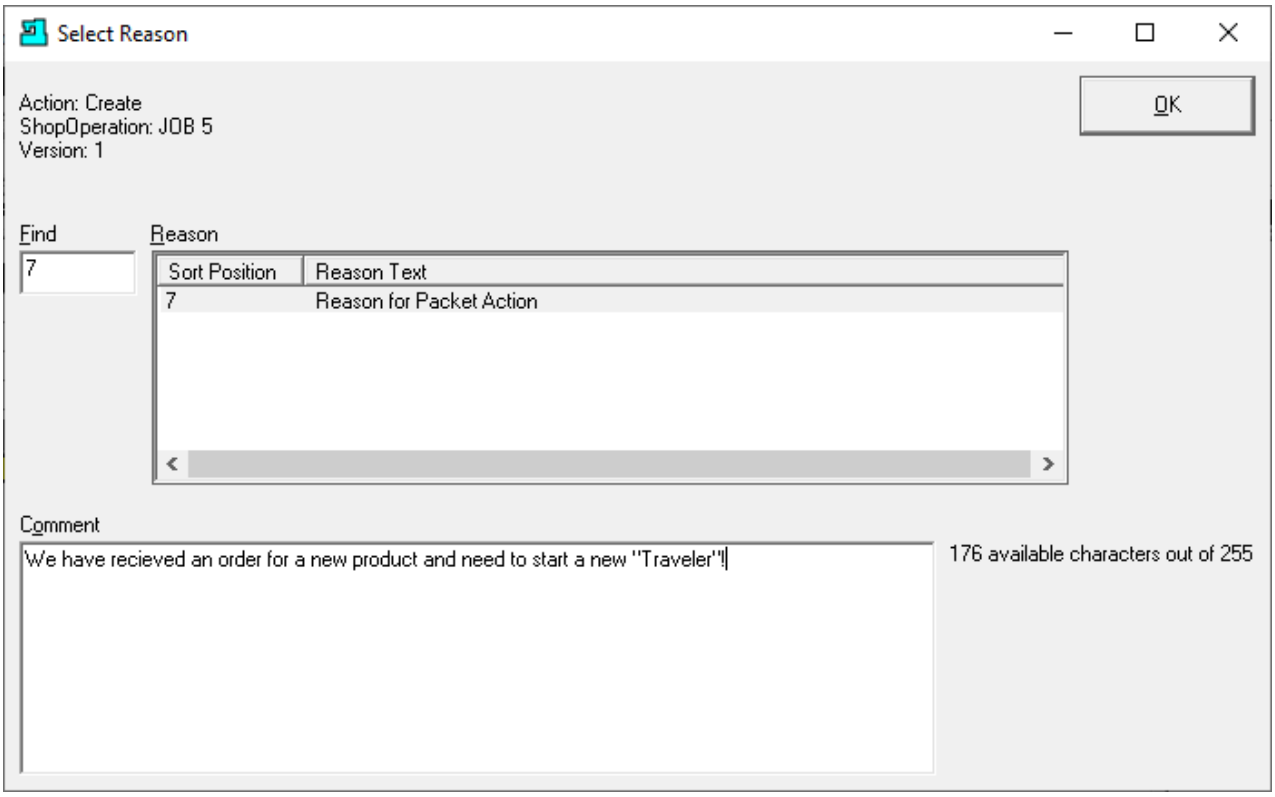
Click on the "New ShopOperation" Icon and the following Window will be displayed. See the **Blue Arrow**!

Manage ShopOperations (Asking if you want to assign to a Resource Collection)



We will not assign this ShopOperation to any Resource Collection at the moment so we will click the OK Button and the following Window will be displayed.

Manage ShopOperations (Request a Reason be selected, or Comment given)



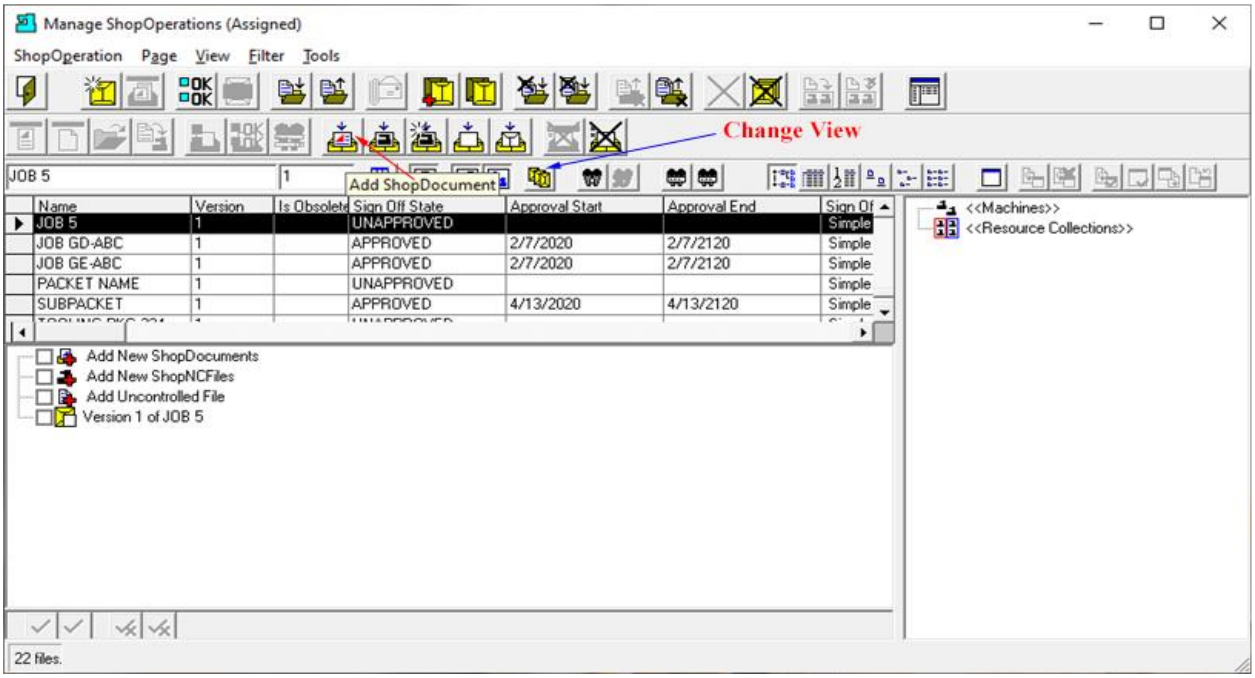
Since we have Configured ShopFloorManager to record certain Actions & Events for ShopOperation Histories, this form will be automatically displayed. You can choose a Reason, put in a comment, or just click the OK Button.

No matter which options you choose this Action or Event is recorded in the History.

Note: These History Records are used to generate ShopReports explored in the sections of the Manual.

After clicking the OK Button, the following Window is displayed.

Manage ShopOperations (ShopOperation JOB 5 created - Add ShopDocument)



We have just created an empty ShopOperation . I.E. It doesn't contain ShopNCFiles, ShopDocuments, Uncontrolled Documents or Sub-ShopOperations. Let's start by adding a few ShopDocuments.

Before we get started there are a few comments.

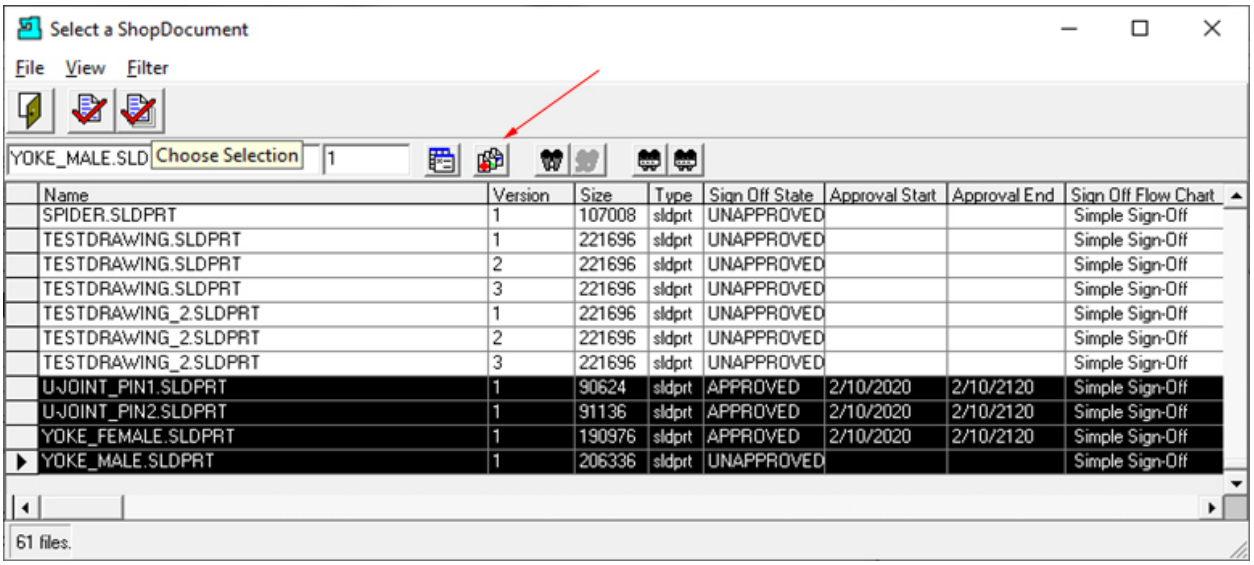
Note:

1. This ShopOperation Job 5 is the top-level structure which could include ShopNCFiles, ShopDocuments, Sub-ShopOperations & Uncontrolled Documents.
2. The present "View" is one of many that a User can configure. These can be re-configure & Changed by clicking on the Change View Icon and reconfiguring the View.
3. When creating a New ShopOperation using this View it is automatically associated with the Root $ ShopFileCabinet! This is important as access to any ShopOperation requires a User to have access to the ShopFileCabinet in which it is contained! The Root $ ShopFileCabinet is always accessible to all Users!

Let's add a few ShopDocuments to get started.

Click the "Add ShopDocument" Icon and the following Window will be displayed.

Manage ShopOperations (Add selected ShopDocuments to ShopOperation JOB 5)



Name	Version	Size	Type	Sign Off State	Approval Start	Approval End	Sign Off Flow Chart
SPIDER.SLDPRT	1	107008	sldprt	UNAPPROVED			Simple Sign-Off
TESTDRAWING.SLDPRT	1	221696	sldprt	UNAPPROVED			Simple Sign-Off
TESTDRAWING.SLDPRT	2	221696	sldprt	UNAPPROVED			Simple Sign-Off
TESTDRAWING.SLDPRT	3	221696	sldprt	UNAPPROVED			Simple Sign-Off
TESTDRAWING_2.SLDPRT	1	221696	sldprt	UNAPPROVED			Simple Sign-Off
TESTDRAWING_2.SLDPRT	2	221696	sldprt	UNAPPROVED			Simple Sign-Off
TESTDRAWING_2.SLDPRT	3	221696	sldprt	UNAPPROVED			Simple Sign-Off
U-JOINT_PIN1.SLDPRT	1	90624	sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
U-JOINT_PIN2.SLDPRT	1	91136	sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
YOKE_FEMALE.SLDPRT	1	190976	sldprt	APPROVED	2/10/2020	2/10/2120	Simple Sign-Off
YOKE_MALE.SLDPRT	1	206336	sldprt	UNAPPROVED			Simple Sign-Off

This View displays all available ShopDocuments. If this View is not what you see click the "Change View" Icon (**Red Arrow**) and reconfigure this View!

We will be selecting four ShopDocuments to add to ShopOperation JOB 5. You can select multiple ShopDocuments by clicking next to the First ShopDocument, holding the Shift Key and clicking the the last ShopDocument. They will all be highlighted as shown above. Always click in the column with the black arrow head!

If the files are not contiguous hold the Cntr Key and select your individual ShopDocuments. All selections should be made in the column with the black arrow head!

Since we will be using ShopOperation Job 5 as a Traveler any ShopNCFiles & or ShopDocuments that are added at this level are for the use of the creater only! These are the "Documents" used by the creator during develpement. Using this protocol everything used to create this Traveler is contained in the Traveler itself but only the Sub-ShopOperations are accessed by Operators on the shopfloor.

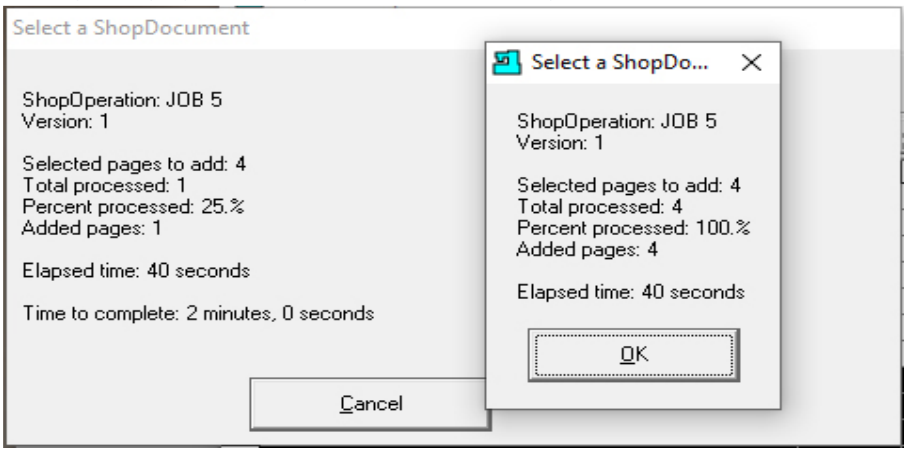
Click the "Choose Selection" Button on the Right-Side for adding multiple ShopDocuments.

If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded, a Form will be displayed where you can select a Reason for adding these ShopDocuments. You can write a short reason/comment for making these additions! After you have completed adding the reason/comment click the OK Button.

Note: You don't have to add a reason/comment, but the Change & Action is recorded in the database.

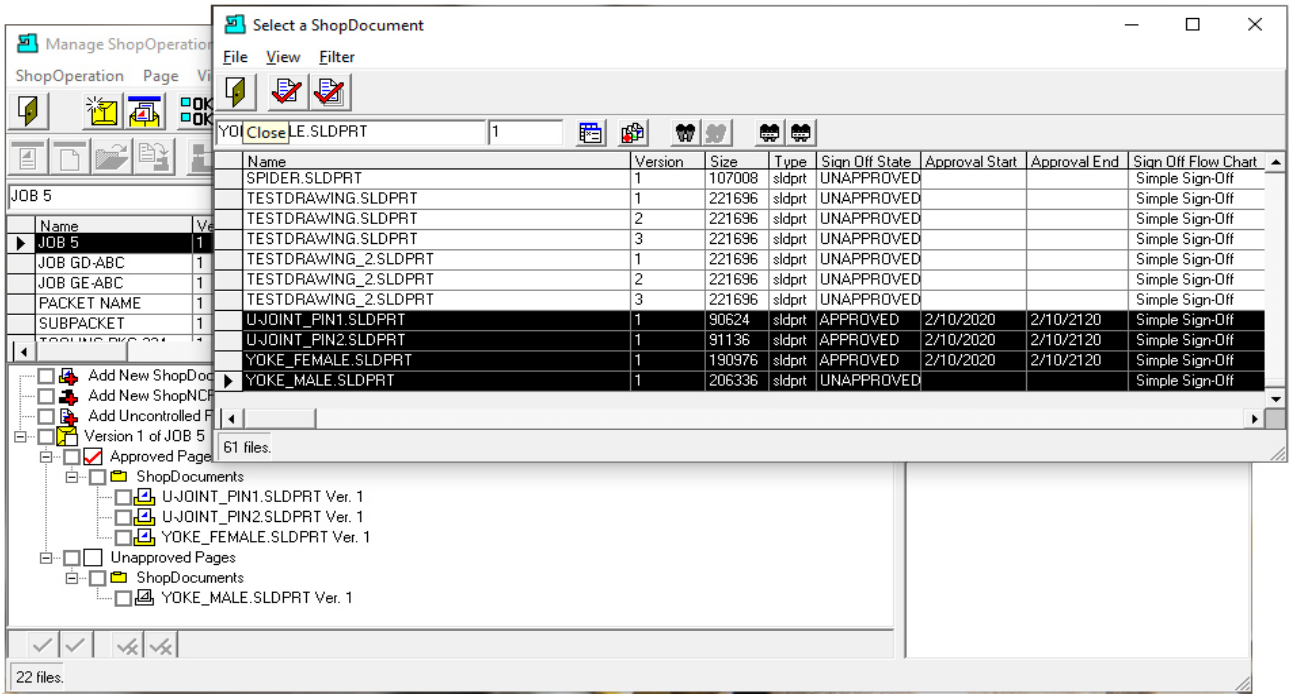
The following Window will be displayed.

Manage ShopOperations (Informational Window)



Click the OK Button and the following Window will be displayed.

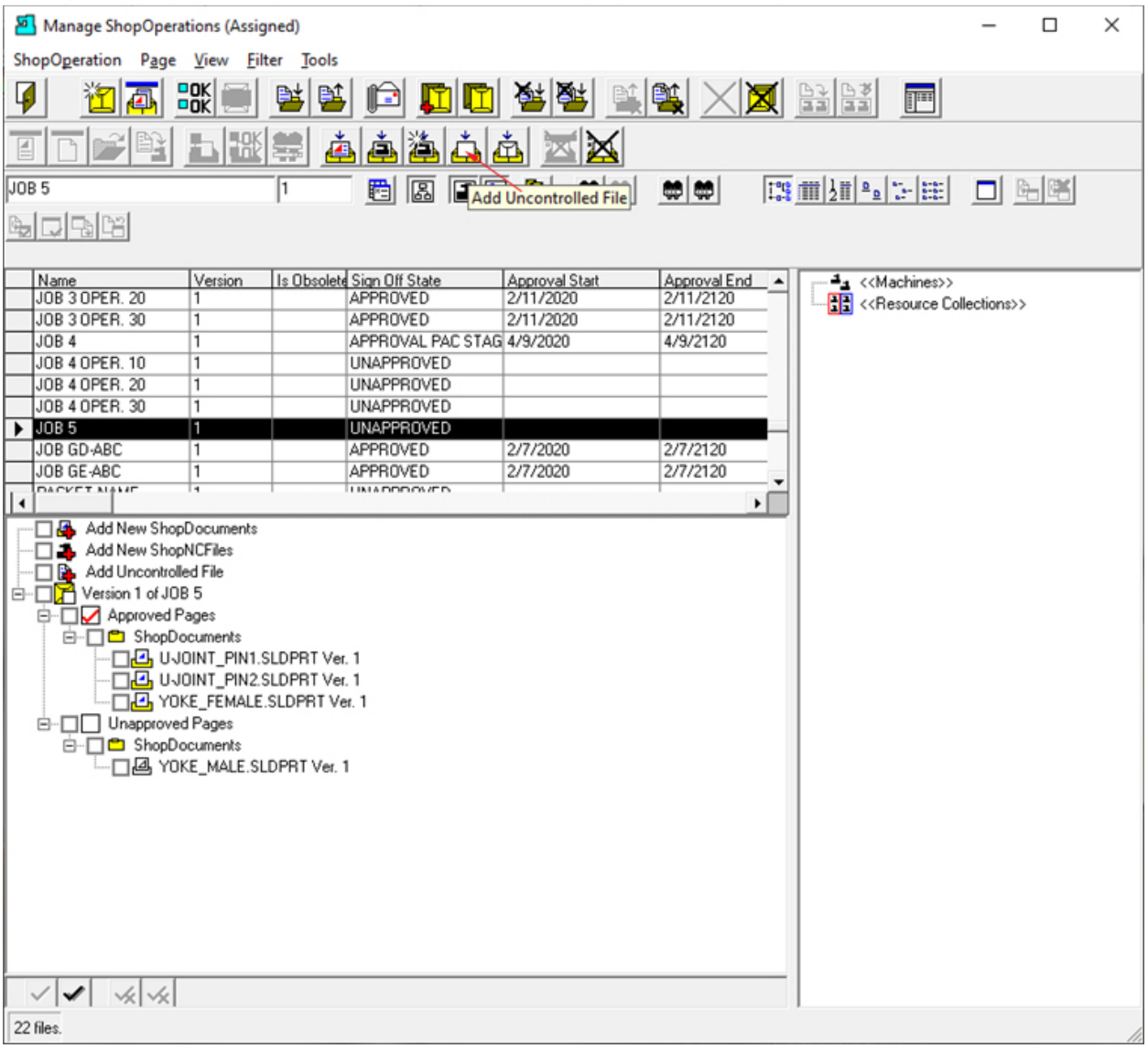
Manage ShopOperations (Selected ShopDocuments Added to ShopOperation)



As you can see the selected ShopDocuments have be added to the ShopOperation JOB 5. Looking closely at the ShopOperation Window below the top Window and you will see three of the ShopDocuments are Approved & one Unapproved! More on this later.

Click the Close Icon and the following Window will be displayed.

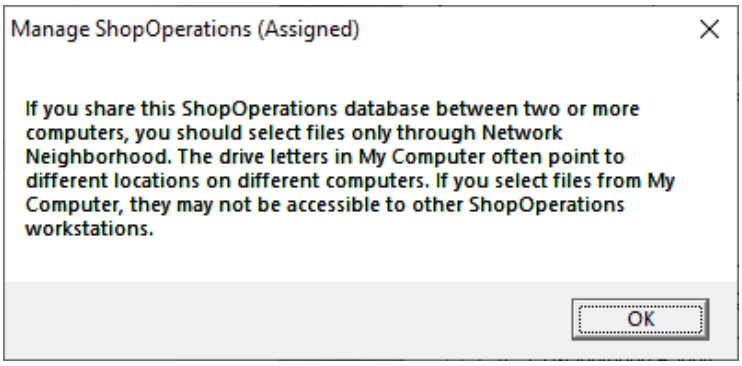
Manage ShopOperations (Add Uncontrolled File to ShopOperation JOB 5)



We will now add an Uncontrolled File to the ShopOperation. Click on the “Add Uncontrolled File” Icon and the following Window is displayed. See **red** arrow above!

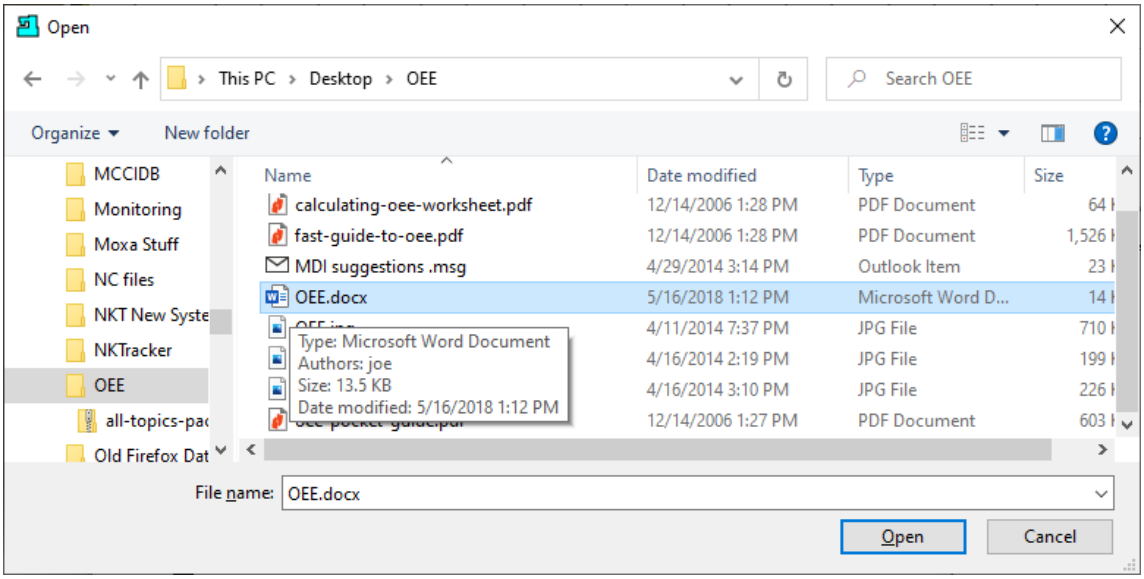
Note: Uncontrolled Documents are located in Window’s Folders and not contained in ShopFloorManager’s Database!

Manage ShopOperations (Informational Window about Uncontrolled Files)



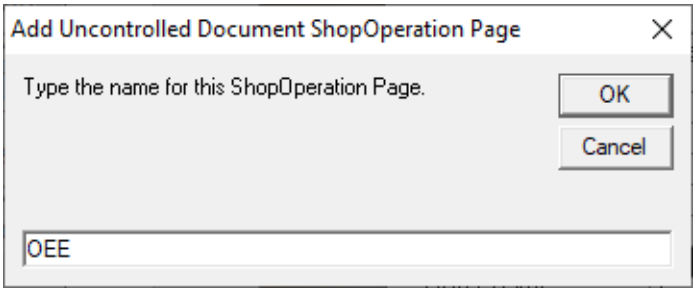
Click the OK Button and the following Window will be displayed.

Manage ShopOperations (Selecting Uncontrolled File to add to ShopOperation JOB 5)



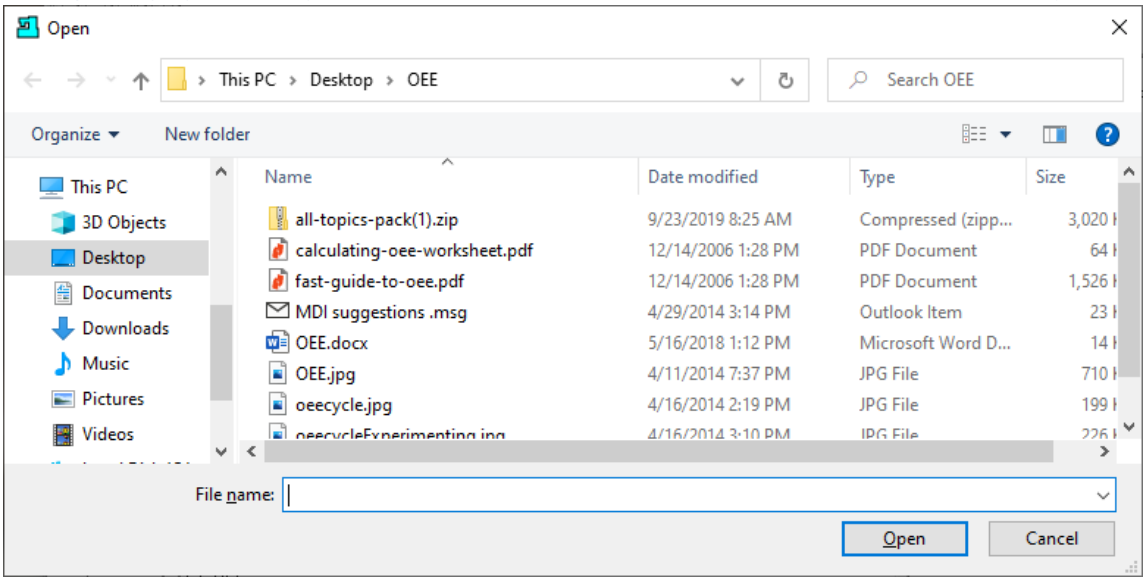
Select the Uncontrolled ShopDocument to add to the ShopOperation JOB 5 and click the Open Button and the following Window will be displayed.

Manage ShopOperations (Select Name for Uncontrolled File)



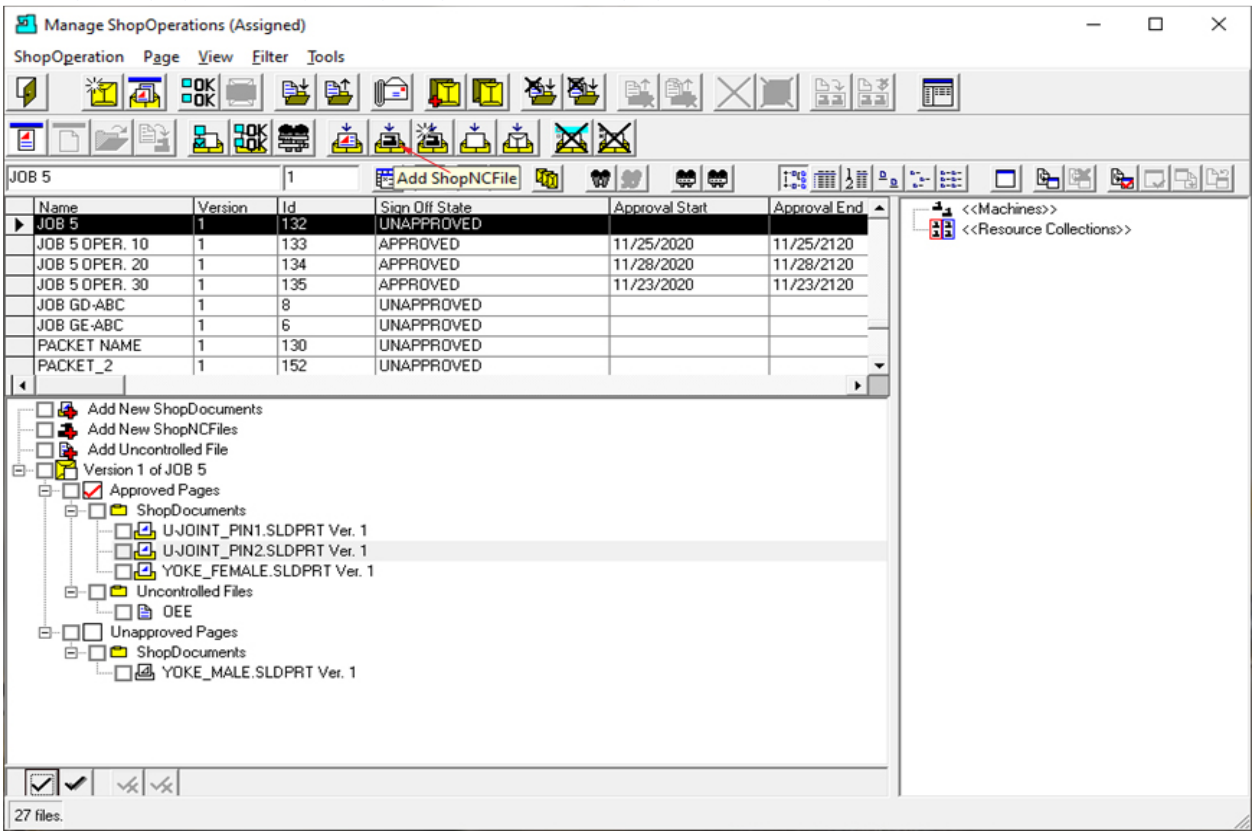
Remove the extention and accept the File System name or change the name, this doesn't change the Window's File Name, and then click the OK Button and the following Window will be displayed.

Manage ShopOperations (Continue selecting Uncontrolled File to add to ShopOperation JOB 5)



Click Cancel when you are finished selecting Uncontrolled Documents. We will click the Cancel Button!

Manage ShopOperations (Adding ShopNCFiles to ShopOperation JOB 5)

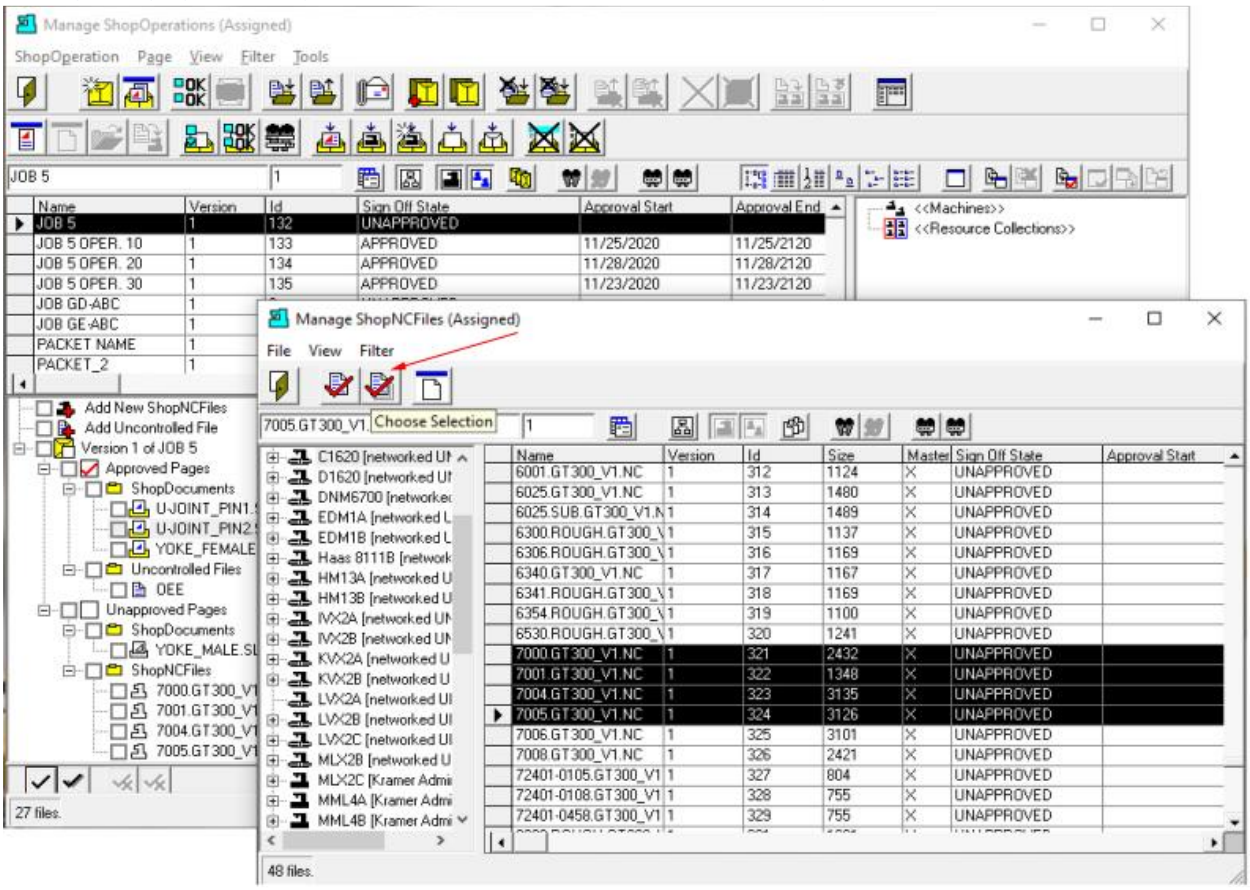


You can see the updated ShopOperation Job 5 which include ShopDocuments and an Uncontrolled Document!

We will now add ShopNCFiles to ShopOperation JOB 5.

Click the “Add ShopNCFiles” Icon and the following Window is displayed. See **Red Arrow** above!

Manage ShopOperations (Selected ShopDocuments Added to ShopNCFiles)



We will select four ShopNCFiles to add to ShopOperation JOB 5. You can select multiple ShopNCFiles by clicking next to the First Document, holding the Shift Key and clicking the the last Document. They will all be highlighted as shown above. Always click in the column with the black arrow head!

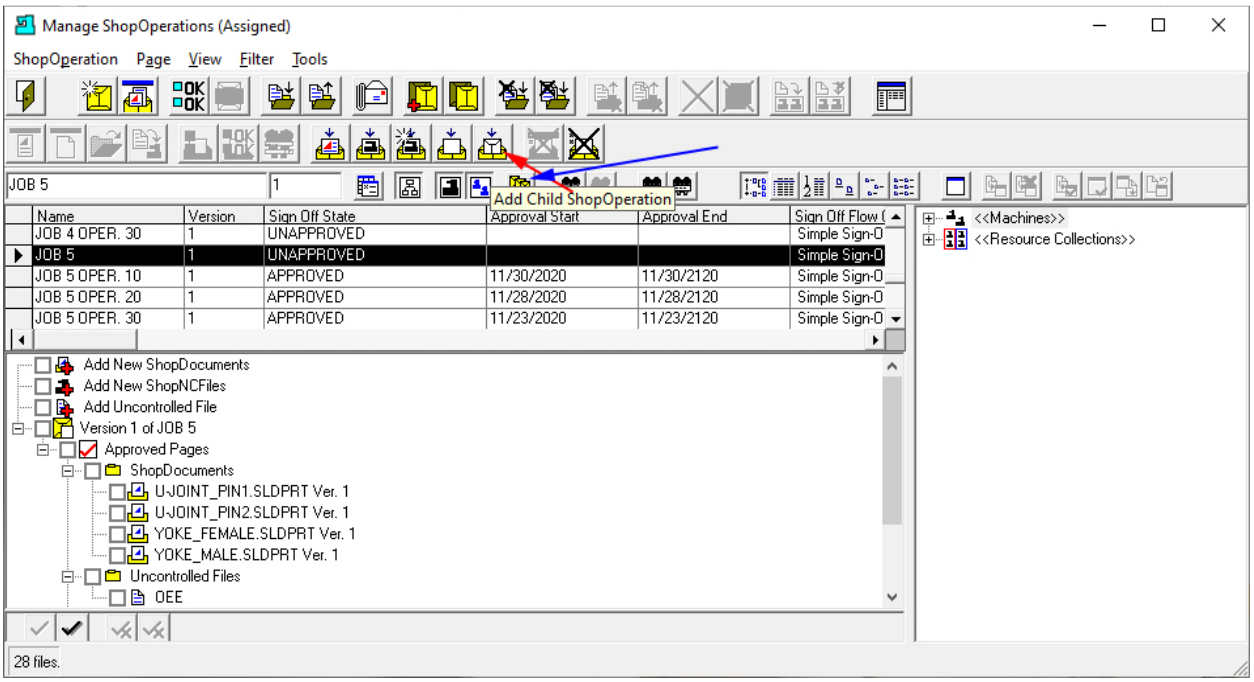
If the files are not contiguous hold the Cntr Key and select individual ShopNCFiles. All selections should be made in the column with the black arrow head! Since we will be using this ShopOperation Job 5 as a Traveler any ShopNCFiles & or ShopDocuments that are added at this level are used by the creator and not the shopfloor Operator!

After clicking on the "Choose Selection" Icon, see **Red Arrow** above, you will see that the selected ShopNCFiles have be added to the ShopOperation JOB 5. Looking closely at the ShopOperation Window below the top Window and you will see four Unapproved ShopNCFiles have been added!

Note: We will be removing these from this ShopOperation as they are not needed for "Job 5". We performed this procedure to illustrate how to add ShopNCFiles.

Click the Close Icon under the File Menu on the Top Window and the following Window will be displayed.

Manage ShopOperations (Adding Child ShopOperation(s) to Traveler JOB 5)



If you want to change the above View click on the "Change View" Icon! This Icon is partially covered by the "Add Child ShopOperation" Menu Tip! See **Blue Arrow** above.

We will now add Sub-ShopOperations to the ShopOperation "JOB 5" to create a Traveler. The Sub-ShopOperations are Independent ShopOperations of a Traveler and could be considered a Machining Operation, Assembly Operation, Quality Operation, etc!

Note: **!Important**

A Traveler is a top-level ShopOperation containing any number of Sub-ShopOperations. Its suggested that any ShopDocuments and or ShopNCFiles contained in this top-level should be backup information used in creating the Traveler.

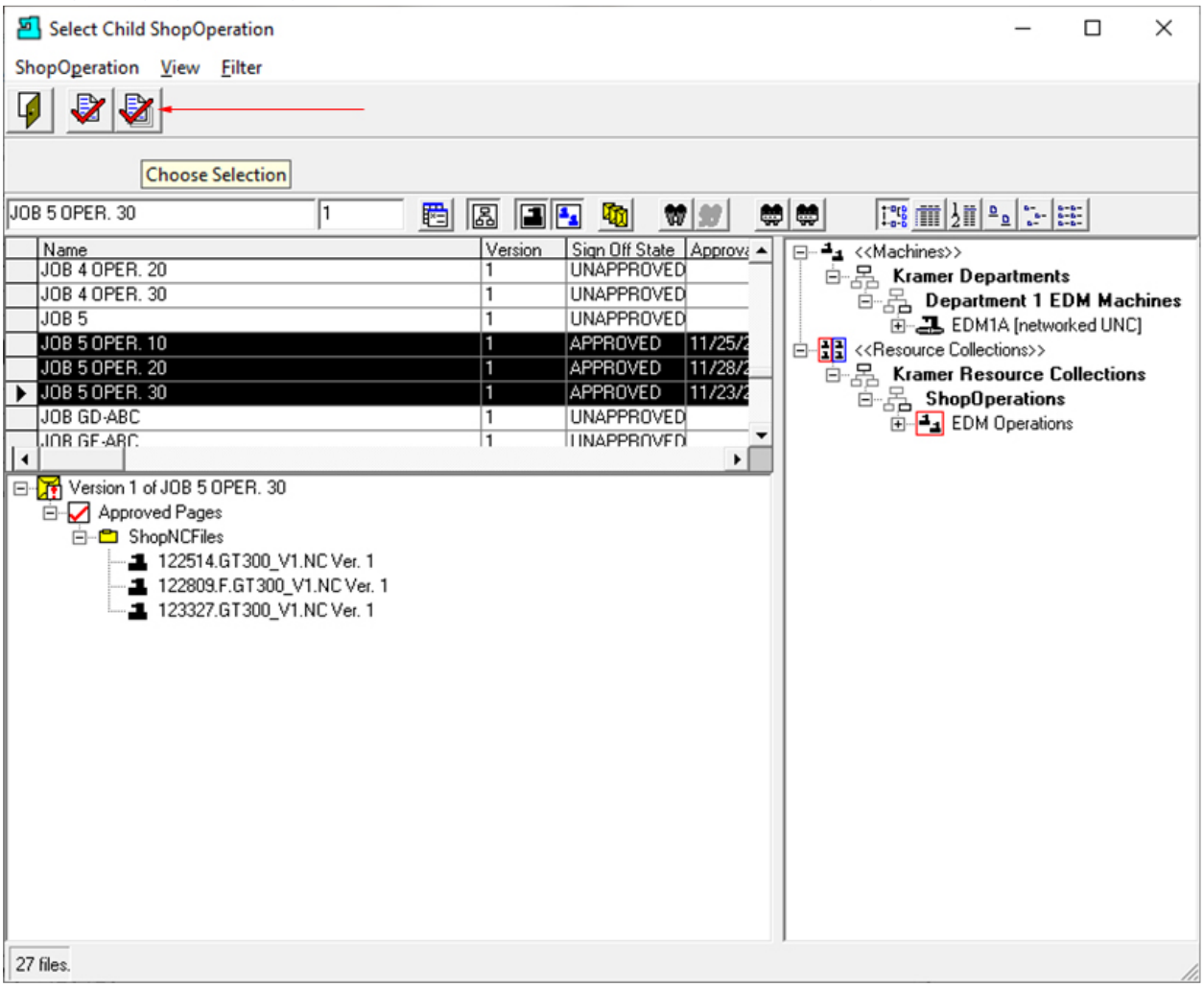
Operators on the shopfloor will never see this information and it makes sense to keep this information regarding the creation of this Traveler/Project togther.

These "Documents" could be Files used in creating the ShopNCFiles, Engineering data, Emails, Excel Sheets, Quality Sheets, etc.

Note: Top-lever ShopOperations should never be associated with Resource Collections!

Click the "Add Child ShopOperation" Icon and the following Window will be displayed. See **Red Arrow** above!

Manage ShopOperations (Adding Child ShopOperation (s) to ShopOperation JOB 5)



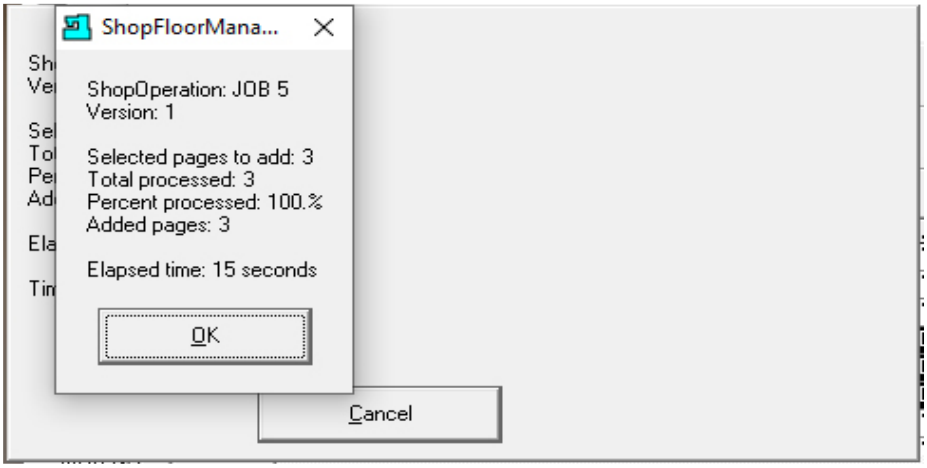
We have selected three existing ShopOperations to add to ShopOperation JOB 5. You can select multiple ShopOperations by clicking next to the First Document, hold the Shift Key and click the the last ShopOperation and they will all be highlighted.

If the ShopOperations are not contiguous hold the Cntr Key and select your individual ShopOperations. All selections should be selected in the column with the Black Arrow Head!

Now Click the “Choose Selection” Icon, see the **Red Arrow** above, for adding multiple selections.

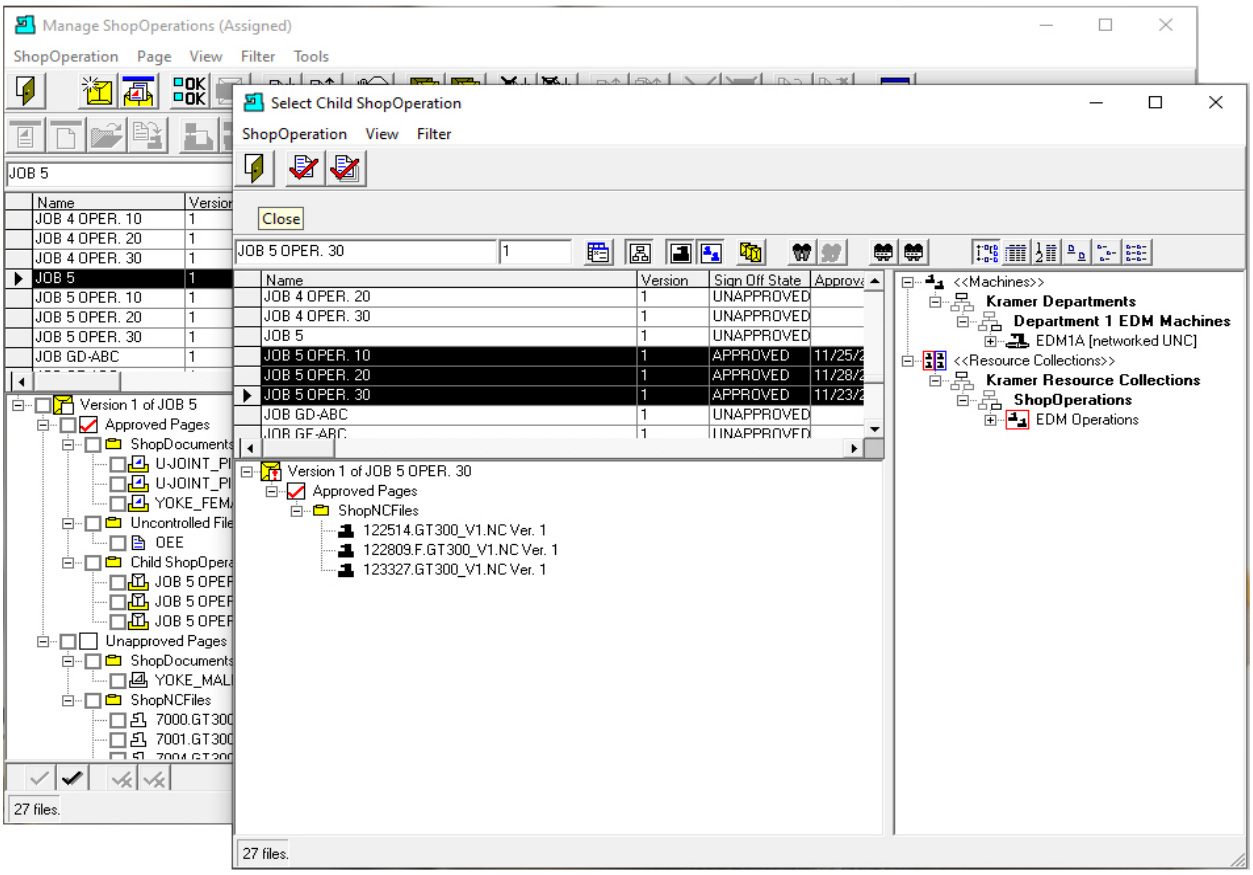
If a Select Reason Form is displayed asking to select a Reason for this choice, fill out and click the OK Button and the following Window will be displayed.

Manage ShopOperations (Informational Window)



Click the OK Button and the following Window is displayed.

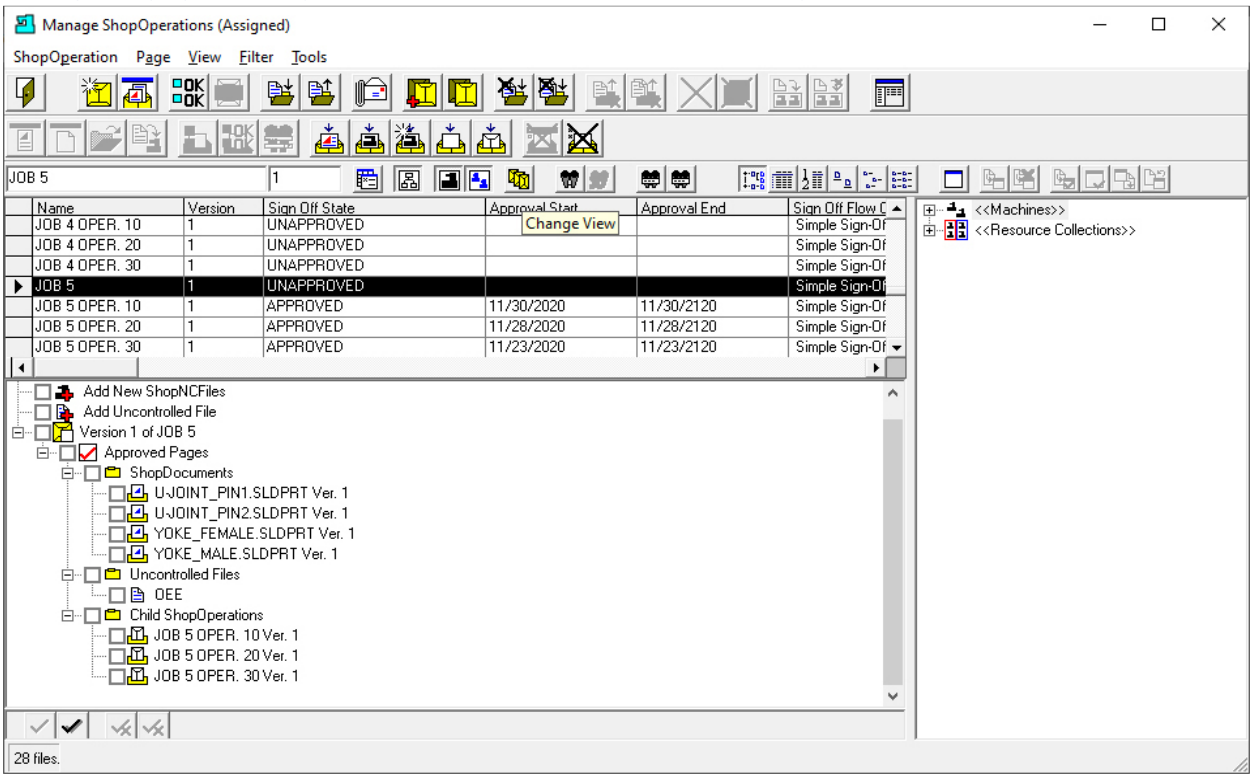
Manage ShopOperations (Selected Sub-ShopOperations Added to ShopOperation)



If you look at the bottom Window under the Top Window you can see the selected ShopOperations (Child ShopOperations) have been added to the “Traveler” ShopOperation “JOB 5”.

Click the Close Icon and the following Window will be displayed.

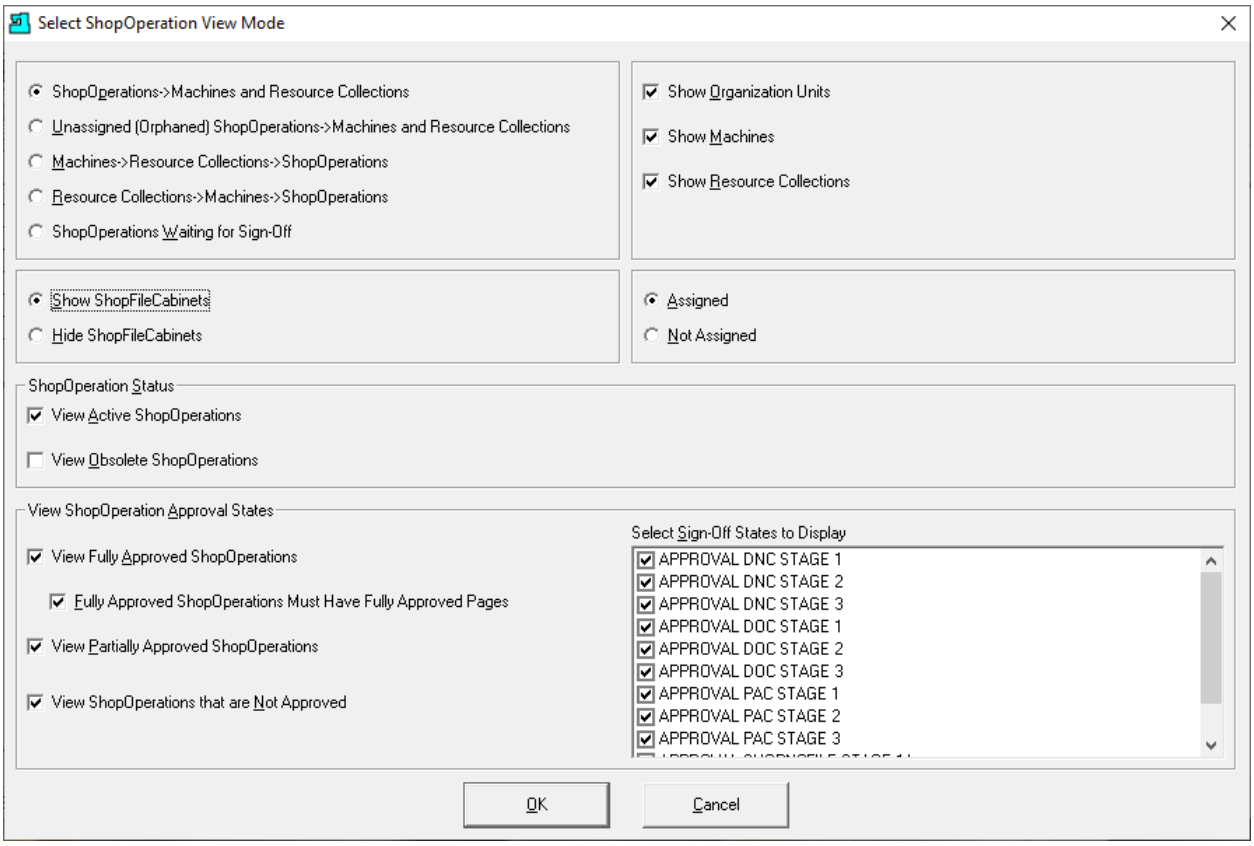
Manage ShopOperations (Sub-ShopOperations Added to ShopOperation)



We are going to be using a ShopFileCabinet other than the Root $ ShopFileCabinet so we need to change the above View to include ShopFileCabinets!

Click on the "Change View" Icon and the following Window will be displayed.

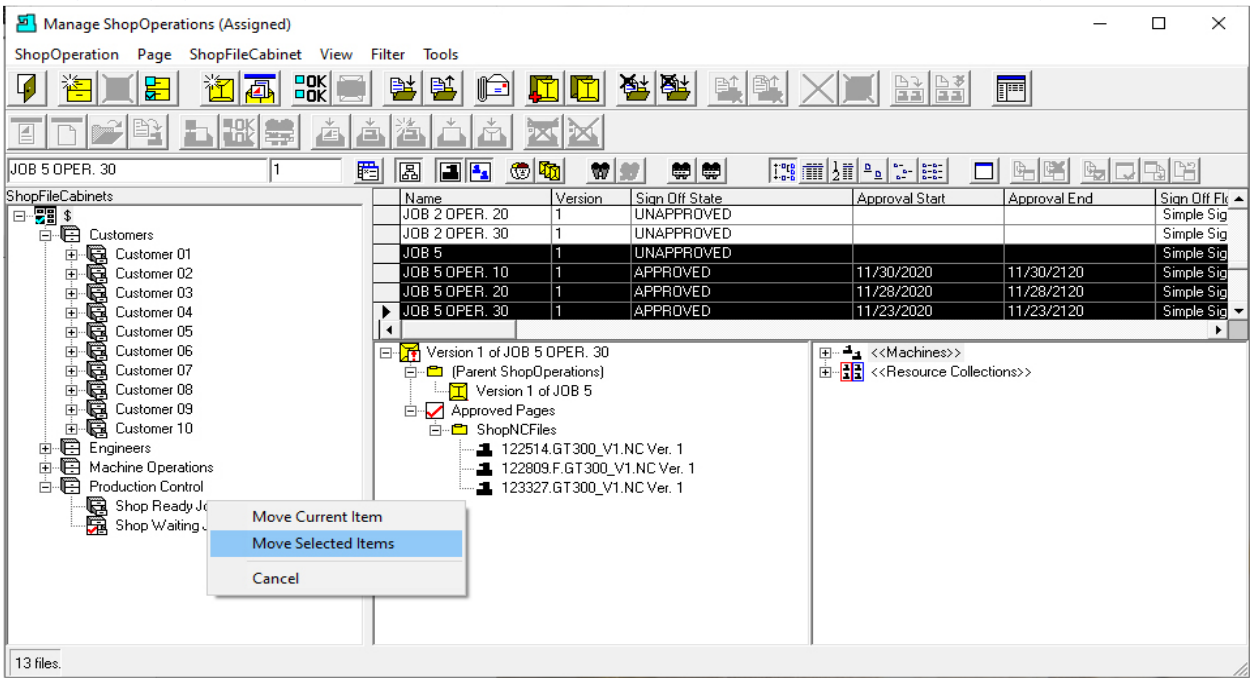
Manage ShopOperations (Change View Mode)



After making the changes as shown above click the OK Button and the following Window will be displayed.

Note: Compare the present form configuration with the view of the form above so you can see what a different configuration does to the following View!

Manage ShopOperations (Select & move Job 5 & All Sub-ShopOperations to "Shop Ready Jobs")



Job 5 and its Sub-ShopOperations are located in the Root $ ShopFileCabinet and we are going to move these to "Shop Ready Jobs" ShopFileCabinet.

You can select multiple ShopOperations by clicking next to the First Document, hold the Shift Key and click the the last ShopOperation and they will all be highlighted.

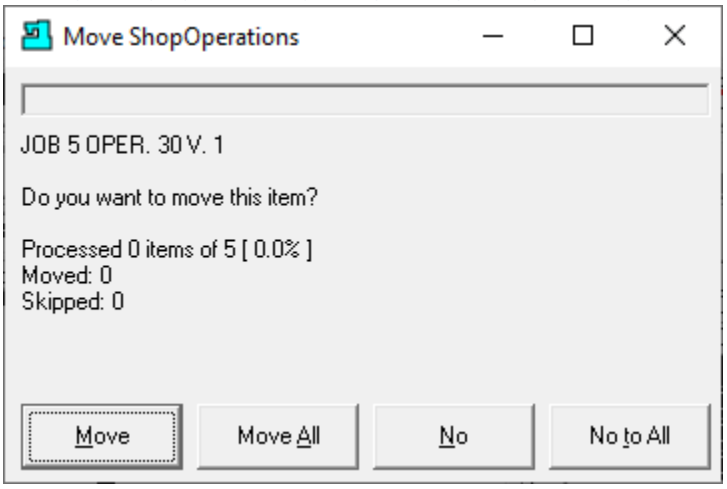
If the ShopOperations are not contiguous hold the Cntr Key and select your individual ShopOperations. All selections should be selected in the column with the Black Arrow Head!

Left click on Name Column in the row with the black arrow head and drag & drop to the "Shop Ready Jobs" ShopFileCabinet and release and you will be presented with form with three options.

Click the "Move Selected Items".

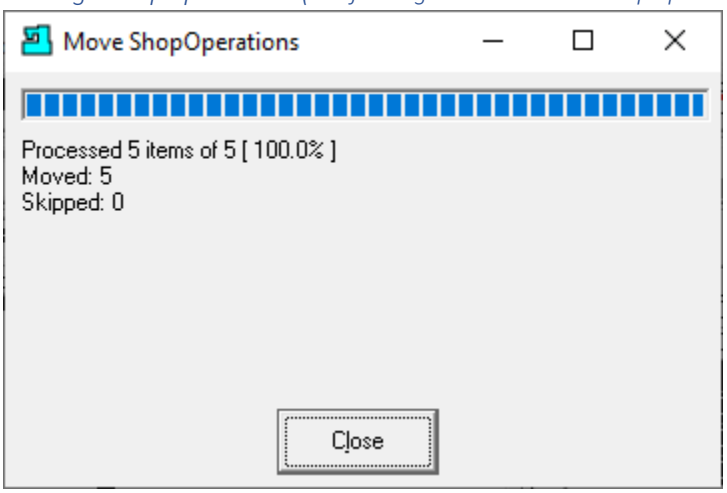
Note: If a Select Reason Form is displayed asking to select a Reason for this choice, fill out and click the OK Button and the following Window will be displayed.

Manage ShopOperations (Form for confirming moving Job 5 & All Sub-ShopOperations to "Shop Ready Jobs")



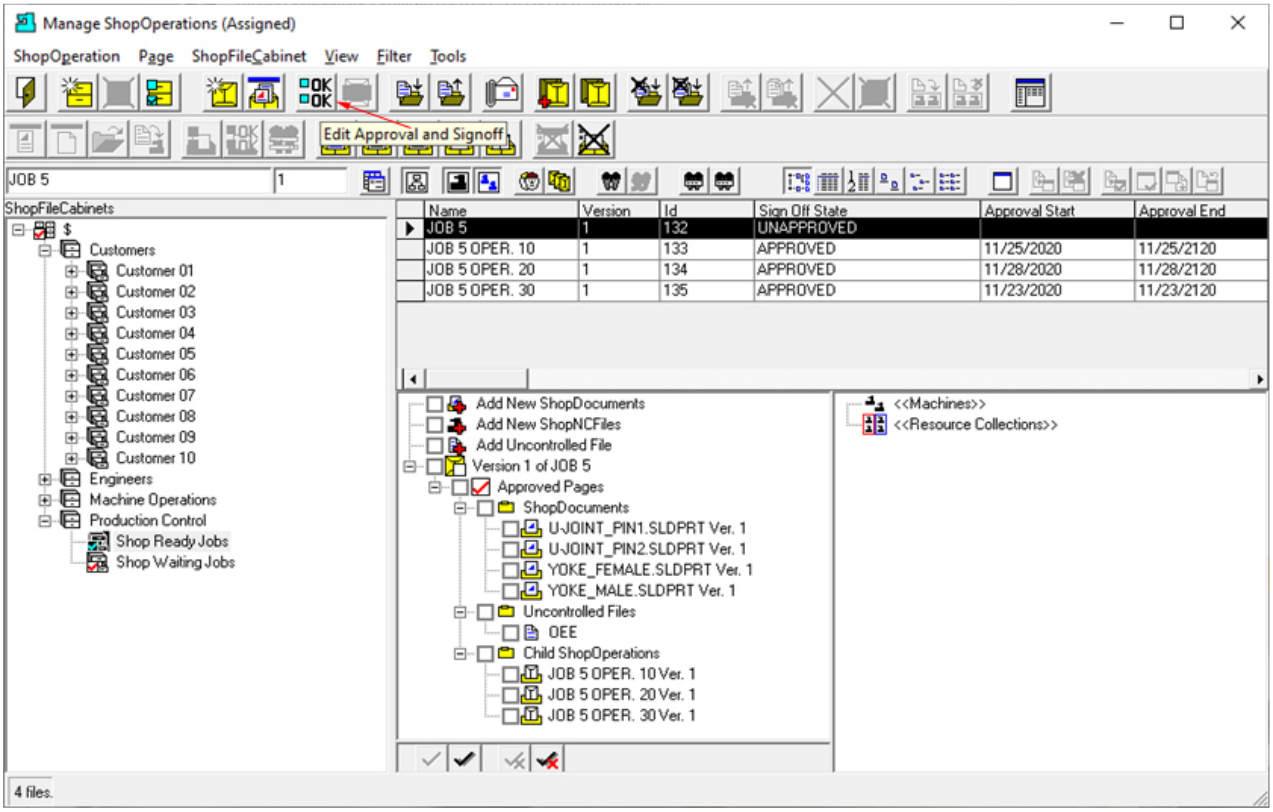
Click the Move All Button and the following Window is displayed!

Manage ShopOperations (Confirming Job 5 & All Sub-ShopOperations moved to "Shop Ready Jobs")



Click the Close Button and the following Window is displayed.

Manage ShopOperations (Job 5 Edit Approval and Signoff)

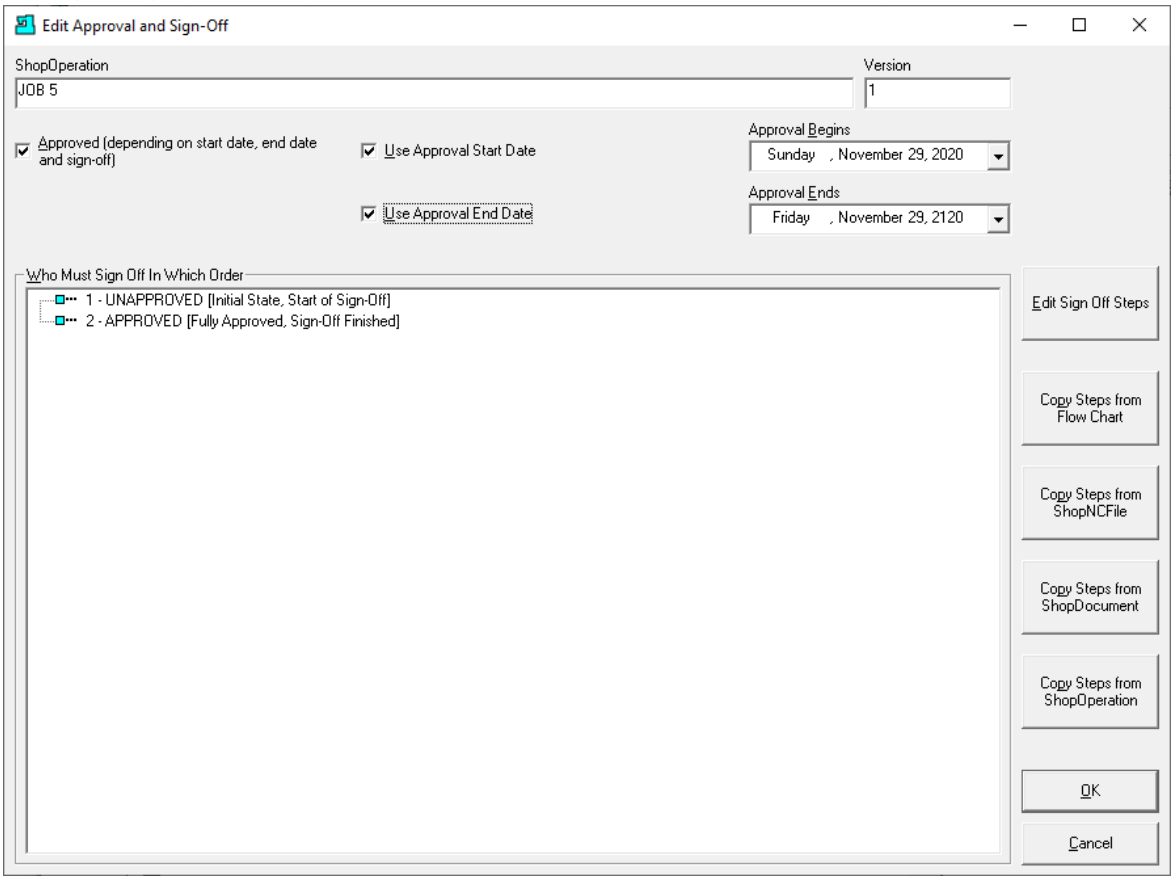


"Job 5" and all of its Sub-ShopOperations have been moved to ShopFileCabinet "Shop Ready Jobs".

As we have mentioned any ShopNCFiles, ShopDocuments, or ShopOperations & Sub-ShopOperations that are to be used in Production have to be Approved.

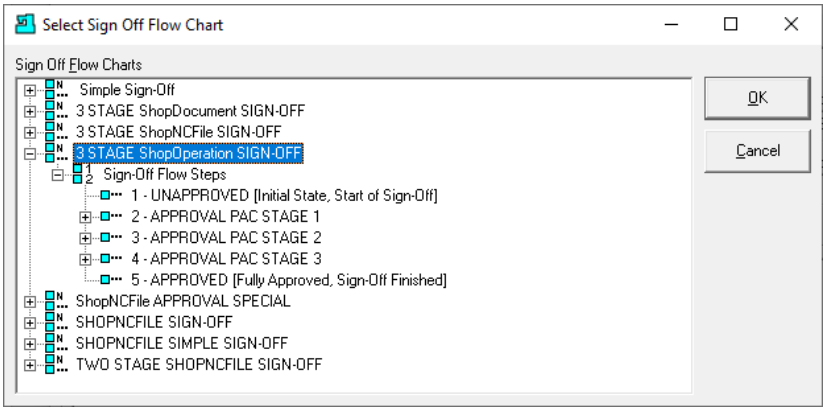
Highlight the JOB 5 ShopOperation and click on the "Edit Approval and Signoff" Icon and the following Window will be displayed. See **Red Arrow** above!

Manage ShopOperations (Selecting Approval Method for ShopOperation JOB 5)



We are selecting the Approval Methodology not Approving "Job 5"! Check all of the Checkboxes above and click on the "Copy Steps from Flow Chart" Button and the following Window is displayed.

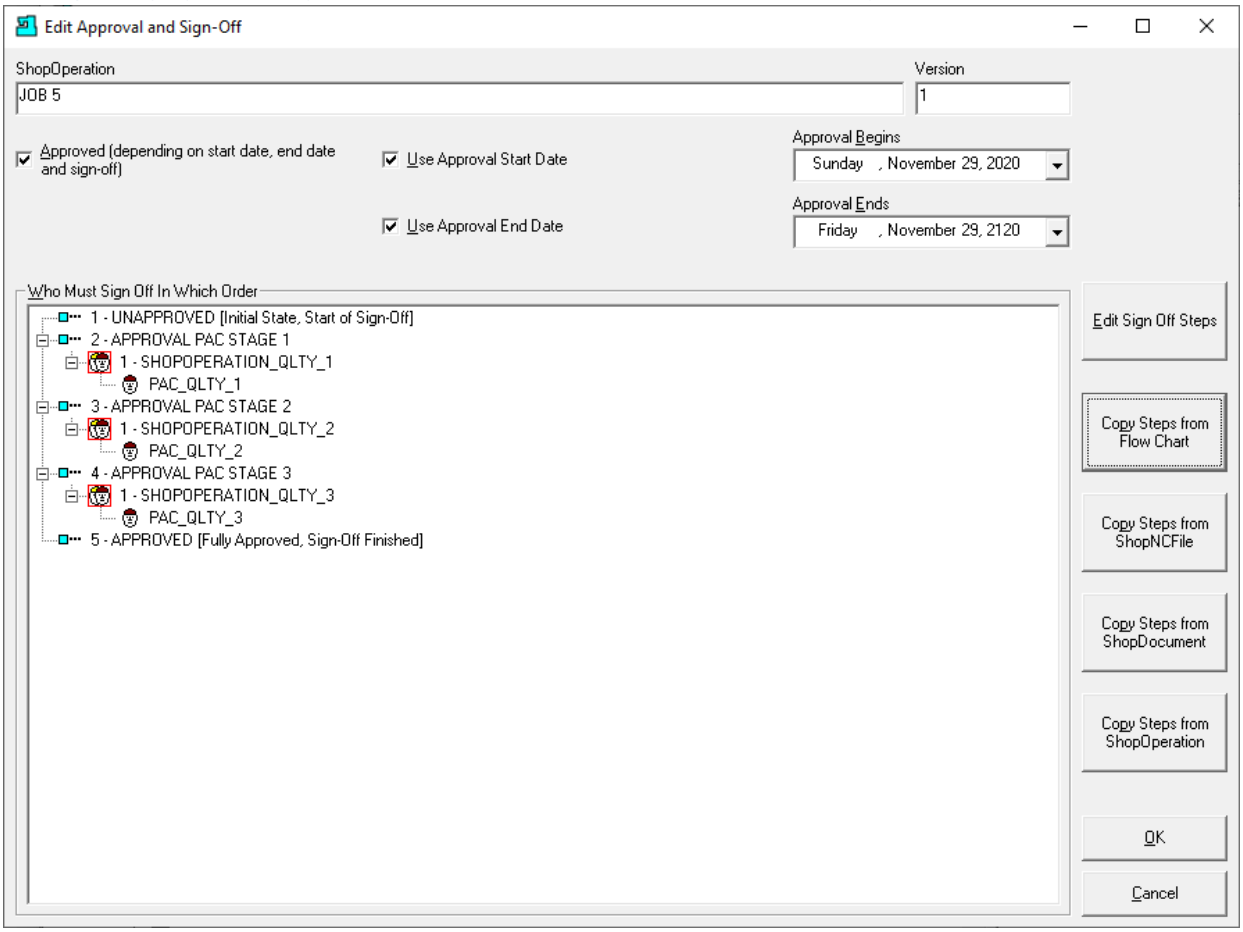
Manage ShopOperations (Selecting Approval Method for ShopOperation JOB 5)



We will select the "3 STAGE ShopOperation SIGN-OFF" Flow Chart.

Click the OK Button and the Following Window will be displayed.

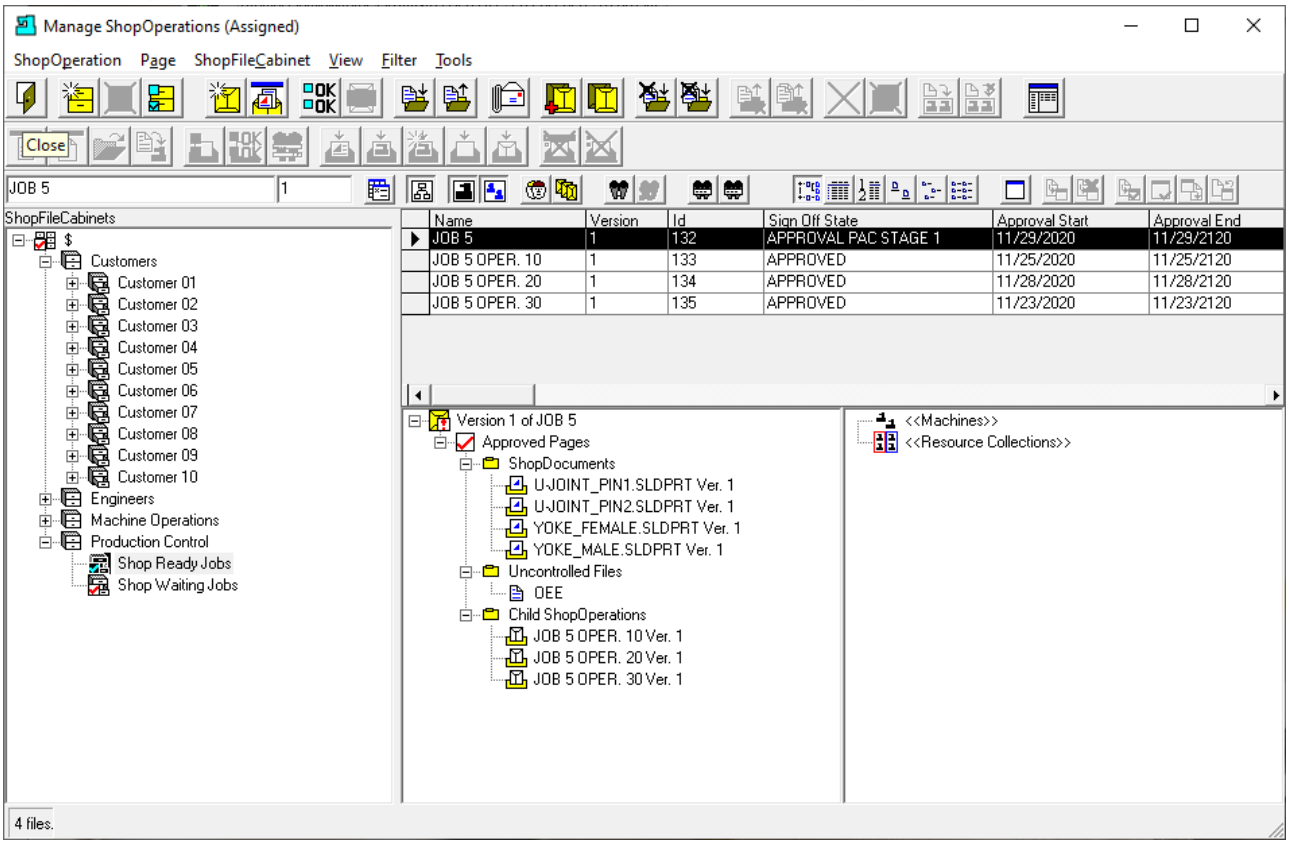
Manage ShopOperations (Selected Approval Method for ShopOperation JOB 5)



This Approval Flow Chart is used to Approve the Structure of the “Traveler” ShopOperation “Job 5” only and doesn’t include Approval of any of the ShopNCFiles, ShopDocuments or Sub-ShopOperations as these entities need to be Approved on their Own!

Click the OK Button and the following Window will be displayed.

Manage ShopOperations (Selected Approval Method for ShopOperation JOB 5)

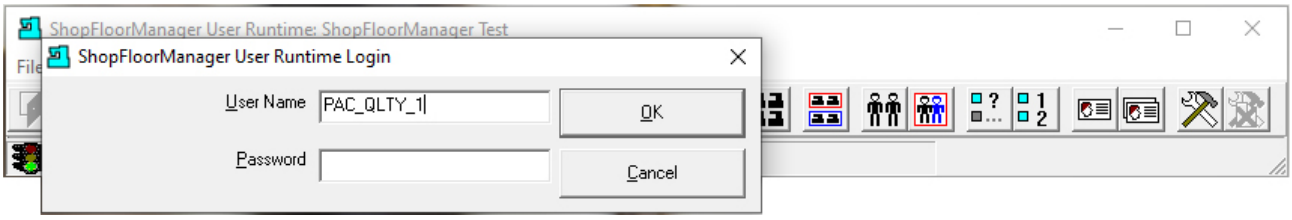


As you can see the Approval Method Step is now at “APPROVAL PAC STAGE 1” which is the first Stage waiting to be signed off.

Let’s take a look at how the first Stage is signed off. We will need to close this Window and logout of ShopFloorManager to logon on as a valid Approver. See User Groups for more details on Rights!

Click the Close Icon and Logout of ShopFloorManager Runtime. Now login as a User (PAC_QLTY_1) that has the “Right” to Signoff ShopOperations and in particular Job 5!

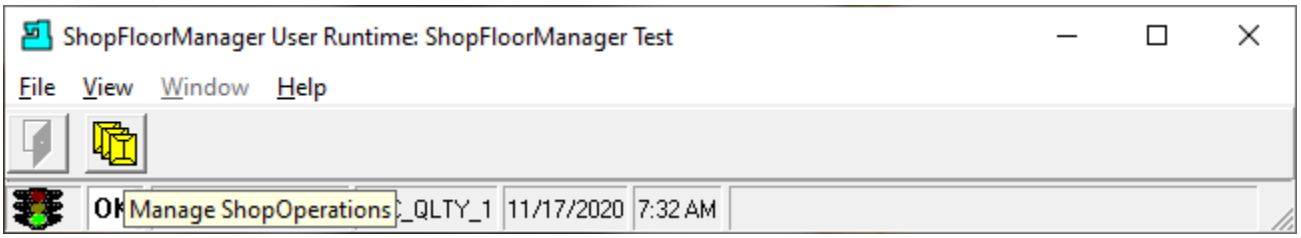
Manage ShopOperations (Login as ShopOperation Approver)



Login as PAC_QLTY_1 and click the OK Button and the following Window is displayed.

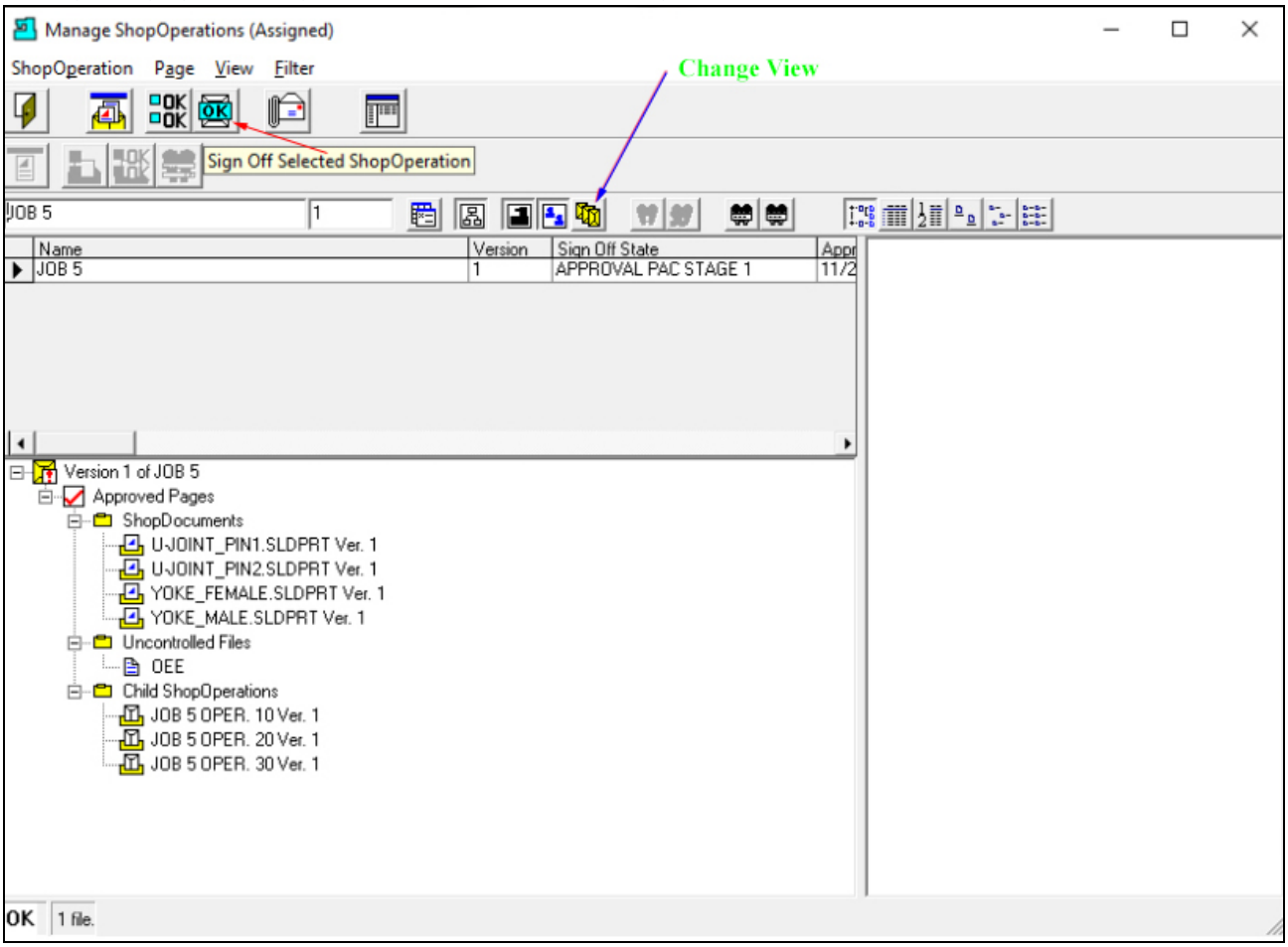
Note: Pac_qlty_1 belongs to the User Group “SHOPOPERTION_QLTY_1” that has “Rights” to Approve ShopOperations using the “3 STAGE ShopOperation SIGN-OFF” Flow Chart which includes “Job 5”!

Manage ShopOperations (User Runtime: Logged-In as ShopOperation Approver PAC_QLTY_1)



Click the "Manage ShopOperations" Icon and the following Window will be displayed.

Manage ShopOperations (Login as ShopOperation Approver)

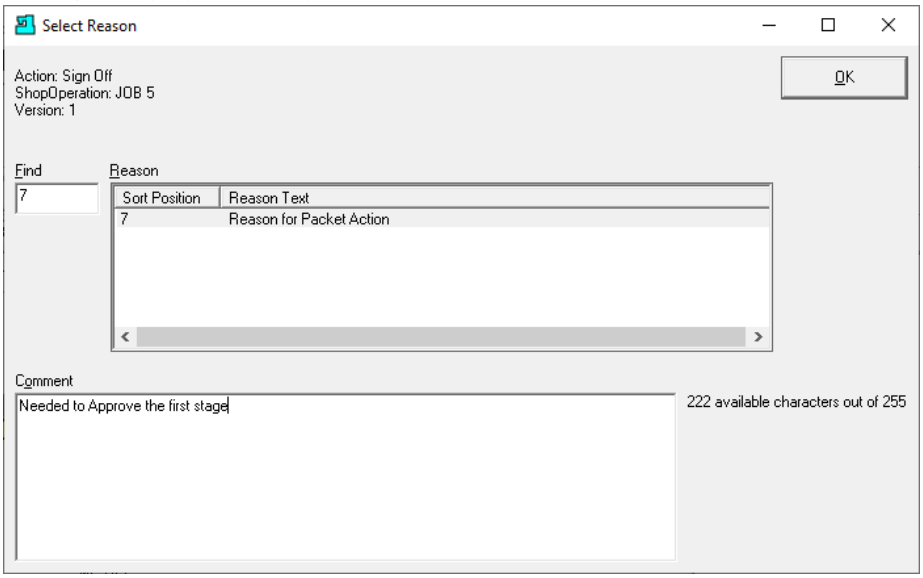


If you don't see the above View click the Change View (**Blue Arrow**) to select the another View. The above View would show all of the ShopOperations that this User needs to Approve!

To Approve ShopOperation's "Job 5" Structure click the "Sign Off Selected ShopOperation" Icon and the following Window will be displayed. See **Red Arrow** above!

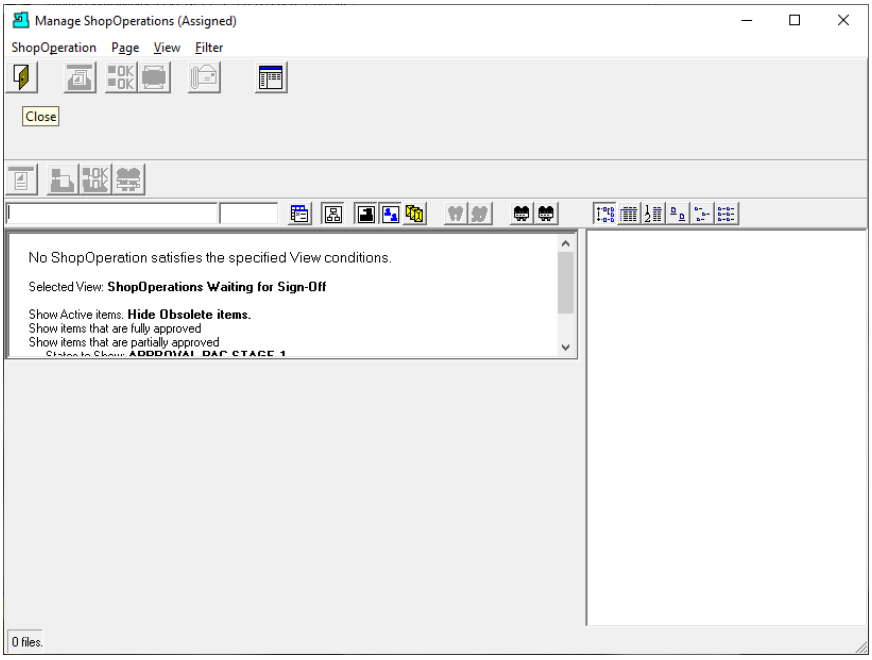
Note: It is assumed whoever signs this off has read all the associated "Documents" for Job 5 in detail by opening & reading the various ShopNCFiles, ShopDocuments & Sub-ShopOperations!

Manage ShopOperations (Select Reason & Comment)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button. The following Window will be displayed.

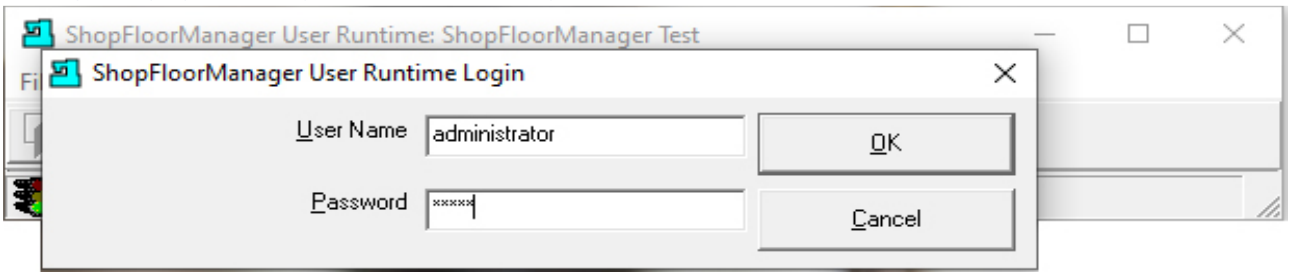
Manage ShopOperations (Approver Window)



This Window is now blank since all displayed ShopOperations that needed to be Approved by User "Pac_qlty_1" have been Approved.

Click on the Close Icon and click on the ShopFloorManager Runtime File Menu>Logout and the following Window will be displayed.

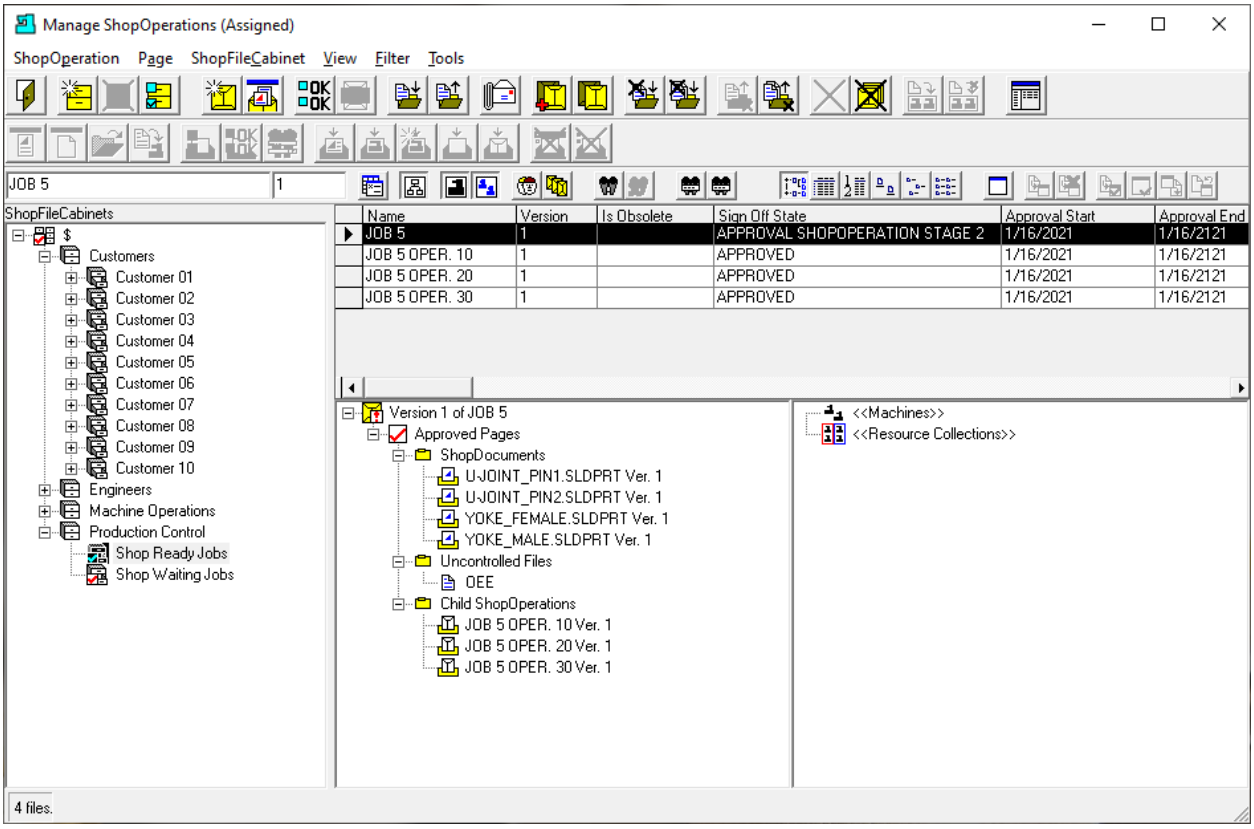
Manage ShopOperations (Login as Administrator)



Now let's log back in as Administrator.

Click the OK Button and then click on the "Manage ShopOperation" Icon on the ShopFloorManager Runtime if this Application is not already displayed!

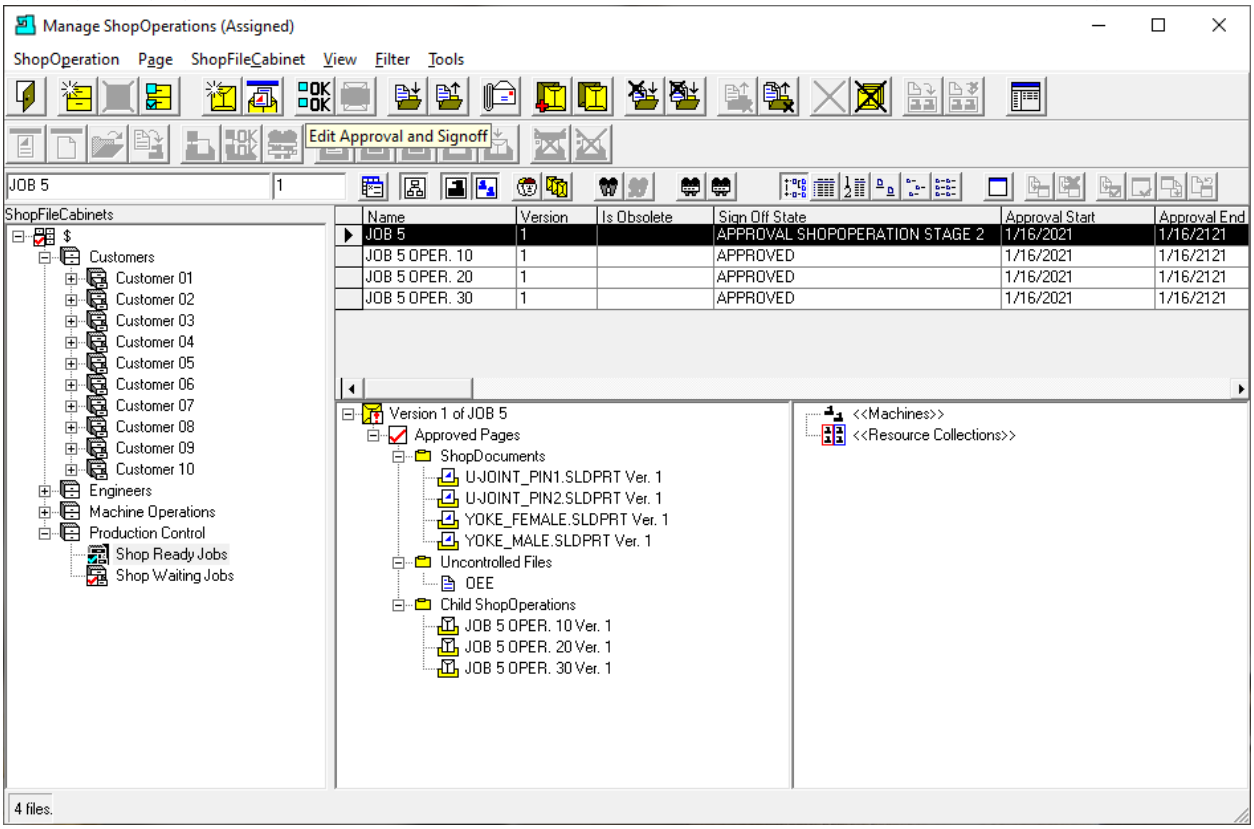
Manage ShopOperations (Job 5 Approval State has Changed to "APPROVAL PAC STAGE 2")



As you can see "JOB 5's" Sign Off State has moved to APPROVAL PACK STAGE 2 and is waiting to be signed off for Stage 2. Remember that only fully approved ShopNCFiles, ShopDocuments, ShopOperations & Sub-ShopOperations can be used in Production by operators on the shopfloor.

Before fully Approving "Job 5" let's assume we just determined we had to add another ShopOperation due to an Engineering Change. Let's look at the details of creating and adding a new ShopOperation from scratch!

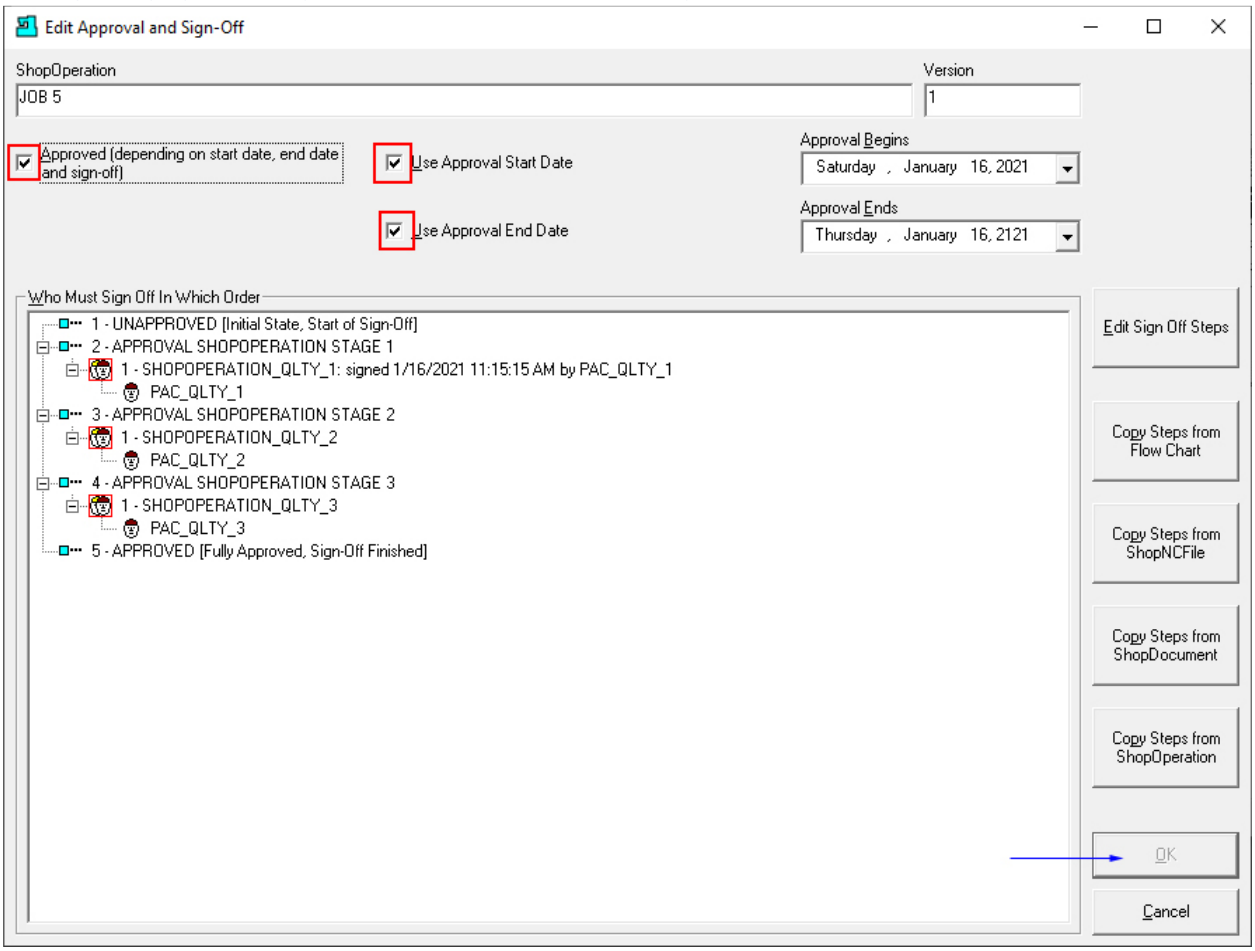
Manage ShopOperations (Unapprove Job 5 before creating and adding an additional ShopOperation)



If we are going to add another ShopOperation to Job 5 we need to unapprove it as any “Structual” changes to a ShopOperation can’t be done after the starting the Approval Process!

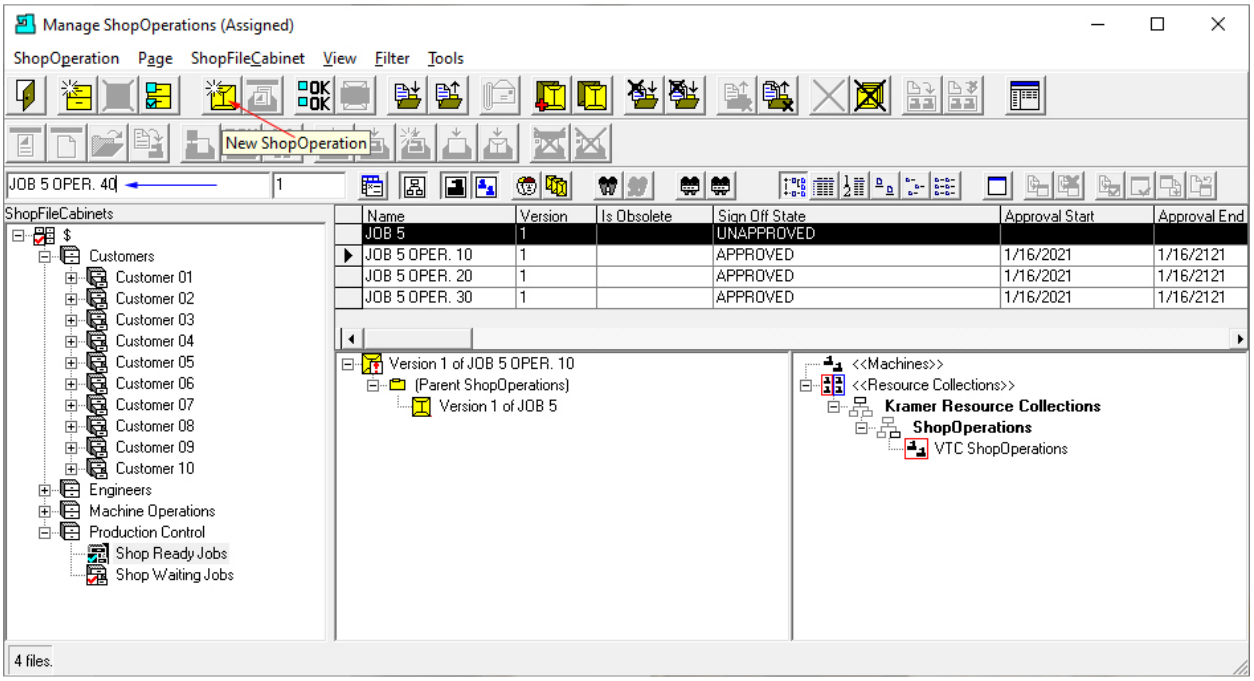
Highlight Job 5 and click the “Edit Approval and Signoff” Icon and the following Window is displayed.

Manage ShopOperations (Edit Approval and Sign-Off Window)



Uncheck the areas in red, see the **Red** boxes above, and then click the OK Button, see the **Blue Arrow** above, and the following Window will be displayed.

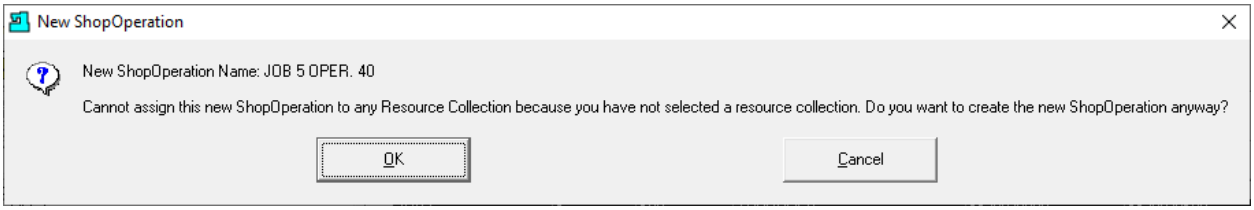
Manage ShopOperations (Create ShopOperation JOB 5 OPER. 40)



We are going to create a new Sub-ShopOperation. Enter "Job 5 OPER. 40" in the Text Box point to be the **Blue Arrow**!

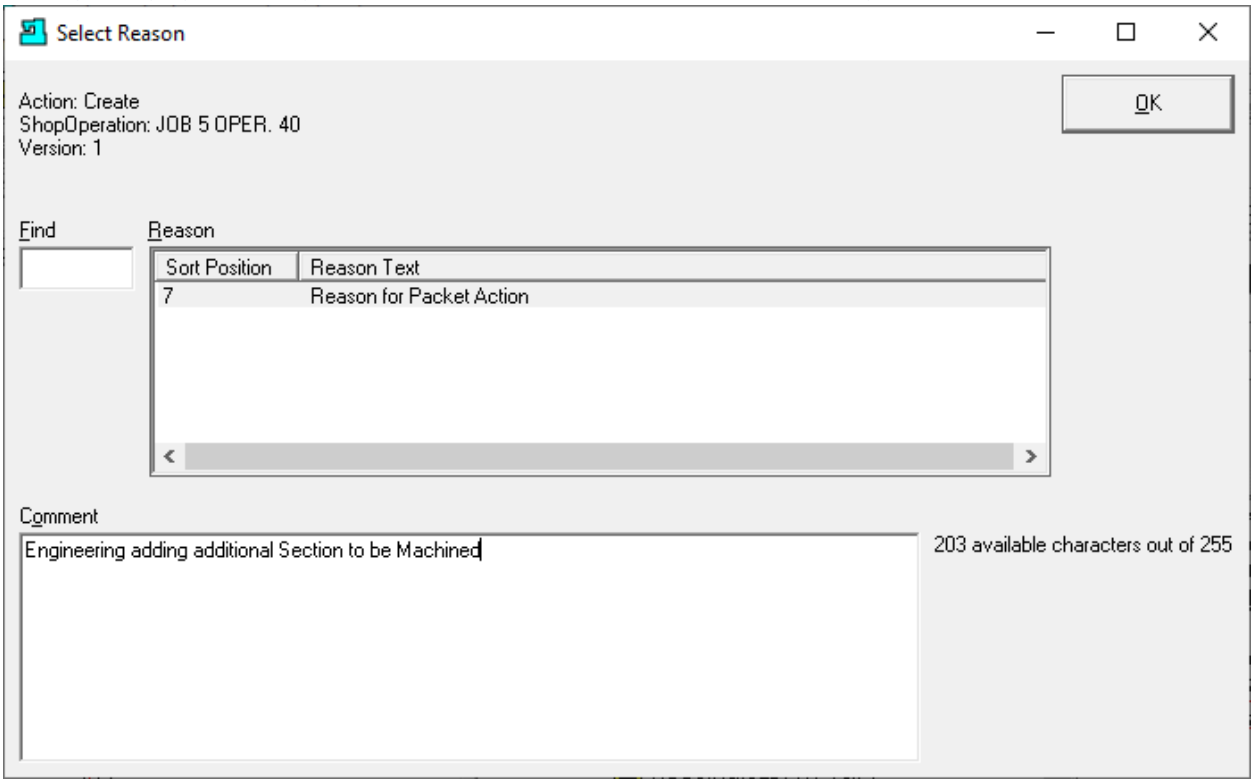
Click the "New ShopOperation Icon" and the following Window will be displayed. See **Red Arrow**!

Manage ShopOperations (Create ShopOperation JOB 5 OPER. 40 Information Window)



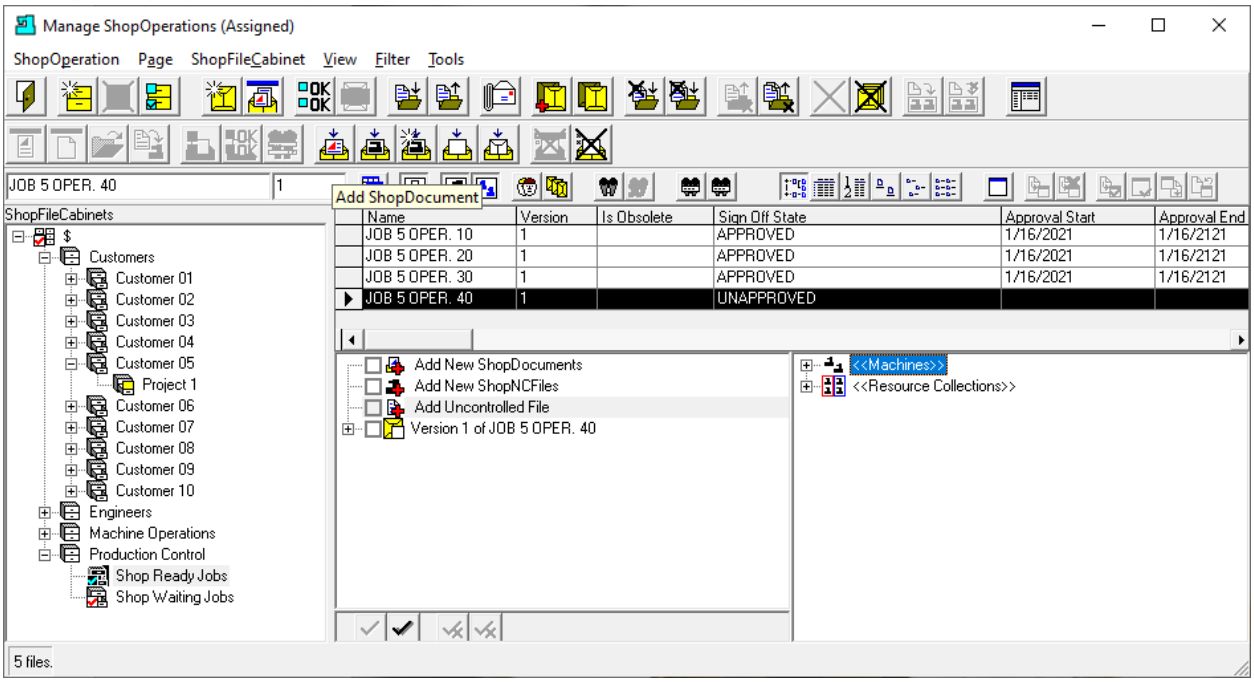
Click the OK Button and the following Window is displayed.

Manage ShopOperations (Creating Job 5 OPER. 40 - Select Reason & Comment)



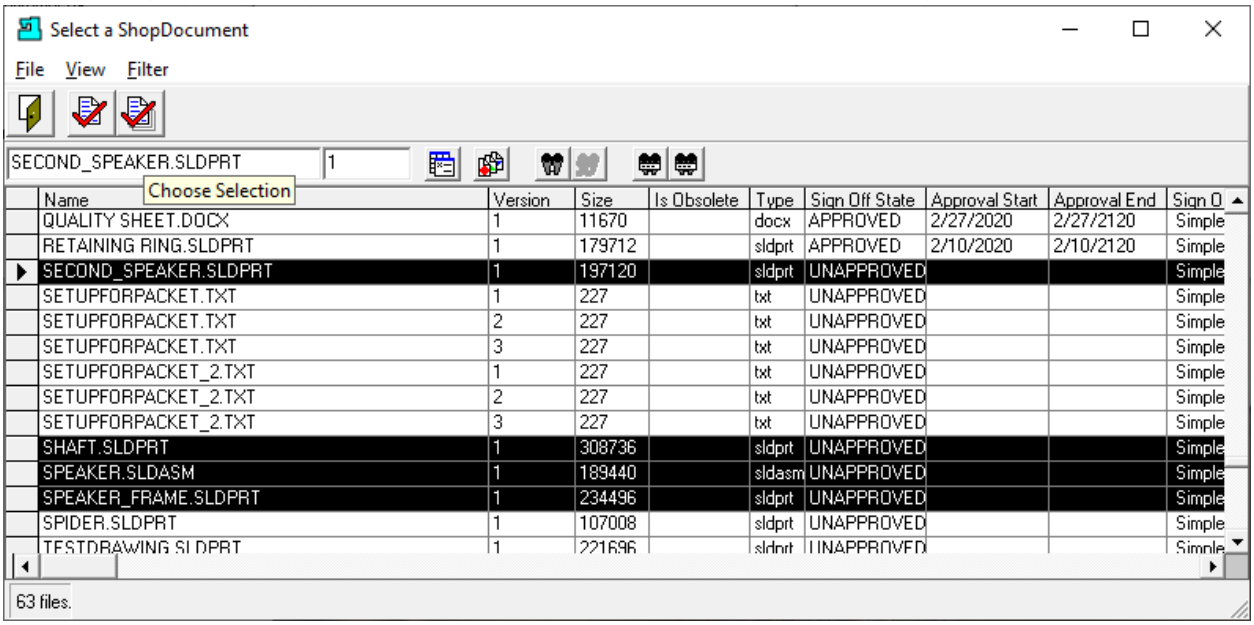
If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button. The following Window will be displayed.

Manage ShopOperations (Job 5 OPER. 40 – Adding ShopDocuments)



We have created the Empty ShopOperation “Job 5 OPER. 40”. We will now add a few ShopDocuments! Click on the “Add ShopDocument” and the following Window will be displayed.

Manage ShopOperations (Adding ShopDocuments to ShopOperation JOB 5 OPER. 40)

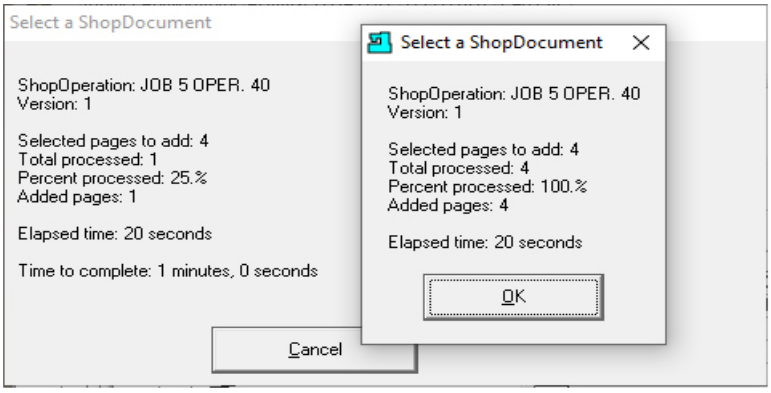


We have selected four ShopDocuments to add to ShopOperation JOB 5 OPER. 40. You can select multiple ShopDocuments by clicking next to the First ShopDocument, hold the Shift Key and click the the last ShopDocument and they will all be selected/highlighted.

If the ShopDocuments are not contiguous hold the Cntr Key and select your individual ShopDocuments. All selections should be selected in the column with the Black Arrow Head!

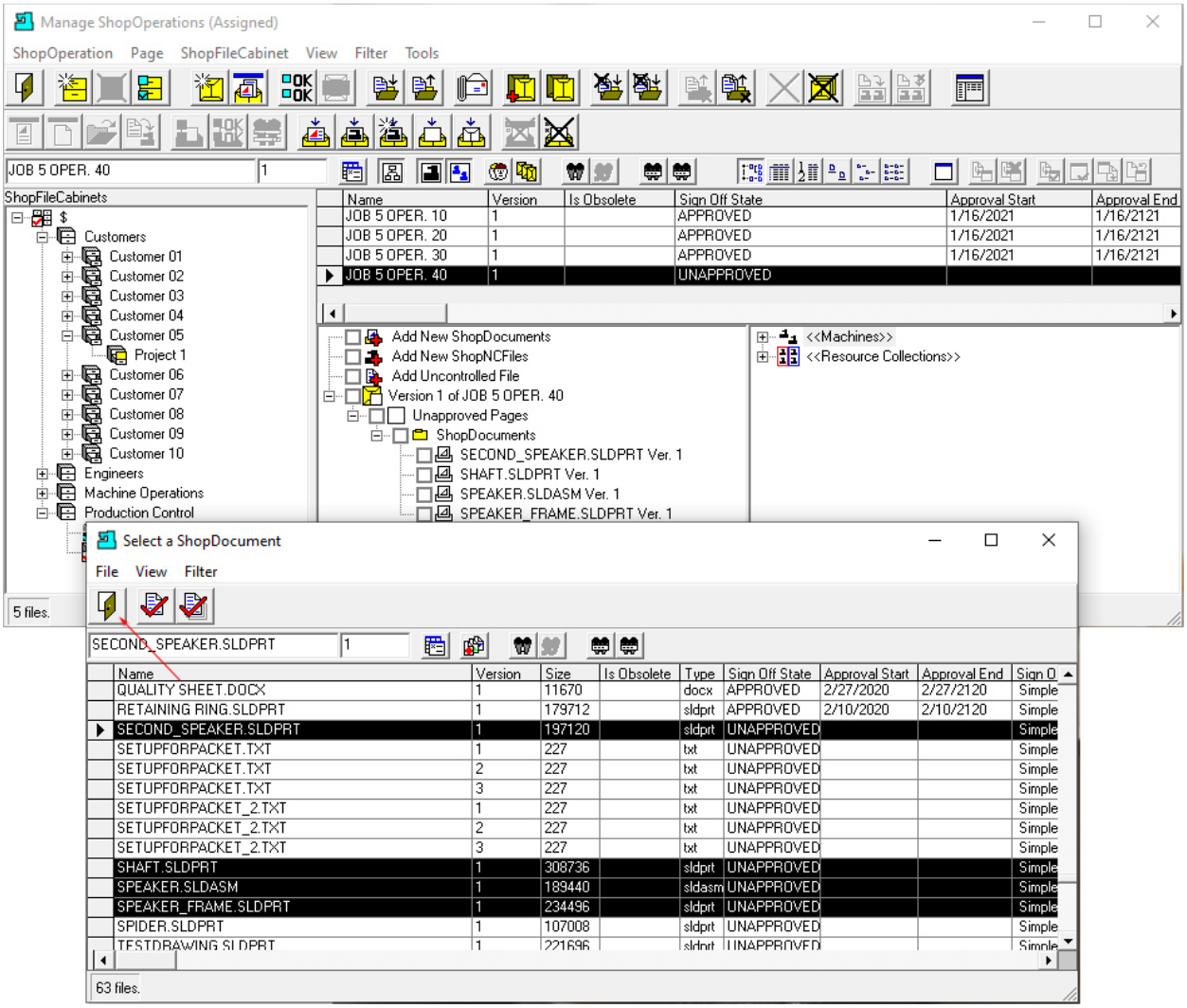
Now Click the “Choose Selection”. If a Select Reason Form is displayed asking to select a Reason for this choice, fill out and click the OK Button and the following Window will be displayed.

Manage ShopOperations (Adding 4 ShopDocuments to ShopOperation JOB 5 OPER. 40 Informational Window)



Click the OK Button and the following Window is displayed.

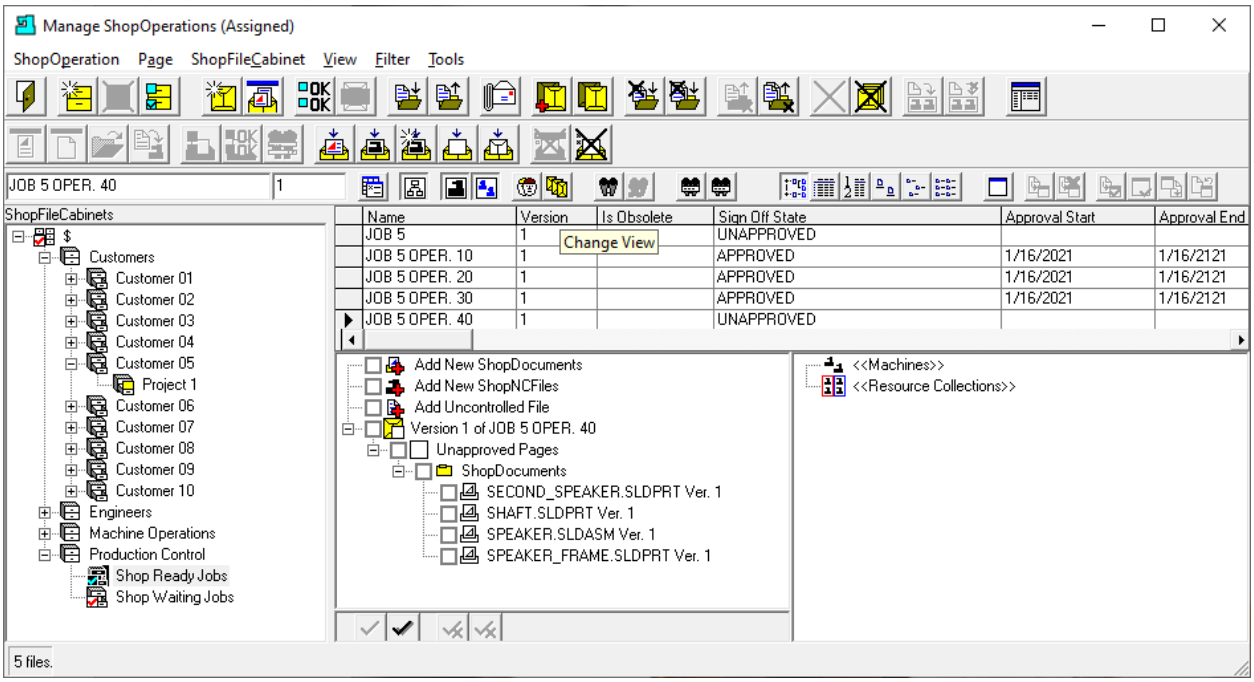
Manage ShopOperations (Added ShopDocuments to ShopOperation JOB 5 OPER. 40)



If you look at the Window under the Top Window you can see the 4 selected ShopDocuments have been added to the ShopOperation JOB 5 OPER. 40.

Click the Close Icon, see **Red Arrow** above, and the following Window will be displayed.

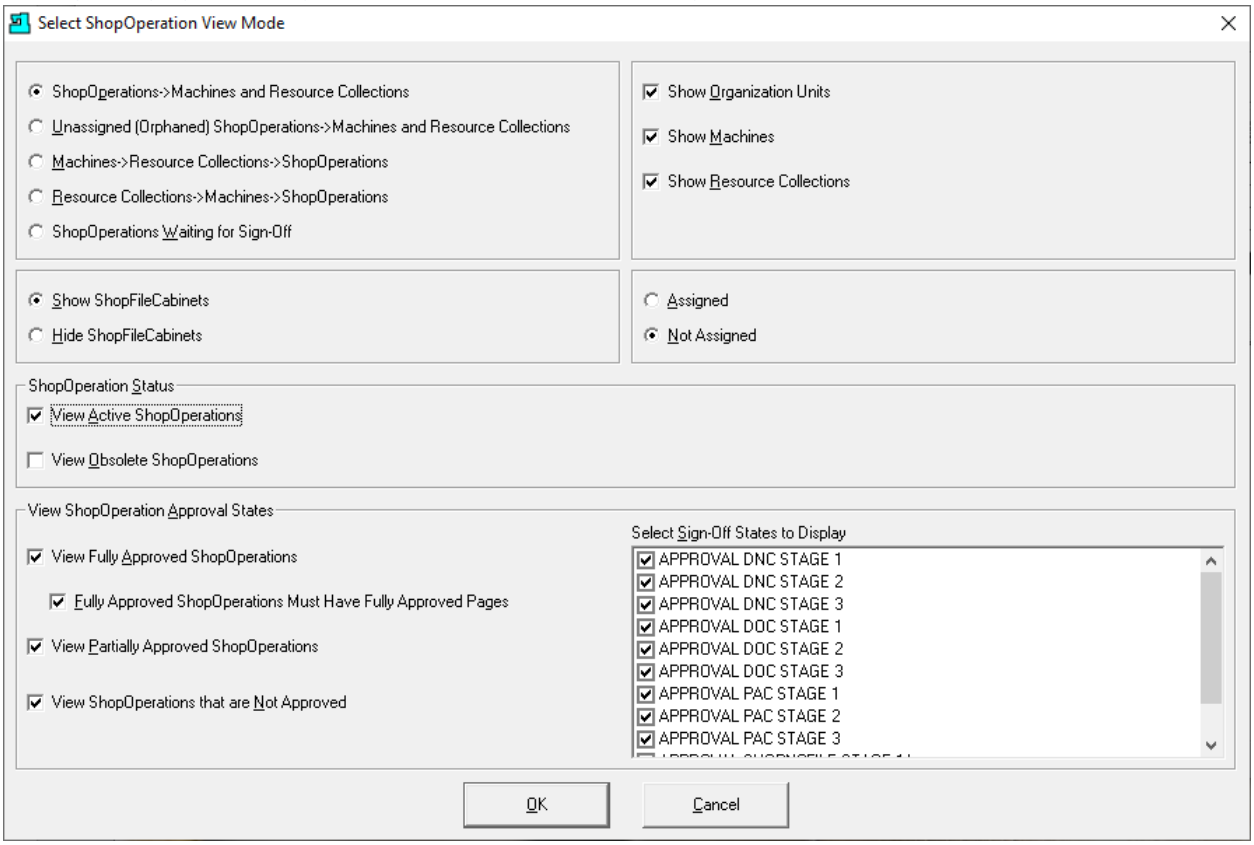
Manage ShopOperations (JOB 5 OPER. 40 – Change View)



In order to use “Job 5 OPER. 40” in production we need to assign this to a Resource Collection containing the ShopNCFiles just added and associated with the correct Machine Tool(s).

Click on the “Change Vew” and the following Window will be displayed.

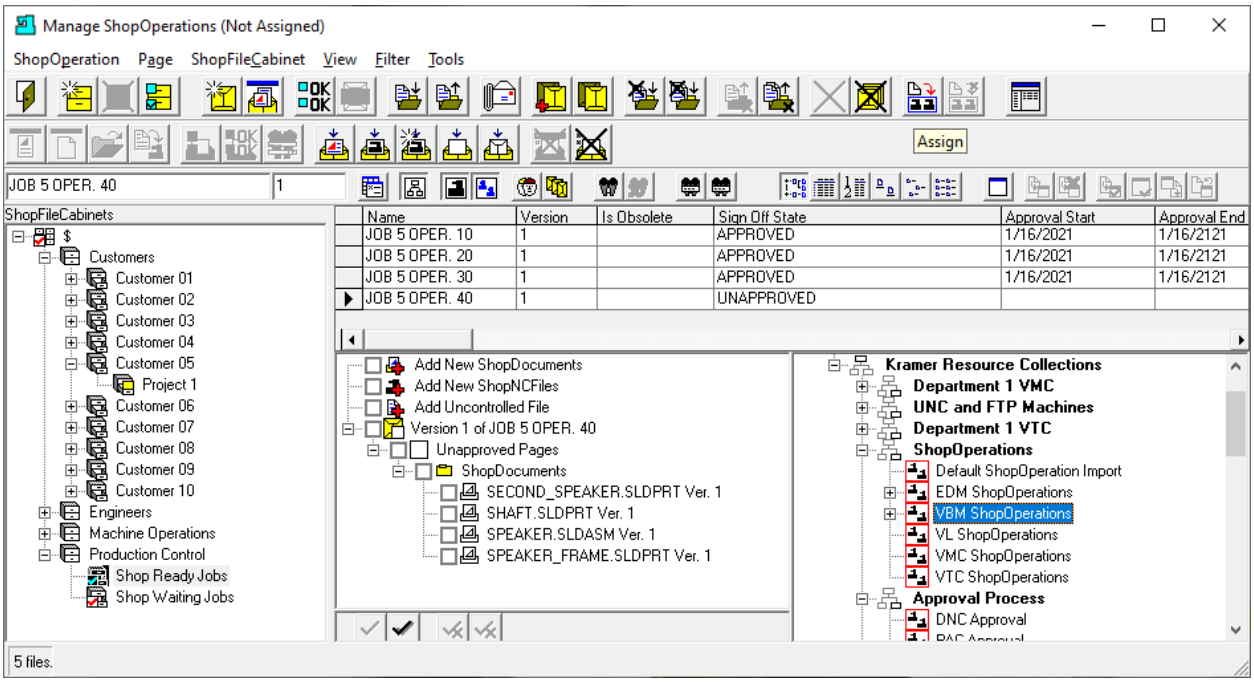
Manage ShopOperations (Change View – View Mode Assigned)



We need to change Assigned to Not Assigned.

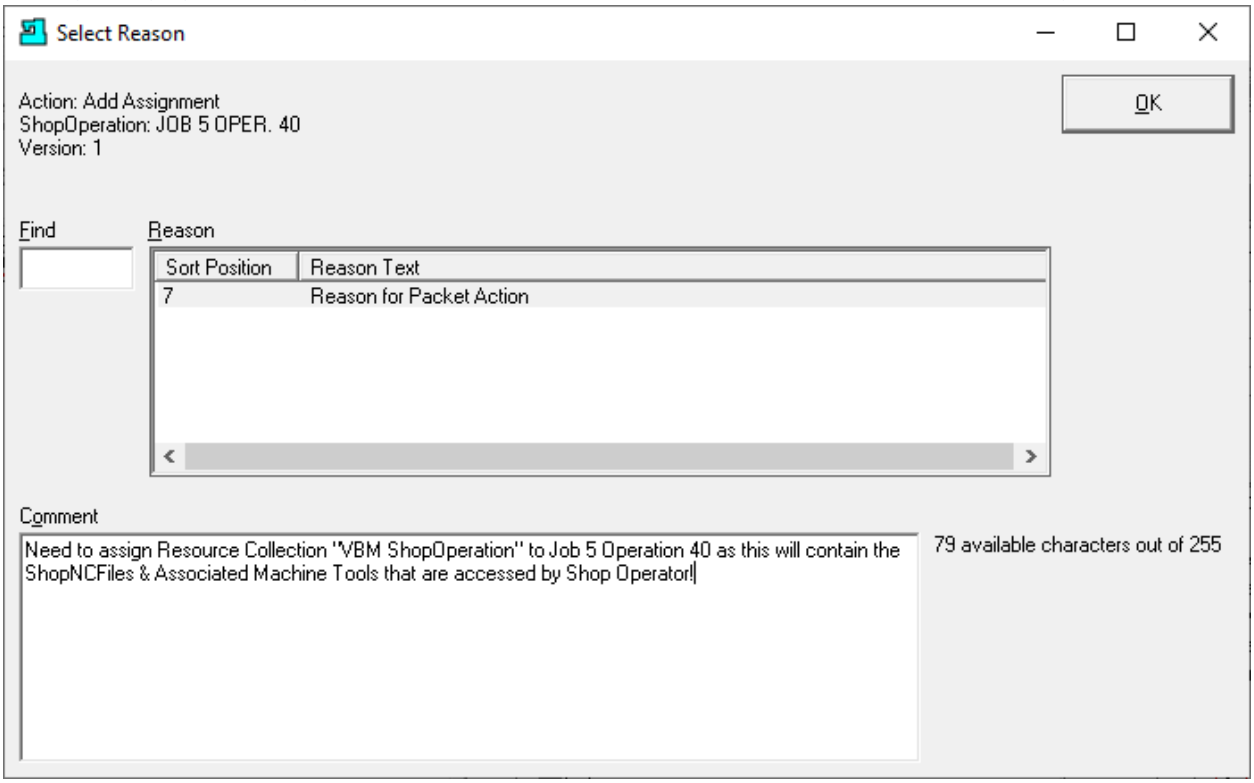
After making the changes as shown above click the OK Button and the following Window will be displayed.

Manage ShopOperations (JOB 5 OPER. 40 – Change View to Unassigned)



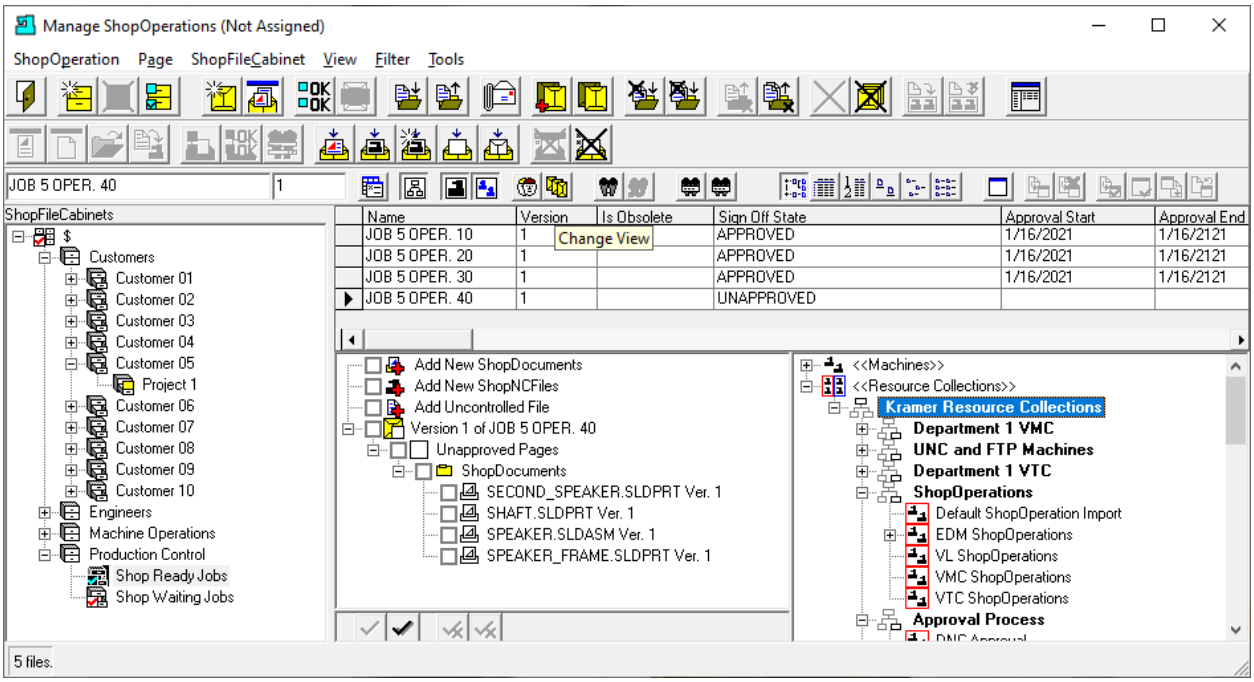
Select the Resource Collection “VBM ShopOperations” and click the Assign Button and the following Window is displayed.

Manage ShopOperations (Assigning Resource Collection "VBM ShopOperation" to Job 5 OPER. 40)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button. The following Window will be displayed.

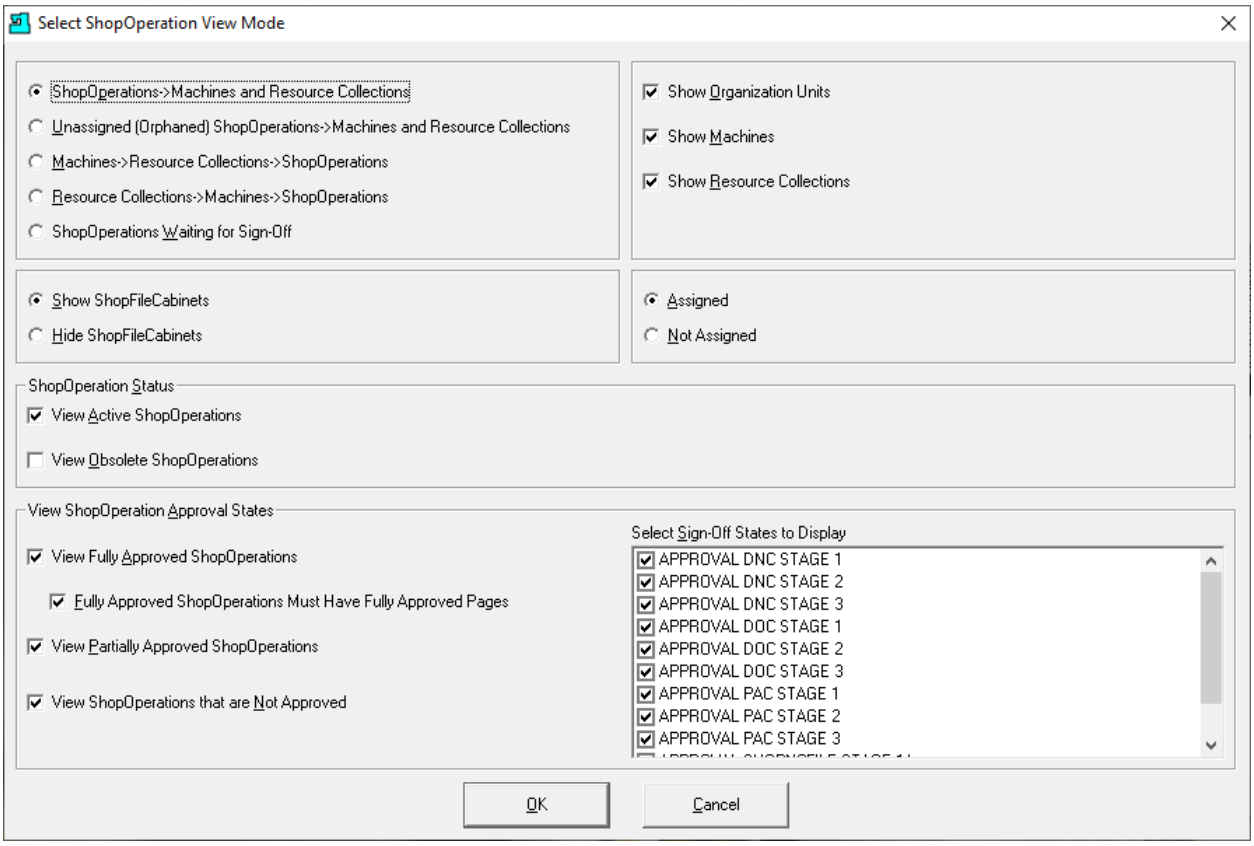
Manage ShopOperations (JOB 5 OPER. 40 – Change View to Unassigned)



Since this View is the Unassigned Window, you will notice that the resource collection “VBM ShopOperation” is not displayed since it is now assigned to “Job 5 OPER. 40”. We need to reset this view back to the original.

Click the “Change View” Icon and the following Window will be displayed.

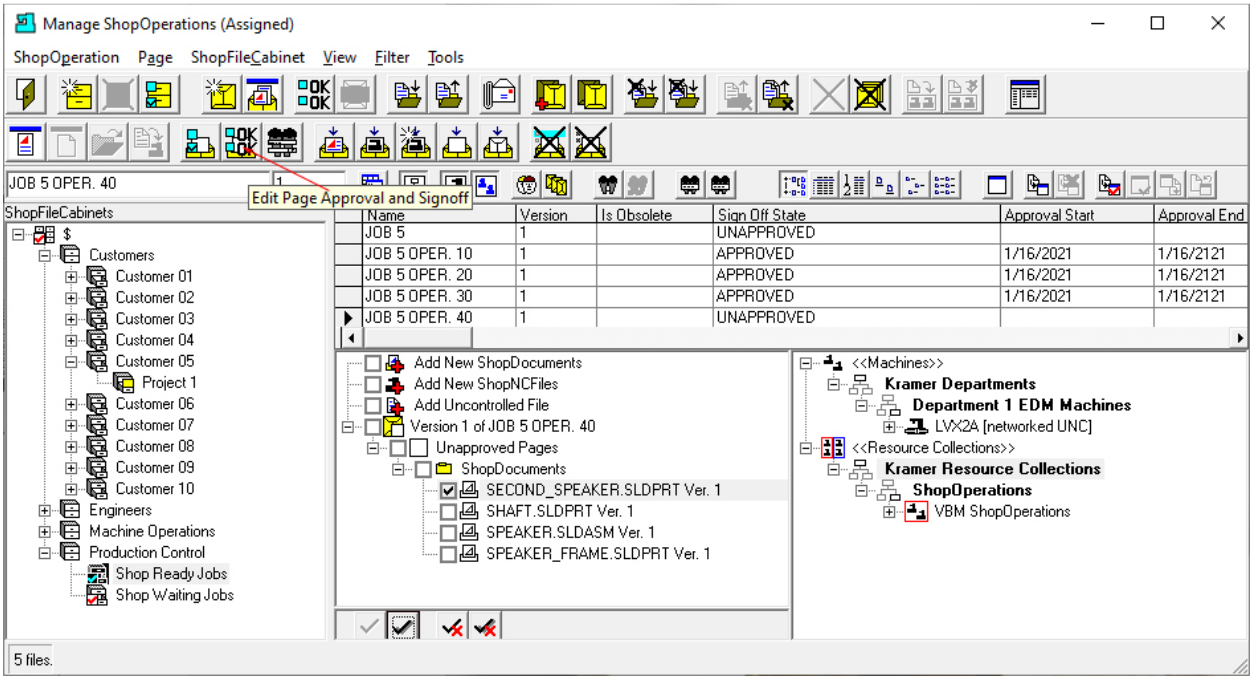
Manage ShopOperations (Change View – View Mode Not Assigned)



We need to change Not Assigned to Assigned.

After making the changes as shown above click the OK Button and the following Window will be displayed.

Manage ShopOperations (JOB 5 OPER. 40 Page SECOND_SPEAKER.SLDPRT Ver.1 – Edit Page Approval and Signoff)

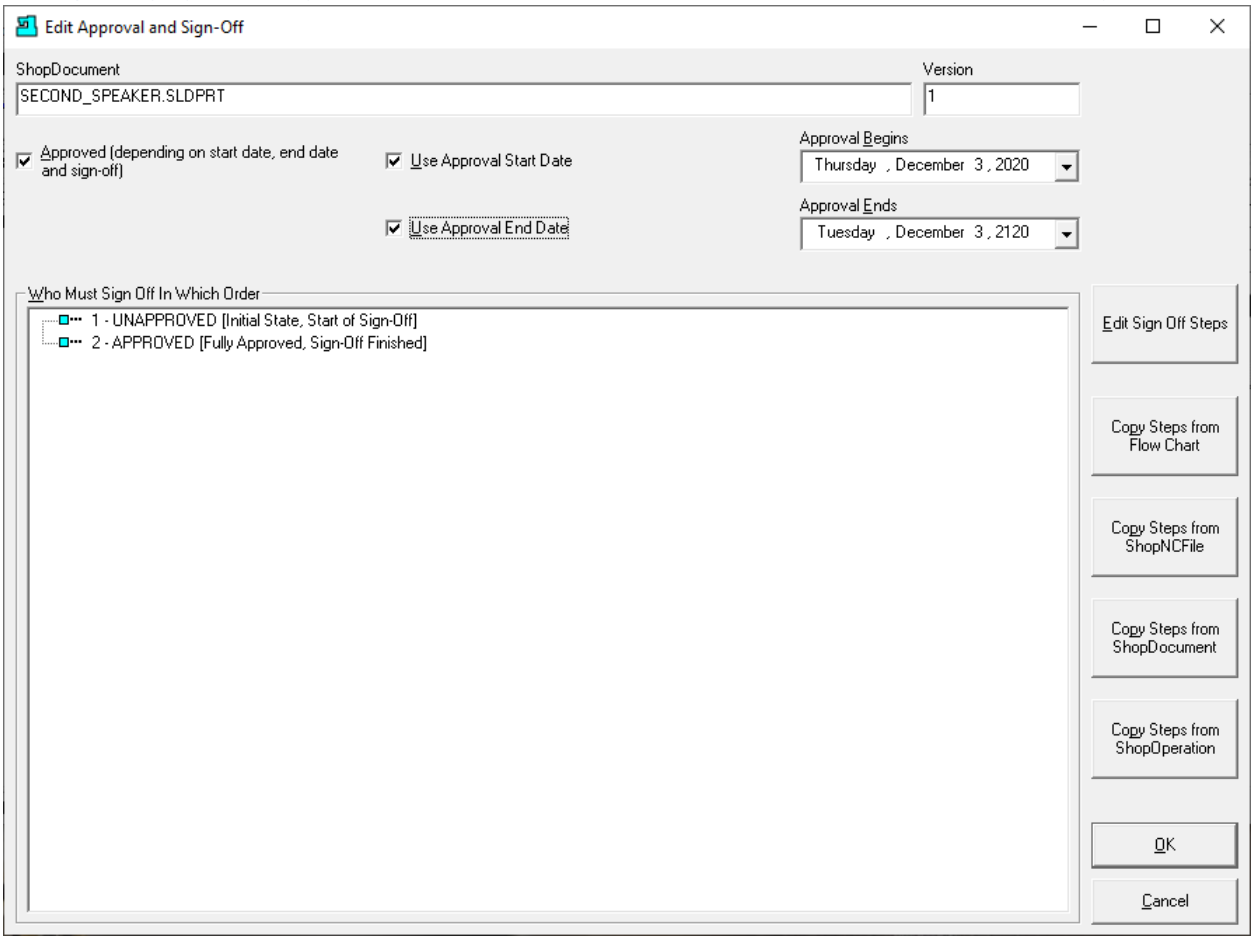


You can see that ShopOperation “Job 5 OPER. 40” is assigned to Resource Collection “VBM ShopOperations”.

We will now Approve all of the newly added ShopDocuments.

Let’s start with the ShopDocument “SECOND_SPEAKER.SLDPRT”! Highlight that Page in the ShopOperation “Job 5 OPER. 40” and click on the “Edit Page Approval and Signoff” Icon and the following Window will be displayed. See **Red Arrow** above!

Manage ShopOperations (Selecting Approval Method for ShopDocument SECOND_SPEAKER.SLDPRT)

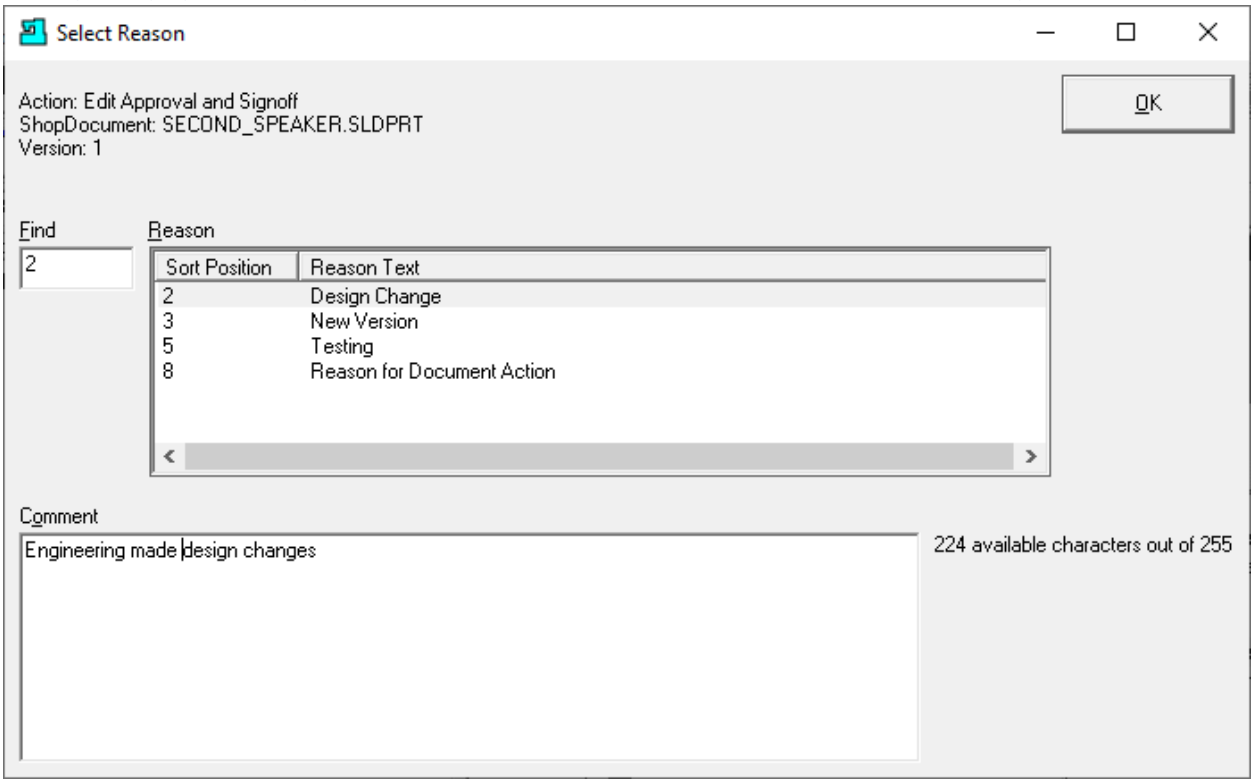


Check all of the checkboxes as shown above and click the OK Button and the following Window will be displayed.

Note: In order to Approve a ShopNCFile, ShopDocument and or ShopOperation using this Method you need to have the "Right" to "Edit ShopDocument Approval and Signoff"! Generally, this "Right" is reserved for Management and would not be given to a User designated as an Approver!

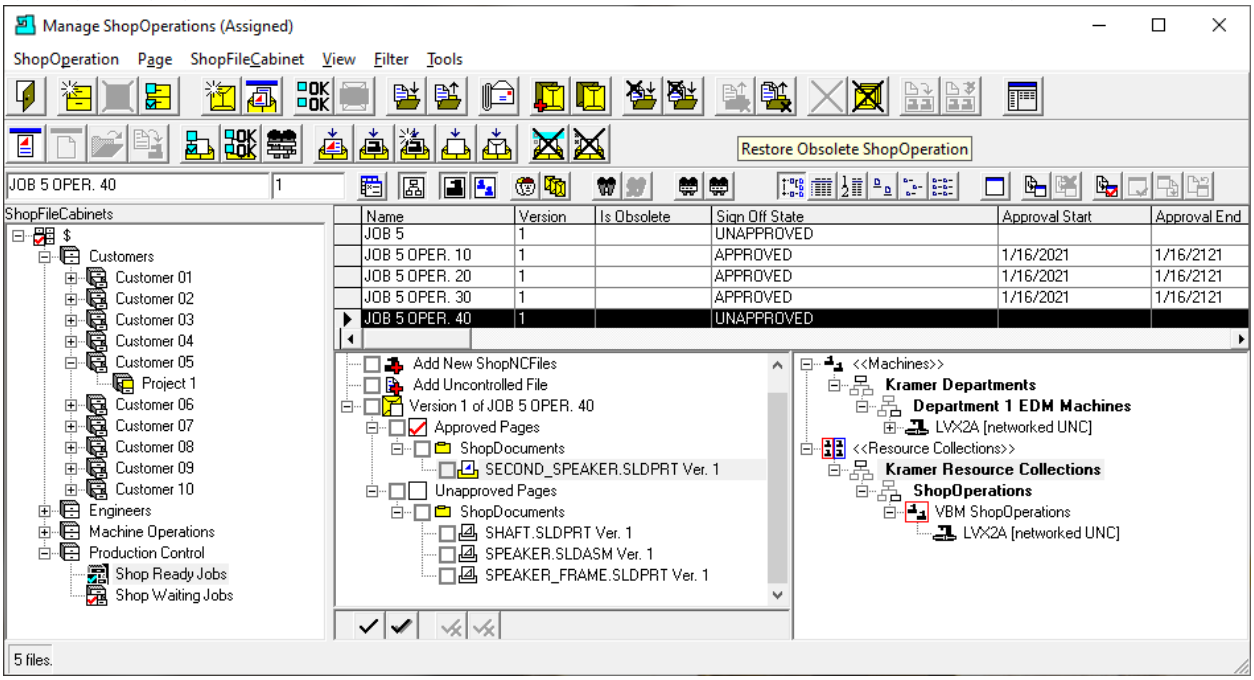
Click on the following link for details on the "Standard" Approval Methodology!

Manage ShopOperations (SECOND_SPEAKER.SLDPRT Edit Page Approval and Signoff- Reason)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button. The following Window will be displayed.

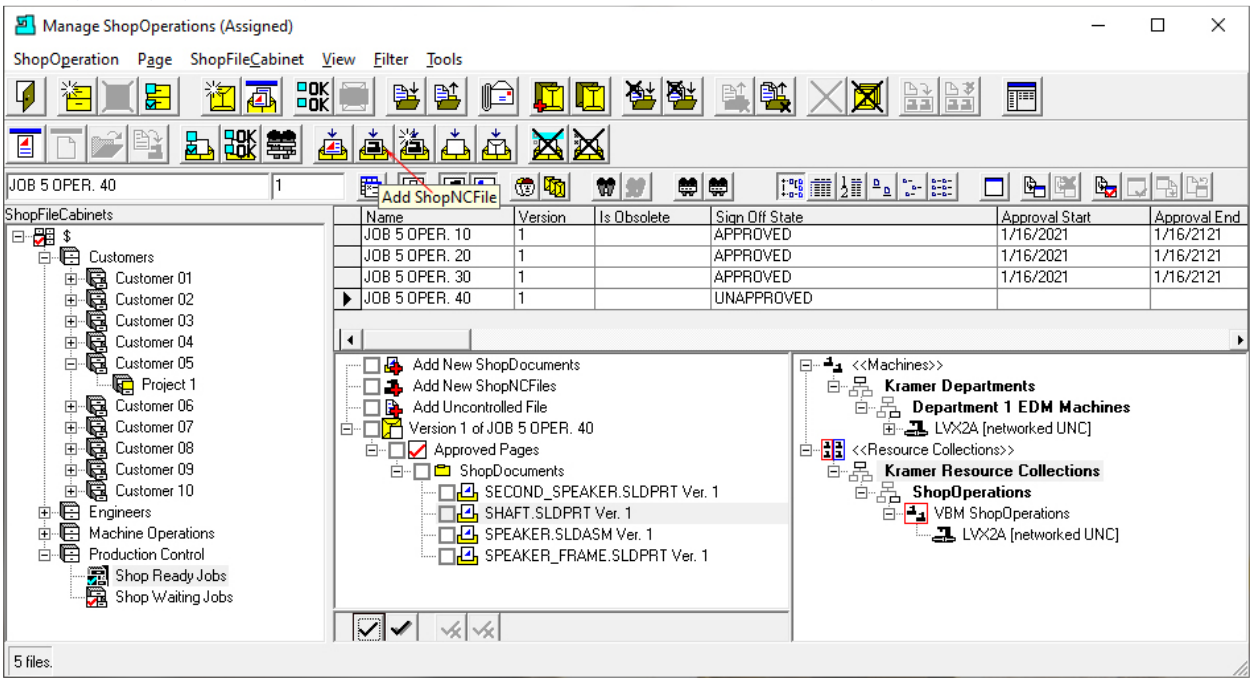
Manage ShopOperations (JOB 5 OPER. 40 Page SECOND_SPEAKER.SLDPRT Ver.1 – Approved)



As you can see, we have Approved the ShopDocument "SECOND_SPEAKER.SLDPRT Ver.1". We need to Approve the rest of the ShopDocuments before they can be used on the shopfloor.

Let's Approval all of these Files as demonstrated, and the following Window will be displayed.

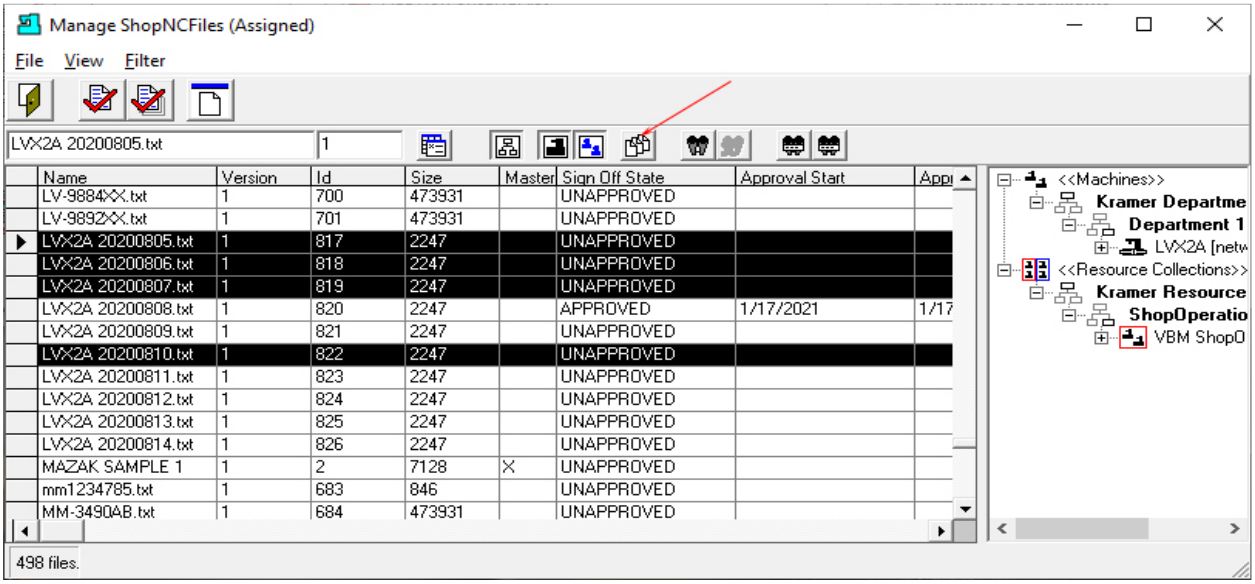
Manage ShopOperations (JOB 5 OPER. 40 Page – All ShopDocuments Approved)



As you can see, we have Approved all of the ShopDocuments in “Job 5 OPER. 40”.

Let’s add a few ShopNCFiles to “Job 5 OPER. 40”. Click on the “Add ShopNCFile” Icon, see **Red Arrow** above, and the following Window is displayed.

Manage ShopOperations (Adding ShopNCFiles to ShopOperation JOB 5 OPER. 40)

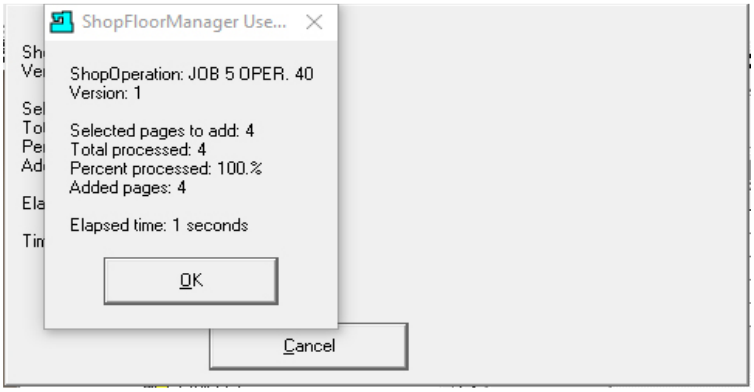


We have selected four ShopNCFiles to add to ShopOperation "JOB 5 OPER. 40". You can select multiple ShopNCFiles by clicking next to the First ShopNCFile, hold the Shift Key and click the the last ShopNCFile and they will all be highlighted. Want a different View? Click the "Change View" Icon! See **Red Arrow** above!

If the ShopNCFiles are not contiguous hold the Cntr Key and select your individual ShopNCFiles. All selections should be selected in the column with the Black Arrow Head!

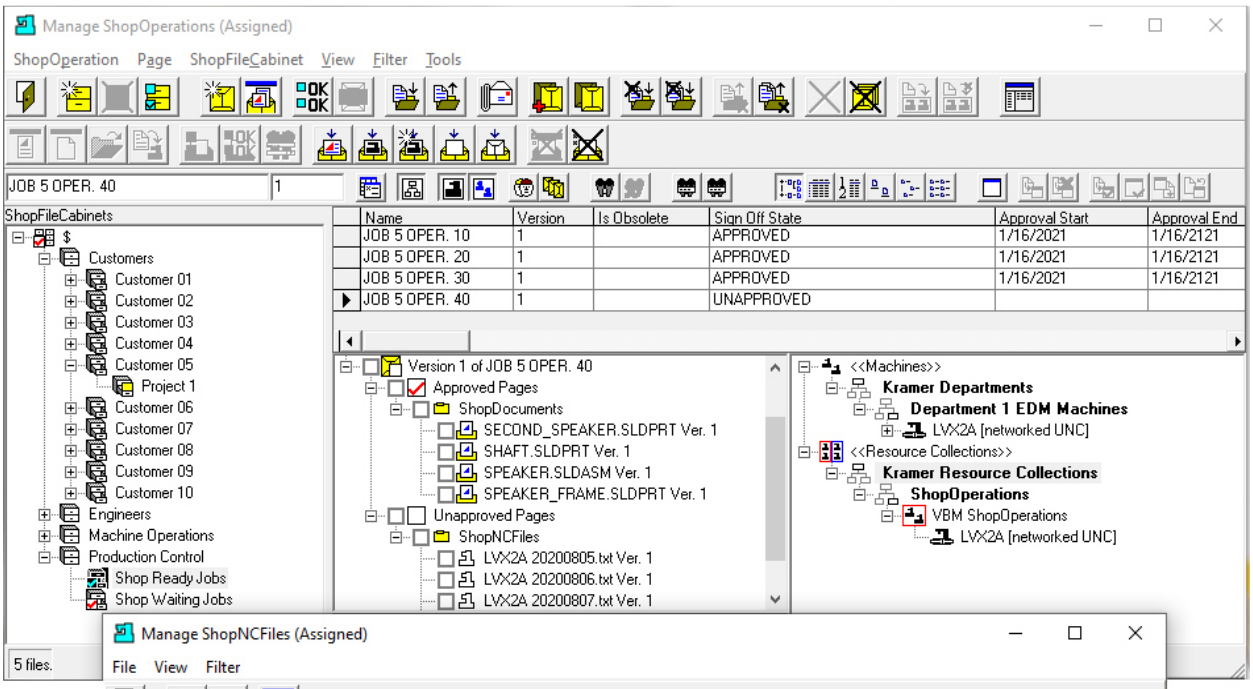
Now Click the "Choose Selection". If a Select Reason Form is displayed asking to select a Reason for this choice, fill out and click the OK Button and the following Window will be displayed.

Manage ShopOperations (Adding 4 ShopNCFiles to ShopOperation JOB 5 OPER. 40 Informational Window)



Click the OK Button and the following Window is displayed.

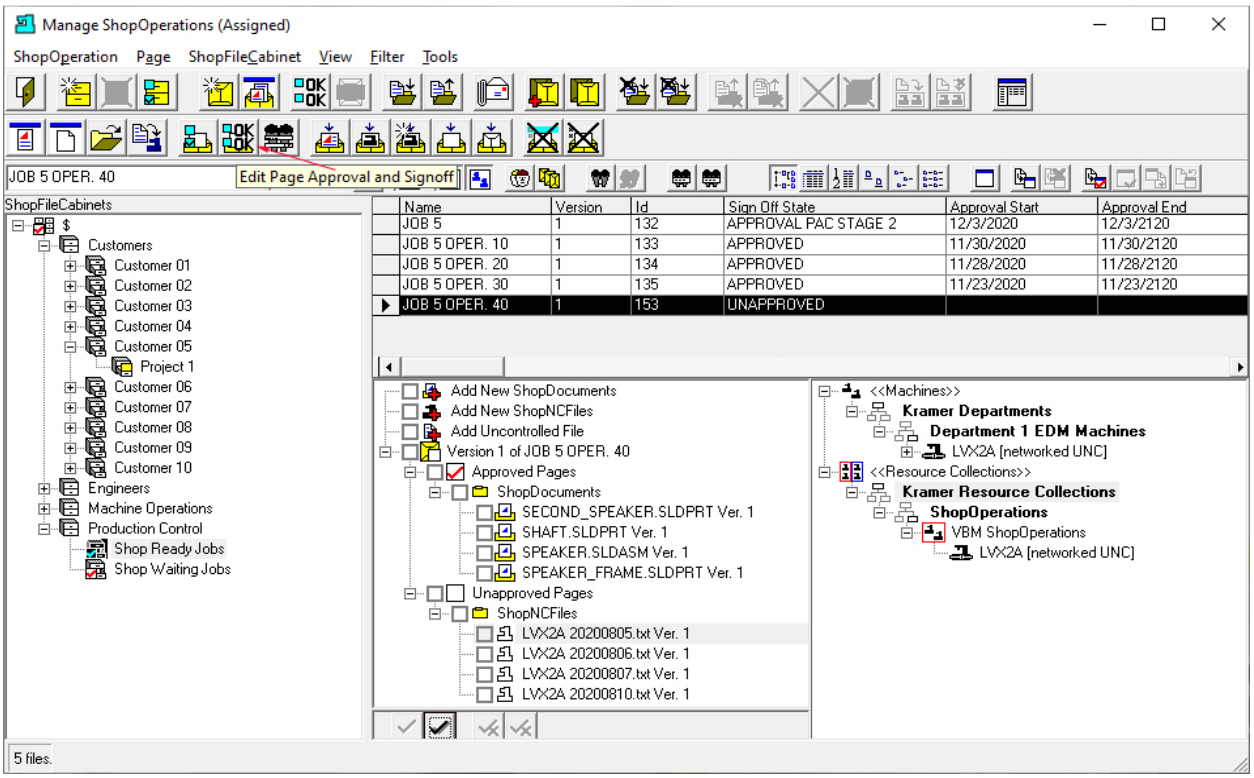
Manage ShopOperations (Added ShopNCFiles to ShopOperation JOB 5 OPER. 40)



If you look at the Window under the Front Window you can see the 4 selected ShopNCFiles have been added to the ShopOperation “JOB 5 OPER. 40”. One of the ShopNCFiles is out of view!

Click the Close Icon, see **Red Arrow** above, and the following Window will be displayed.

Manage ShopOperations (JOB 5 OPER. 40 All Unapproved ShopNCFiles – Edit Page Approval and Signoff)



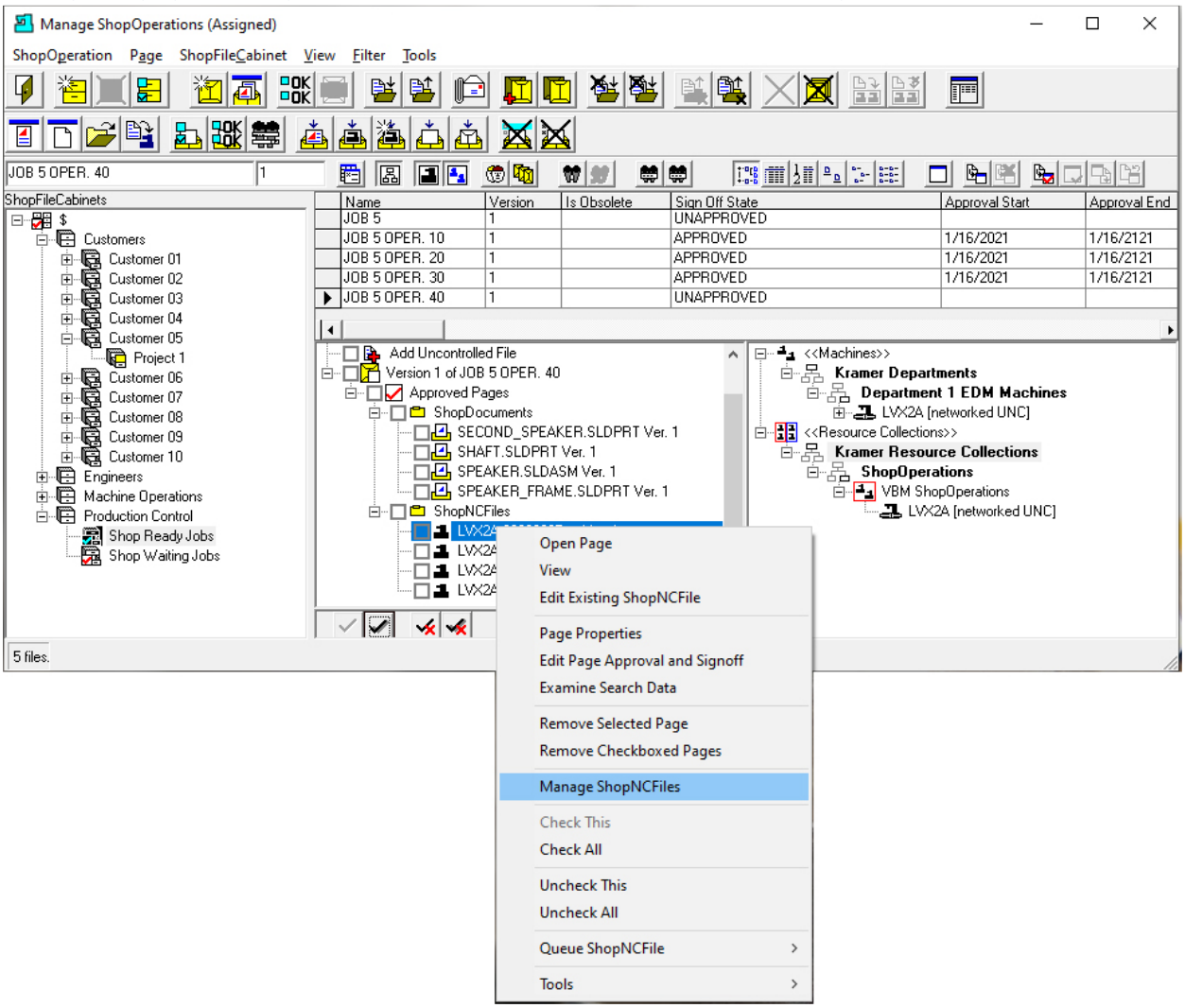
We need to Approve all of the added ShopNCFiles just like we did when approving the ShopDocuments in “Job 5 OPER. 40” by following the same Approval procedure.

After Approving these ShopNCFiles for Production we need to assign these to the Resource Collection “VBM ShopOperations” so the associated Machine Tool, in this case, LVX2A has access to these ShopNCFiles!

There are other ways to do this, but this is the only fool proof way!

See the following Window for Assigning ShopNCFiles to a Resource Collection.

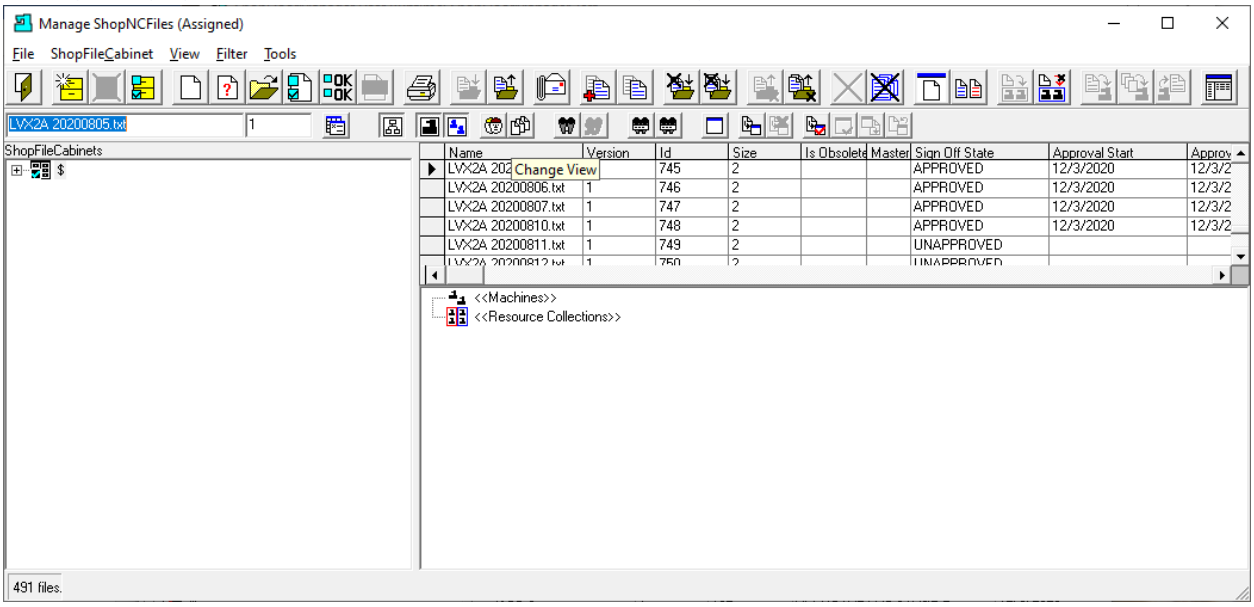
Manage ShopOperations (JOB 5 OPER. 40 select ShopNCFile LVX2A 20200805.txt)



To accomplish this, we need to open the “Manage ShopNCFiles” Window! Highlight the ShopNCFile, “LVSX2A 20200805.txt Ver. 1”, and right click the mouse and the drop-down menu list is displayed.

Select the “Manage ShopNCFiles” to open the Application used to work with ShopNCFiles. The following Window is displayed.

Manage ShopOperations (Manage ShopNCFiles – Change View)



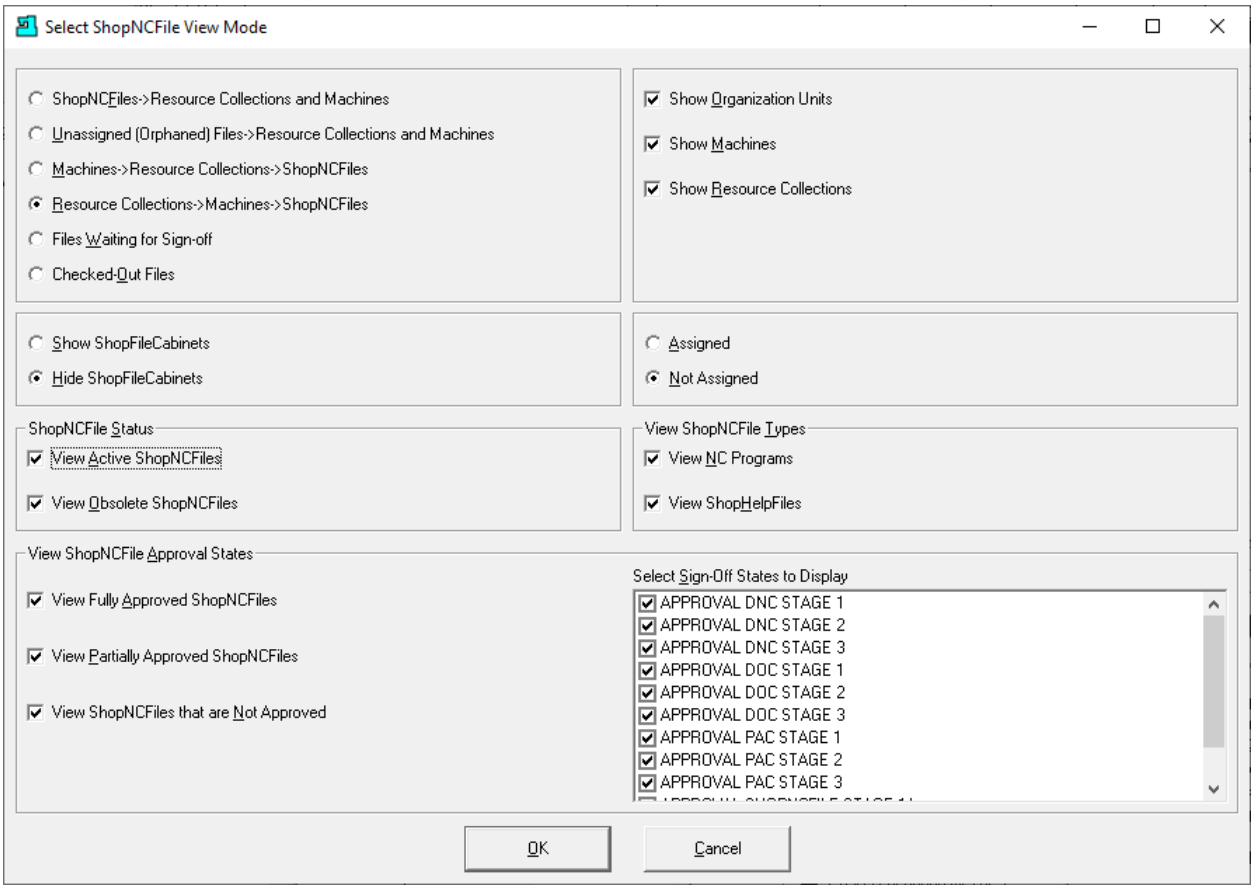
As you can see ShopFloorManager maintained the link with the chosen ShopNCFile “LVX2A 20200805.txt”.

Notice that this View doesn’t provide any access to Resource Collections! We need a View that displays Resource Collections to which we can assign our ShopNCFiles.

We also want to view ShopNCFiles that have Not been Assigned to the Resource Collection “VBM ShopOperations”. We need to Change the View!

Click on the “Change View” and the following Window is displayed.

Manage ShopOperations (Manage ShopNCFiles – Configuration of View Mode as below)

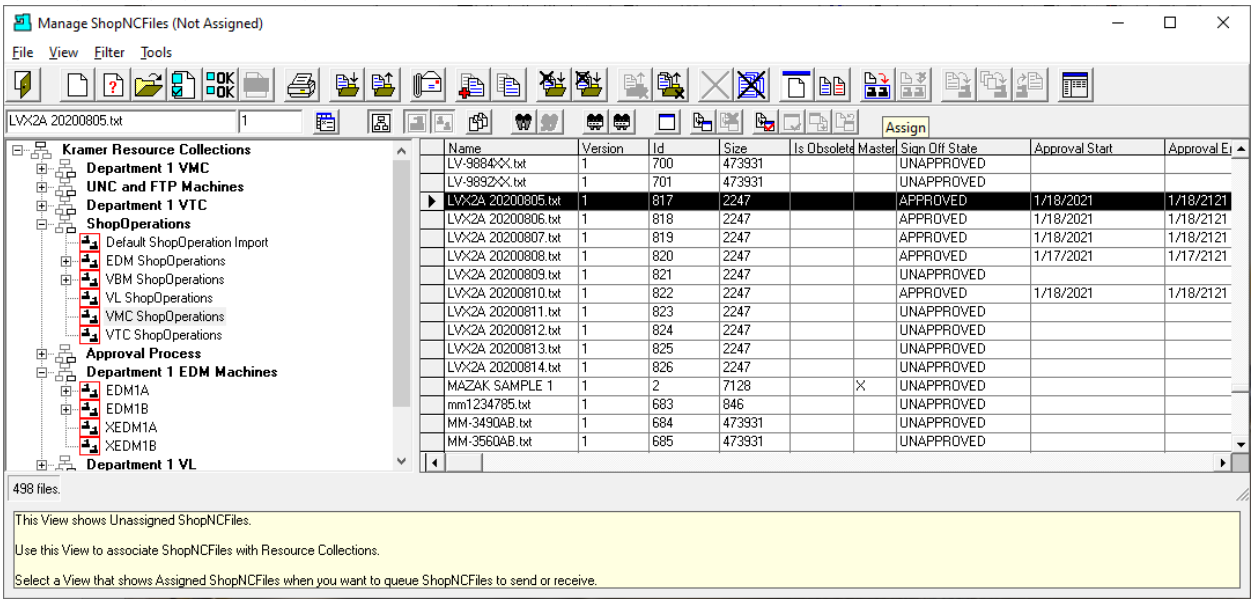


We need to configure a view that will allow us to access Resource Collections, hide ShopFileCabinets & View “Not Assigned” ShopNCFiles.

Looking at the configuration above this should provide the view will need.

Click on the OK Button and the following Window is displayed.

Manage ShopOperations (Manage ShopNCFiles –View Not Assigned)

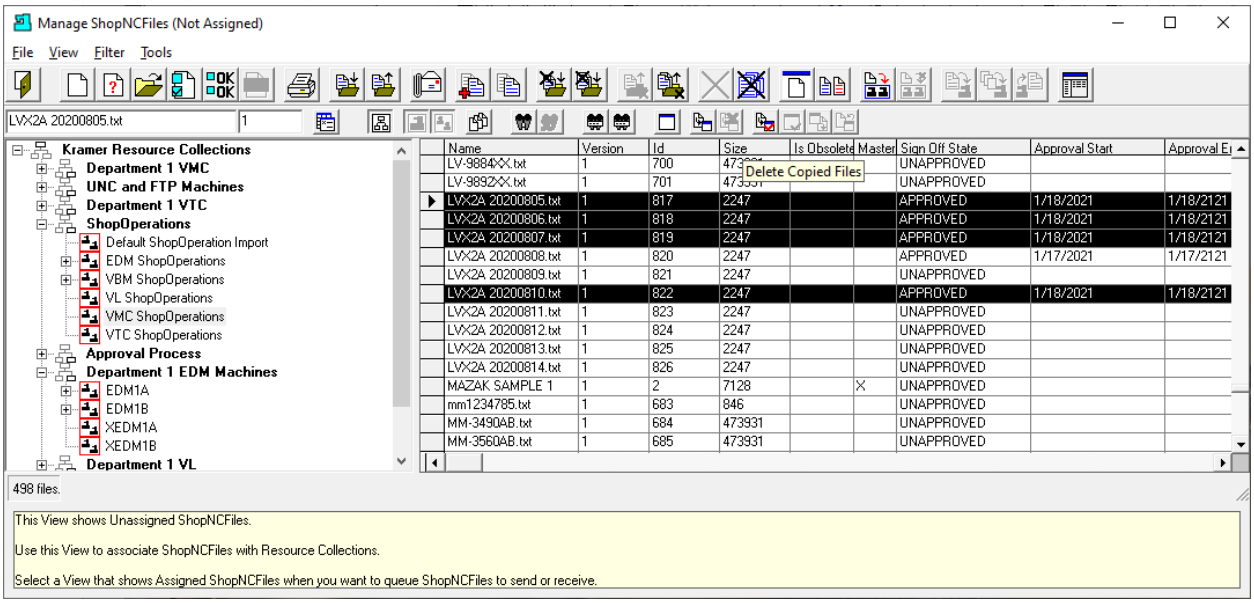


After locating & highlighting the Resource Collection “VBM ShopOperations” highlight the ShopNCFile “LVX2A 20200805.txt”. You will notice that all you need to do now is click the Assign Icon. See upper right above!

Note: If you don’t see the ShopNCFile “LVX2A 20200805.txt” then it has already been assigned to Resource Collection “VBM ShopOperations” since this View shows all ShopNCFiles Not Assigned!

If you want to select multiple ShopNCFiles see the following!

Manage ShopOperations (Manage ShopNCFiles – Selecting Multiple ShopNCFiles & Dragging & Dropping)

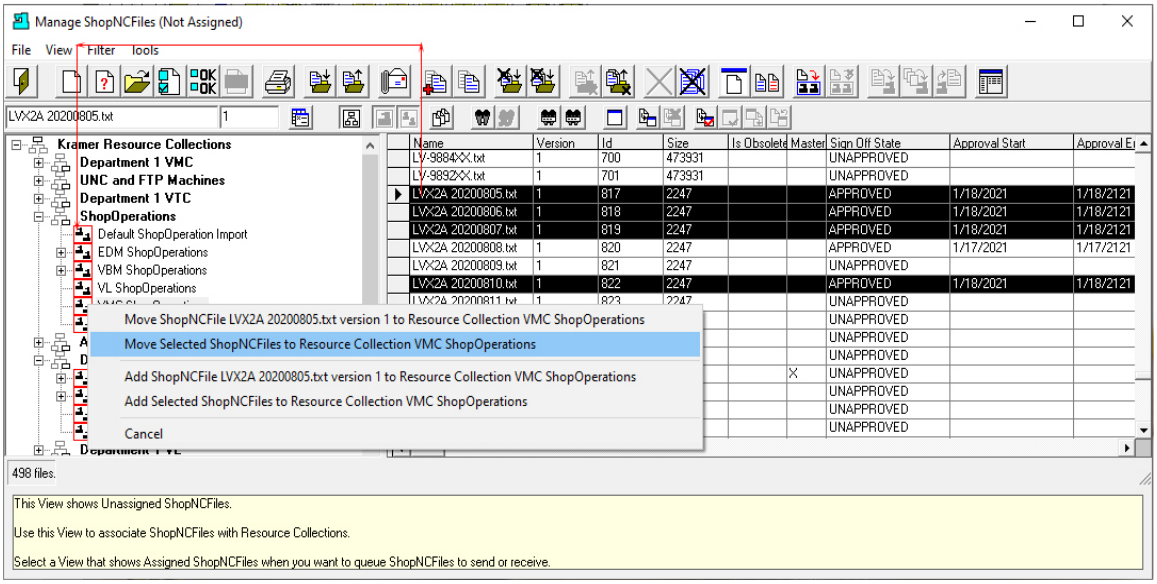


You can select multiple ShopNCFiles by clicking next to the First ShopNCFile, hold the Shift Key and click the the last ShopNCFile and they will all be highlighted.

If the ShopNCFiles are not contiguous hold the Cntr Key and select your individual ShopNCFiles. All selections should be selected in the column with the Black Arrow Head!

Now Drag and Drop them to the Resource Collections “VBM ShopOperations” as follows.

Manage ShopOperations (Manage ShopNCFiles & Dragging & Dropping Path 1)

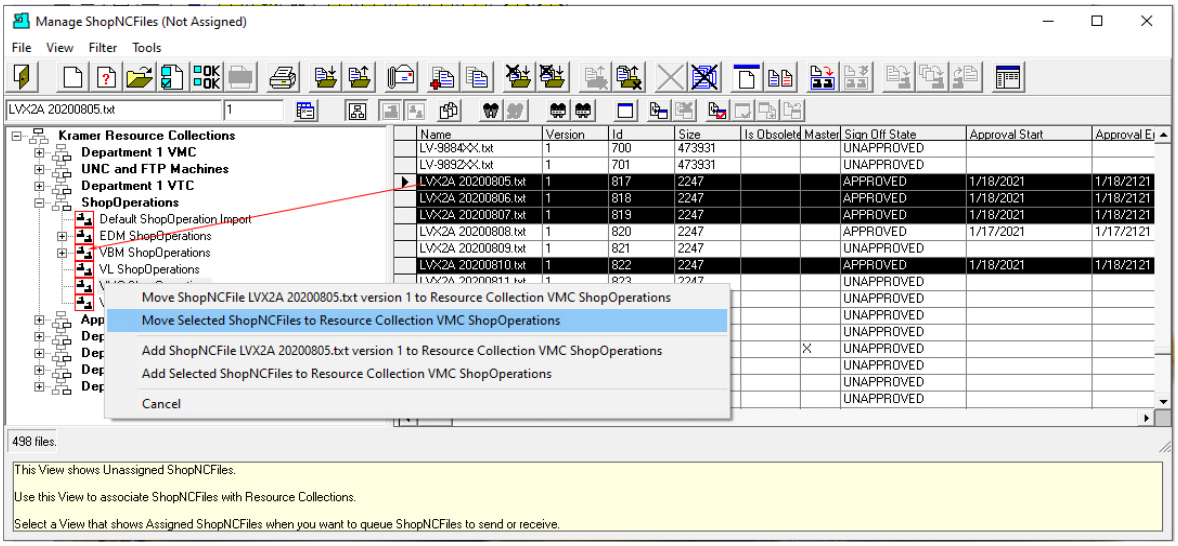


Right click over the File Name in the row where the black arrow head is located while holding down the mouse key. Drag and drop the list of ShopNCFiles using the path shown in **Red**.

We have found that occasionally if the Resource Collections List is extremely long the selected Resource Collection can shift when completing the Dropping phase. As it turns out this doesn't happen when using the above path.

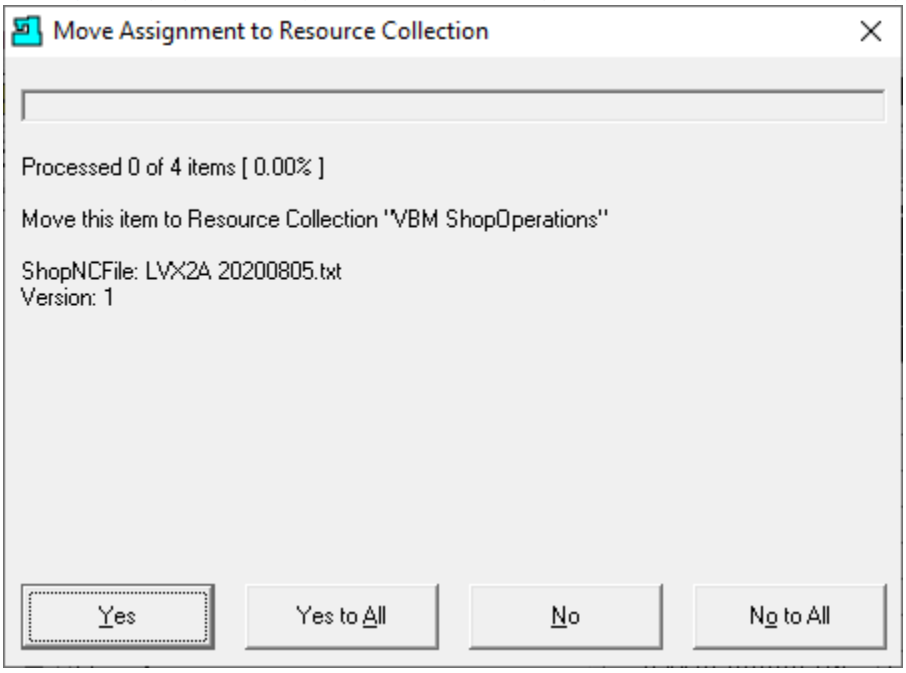
If you are using "Organizational Units" and can collapse them so the list is completely contained in the Window, and you can drag & drop directly. See the **Red Arrow** below.

Manage ShopOperations (Manage ShopNCFiles & Dragging & Dropping Path 2)



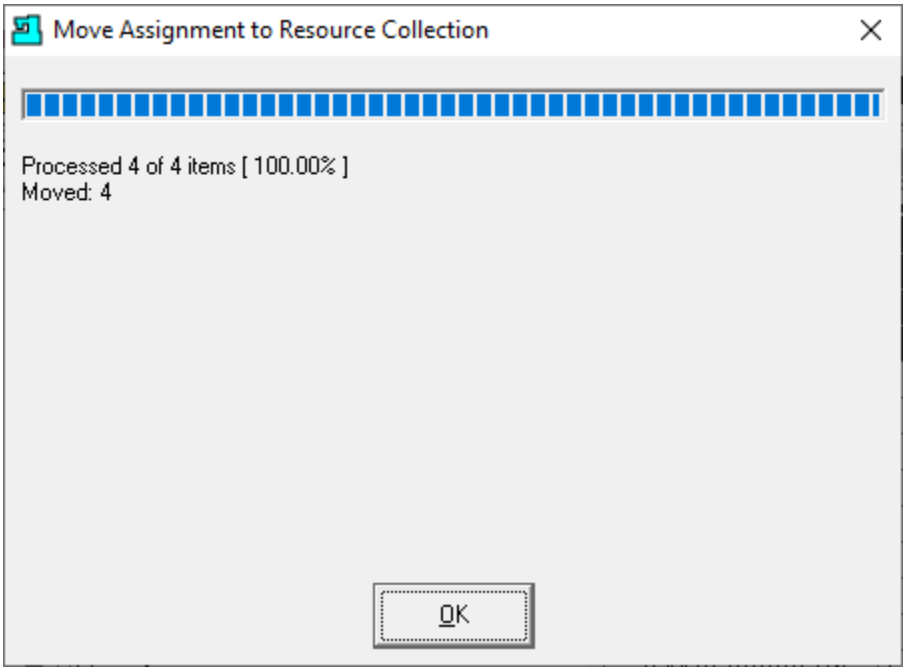
Select the "Move Selected ShopNCFiles to Resource Collection VBM ShopOperation" and the following Window is displayed.

Manage ShopOperations (Window Move Assignment to Resource Collection)



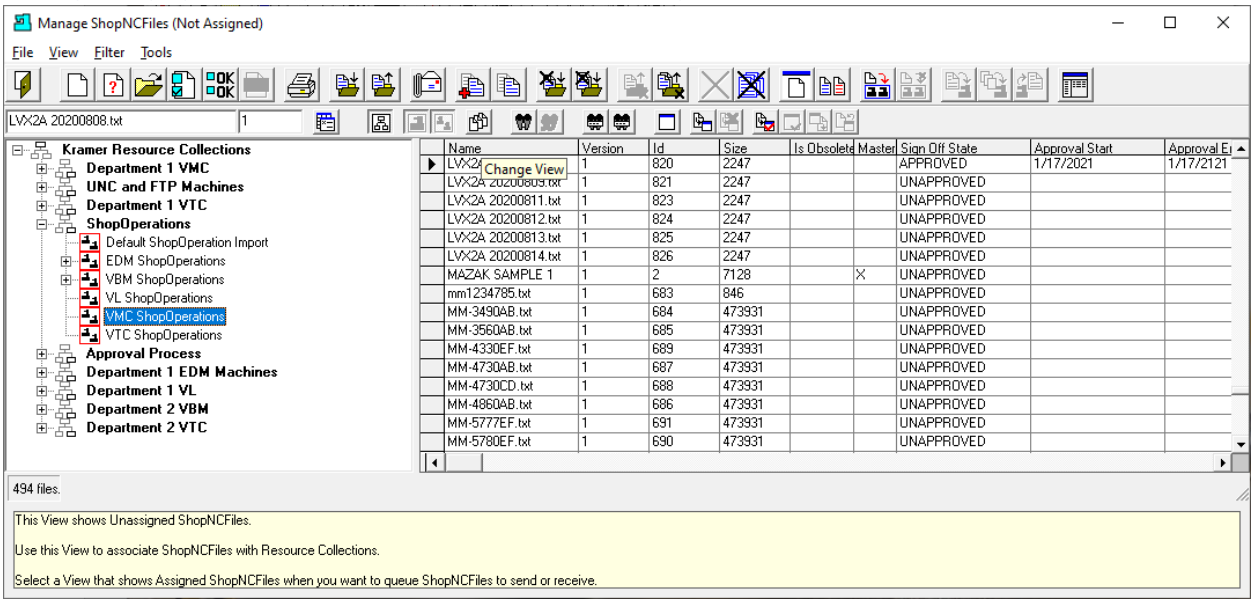
Click the “Yes to All Button” and the following Window is displayed.

Manage ShopOperations (Informational Window Completed Move)



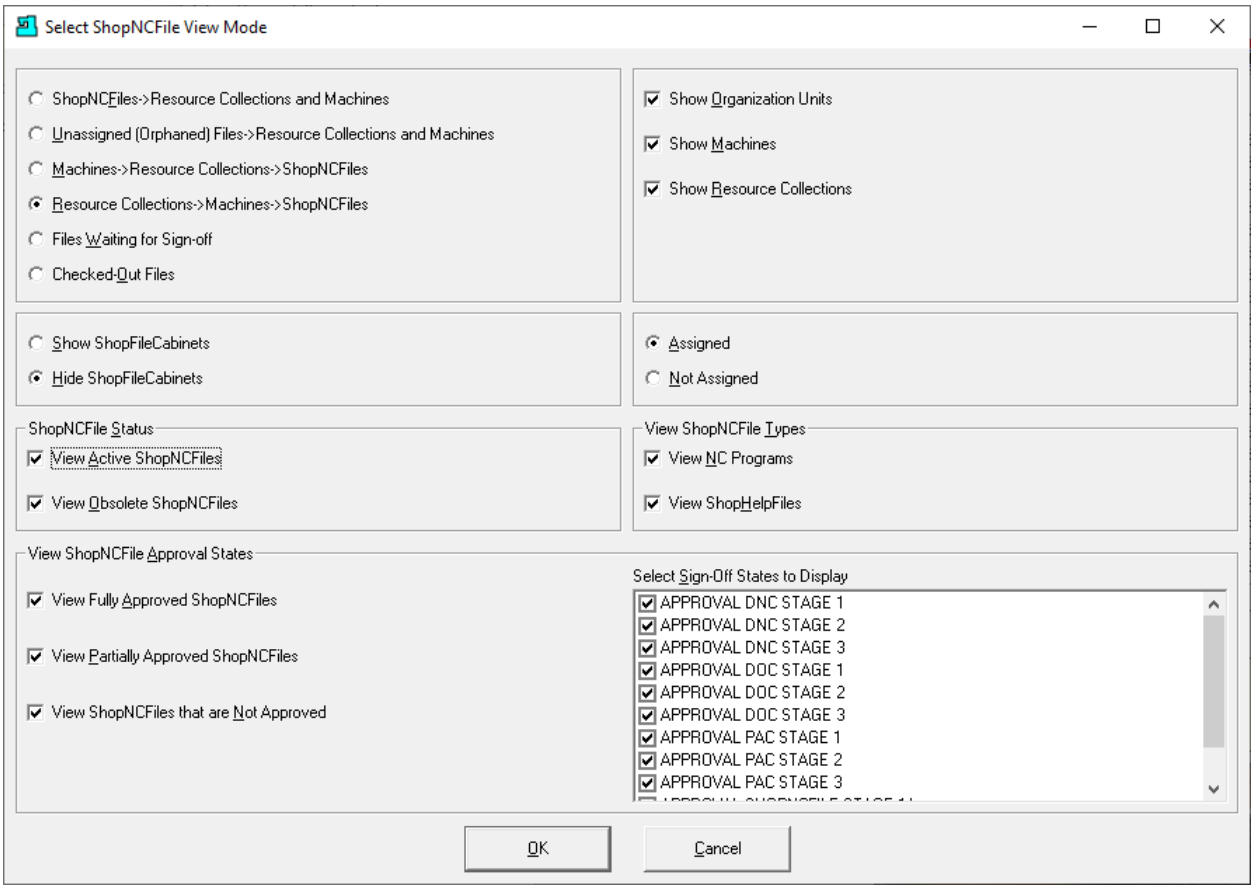
Click the OK Button and the following Window is displayed.

Manage ShopOperations (Manage ShopNCFiles Change View)



We need to get back to the original View “Assigned” View so click the “Change View” Icon and the following Window is displayed.

Manage ShopOperations (Manage ShopNCFiles – Configuration of View Mode as below)

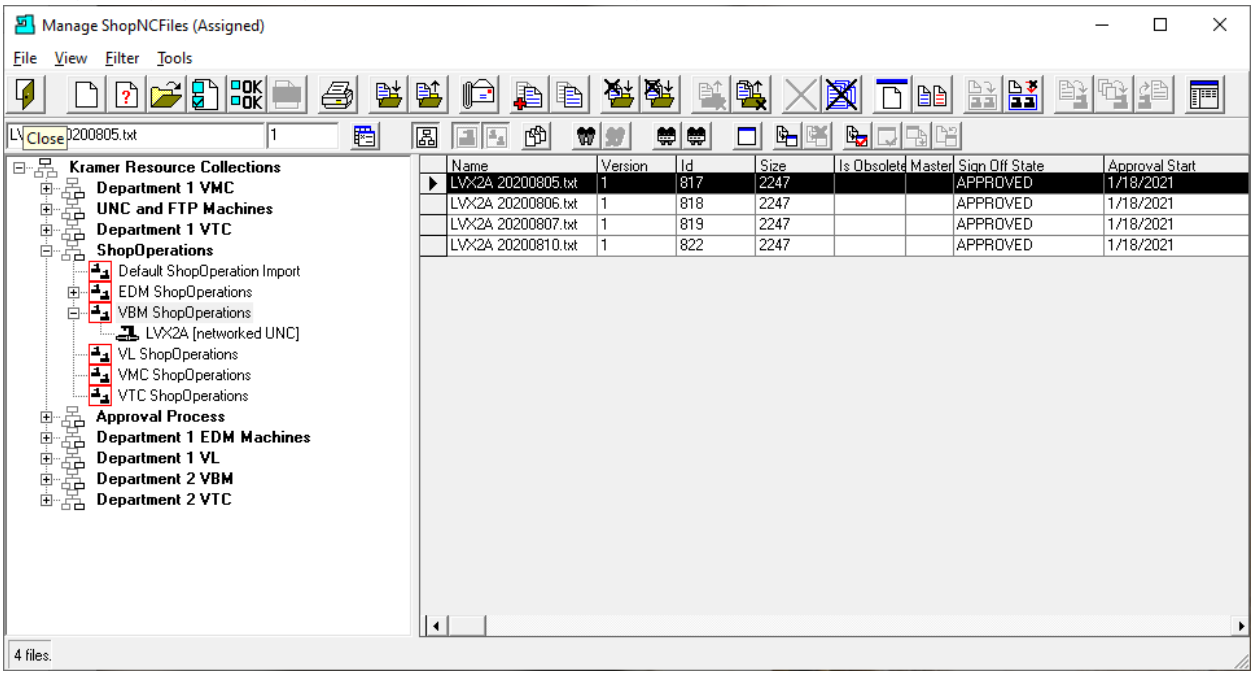


We need to configure a view that will allow us to access Resource Collection, hide ShopFileCabinets & View Assigned ShopNCFiles.

Looking at the configuration above this should provide the view will need.

Click on the OK Button and the following Window is displayed.

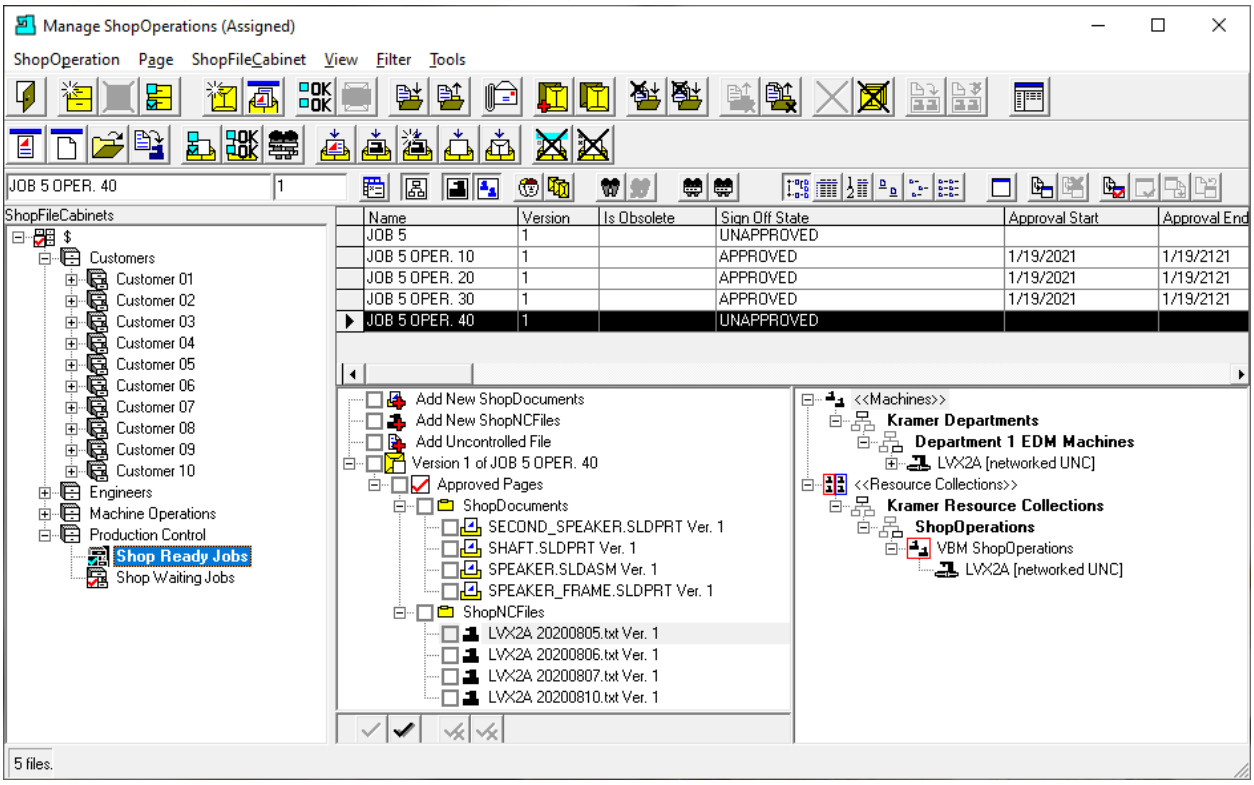
Manage ShopOperations (Manage ShopNCFiles Assigned)



As we can see the selected ShopNCFiles have been assigned to the Resource Collection “VBM ShopOperations” assuring that those ShopNCFiles will be available for Downloading to Machine LVX2A!

Click the Close Icon and the following Window will be displayed.

Manage ShopOperations (JOB 5 OPER. 40 - Repeat)



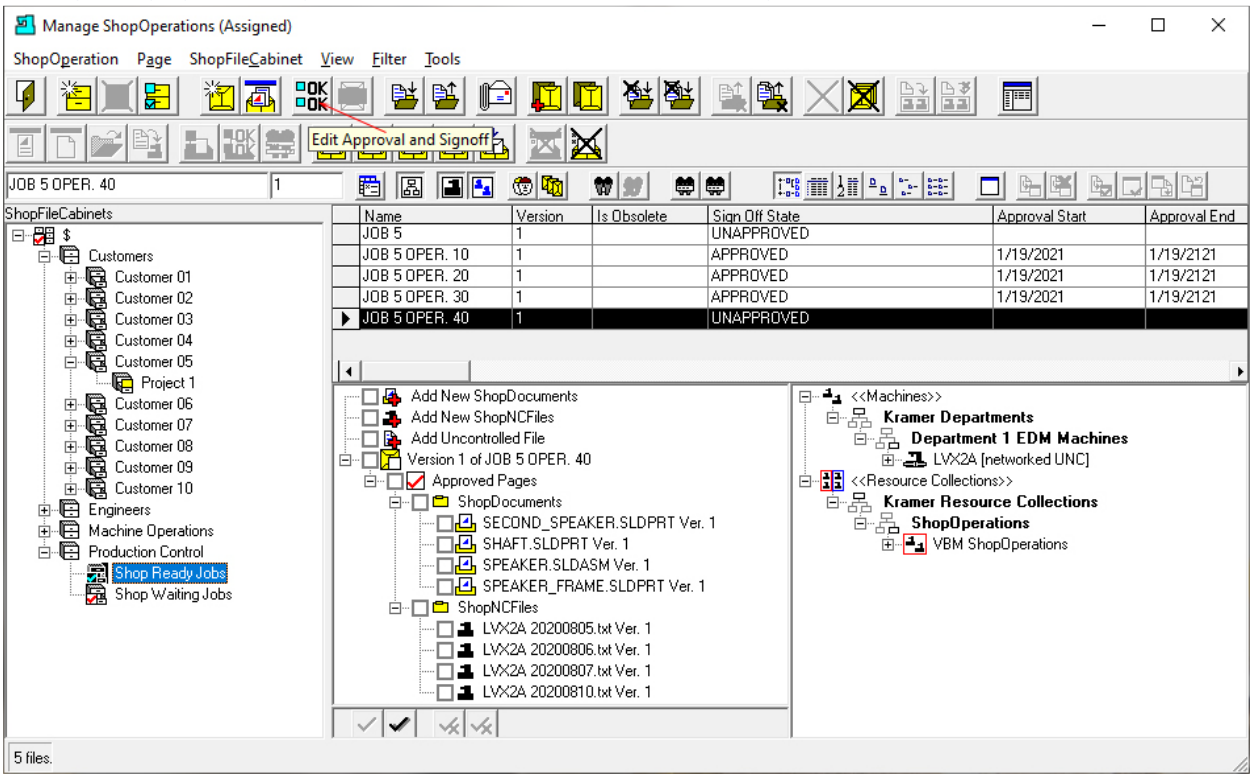
Repeat the previous procedure for all of the other Sub-ShopOperations above!

ShopNCFiles in each ShopOperation to be Assigned to referenced Resource Collection:

1. **ShopOperation "Job 5 OPER. 30" Assign to: Resource Collection: EDM ShopOperations**
    a. **User Group:** EDM
    b. **User**: EDM_OPERATOR
2. **ShopOperation "Job 5 OPER. 20" Assign to: Resource Collection: VL ShopOperations**
    a. **User Group:** VL
    b. **User**: VL_OPERATOR
3. **ShopOperation "Job 5 OPER. 10" Assign to: Resource Collection: VTC ShopOperations**
    a. **User Group:** VTC
    b. **User**: VTC_OPERATOR

When complete the following Window will be displayed.

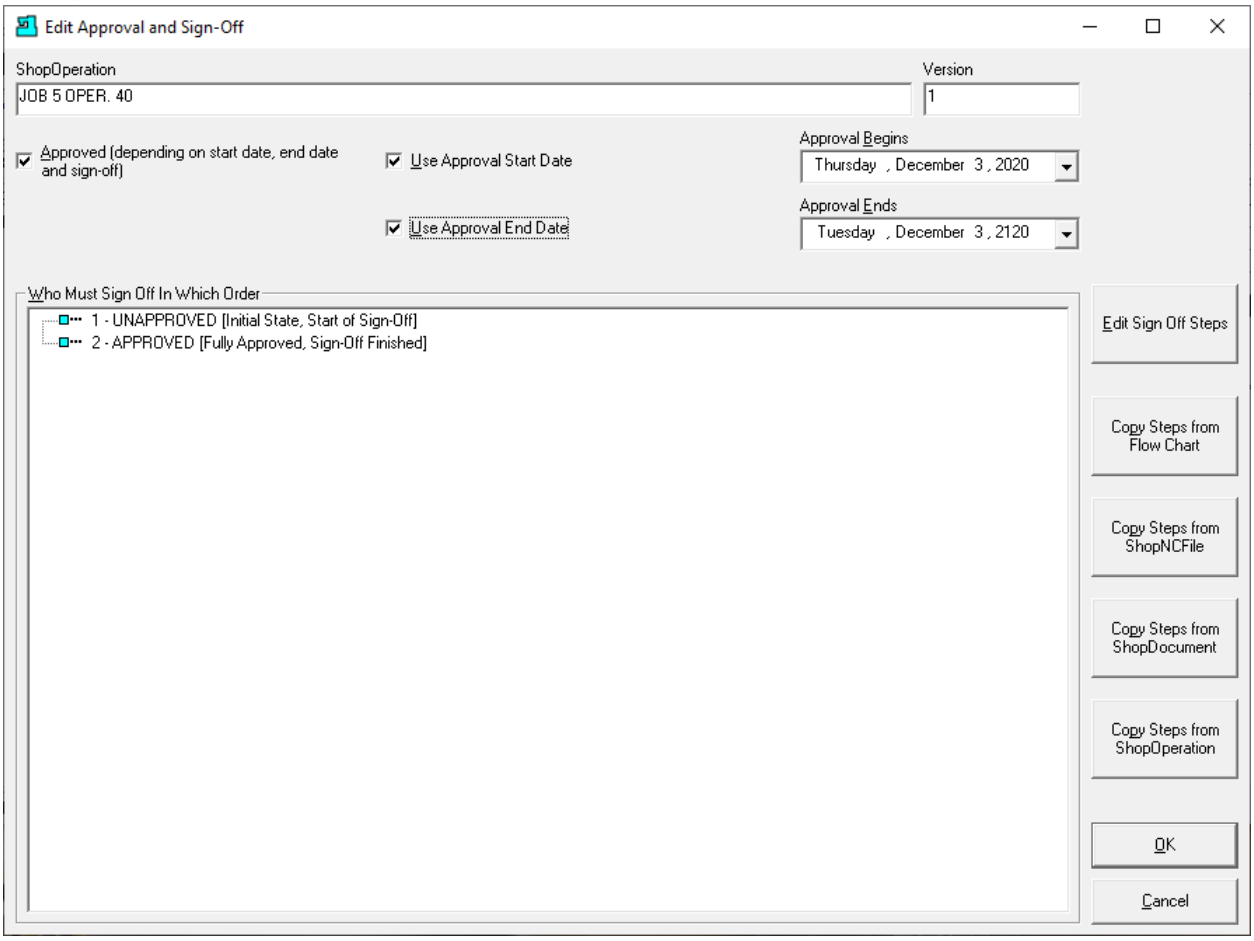
Manage ShopOperations (JOB 5 OPER. 40 – Edit Approval and Signoff)



As you can see all of the ShopNCFiles have been previously Approved for use in Production! We now need to Approve “Job 5 OPER. 40” for production.

Highlight Job 4 OPER. 40 and click on the “Edit Approval and Signoff” Icon and the following Window will be displayed. See the **Red Arrow** above.

Manage ShopOperations (Selecting Approval Method for ShopOperation Job 5 OPER. 40)



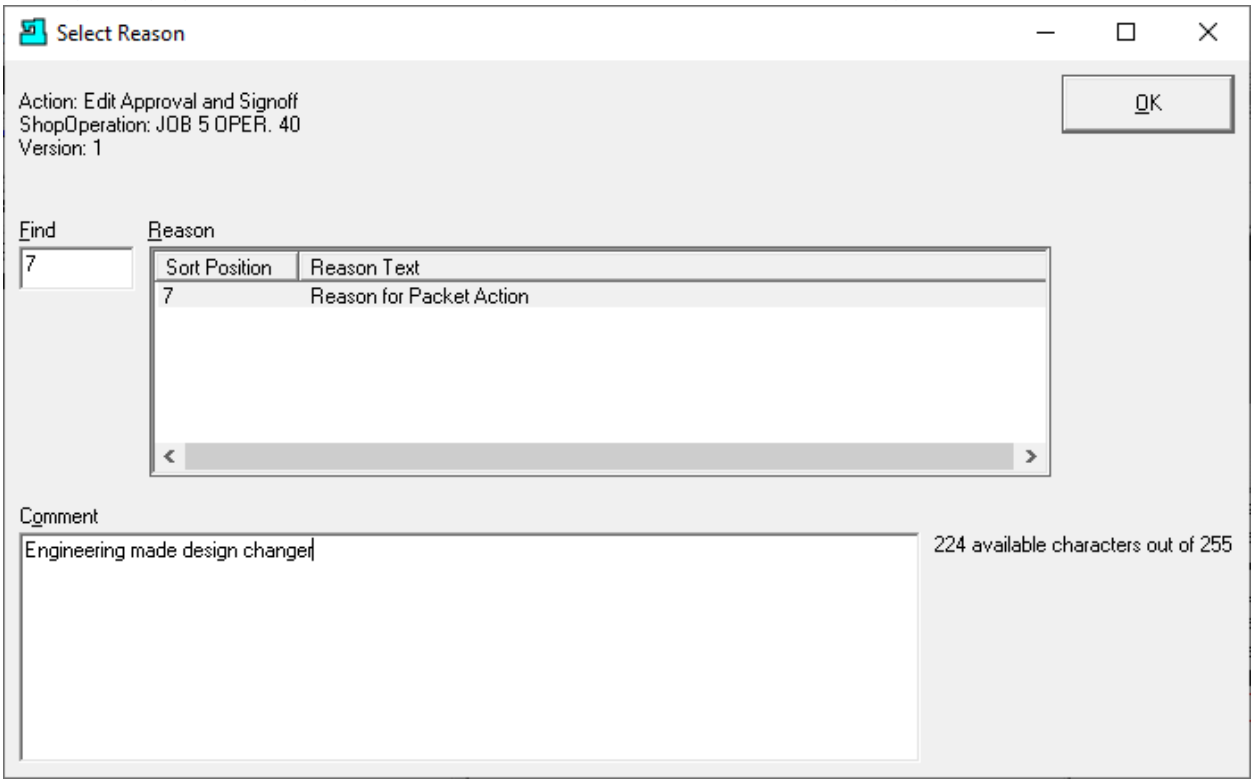
Check all of the checkboxes as shown above and click the OK Button and the following Window will be displayed.

Note:

1. In order to Approve a ShopOperation, ShopNCFile or ShopDocument using this Method you need to have the "Right" to "Edit ShopOperation Approval and Signoff"! Generally, this "Right" is reserved for Management and would not be given to a User designated as an Approver! Click on the following link for details on the "Standard" Approval Methodology!

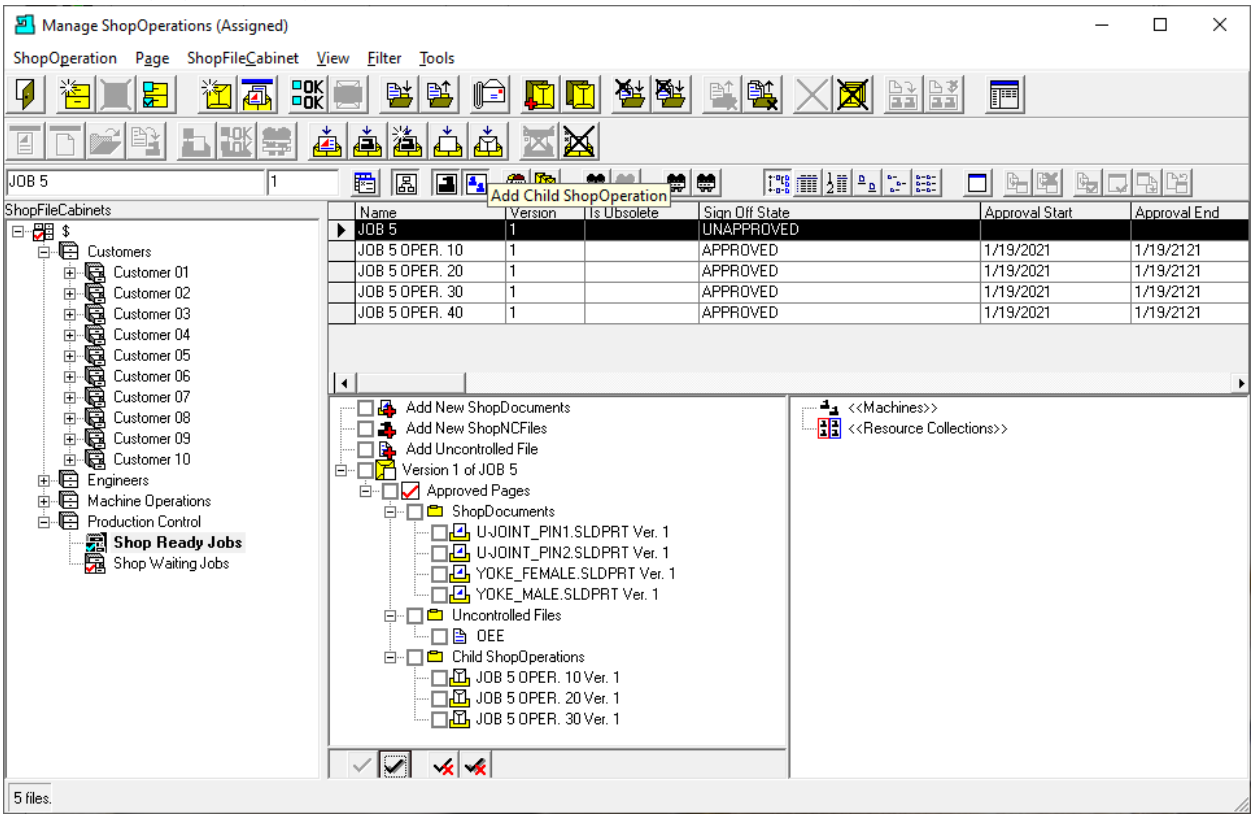
2. We are assuming whoever Approves this ShopOperation has thoroughly reviewed this ShopOperation and all of the associated ShopNCFiles & ShopDocuments, etc.

Manage ShopOperations (Job 5 OPER. 40 Edit Page Approval and Signoff- Reason)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button. The following Window will be displayed.

Manage ShopOperations (Job 5 – Adding Child ShopOperation JOB 5 OPER. 40)



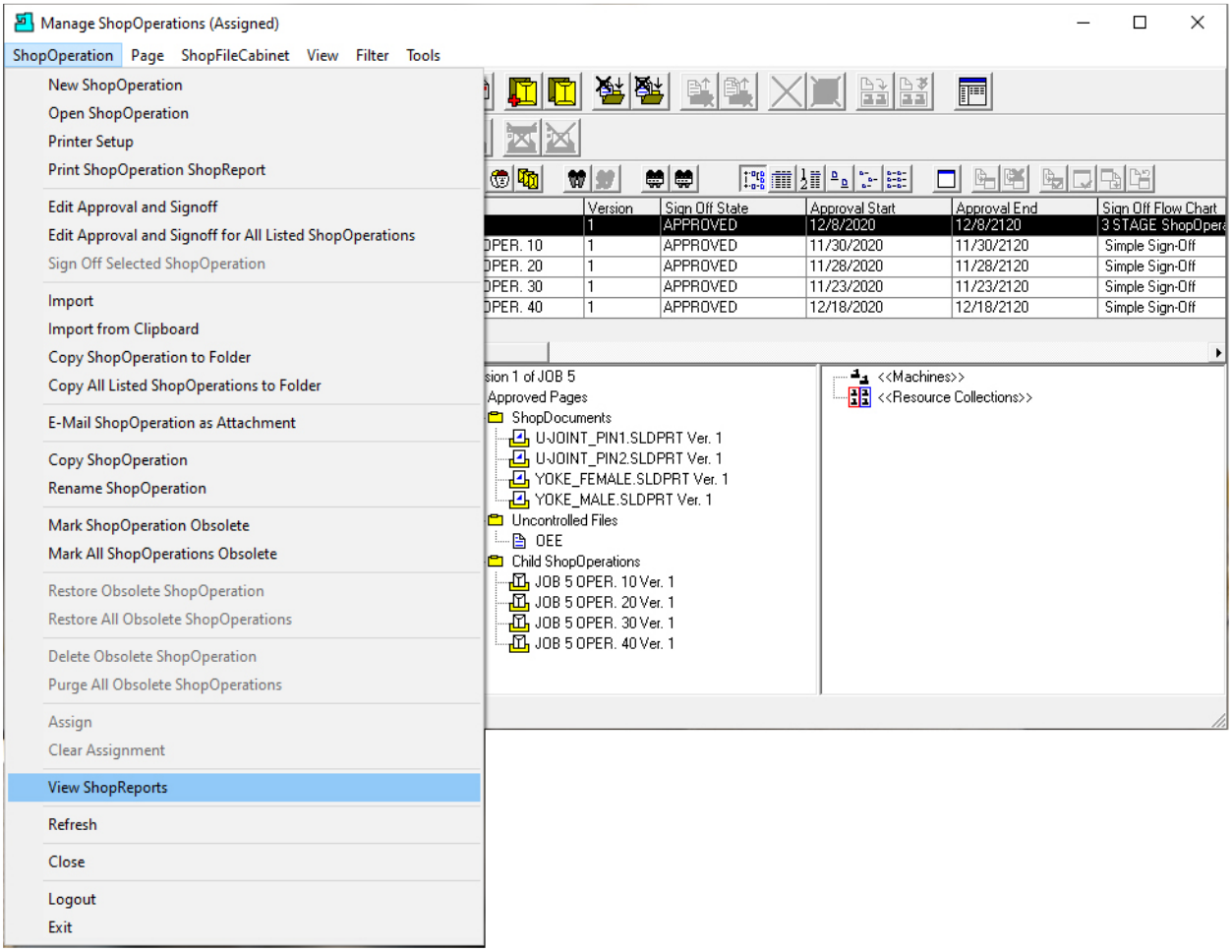
Note: Now we need to add "Job 5 OPER. 40" to Job 5. Click this link to see how Child ShopOperations are added to an Existing ShopOperation used as a "Traveler"!

Now we need to fully approve "Job 5". See the following link for details. Continue until all the stages have been completed for final Approval!

let's take a break and look at generating a ShopReport of the "Assignments: ShopOperation to Resource Collections". This will give you a small taste of the power of "ShopReports".

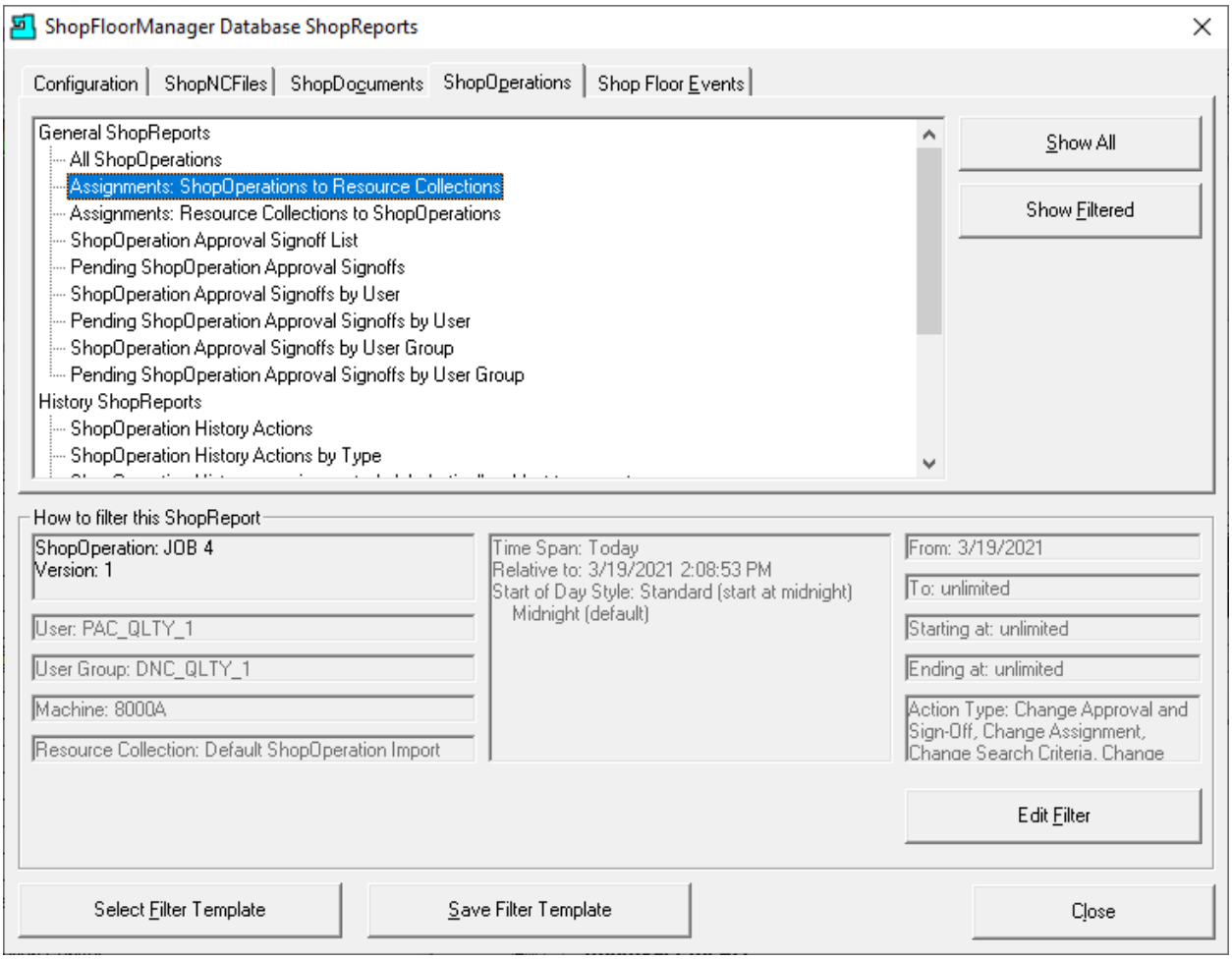
Click the File Menu ShopOperation and the following Window is displayed.

Manage ShopOperations (JOB 5 Assigned Resource Collections displayed; Select View ShopReports)



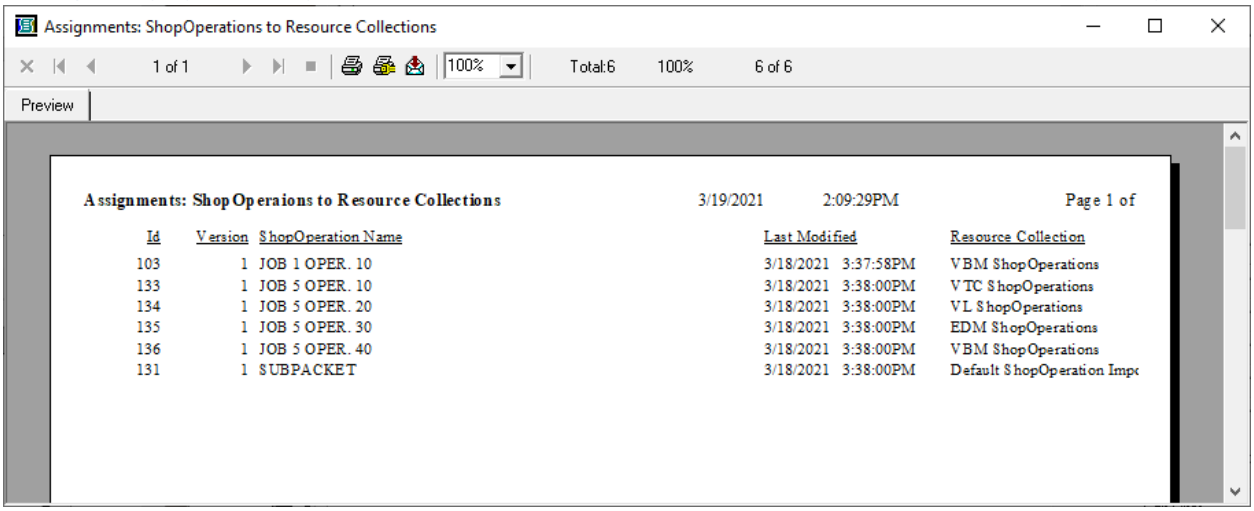
Click the View ShopReports and the following Window is displayed.

Manage ShopOperations (ShopOperations “Assignments: ShopOperation to Resource Collections”)



Select the “Assignments: ShopOperation to Resource Collections” and click the Show All Button and the following Report will be displayed.

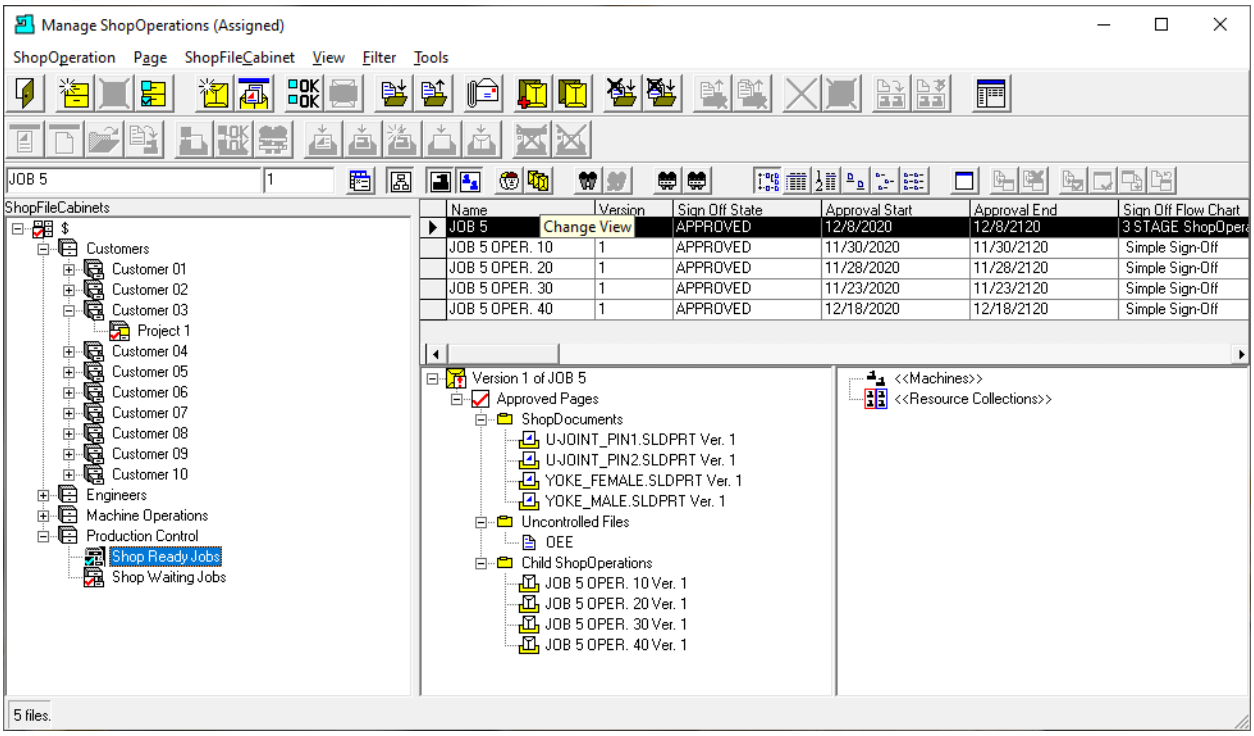
Manage ShopOperations (ShopOperation "Assignments: ShopOperation to Resource Collections" Report)



As you can see the Report displays the "Assignments: ShopOperation to Resource Collections". We won't get into the details of ShopReports: Configurations here as you can find the details in other Sections of this Manual.

Close this Report and the ShopFloorManager ShopReports Window and the following Window will be displayed.

Manage ShopOperations (Change View)



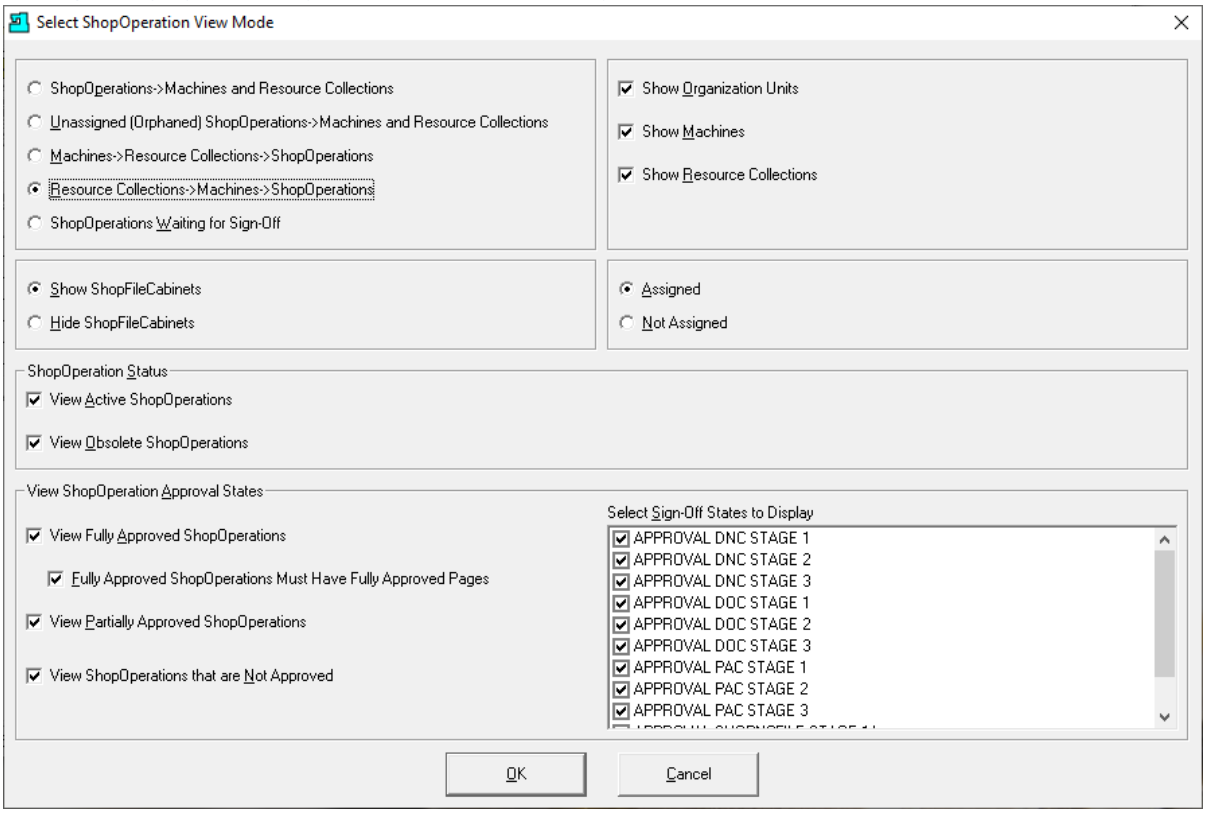
Let's continue with features available in "Manage ShopOperations"!

We will now manually import a ShopOperation into ShopFloorManager. We need to change this View in order to be able to assign & Import this ShopOperation into a Resource Collection.

Click on the "Change View" Icon and the following Window will be displayed.

Note: We will be returning to the "Traveler" Job 5 to demonstrate how it is used on the Shopfloor for Manufacturing a "Part"!

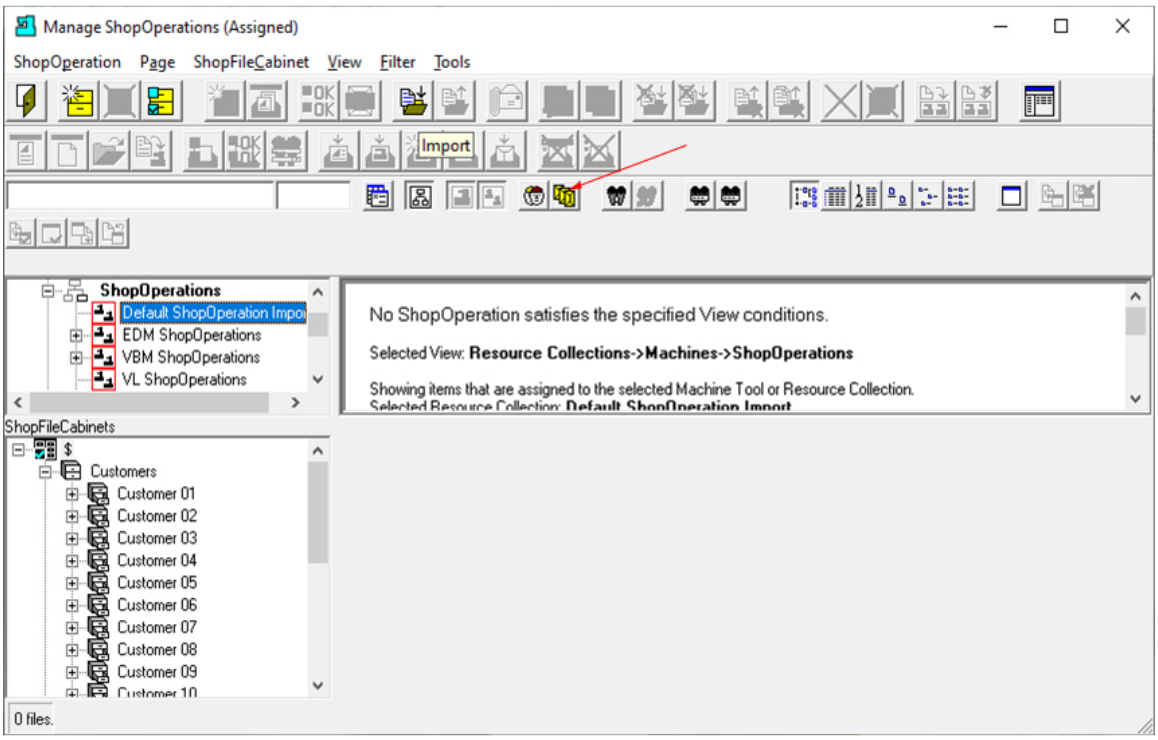
Manage ShopOperations (ShopOperation View Mode)



Change the settings as the above, click the OK Button and the following Window will be displayed.

Note: It's possible, **<u>though not likely,</u>** that you may want to import a ShopOperation into a Resource Collection that has not been assigned to any ShopOperation in which case you would change the Assigned to Not Assigned!

Manage ShopOperations (Import ShopOperations)



If this View still doesn't meet your needs click on the Change View, see **Red Arrow** above, to make configuration changes for a different View. I.E. You may want a View without ShopFileCabinets!

!Important. You will notice we have choosen the Resource Collection "Default ShopOperation Import" and the ShopFileCabinets Root $ to associate the Imported ShopOperation!

You can choose any Resource Collection and or ShopFileCabinets that meets your needs!

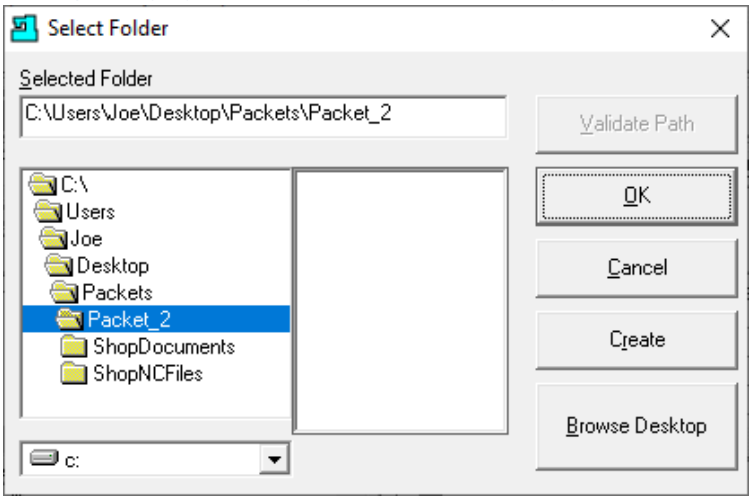
Let's import a ShopOperation. When importing a ShopOperation the Folder Structure has to be as Follows for either Manually importing or Automatically Importing using the Maintenance Engine.

> **Top Folder must be the Name of the ShopOperation and be in the Resource Collection Path if using the Maintenance Engine!**
> **The only folders in this ShopOperation must have the following Names:**
> **ShopNCFiles** (This Folder can contain any number of ShopNCFiles)
> **ShopDocuments** (This Folder can contain any number of ShopDocuments)
> **Child ShopOperations** (This Folder contains any number of ShopOperations as defined above! It is suggested not to put Sub-ShopOperations in these Child ShopOperations!)

Note: You don't need to have any Folders in the ShopOperation Folder in which case when you import the ShopOperation the result will be an Empty ShopOperation! In general don't use this method to create Empty ShopOperations unless there is a good reason! There isn't!

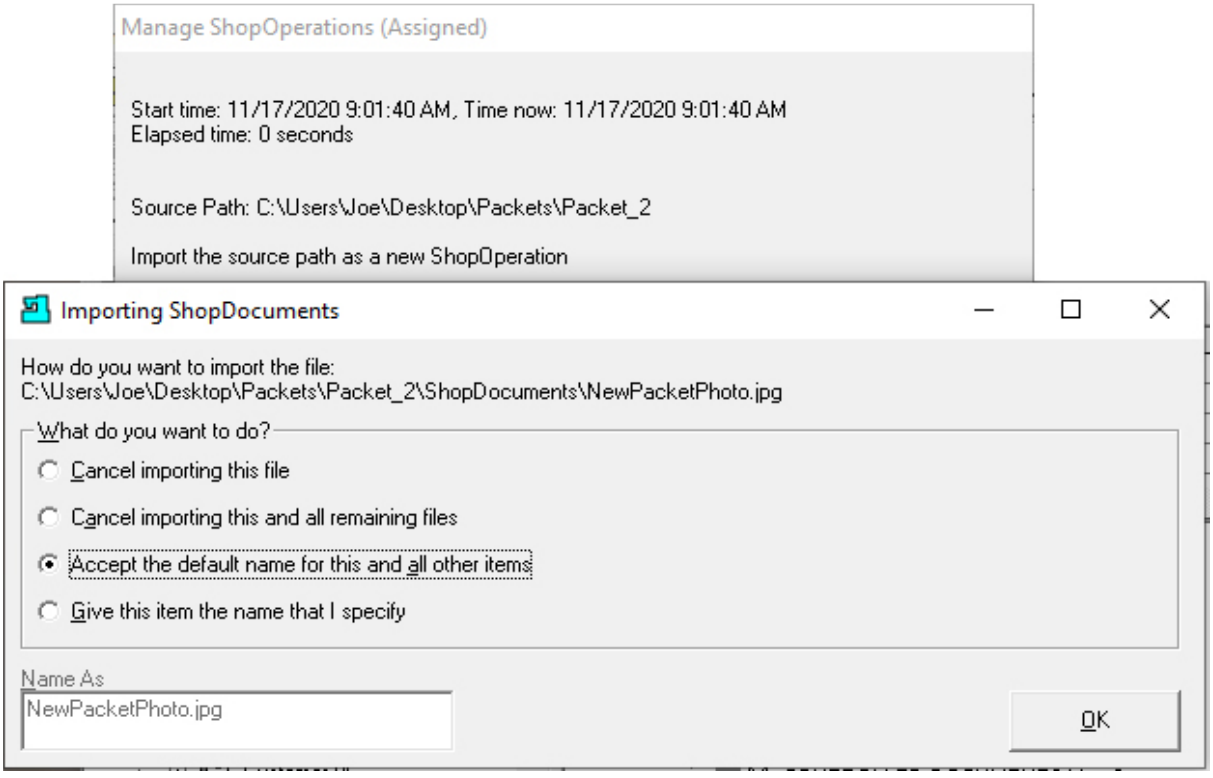
With that said click on the Import Icon and the following Window will be displayed.

Manage ShopOperations (Select ShopOperation)



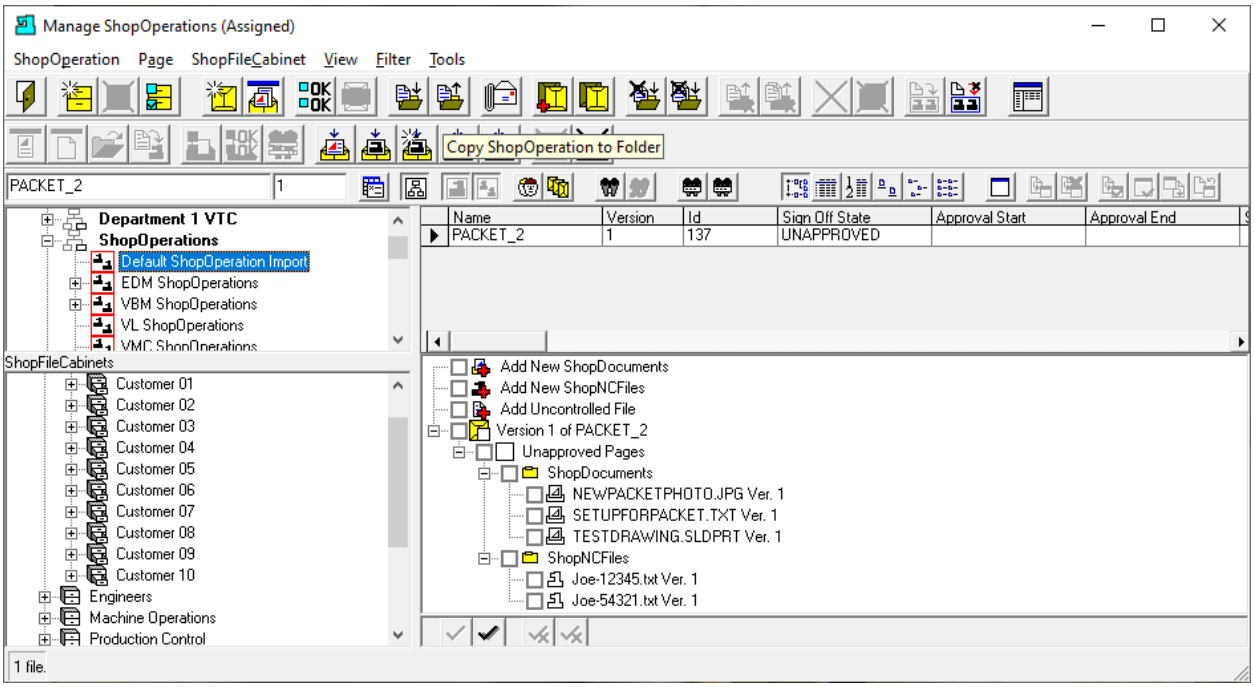
Browse to the Folder you want to Import and highlight it and click the OK Button and the following Window will be displayed.

Manage ShopOperations (Accept ShopOperation Naming)



Select “Accept the default name for this and all other items” radio button & click the OK Button and the following Window will be displayed.

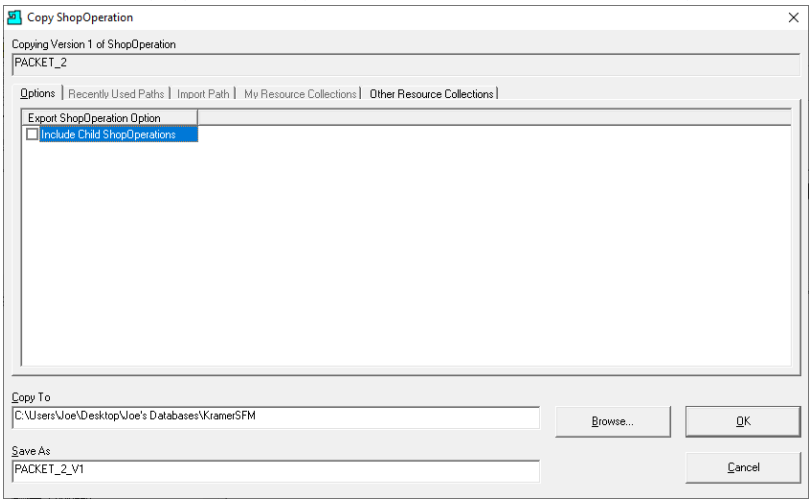
Manage ShopOperations (Imported ShopOperations Displayed)



As you can see the ShopOperation was Imported into ShopFloorManager with the structure described above.

Now Let's demonstrate how to copy the Selected ShopOperation to an external Window's Folder. Select the ShopOperation you want to copy, we will use Packet_2, and click the "Copy ShopOperation to Folder" Icon and the Following Window will be displayed.

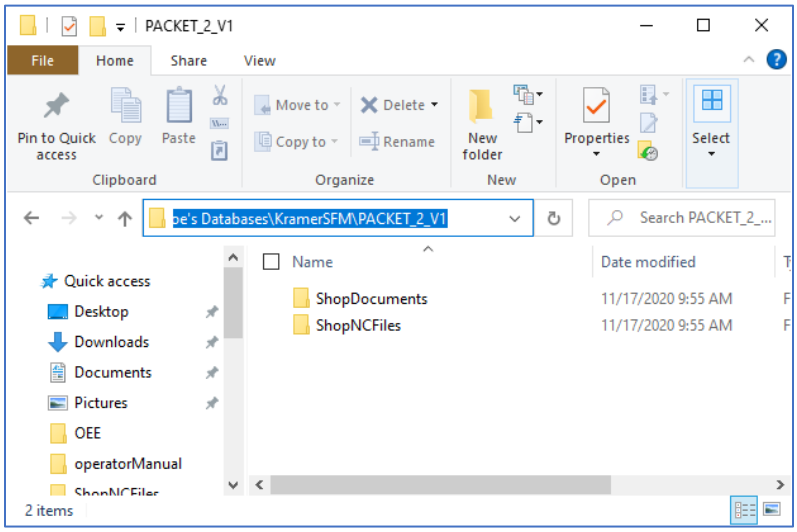
Manage ShopOperations (Copying ShopOperations Displayed)



This form has all of the Paths used by ShopFloorManager for exporting and importing ShopNCFiles, ShopOperations & ShopDocuments. You can select from an existing Path or Browse. We will use the Path presented for this demonstration. This Form is updated every time you choose a different path!

Click the OK Button and the ShopOperation will be copy to the above Path!

Manage ShopOperations (Window Folder containing Copied ShopOperation)

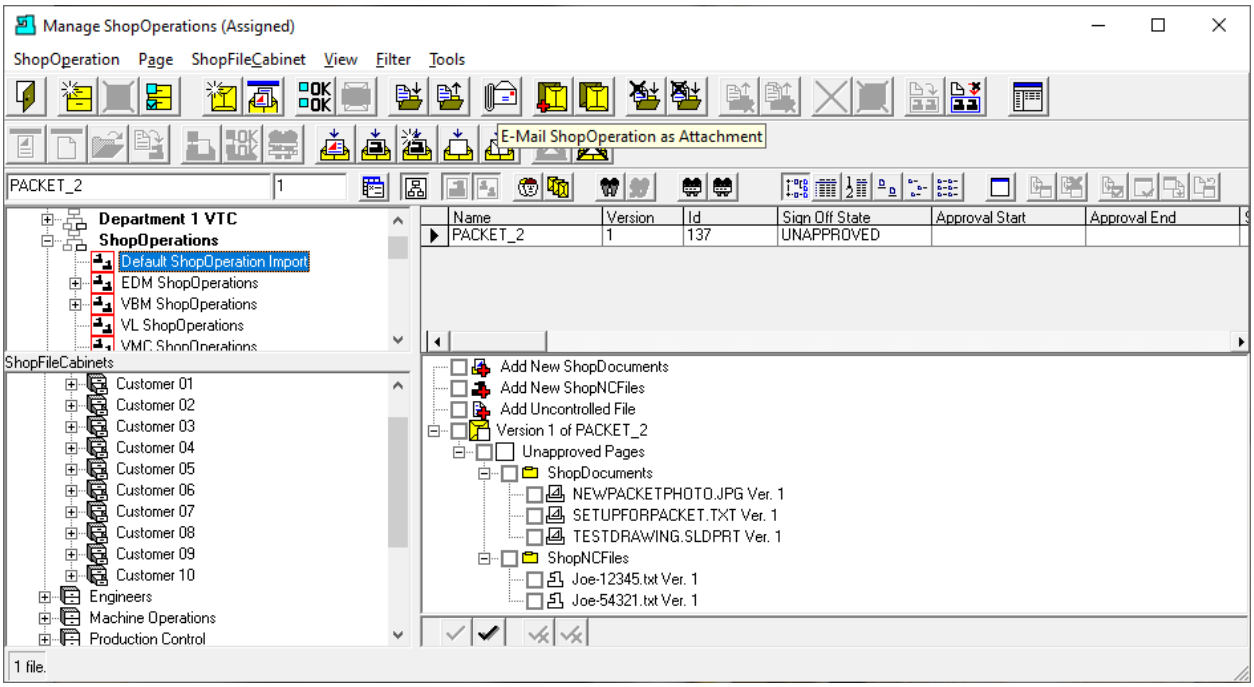


As you can see the ShopOperation with its structure & associated ShopDocuments, ShopNCFiles, etc. was copied to the browsed Window Folder. This ShopOperation was not removed from ShopFloorManager!

This ShopOperation is now independent of ShopFloorManager! Close this Window and return to ShopOperation Window. Let's continue!

Note: You may want to copy this ShopOperation for a non-ShopFloorManager User to inspect!

Manage ShopOperations (Email ShopOperation)

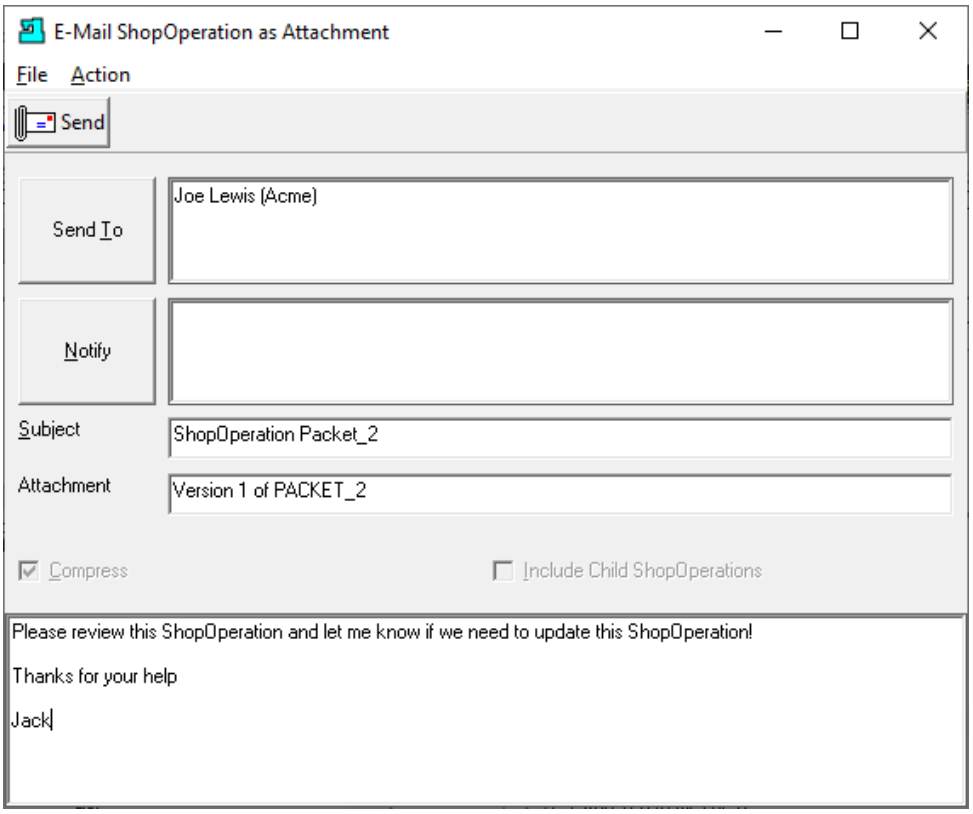


ShopFloorManager supports Emailing ShopOperations, ShopNCFiles and or ShopDocument! It also supports Emailing from CNCs. Also see E-Mail Configuration, Distribution Lists & Contacts!

Let's investigate its Email capabilities by Emailing a ShopOperation to a recipient.

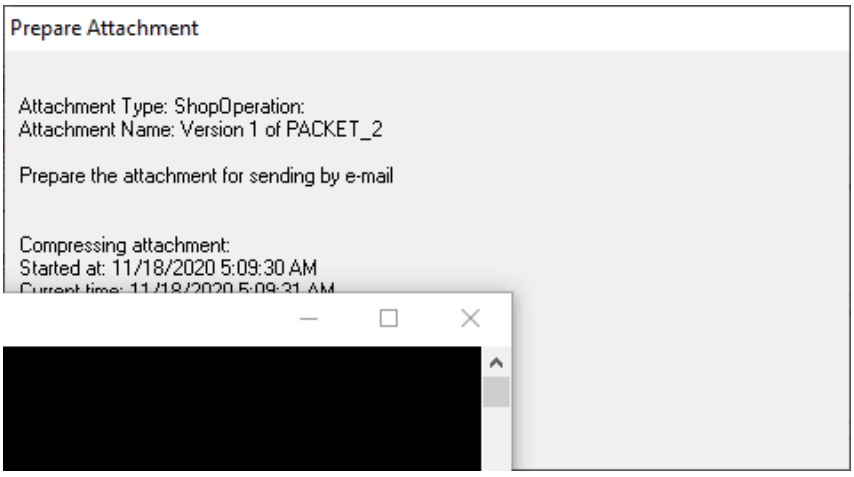
Click on the "E-Mail ShopOperation as Attachment" Icon and the following Window is displayed.

Manage ShopOperations (Selected Sent To & …)



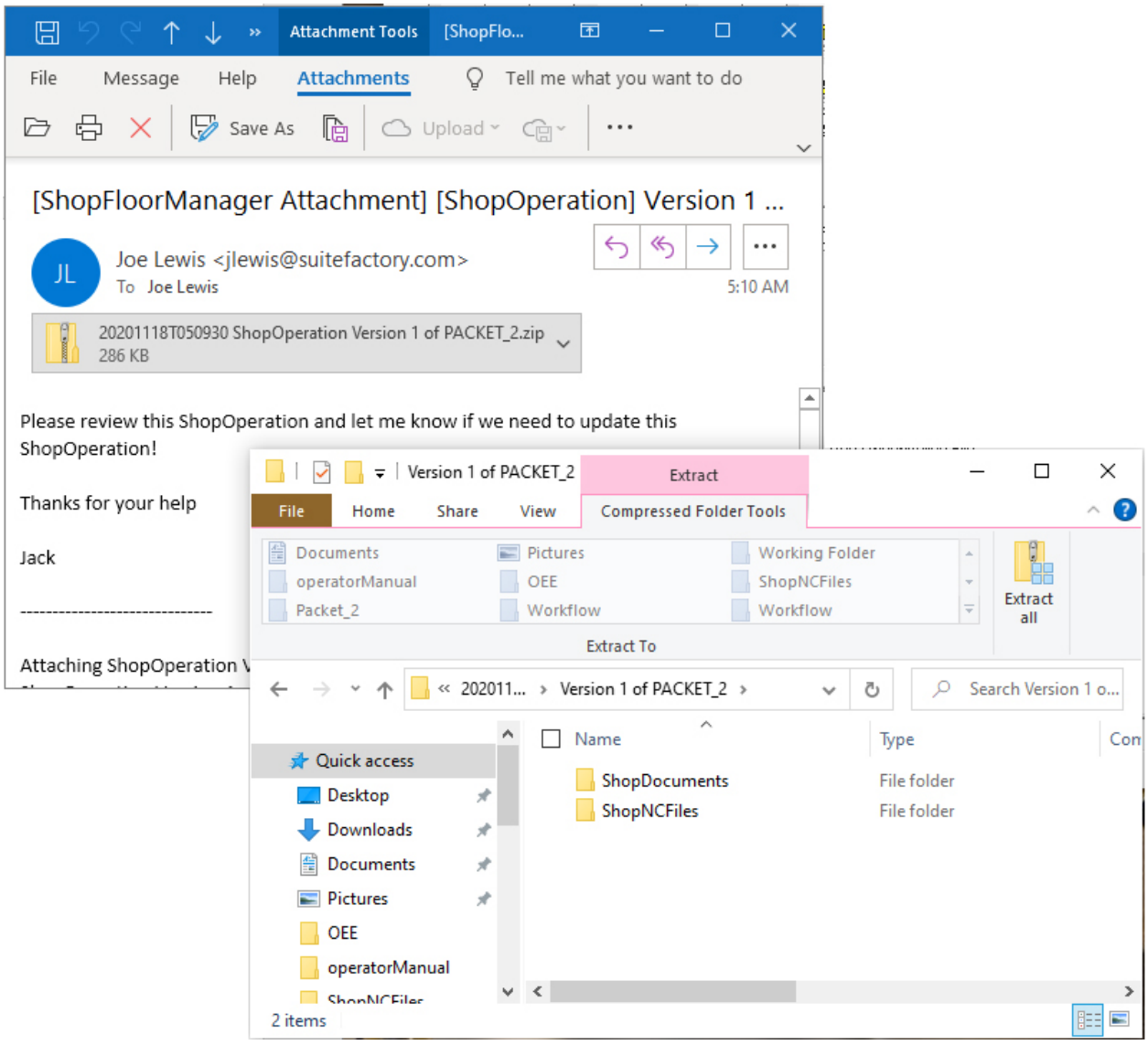
When finished selecting the recipient(s) and adding the Subject Title & Message in the Bottom Window click the Send Icon and the following Window will be displayed.

Manage ShopOperations (Informational)



When this Window disappears, the E-Mail has been sent and received in Outlook. Let's take a look!

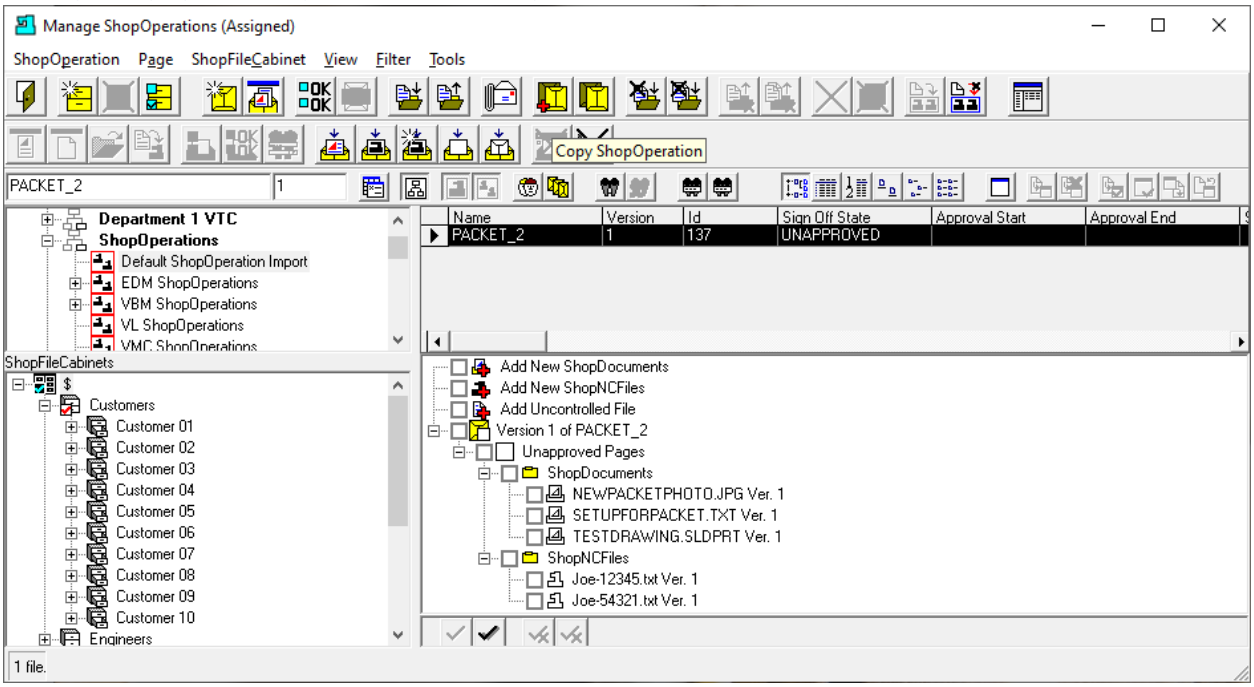
Manage ShopOperations (E-Mail Received in Outlook)



This image was taken from OUTLOOK and as you can see this was received by the recipient.

Close the Email and return to the Manage ShopOperations.

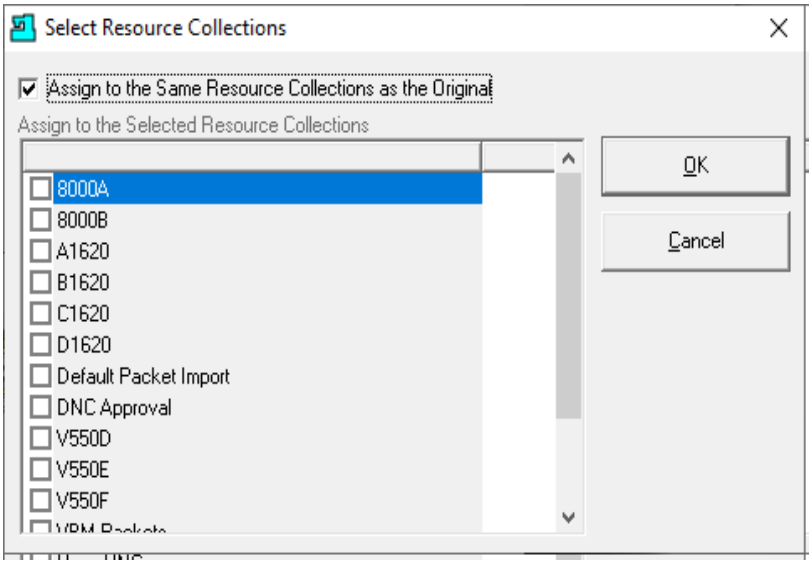
Manage ShopOperations (Copy ShopOperation)



There are times when you may need to create a ShopOperation that is almost the same as an existing ShopOperation! ShopFloorManager allows you to copy and rename an existing ShopOperation.

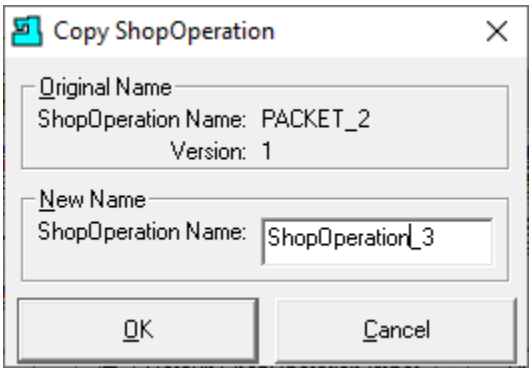
Select a ShopOperation and click on the Copy ShopOperation Icon and the following Window is displayed.

Manage ShopOperations (Assign ShopOperation)



Check the Assign checkboxes and click the OK Button and the Following Window is displayed.

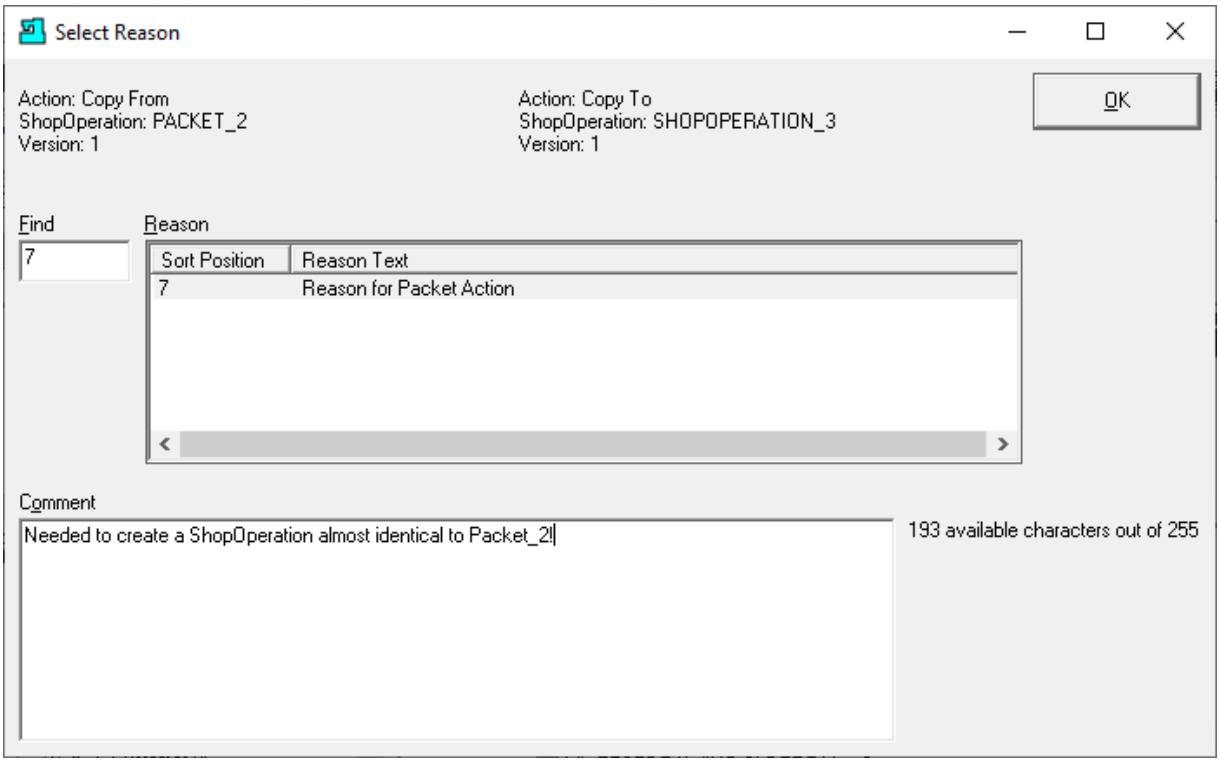
Manage ShopOperations (Rename ShopOperation)



We named the new ShopOperation ShopOperation_3.

Click the OK Button and the following Window is displayed.

Manage ShopOperations (History Change Reason - Copied)



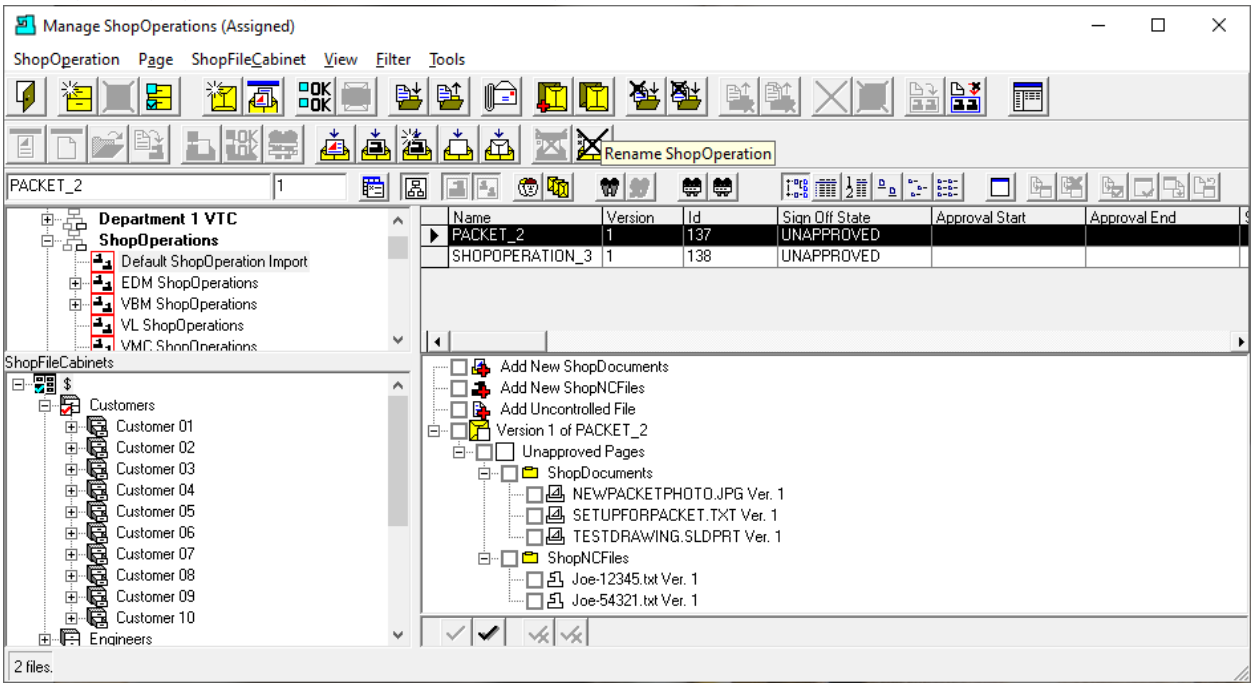
Note: If Enable History Logging and ShopReports was activated and specific Changes & Actions were chosen to be recorded in the History Database the above Form will be displayed.

Select a Reason and write a short Comment regarding of what was changed and click the OK Button.

Note: You don't have do anything but click the OK Button and the History Reason will be saved without any comments.

Let's move on the next section!

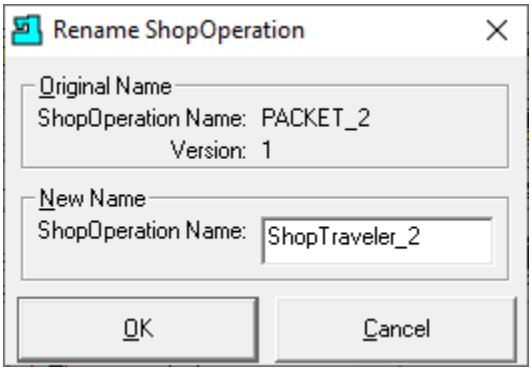
Manage ShopOperations (Copied ShopOperation)



As you can see the ShopOperation Packet_2 was copied and saved as ShopOperation_3. Let's change the name of ShopOperation Packet_2 to ShopOperation_2!

Click on the Rename ShopOperation Icon and the following Window is displayed.

Manage ShopOperations (Rename ShopOperation Packet_2)

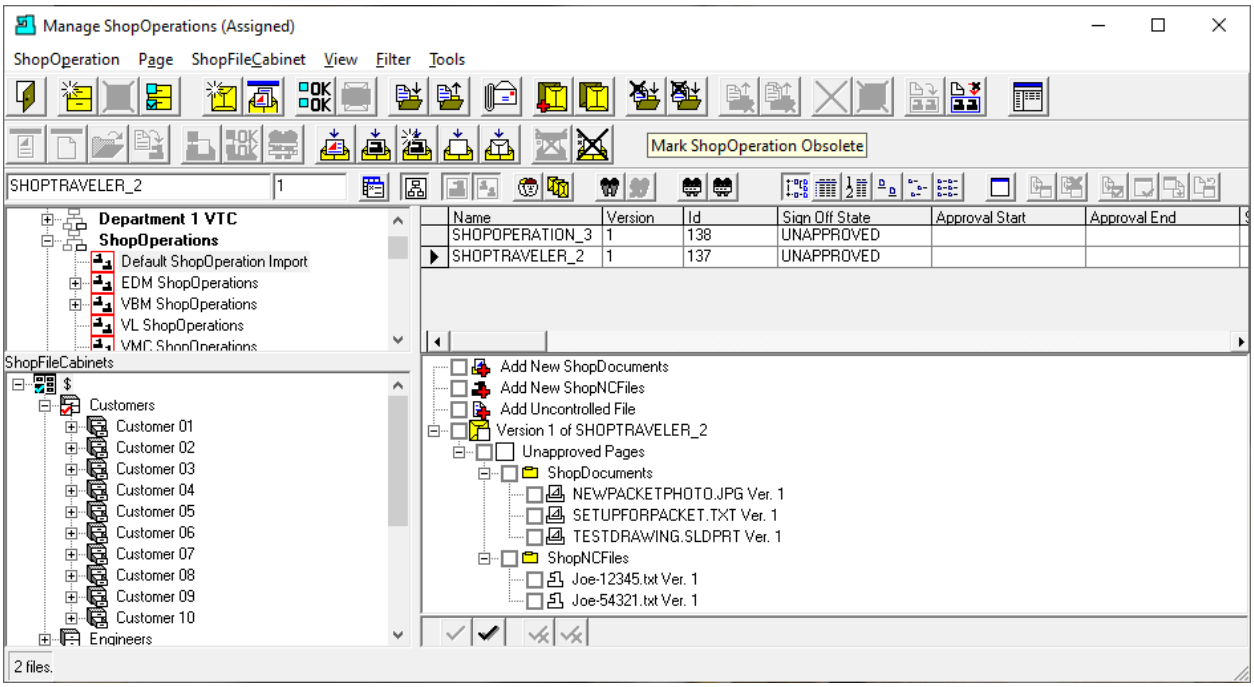


We have renamed the ShopOperation to ShopTraveler_2.

Click the OK Button and the following Window is displayed.

Note: All of these changes are recorded in the History for use in ISO Audits!

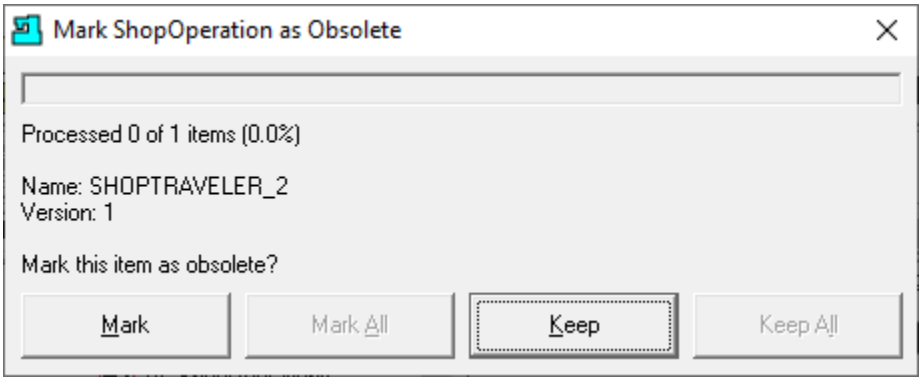
Manage ShopOperations (Renamed to ShopTraveler_2)



As you can see the Name of the ShopOperation Packet_2 has been Changed to SHOPTRAVELER_2!

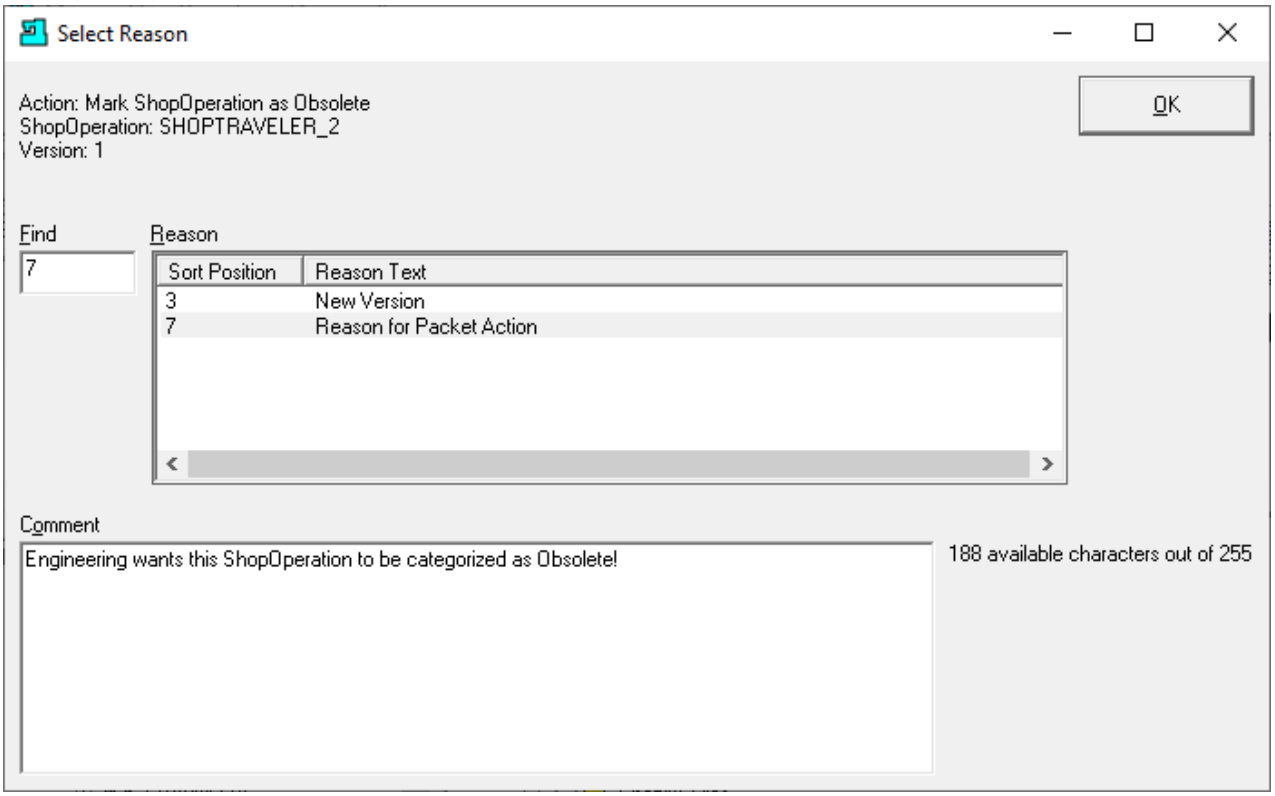
Next let's Mark this ShopOperation as Obsolete! Select the ShopOperation SHOPTRAVELER_2 and click on the "Mark ShopOperation Obsolete" Icon. The following Window will be displayed.

Manage ShopOperations (Mark ShopOperation Obsolete)



Click the Mark Button and the following Window is displayed.

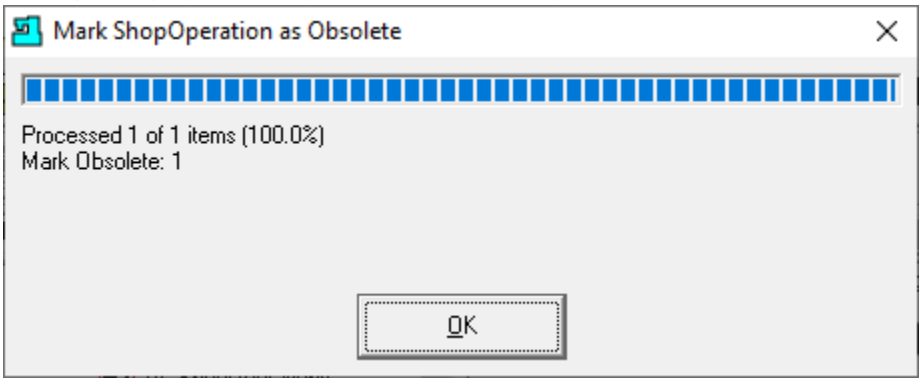
Manage ShopOperations (History Change Reason - Obsolete)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

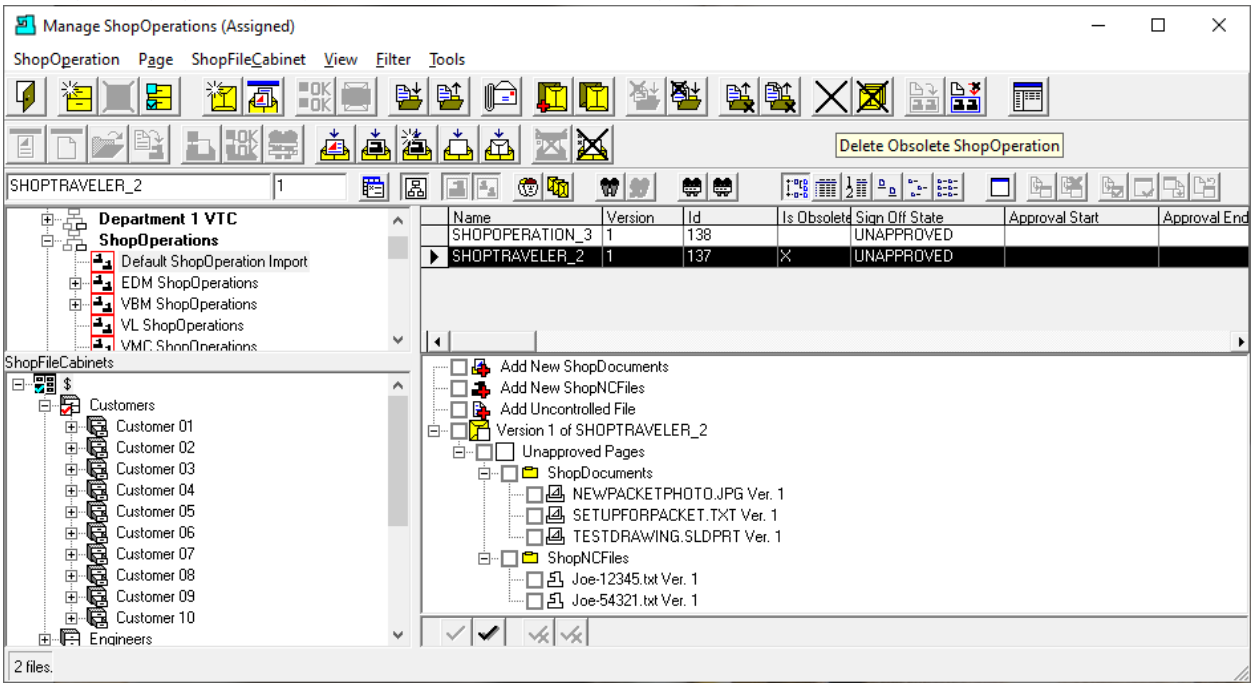
Note: You don't have do anything but click the OK Button and the History Reason will be saved without any comments.

Manage ShopOperations (Informational Window)



Click the OK Button and the following Window is displayed.

Manage ShopOperations (ShopOperation Marked Obsolete)

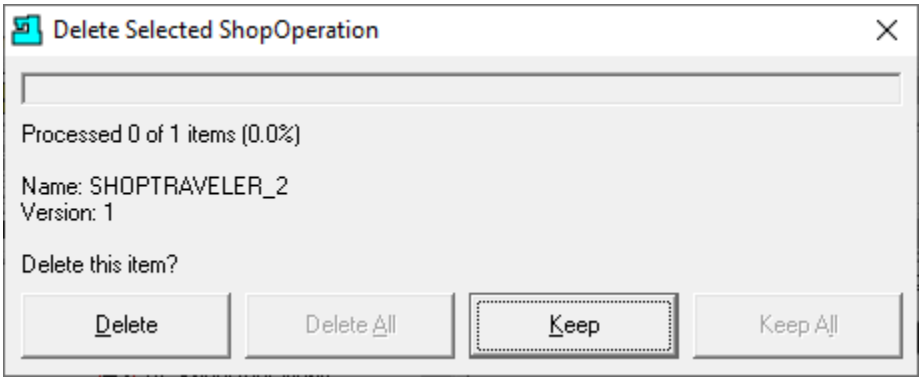


You can see that the ShopOperation has been marked Obsolete.

Next let's delete ShopOperation SHOPTRAVELER_2.

Click on the "Deleted Obsolete ShopOperation" Icon and the following Window is displayed.

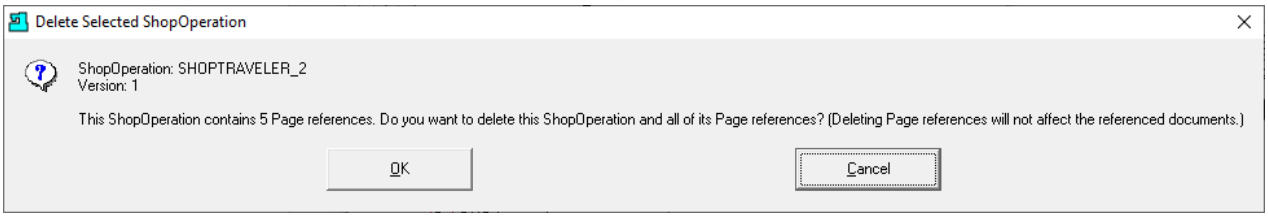
Manage ShopOperations (Delete Obsolete ShopOperation)



Click the Delete Button and the following Window is displayed.

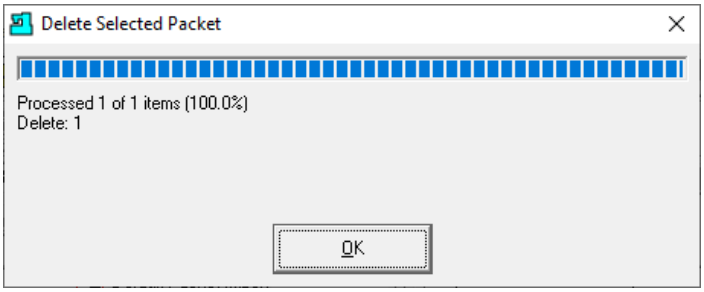
Note: Any ShopNCFiles, ShopDocuments, Uncontrolled Documents & Sub-ShopOperations contained in thes ShopOperation SHOPTRAVELER_2 are not deleleted from ShopFloorManager!

Manage ShopOperations (Informational and a Warning)



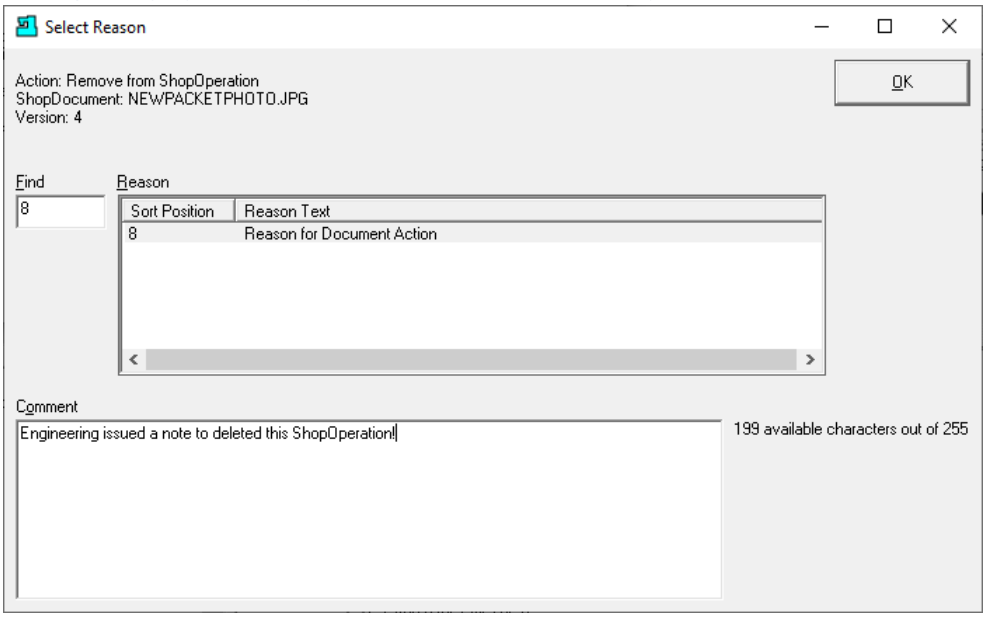
Click the OK Button and the Following Window will be displayed.

Manage ShopOperations (Informational)



Click the OK Button and the following Window will be displayed.

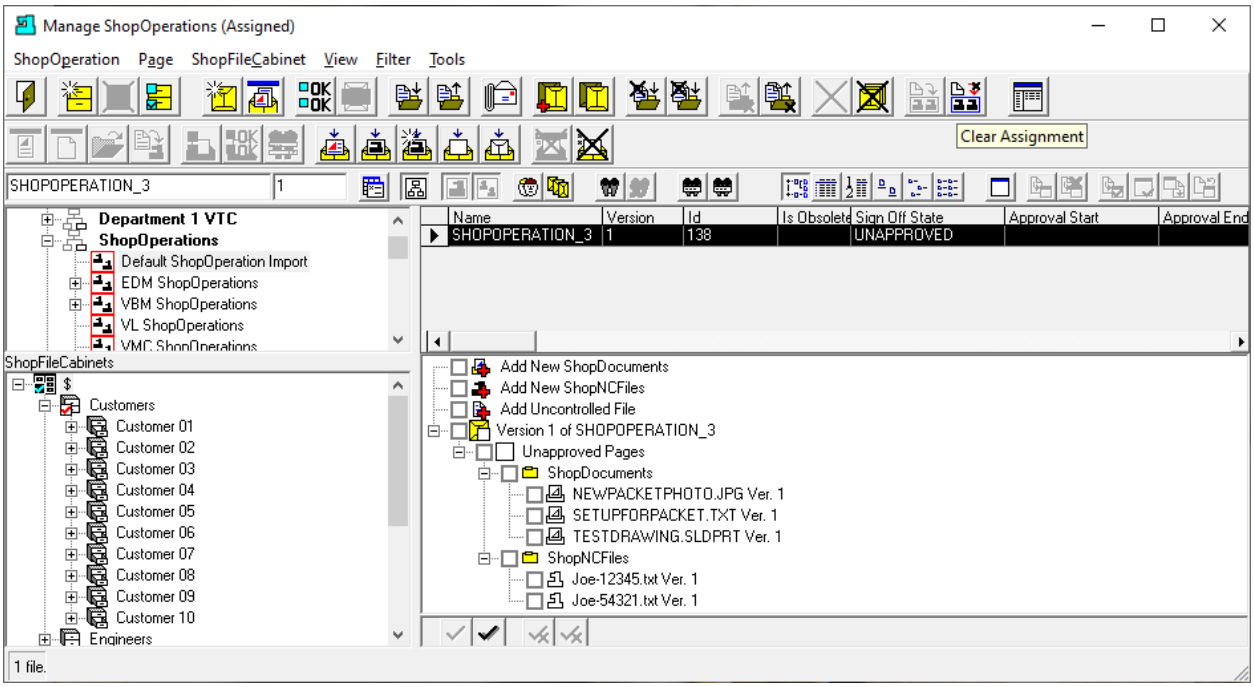
Manage ShopOperations (History Change Reason - Delete)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

Note: You don't have do anything but click the OK Button and the History Reason will be saved without any comments.

Manage ShopOperations (Clear Assignment)



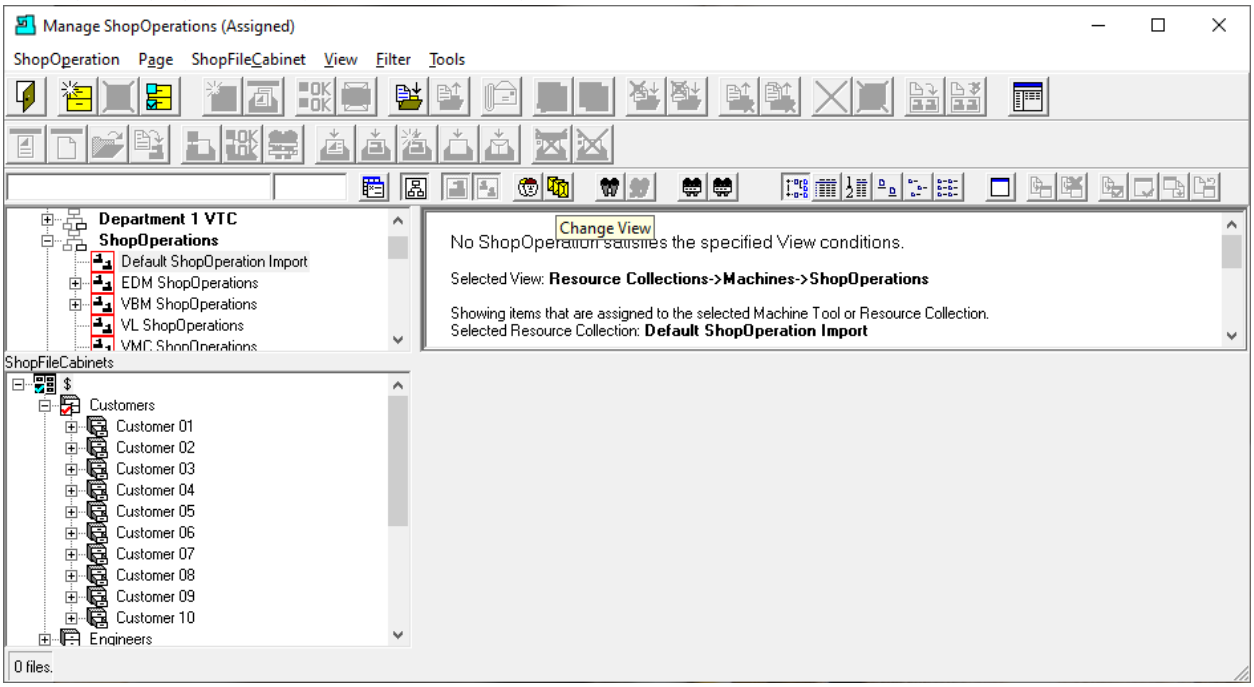
As you can see the ShopOperation SHOPOPERATION_2 has been deleted.

Next let's Clear the Assignment of ShopOperation SHOPOPERATION_3 associated with the Resource Collection "Default ShopOperartion Import".

Select the Resource Collection "Default ShopOperartion Import", the Root $ ShopFileCabinet and the ShopOperation SHOPOPERATION_3 and click the "Clear Assignment" Icon and the following Window will be displayed.

Note: Remember that a ShopOperation can't be used in Production if it's not assigned to a Resource Collection.

Manage ShopOperations (Cleared Assignment)



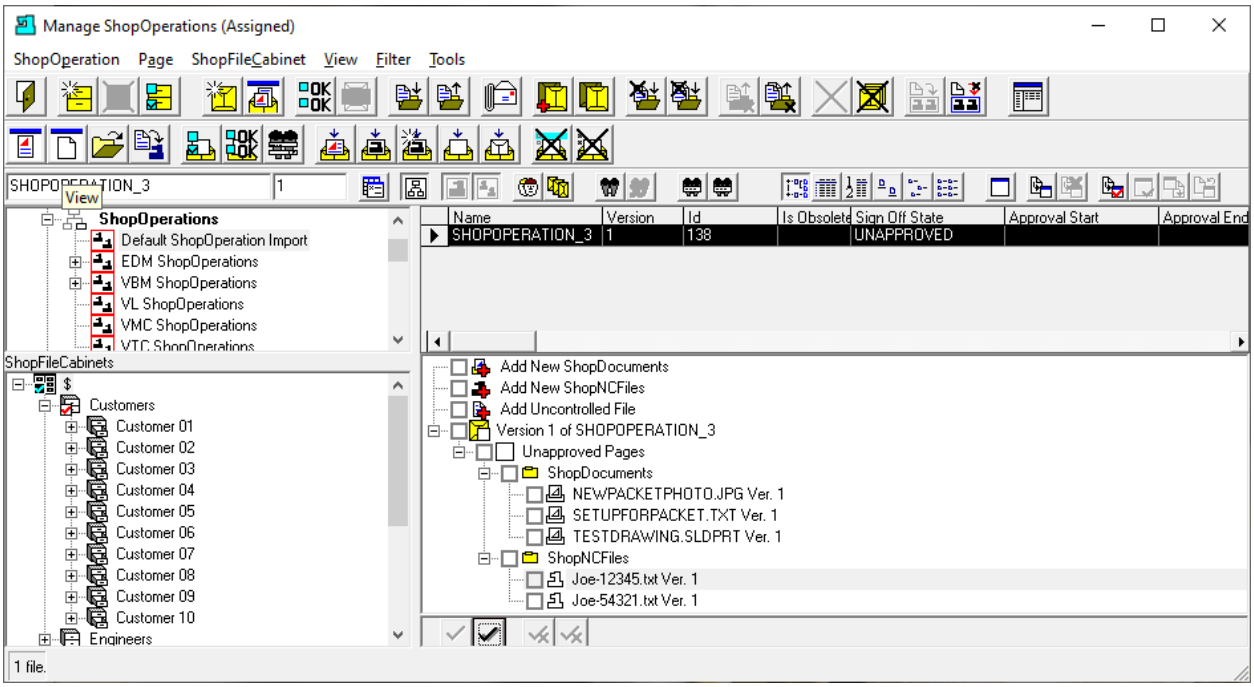
As you can see the ShopOperation “ShopOperation_3” is not displayed when the Resource Collection “Default ShopOperation Import” is highlighted as this Window only displays ShopOperations assigned to highlighted Resource Collections!

You could click on the Change View Icon and change the option Assigned to Not Aassigned and you would see all ShopOperations Not Assigned to the “Default ShopOperation Import” (if highlighted)!

We will re-assign this ShopOperation SHOPOPERATION_3 to the Resource Collection “Default ShopOperation Import” for the following demonstrations!

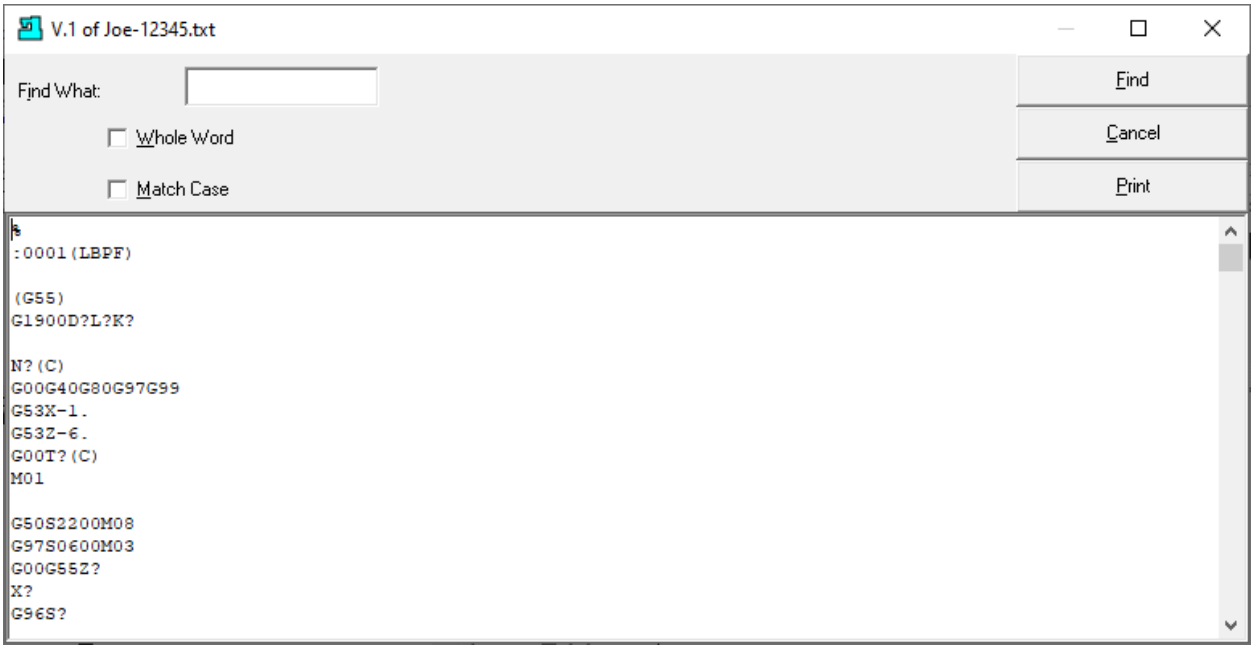
After re-assigning see the following Window.

Manage ShopOperations (ShopOperation Page Displayed - Joe-12345.text Ver. 3)



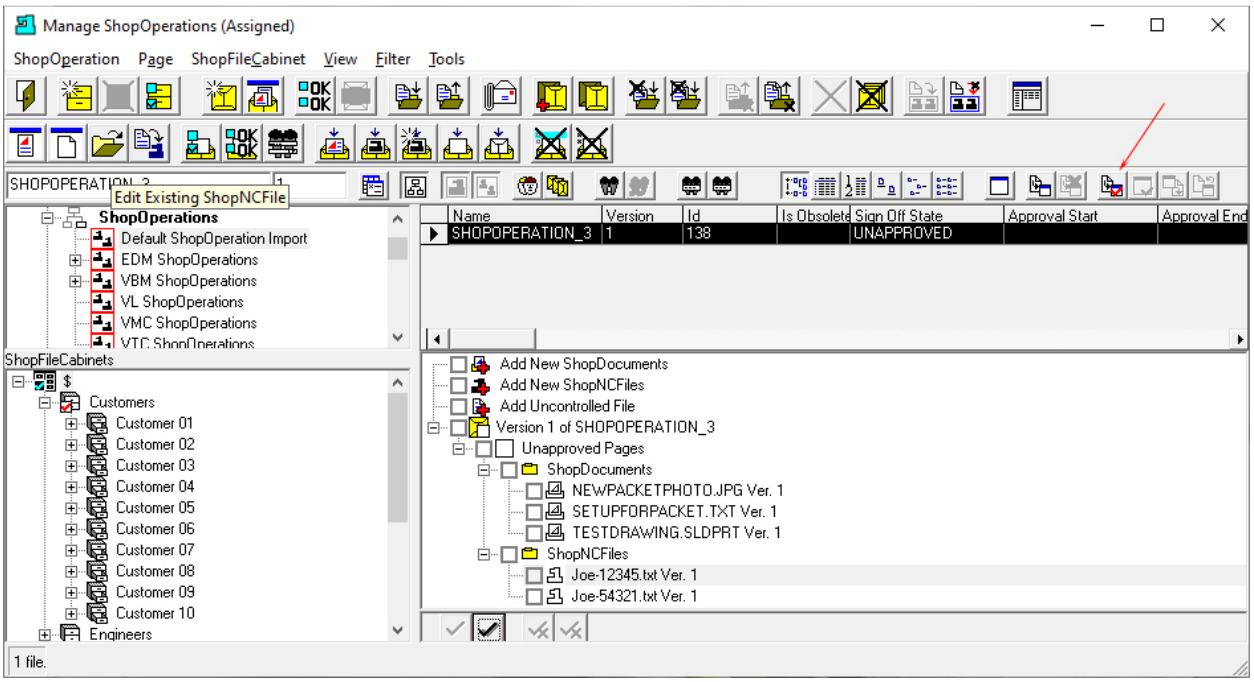
Highlight the ShopNCFile Joe-12345.text Ver. 3 and click on the View Icon and the following Window will be displayed using ShopFloorManager's Viewer.

Manage ShopOperations (ShopOperation Joe-12345.text Ver. 3 Page Displayed using ShopFloorManager Viewer)



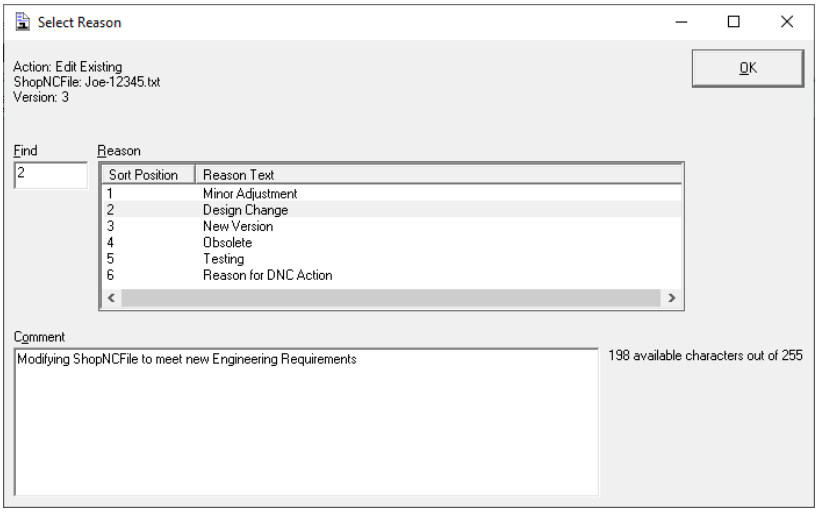
Click the Cancel Botton and the following Window will be displayed.

Manage ShopOperations (Select Edit Exiting ShopNCFile - Joe-12345.text Ver. 3)



Highlight the file you want to edit and click the "Edit Existing ShopNCFile" Icon and the following Window will be displayed. You could also choose a Third-Party Editor! Click on the Icon pointed to by the **Red Arrow**!

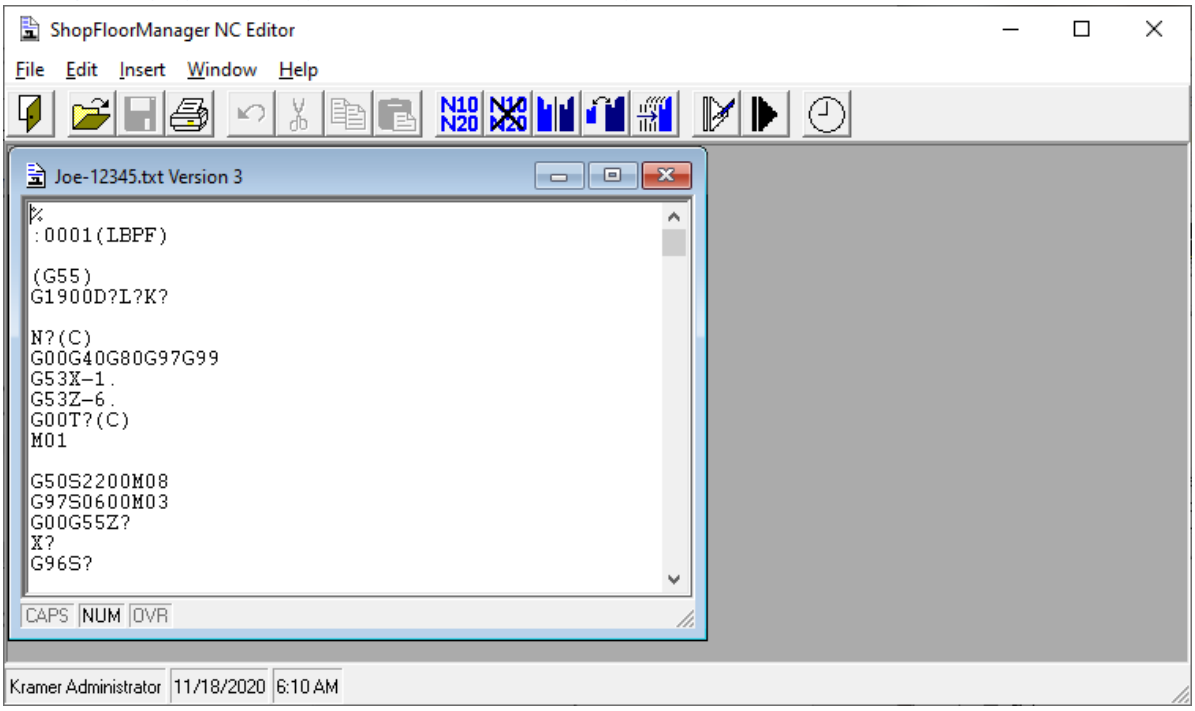
Manage ShopOperations (Select Reason & Comment)



If Enable History Logging and ShopReports was activated and specific Changes & Actions chosen to be recorded the Form above will be displayed. Select a Reason and write a short Comment and click the OK Button.

This Event is still recorded in the database. Click the OK Button and the following Window is displayed.

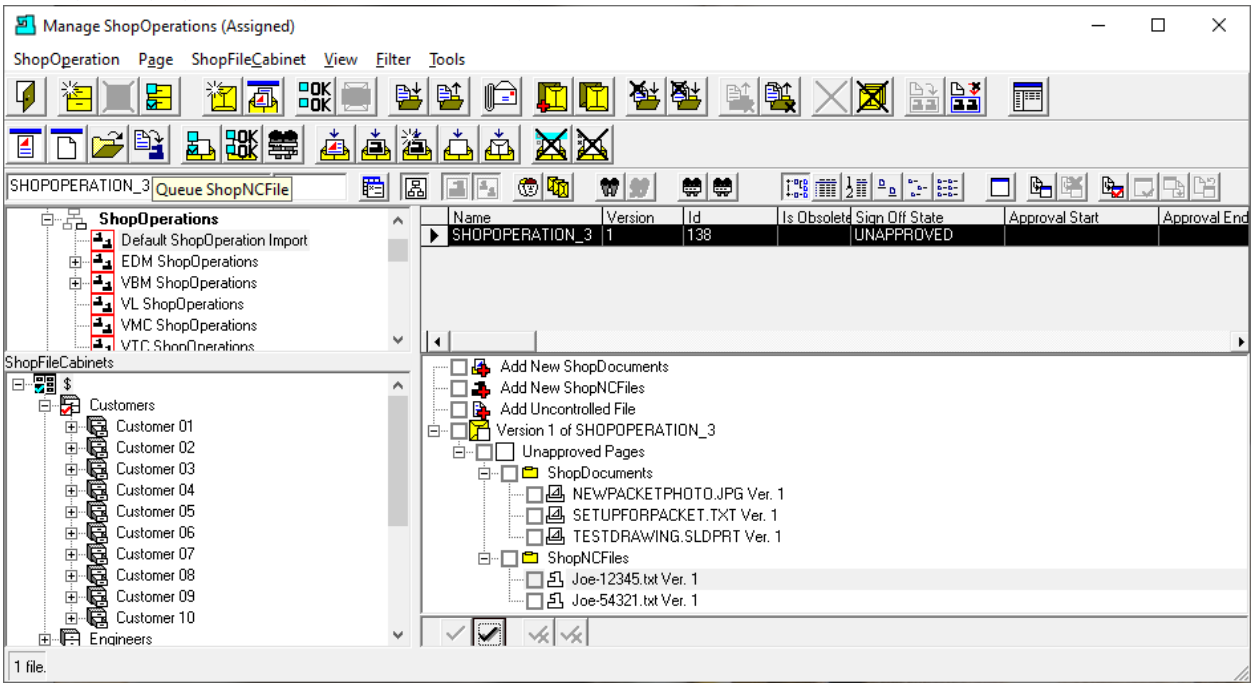
Manage ShopOperations (ShopFloorManager NC Editor)



You can goto the section NC Editor for details on using ShopFloorManager's File Editor.

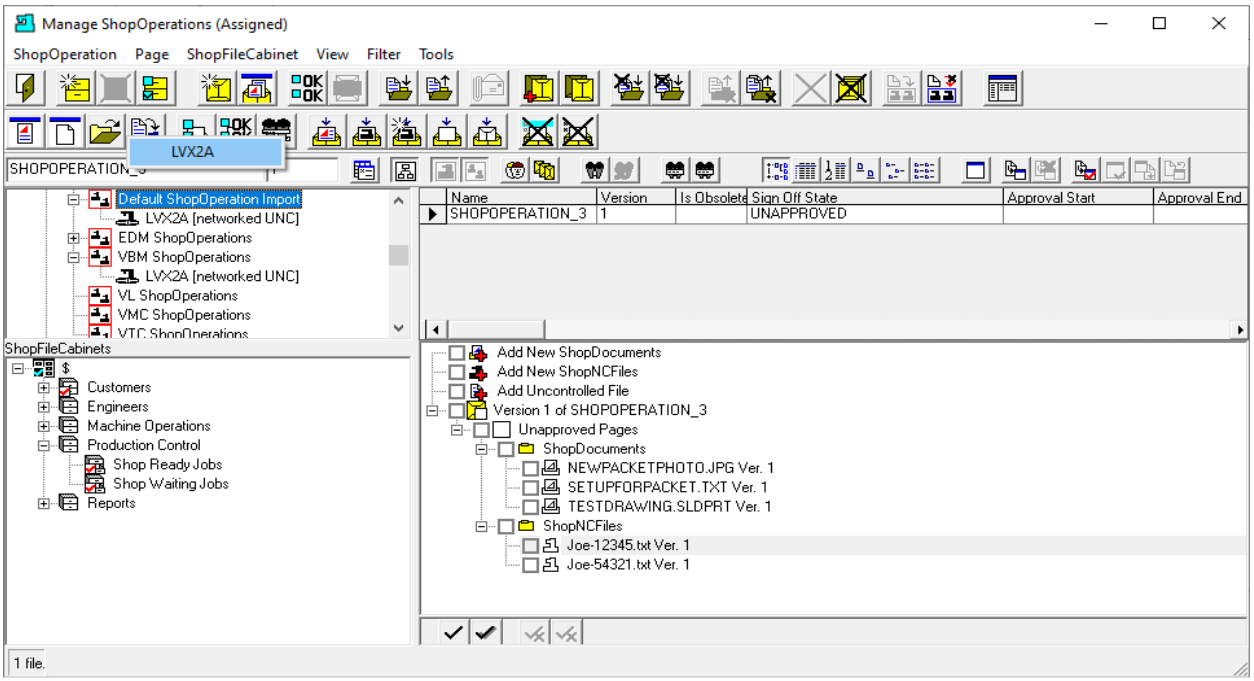
When finished save any changes and we are returned to the previous Window.

Manage ShopOperations (Select File to Queue)



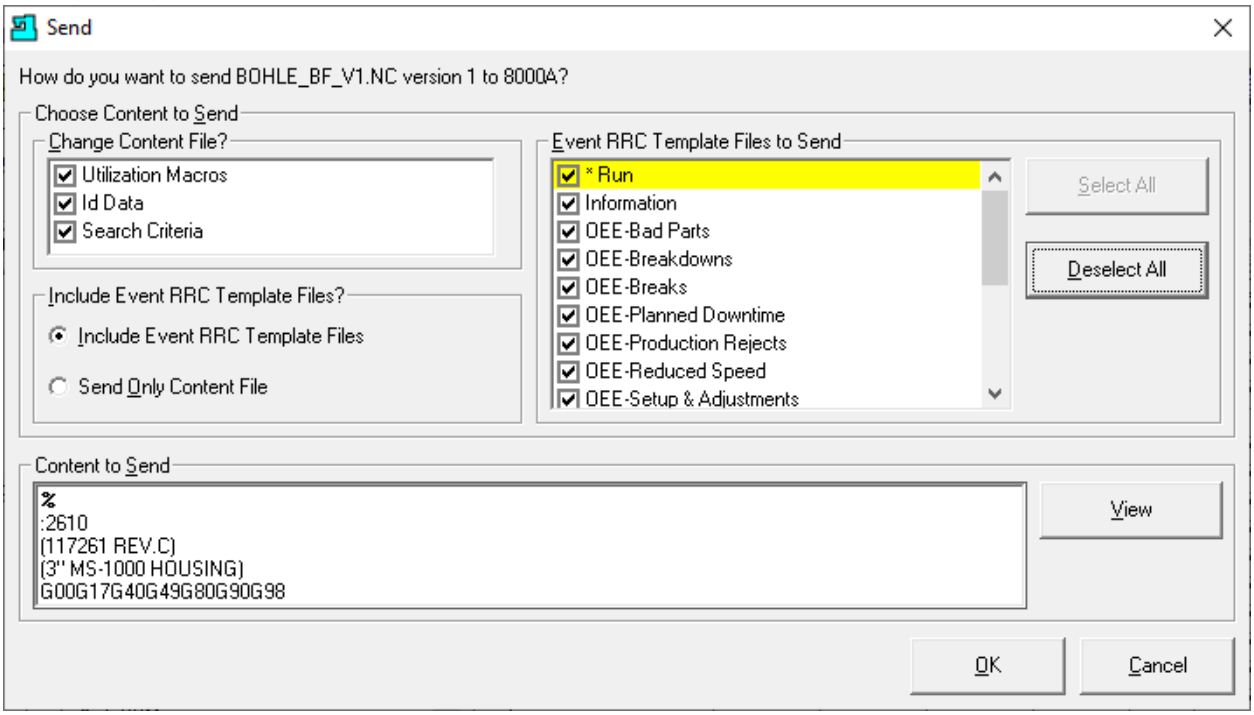
Next we will look at selecting a File to downoad to a Machine Tool contained in a ShopOperation! Select the ShopNCFile and click the "Queue ShopNCFile" Icon and the following Window will be displayed.

Manage ShopOperations (Resource Collection Name displayed)



Click on the LVX2A displayed Machine Tool and the following Window will be displayed.

Manage ShopOperations (Queue ShopNCFile Window)

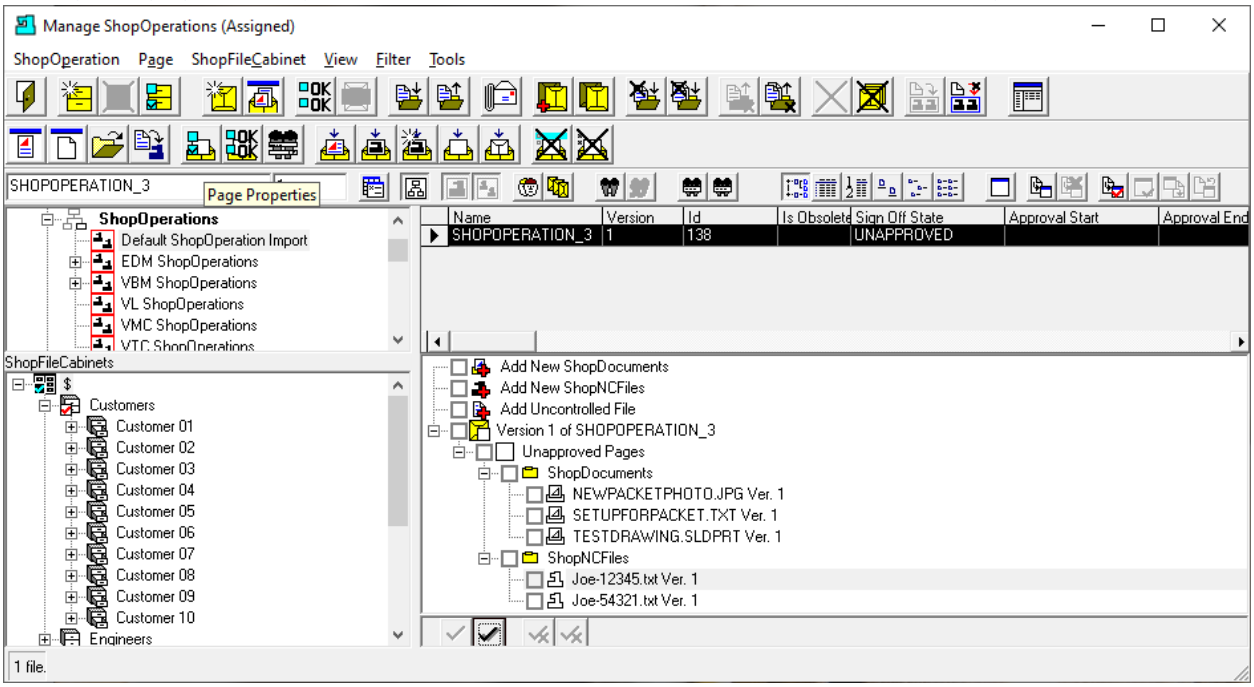


This is the Queue Form for UNC Machines!

Click here to see how to use this Queue Window as described in another Section of this Manual for RS232 CNCs. When finished close this Window and we will be returned to the previous Window.

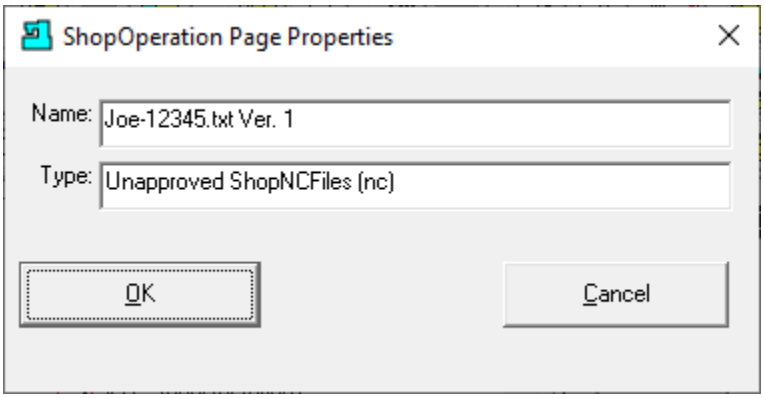
Note: This form would be expanded if this were a RS232 based Machine! Click the above link for details.

Manage ShopOperations (Page Properties on highlighted ShopNCFile - joe-12345.txt Ver. 1)



You can check and change the Page Properties in the ShopOperation View depending on your “Rights”. Click on the Page Properties Icon and the following Window is displayed.

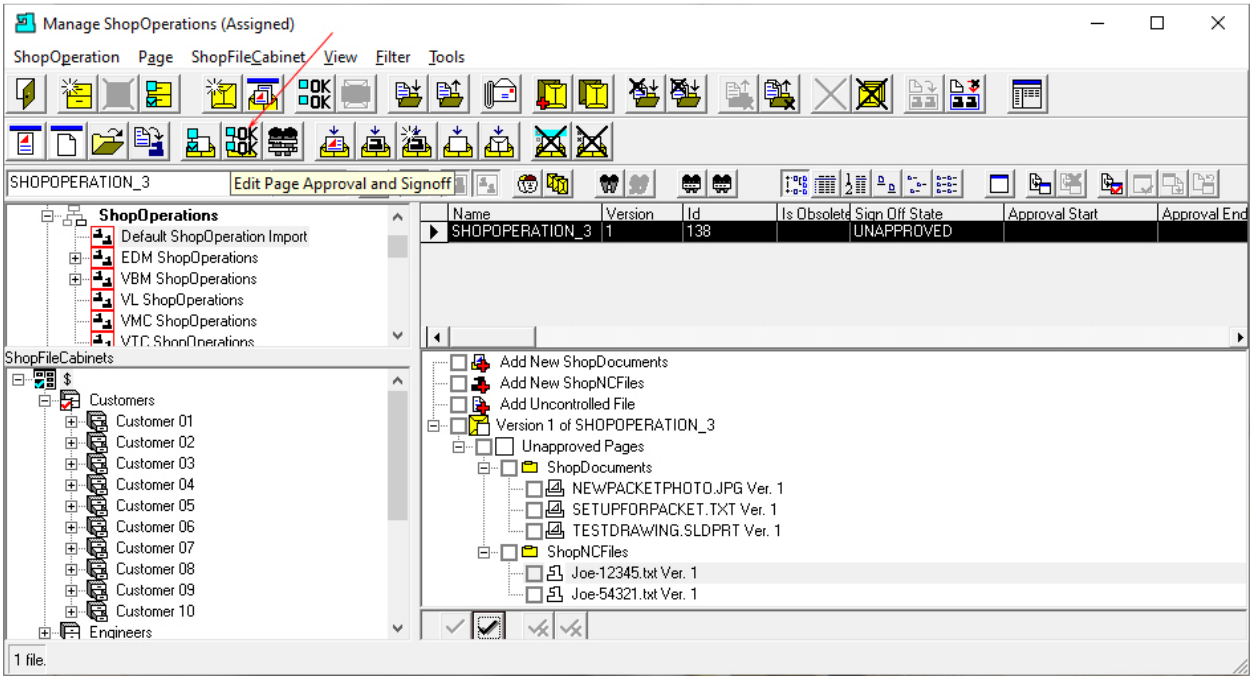
Manage ShopOperations (Choose how a page is displayed)



Note: The above form is abbreviated. Click this link for more details!

Click the OK Button and the following Window is displayed.

Manage ShopOperations (Edit Page Approval and Signoff ShopNCFile - joe-12345.txt Ver. 3)



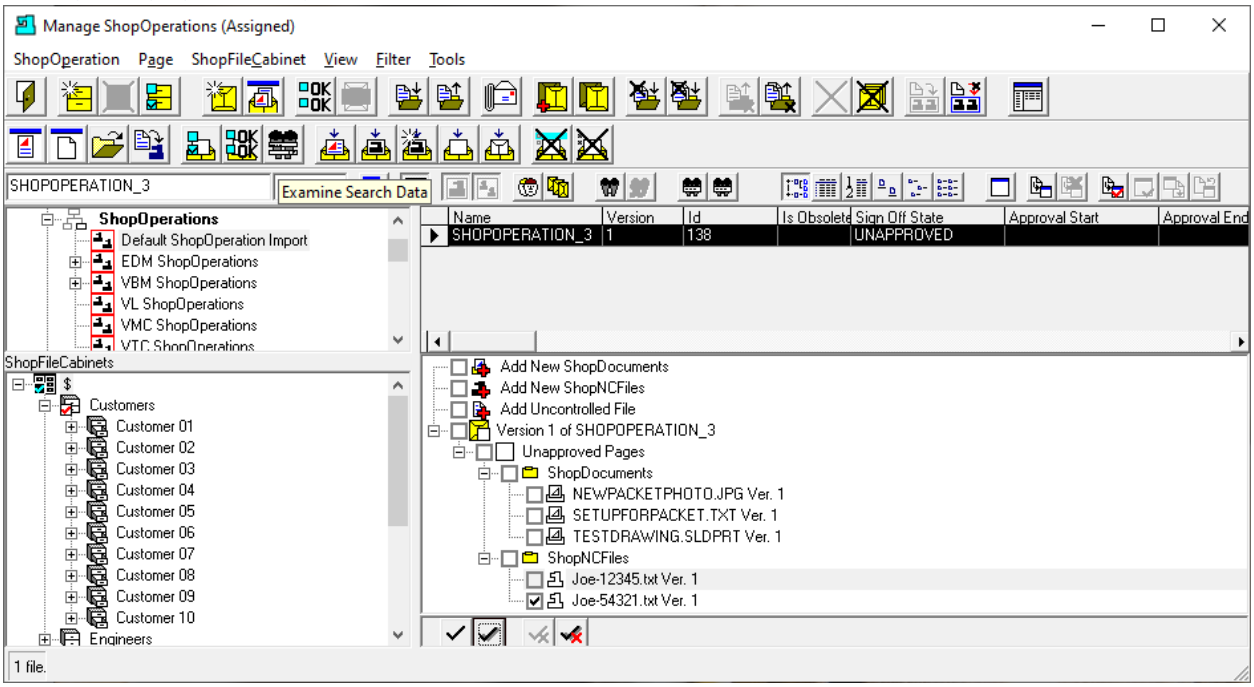
ShopFloorManager allows you to select the Approval Method for a ShopNCFile or ShopDocument from within the ShopOperation Window. To demonstrate we have selected the ShopNCFile “Joe-12345.txt Ver. 1”. To select the Approval Method, click on the “Edit Page Approval and Signoff” Icon. See the **Red Arrow**.

We will not select the Approval Method at this time. This is handled in another section in the Manual.

Click here to see how to select and use Approve a ShopNCFile.

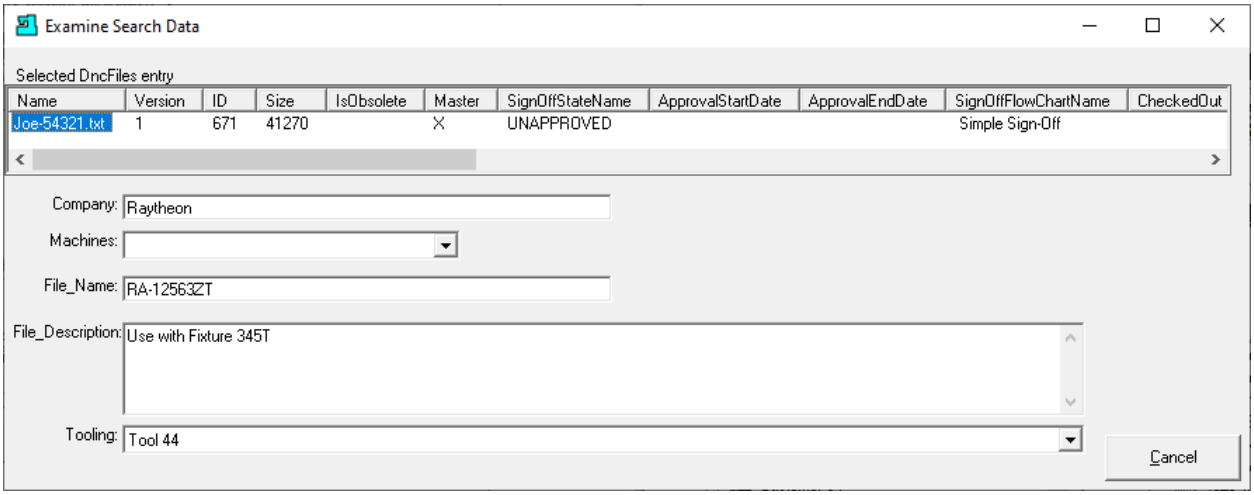
Let’s continue on!

Manage ShopOperations (Examine Search Data ShopNCFile - joe-12345_2.txt Ver. 1)



One of the Features ShopFloorManager provides is for creating Search Keys that allow Users to search for ShopNCFiles based on data that has been saved in these Search Key Fields. These Search Keys are also used to aid & provide information about this particular highlighted ShopNCFile! Click the “Examine Search Data” Icon.

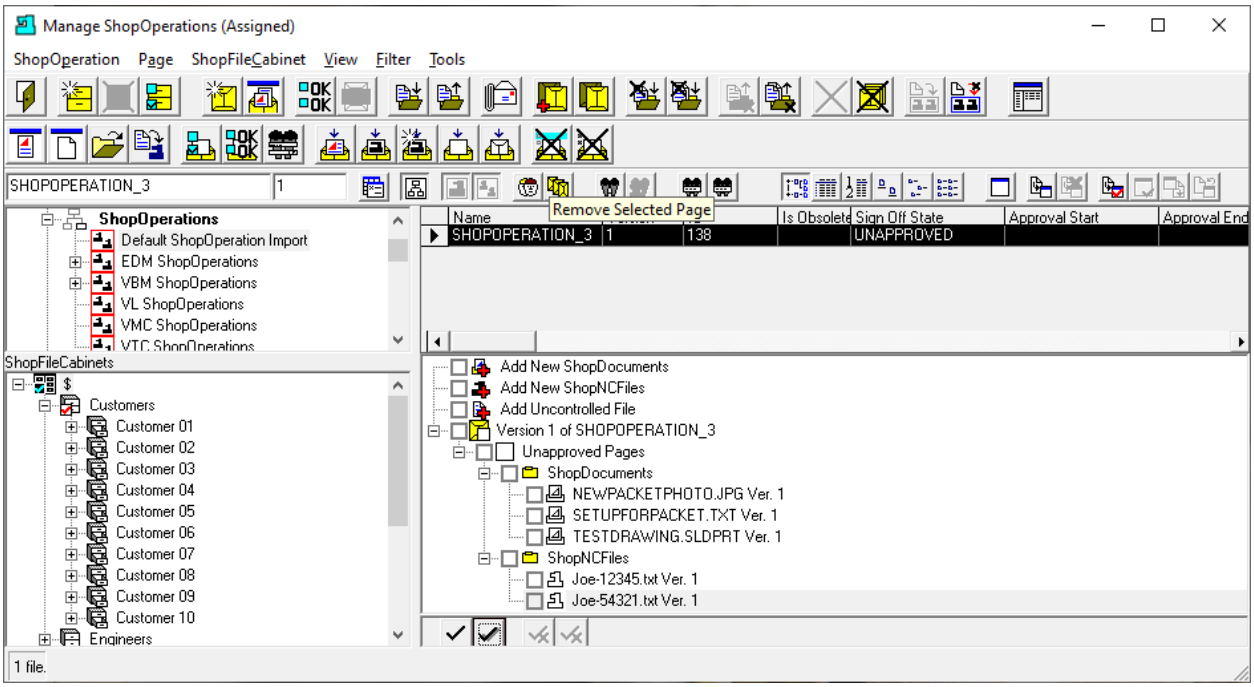
Manage ShopOperations (Search Data displayed for ShopNCFile Joe-12345_2.txt)



This information can be used with the Search Engine if you are searching for a particular “Key” value! Using a Key Value with the Search Engine allows you to quickly locate all the associated ShopNCFiles no matter how many ShopNCFiles there are.

When finished Click the Cancel Button and the following Window is displayed.

Manage ShopOperations (Remove Selected Page)



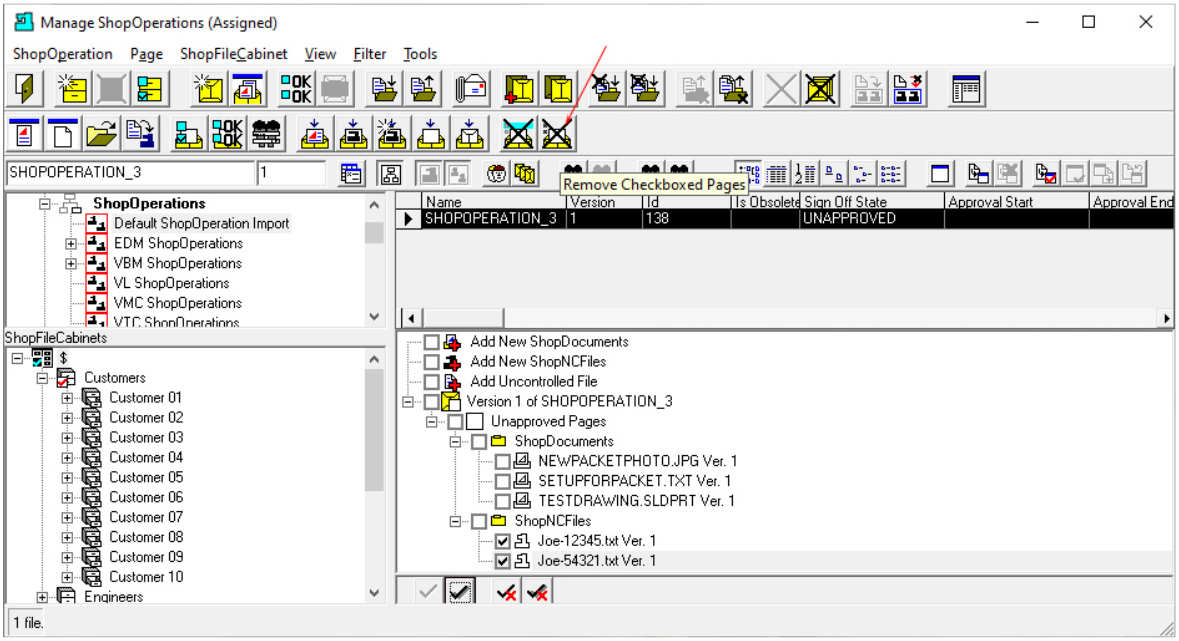
If you want to remove the highlighted ShopNCFile from the ShopOperation (This will not delete the ShopNCFile from ShopFloorManager), click on the “Remove Selected Page” Icon (***Red Arrow***) and that Page (ShopNCFile) will be removed.

Note: If a ShopOperation has been fully Approved you will need to Unapprove it before you allowed to remove any Page!

For this demonstration we will not remove this ShopNCFile!

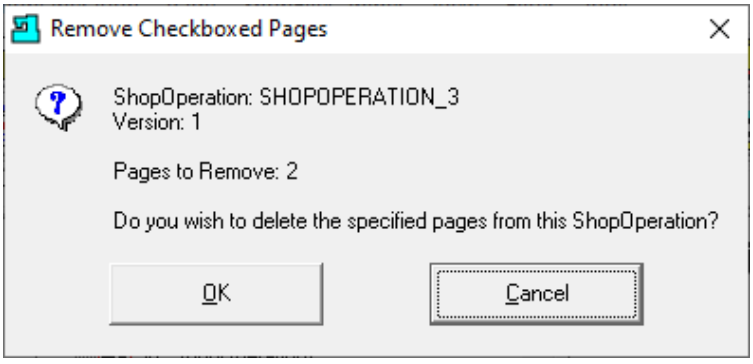
See the next Window!

Manage ShopOperations (Remove Checkboxed Pages)



By placing Check Marks next to any ShopNCFiles, ShopDocuments, Uncontrolled Documents & ShopOperations & clicking the “Remove Checkboxed Pages” (**red** arrow) Icon the displays following Window! This procedure will not deleted any files from ShopFloorManager it will just remove these from the ShopOperation!

Manage ShopOperations (Removing Pages for selected ShopNCFiles & ShopDocuments)



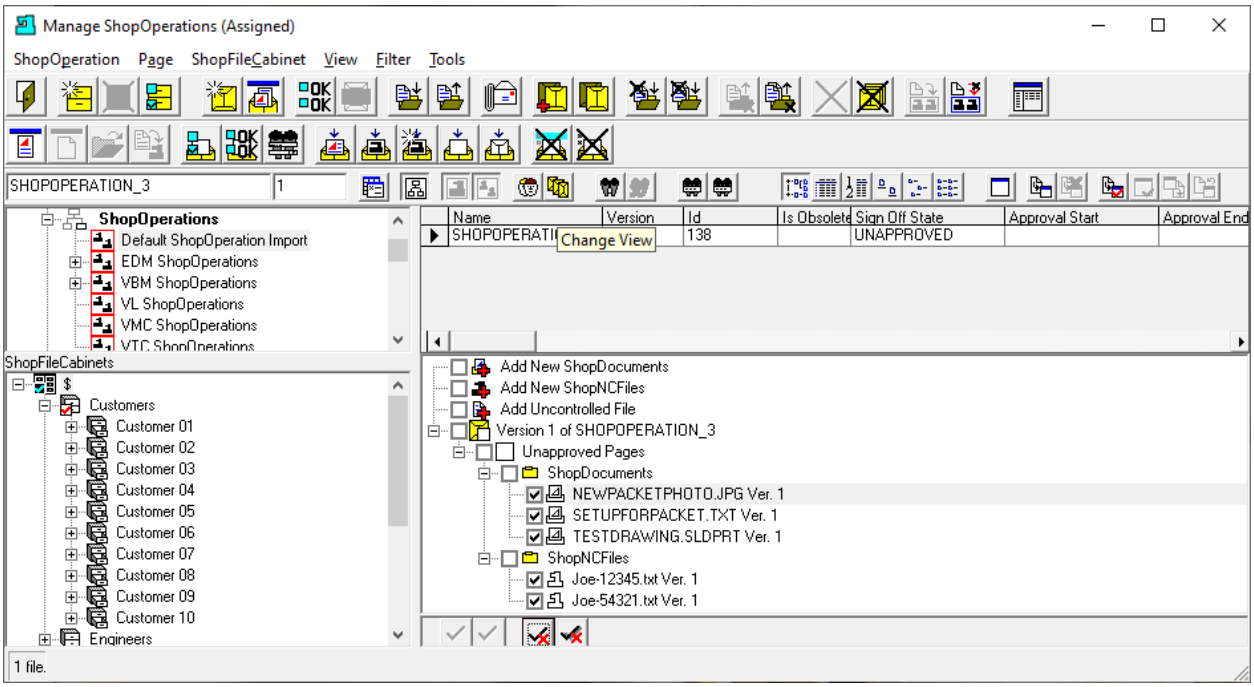
We will not remove these ShopNCFiles, ShopDocuments, Uncontrolled Document & Shop Operations in this demonstration!

Click the Cancel Button.

Note: Any Features (**Blue** outlined above) not demonstrated in ShopOperations has been or will be demonstrated in other sections of the Manual. Remember that using “Remove Checkboxed Pages” doesn’t delete them for ShopFloorManager!

See the next Window!

Manage ShopOperations (Change View)

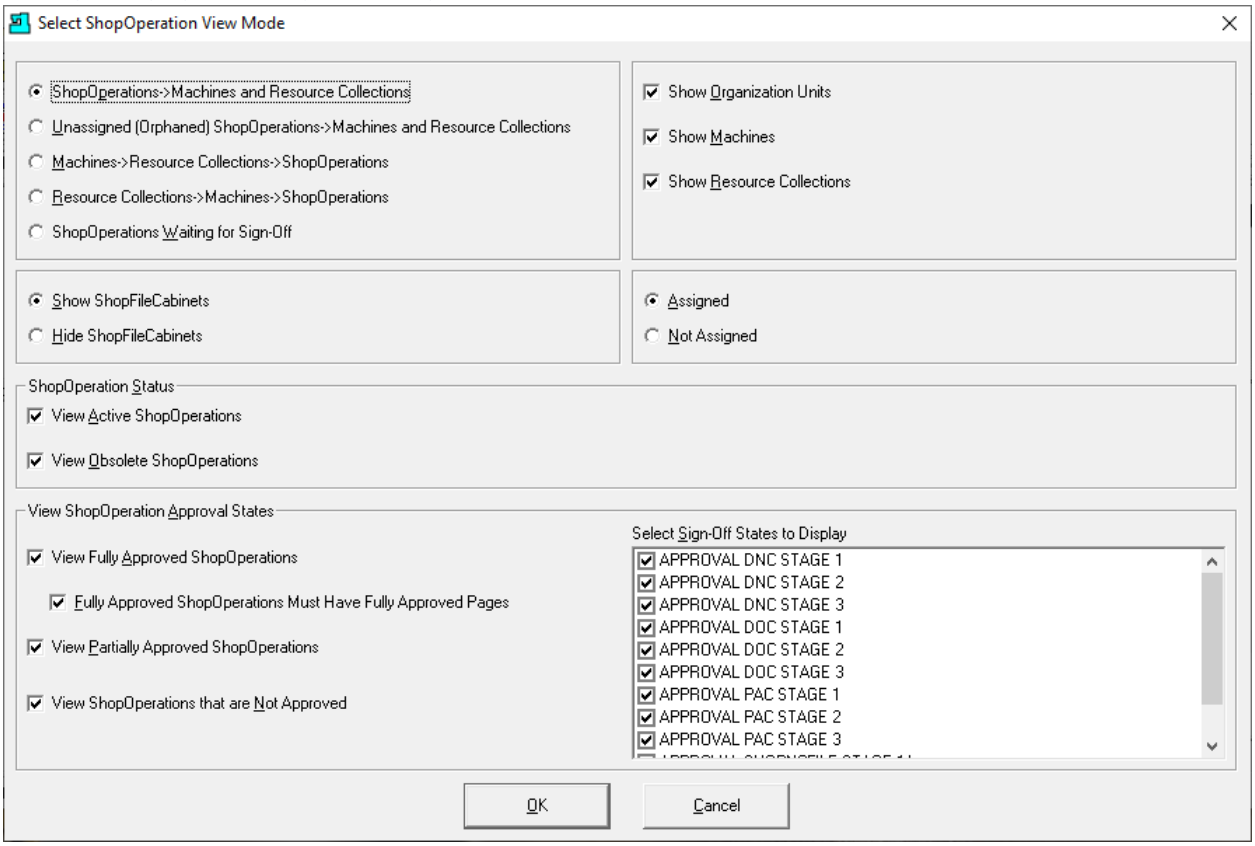


Next, we will be demonstrating how ShopOperation Job 5 is used as a Traveler on the Shopfloor. A well-constructed Traveler will contain all the information needed for Operators to perform their Job no matter how complex.

This Traveler can act as a stand-alone Process for completing part(s) from start to finish!

Let's change the present View to one that is better for this process. Click the Change View Icon and the following Window will be displayed.

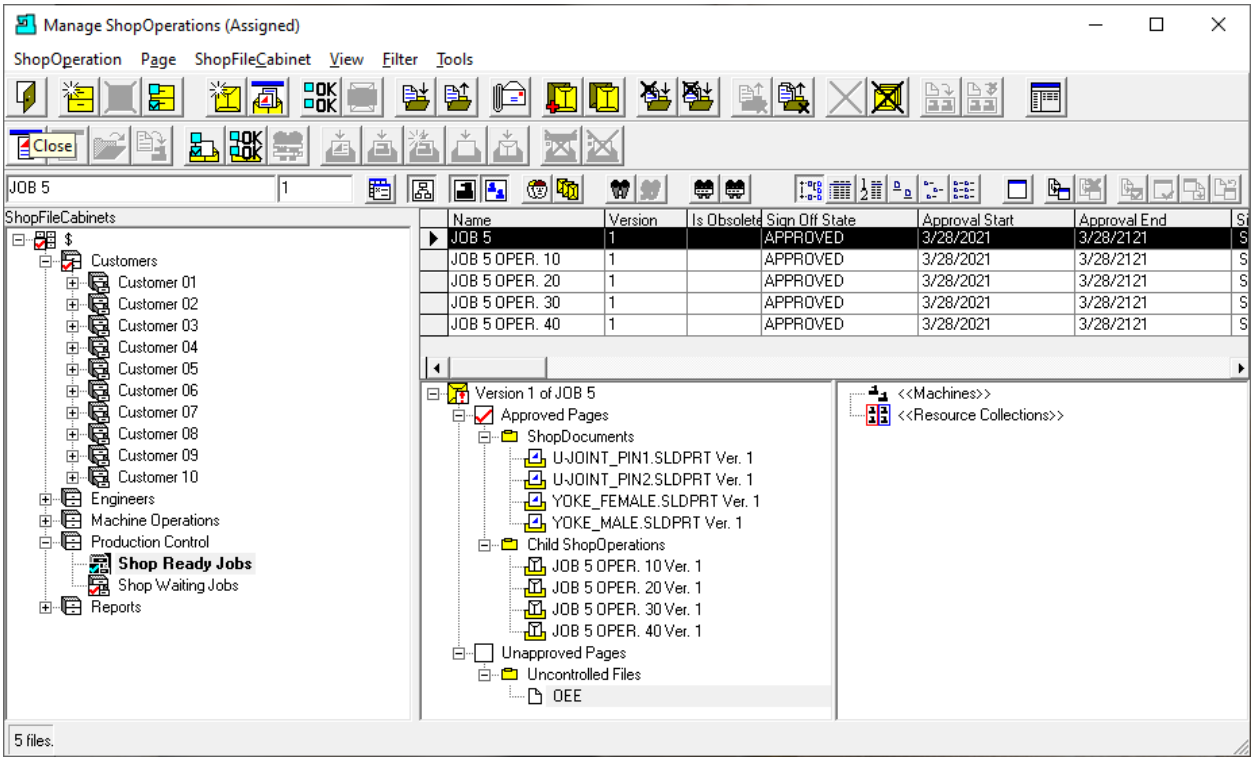
Manage ShopOperations (View Mode)



Change the existing settings to those shown above.

Click the OK Button and the following Window will be displayed.

Manage ShopOperations (ShopOperation used as a Traveler Job 5)



For this demonstration we have selected the “Shop Ready Jobs” ShopFileCabinet and the Traveler ShopOperation “Job 5”.

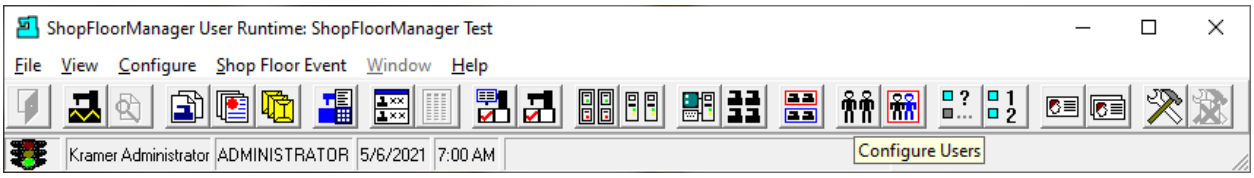
We have chosen the present View since it displays the various Elements of ShopFloorManager’s used in this and most Travelers!

There are other Features (“Rights”) which can be Activated that expand the capabilities of Travelers!

Let’s look at the User Group “VBM” as it represents the typical User Groups that supply the “Rights” for this Traveler’s Sub-ShopOperations.

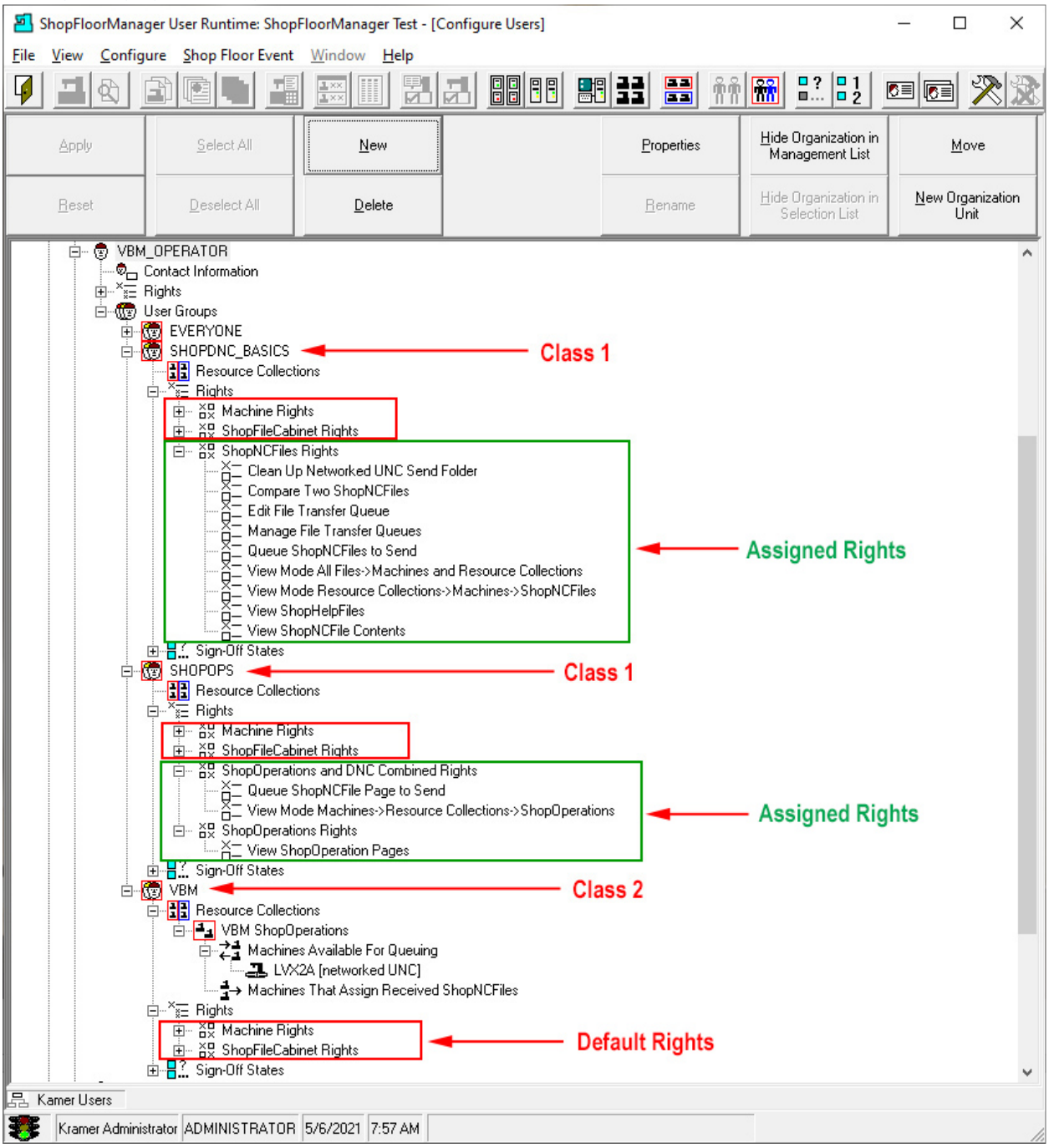
Click the Close Icon and the following Window is displayed.

Manage ShopOperations (Runtime – Configure Users “VBM_OPERATOR”)



Click the “Configure Users” Icon and the following Window is displayed.

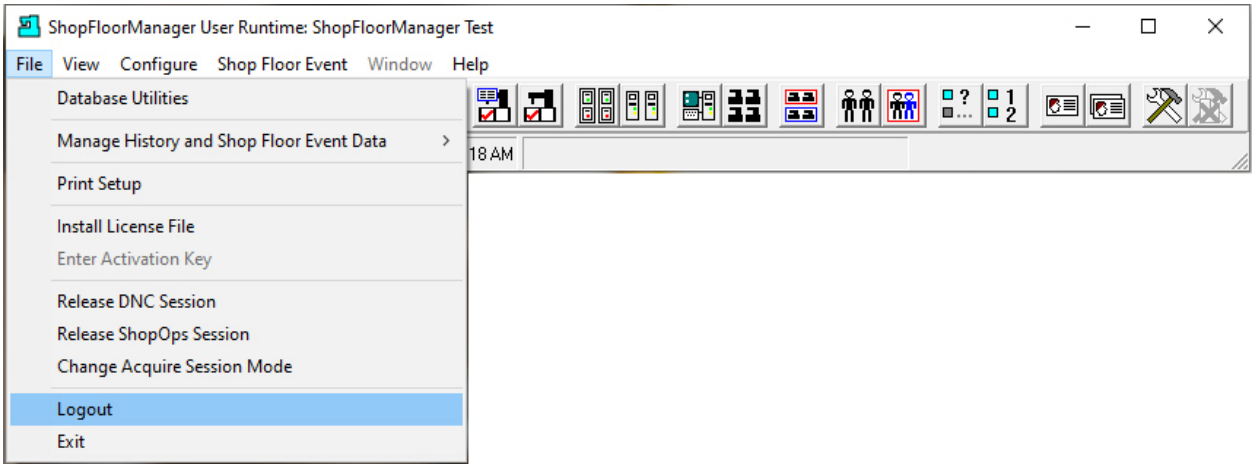
Manage ShopOperations (Runtime – Configure Users "VBM_OPERATOR")



As you can see above, we have used both **Class 1** & **Class 2** User Groups based on the suggested structure in User Groups! **Class 1** User Groups only have Assigned & Default Rights where **Class 2** only have Default "Rights" and Assigned other "Resources". I.E. Resource Collections, Machines, etc.!

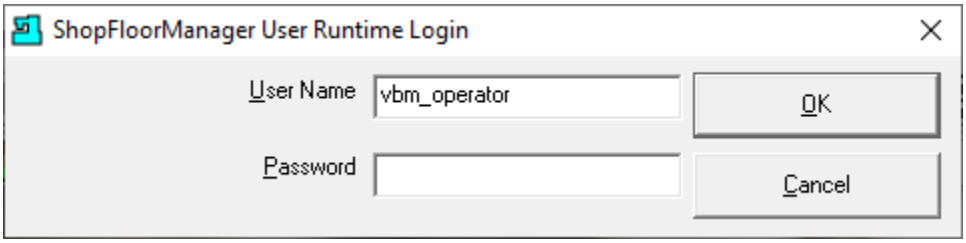
The User "VBM_OPERATOR" is only associated with the User Groups above and only has access to the "Features/Rights" determined by the assigned User Groups! See the next Page for using a Traveler!

Manage ShopOperations (Runtime – Logout)



To use a Traveler by an Approved User, click on the File->Logout Menus and the following Window is displayed.

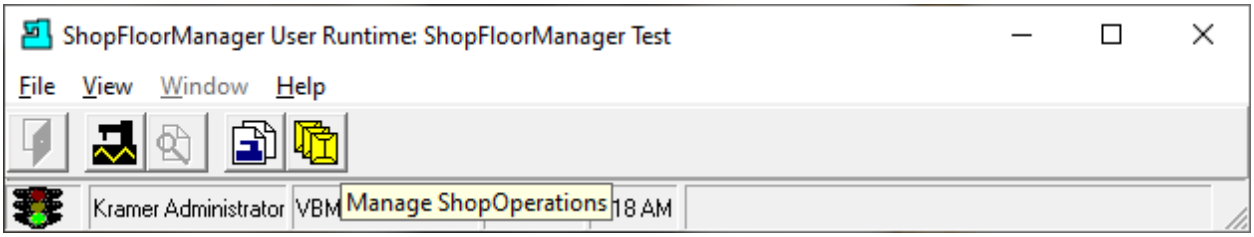
Manage ShopOperations (Login – vbm_operator)



We will be logging in as the User vbm_operator so this User can perform the tasks needed to complete the Traveler “Job 5 Oper. 40”!

Click the OK Button and the following Window is displayed.

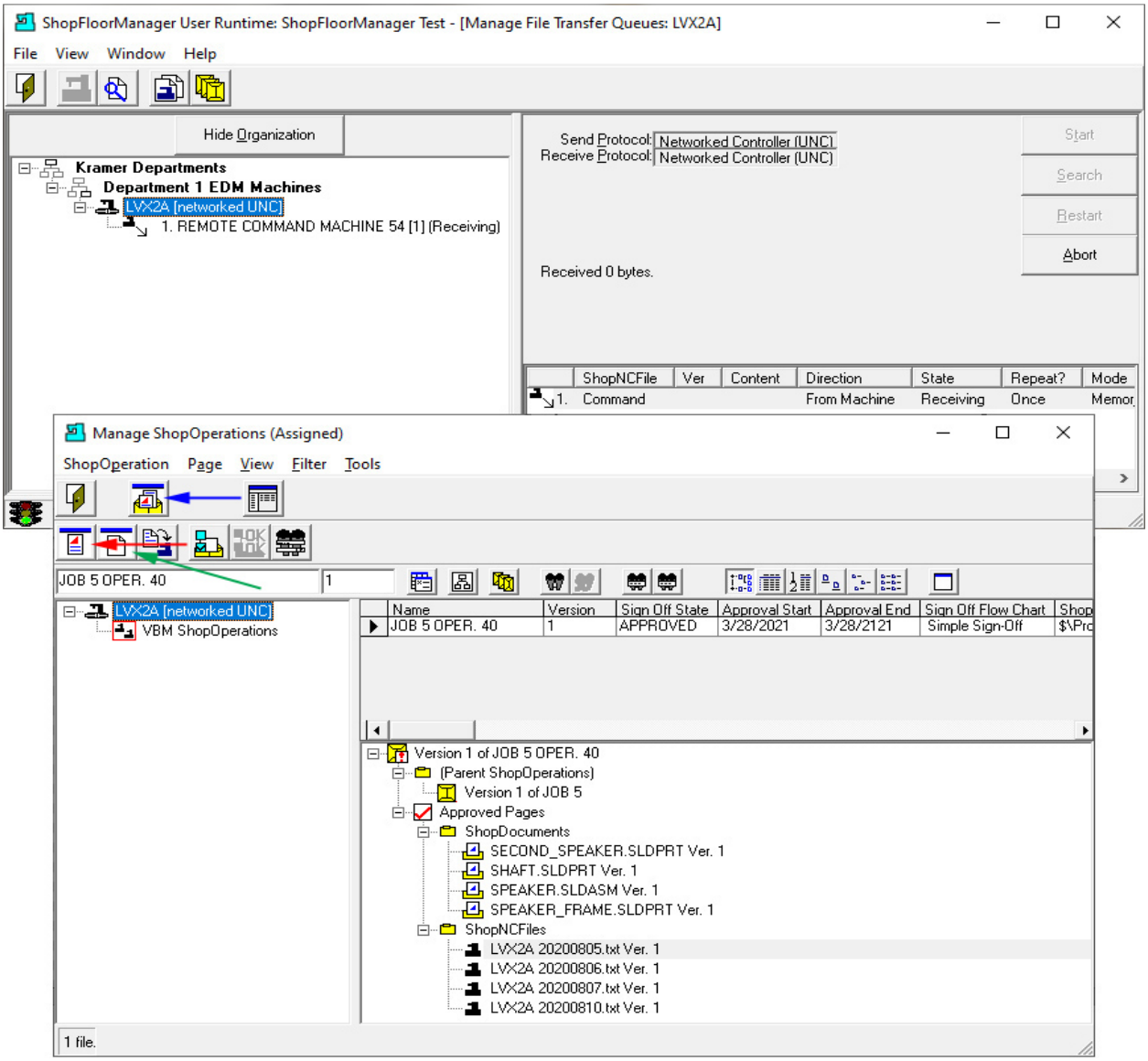
Manage ShopOperations (Manage ShopOperations)



Notice the Icons (Features) that are available to the User (vbm_operator’s) based on “vbm_operator’s” Rights.

Click the on “Manage File Transfer Queues” & “Manage ShopOperations’” Icons and the following Windows will be displayed.

Manage ShopOperations (Manage File Transfer Queues & Manage ShopOperations)

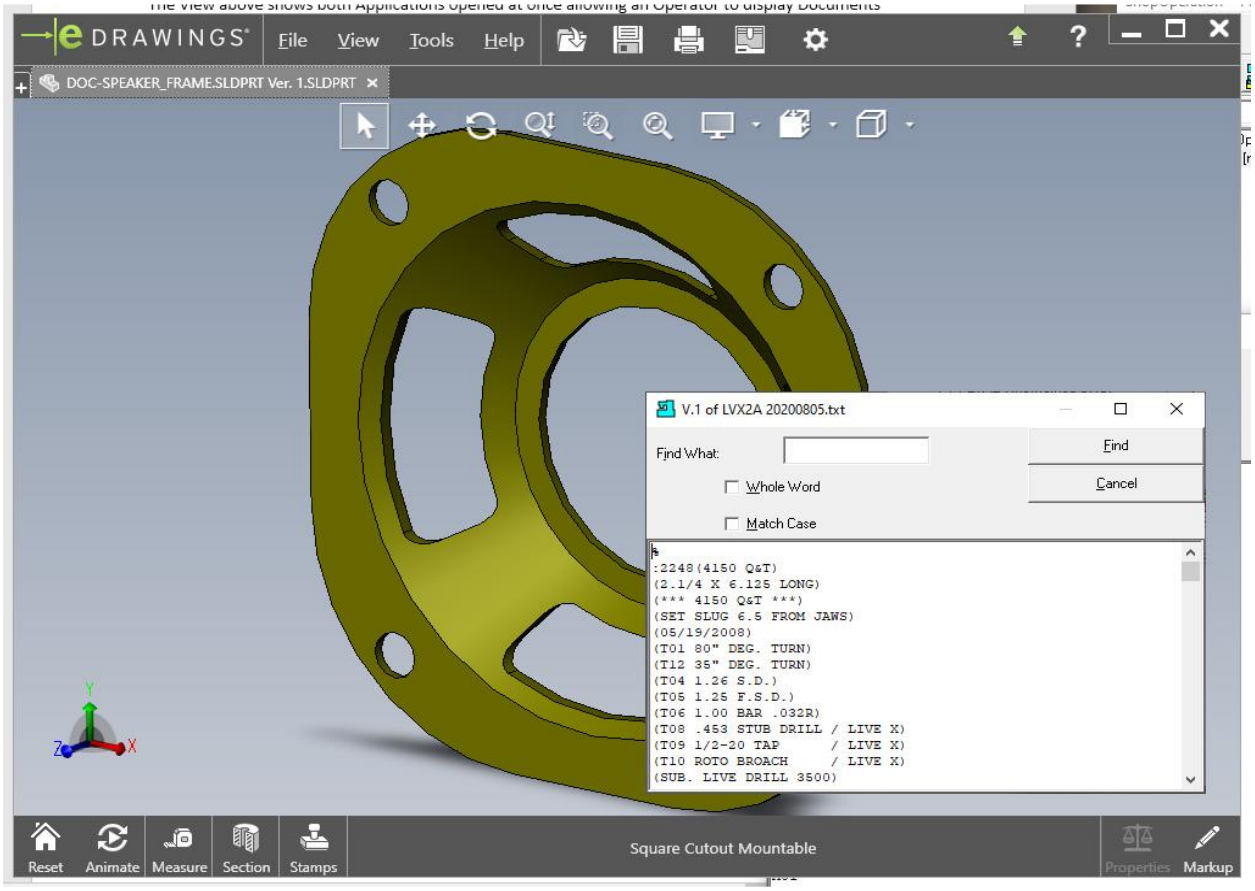


The View above shows both Applications opened at once allowing an Operator to display Documents and or ShopNCFiles & perform any DNC operations needed! Let's display a few drawings & ShopNCFiles before performing DNC operations!

Highlight a ShopDocument & click on either of the Icons indicated by a **Red** or **Blue** arrow to open a ShopDocument(s). The **Red** only opens the highlighted "Document" the **Blue** opens all of them! To open a ShopNCFile highlight the ShopNCFile and click on the Icon indicated by the **green** arrow! Clicking on that Icon opens the selected ShopNCFile!

Let's open a ShopDocument & ShopNCFile.

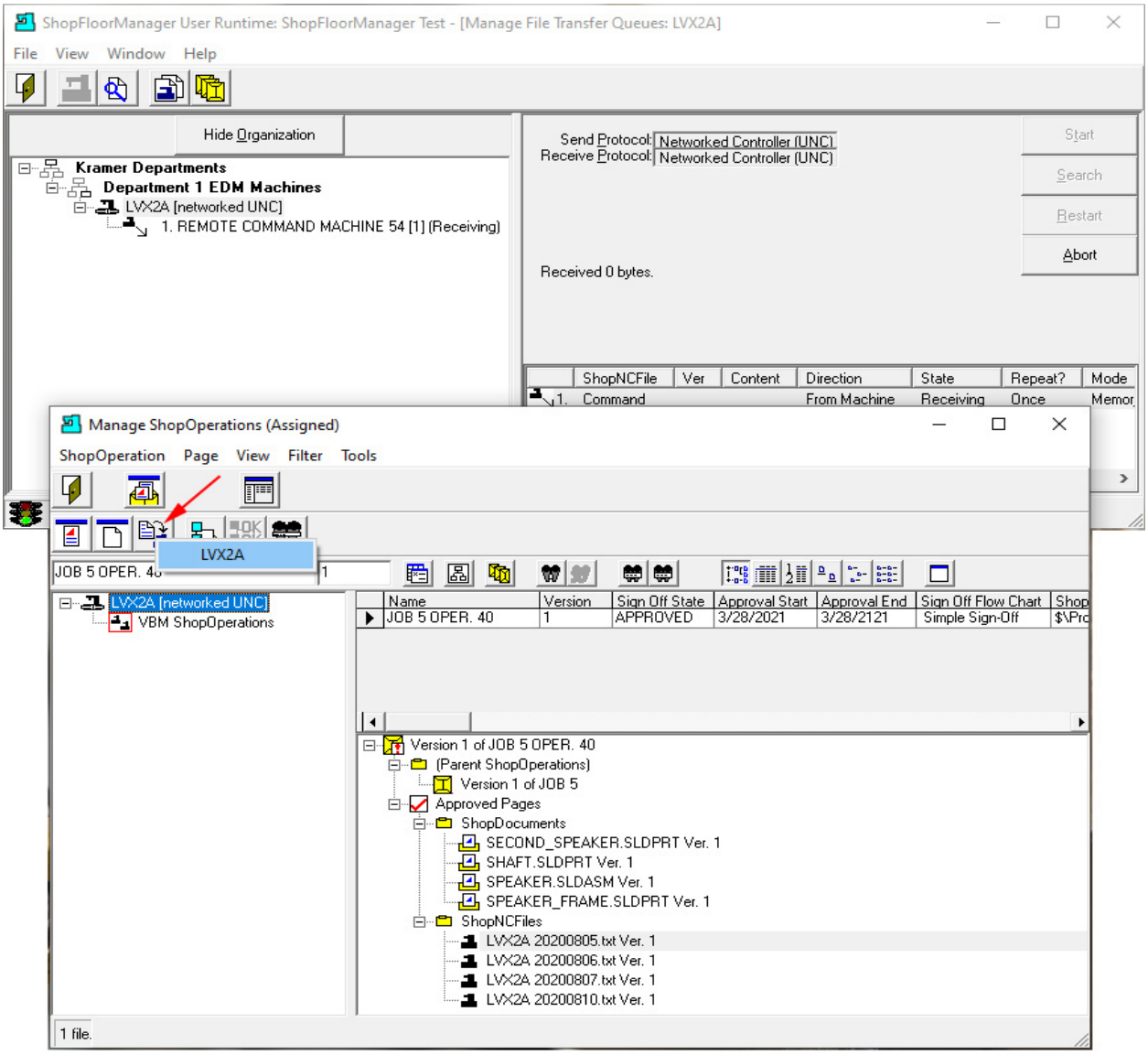
Manage ShopOperations (Opened for viewing a ShopDocument & a ShopNCFile)



The above view displays the ShopDocument & ShopNCFile overlapped!

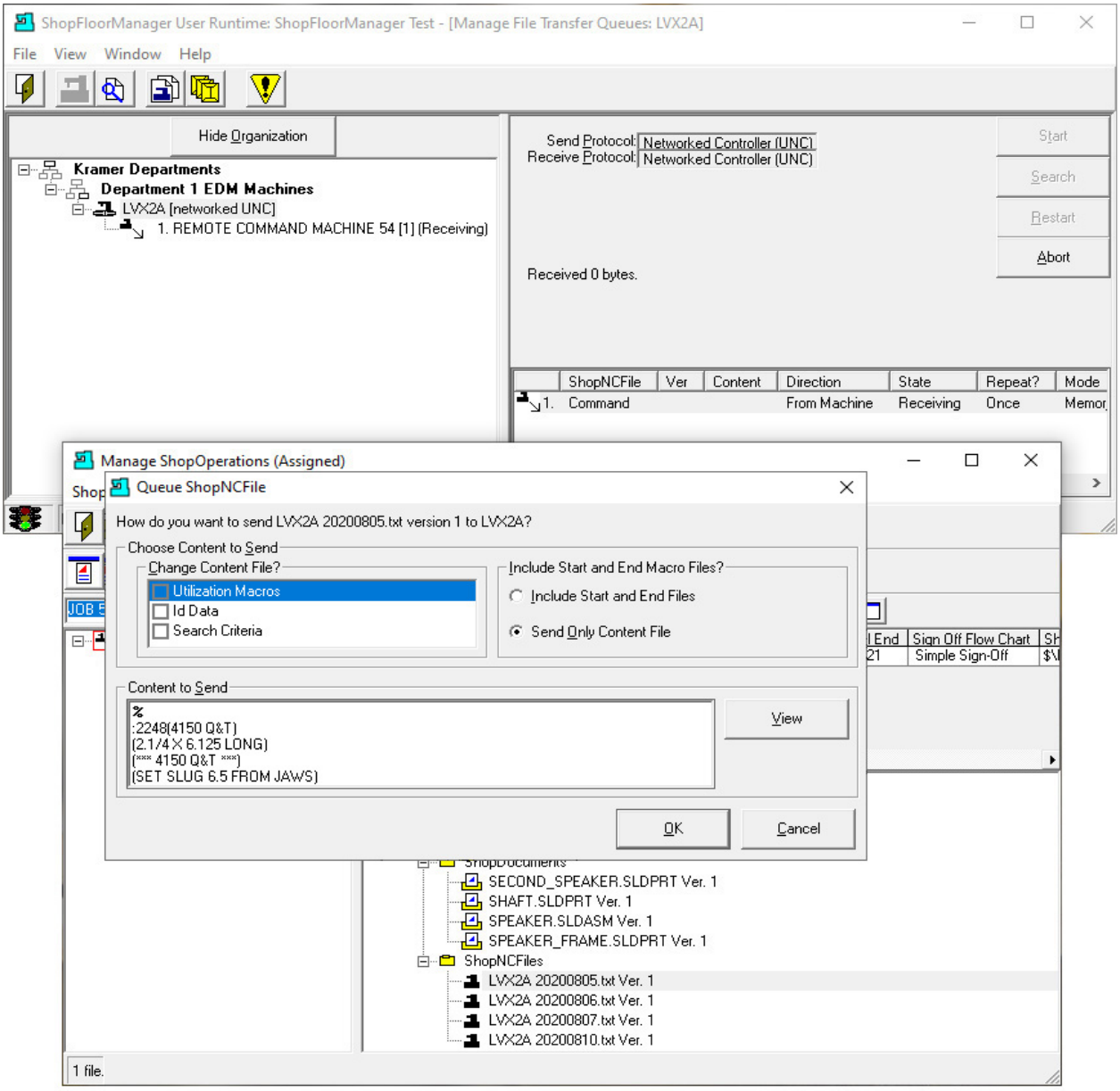
Let's return to the previous Window, highlight a ShopNCFile to download to a Machine Tool.

Manage ShopOperations (Queuing ShopNCFile LVX2A 20200805.txtvVer.1)



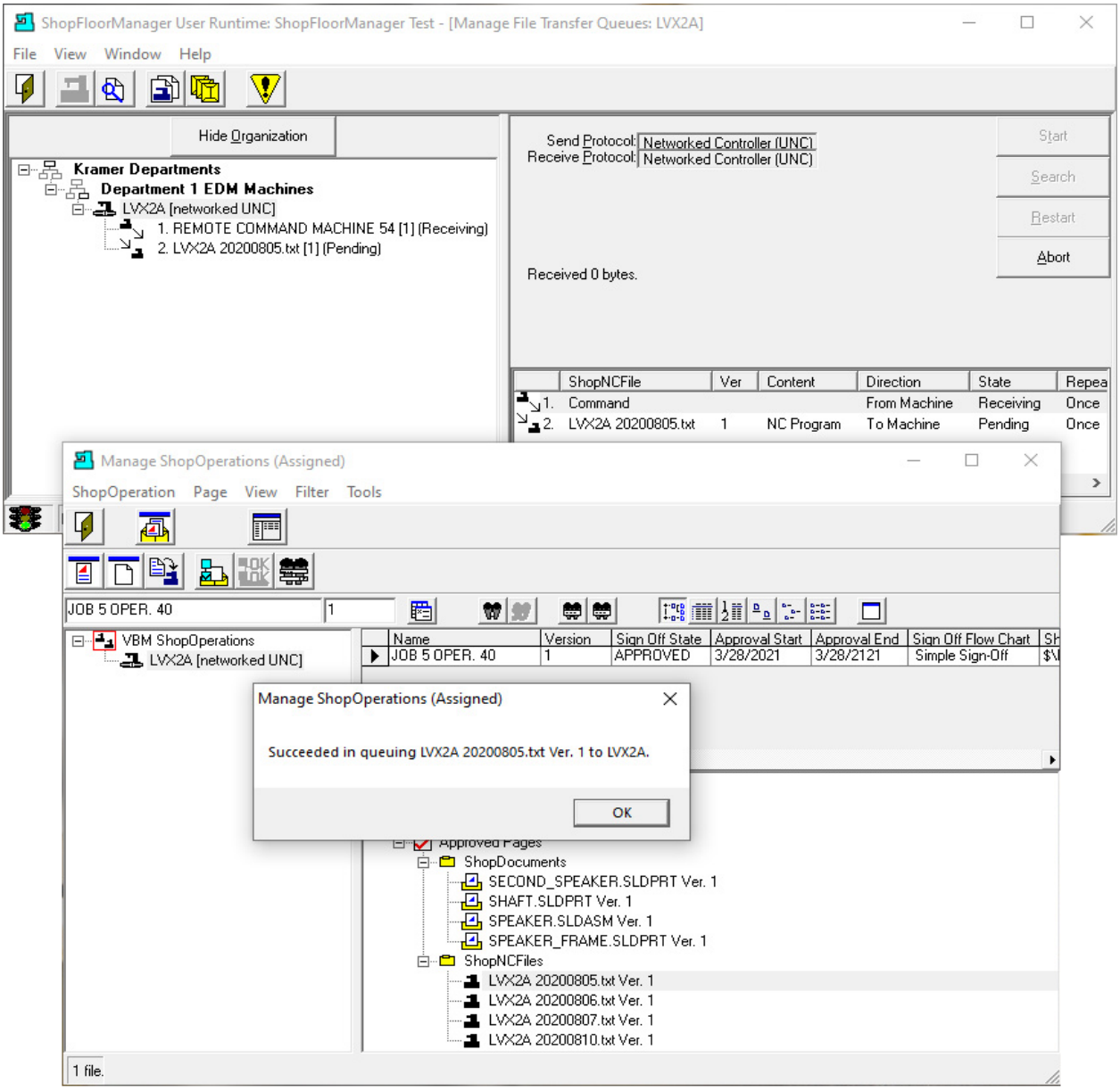
Highlight the ShopNCFile you want to download and click on the Send Icon, see **Red Arrow**, and then on the Machine **LVX21** Icon and the following Window is displayed.

Manage ShopOperations (Queuing Window with Options)



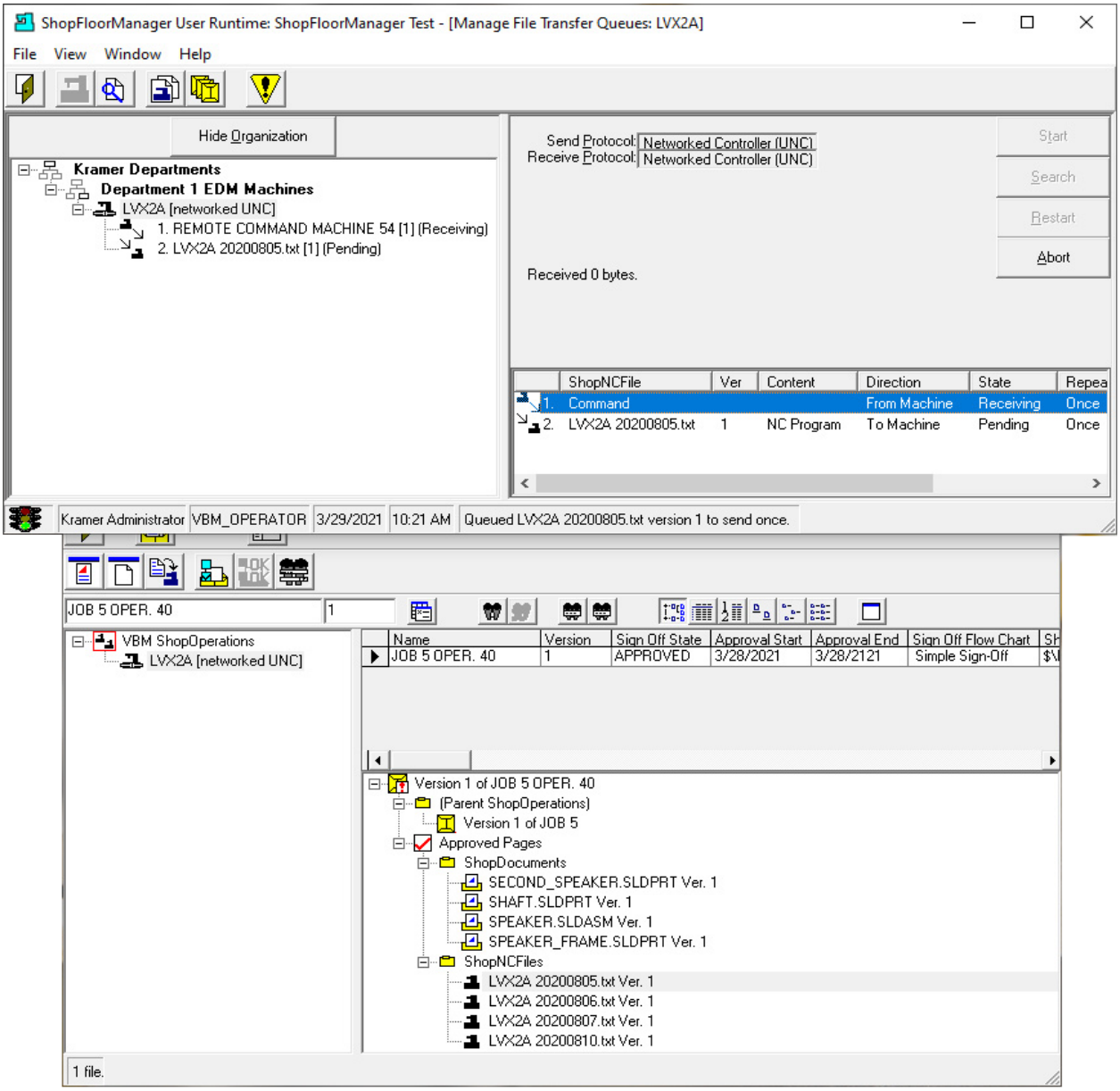
Select any Options and click the OK Button and the following Window is displayed.

Manage ShopOperations (Confirmation Window)



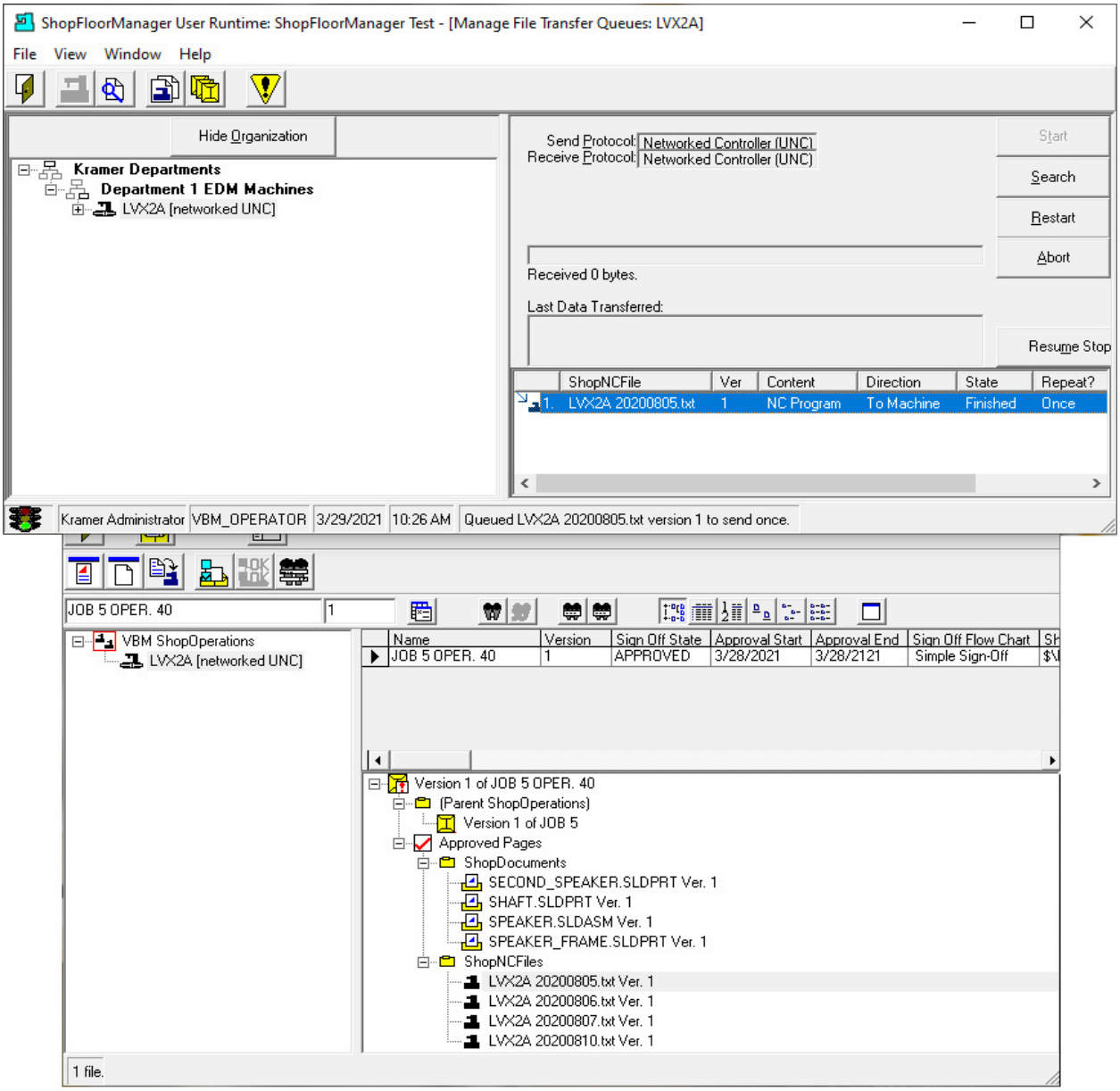
Click the OK Button and the following Window is displayed.

Manage ShopOperations (ShopNCFile Command)



If the Command File is displayed click on the ShopNCFile named Command and click on the Abort Button and the following Window is displayed.

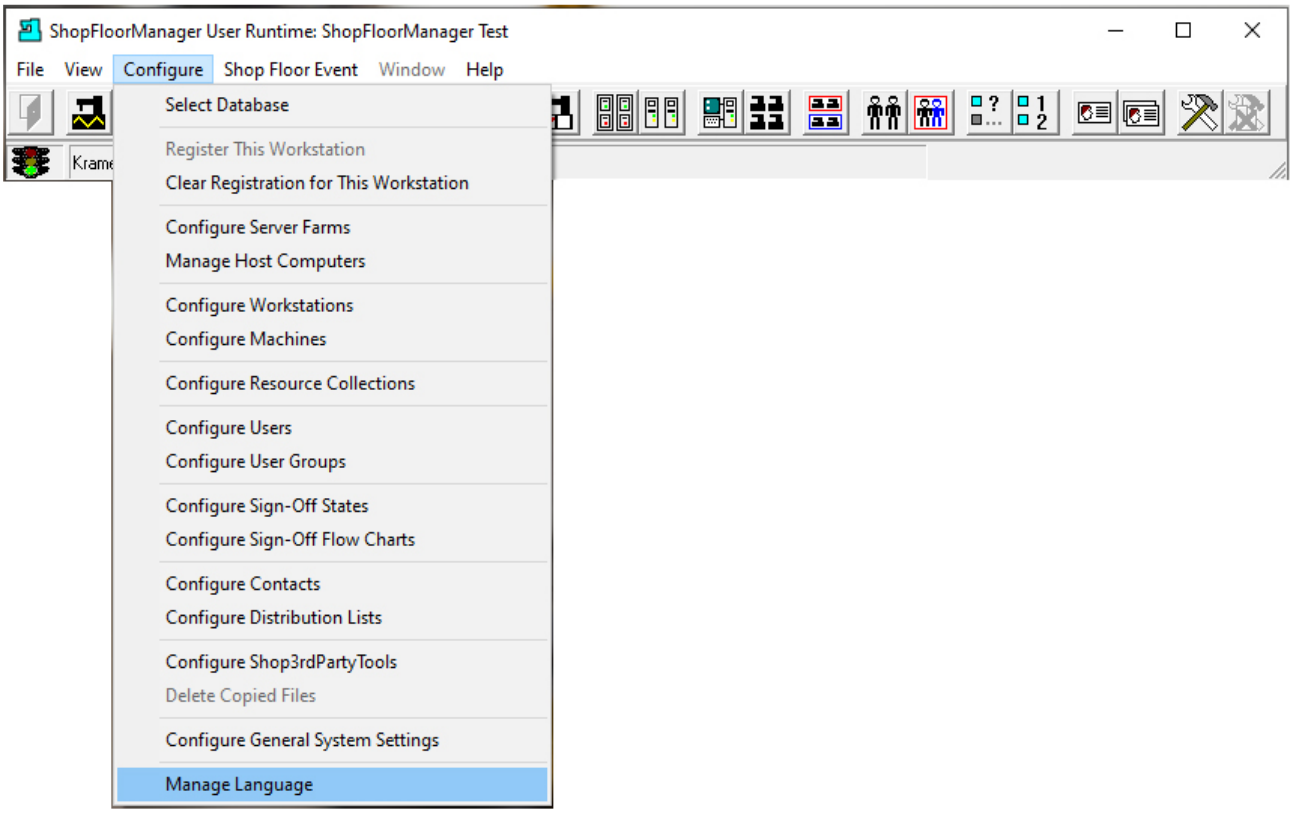
Manage ShopOperations (ShopNCFile LVX2A 20200805.txt Ver.1 being Transferred)



The ShopNCFile LVX2A 20200805.txt Ver.1 is being transferred to the Folder defined for this UNC Machine so the Machine Operator on the Ethernet base Machine can retrieve the ShopNCFile!

That's the end of this Section!

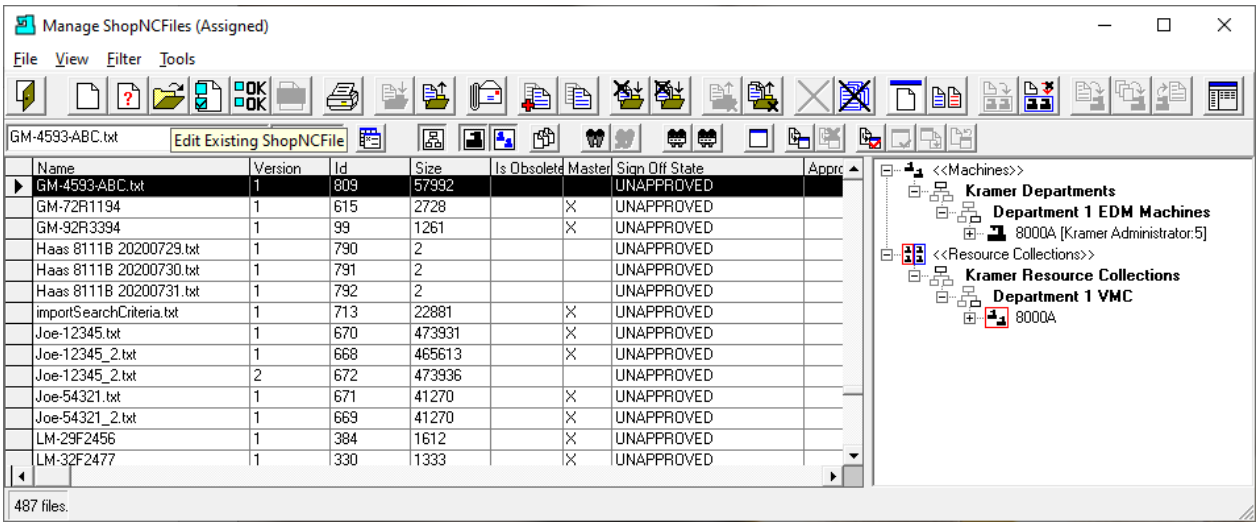
Manage Language (We Speak any Language or Dialect. Create your own version!)



Click the following to download document:

https://www.shopfloormanager.com/downloads/localizationdescription.pdf

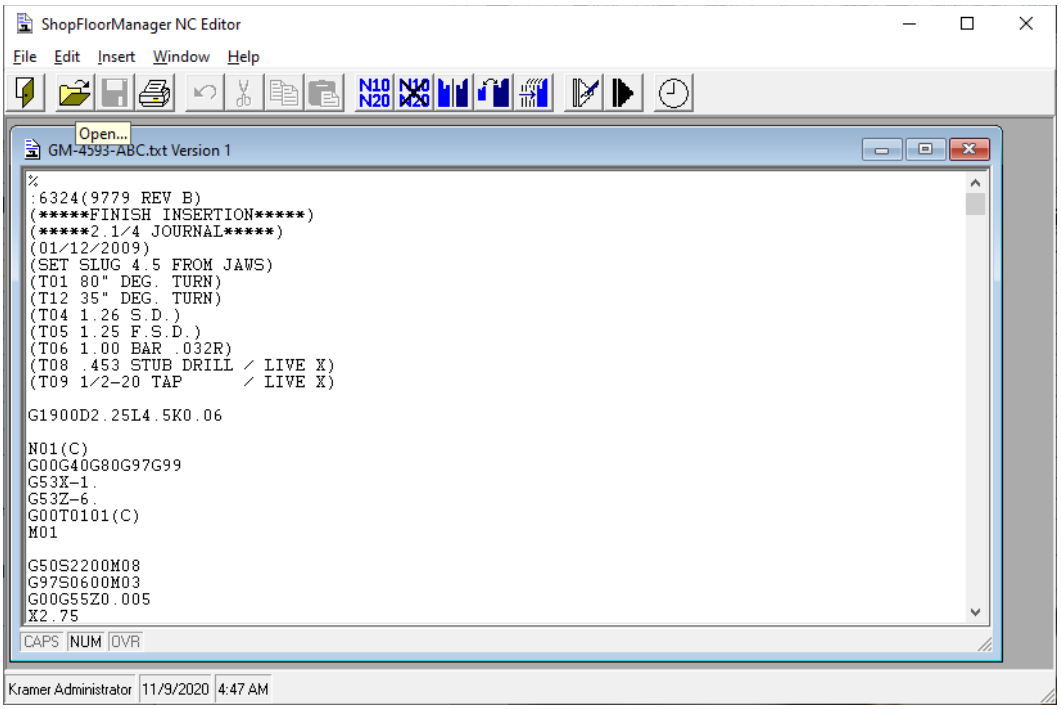
NC Editor (When your ShopNCFiles Need a Face Lift, Choose the Right Surgeon!)



NC Editor provides all the functionality needed for editing ShopNCFiles. This includes opening multiple files, numbering, renumbering, scaling, mirroring, translating, search, copy, replace, macro capability, etc. Let's see the various functionality of NC Editor!

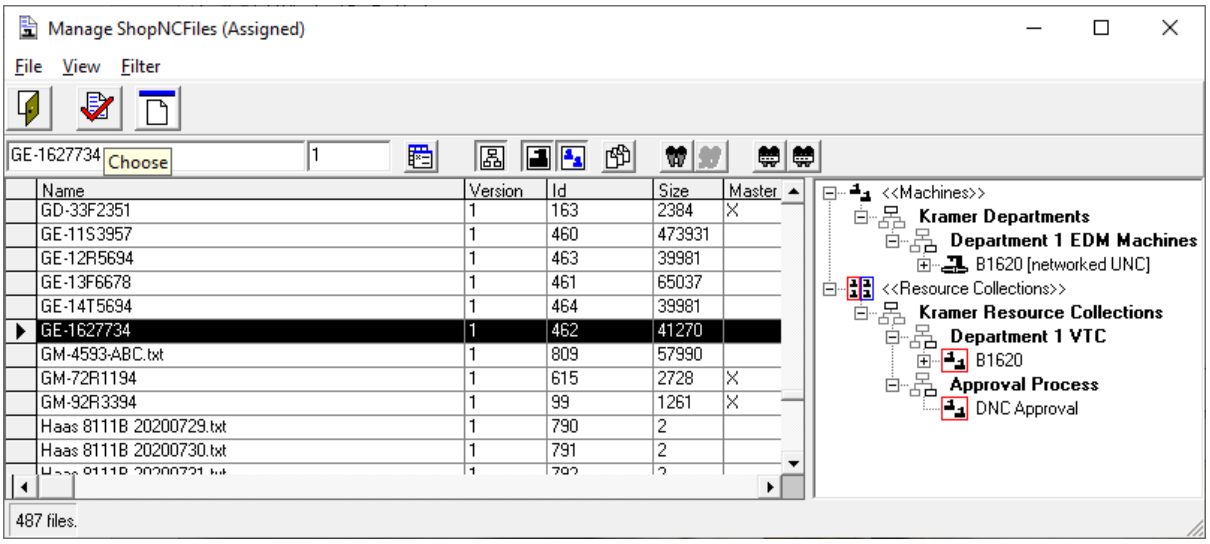
From Manage ShopNCFiles click on the "Edit Existing ShopNCFile" and the following Window is displayed.

NC Editor (Open)



If you need to have multiple ShopNCFiles open at the same time, click on the Open… Button and the following Window will be displayed.

NC Editor (Choosing addition files to Open)

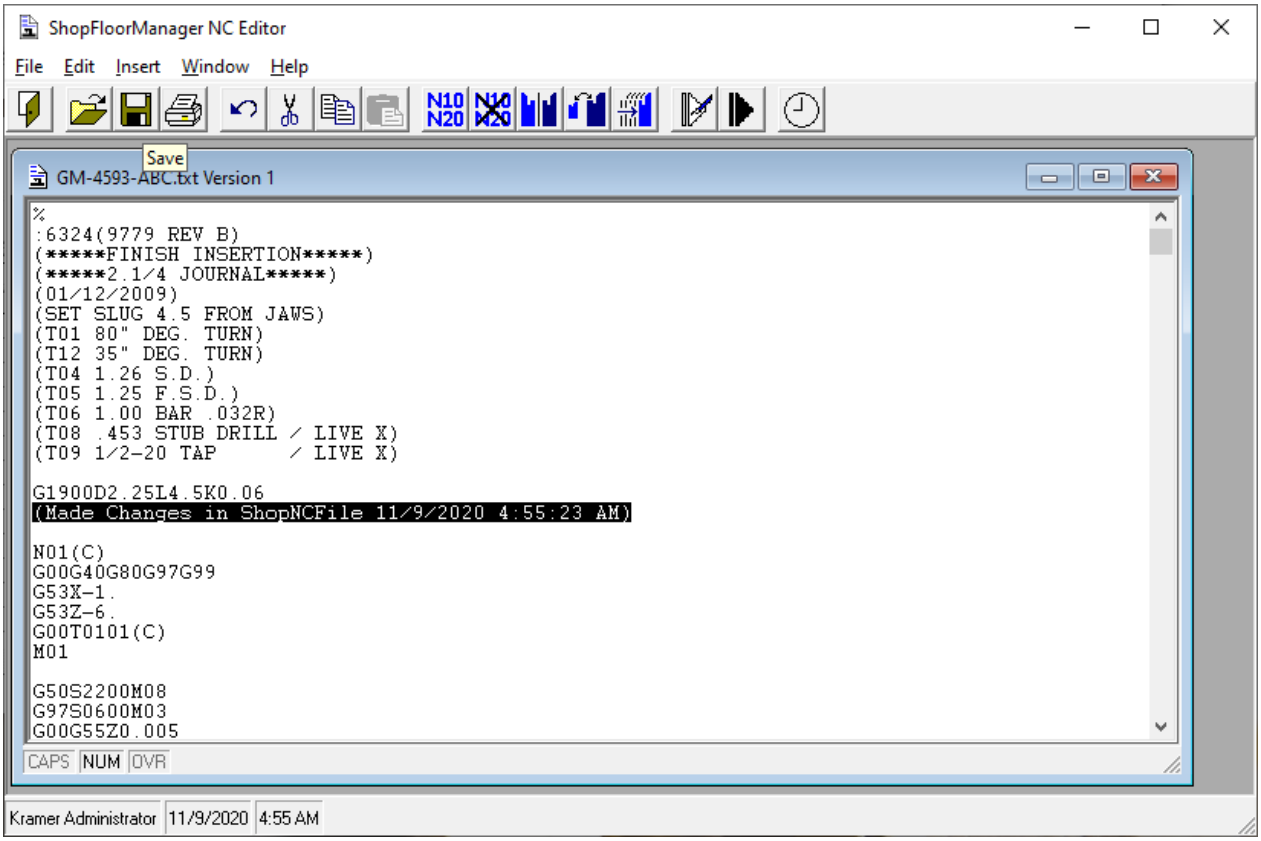


Click the Choose Icon and you will open another ShopNCFiles in the NC Editor.

This Window would allow you to open up as many ShopNCFile as needed to complete an Editing Session. One reason for doing this is to copy sections from an existing ShopNCFile and use it the ShopNCFile being Edited.

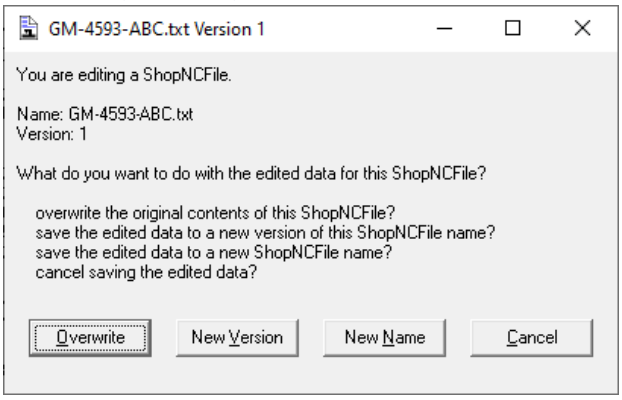
We will not open multiple files as part of this Demonstration! Close this Window and we will return the NC Editor.

NC Editor (Save)



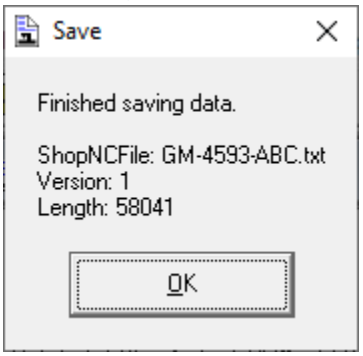
Let's assume you have completed modifying a file and want to save this file. You have several choices for saving a file depending on your "Rights". After making changes to the File click the Save Icon and the following Window is displayed.

NC Editor (Overwrite)



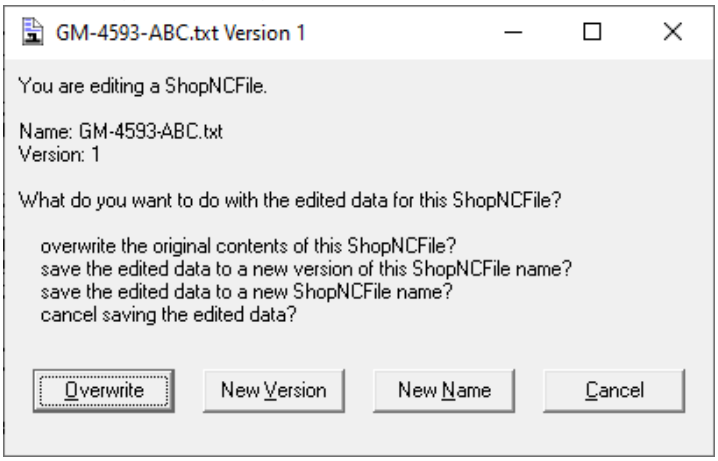
Choosing the various Options are described in the following Windows. Now click the Overwrite Button and the following Window is displayed!

NC Editor (Informational Window)



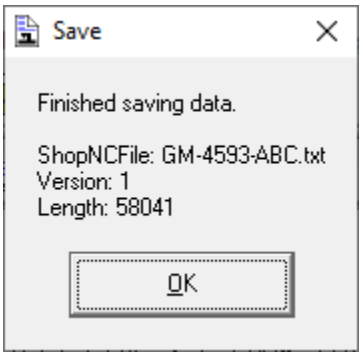
Click the OK Button to Overwrite and save the File.

NC Editor (New Version)



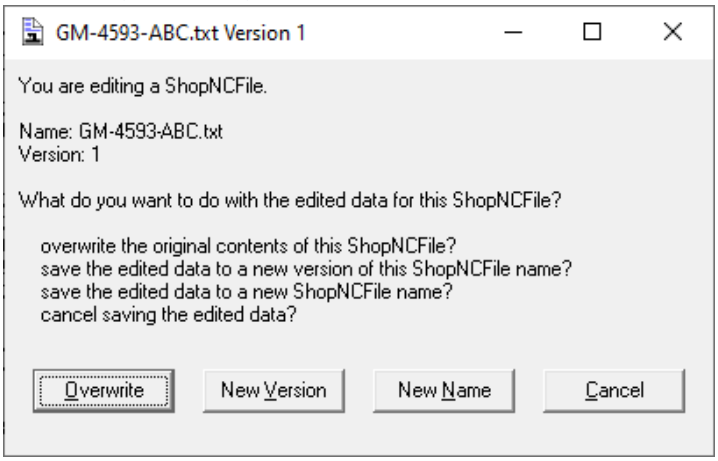
Choosing the New Version.

NC Editor (New Version Created)



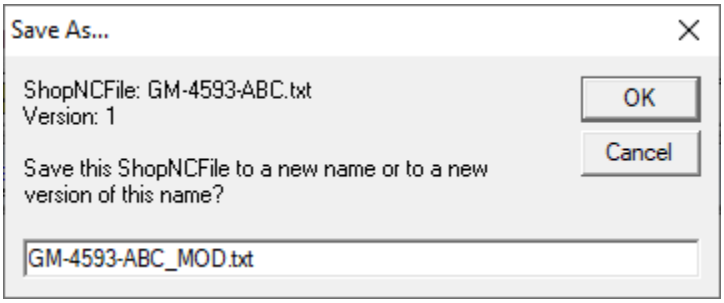
Click the OK Button to create a new version and save the File.

NC Editor (New Name)



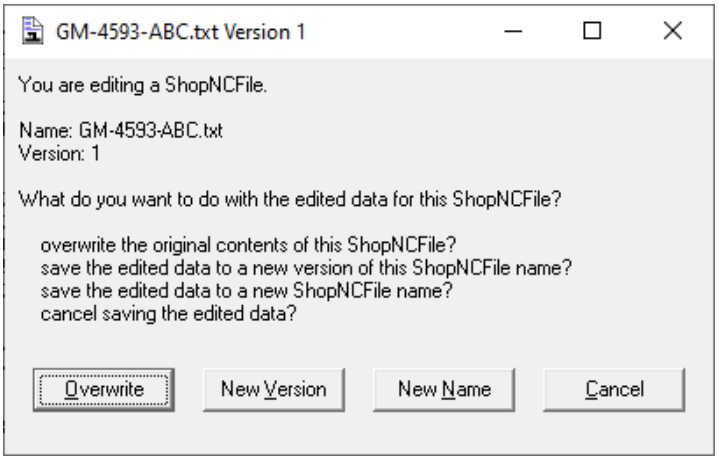
We will be choosing the New Name. Click on the New Name Button and the following Window is displayed.

NC Editor (New Name Entered)



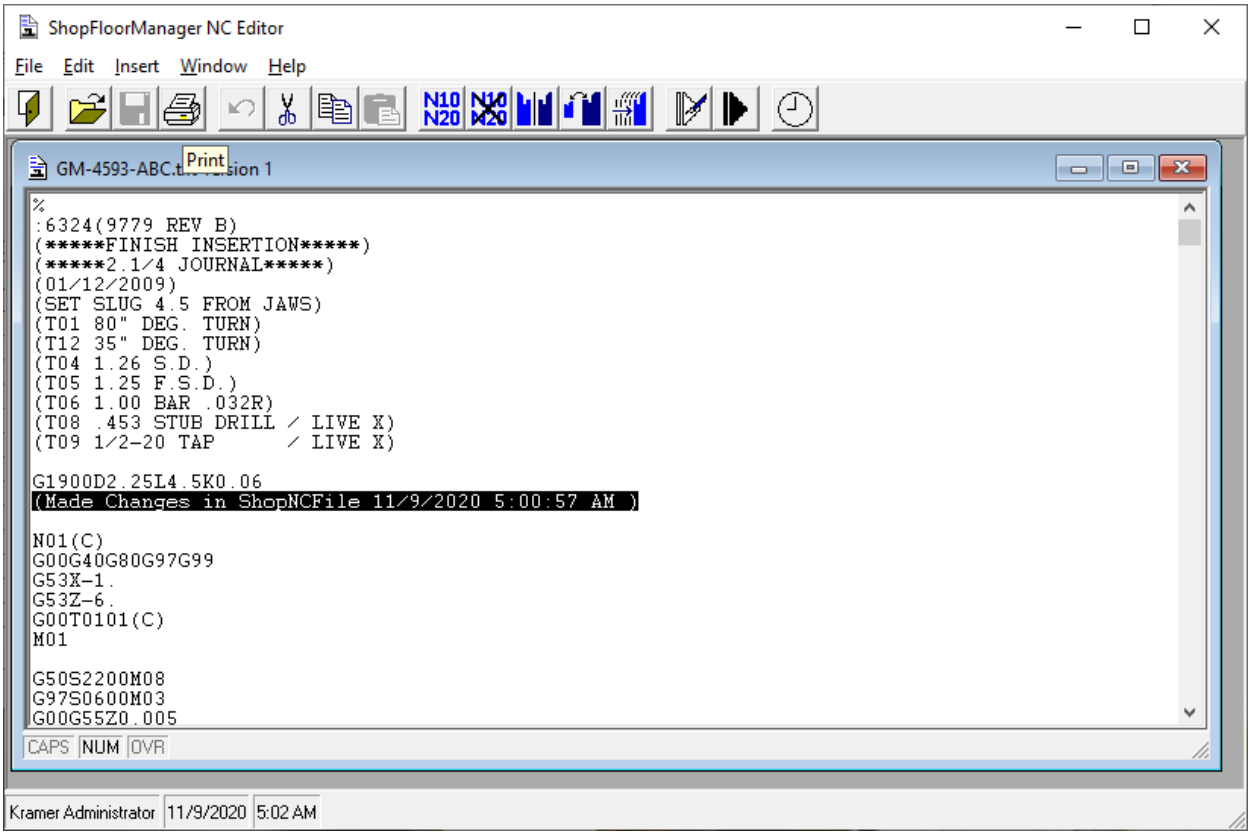
Enter New Name and click the OK Button to save this as a new File.

NC Editor (Cancel)



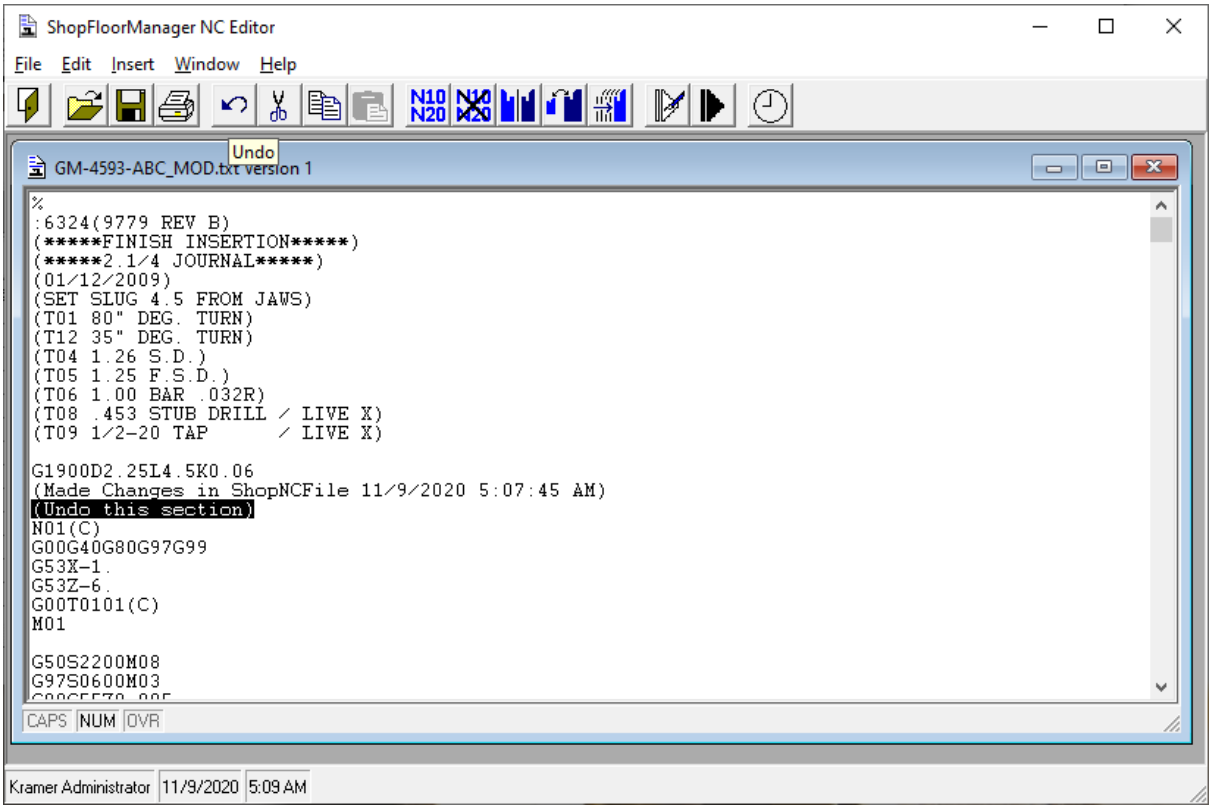
Click the Cancel Button to cancel operation!

NC Editor (Print)



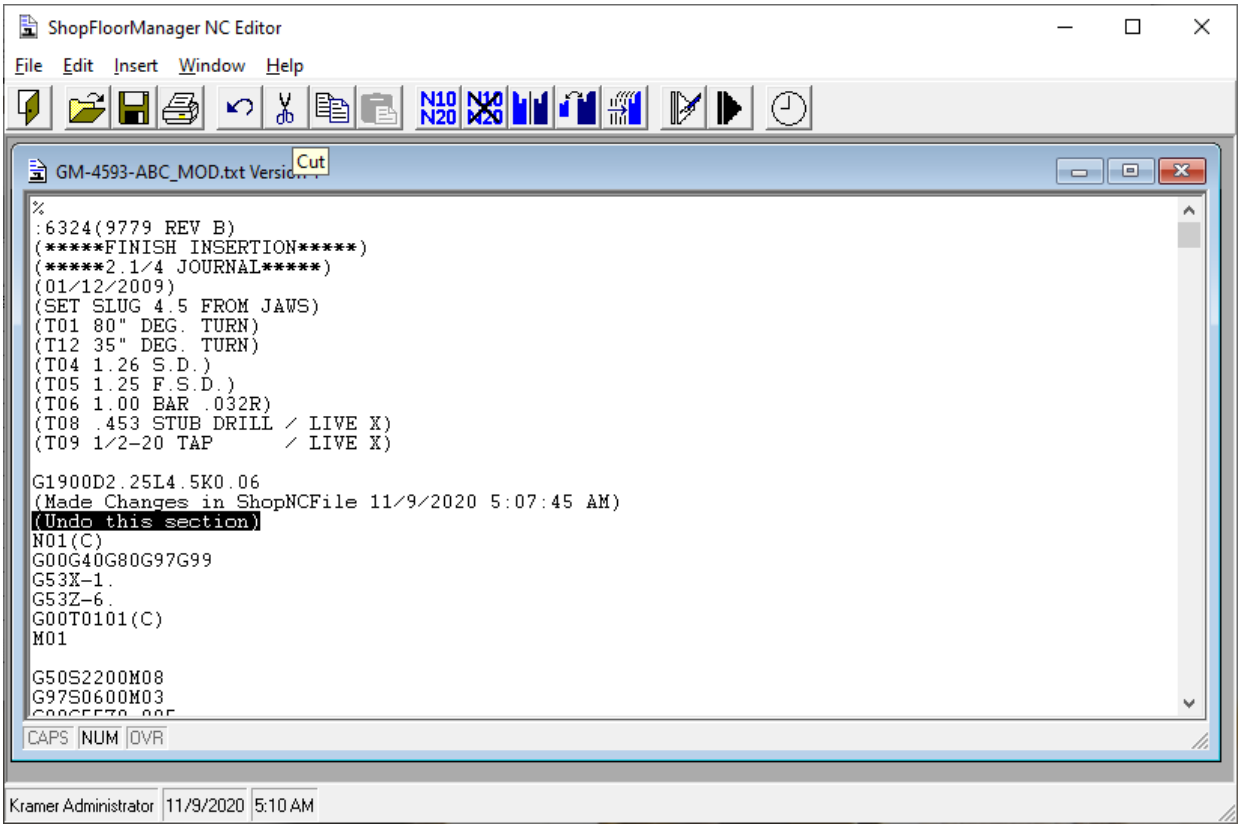
To Print out the ShopNCFile click on the Print Icon and make sure the Printer is on. If the File is too long, make sure to choose the Printer setting “Use Native Application for Printing” and choose a PDF printer!

NC Editor (Undo)



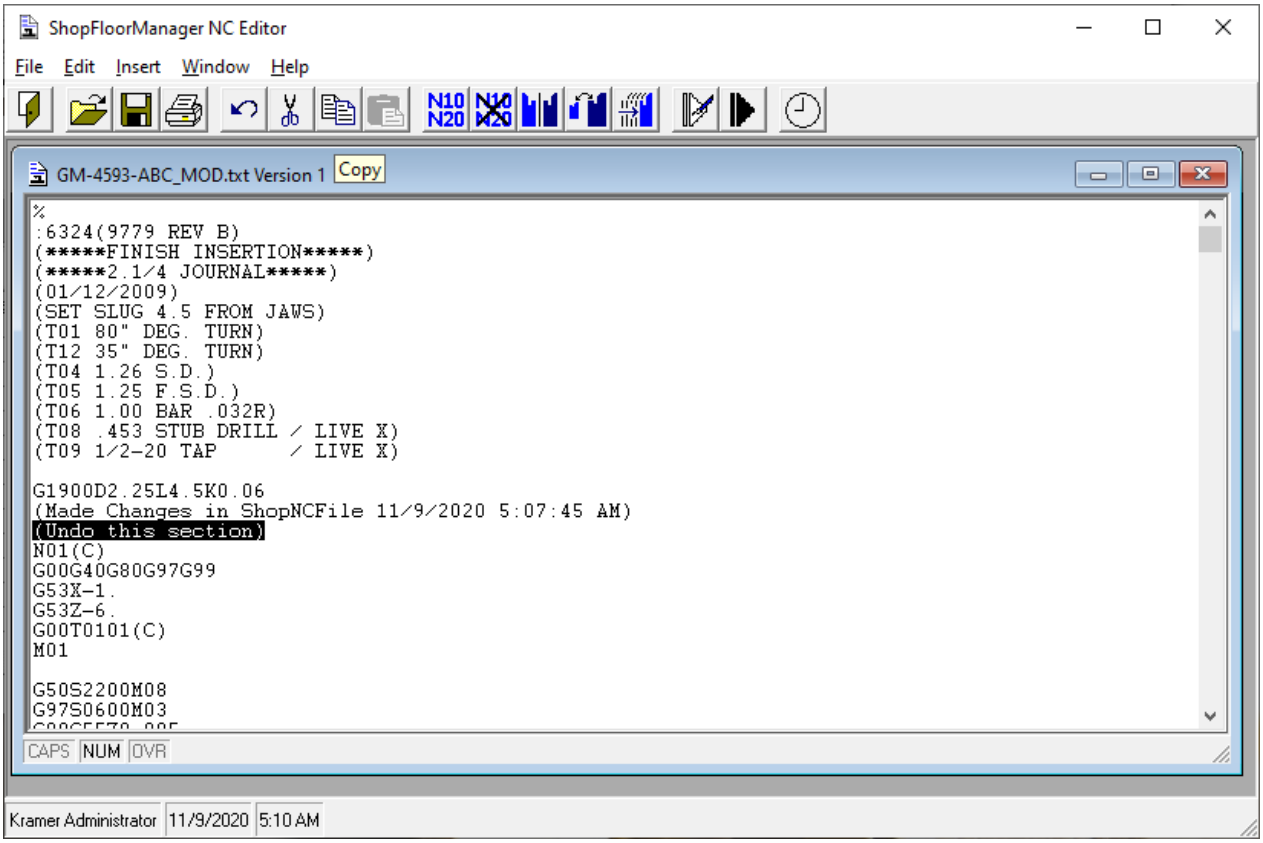
You can redo the last operation by clicking on the Undo Icon.

NC Editor (Cut)



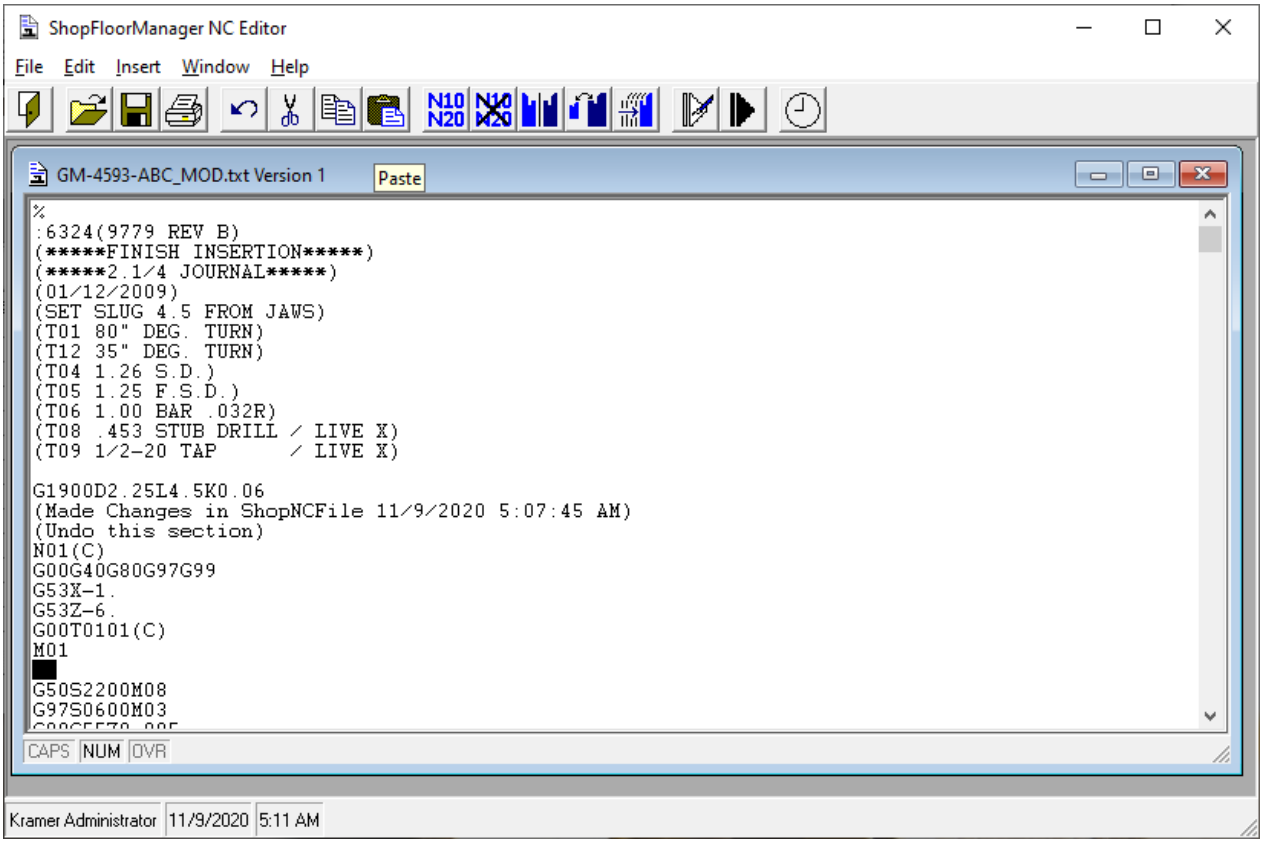
If you need to remove code from a file or remove from one section of the file to another highlight a section of the NC Code, you can use the Cut Icon to remove this piece of code or you can use CTRL-X (Cuts & Copies), or the Delete Key. To recover deleted code use CTRL-Z.

NC Editor (Copy)



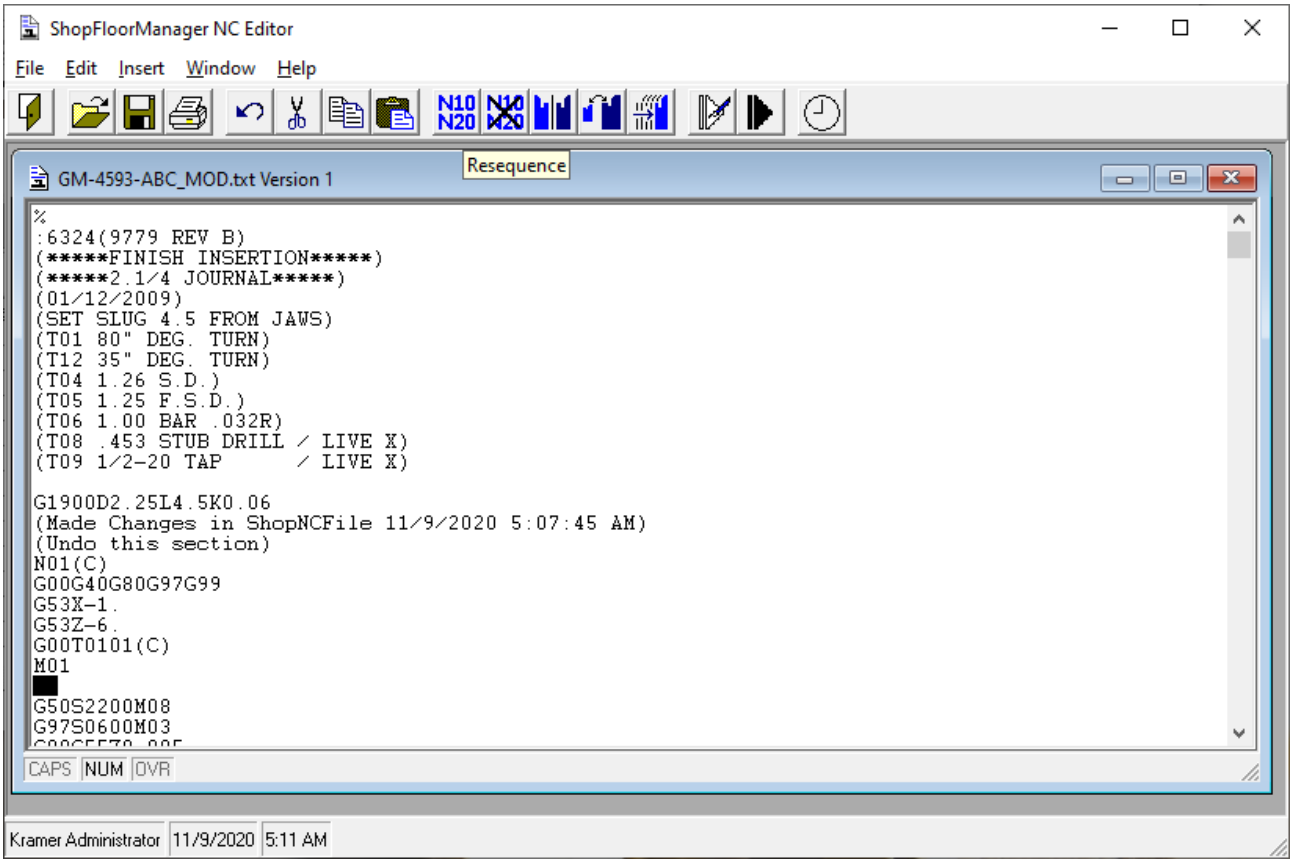
If you need to copy a section of code to use elsewhere in the file, Highlighted the code and click on the Copy Icon.

NC Editor (Paste)



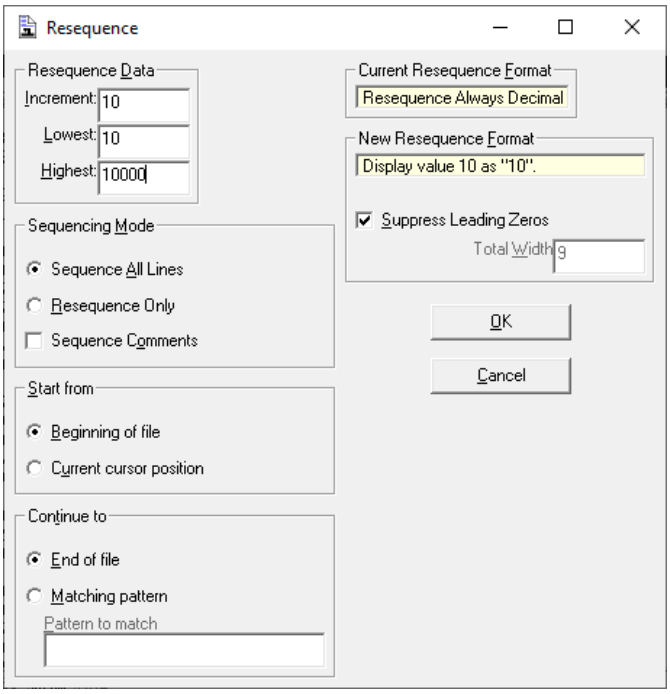
Given that you have copied or cut a piece of code you can paste this section wherever the cursor is placed and clicking on the Paste Icon.

NC Editor (Resequence)



There are times when you want to include Line Numbers and times you don't. Resequence allows you to add or remove line numbers. Click the Resequence Icon and the following Window is displayed.

NC Editor (Resequence Window)



To Resequence the ShopNCFile you presently have open set the Parameters above to match what you would like to accomplice.

Parameter Settings:

Resequence Data
You can set the lowest line number allowed and the increment between line numbers up to a highest line number then start over!

Sequence Mode
You Sequence all lines or only lines that are presently sequenced included Comments.

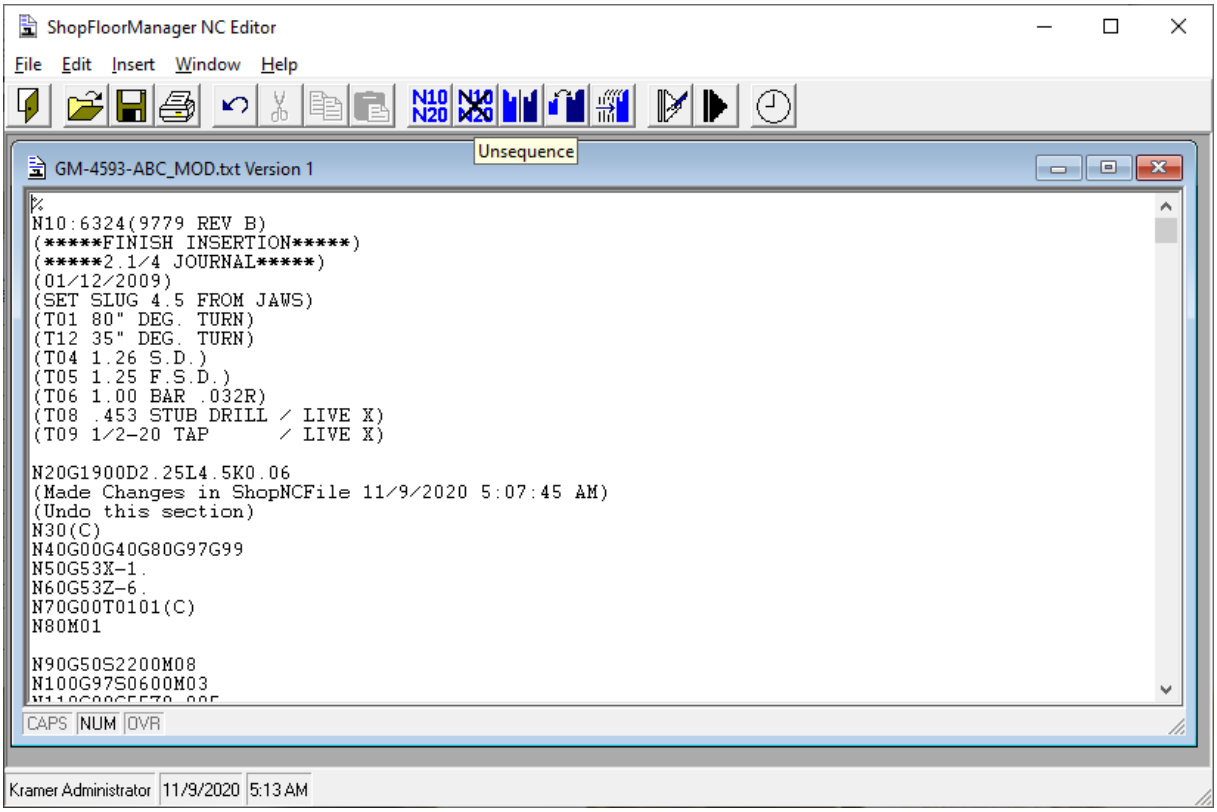
Start From
You can sequence from the beginning of the file or from the beginning of the line base where your presently located.

Continue to
The sequence will continue to the end of the file or until it matches a pattern. I.E. If you had a comment in which the word to was in Stop the sequencing would stop at that line. Not case sensitive.

New Resequence Format
If you want to suppress leading zeros check the checkbox or set the allow leading zeros!

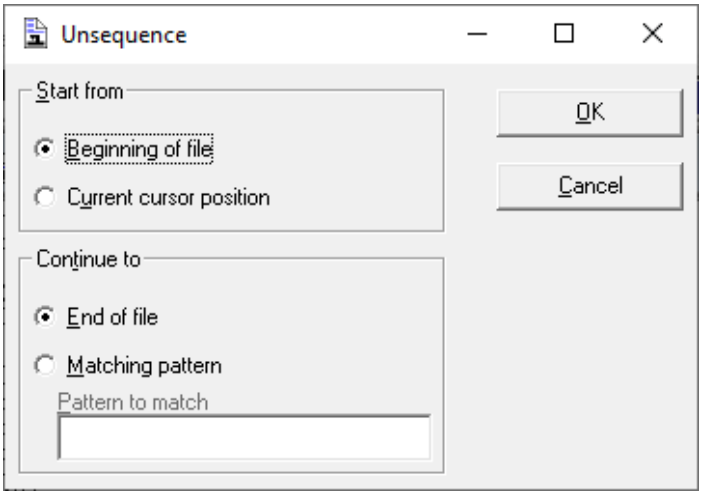
Click the OK Button and the following Window is displayed.

NC Editor (Resequence & Numbered)



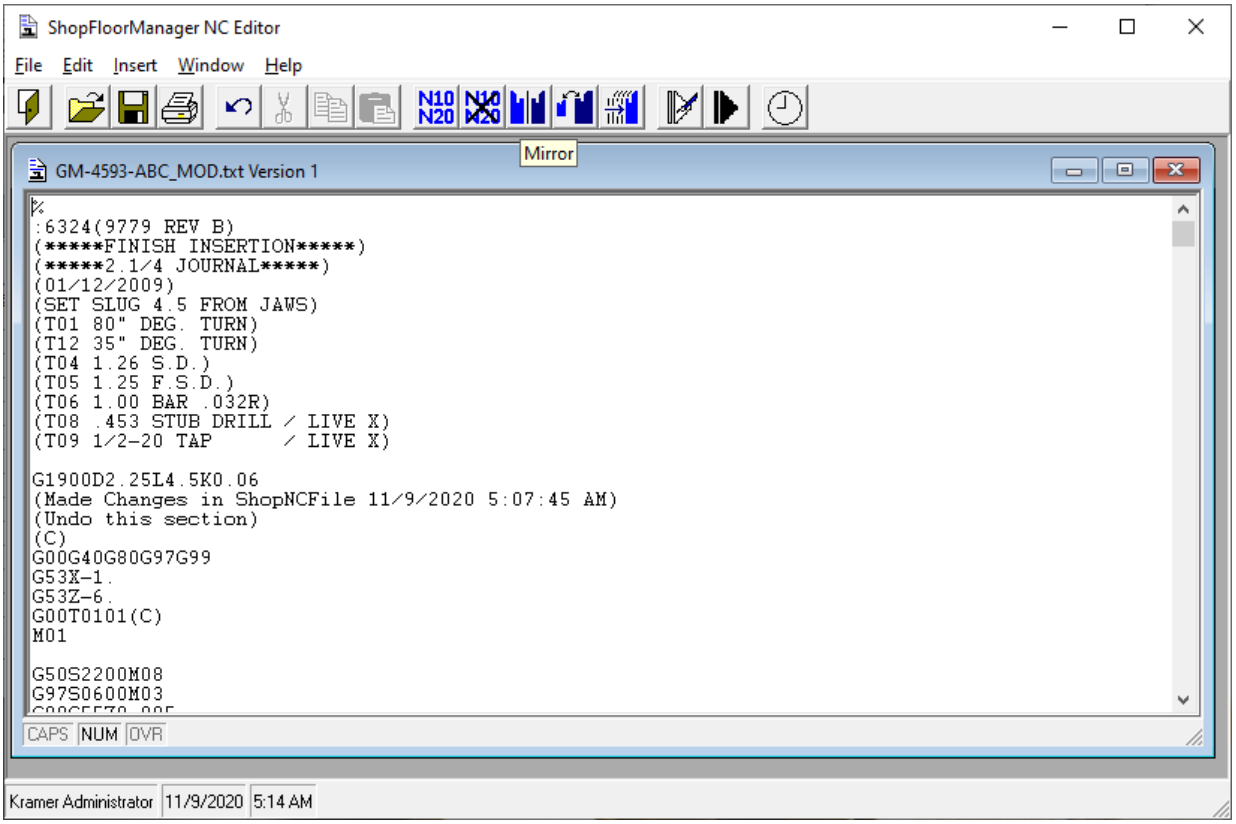
If you want to remove line numbers in your code, click on the Unsequence Icon and the following Window is displayed.

NC Editor (Add Unsequence Parameters)



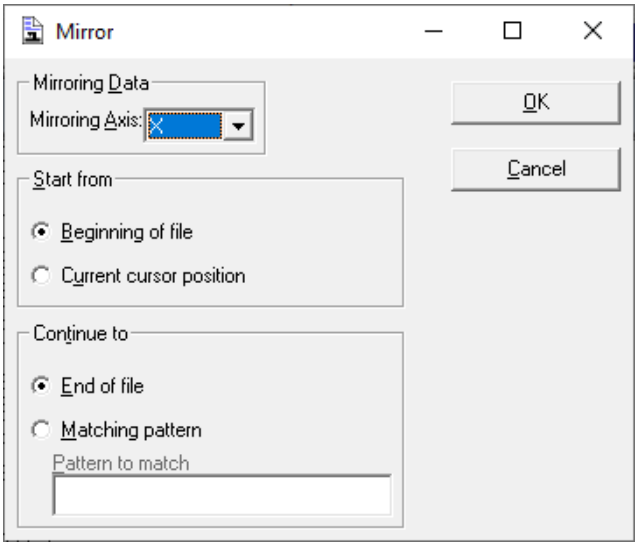
See the other settings in the previous pages for reference. Click the OK Button and Save the File!

N C Editor (Mirror)



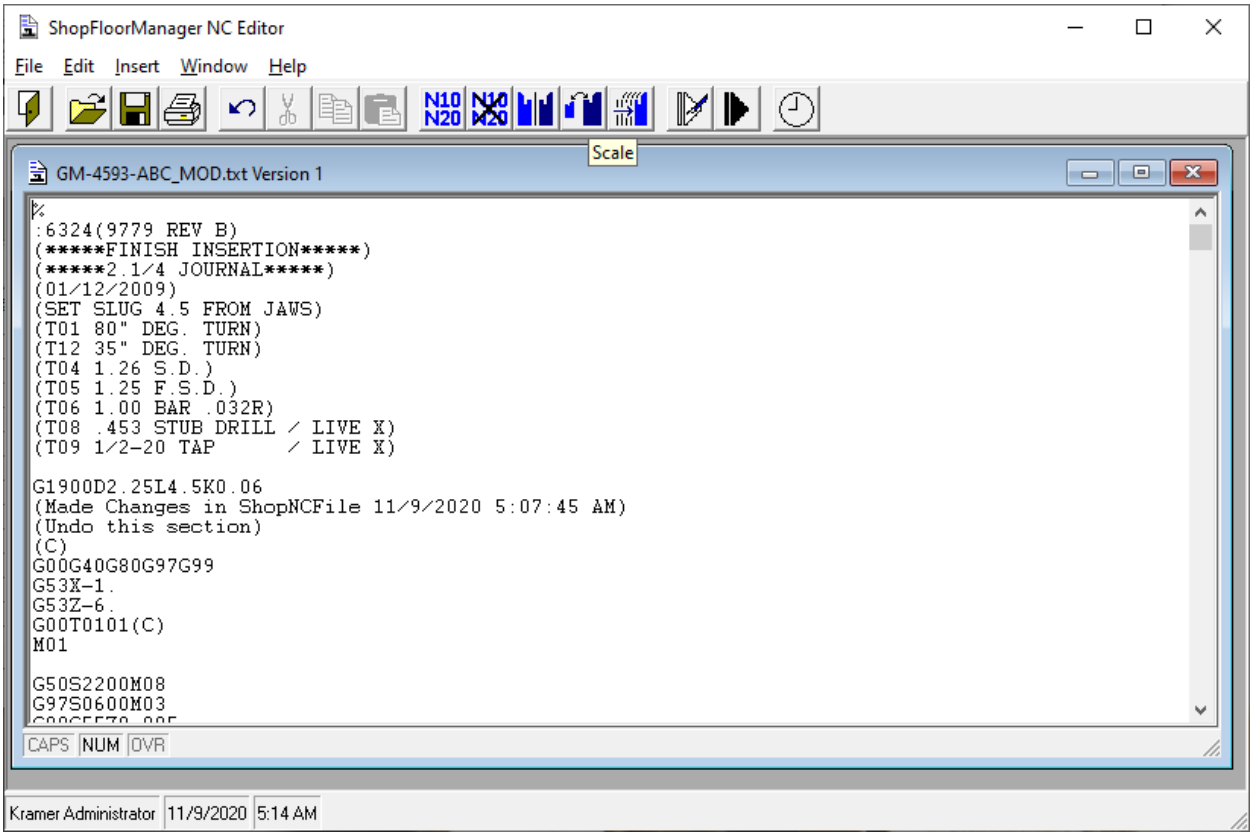
There may be times when you want to Mirror an axis. To mirror an axis, click on the Mirror Icon. The following Window will be displayed.

NC Editor (Add Mirror Parameters)



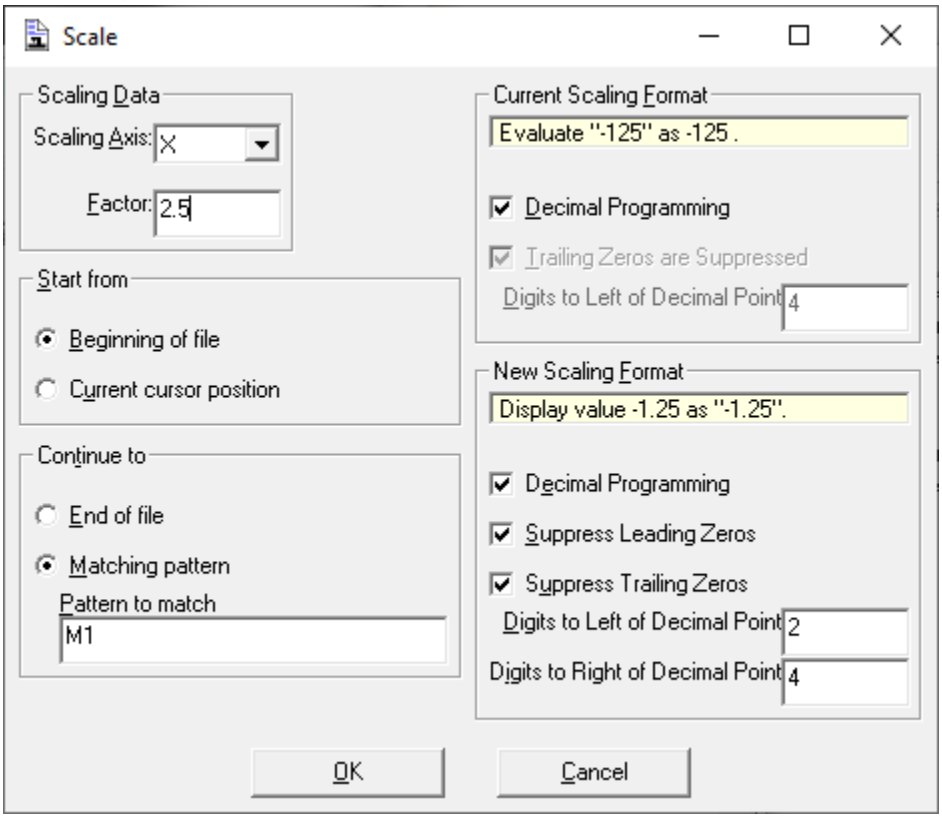
This can reverse the direction of every Axis displayed in the Mirroring Axis drop down-list. See the other settings in the previous pages for reference. Choose the appropriate axis and click the OK Button.

NC Editor (Scale)



Even though this is rare if you need to scale an axis click on the Scale Icon and the following Window will be displayed.

NC Editor (Add Scale Parameters)

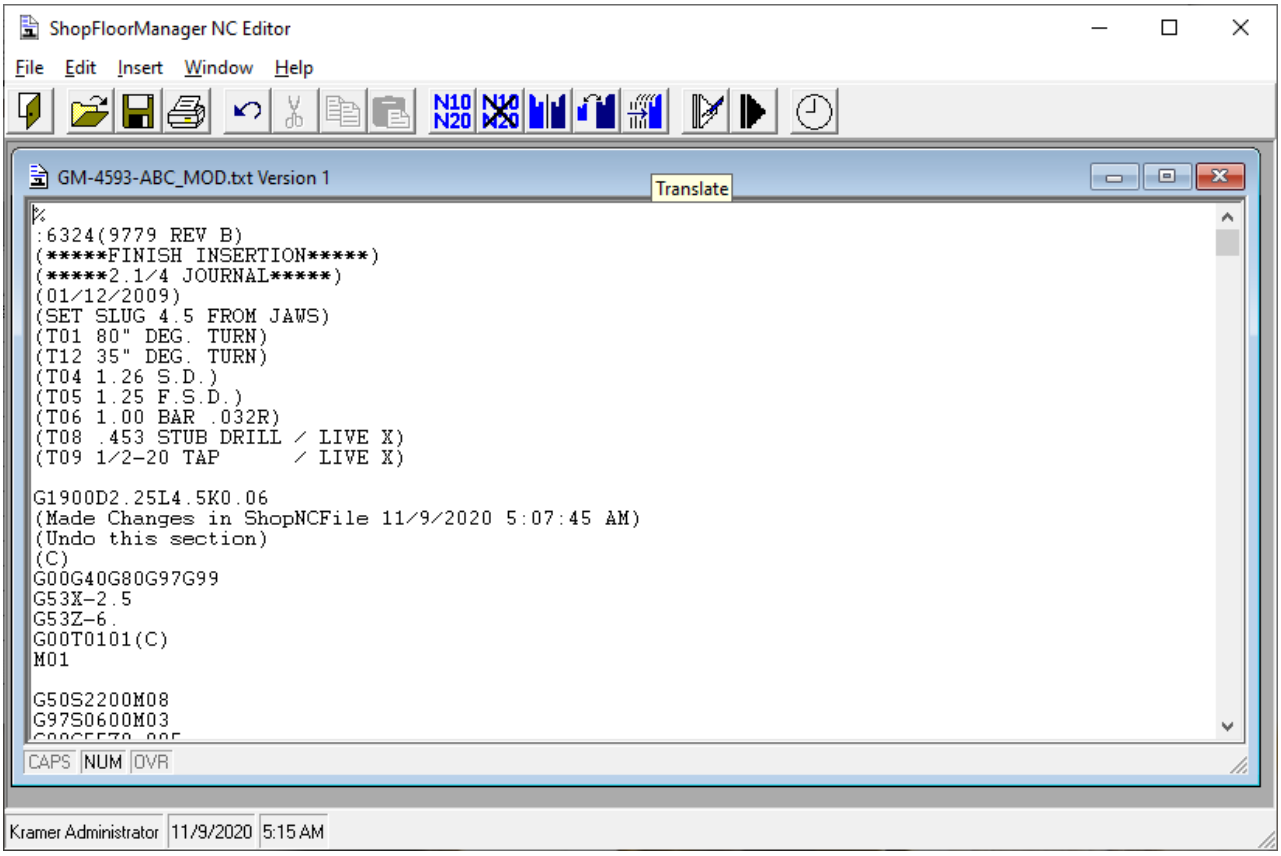


Setting Parameters:

Scaling Axis
Choose the Axis from the drop down-list!
Factor
Set the scaling factor in the text box!
Start From
Choose setting.
Continue to
If you want to stop at a particular spot in the file place the text in the text box!
Current Scaling Format
Choose settings the match your present System
New Scaling Format
Choose settings the match your present System

Note: Always test out the settings when you first start to use the N/C Editor to understand exactly what these settings do! Click the OK Button and save your file!

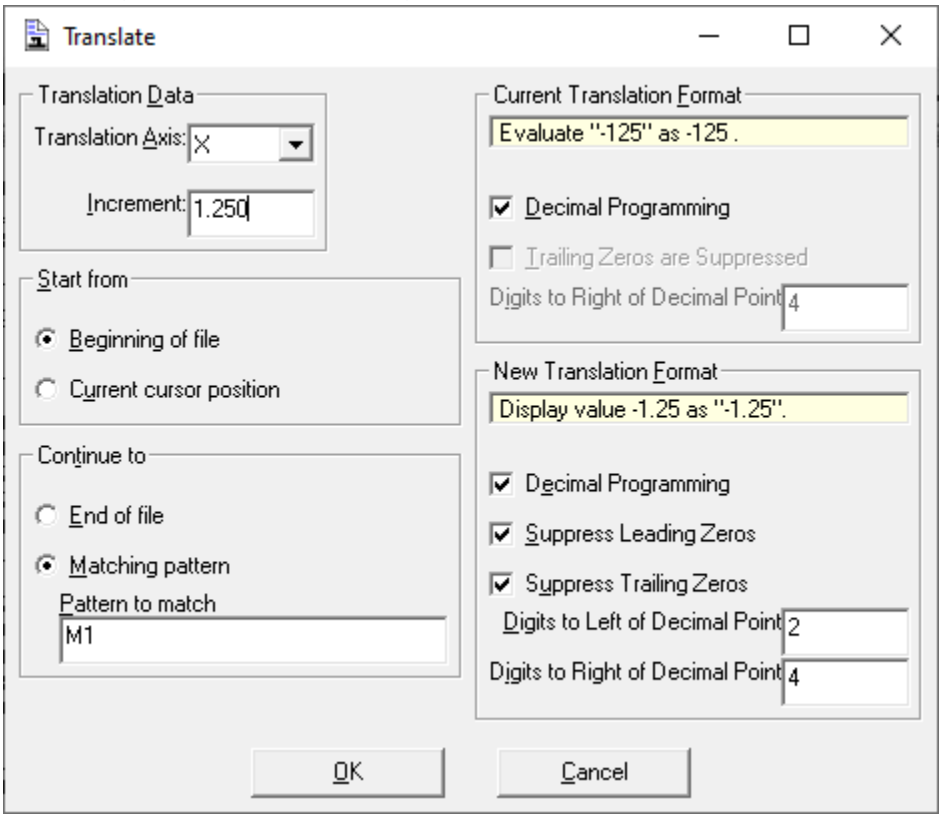
NC Editor (Translate)



There are sometimes when you may want to translate various sections of the code. As an example, if you want to duplicate a “Cut” on a different section of a part, you could copy the original section, paste to another section, and perform the translation on the new section. It assumes you add any other code need for providing tool retractions, changes, etc.

Click on the Translate Icon and the following Window will be displayed.

NC Editor (Add Translate Parameters)



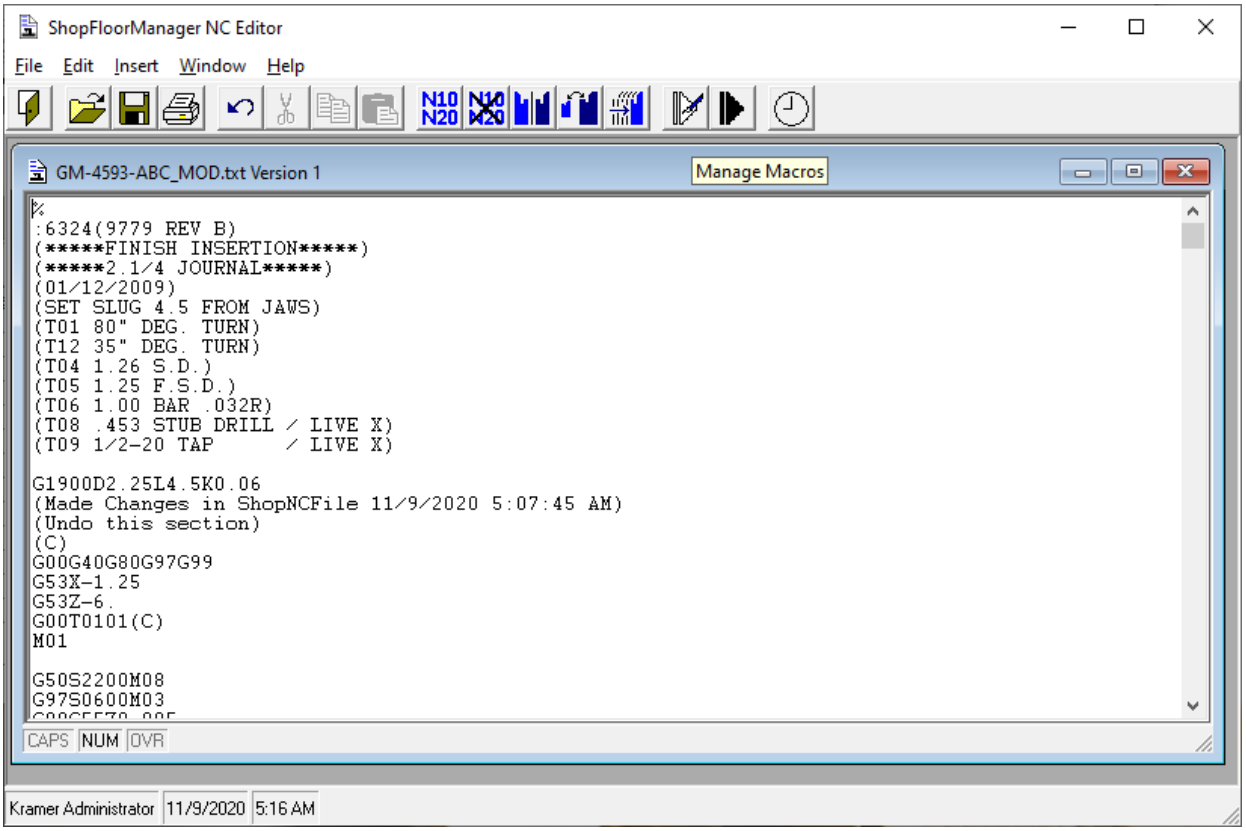
Setting Parameters:

Translation Axis
Choose the Axis from the drop down-list!
Factor
Set the translation Increment in the text box!
Start From
Choose setting.
Continue to
If you want to stop at a particular spot in the file place the text in the text box!
Current Scaling Format
Choose settings the match your present System
New Scaling Format
Choose settings the match your present System

Note: Always test out the settings when you first start to use the N/C Editor to understand exactly what these settings do!

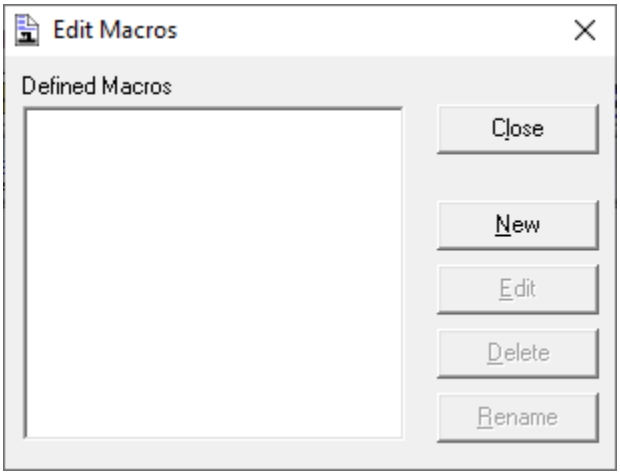
Click the OK Button and save your file!

NC Editor (Manage Macros)



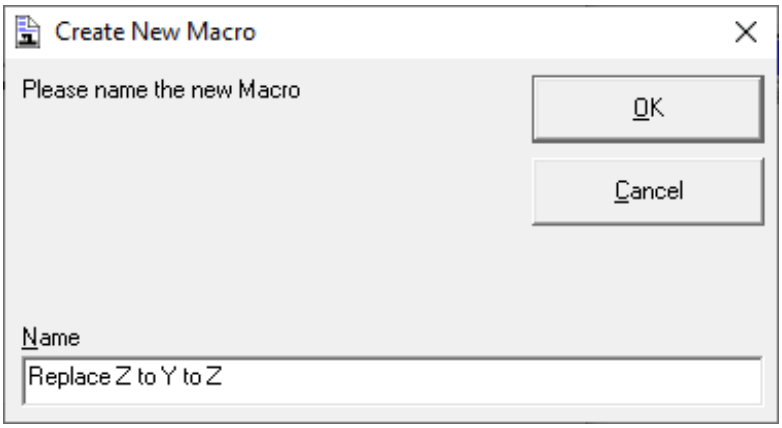
NC Editor provides Macros to be able to Copy & Replace sections of code to any depth. To create a Macro, click on the Manage Macros Icon and the following Window will be displayed.

NC Editor (Add Macro Name)



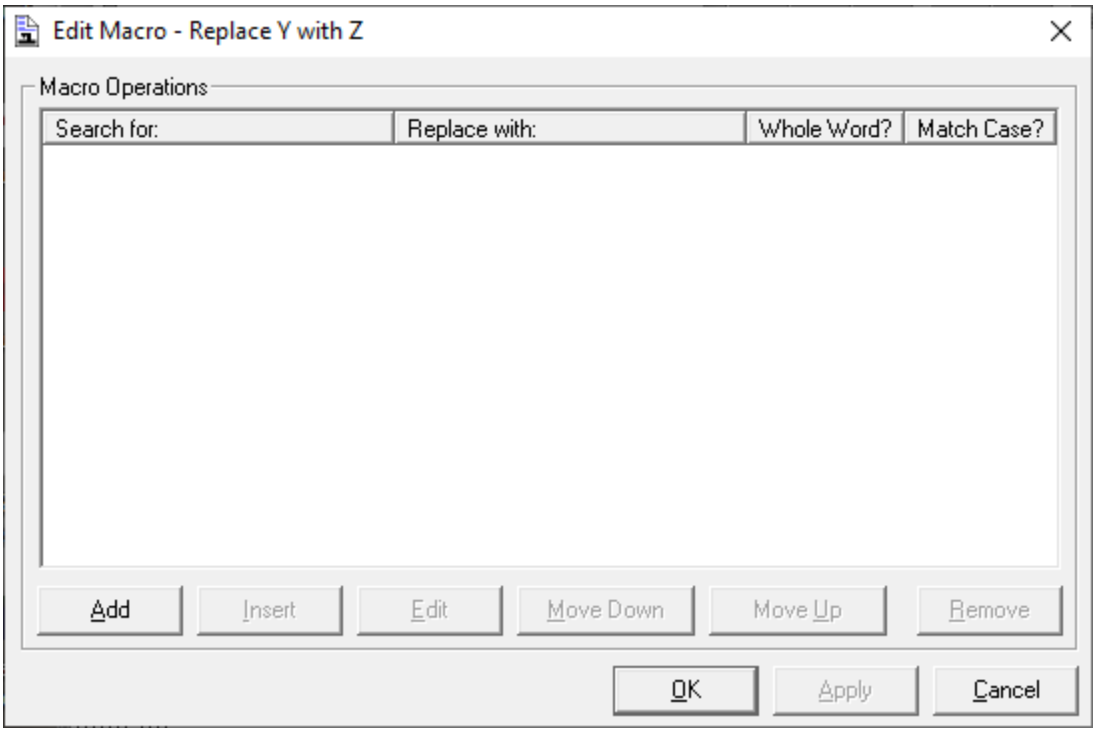
Click on the New Button and the following Window will be displayed.

NC Editor (Create Macro Name)



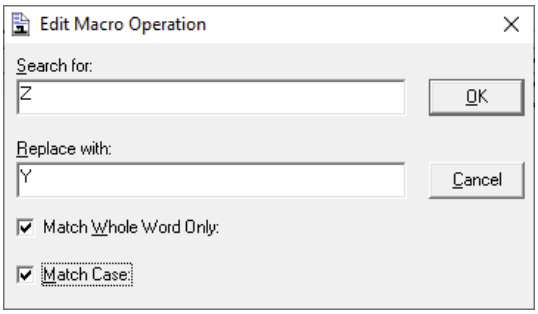
Enter the Name of the Macro and click the OK Button and the following Window will be displayed.

NC Editor (Edit Macro Replace Z to Y to Z)



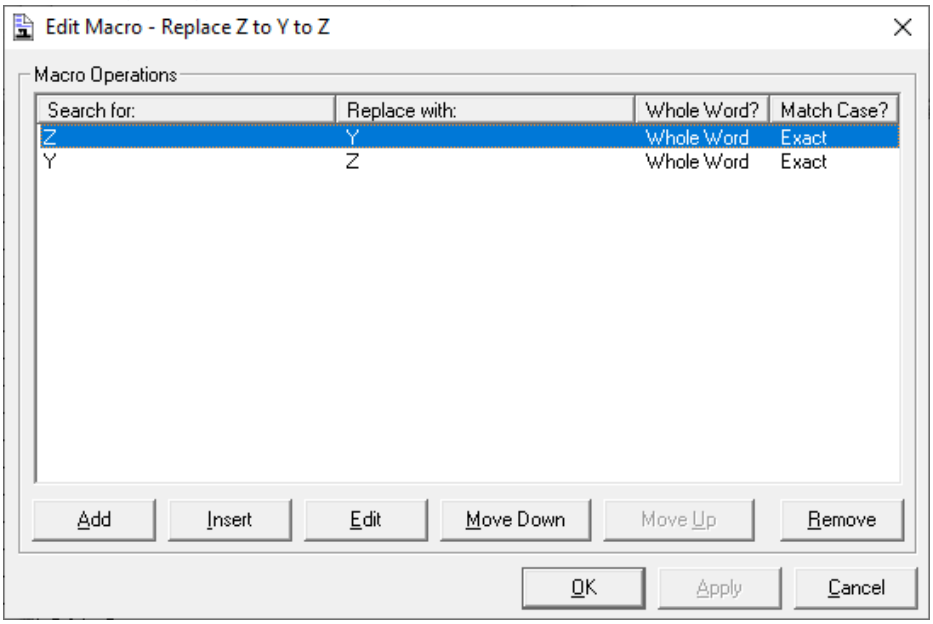
Click the Apply and then the OK Button and the following Window will be displayed.

NC Editor (Search and Replace)



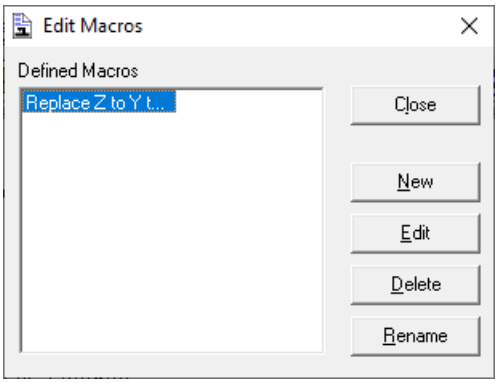
The Macro can consist of any number of search and replaces. This is the first entry. Click the OK Button.

NC Editor (Multiple Replacements)



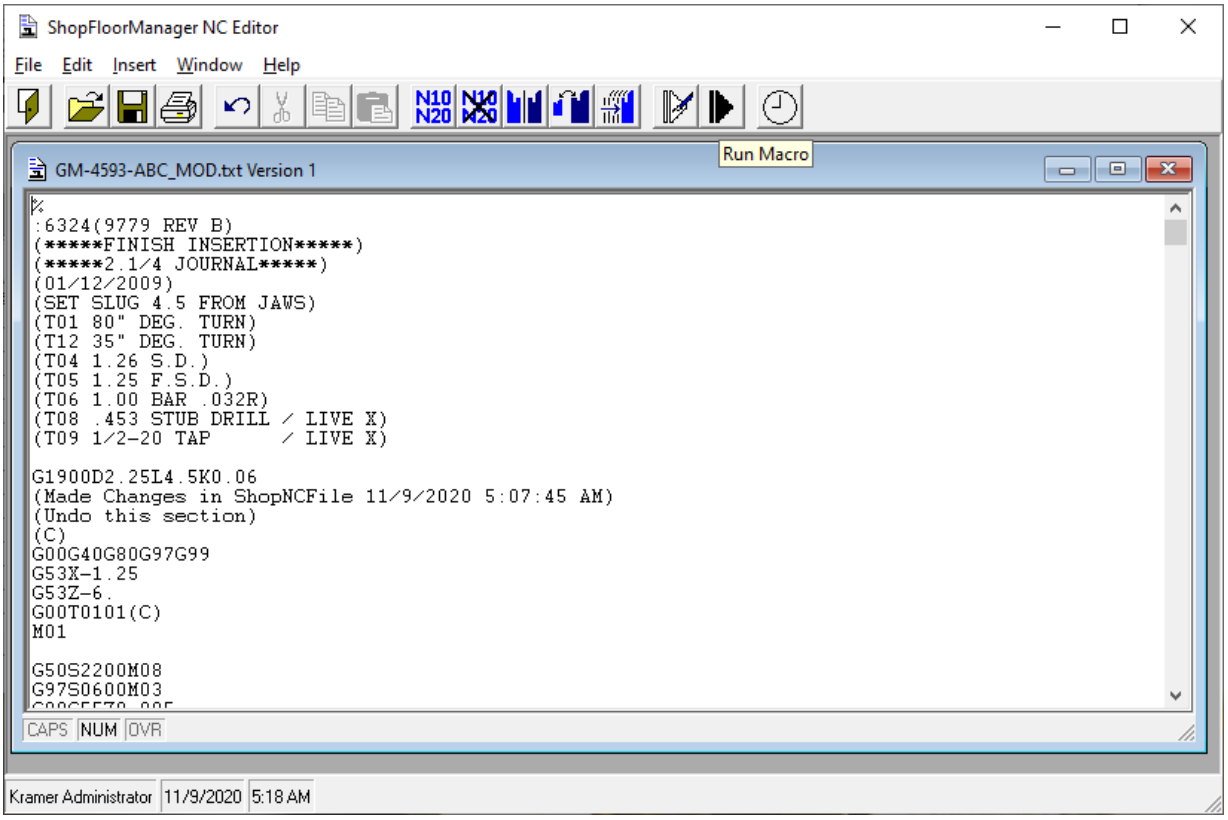
When done Click Apply and the OK Button and the following Window will be displayed.

NC Editor (Replace Y to Z to Y)



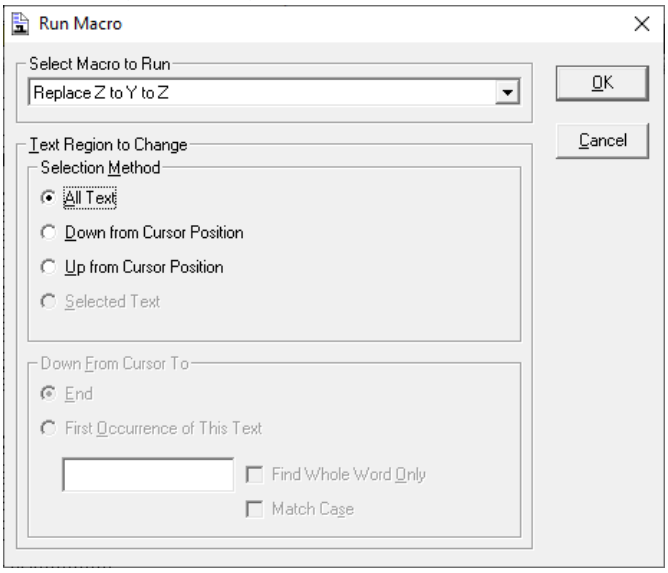
This displays the various Macros saved. This is for Demo purposes only!

NC Editor (Run Macros)



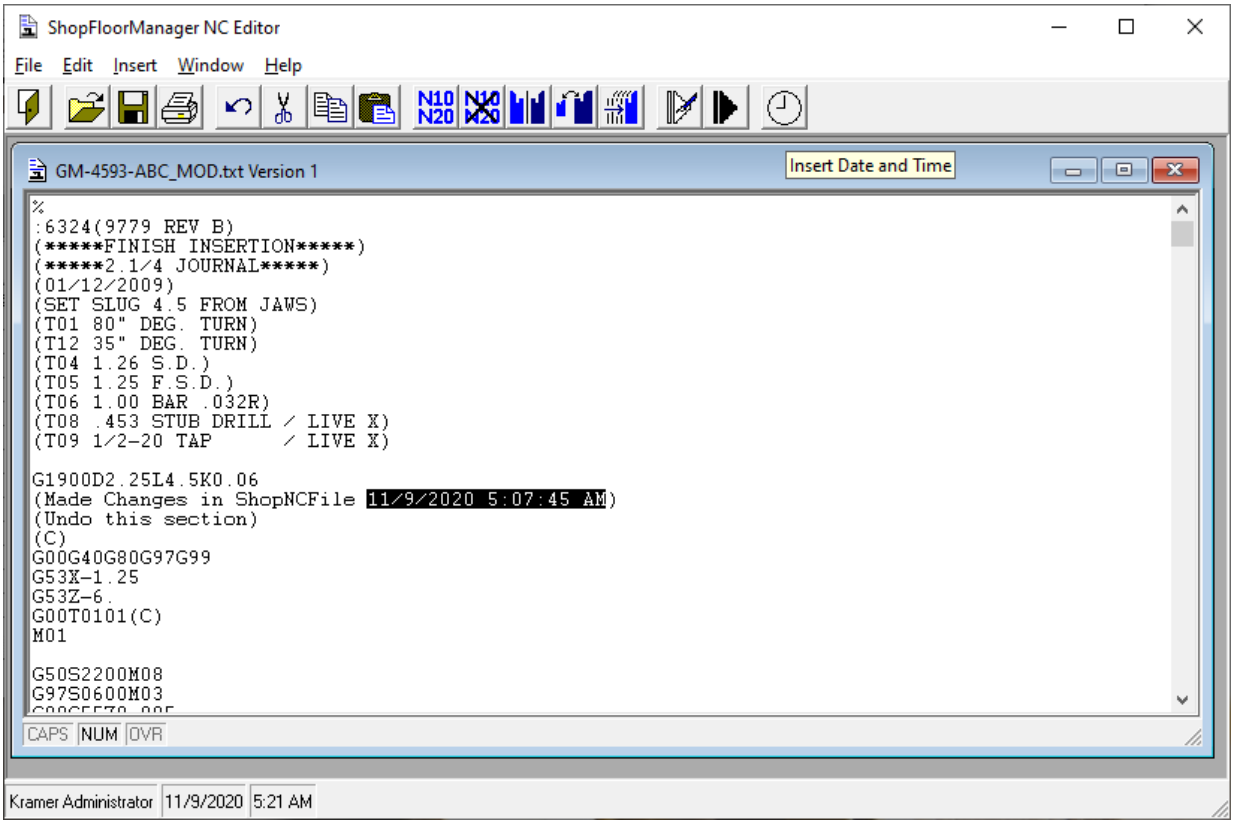
Let us see how to run a Macro. Click on the Run Macro and the following Window will be displayed.

NC Editor (Run Macro)



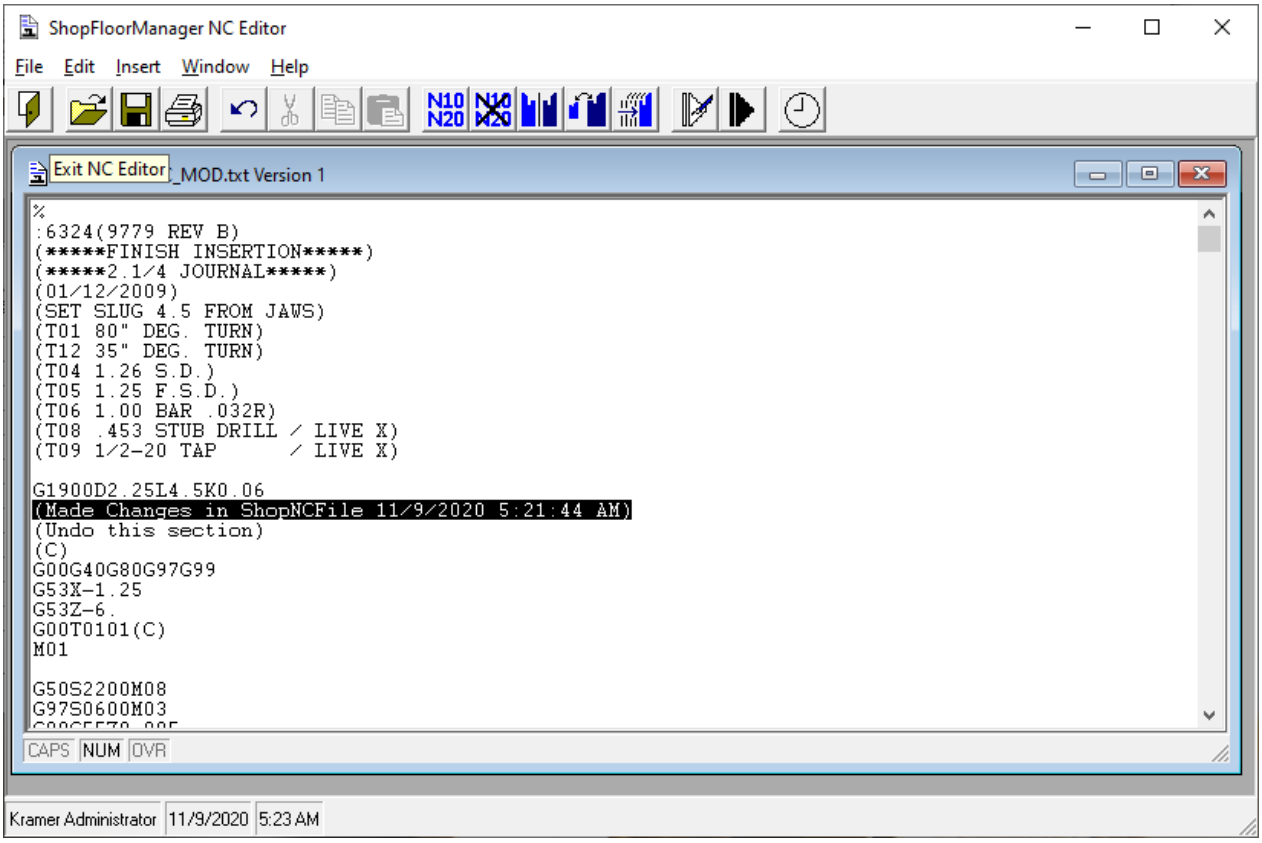
Make the necessary settings and click the OK Button. This Macro just changes Z(s) to Ys to Z(s)! The final result returns the file back to its original content. This was done for the Demo only!!!

NC Editor (Insert Date and Time)



Add today's Date & time anywhere the cursor is or where Highlighted Text is and click the Insert Date and Time.

NC Editor (Date and Time Inserted)

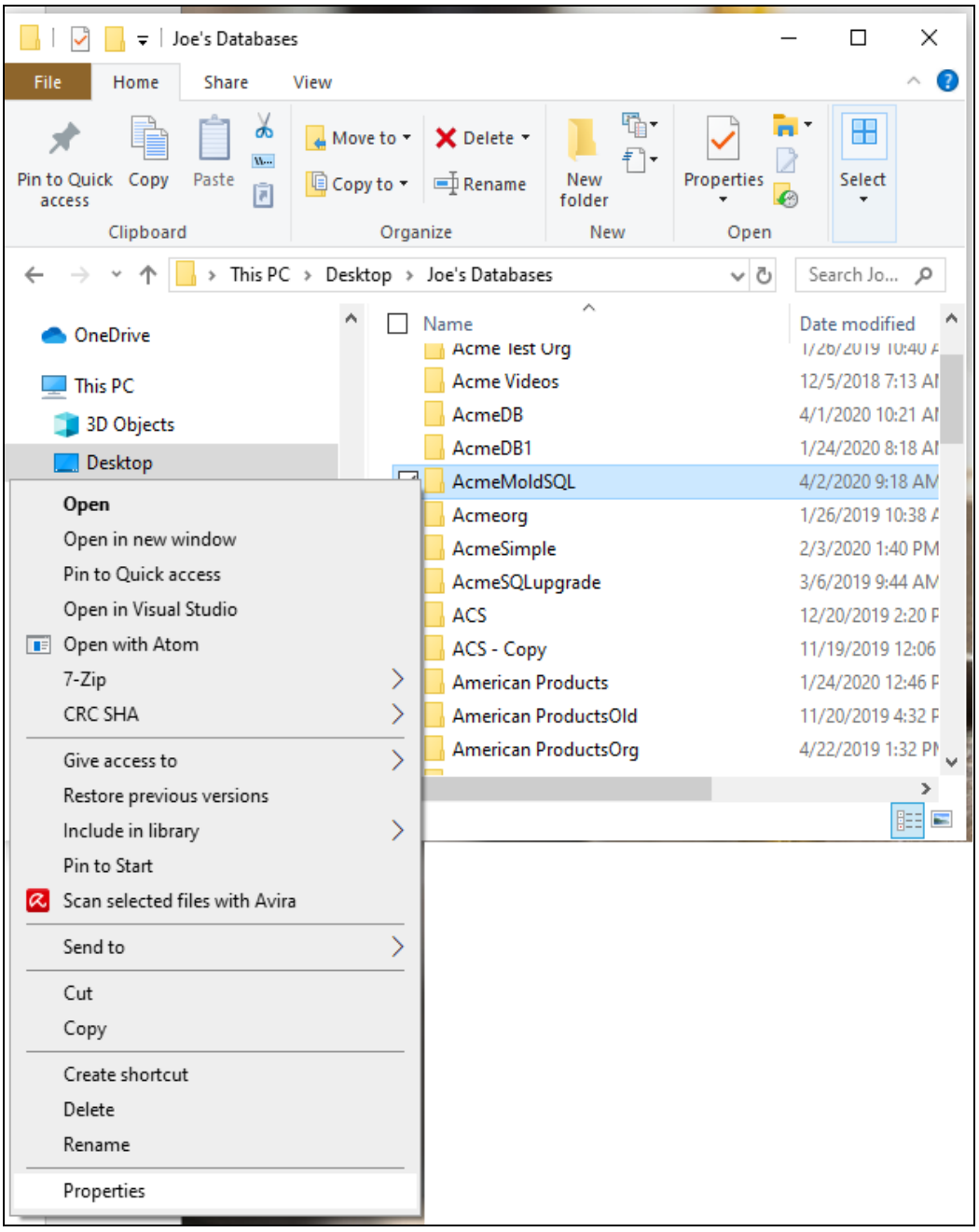


Today's Date and time inserted where the Cursor was placed. We have finished the NC Editor Section of the Manual! Click on the Close Icon.

Network Shared Folder (Be nice! Share across Networks)

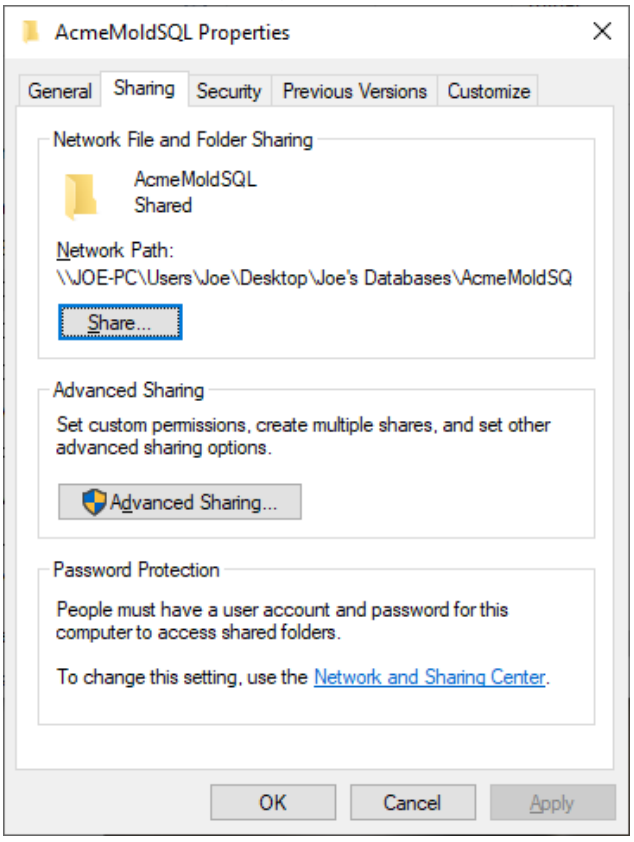
Locate where you want to create a new Folder or an existing Folder to share!

Share Folder (Create New or using Existing Folder)



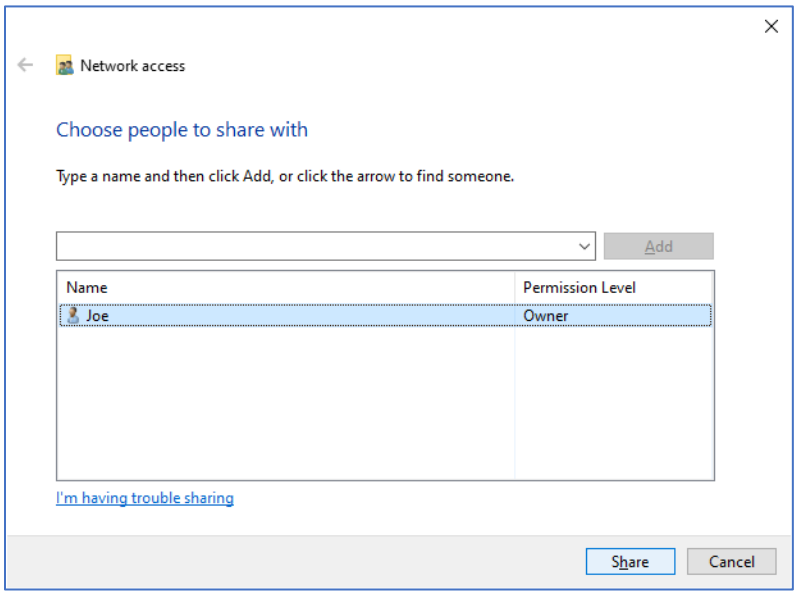
After creating and or selecting the folder right click and select the Properties Menu and the following Window is displayed.

Network Shared Folder (Folder Properties Window)



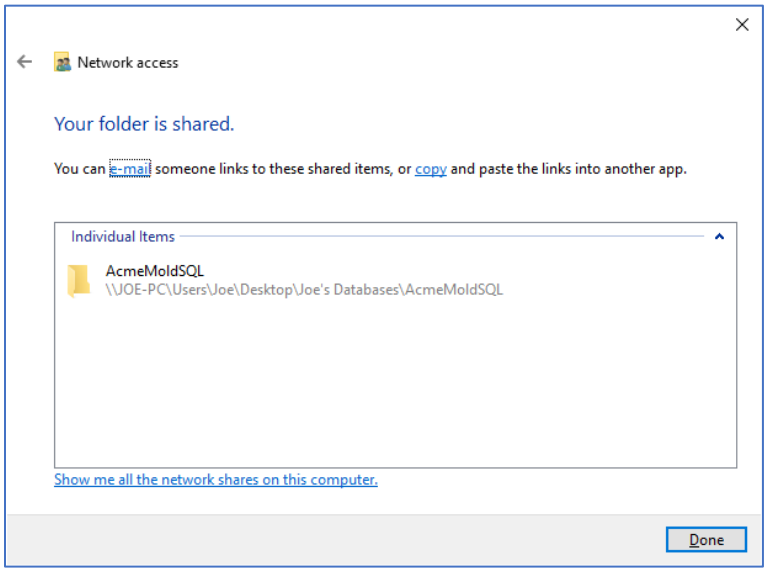
If not already Shared click the Share Button and the following Window is displayed.

Network Shared Folder (Choose Users to Share)



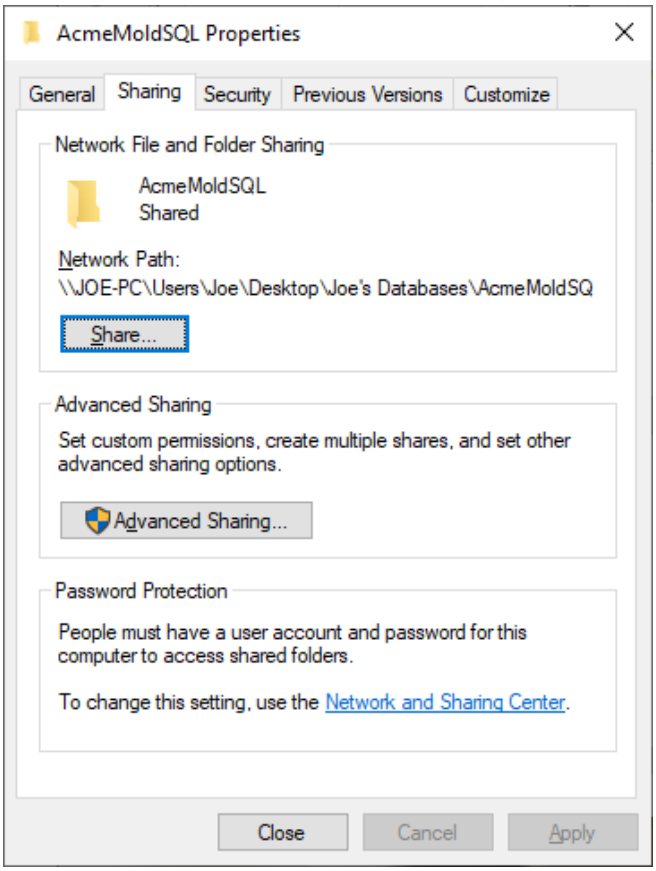
Click the Share Button and the following Window is displayed.

Network Shared Folder (Done Choosing Users to Share)



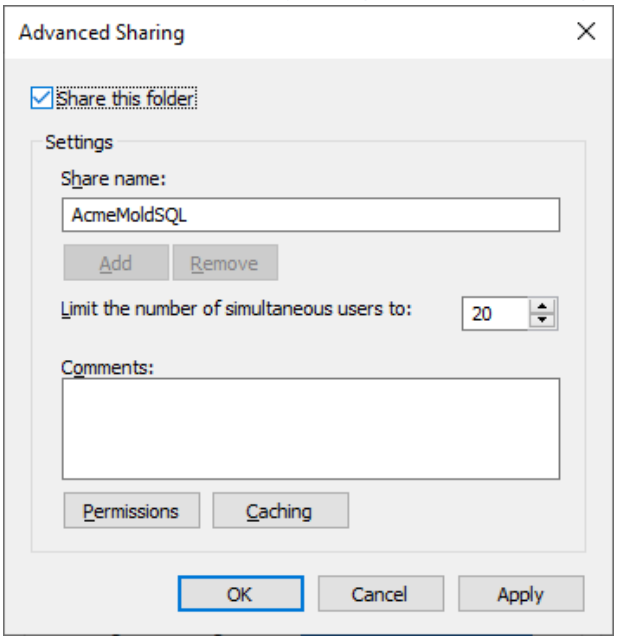
Click the Done Button and the following Window is displayed.

Network Shared Folder (Advanced Sharing…)



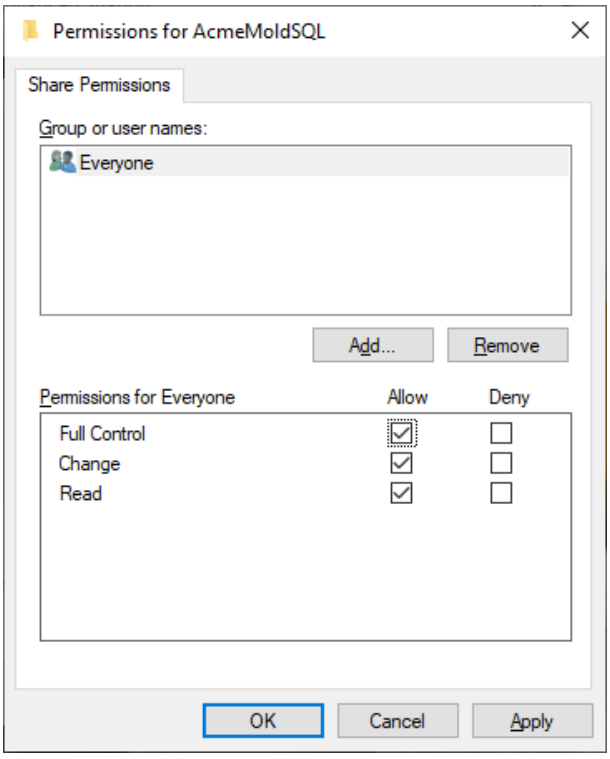
Click on the Advanced Sharing and the following Window will be displayed.

Network Shared Folder (Setting Advanced Sharing Properties)



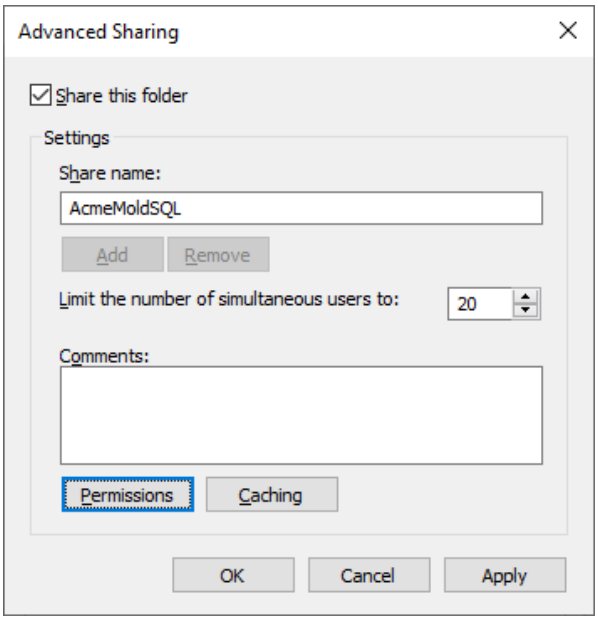
Check the checkbox “Share this Folder” and click the Permissions Button and the following Window is displayed.

Network Shared Folder (Permissions – Full Control)



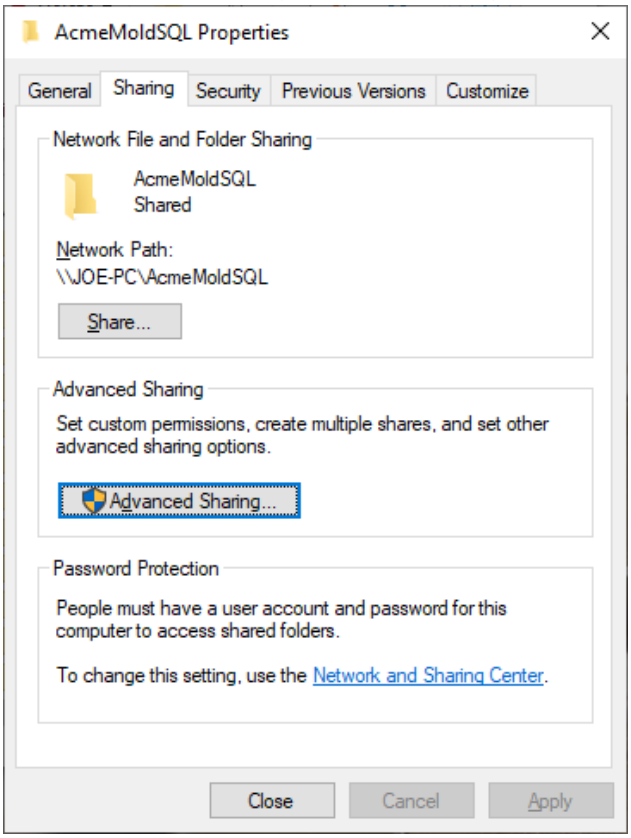
Give Full Control to selected Users. Click the Ok Button and the following Window is displayed.

Network Shared Folder (Permissions – Full Control)



Click the Ok Button and the following Window is displayed.

Network Shared Folder (Completed Settings)



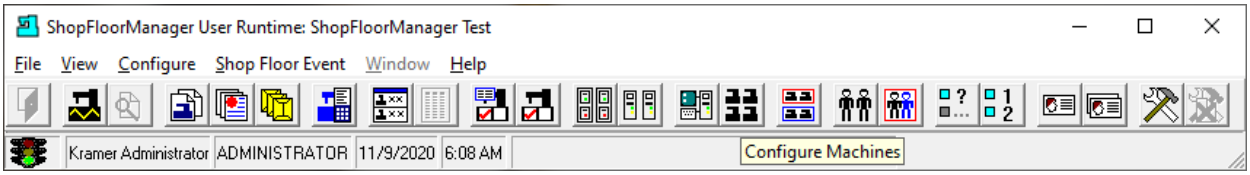
Click the Close Button when finished.

Organizational Units (Be a Magician. Hide & Show them Units with one Click!)

When working with Views that contain a large number of Machines, ShopFileCabinets, Resource Collects, etc. it can be difficult to select the particular Item to work with efficiently.

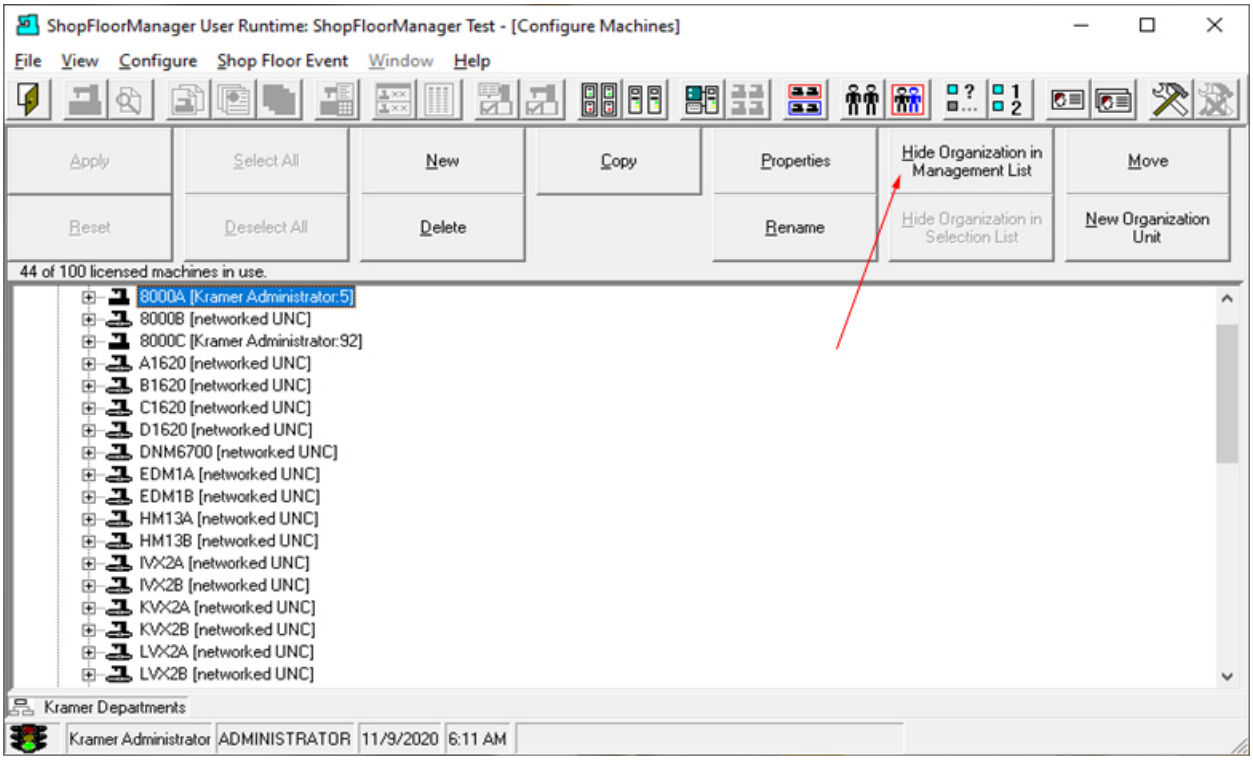
ShopFloorManager provides Organizational Units which is a Universal method to manage Machines, ShopFileCabinets, Resource Collects, etc. and address this problem!

Organizational Units (ShopFloorManager Runtime – Manage Machines)



From ShopFloorManager Runtime click on the Configure Machines Icon and the following Window is displayed.

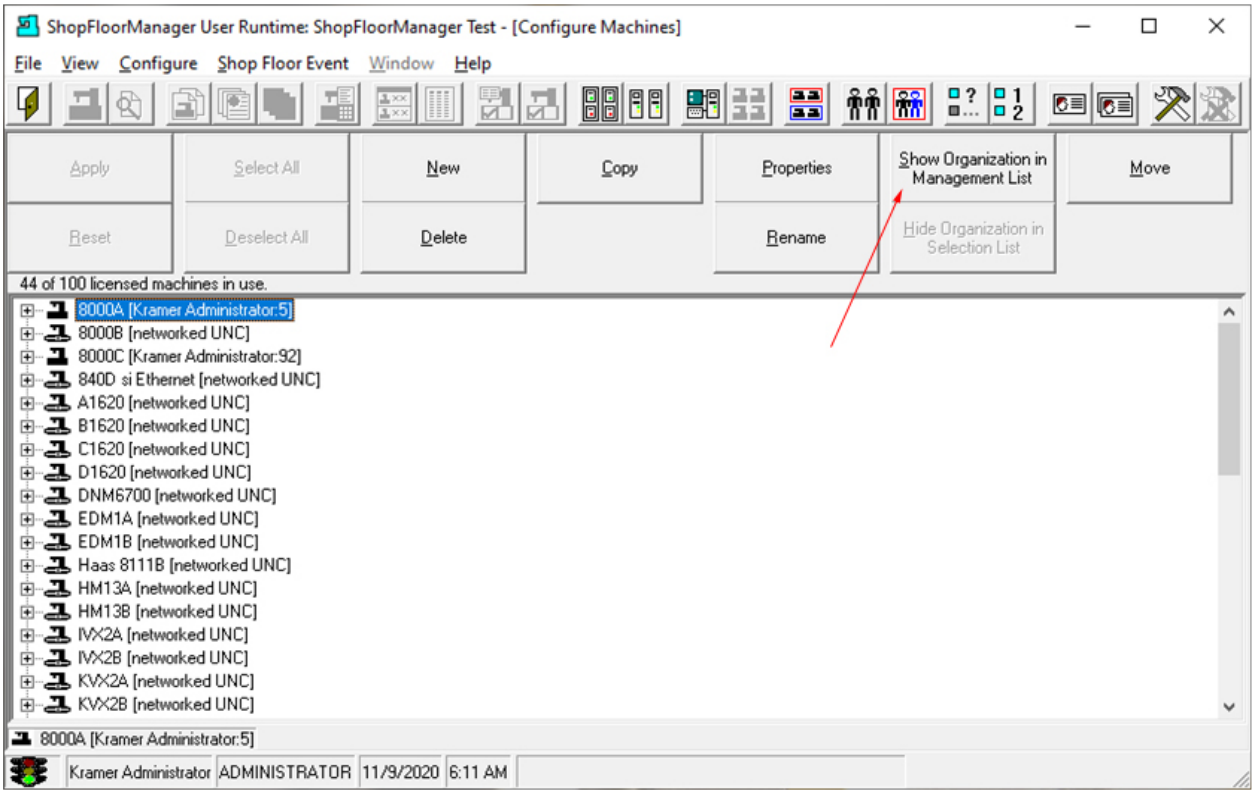
Organizational Units (Machines… Hide Organization in Man…)



If your view already has the Organizational Units open, click on the “Hide Organization in…” Button, see **Red Arrow** above, and the following Window will be displayed.

Note: You may see another list open in the Right-Hand Side of the Window just ignore that list for the present purposes!

Organizational Units (Machines… Flat List)

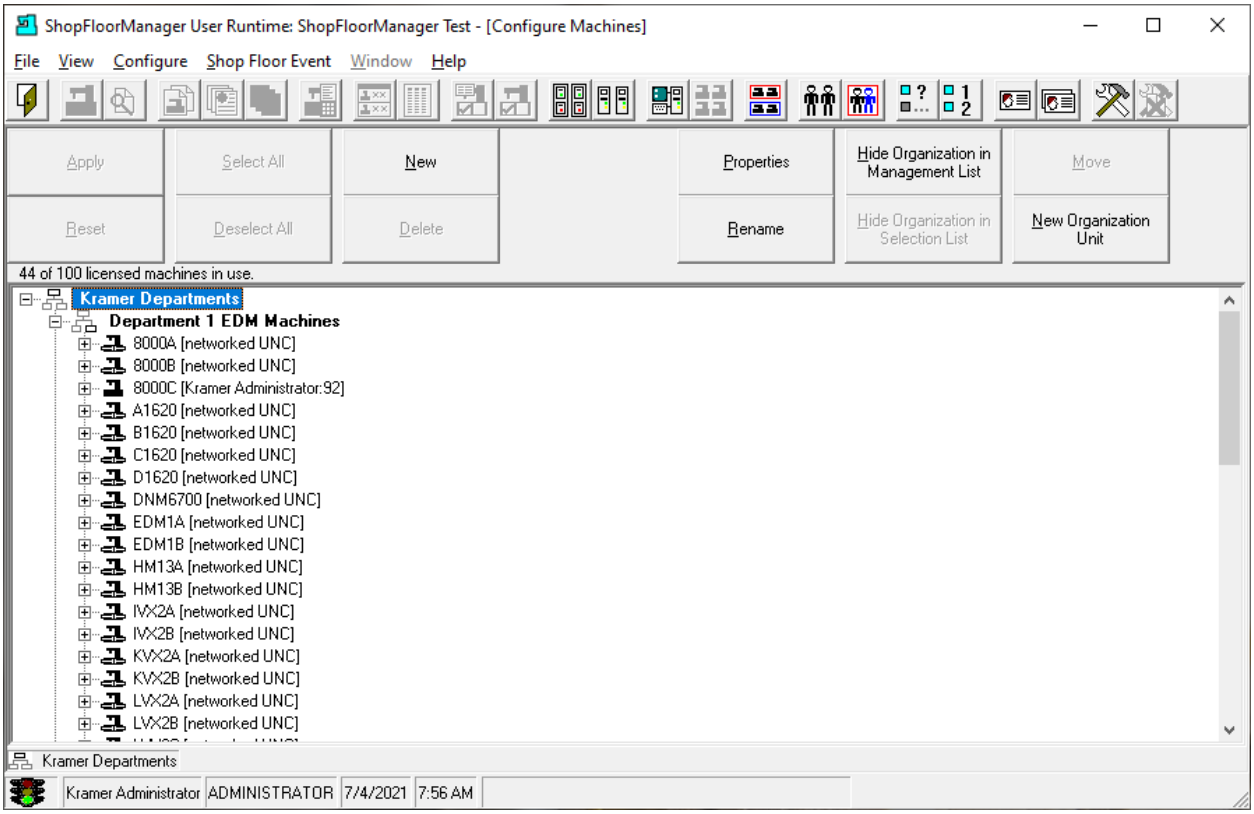


The above View is the standard View when not using Organization Units.

When you have many Machines, or it is deemed necessary to Group Machines together for managing reasons, a “Flat” List just won’t work.

We will be working with Configure Machines to demonstrate how to create and use Organizational Units. Click on “Show Organization in Management List” Button, see **Red Arrow** above, and the following Window will be displayed.

Organizational Units (Machines… Tree View)



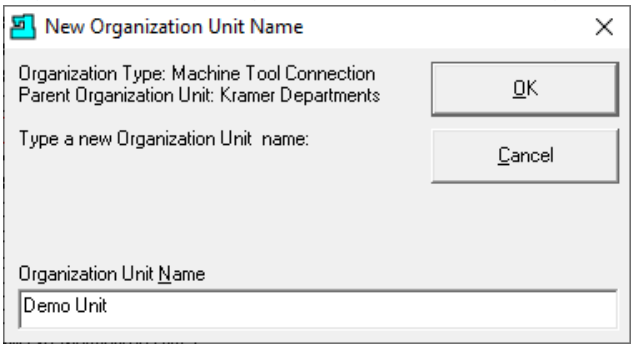
The above view shows how Organizational Units provide a grouping structure for organizing your Machine Tools. You can collapse or expand any individual structure providing a working view that is easy to manage.

If you can image trying to locate or work with a particular Machine or groups of Machines in a list of over 100 Machines, a “Flat” list just won’t work!

Let’s show how to create a new Organizational Units and populate it with an existing Machine.

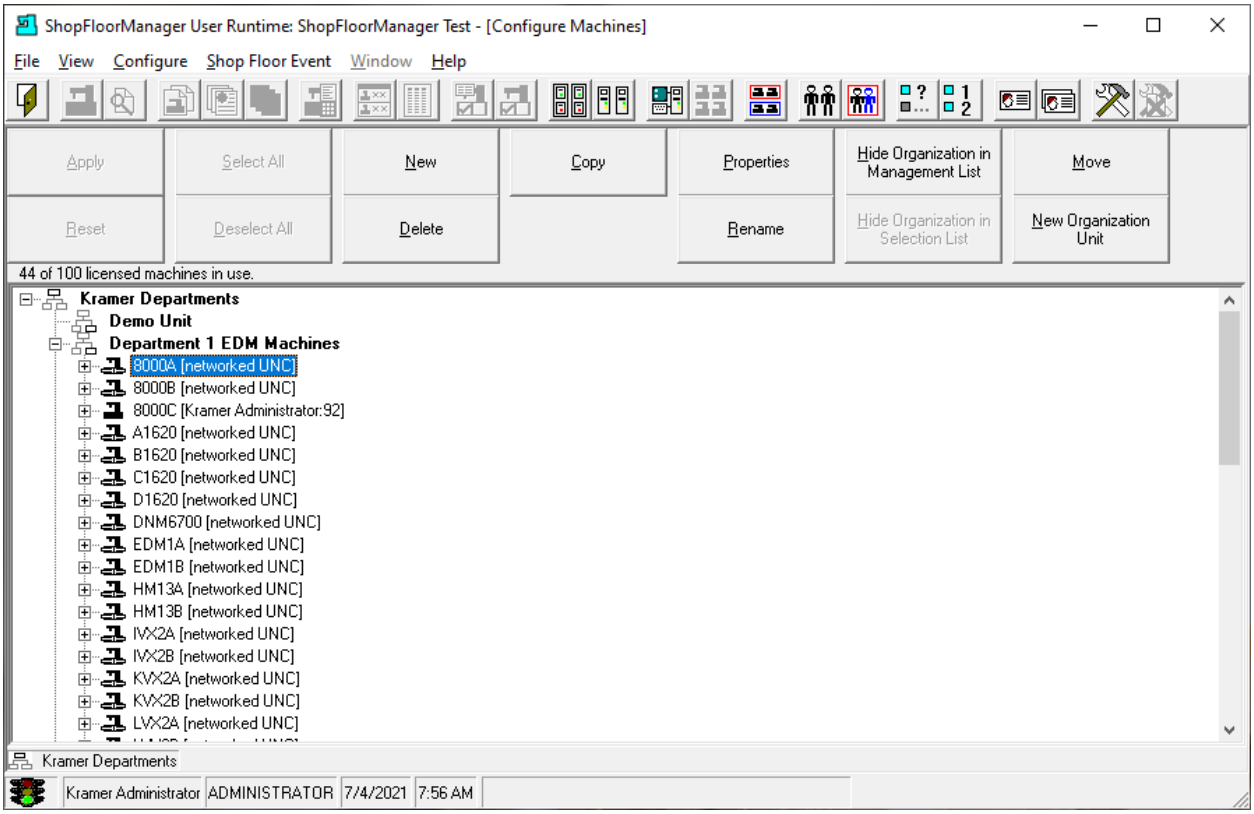
Make sure to highlight the Unit you want this new Unit to appear under. Click on the “New Organizational Units” and the following Window is displayed.

Organizational Units (Organizational Units Name)



Enter a name and click the OK Button and the following Window will be displayed.

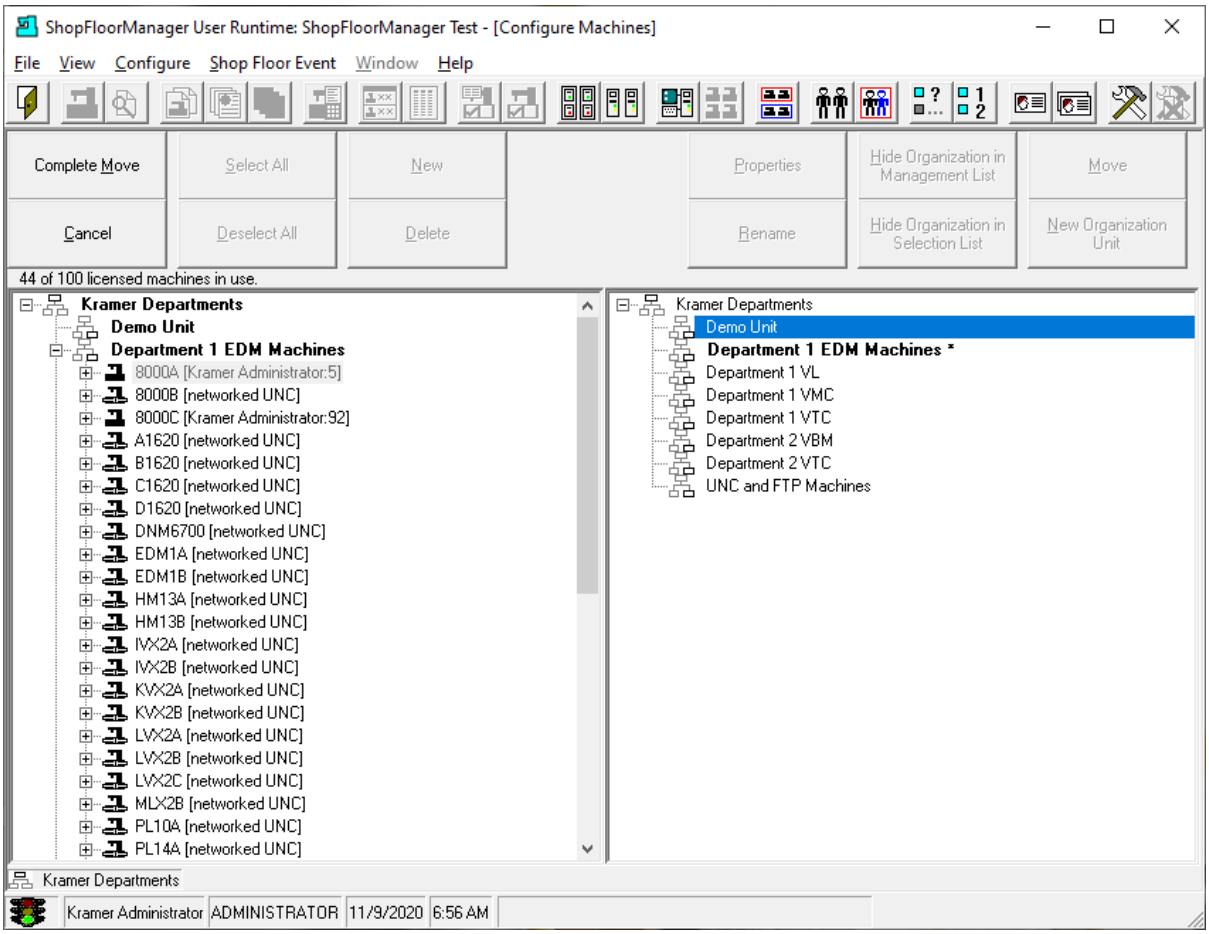
Organizational Units (Organizational Units Demo Unit)



We will highlight & move the Machine 8000A from the Organizational Units “Department 1 VMC” to Unit “Demo Unit”.

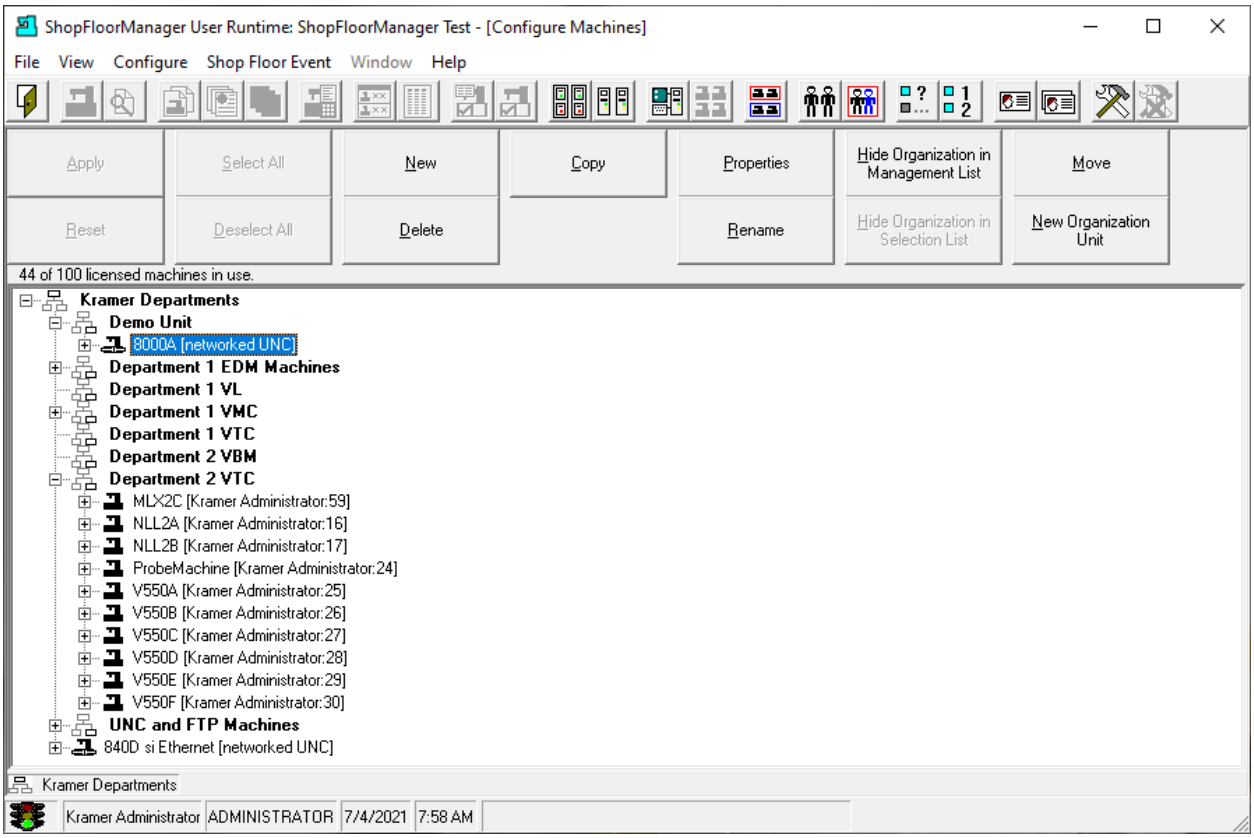
Click on the Move Button and the following Window will be displayed.

Organizational Units (Move 8000A to Organizational Units Demo Unit)



Highlight the Organizational Units you want to move the Machine 8000A to, Demo Unit, and click the Complete Move Button and the following Window will be displayed.

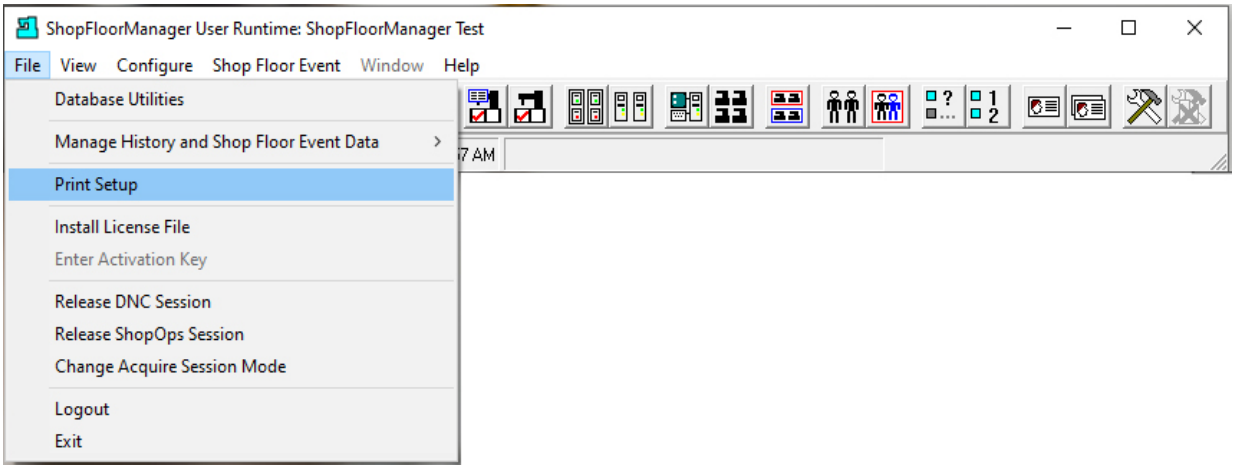
Organizational Units (8000A Moved to Organizational Units Demo Unit)



That's all there is to creating and using Organizational Units. Like many other features in ShopFloorManager working with these features provides the best documentation. Can't hurt anything so play with this and other features!

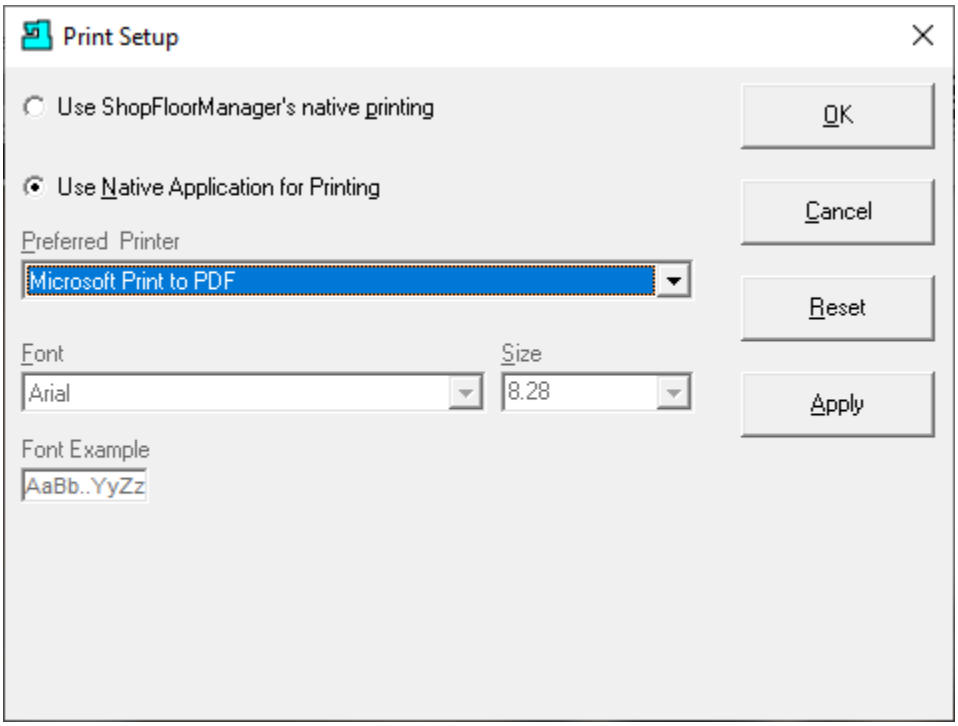
This section is complete so let's move to the next section!

Printer Setup (Put your hands down! I said Setup not Stickup! But I'll take your money!)



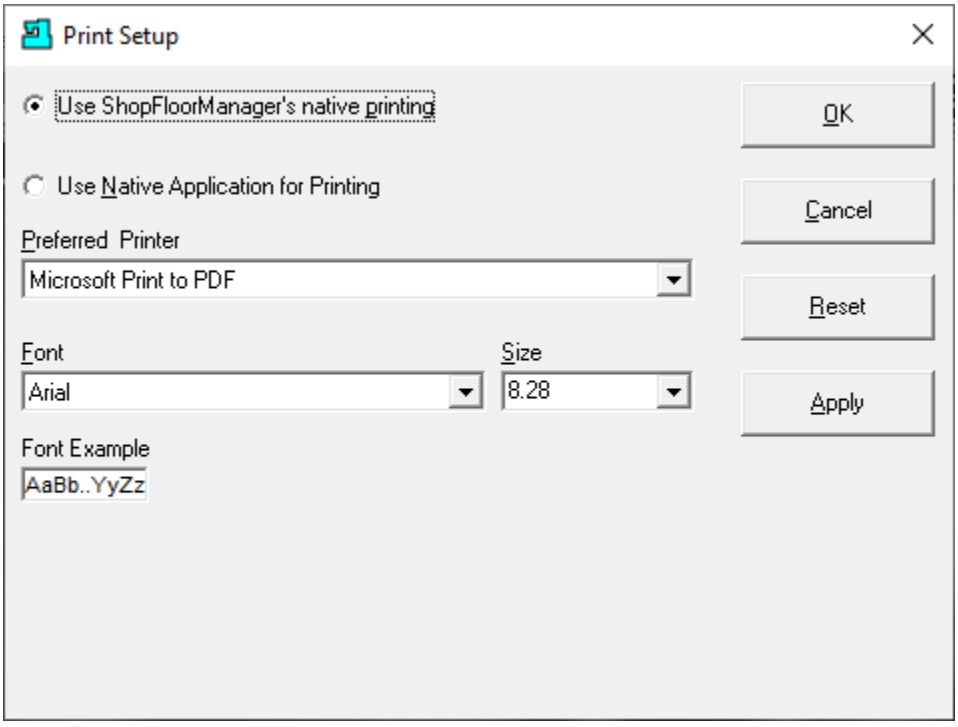
ShopFloorManager provides a Basic Printer Setup. Click on the Print Setup and the following Window will be displayed.

Printer Setup (setting Native Parameters)



This is the Default Printer Window using ShopFloorManager. It is suggested to use the much more robust Native Application if possible. It is also recommended that you print to a PDF as many of the ShopReports generate thousands of Pages of data! These reports can contain over 500,000 Events for a given time frame!

Printer Setup (setting ShopFloorManager native Parameters)



As you can see the only differences between the Native & ShopFloorManager is the selection of the Font/Size!

Make the selection and changes above and click the Apply.

Remote Request Commands (Remote Control for CNCFlix. Stream your Favorite ShopNCFiles!)

Overview

Remote Request Commands were first used to provide a simple way to allow Operators to make simple requests to CCI's Factory Automation Systems from their controllers!

These first requests were for queuing ShopNCFiles for downloading. After requesting a file to be queued all an Operator had to do to get the file was push their "Read Button"! If the file was not downloaded there was nothing that indicated what was happening. The Operator could also request to queue a ShopNCFile to be received. Though effective, it immediately became obvious that this functionality was too limiting for Operators, thus started the evolution of ShopFloorManager's Remote Request Commands.

These Commands now include virtually any request an Operator could ask ShopFloorManager regarding ShopNCFiles and a detailed accompanying response indicating what ShopFloorManager could & could not complete!

Below we will cover every ShopFloorManager's Remote Request Command detailing how it is used and what it depends on to fully function. There is a total of 21 of these Commands.

Before we get started the following sections of the Manual should be Reviewed:

Remote Request Base Settings
Remote Request Parameters (Machines)
Remote Request RS-232 Example
Remote Request UNC Example

Note: Read these sections in detail to fully understand how Remote Request Commands function!

Abort Transfer Request:

If the Operator had made a previous Request to up or download a file and that request was in error, uploading this Command will nullify the previous Transfer Command!

I.E. Insert the comment "(ABORT)" in empty ShopNCFile and upload to ShopFloorManager

Clear Queue

This command will remove all files on the Queue!

I.E. Insert the comment "(CLR)" in empty ShopNCFile and upload to ShopFloorManager

CNC E-Mail

This command will send an E-Mail to the designate recipient(s)!

See the sections: Email SMTP, CNC Email Activation, Emails Machine, Configure Contacts, Configure Distribution Lists.

I.E. (CNCEMAIL Reciprent1, Reciprent2, …) or (CNCEMAIL Reciprent1, List Distribution1, List Distribution2, …)

("Message line one")
("Message line two")
…
("Message line …")
(END CNCEMAIL)

Remote Request Commands (Cont.):

CNC E-Mail Template

This command will queue a list of E-Mail Templates associated with this Machine from which you can select the ones you want to use for sending E-Mails. See details in Red below!

I.E. Upload the command (CNCEMAILTEMPLATE) and the following will be downloaded:

```
%
O2222
/(CNCEMAIL)
/(END CNCEMAIL)
/(CNCEMAIL JOE)
/(END CNCEMAIL)
/(CNCEMAIL LIST OPERATORS)
(END CNCEMAIL)
(> TO SUBMIT A COMMAND, FIRST DELETE '/' [THE DISABLE CHARACTER] FROM THE    )
(>    BEGINNING OF THE LINE, THEN EDIT ANY COMMAND ARGUMENTS,              )
(>    THEN SEND THIS NC PROGRAM TO THE DNC COMPUTER.                       )
(>                                                                         )
(> SEND CNC E-MAIL MESSAGE FOR THIS MACHINE. THE ARGUMENT LIST IS          )
(>    [RECIPIENT_LIST]                                                     )
(> RECIPIENT_LIST = [BLANK RECIPIENT LIST = SEND TO ALL CONFIGURED         )
(>    RECIPIENTS] LIST OF RECIPIENTS AND RECIPIENT GROUPS. SEPARATE NAMES  )
(>    WITH ',' [ARGUMENT SEPARATOR CHARACTER]. WRITE RECIPIENT GROUPS AS   )
(>    'LIST RECIPIENT_GROUP'.                                              )
(>                                                                         )
M30
%
```

Once you have modified this File (Command) upload it to ShopFloorManager and activated E-Mail Commands will be Processed by ShopFloorManager and the E-Mails will be sent!

Command Template

This command will queue a list of Command Templates associated with this Machine from which you can select the ones you want to use for sending Commands.

I.E. Upload the command (COMMANDTEMPLATE) and based on the parameters set for this Machine a list of all of the Commands that can be used at this Machine will be downloaded.

Get All

This command will queue all the files associate with Resource Collection as an argument in the Command. This should only be used for UNC & FTP Machines!

I.E. Upload the command (GETALL Resource Collection “Name”) and all of the files in this Resource Collection will be downloaded!

Get ShopNCFile and Loop

This command will queue up the selected file for continuous Drip Feed!

I.E. Upload the command (GETLOOP File Name, Version number) and that file will be queued for continual drip feed.

Remote Request Commands (Cont.):

Get ShopNCFile Once

This command will queue up the selected file for downloading!

I.E. Upload the command (GET File Name, Version number) and that file will be queued for continual drip feed.

Get ShopNCFile Once for Drip-Feed

This command will queue up the selected file for Drip Feed!

I.E. Upload the command (GETDRIPFEED File Name, Version number) and that file will be queued for one cycle of drip feed.

Get Last Response

This command will retrieve the last Response sent to this Machine. Most settings for Response Files limit the time it is available for downloading before de-queuing. If sent it will requeue the Last Response so you can download it.

I.E. Upload the command (LAST) and last response file will be queued.

Help

This command will retrieve the help File with the Name “name”.

I.E. Upload the command (HELP name) and the Help file with that name will be downloaded. See Information on Help Files.

Help Topics

This command will retrieve the help File with the Topic “topic”.

I.E. Upload the command (HELP topic) and the Help file with that name will be downloaded. See Information on Help Files.

Remote Request Commands (Cont.):

List ShopNCFiles

This Command is used to download a Special Command file containing a listing of files that are available for downloading. This Command file can be easily modified by removing "/" at the beginning of line of the file(s) you want to download. You can then upload this Command File and the selected file(s) will be queued. The Command with its arguments is:
(LIST Resource Collection, Filter for choosing Files, Number files in the List, Starting Position)
Description:
Resource Collection: Place the name of resource collection and only those files in this resource collection will be listed in the listing! If you put in a blank in that position all of the files will be sent back in the listing.
Filter: Example: 143* will send all files matching the first three characters
Number of files in List: If you don't put a number in here all of the files will be downloaded up to the Default list size of 100. The Command file downloaded will contain parameters for getting the next 100 files for viewing. If you put in a number less than 100 that will be the size of the listing!
Starting Position: Always choose 1. When the Command file is downloaded it will automatically put in the correct number for downloading the next list of files available for queuing.

Example: Upload the Command file: (List 8000A, ,10,1) to ShopFloorManager and this is what would be sent back to the Machine Tool! Because this command could be complex when retrieving the results give 30 seconds before punching the Read Key!

Remote Request Commands (Cont.):

Note:

If the following file is uploaded without modifying anything the next listing of files will be downloaded starting with 11! See the command (LIST 8000A, ,10,11) below.

If you remove a "**/**" at the beginning of a File(s) and upload this Command File, those File(s) will be Queued for downloading! See Instructions in **Red** below!

```
%
O2222
(SENDSELECTED)
(> TO REQUEST SENDING NC PROGRAMS FROM THIS LIST, FIRST MARK SELECTED FILES  )
(>    BY TYPING / AT THE BEGINNING OF THE LINE FOR EACH FILE, THEN SEND     )
(>    THIS NC PROGRAM TO THE DNC COMPUTER.                                  )
(>                                                                          )
(LIST 8000A, , 10, 11)
(> TO GET THE NEXT LISTING PAGE, SEND THIS NC PROGRAM TO THE DNC COMPUTER.  )
(> RETURN A PARTIAL LIST OF NC PROGRAMS SORTED BY NAME AND VERSION. SPECIFY  )
(>    WHAT NC PROGRAMS TO LIST, HOW MANY TO LIST, AND THE BEGINNING OF THE  )
(>    PARTIAL LIST. THE ARGUMENT LIST IS [RESOURCE_COLLECTION, _FILTER_,    )
(>    PAGE_SIZE, FIRST_ENTRY]                                               )
(> RESOURCE_COLLECTION = INCLUDE ONLY NC PROGRAMS THAT ARE ASSIGNED TO THE   )
(>    NAMED RESOURCE COLLECTION [BLANK = ALL RESOURCE COLLECTIONS]          )
(> _FILTER_ = INCLUDE ONLY NC PROGRAMS WHOSE NAMES MATCH THIS FILTER        )
(>    EXPRESSION [BLANK MATCHES ALL NC PROGRAM NAMES, * = ANY SET OF 0 OR   )
(>    MORE CHARACTERS, / = NEXT CHARACTER IS LITERAL, NOT SPECIAL]          )
(> PAGE_SIZE = THE MAXIMUM NUMBER OF NC PROGRAMS TO SHOW AT ONE TIME [BLANK  )
(>    = 100]                                                                )
(> FIRST_ENTRY = START WITH THE NC PROGRAM AT THIS POSITION [BLANK = 1]     )
(>                                                                          )
(#####)
(LISTING 1 TO 10 OF 114)
( NAME ---------------------------------- VER SIZE-KB MM/DD/YY HH.MM ---ID---)
(>                                                                          )
( 143985.F.GT300_V1.NC  ----------  1      3 01/22/20 09.28 0000005E)  <-Chosen File to Queue remove "/"
/( 143996.F.GT300_V1.NC  ----------  1      4 01/22/20 09.28 0000005F)
/( 144013.F.GT300_V1.NC  ----------  1      4 01/22/20 09.28 00000060)
 ( 144018.F.GT300_V1.NC  ----------  1      3 01/22/20 09.28 00000061)  <-Chosen File to Queue remove "/"
/( 144068.GT300_V1.NC  ----------  1      2 01/22/20 09.28 00000063)
/( 144172.F.GT300_V1.NC  ----------  1      4 01/22/20 09.28 00000064)
/( 144172.GT300_V1.NC  ----------  1      2 01/22/20 09.28 00000065)
 ( 144173.GT300_V1.NC  ----------  1      2 01/22/20 09.28 00000066)  <-Chosen File to Queue remove "/"
/( 144315.GT300_V1.NC  ----------  1      2 01/22/20 09.28 00000067)
/( 144316.GT300_V1.NC  ----------  1      2 01/22/20 09.28 00000068)
/(END OF PAGE)
M30
%
```

When finished you should upload the Command (CLR) to clear the Queue! **Important!**

Remote Request Commands (Cont.):

List Templates

This Command File will queue up all the various List File Command available for this Machine Tool. Example: Uploading this command (LISTTEMPLATE) would have ShopFloorManager respond with the following: See Instructions in **Red** below!

```
%O2222
/(LIST , *, 100, 1)
/(LIST 8000A, *, 100, 1)
/(LIST 8000B, *, 100, 1)
/(LIST A1620, *, 100, 1)
/(LIST B1620, *, 100, 1)
/(LIST C1620, *, 100, 1)
/(LIST D1620, *, 100, 1)
(> TO SUBMIT A COMMAND, FIRST DELETE '/' [THE DISABLE CHARACTER] FROM THE    )
(>    BEGINNING OF THE LINE, THEN EDIT ANY COMMAND ARGUMENTS, THEN SEND    )
(>    THIS NC PROGRAM TO THE DNC COMPUTER.                                  )
(>                                                                          )
(> RETURN A PARTIAL LIST OF NC PROGRAMS SORTED BY NAME AND VERSION. SPECIFY  )
(>    WHAT NC PROGRAMS TO LIST, HOW MANY TO LIST, AND THE BEGINNING OF THE  )
(>    PARTIAL LIST. THE ARGUMENT LIST IS [RESOURCE_COLLECTION, _FILTER_,    )
(>    PAGE_SIZE, FIRST_ENTRY]                                               )
(> RESOURCE_COLLECTION = INCLUDE ONLY NC PROGRAMS THAT ARE ASSIGNED TO THE   )
(>    NAMED RESOURCE COLLECTION [BLANK = ALL RESOURCE COLLECTIONS]          )
(> _FILTER_ = INCLUDE ONLY NC PROGRAMS WHOSE NAMES MATCH THIS FILTER        )
(>    EXPRESSION [BLANK MATCHES ALL NC PROGRAM NAMES, * = ANY SET OF 0 OR   )
(>    MORE CHARACTERS, / = NEXT CHARACTER IS LITERAL, NOT SPECIAL]          )
(> PAGE_SIZE = THE MAXIMUM NUMBER OF NC PROGRAMS TO SHOW AT ONE TIME [BLANK  )
(>    = 100]                                                                )
(> FIRST_ENTRY = START WITH THE NC PROGRAM AT THIS POSITION [BLANK = 1]     )
(>                                                                          )
M30
%
```

Remove the "**/**" in front of the specific "List Command" you want to use and upload this file with this one modification and that command will be executed by ShopFloorManager and the requested list will be queued for downloading to this Machine!

Remote Request Commands (Cont.):

Operator Identification

If the settings "Remote Request Commands Require Operator Id" was checked the Operator must include their name in the Command file for the Command to work! This Name must be an active User Name in ShopFloorManager!

I.E. Upload the command (***OPER = Joe,*** **GET** File_XYZ) in order for Command to work!

Queue to Save

This command will tell ShopFloorManager to Queue up the File named in the command for receiving. If you have a multi version system and the file exists it will increment the saved file. If you have a single version system, it will overwrite the file however the original file will be saved in the Archive if active!

I.E. Upload the command (QUEUETOSAVE File_XYZ) wait 10 seconds and then punch out the file File_XYZ from controller to save!

Replace

This command will tell ShopFloorManager to Queue up the File & Version named in the command! After 10 seconds the operator can upload the file that will replace the file in the command!

I.E. Upload the command (REPL File, Version)

Save this ShopNCFile

This command is embedded in a file at the Controller and the file is then punched out of the controller and saved. Embed in the first 8 lines or so!

I.E. Upload the command (SAVE File_XYZ)

Send Selected ShopNCFile

This is automatically included in the response file to the List Command! Don't use directly!

Shop Floor Event

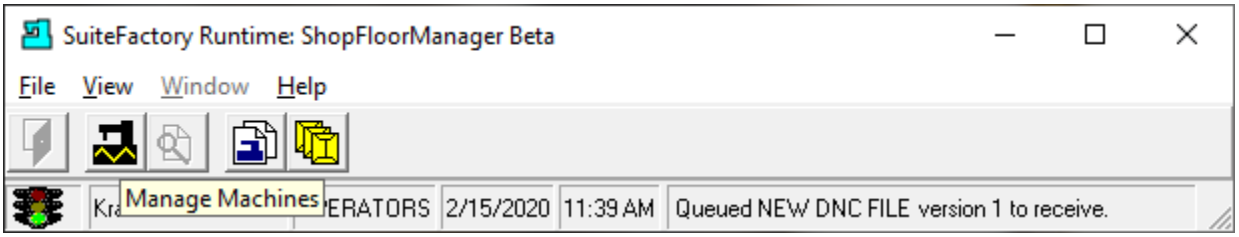
This command is automatically generated by the customer created monitoring Programs. See Shop Floor Events & ShopMDI for references.

Start Next Item on the Queue

This command is an old command. Don't use! Call CCI if you have any questions. 1-781-933-9500.

Note: When starting a new Shift and before using Remote Requests it is recommend that you send the Command (CLR) to remove any queued jobs or responses that may have been left by the previous Operators. If you don't remember what you may have requested previously, you got tied up with something that needed your immediate attention, use this command, and start new!

Remote Request Example



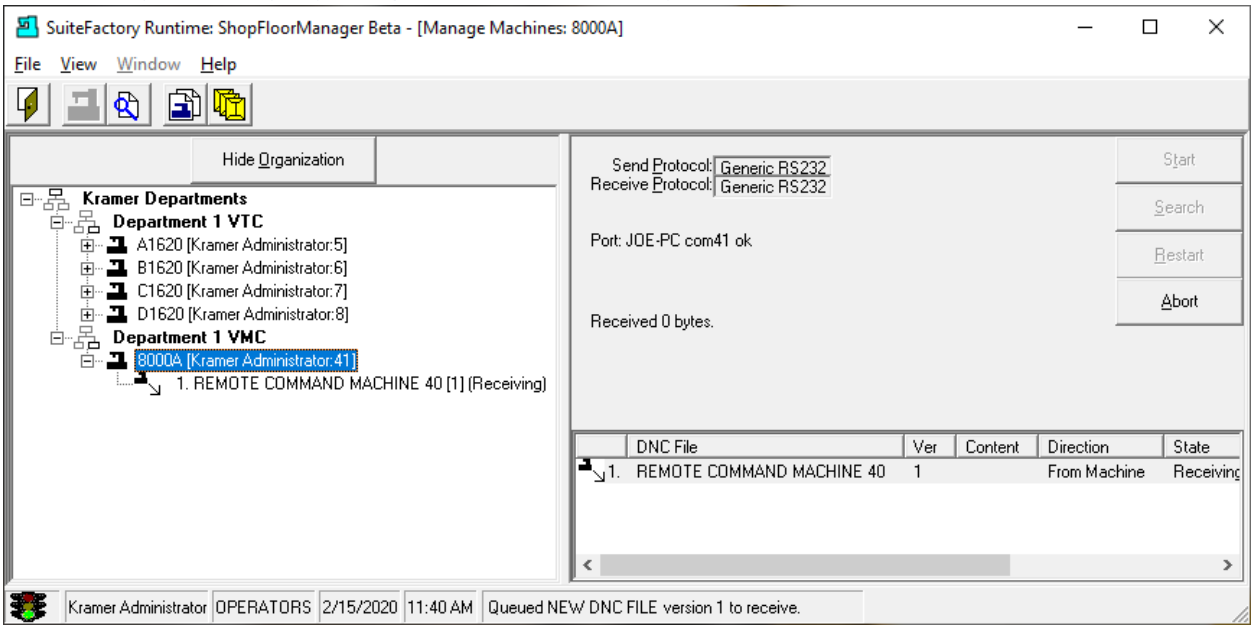
We will now demonstrate how to use Remote Requests for getting a File from ShopFloorManager by sending a special ShopNCFile with a Command as its only content.

We will then demonstrate how to Save a File to ShopFloorManager by uploading an existing ShopNCFile with a Command inserted near the top of the file with the name you want to give this file.

There are several ways to do this, but we will only show one method for getting a File from ShopFloorManager and only one method to Save a File to ShopFloorManager. See Remote Request Commands for more details!

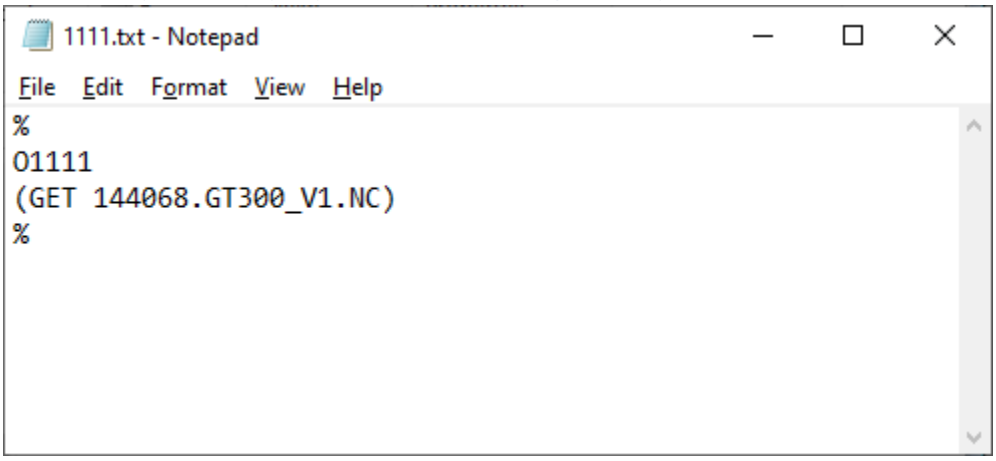
Click on the Manage File Transfer Queues Icon and the following Window will be displayed.

Remote Request Example (Manage File Transfer Queues)



We will be using this Window to view Communications between the Machine Tool and ShopFloorManager.

Remote Request Example (Create the Following File on your Machine Tool Controller)



You will probably only need to create the contents for this file as most CNCs will provide the correct beginning and ending of the ShopNCFile.

Even though we have added the O1111 at the beginning of this file, ShopFloorManager only searches for the content: (**GET dnc_file_name, dnc_file_version**) where '**dnc_file_name**' needs to be replaced by the real name of the file you want and the '**dnc_file_version**' with the version you want.

If you leave out the 'dnc_file_version' this Command will return the latest version of this file.

For our demonstration, the only thing that needs to be in the file is:

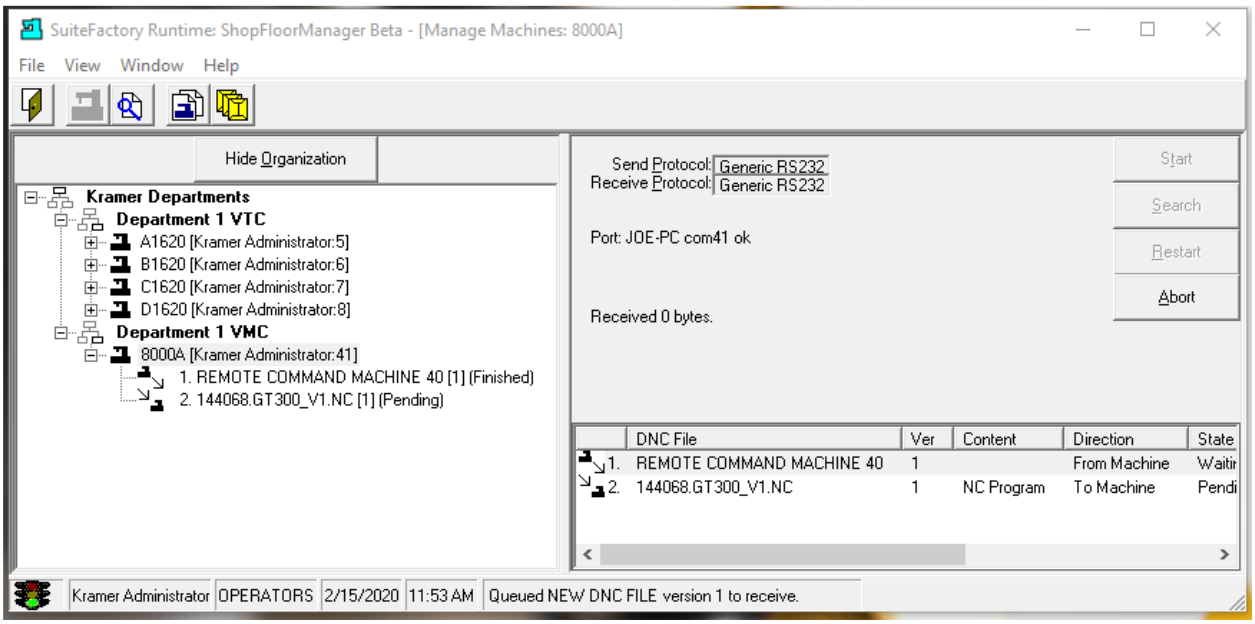
<CR><LF>

(GET 144068.GT300_V1.NC)

<CR><LF>

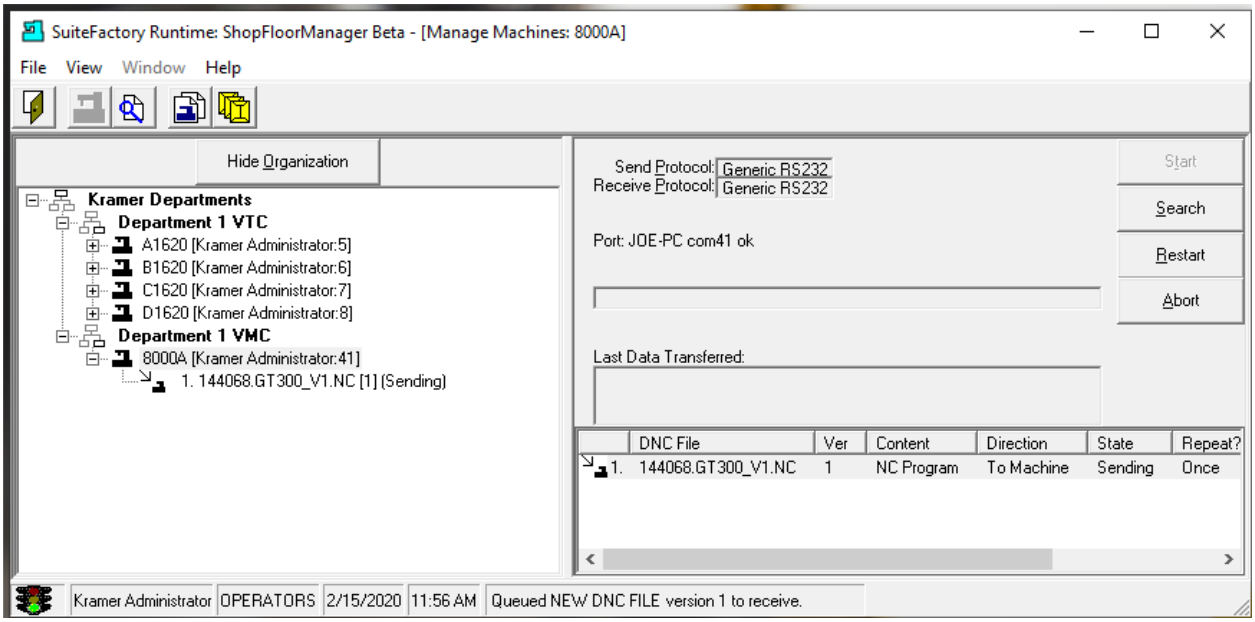
Let's upload this file from the Machine 8000A to ShopDNC and watch the Configure Machines' Window for activity.

Remote Request Example (Command File Received by ShopFloorManager)



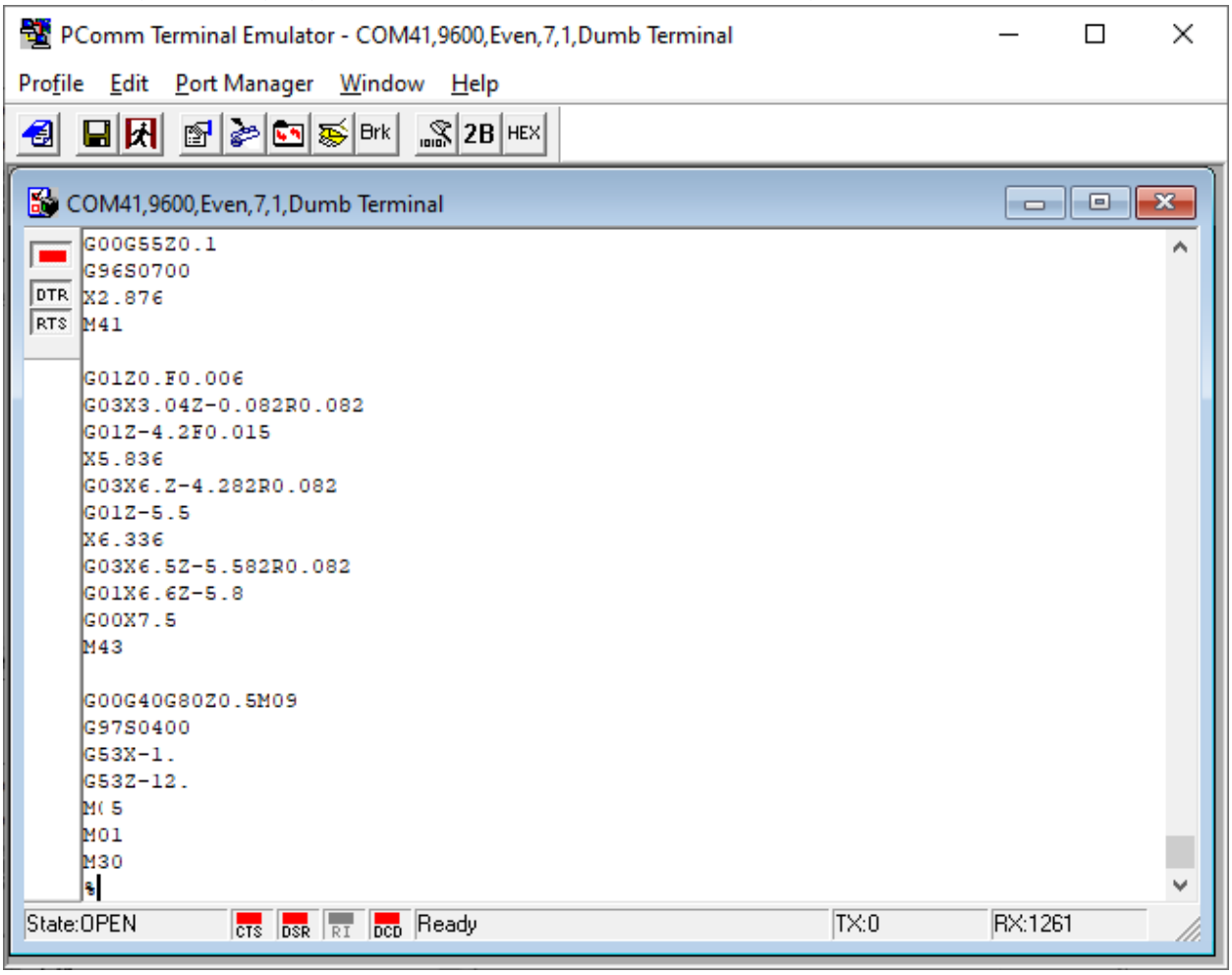
The Command file containing the Command (GET 144068.GT300_V1.NC) was uploaded to ShopFloorManager. The Manage File Transfer Queues' Window reflects the fact it received the command file and is queuing this file to be sent to the Machine Tool 8000A. The Operator will now press the Read Button.

Remote Request Example (Command File Queued by ShopFloorManager)



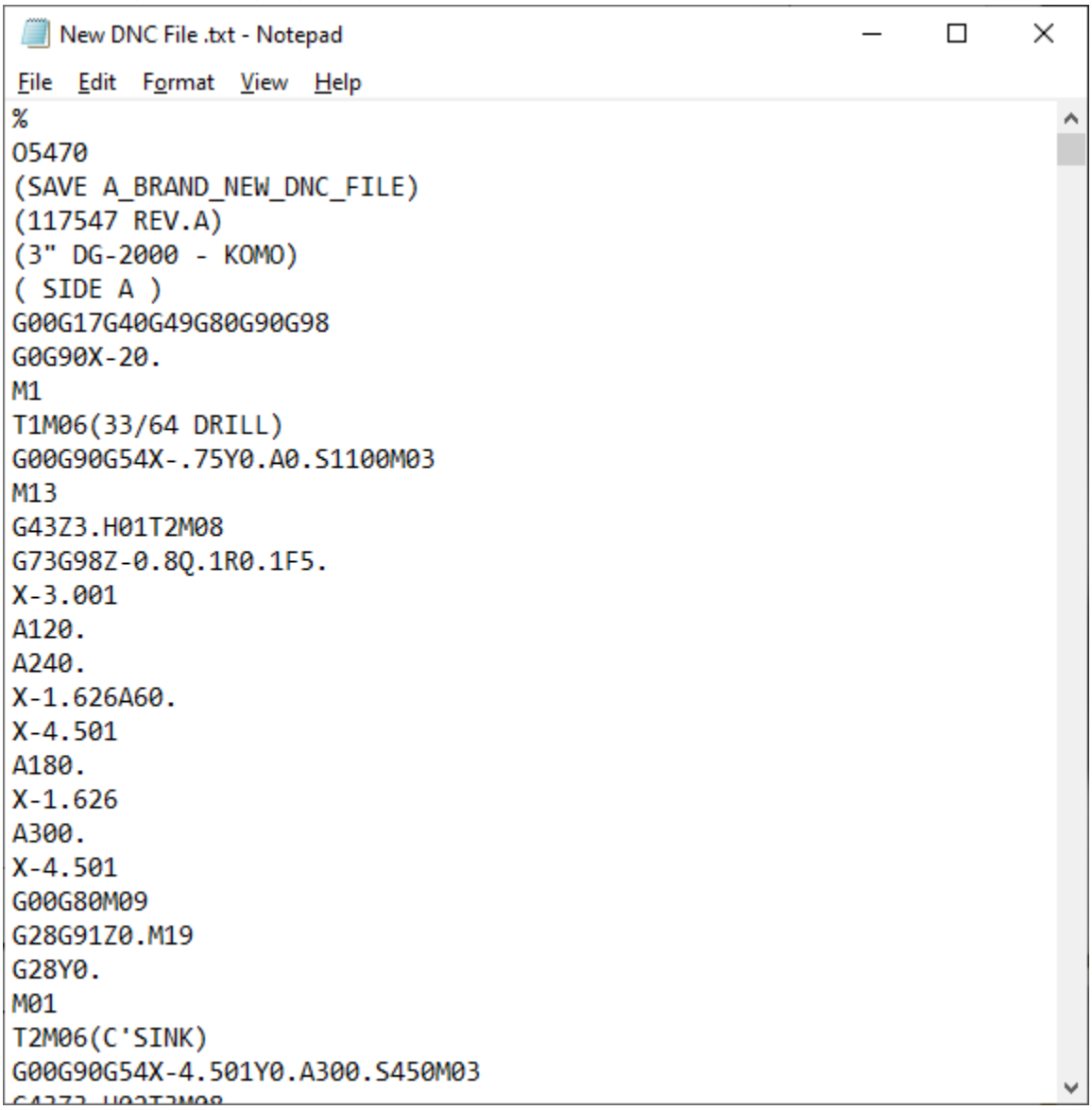
ShopFloorManager has the Queued file and is now downloading this file to the Machine Tool 8000A.

Remote Request *Example* (Receiving the requested file Terminal Emulator)



This is a partial view of the ShopNCFile that the Machine Tool would Receive from ShopFloorManager.

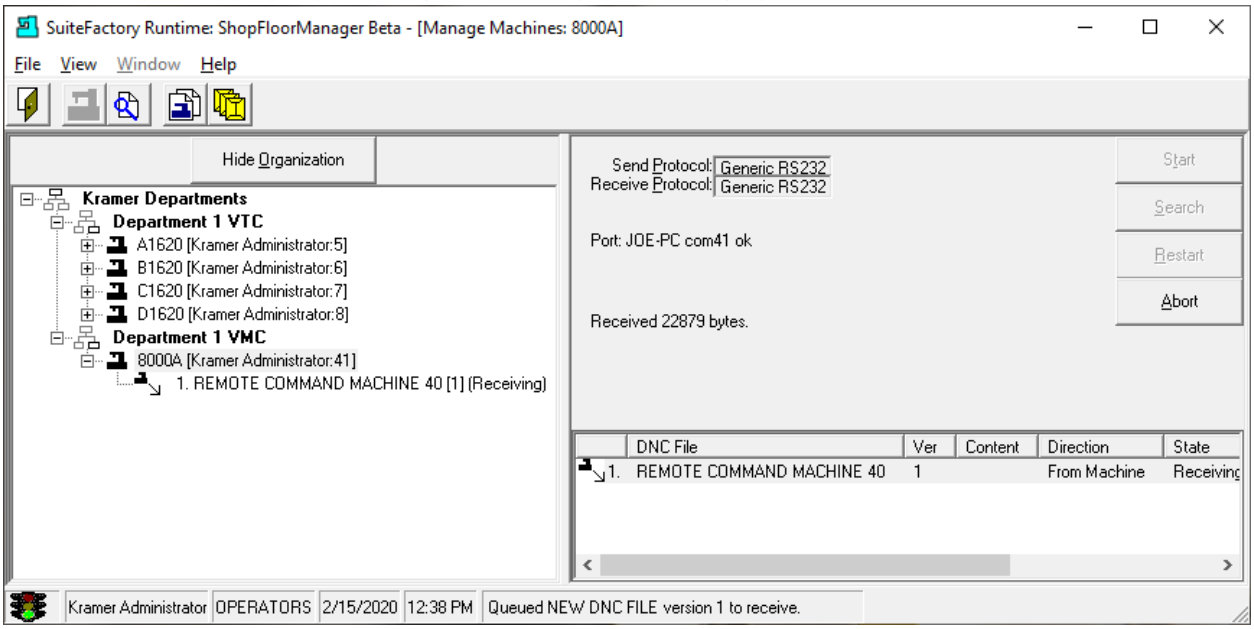
Remote Request Example (ShopNCFile in CNC with the 'SAVE A_BRAND_NEW_DNC_FILE' Command Added)



To save a file in a Machine Controller to ShopFloorManager put the above command near the top of the file in the Controller. This Command (SAVE File_Name) can be seen above.

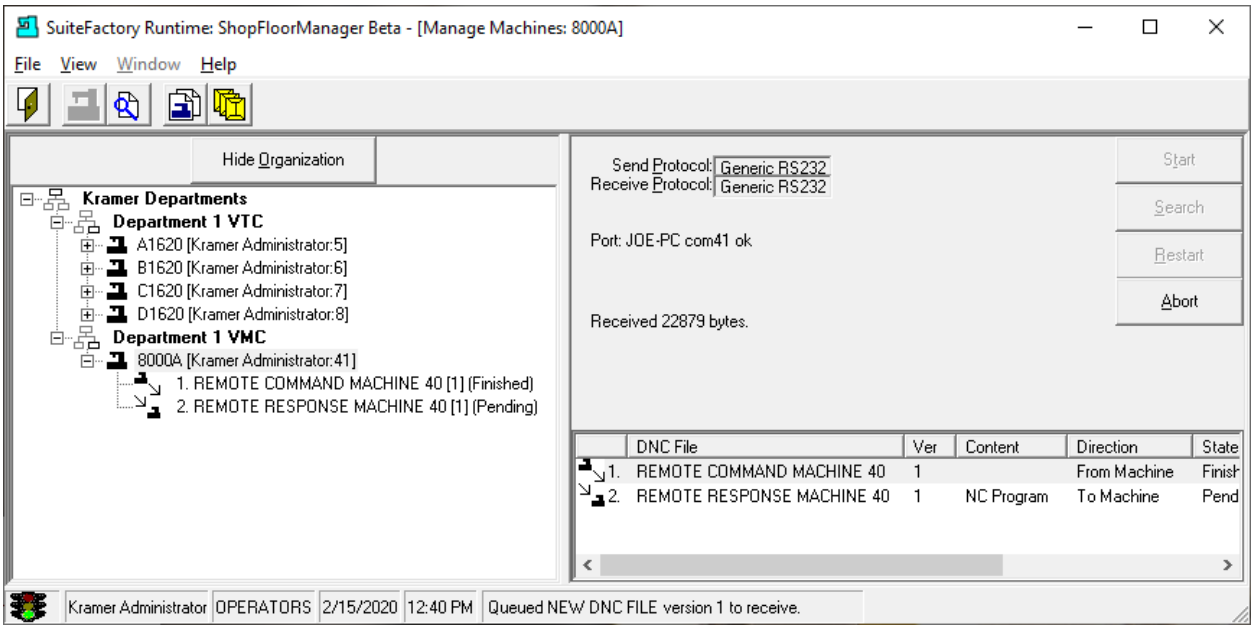
We will now Punch (upload) this file from Machine 8000A to ShopFloorManager.

Remote Request Example (File Being Save to ShopFloorManager)



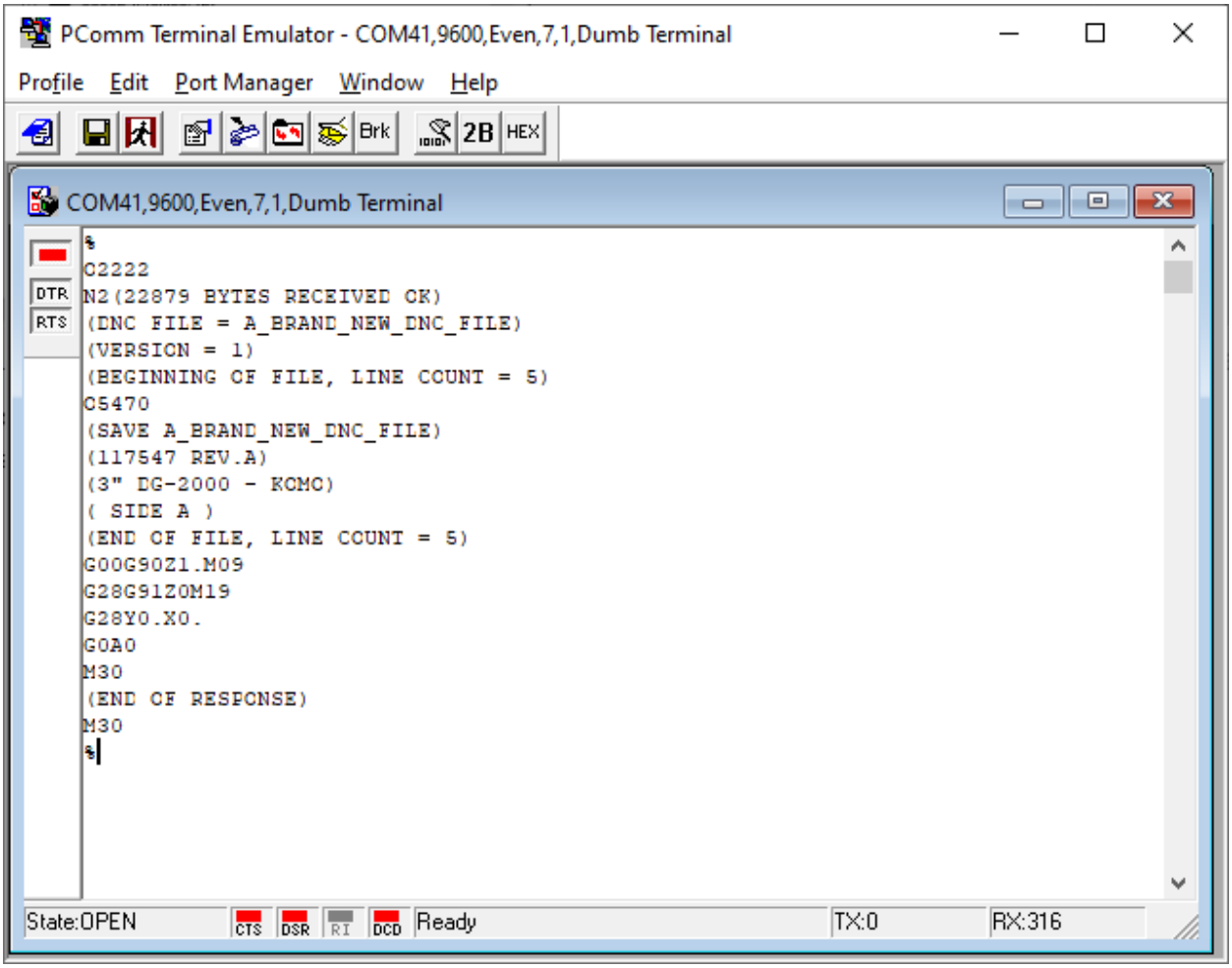
As you can see ShopFloorManager is receiving the file uploaded from the Machine Tool 8000A. It displays that it has received 22879 bytes.

Remote Request Example (Response File)



After receiving the file ShopFloorManager responds by queuing a Response File! We are assuming that the parameters have been set to have ShopFloorManager Respond!

Remote Request Example (Response File sent to Machine from ShopFloorManager Successfully Received File)



After the File has been received by ShopFloorManager a response file is queued reporting on the success of this upload. The Operator pushes the Read Button after about 10 seconds and recieves the above message!

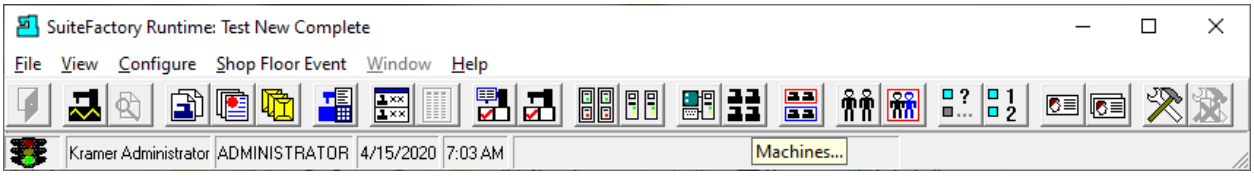
This is the Detailed Response File send from ShopFloorManager to the Machine Tool 8000A indicating the File was received successfully.

Note: If you look closely you can tell the whole file was received since it has put the first 5 lines & the last 5 lines in the file it received!

Remote Request Example (UNC & FTP Machines)

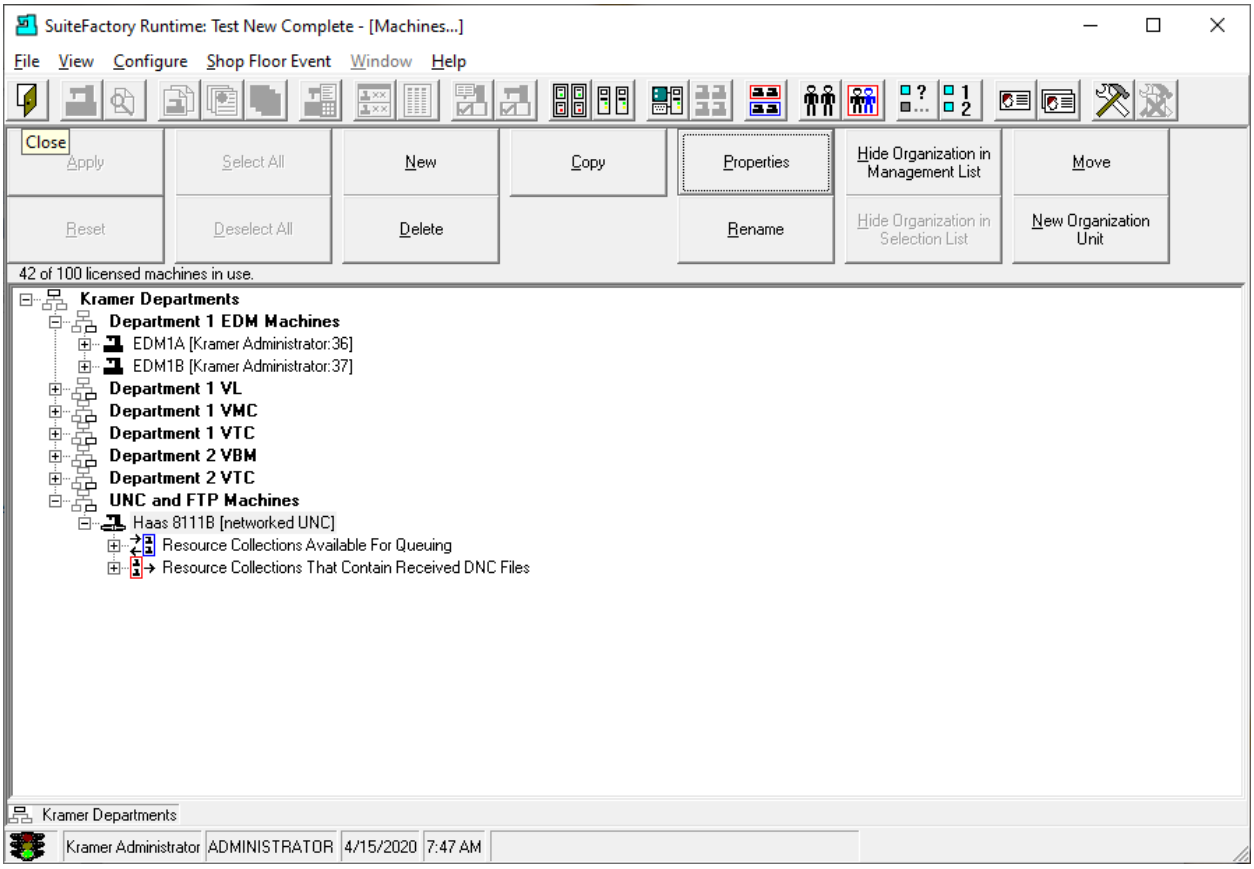
There are two methodologies for requesting and saving files using UNC Controllers.

UNC & FTP Machines (Machines)



We will be setting the Machine Parameters for an Ethernet based CNC. Click on the Machines… Icon and the following Window will be displayed.

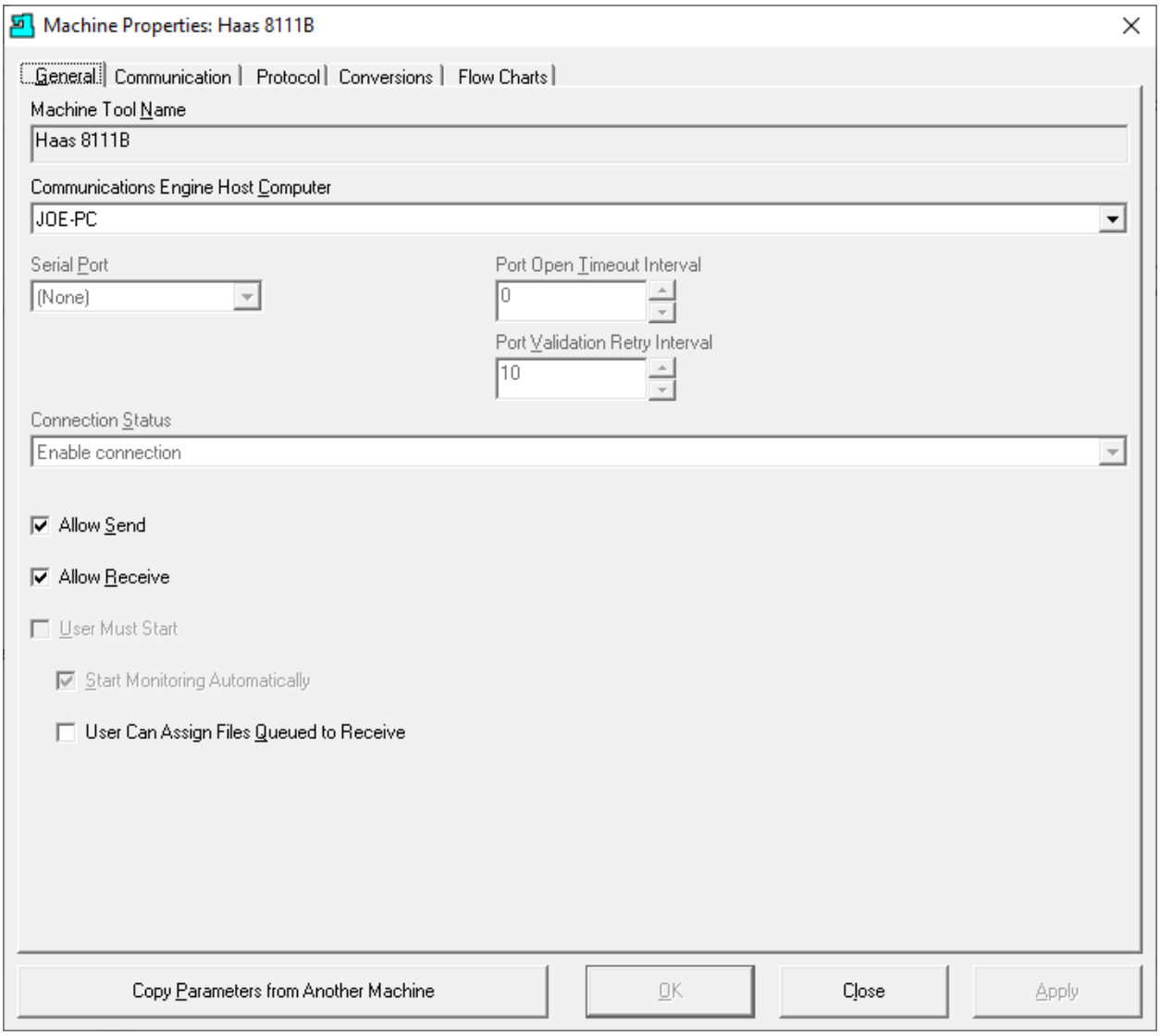
Remote Request Example UNC & FTP Machines (Machine 8111B)



We have already setup this Machine for using Ethernet but will show the parameters that need to be set for Ethernet Communications.

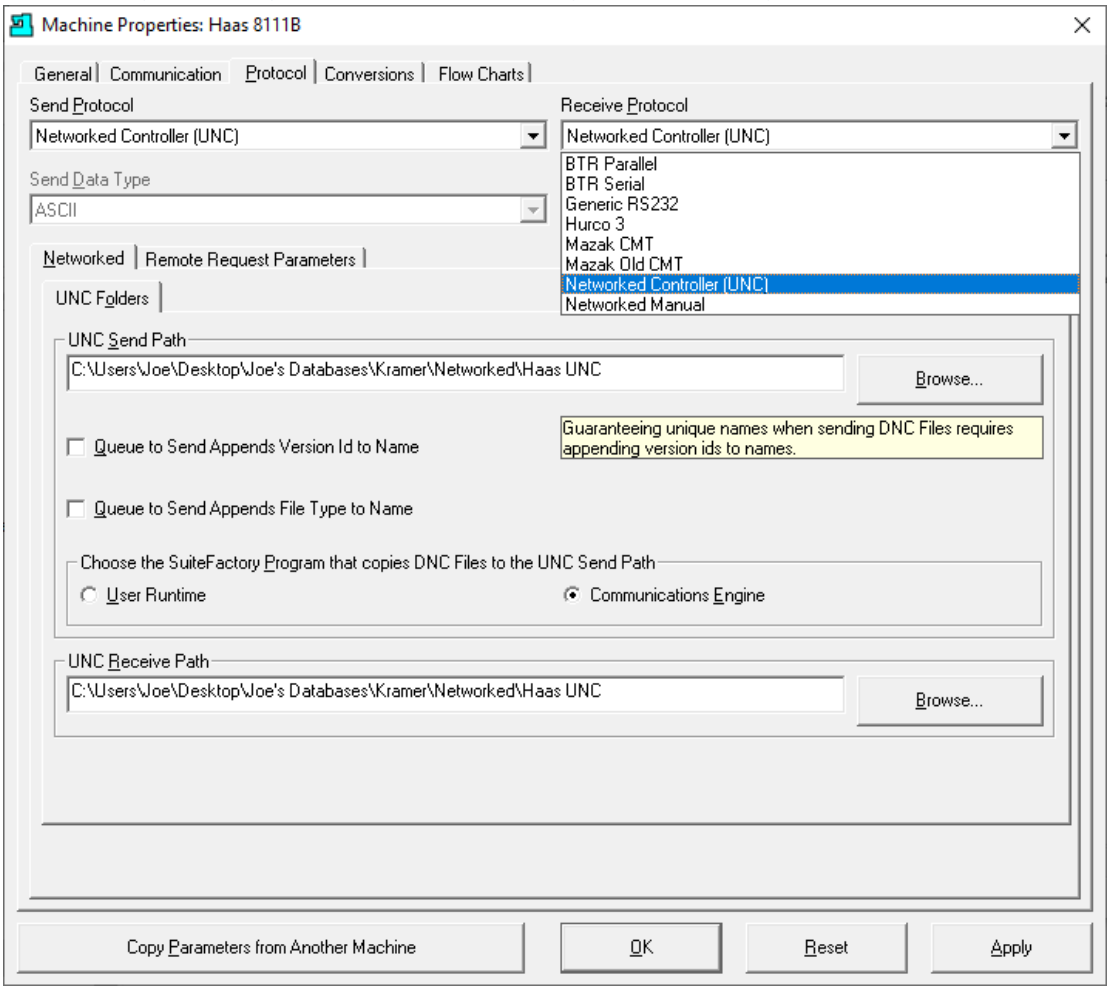
Click the Properties Button and the following Window will be displayed.

Remote Request Example UNC & FTP Machines (Machine General)



The only parameters we need to set are in Tab Protocol. Click on the Tab Protocol and the following Window will be displayed.

Remote Request Example UNC & FTP Machines (Machine Protocol)



From the drop down-list “Send Protocol” select the Networked Controller (UNC) for both Send and Receive Protocols.

Next select the Path where the Folder that interfaces between the Ethernet Controller and ShopFloorManager is located. We have chosen the Path/Folder for both Send & Receive:

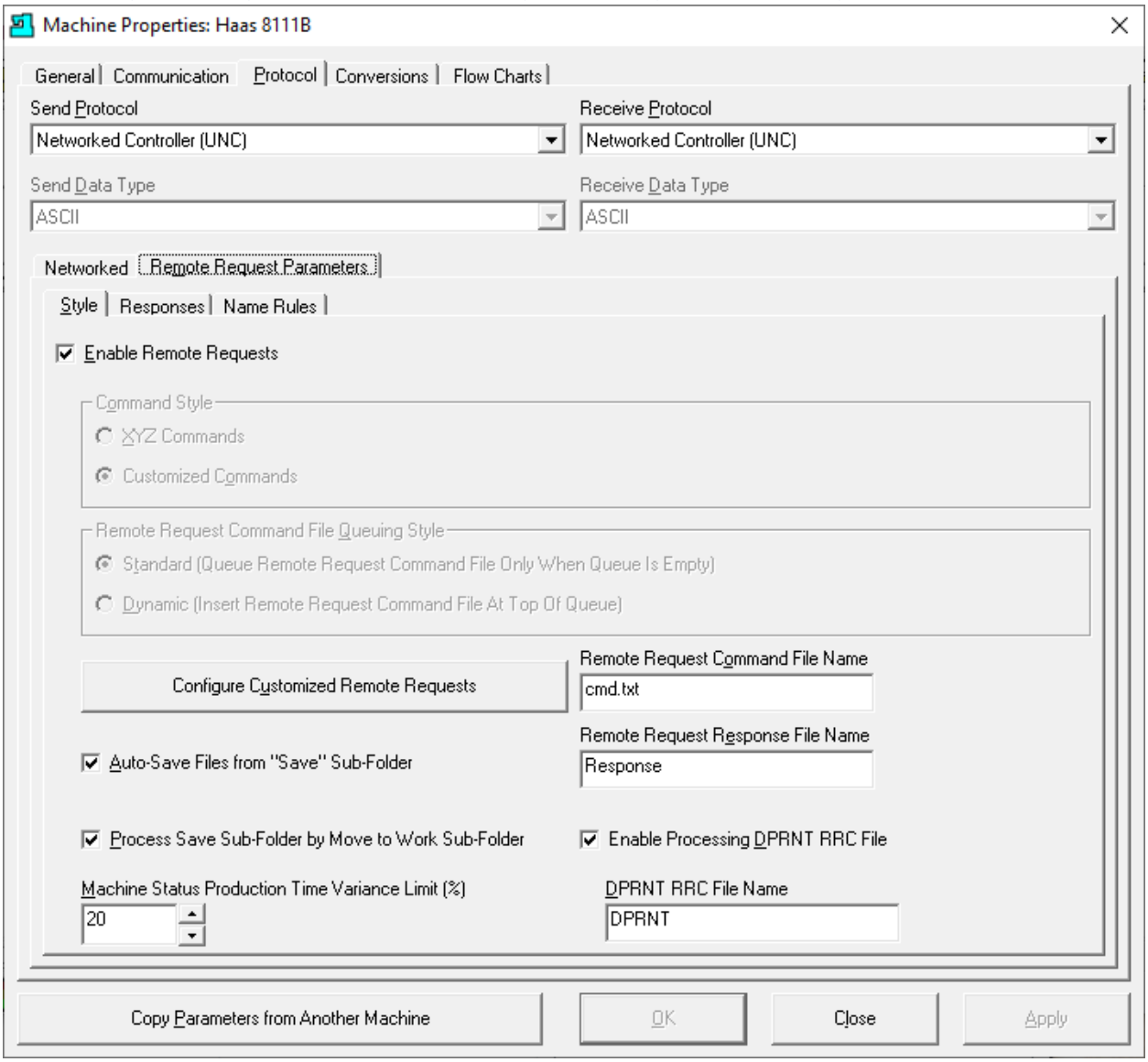
“C:\Users\Joe\Desktop\Joe's Databases\Kramer\Networked\Haas UNC”

Choose the “Communications Engine” for the ShopFloorManager Program that copies ShopNCFiles to the UNC Send Path.

This Path will need to be established on the Ethernet Controller in order to interact with ShopFloorManager to exchange Files & Remote Commands.

Click Apply and then click on the Tab Remote Request Parameters and the following Window will be displayed.

Remote Request Example UNC & FTP Machines (Remote Request Parameters)

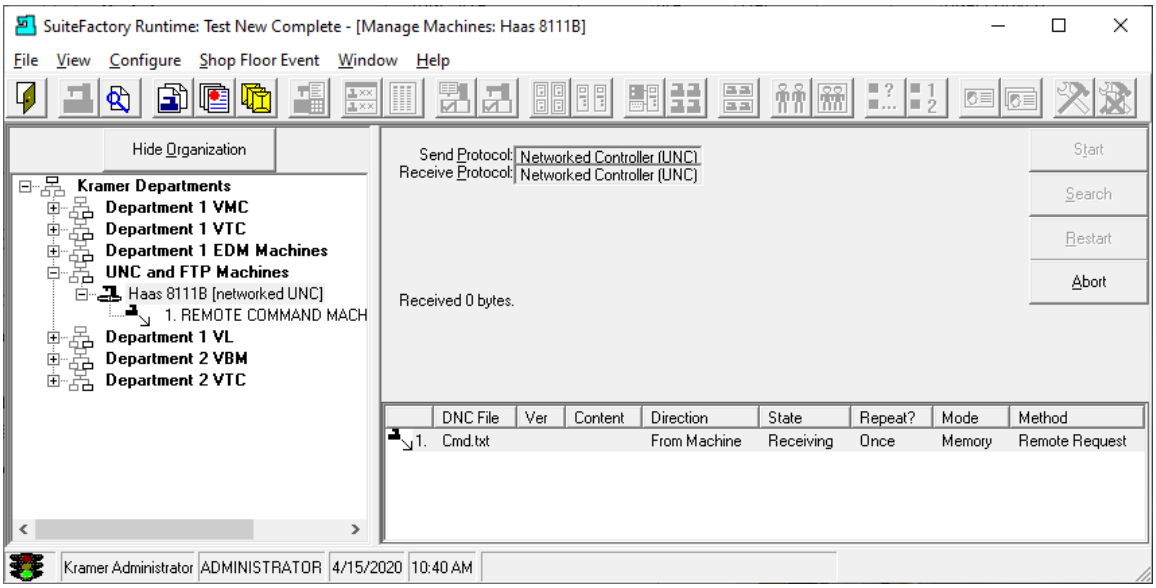


Check the two Checkboxes as shown above and name the Remote Request Command File Name "Cmd.txt". The use of this file will be explained late. Letter case not important for naming Command File!

You don't need to change the name of the Remote Request Response File Name. For other settings and explanations see the Machines Responses section of this Manual.

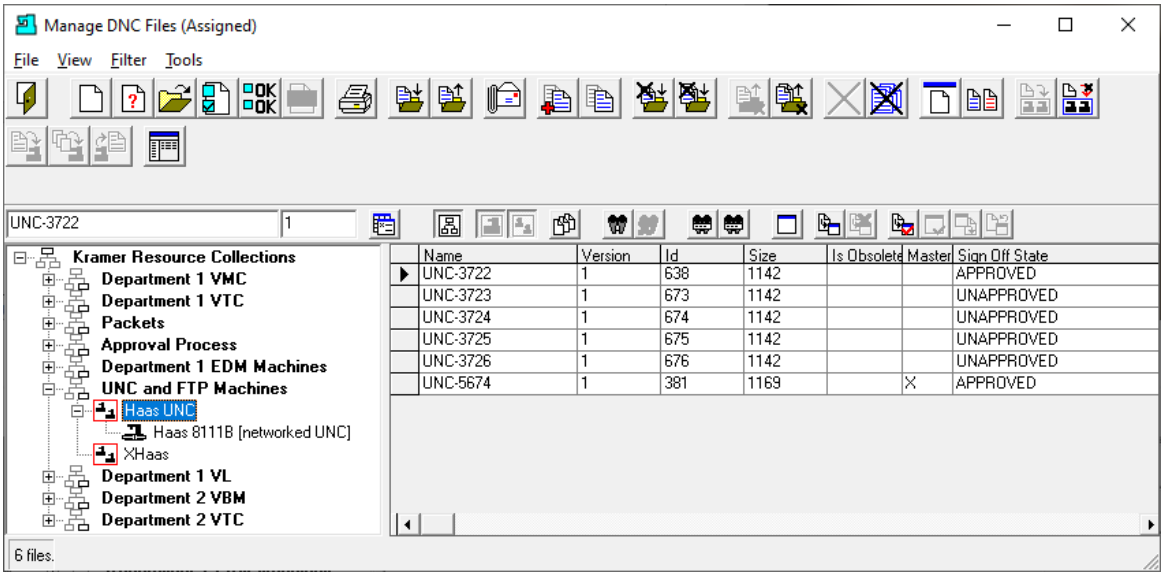
Click on the OK Button and then the Close Icon on the previous Window and the following Window will be displayed.

Remote Request Example UNC & FTP Machines (Manage File Transfer Queues)



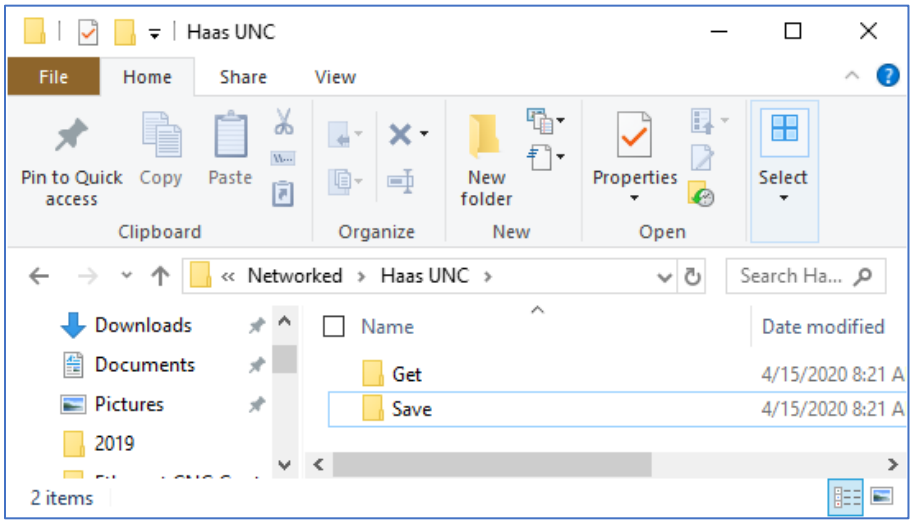
We will be opening two Windows to demonstrate communications using UNC/Ethernet Controllers. The Manage File Transfer Queues Window will show communications as we exchange Remote Requests & ShopNCFiles. We will be using Manage ShopNCFiles Window to see the effects of using Remote Requests to get files and save files to ShopFloorManager. In the preceding pages these will be overlapped so you can see the transactions in both of them as we use Remote Requests.

Remote Request Example UNC & FTP Machines (Manage ShopNCFiles)



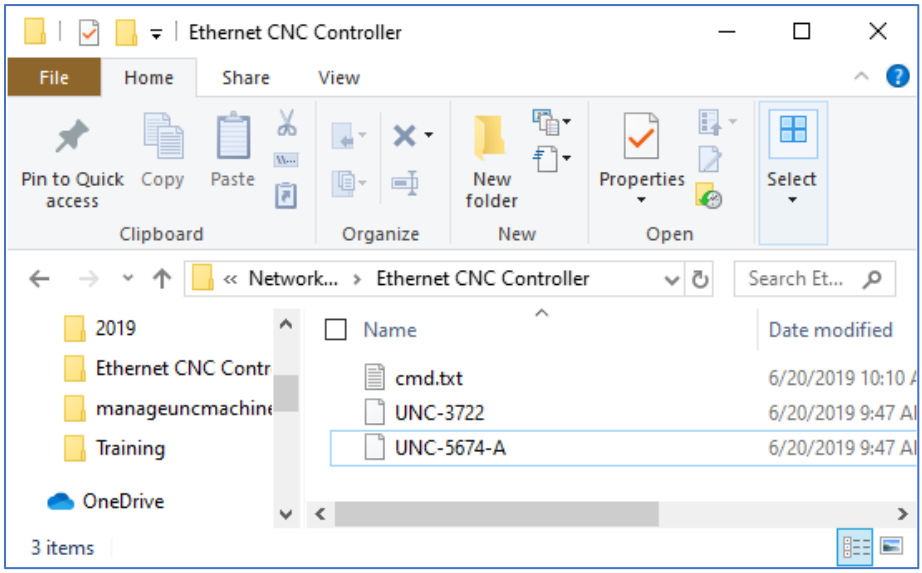
See the next page as we demonstrate how an Ethernet Machine would view the Folder we created for communications and how the folder we created is used for Remote Requests.

Remote Request Example UNC & FTP Machines (Folder Ethenet Machines See)



This is the folder used in the Path we set above. In general, these Folders should be located where ever the Data folder is located! Will explain the Use of the Get & Send folders!

Remote Request Example UNC & FTP Machines (Represents the Ethernet Machine)

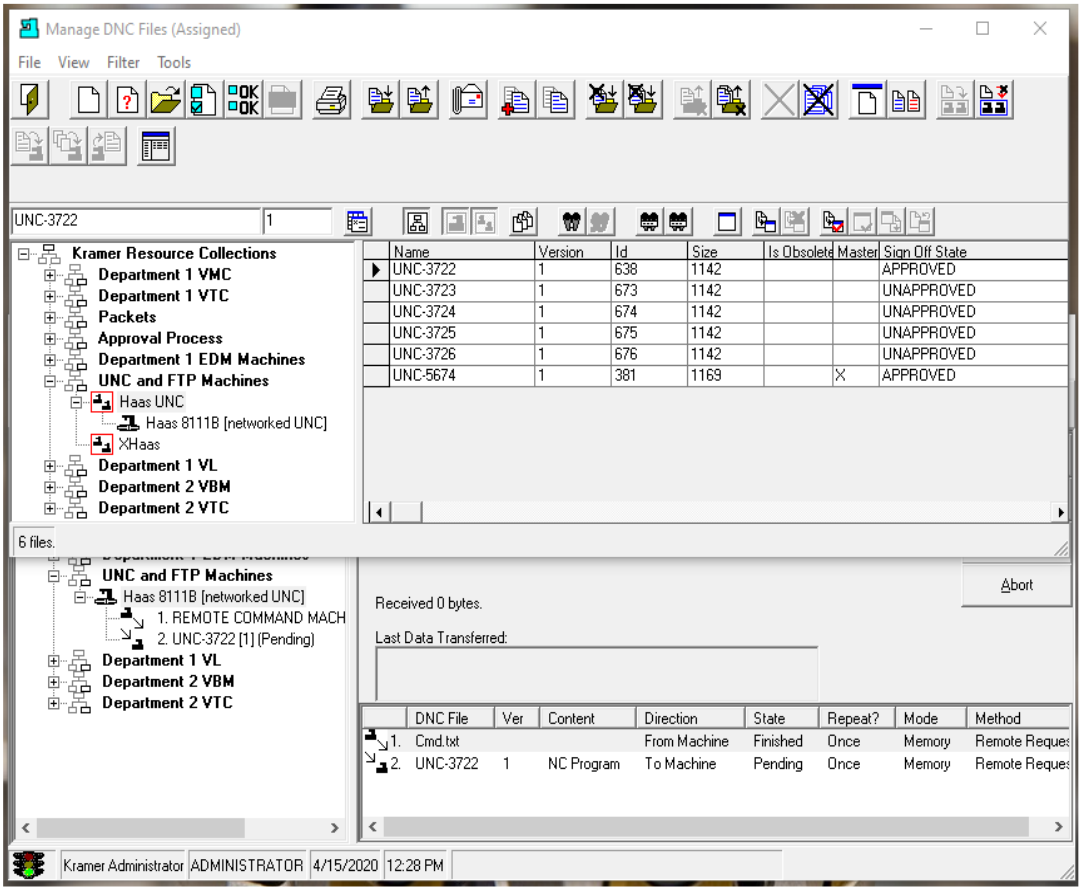


This Folder represents the location in the Ethernet Machine where the files are maintained for this demo. We assume the Controller can create these files, modify them, and move then to and from the folder above as needed. In the following we will discuss how these files will be used.

The two files shown above will be used to request a file from ShopFloorManager and to save a file to ShopFloorManager.

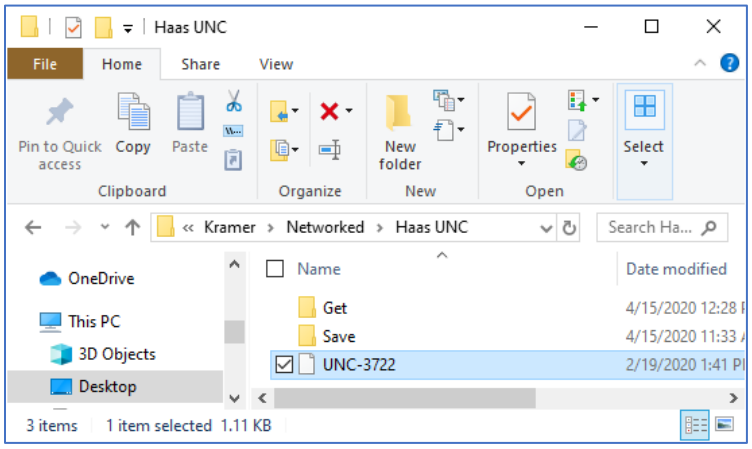
The file UNC-3722 is empty and we will use this to request a file with this name. We will place this file “UNC-3722” in the “Get” folder. See the following Windows after performing the task of placing the empty file UNC-3722 into the Get Folder.

Remote Request Example UNC & FTP Machines (Manage ShopNCFiles & Configure Machines Windows)



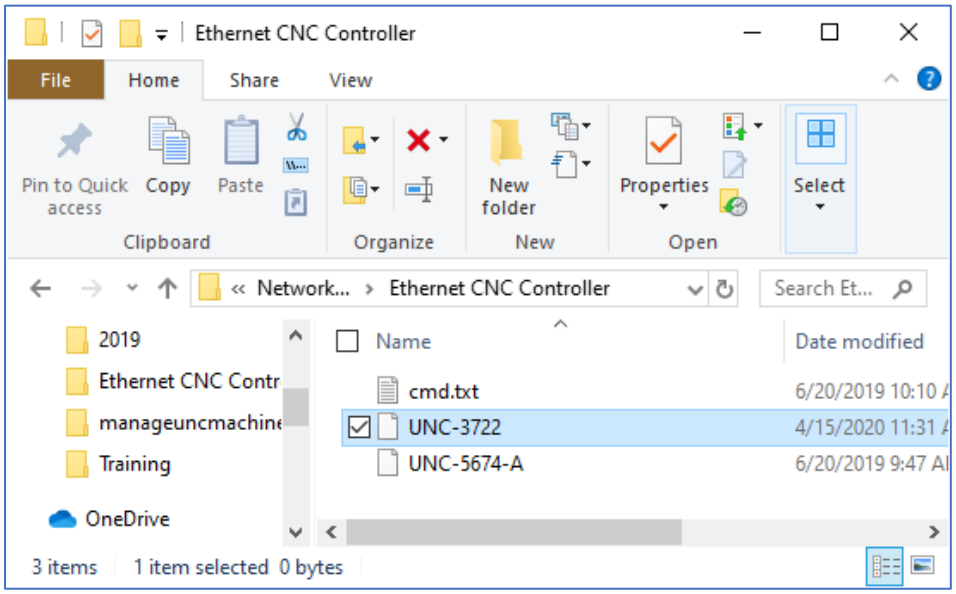
After placing the Empty File UNC-3722 in the Get Folder a file with this name is Queued to be sent to the Folder “Haas UNC” that contains the Get & Save folders and where the Ethernet Machine has access.

Remote Request Example UNC & FTP Machines (Manage ShopNCFiles & Configure Machines Windows)



You can see that the requested File UNC-3722 was delivered. Now the Ethernet Machine can retrieve it.

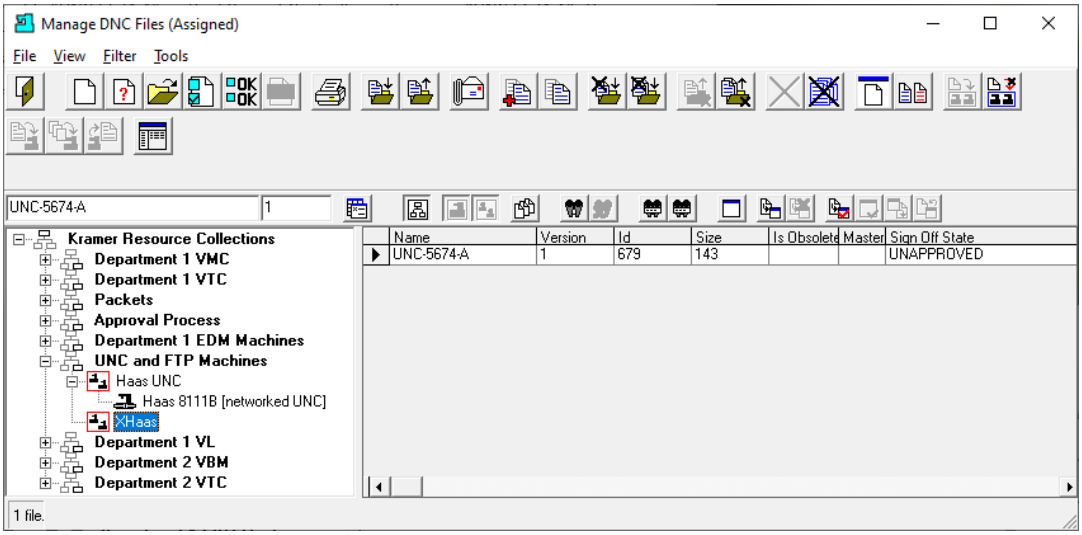
Remote Request Example UNC & FTP Machines (Ethernet Machine's files)



Now we want to save the file "UNC-5674-A" on the Ethernet Controller as the name "UNC-5674-A" in ShopFloorManager. The file on the Ethernet Controller is not an empty file but a valid file! To save this file just drag & drop it in the Save folder which is locate in the folder "Haas UNC". ShopFloorManager will use this File Name for saving the uploaded file!

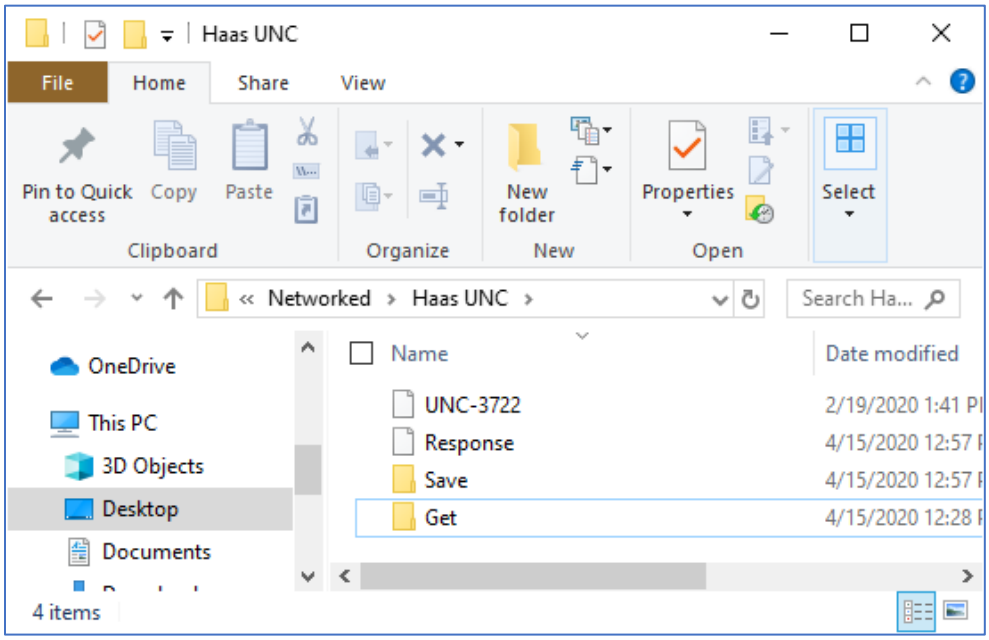
Following is the view of what happens after placing this file in the Save Folder.

Remote Request Example UNC & FTP Machines (Manage ShopNCFiles with received file UNC-5674-A)



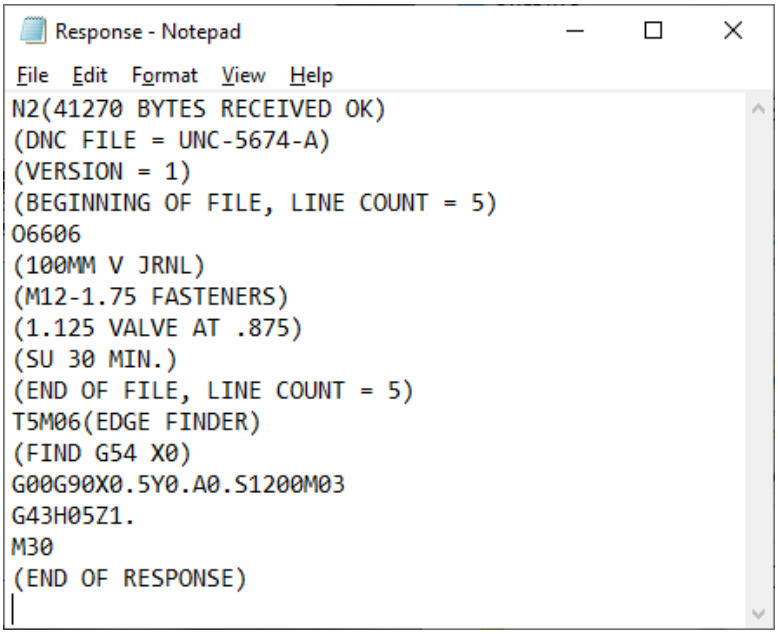
As you can see the file UNC-5674-A was uploaded to ShopFloorManager. Let's take a look at the Folder "Haas UNC" and you will notice a Response File that was sent to the Folder "Haas UNC" which can be access by the Ethernet Machine.

Remote Request Example UNC & FTP Machines (Haas UNC Folder for Ethernet Machine's files)



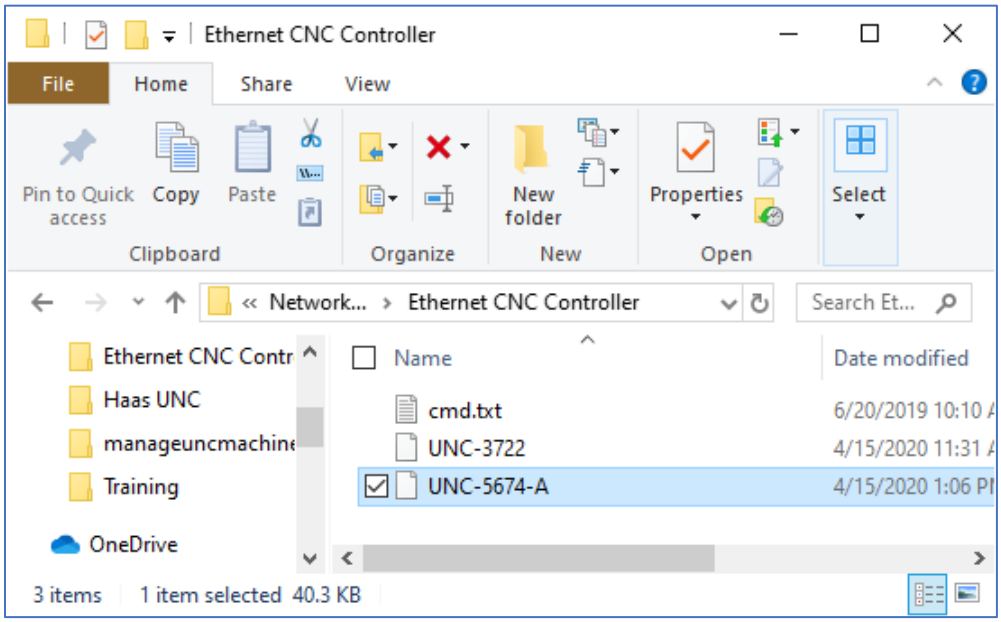
After placing the file "UNC-5674-A" in the Save folder we received a Response file from ShopFloorManager giving us an update on the saved file. This was in the Response File:

Remote Request Example UNC & FTP Machines (Haas UNC Folder Response File after Save)



This Machine Response file lets the Operator know how many bytes were in the File and displays the First & last 5 lines to assure the whole file was received so the operator doesn't have to go to ShopFloorManager and view the saved file! A time saver!

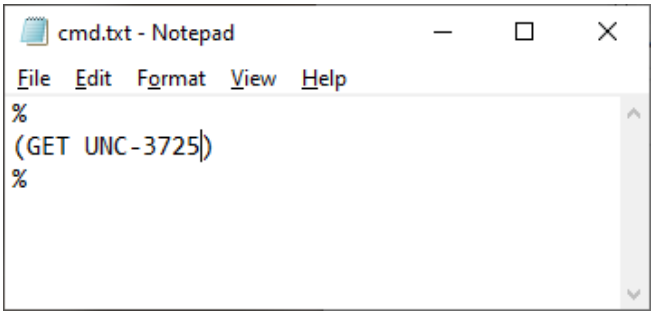
Remote Request Example UNC & FTP Machines (Ethernet Machine with cmd.txt file)



We will now demonstrate Method 2 for Remote Requests. From the Ethernet Machine place the command file cmd.txt into the “Haas UNC” folder. We will not be using the Get or Save folders!

Let’s take a look at the contents of the cmd.txt file to see what needs to be inserted to request a file from ShopFloorManager.

Remote Request Example UNC & FTP Machines (GET command in cmd.txt file)

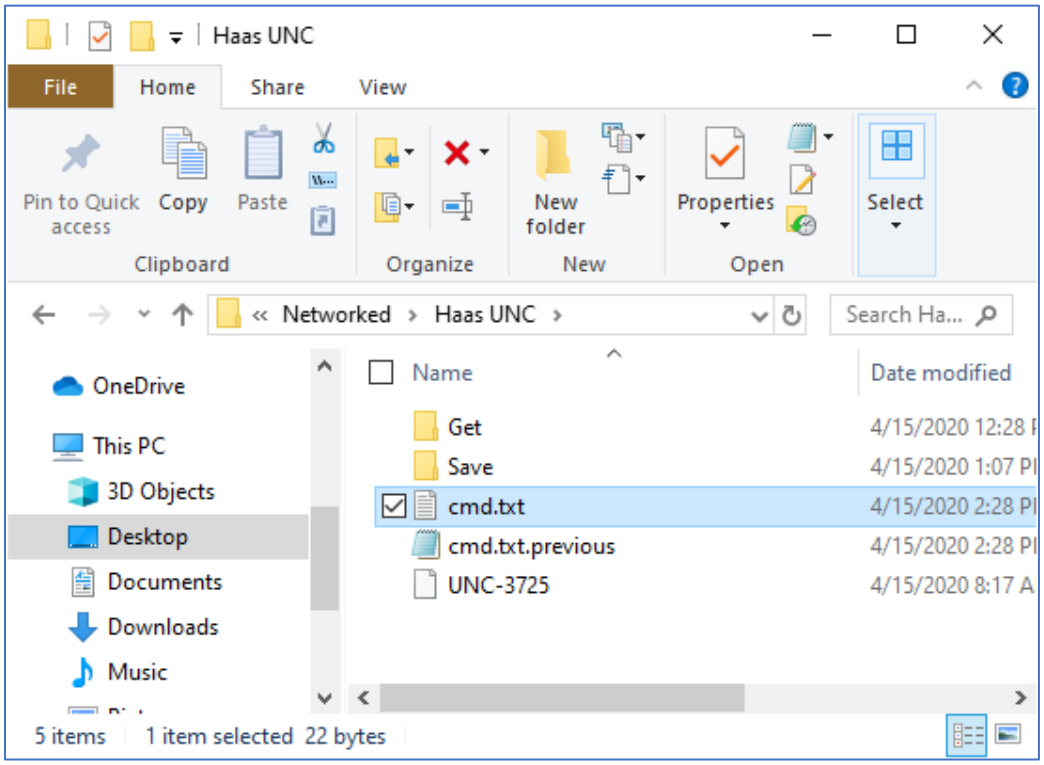


As you can see there is a comment field in the cmd.txt with the command GET with the file name UNC-3725! Using this format, you can replace the file name with any valid file name.

If you put a non-existing file and place it in the folder “Haas UNC” you get a Response file detailing what ShopFloorManager couldn’t do! If the file exists it will be downloaded file to “Haas UNC” Folder.

Let’s try it and see what happens. Place this file, cmd.txt, in the folder “Haas UNC” and we will see the following.

Remote Request Example UNC & FTP Machines (Requeste file downloaded from ShopFloorManager)



As you can see the requested file was download allowing the Ethernet Controller to access this file. You will also notice another file “cmd.txt.previous” was also downloaded.

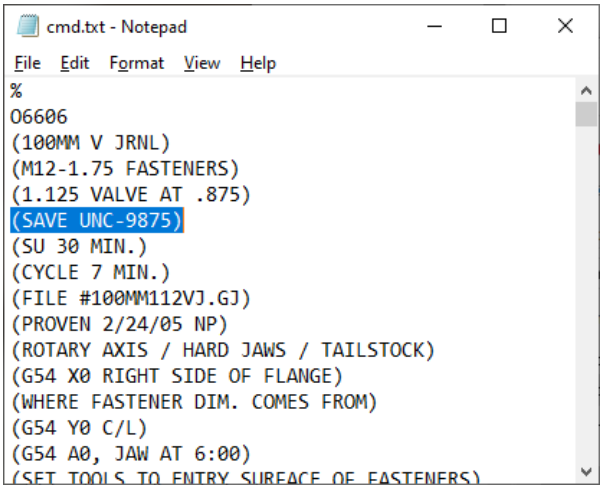
This is a control file that is used by ShopFloorManager to make sure the cmd.txt file doesn’t keep downloading the same file it just downloaded.

If you change the command in the cmd.txt file and the time properties are different then what is in the file “cmd.txt.previous” then ShopFloorManager will perform the requested command. This allows the Ethernet Controller to modify/replace the cmd.txt file for another request from ShopFloorManager.

Let's save a file using the cmd.txt file! To save a file using the cmd.txt file place the file you want to save in the "Haas UNC" folder and open the file and put the command as shown below in the fourth or fifth line of the file.

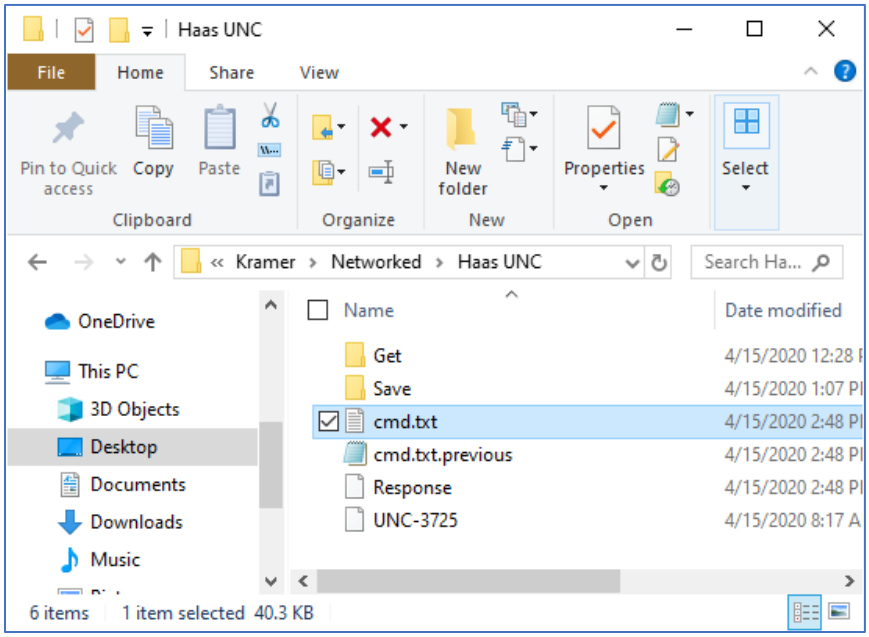
Then rename this file to cmd.txt. ShopFloorManager will then save this file using the name in the command comment (SAVE UNC-9875). See file below.

Remote Request Example UNC & FTP Machines (Requeste file downloaded from ShopFloorManager)



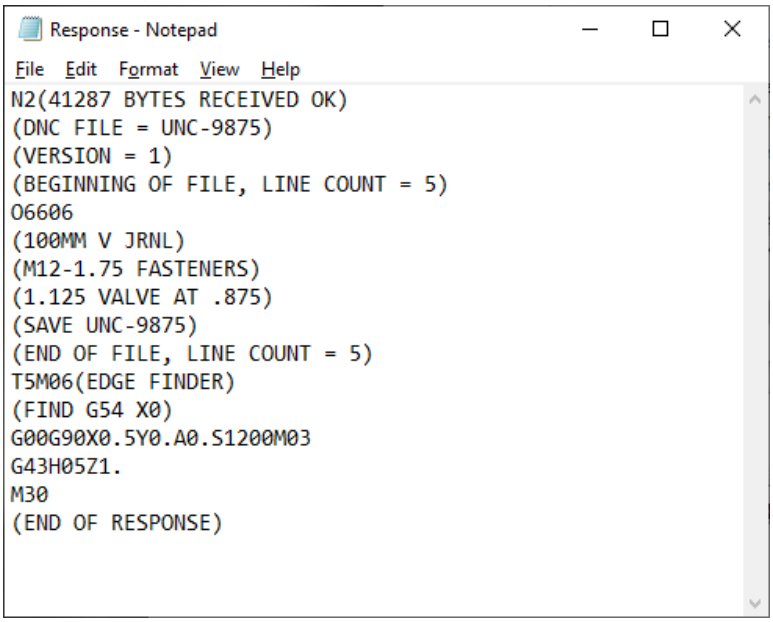
Once you place this file, cmd.txt, into the "Haas UNC" folder ShopFloorManager will upload and save this file as "UNC-9875".

Remote Request Example UNC & FTP Machines (Requeste file downloaded from ShopFloorManager)



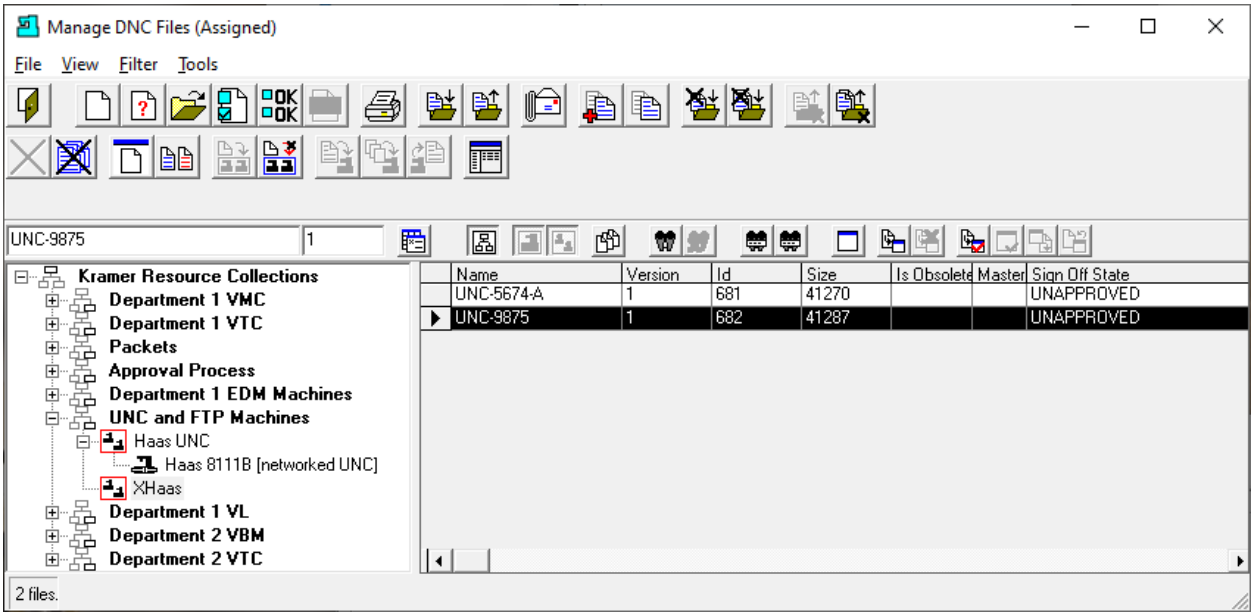
As you can see, we now have a response file from ShopFloorManager. Let's see what it contains.

Remote Request Example UNC & FTP Machines (Haas UNC Folder Response File after Save)



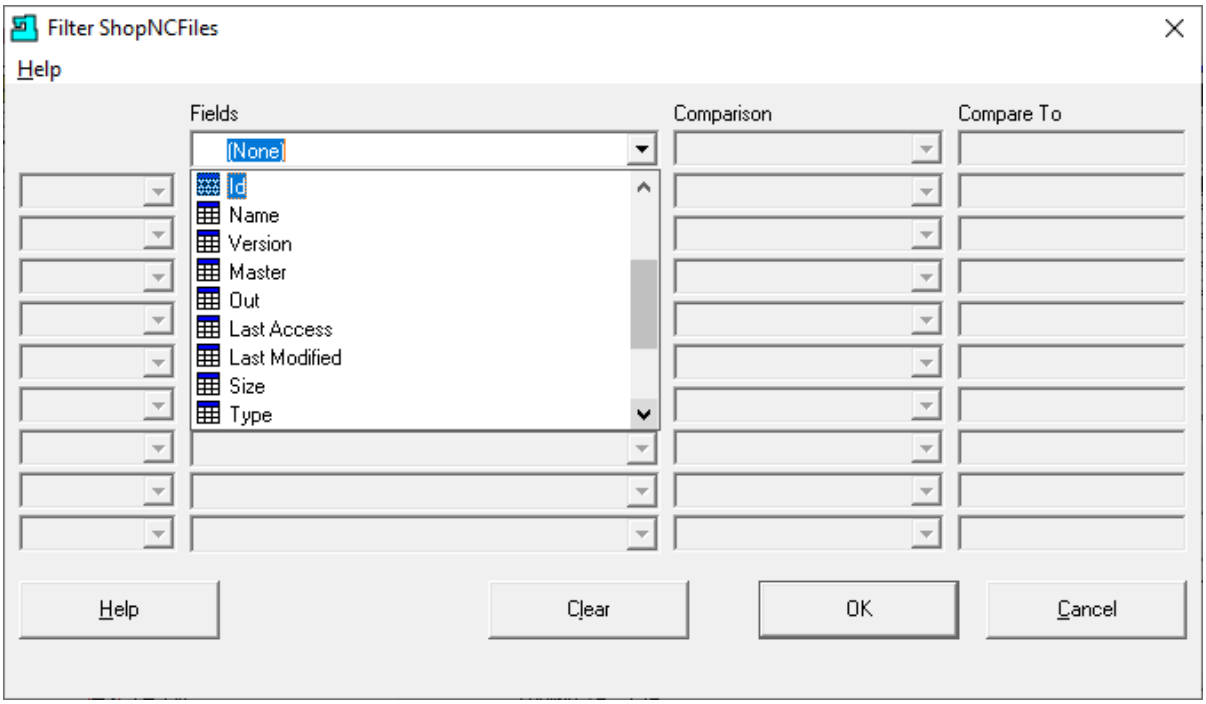
The Response file sent to the Operator confirms it received the File and save it! Let's take a look at the Manage ShopNCFiles Window to make sure the file was received.

Remote Request Example UNC & FTP Machines (Manage ShopNCFiles with received file UNC-9875)



As you can see it was received. This demo for Remote Requests is complete.

Search Engine (ShopNCFiles & ShopDocuments Hiding? Quickly find them Little Beggars!)



In any system that deals with large quantities of ShopNCFiles, managing them can be a challenge. Trying to locate a specific ShopNCFile relative to known words or phrases is almost impossible without a sophisticated way of searching.

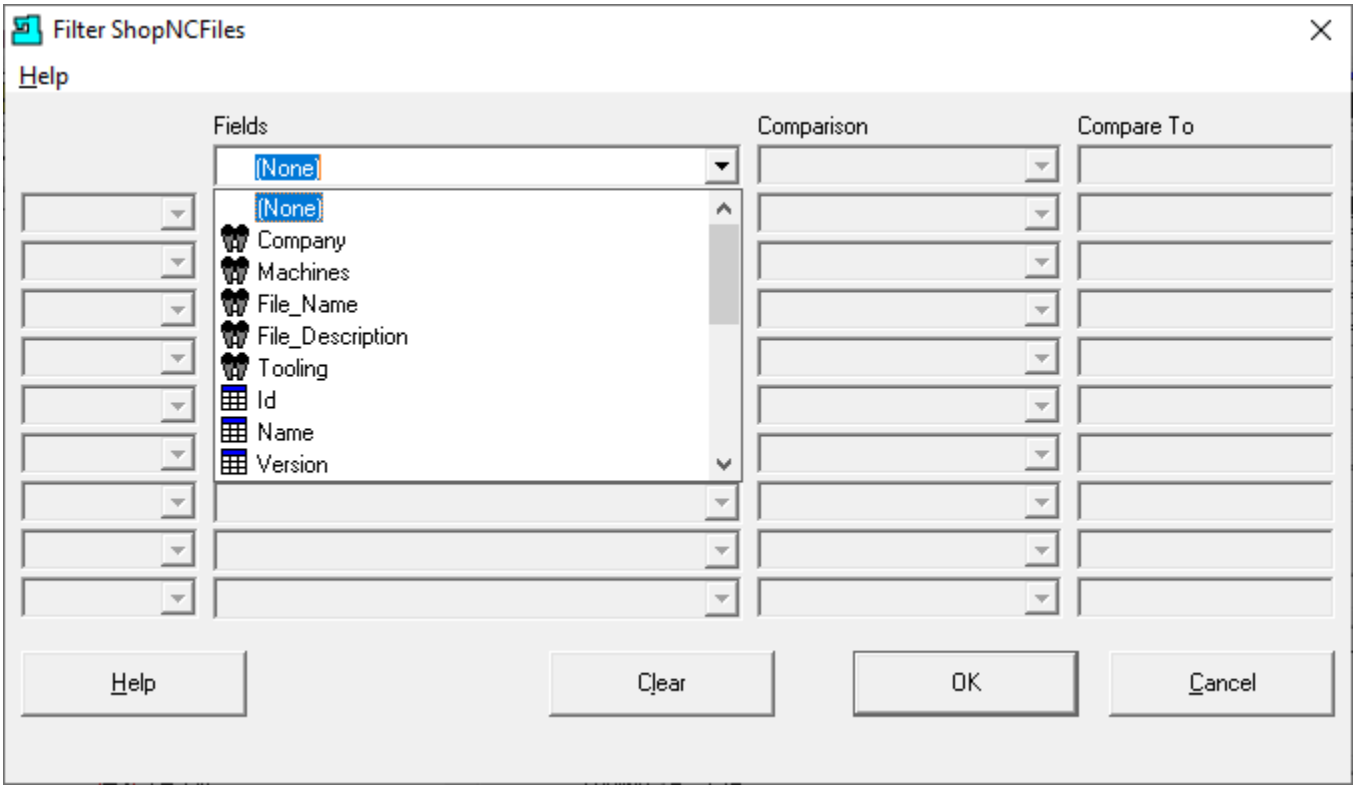
This is where ShopFloorManager's Search Engine comes to the rescue. In order to use a search engine, you need data to perform a "Search" against various criteria that is associate with these ShopNCFile.

ShopFloorManager provides the ability to search for ShopNCFile with two types of criteria:

Search Engine (File Properties: All text fields have these properties)

File ID (This is a unique number associated with a File)
File Name (This is a unique name of a File)
File Version Number (Assuming you are using Multiple Versions)
Master (File Type)
Out (Is the File being Edited)
Last Accessed (Date Time)
Last Modified (Date Time)
Size (In bytes)
Type
Created (Date Time)
Last Downloaded (Date Time)
Sign-Off Flow Chart ID
Approval Start (Date Time)
Approval End (Date Time)

Search Engine (Filter ShopNCFiles: Key Fields)



While this ability is great it has nothing to do with the content of the File.

ShopFloorManager provides another method that is immensely powerful and provides the ability to locate ShopNCFiles based on data populated into Search Key Fields associated with a File.

ShopFloorManager allows Customers to create their own Key Fields chosen from 9 different types! There can be any number of unique Key Fields that are associated with a ShopNCFile, ShopDocument or ShopOperation !

When these Key Fields are populated, you can use ShopFloorManager's Search Engine to locate the exact ShopNCFile you are looking for by using Multiple Search Criteria "Lines" joined by Logical "And" & "Or" modifiers.

Search Engine (File Properties: Key Fields Cont.)

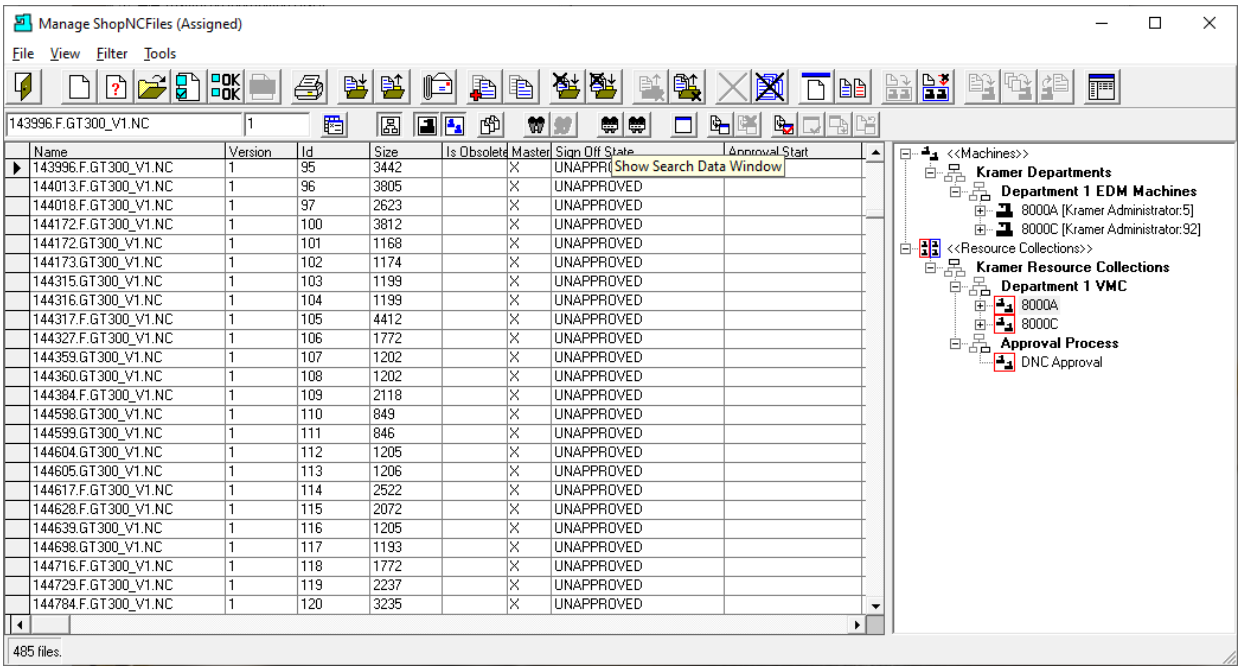
Let's take a look at the Search Keys that were created for this demo:

Key Field Properties:

Company:
This was setup as a Picklist
Machines:
This was setup as a Keyword Field
File_Name:
This was setup as a text field
File_Description:
This was setup and a Note Field
Tooling:
This was setup as a Keyword Field

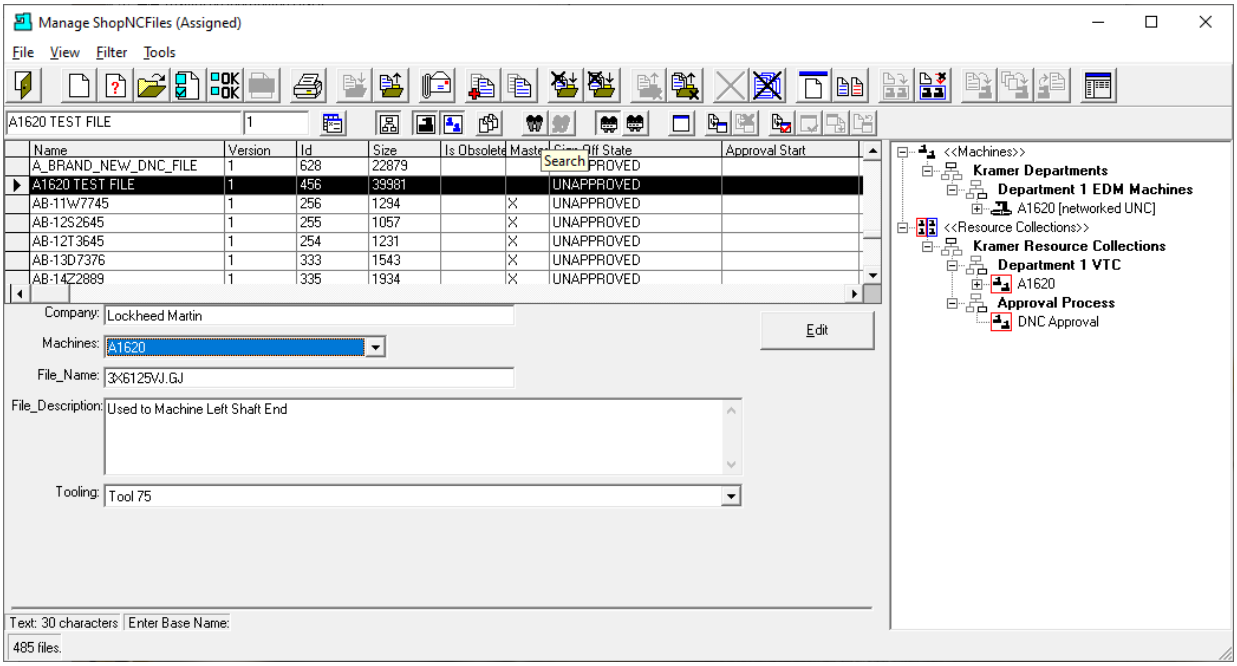
Let's take a look at possible configuration! We will demonstrate how this done while working in the Manage ShopNCFiles - ShopDNC Window! See the following examples.

Search Engine (Manage ShopNCFiles - ShopDNC)



Let's show the Search Data Window to aid in explaining how to use the Search Engine. Click on the Show Search Data Window and the following Window will be displayed.

Search Engine (Manage ShopNCFiles – ShopDNC Show Search Data Window)



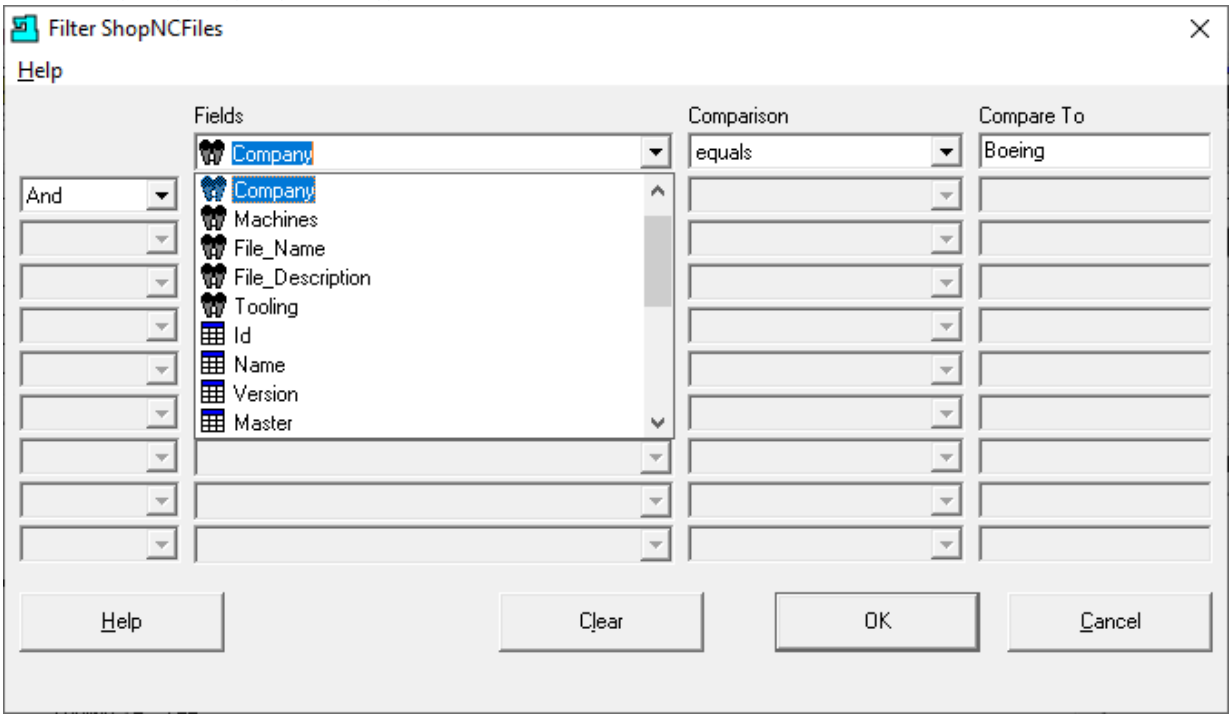
See the Search Key section of this Manual for information on creating Search Keys and see Populating Key Fields for Populating Key Fields. As you can see above there are 5 different Key Fields associated with every ShopNCFile. Let's see how we can use the Search Engine for selecting ShopNCFiles based on the data stored in the Key Fields.

Let's find All Files that are associate with the Customer Boeing to start. Click on the Search Icon and the Search Engine will be displayed.

Note:

The particular View you are using will affect what the Search Engine can find. See the Manual Section Change View for details.
Looking at the bottom left corner for the total number of files this view presents!

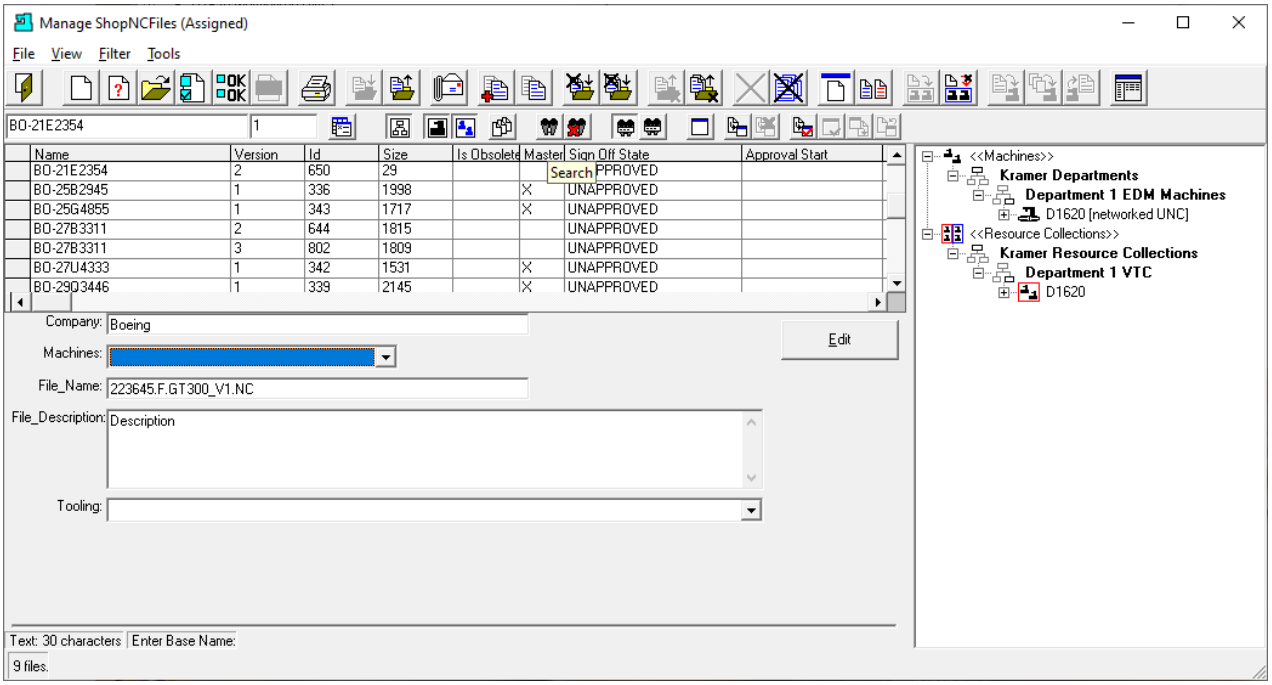
Search Engine (Company: Boeing)



As you can see, we have chosen the Key Field “Company” and chosen Comparison “equals” and Compare To field we typed in “Boeing” (not case sensitive).

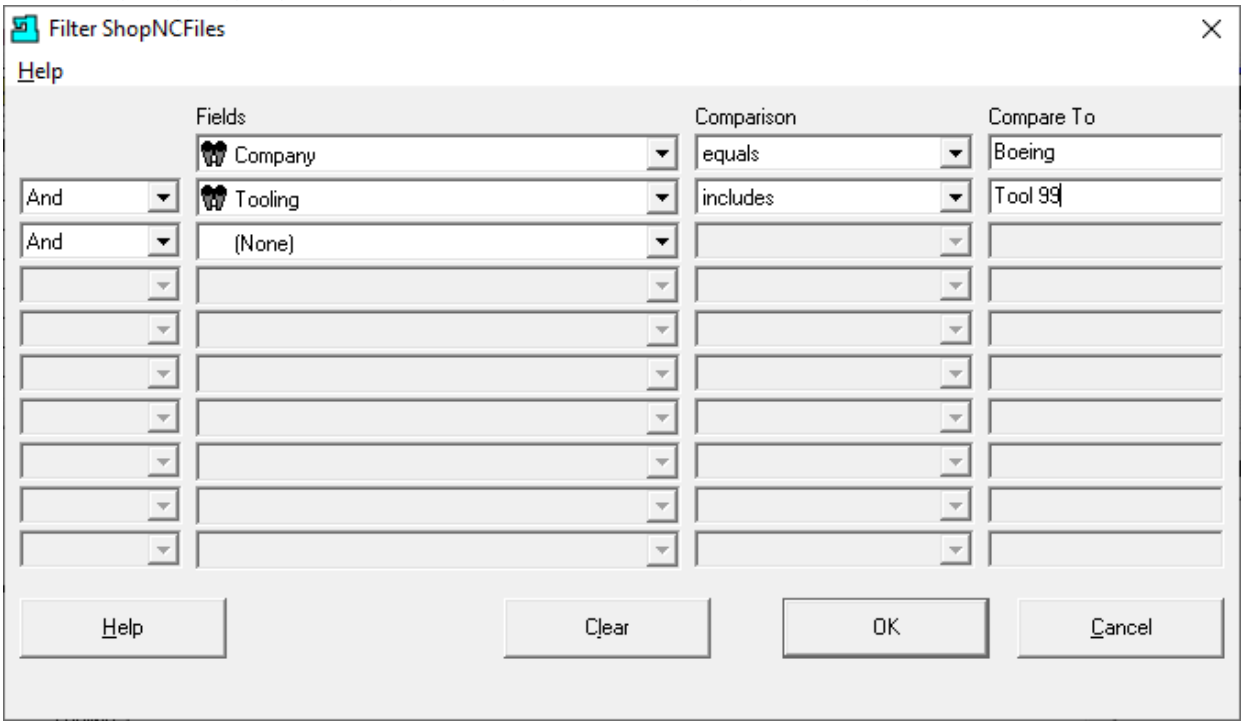
Let’s click on the OK Button and see this narrow down our File Selections.

Search Engine (Manage ShopNCFiles; Company: “Boeing”)



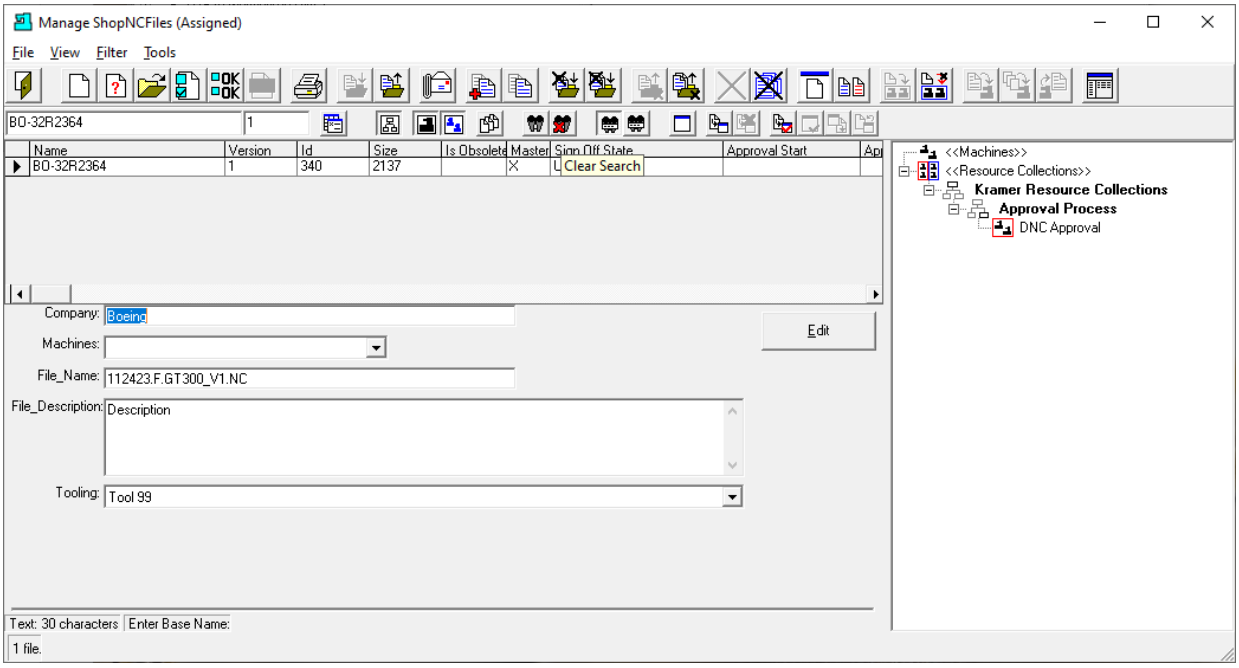
As you can see the total number of Files being displayed is 9 as compared to 485 when not using the Search Engine. Now let’s add another Search Condition to narrow down the selection even more.

Search Engine (Company: “Boeing”; Tooling: “Tool 99” using logical “And”)



Click the OK Button and the following Window will be displayed.

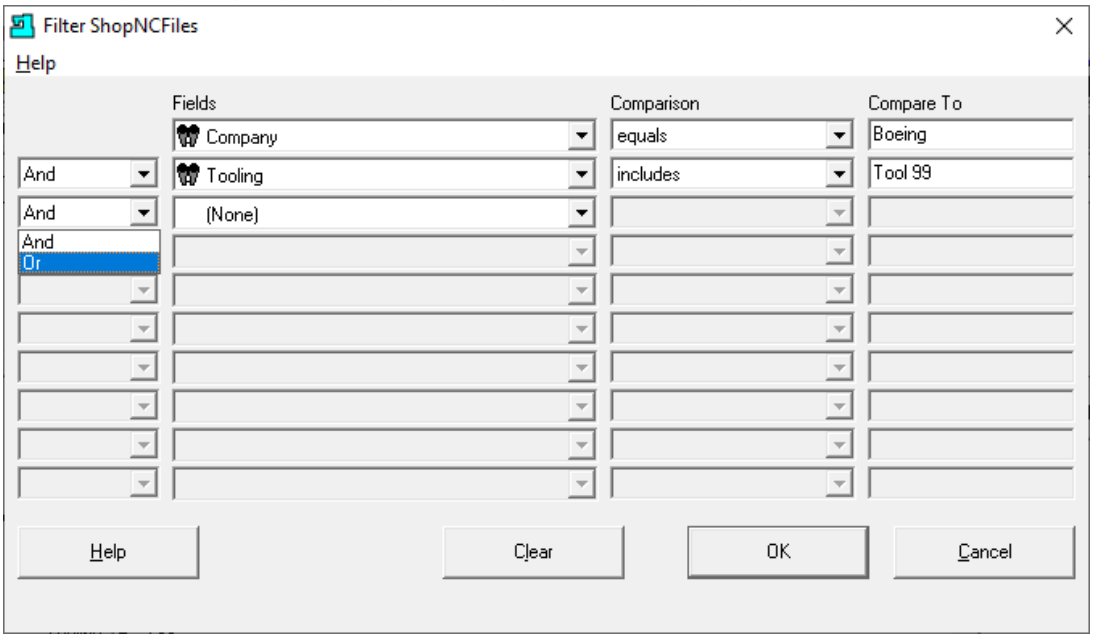
Search Engine (Manage ShopNCFiles; Company: “Boeing” & Tooling: “Tool 99” using Logical “And”)



There is only one File being displayed using the two Search Engine Setting. Let’s change the Settings slightly and see what happens.

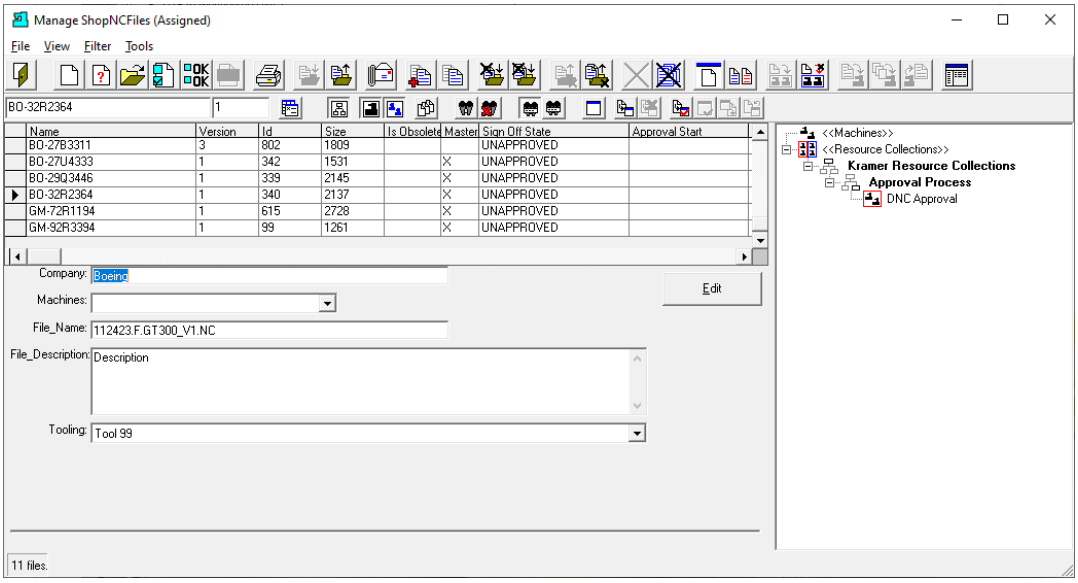
Note: See the Clear Search Icon. When finished you can remove all Search Engine Criteria by clicking on this Button. Don’t clear the Search Criteria at this Time. Click the Search Icon and the following Window will be displayed.

Search Engine (Company: "Boeing"; Tooling: "Tool 99" using logical "Or")



You may not have noticed but the previous search was done with the logical "And" operator! We will change that to "Or" and see what difference this makes. This change tells the Search Engine to show every file that is associate with Boeing and every file that is associate with "Tool 99"! Click the OK Button and the following Window is displayed.

Search Engine (Manage ShopNCFiles; Company: "Boeing" & Tooling: "Tool 99" using Logical "Or")

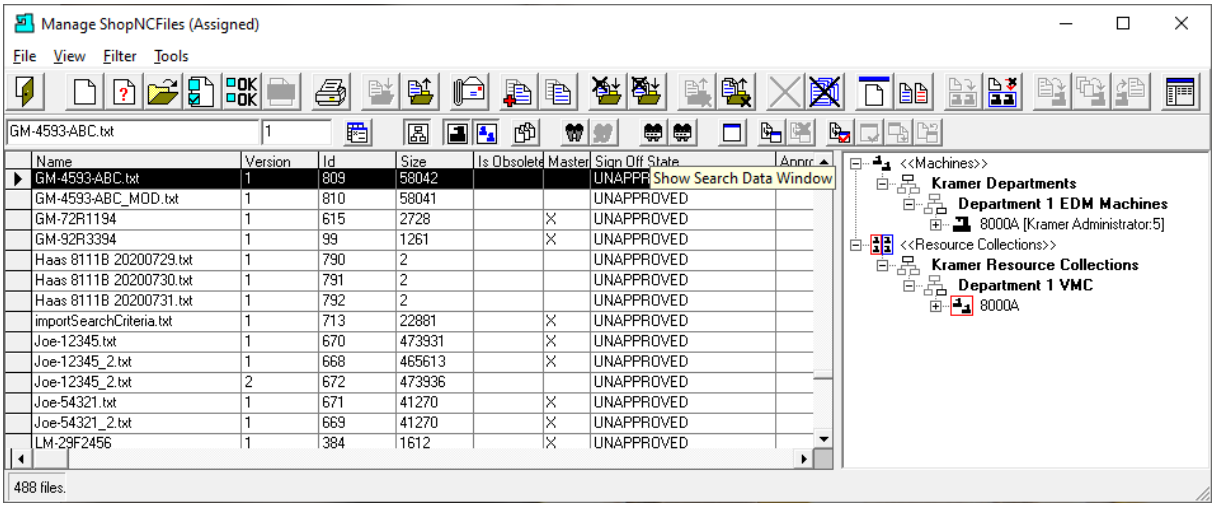


There are now 11 Files meeting the Search Engine Criteria. We could show numerous examples, but it is best if you play with the Search Engine and get some experience! Let's move on to the next section: Select Columns to Show!

Search Key Fields (Populating Key Fields so you can Find your N/C Files & Documents Quickly)

You can find details on creating Search Keys in the Configure General System Settings!

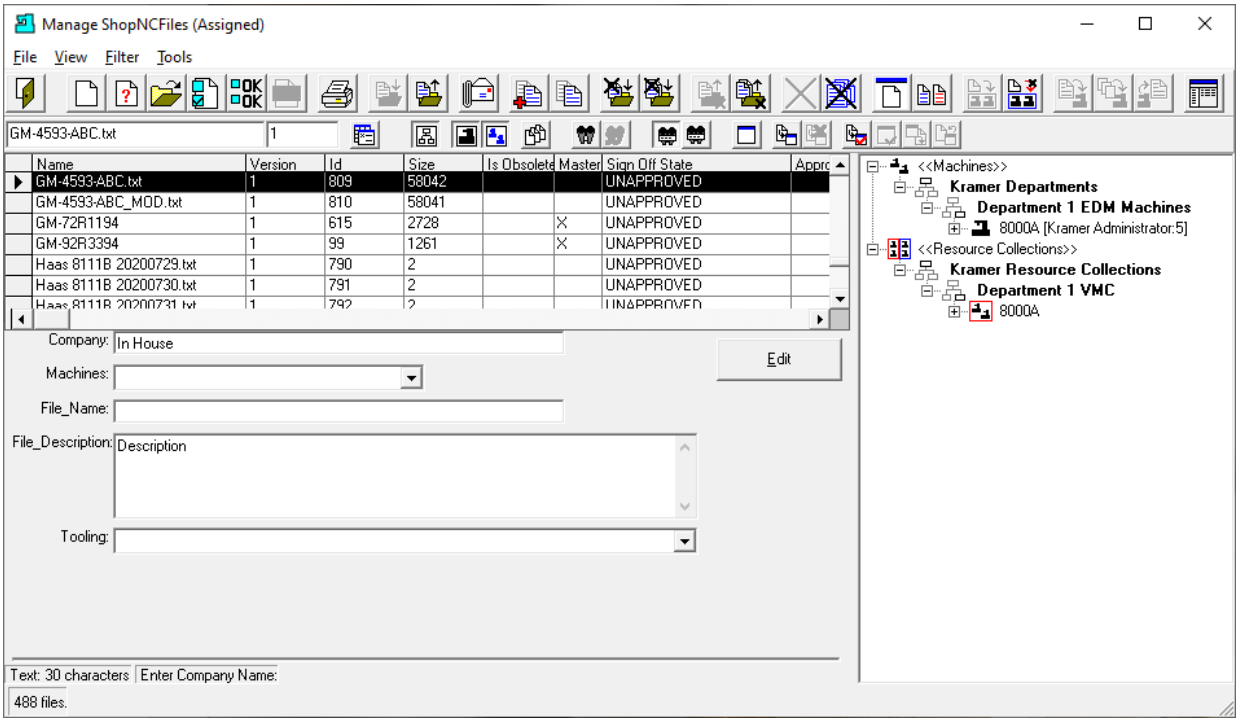
Search Key Fields (Manage ShopNCFiles Populating Search Key Fields)



We will be investigating how to add data to Key Fields that have been created earlier.

Click on the “Show Search Data Window” Icon and the following Window will be displayed.

Search Key Fields (Manage ShopNCFiles Search Criteria)

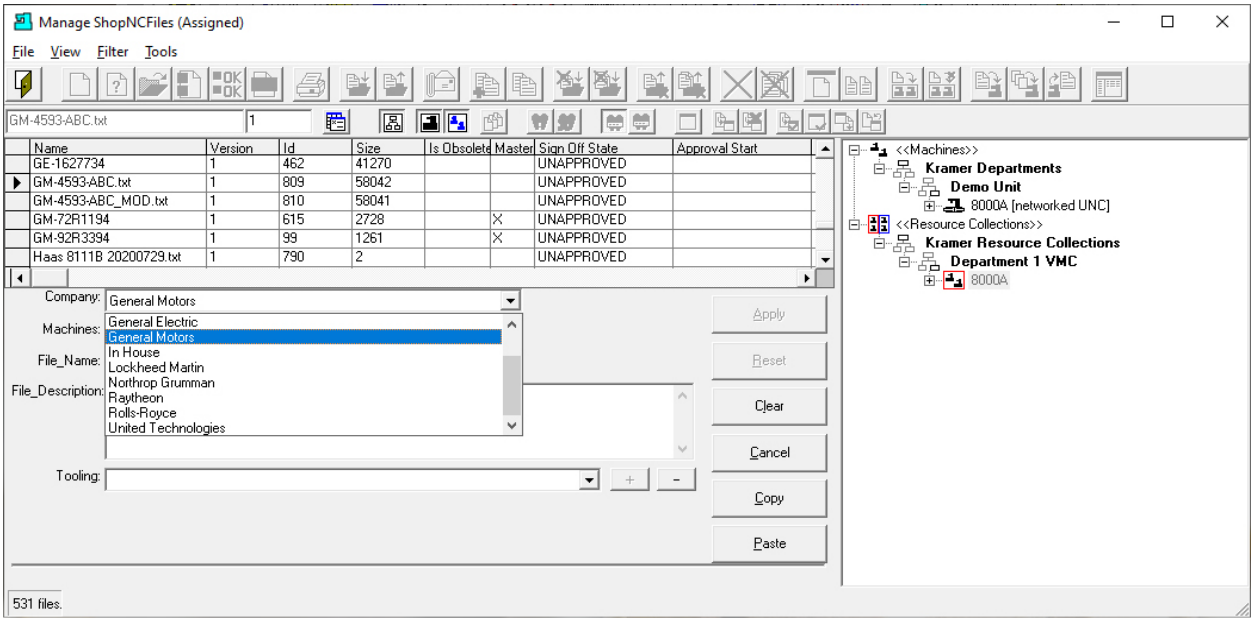


The Key Fields created earlier are displayed in the bottom lower left Window. You can see a Label called Company. The “Company” is a Picklist Key Field. Its associated values have been created earlier in a different section of the Manual.

We will now use this picklist to select a Picklist Value to populate this field!

We will now click on the Edit Button and the following Window will be displayed.

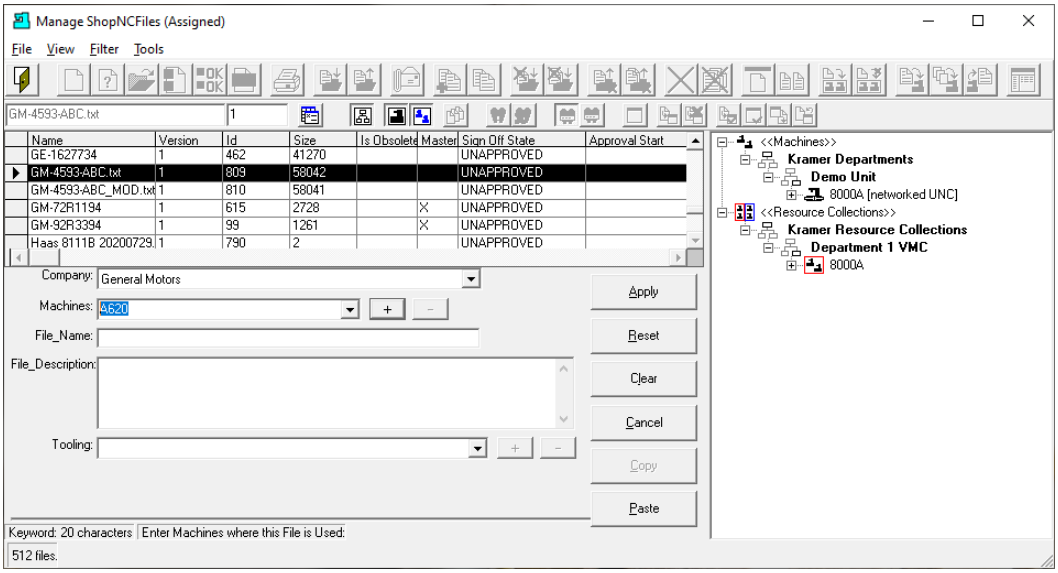
Search Key Fields (Manage ShopNCFiles Key Field Company)



Select the Company drop down list and select the Company “General Motors”. Let’s continue populating these Key Fields.

See the next Page!

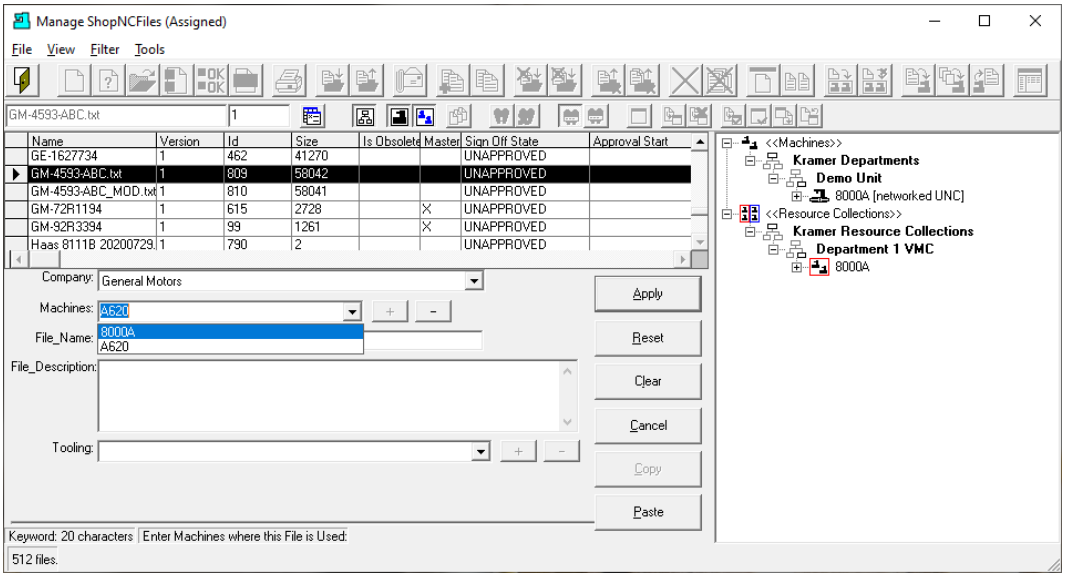
Search Key Fields (Manage ShopNCFiles Key Field Machines)



Next select the drop-down list Machines and add the Machine Tools that are associated with this ShopNCFile. Enter an appropriate Machine and click on the + sign to add to List. Continue adding as needed!

See the following Window fully populated with the associated Machines.

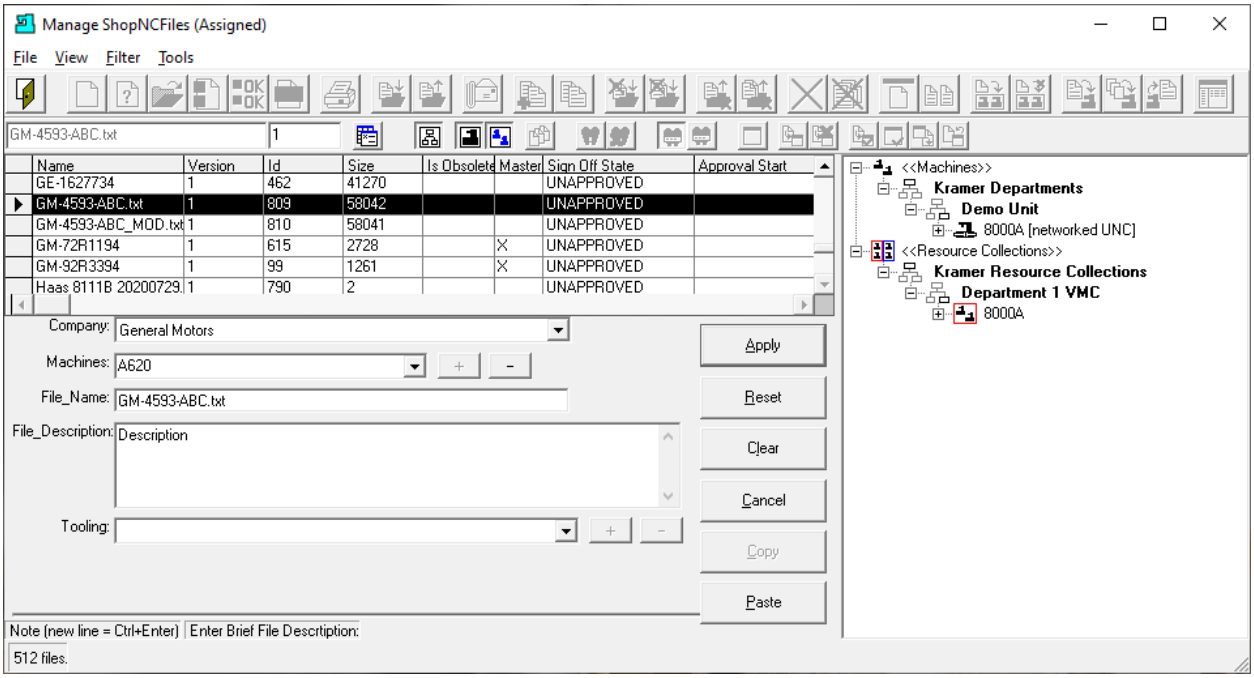
Search Key Fields (Manage ShopNCFiles Key Field Machines populated)



See the list of Machines added to the Machines Keyword Field. We have added several as displayed in the drop-down list.

Next, we will add the original name of the customer's ShopNCFile to the Key File_Name.

Search Key Fields (Manage ShopNCFiles Key Field File_Name)

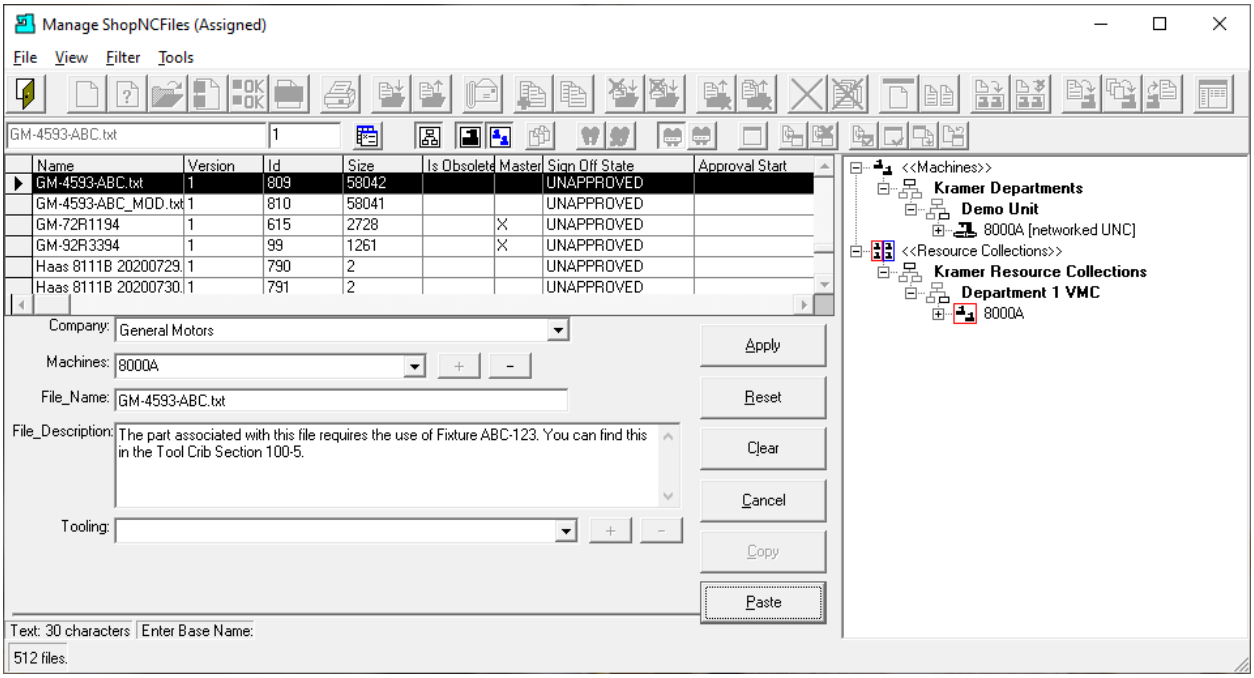


You may wonder why we would add the Original File Name to the Search Keys since this is the name of the file as shown in the bound grid above!

It may be that your company has its own file naming conventions, your customer doesn't want this file's name displayed, etc. but you need to maintain the association to the original company's designated name. This can be accomplished using Key Fields.

Click on the link to see how to Change a System File name to conform your company's file naming convention.

Search Key Fields (Manage ShopNCFiles Key Field File Description)

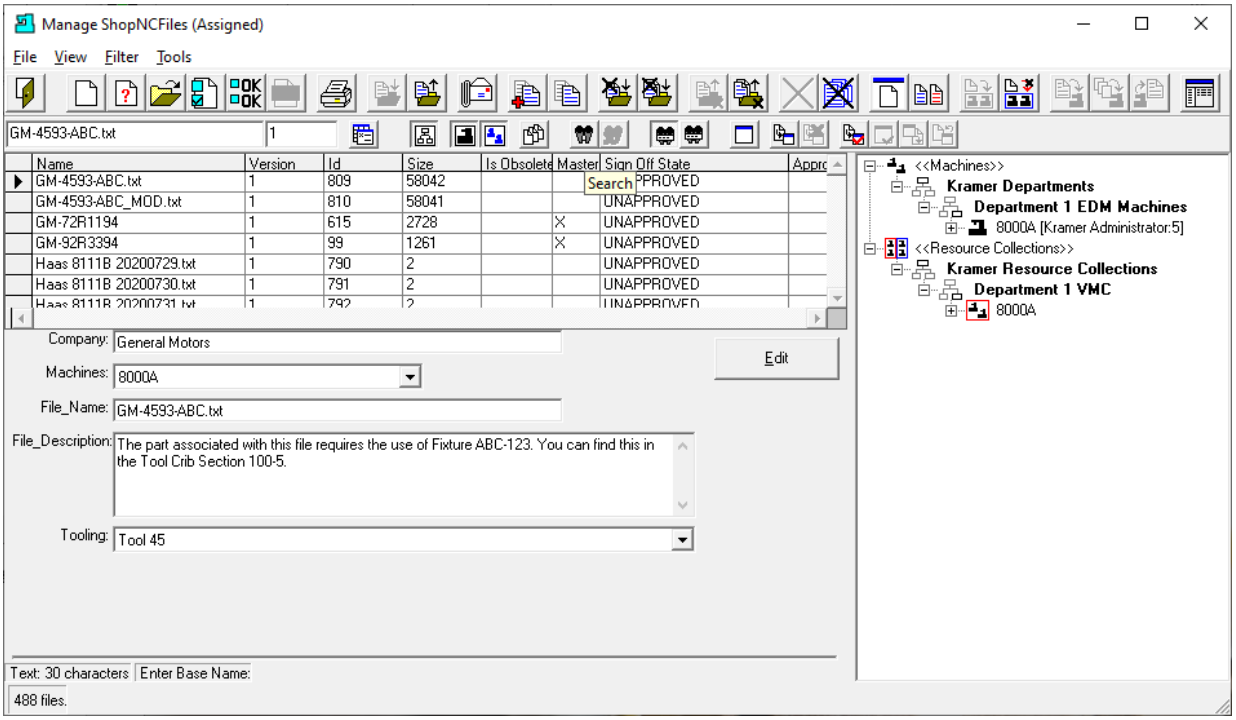


As an aid to Users who may have access to this ShopNCFile you can add a brief description in the File Description Field. Just click in this Field (Key Field Note) and enter the description!

This description can help a User in understanding such things as how the File depends Tooling, Fixtures, warning on its use, etc.

Note: These snippets or phrases can be used in the Search Engine for locating this ShopNCFile!

Search Key Fields (Manage ShopNCFiles Key Field Tooling fully populated)



We will be adding Tooling information that may be needed by a User! Add Tool 99 to the Tooling Field and click the + sign at the right-hand End to Add to Field.

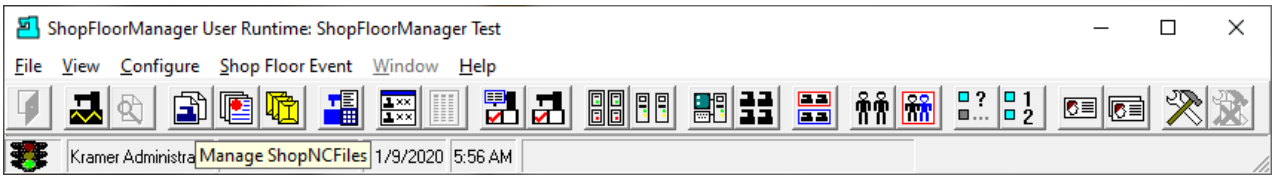
Once we are satisfied with the data used in the Key Fields, we can click on the Apply Button.

We are finished with this section of the Manual so let's move on to another Section.

Select Columns to Show (Columns, Columns everywhere. View only the Columns you Need)

ShopFloorManager provides a User the ability to show & hide certain Columns. The Following demonstrates how this is accomplished.

Select Columns to Show (Manage ShopNCFiles)

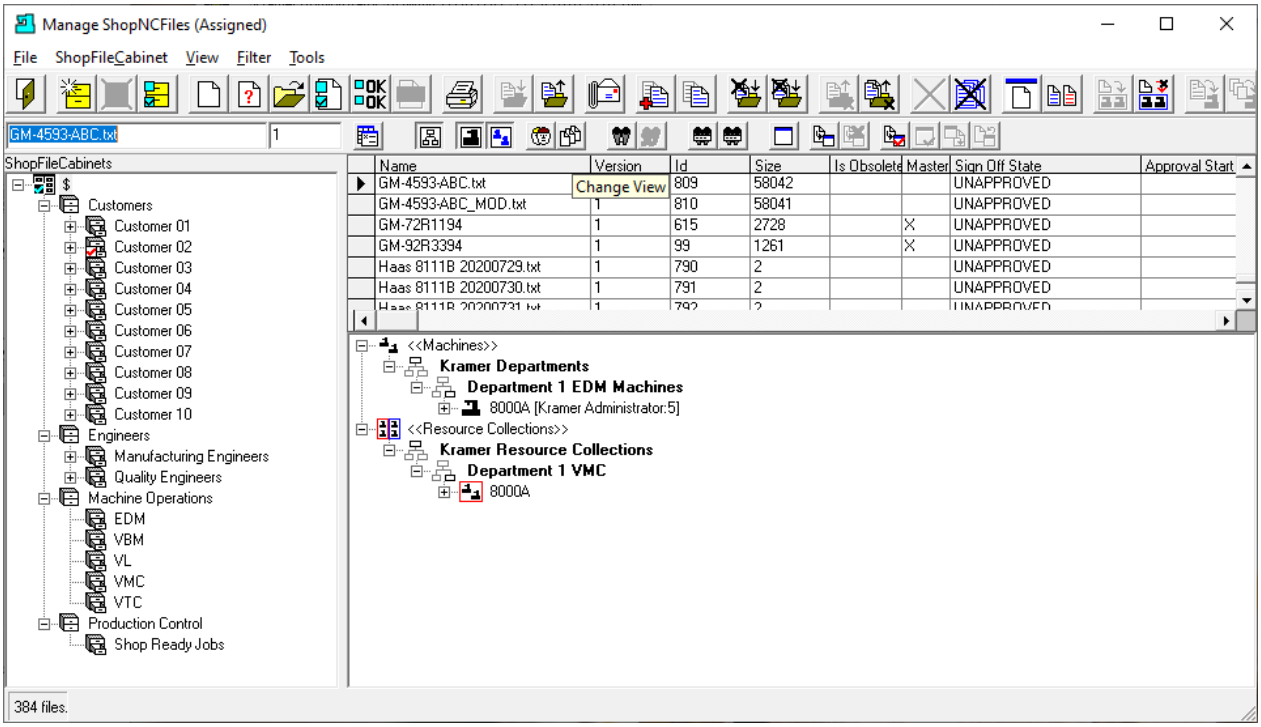


In some Views there are column headings that provide information on ShopNCFiles, ShopDocuments, ShopOperations, Monitoring, etc. where you need to scroll to view all of them. As it turns out most of the time there are certain Columns that are not pertinent to a User! How do you handle this pain in the neck!

We are going to investigate a feature of ShopFloorManager that allows you to manage which Columns are displayed on certain Windows.

Click on the “Manage ShopNCFiles” Icon and one of many Views may be displayed. We may need to change the Present View!

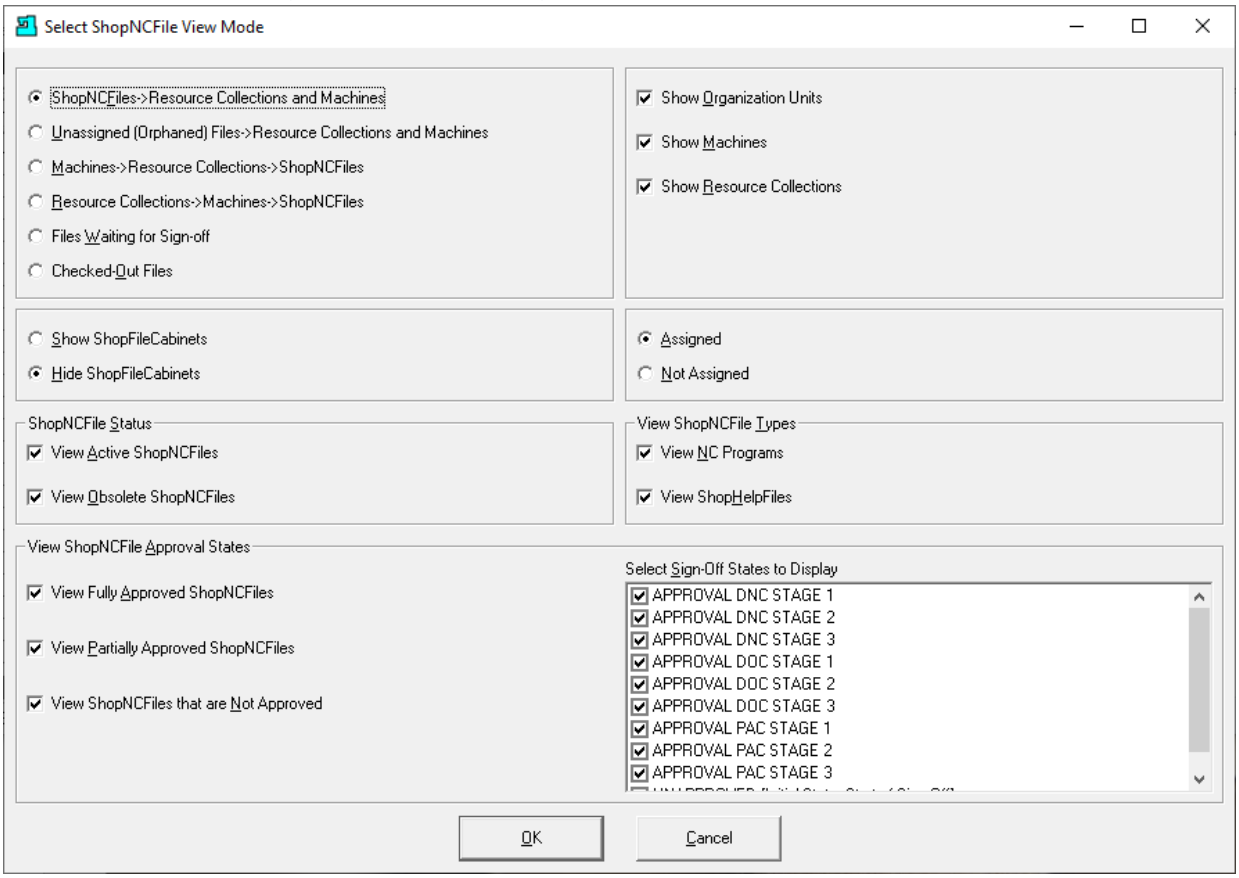
Select Columns to Show (“Change View” Icon)



We will select a view that better illustrates how Columns are displayed so we can hide columns we don’t wish to View!

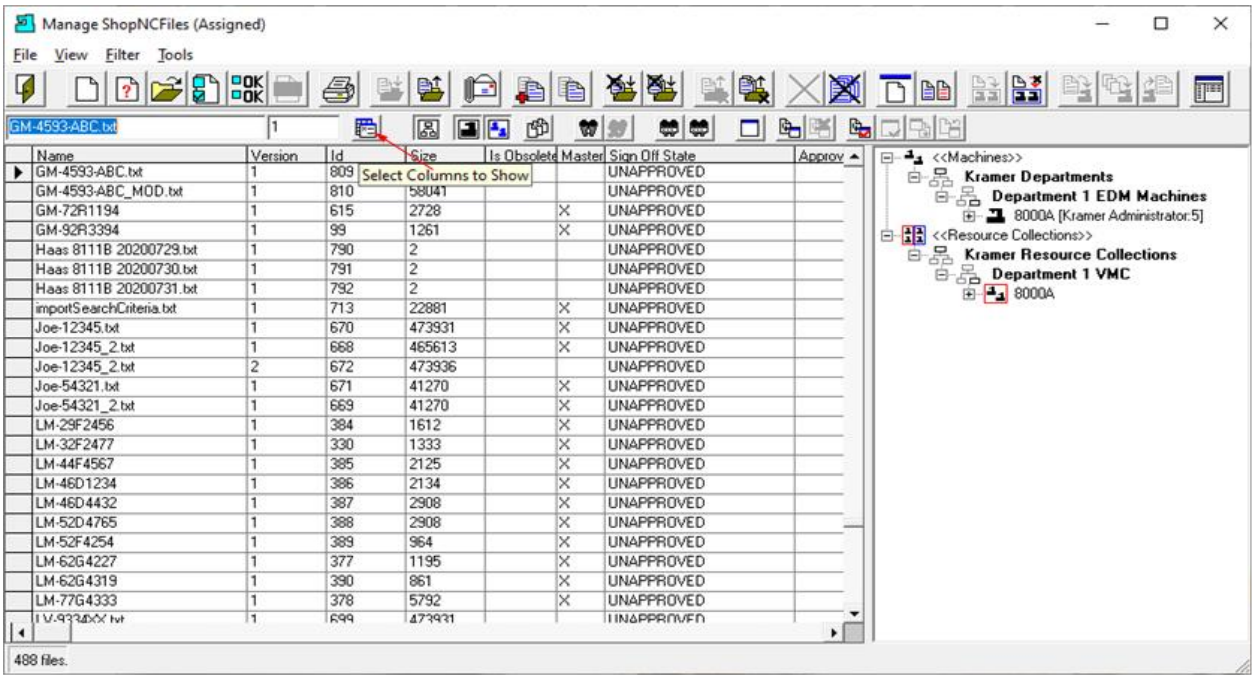
Click the Change View Icon and the following Window will be displayed.

Select Columns to Show (ShopNCFile View Mode)



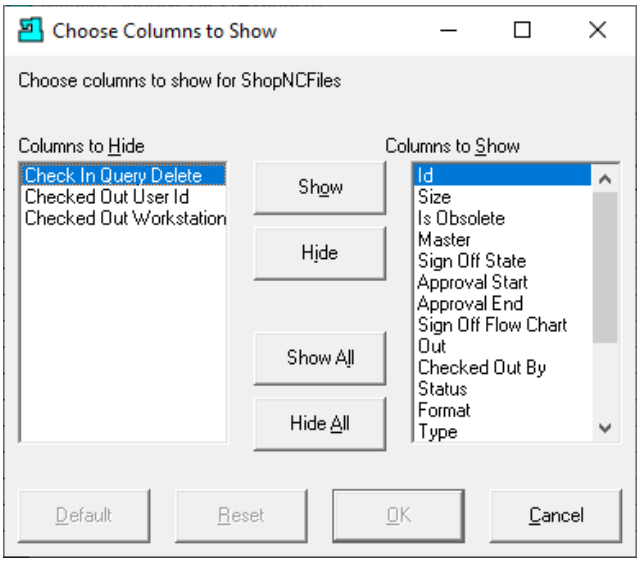
Make the above changes and click the OK Button and the following Window will be displayed!

Select Columns to Display (Manage ShopNCFiles)



Now let's click on the 'Select Columns to Show' Icon, see **Red Arrow** above, and the following Window is displayed.

Select Columns to Display (Choose Columns to Show)



To address screen clutter, you can select which columns you want displayed or more importantly not displayed to efficiently perform the tasks at hand! Give it a try! Easy Right?

When finished making changes cancel this Window and close the Manage ShopNCFiles Window.

ShopMonitor (Real-Time Viewing of OEE & Production Status. Rated R! Adults Only!)

Overview

Why would anybody want to monitor the status of production, machines & other assets on the Shopfloor? “To Improve Machine Effectiveness, Production Efficiencies, Asset Usage, Quality, Customer Satisfaction and Reducing Costs”!

Let's investigate how ShopMonitor addresses these issues!

ShopMonitor was designed to address these issues to collect, store, analyze and display: TEEP, OOE, OEE & Performance categories based on International Standards. Categories, be as automated as possible and provide on-the-fly configurability for generating ShopCharts & ShopReports used to locate Production Problems/Bottlenecks.

ShopMonitor was designed to seamlessly integrated with ShopDNC & CNCs, provide operators the ability to input their valuable knowledge, provide the necessary tools to analyze all the captured data from CNCs & Operator inputs and display Real-Time Relevant Status using ShopCharts & ShopReports.

Note: As the data is collected it is used to generate on-the-fly ShopReports and real-time interactive ShopCharts that visually display real-time Production Status. These Statuses Visually indicate when Production is running to Standards and when it is not by displaying varying Status Levels aiding in addressing Problems ranked by their Status.

In other Words: ShopMonitor was designed to provide realistic real-time production status on discrete manufacturing shop floors with minimal costs, to be fully integrated with your ShopDNC & CNCs, save **Money,** and provide all the tools needed to meet these goals.

There are seven components that are used to accomplish these Goals:

1. **Creating Monitoring Programs:**
   Machine Monitoring Programs
2. **Real-Time Goble Visuals**
   Machine Status
3. **Capturing Production & Non-Production Events**
   ShopMDI
4. **Using CNC Controllers to input OEE Data**
   OEE Controller based MDI
5. **Real-Time Machine Visuals**
   ShopCharts
6. **Reports**
   ShopReports (OEE & Performance)
7. **Report Filter**
   ShopReport Filter

Note: Click here for non-monitoring System Configuration Reports!

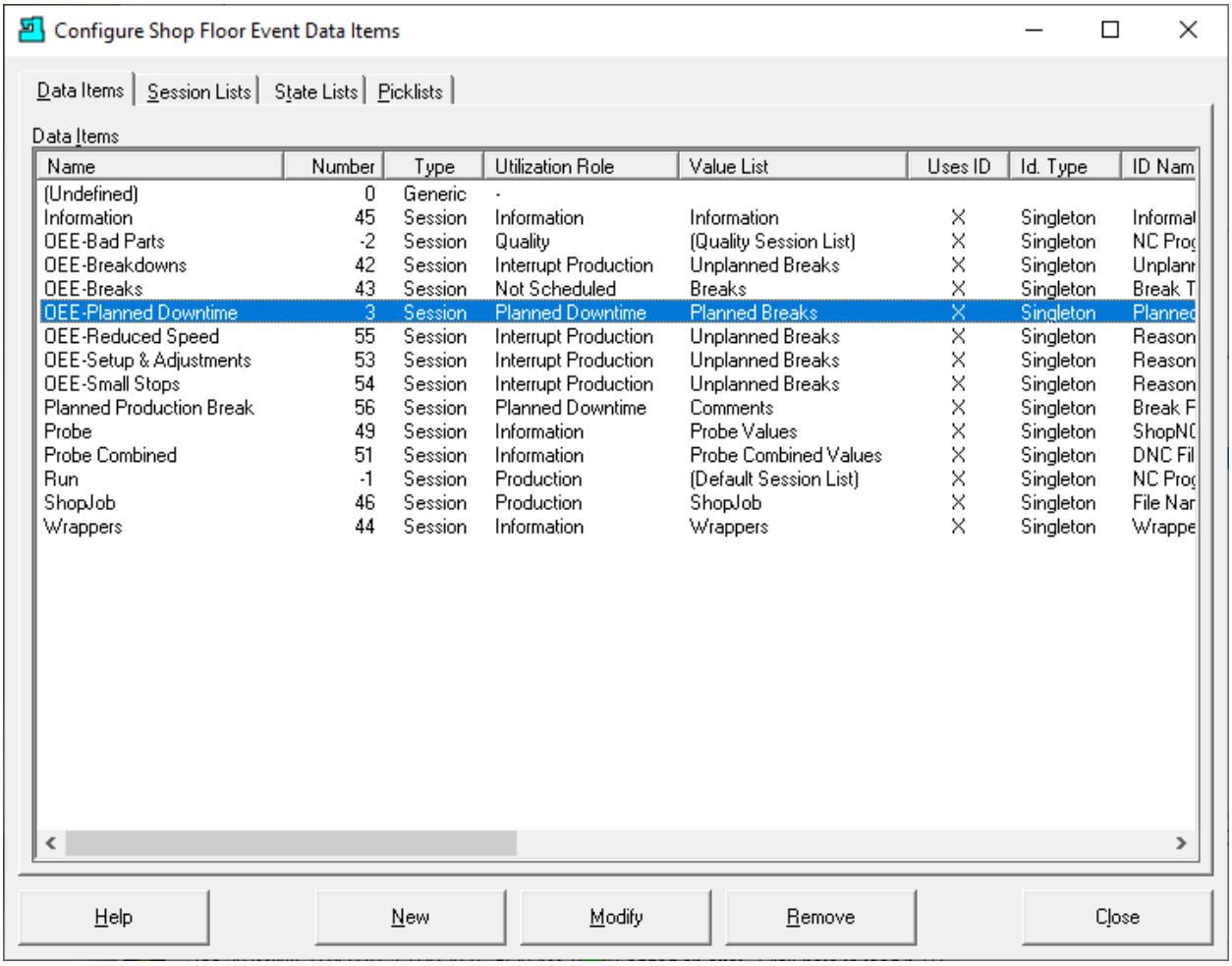
Let’s dig deeper into these Areas learn more!

ShopMonitor (Creating Monitoring Programs)

Before proceeding become familiar with Machine Monitoring Programs. This knowledge will provide you with in depth details on how to create ShopMonitor Programs.

Let's quickly look at the process of creating one of the existing OEE Monitoring Programs explaining each of the sections, with relevant links, so you can see the process from start to finish!

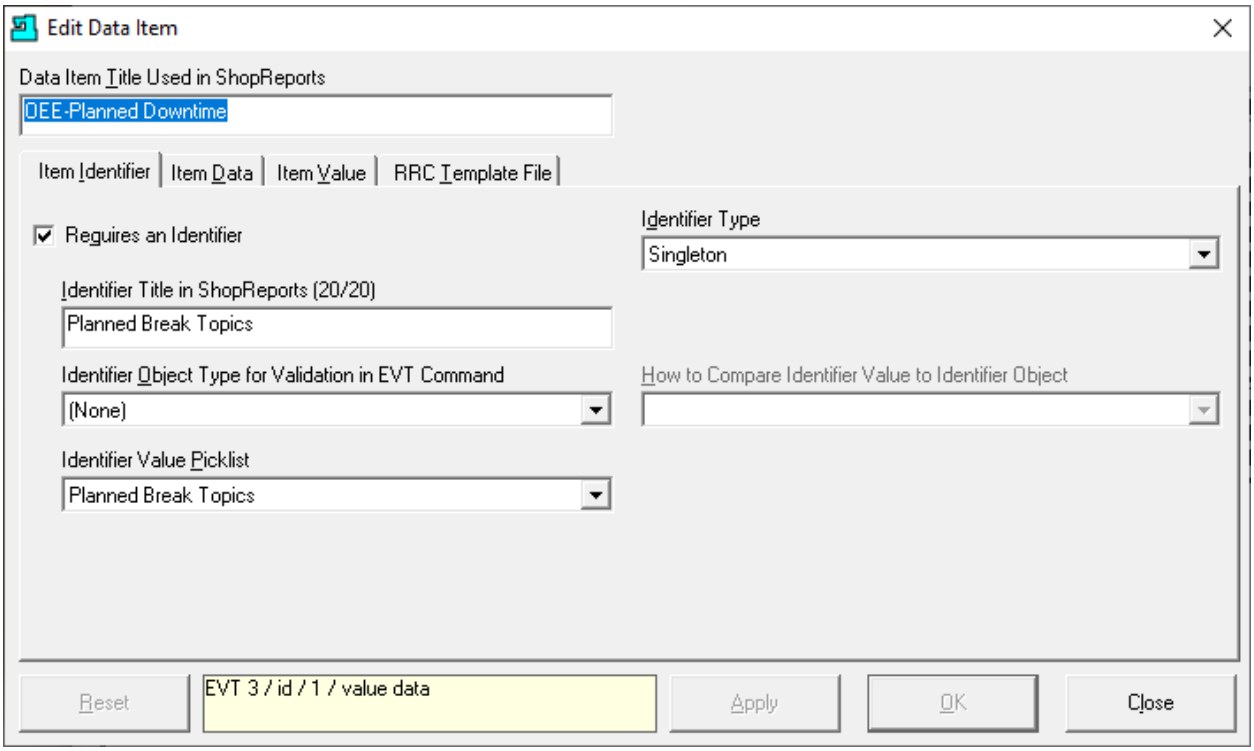
ShopMonitor (Create OEE-Planned Downtime)



Click on the Modify Button and the following Window is displayed.

Note: We will assume you have read the section on creating a Machine Monitoring Program so we will not explain things in depth!

ShopMonitor (Create OEE-Planned Downtime – Edit Data Item)



We will look at the "Data Identifier" Tab first!

In the "Data Item Title Used in ShopReports Title Used in ShopReports" we have named this Monitoring Program "OEE-Planned Downtime" to signify that this is specifically an OEE category "Planned Downtime"! This effects the OEE Category "Availability".

We have chosen "None" for the "Identifier Object …" and have chosen the "Identifier Value Picklist" to be "Planned Break Topics"!

We will not look at the Item Data Tab as we will not use that functionality!

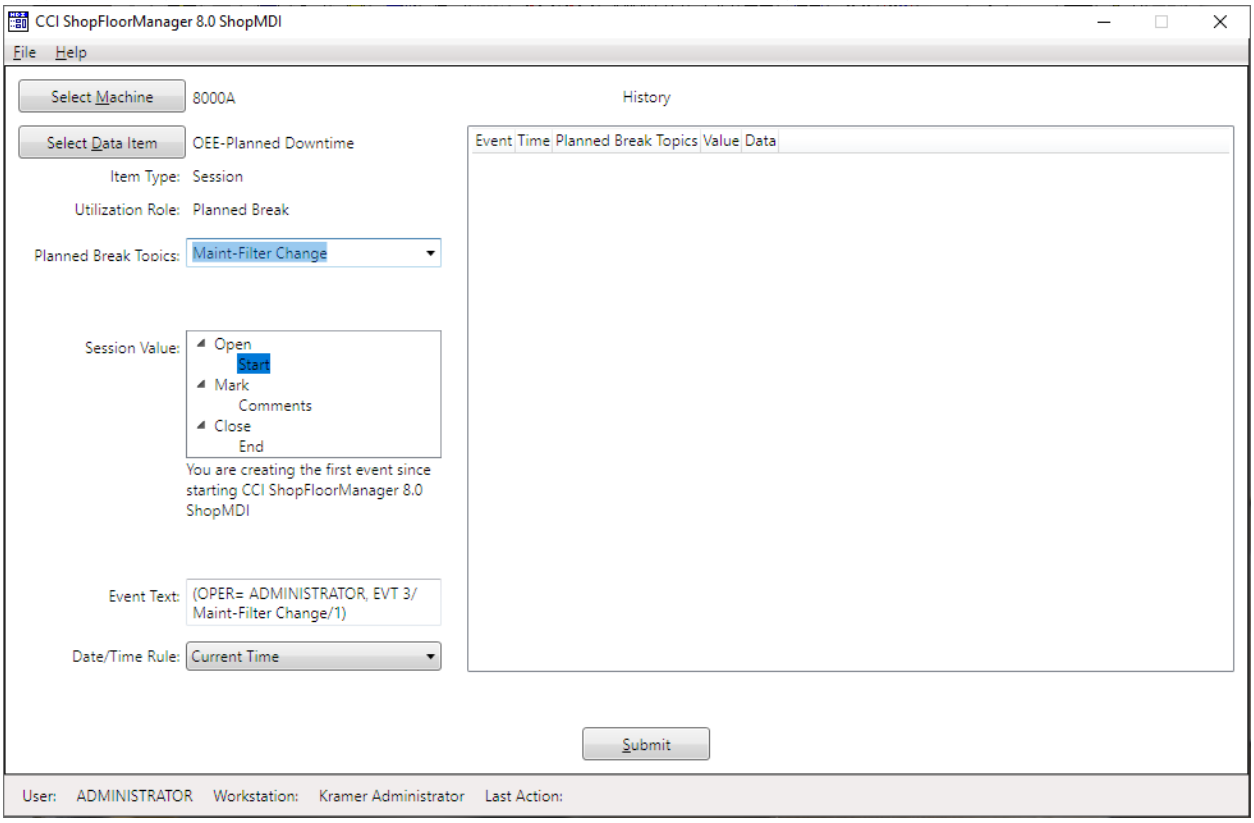
We have selected the Item Value Tab and set the "Value Type" to Session and Machine Utilization Role to "Planned Downtime".

Next, we select the "RRC Template File" Tab and check the "Allow Remote…" checkbox and highlight the first available entry!

You should also look at ShopMDI selecting the 'OEE-Planned Downtime' Data Item and explore!

See the next page for basic ShopMDI Layout!

ShopMonitor (ShopMDI with Data Item OEE-Planned Downtime selected)



We will investigate the configurations by selecting the various Session Value(s) & the various drop-down lists!

Note:

1. Don't click on the Submit Button, just play!
2. Visit the following link for viewing all of the Events that can be produced using **this** Data Item (Monitoring Program)! You can see all of the possible Events that this Monitoring Program can generate. OEE Controller base MDI

Now let's continue on to "Machine Status"!

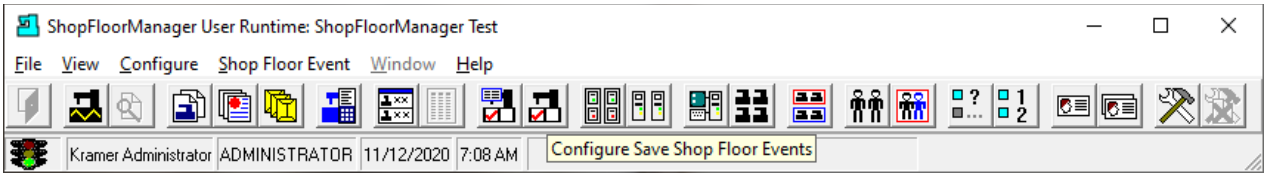
ShopMonitor Machine Status (Machine Monitoring on Steroids. Prescription Required!)

ShopFloorManager provides a Real-Time View of Machine's Production Status being Monitored on the Shopfloor. We will be showing Machine Status' configuration and use in the following Pages!

The Events driving these Views are generated via DPRINTs Inserted into ShopNCFile Programs and output to ShopFloorManager as the ShopNCFile executes. Events are also generated using ShopMDI and OEE-Controller-based-MDI! These Events (DPRNTs) are captured by ShopFloorManager and used to update the Machine Status Window and also stored in ShopFloorManager's Database for other uses!

In order to use Machine Status, make sure that you checked the "Enable History Logging and ShopReports" in the Configure General System Settings.

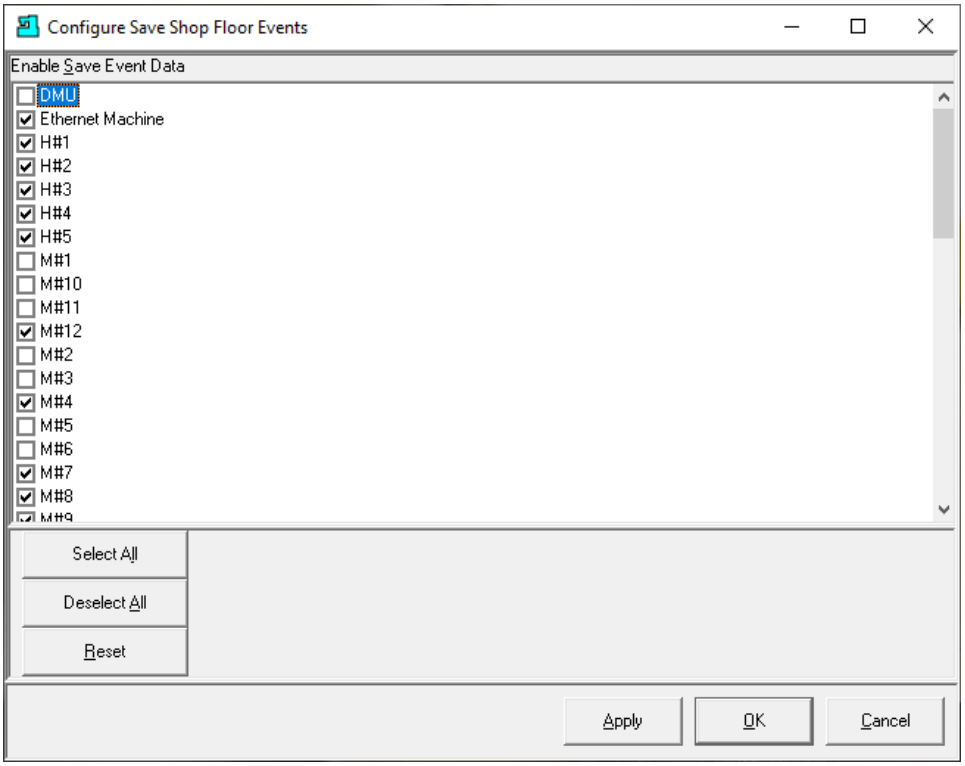
ShopMonitor Machine Status (Configure Save Shop Floor Events)



Let's get started by configuring which Machines will Save & Display Shop Floor Events.

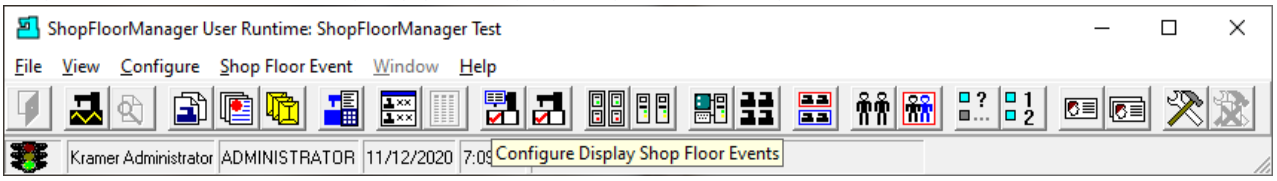
Click on the "Configure Save Shop Floor Event" Icon and the following Window is displayed.

ShopMonitor Machine Status (Selecting Machines to Save Shop Floor Events)



Check off the Machines that you want to collect Shop Floor Events then click the OK Button, and the following Window is displayed.

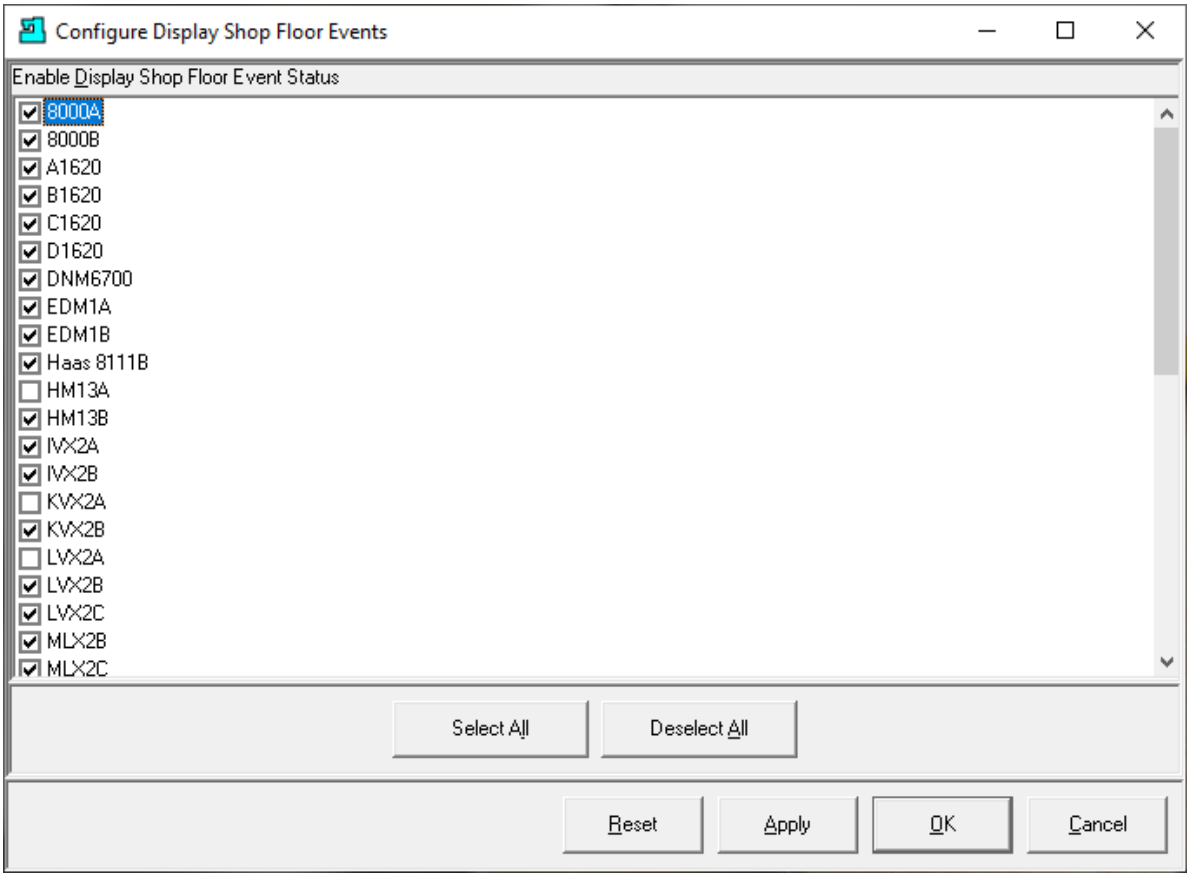
ShopMonitor Machine Status (Configure Display Shop Floor Events)



Next, we need to configure the Machines that Display Shop Floor Events.

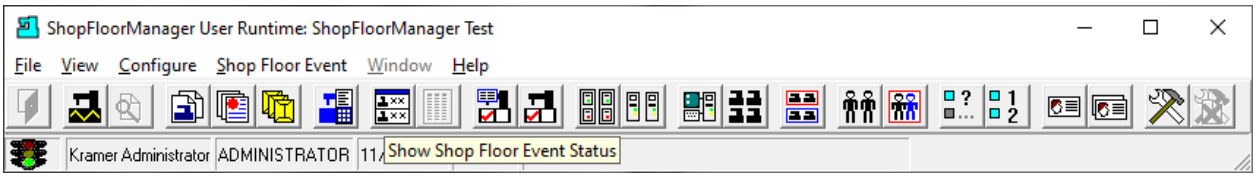
Click on the "Configure Display Shop Floor Event" Icon and the following Window is displayed.

Machine Status (Selecting Machines to Display Shop Floor Events)



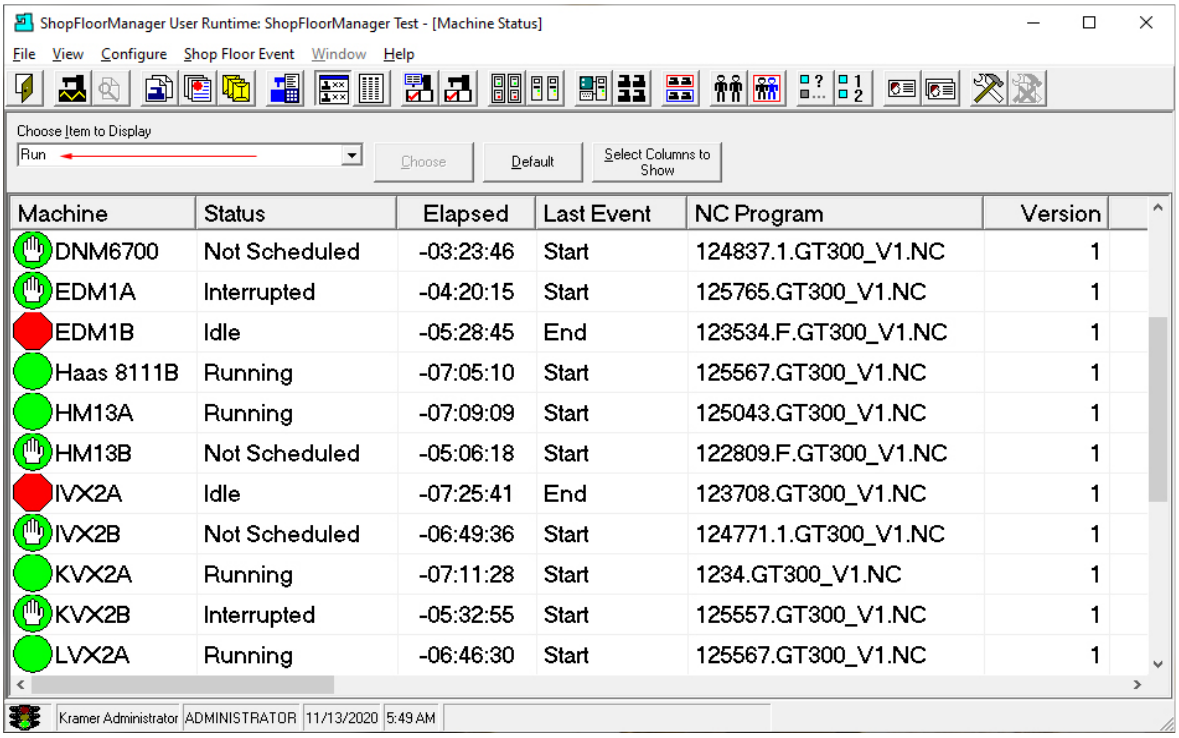
Check off the Machines that you want to Display the Shop Floor Events then click the OK Button, and the following Window is displayed.

ShopMonitor Machine Status (Show Shop Floor Event Status)



Click on the Show Shop Floor Event Status Icon and the following Window is displayed.

ShopMonitor Machine Status (Show Shop Floor Event Status -> Run)



We are looking at an active set of Machines collecting Events! This Window displays the current Machines executing the Monitoring Program "Run"! See **Red Arrow** above!

"Run" is the default Monitoring Program whose Events are Automatically inserted in ShopNCFiles when downloading to a Machine Tool depending on complete settings and specific settings!

Let's look at how Machine Status uses various Icons to indicate the Production State/Status of the Machine Tools.

States/Roles (Icons depict States/Roles) while "Choose Item to Display" has Run Selected:

Active Production:

I.E. Normal Run Cycle Execution. I.E. The Machine is still executing the cycle and the present executing time of cycle has not exceeded the normal cycle time plus % **Variance:**

ShopMonitor Machine Status (Show Shop Floor Event Status -> Run Cont.)

Active Production Normal Cycle Time has Exceeded by x% Variance:

I.E., Normal Cycle Run Time has been exceeded by x% **Variance** & is still executing!

Run Paused Production:

I.E. Run Cycle has been interrupted by **(I.E.** OEE Break - **Interrupt Production**, etc. **)**

Run has Paused Production & the Normal Cycle Time has Exceeded x% Variance:

I.E. Cycle has been interrupted & Normal Cycle Run Time has been exceeded by x% **Variance**.

Quality (Bad Parts)

I.E. Recorded number of bad parts that need to be repaired or scrapped. Used in OEE Quality Calculations.

Active in Non-Production:

Production has been interrupted by Planned Stop or Unplanned Stop**.** I.E. OEE Break, etc.

Not Scheduled for Production

I.E. This Asset's time interval set to Not Scheduled. I.E. Lunch, Work Break, Weekends, etc.

Active Non-Production Information:

I.E. Feedback by Operator. Displayed in "Most Recent Activity". If embedded in a ShopNCFile can also contain information about start and end times of specific sections within the ShopNCFile or mark % of completion of ShopNCFile and indicate if cycle has stopped at a specific time & place! No hardware needed!

Not Active Production:

I.E. Production has stopped Machine is Idle. Past Cumulative Cycle Times are within x% **Variance** of Normal.

Not Active Production Normal Cumulative Cycle Times have Exceeded by x% Variance:

I.E. Production has stopped Machine is Idle. Past Average Cumulative Cycle Times exceeded x% **Variance** of Normal.

Note: x% **Variance** is settable for each Machine Tool!

The Monitoring Program "Run" generates the Events (DPRNTs) that are automatically inserted in the ShopNCFiles. As the Machine Tool executes ShopNCFiles Events are output to ShopFloorManager and used by ShopMonitor to generate the shopfloor Production status for each Machine.

From this Window you are notified in real-time of Production & Non-Production Events. No matter what is happening ShopMonitor informs you of how your Production/Machines are Performing relative to your standards. I.E. Quality, Efficiency, Performance & OEE Goals!

ShopMonitor Machine Status (Show Shop Floor Event Status -> Run Cont.)

We will explain what each of the Icons indicates and how to use them to help maximize the Quality, Efficiency, Performance & OEE Goals of your Shop. This is not a shallow statement! If you diligently use these tools provided in ShopMonitor you will increase your Shopfloor efficiencies, performance & Machine Effectiveness!

As with most technologies you have to commit to integrate & use these tools if you want to achieve the Quality, Machine Effectiveness, Efficiency, Performance & OEE Goals established for your Shop. One of the most important parts is the acceptance by Shop Personnel in the use of these technologies.

It's the Shop Personnel that have direct access and knowledge of Real-Time Production Events on the Shopfloor and in particular at their Work Area! They need to use these tools & understand how these tools benefit them and the company. I.E. If the company benefits, they also will benefit!

Note: These Tools shouldn't be used/conceived as a way to fault Shop Personnel if goals are not achieved! If these Tools are used for this purpose, they will resist using the Tools.

These Tools are used to gather information on how Production/Machines are influenced by events on the Shopfloor. It is well known that if you aren't collection relevant information you don't have an accurate picture of what's happening, and any decisions based on poor, incomplete or no data usually have bad outcomes.

If your Machines are Macro/DPRINT capable, ShopMonitor is designed to make its initial implementation almost effort free. With a few settings in ShopFloorManager's Configuration (Read forward in the rest of the Configuration section for details. Skip sections not applicable) the DPRINT Events needed for Production Monitoring are automatically inserted into your ShopNCFiles as they are downloaded to your Machines. Once these settings have been configured the insertion happens automatically, that's it!

As your Machine Tool executes it's Program the DPRINTs are output put (RS232/UNC) to ShopFloorManager and used to update the Machine Status Window notifying you in real-time of your Production/Machines Status: Running, Stopped, have exceeded this Nominal Cycle-Time and when stopped if the cumulative Cycle-Times have exceeded the average Nominal Times of all of the current Cycle Series for that particular File.

All Cycle details are recorded in ShopMonitor's Database! You can use ShopMonitor's ShopReports/ShopReport Filter/ShopCharts to mine the collected data with any detailed depth required!

Think of it, if you have the Machine Status Window running, by just looking at the screen you can tell in an instant if there are any Production/Machine Problems.

Let's investigate each of the Symbols, find out what they mean and how to use them to find Production bottle necks and respond accordingly!

ShopMonitor Machine Status (Using Icons to determine potential Production Problems.)

Normal Run Cycle Execution.

This Symbol indicates that the associated Machine Tool is running and has not exceeded the Normal Cycle Time by more than x%. This % **Variance** is settable for each Machine Tool!

Present Symbol State could indicate:

> The Cycle has just started and has not reached its Nominal Cycle Time!
> The Cycle is running and has exceeded its Nominal Cycle Time but has not exceeded it by more than x % **Variance**!

You can get more information by looking at all of the details displayed on the same line as the Green Circle Symbol! Use the slider on the bottom of the Window to access all the detailed information.

Note:

> x% **Variance** is settable for each Machine Tool!
> To be prudent check periodically to make sure it is operating in this State which means you are meeting your Company's Production Standards!

I.E. Production has stopped Machine is Idle.

This Symbol indicates that the associated Machine Tool is Idle, and the Past Cumulative Cycle Times are within x% **Variance** of Normal.

You can get more information by looking at all of the details displayed on the same line as the Green Circle Symbol! Use the slider on the bottom of the Window to access all the detailed information.

Note:

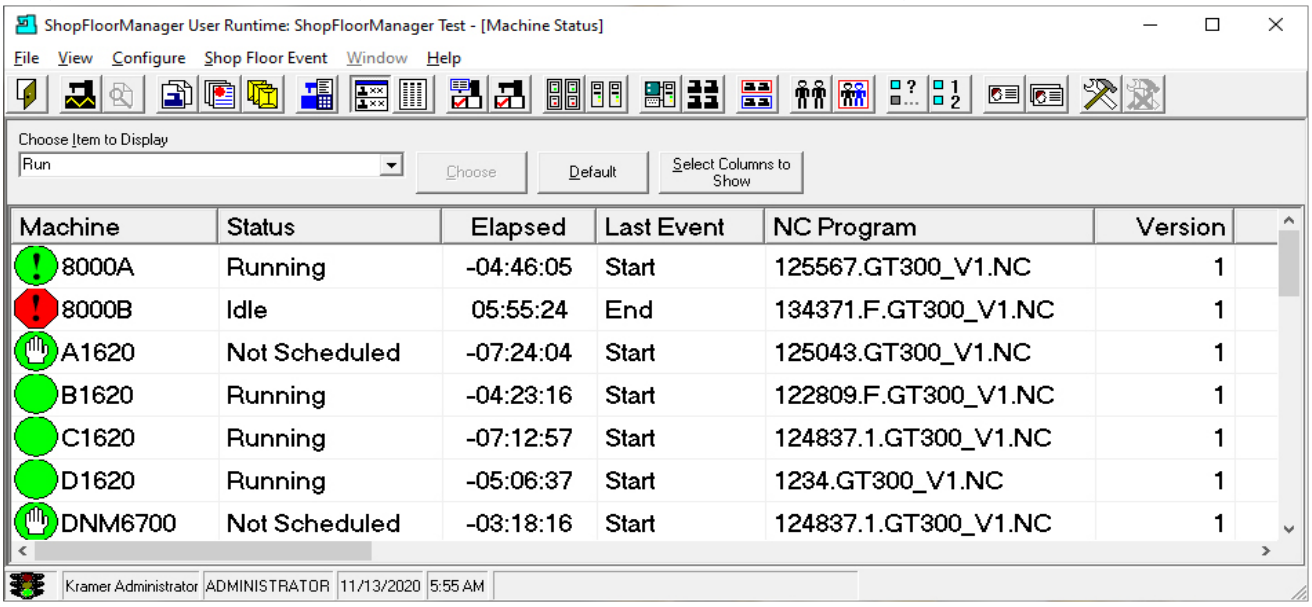
> x% **Variance** is settable for each Machine Tool!
> To be prudent check periodically to make sure the State doesn't stay Idle.

Note: In the "Choose Item to Display" drop-down list you will see the option: **" *Most Recent Activity "**. Although not a Monitoring Program per se it provides a way to see all Active Production based Monitoring Programs including "**Run**"!

In order to provide a Globe View of all Production Activities the **"*Most Recent Activity"** was created but only displays the common data of all the different Production Monitoring Programs!

When any particular Production Monitoring Program is chosen in the "Choose Item to Display" list, only the details of that particular Monitoring Program are displayed, and the only Machines displayed are the ones running this specific Program the exception of course being **"*Most Recent Activity"!**

ShopMonitor Machine Status (Status information Nominal Value Exceeded by x%)



Normal Cycle Run Time has been exceeded by x% Variance.

This Symbol indicates that the associated Run Cycle is running and **has exceeded** the Normal Cycle by more than x % **Variance**.

You can get more information by looking at all of the details displayed on the same line as the Green Circle Symbol! Use the slider on the bottom of the Window to access all the information.

It is also possible that cycle has been paused or terminated before finishing the cycle and is presently idle. If you start to see a cycle time far exceed it normal time these are good possibilities! Investigate immediately.

I.E. Production has stopped Machine is Idle.

This Symbol indicates that the associated Machine is Idle and Past Average Cumulative Cycle Times exceeded x% of Normal Cycle.

You can get more information by looking at all of the details displayed on the same line as the **Red Hexagon** with the Exclamation Mark Symbol! Use the slider on the bottom of the Window to access all of the following information.

ShopMonitor Machine Status (Status information Nominal Value Exceeded by x% cont.)

The Heading Labels shown are the important ones. This tells you what is happening!

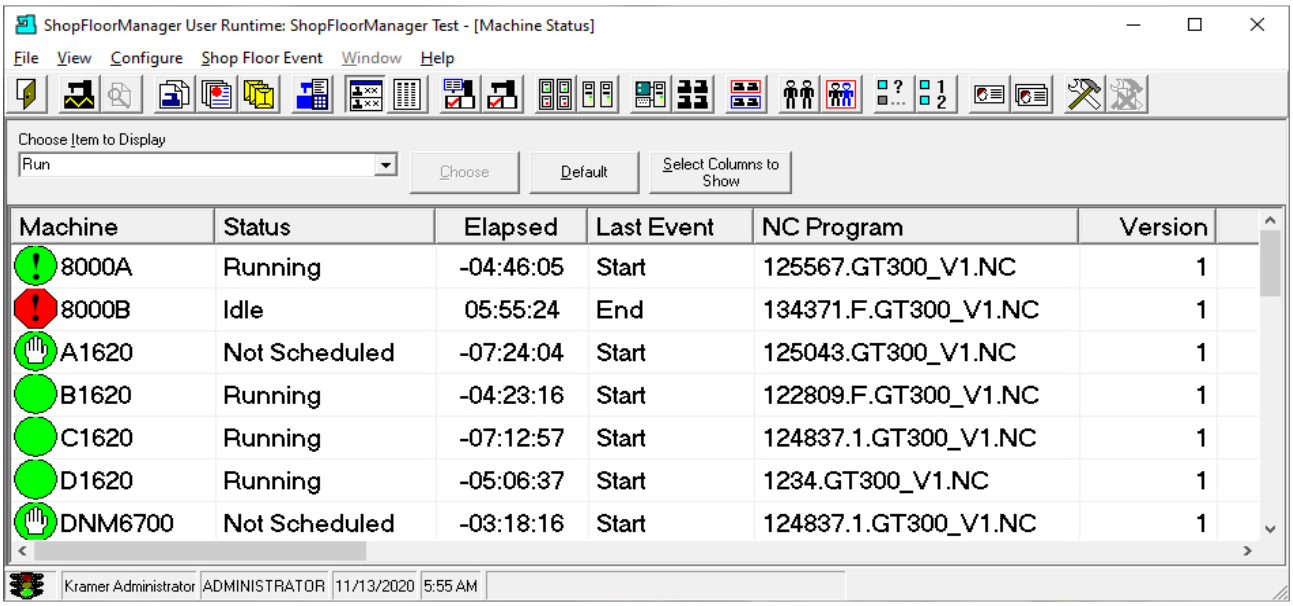
Important Heading Labels and Meaning as Encountered Left to Right:

Machine: Unique Name
Status: Running; Idle.
Elapsed: Time in Days & Hours the present Cycle has been running.
First Cycle Start: *When the first Cycle started in this Session.*
% Run: The is the Percent of Time this Machine has been in Production.
% Stopped: The is the Percent of Time this Machine has Stopped since last Cycle!
% Idle: This the present of time Machine has been idle since this series has started.
Nominal Cycle Time: This value is used in OEE calculations and in Visual feedback!
Average: The Average Cycle Time for the Series of this Machine-ShopNCFile combination after at least 1 Cycle
Variance: This is variance = the percent of variance of the Cycle Time after at least 1 Cycle
Idle Time: Total Time the Machine has not been active is this Session
% Done: Total % completed on the Operation based on Nominal Cycle Time
Exception: Indicates if ShopFloorManager received a stop event when it expected a start event or vice versa!

Note: You can use the slider on the bottom of the Window to access all the Label Information! These Headings will vary for different Monitoring Programs!

What should you do? Check with the Operator or Supervisor & investigate while the “Iron is hot”!

ShopMonitor Machine Status (Status information Planned Break)



You can see the Machine A1620 has the following Symbol! This is what you need to know/do!

I.E. Run Cycle has been interrupted by Non-Production Event(I.E., OEE-Breakdowns, OEE-Planned Downtime, etc.)

This Symbol indicates that the associated Run Cycle has been paused for an OEE-Planned Downtime or OEE-Breakdowns and **has not** exceeded the Nominal Time by more than x%.

Note: If you see this symbol do what follows and refer to for what else you need to do!

What should you do? Click on the "Choose Item to Display" drop-down list and select the "*Most Recent Activity" Item. Look at the same Machine Tool and you can see which Non-Production Monitoring Program that is presently running. See the following:

The Heading Labels show are the import ones. This tells you what is happening!

Important Heading Labels and Meaning as Encountered Left to Right:

Machine: **Unique Name**
Status: (Indicates Non-Production State & Type)
Elapsed: Time in Days & Hours the present Cycle has been running.
First Cycle Start: *When the first Cycle started in this Session.*
% Run: The is the Percent of Time this Machine has been in Production.
% Stopped: The is the Percent of Time this Machine has Stopped since last Cycle!
% Idle: This the present of time Machine has been idle since this series has started.
Nominal Cycle Time: This value is used in OEE calculations and in Visual feedback!

Machine Status (Status information Planned Break (Cont.))

Average: **The Average Cycle Time for the Series of this Machine-ShopNCFile combination after at least 1 Cycle**

Variance: **This is variance = the percent of variance of the Cycle Time after at least 1 Cycle**

Idle Time: **Total Time the Machine has not been active is this Session**

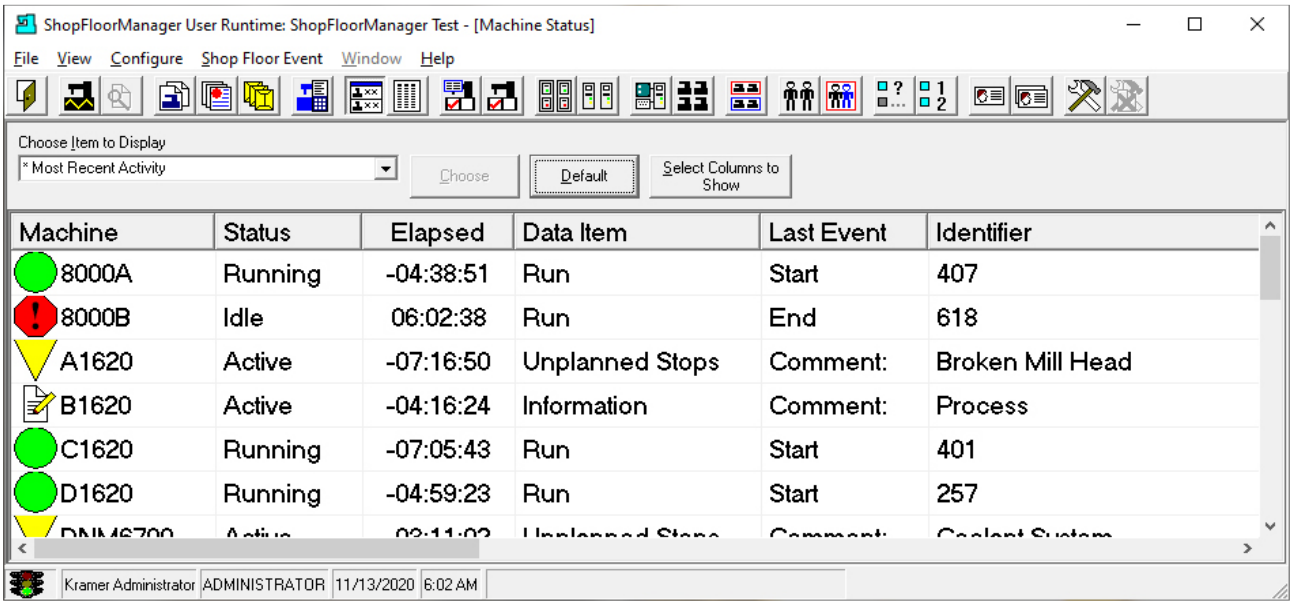
% Done: **Total % completed on the Operation based on Nominal Cycle Time**

Exception: **Indicates if ShopFloorManager received a stop event when it expected a start event or vice versa!**

Note: You can use the slider on the bottom of the Window to access all the Label Information! These Headings will change for different Monitoring Programs!

What should you do? Check with the Operator or Supervisor & investigate while the "Iron is hot"!

ShopMonitor Machine Status (Item – Most Recent Activity: Machine EDM1A)



The Heading Labels indicate what is happening on the shopfloor!

Important Heading Labels and Meaning as Encountered Left to Right:

1. **Machine**: **Unique Name**
2. **Status:** **Active, Inactive**
3. **Data Item:** Informational User Defined (See ShopMDI OEE-Planned Downtime)
4. **Last Event:** Informational User Defined
5. **First Cycle Start**: **When the first Cycle started in this Session.**
6. **…**
7. **…**

…

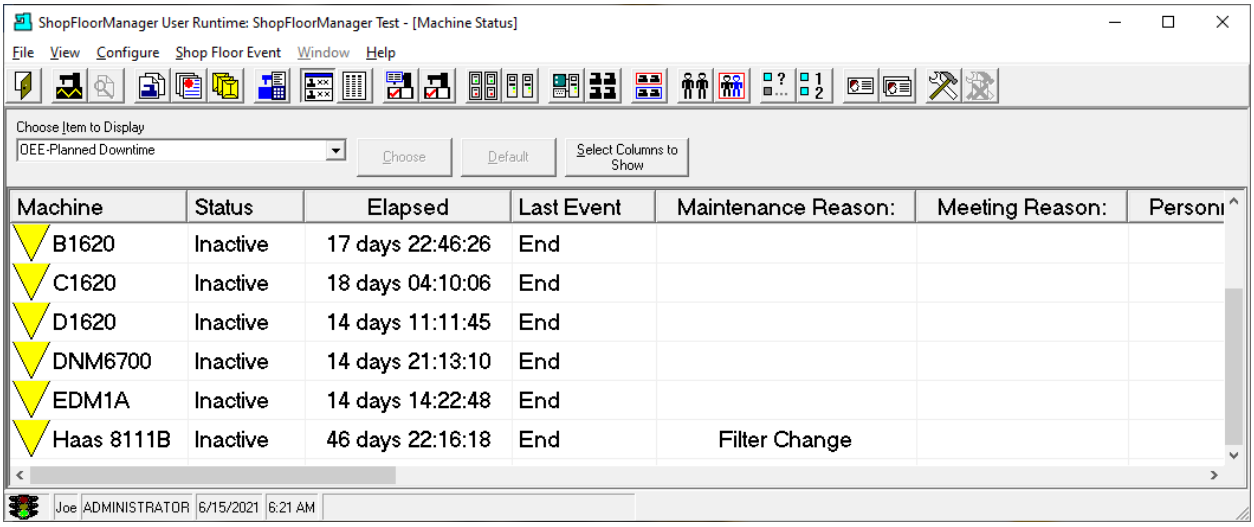
Note: You can use the slider on the bottom of the Window to access all the Label Information! Different Monitoring Programs will have different Headings!

ShopMonitor Machine Status (Item – Most Recent Activity: Machine EDM1A (Cont.))

What should you do? Check with the Operator or Supervisor & investigate while the "Iron is hot"!

From the Choose Recent Activity drop-down Icon select the "OEE-Planned Downtime" Monitoring Program. See Item #3 above which indicates the Monitoring Program being Instanced! The following Window will be displayed.

ShopMonitor Machine Status (Item – OEE-Planned Downtime: Machine EDM1A)



This particular View provides more detailed data as shown in the Columns above this Window since we have specifically chosen a particular Monitoring Program. Only Machines running this Programs would be displayed in this Window!

The Heading Labels are the import ones indicating what is happening!

Important Heading Labels and Meaning as Encountered Left to Right:

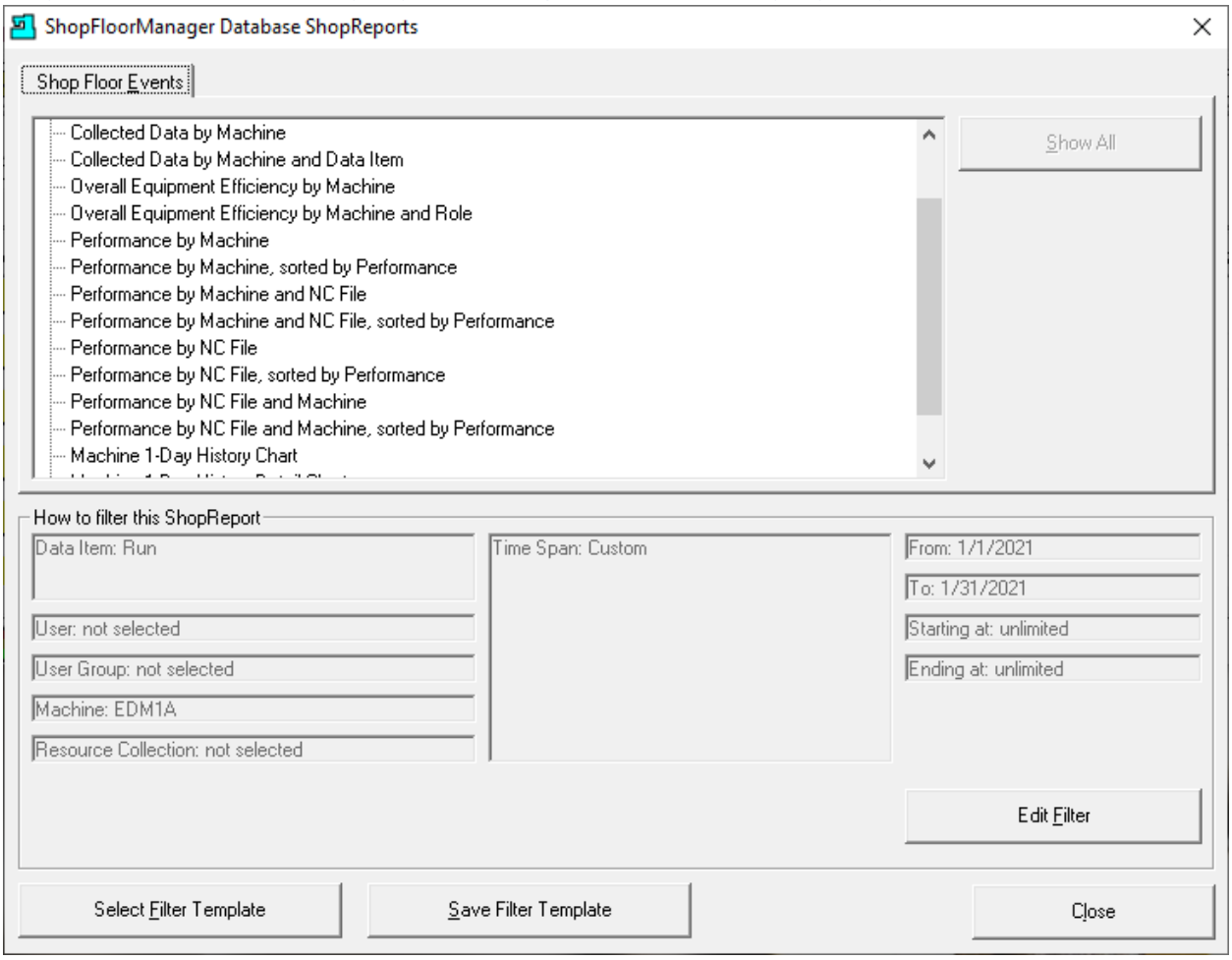
Machine: **Unique Name**
Status: Active, Inactive
Elapsed: Time in Days & Hours the present Cycle has been running.
Last Event: Informational User Defined

Note: You can use the slider on the bottom of the Window to access all the Label Information!

What should you do? Check with the Operator or Supervisor & investigate while the "Iron is hot"!

There are other ways to dissect this data. Let's look at real-time Charts & other ShopReports. **Double click** on the and the following Window will be displayed.

ShopMonitor Machine Status (ShopFloorManager -> Database ShopReports)



From this Window you can display multiple real-time Charts, multiple ShopReports and all of the Raw Event Data.

To learn more, click on ShopReports: Configurations, ShopReport Filter, ShopCharts , OEE Controller base MDI & ShopReports_ShopCharts_and_Supporting_2. You can associate a ShopReport with specific a Machine Tool or group of Machine Tools depending on the ShopReport configuration.

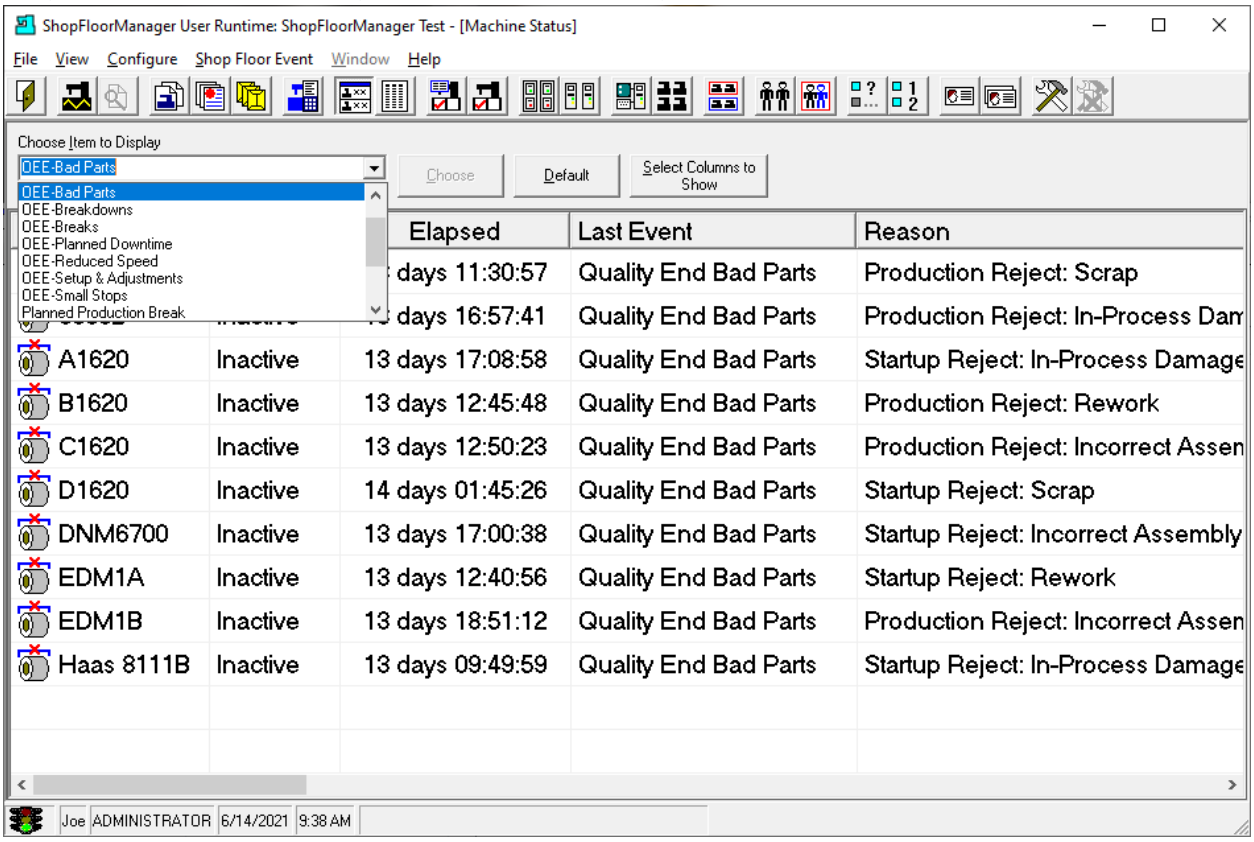
You can then look at these detailed ShopReports and locate your Production Bottlenecks!

Close this Window by clicking on the Close Button and the previous Window will be displayed.

Next let's investigate a specific Monitoring Program that is used to designate particular Machine Tool times as OEE-Bad Parts.

This designation is used in OEE Quality Calculations!

ShopMonitor Machine Status (Item –OEE-Bad Parts A1620)

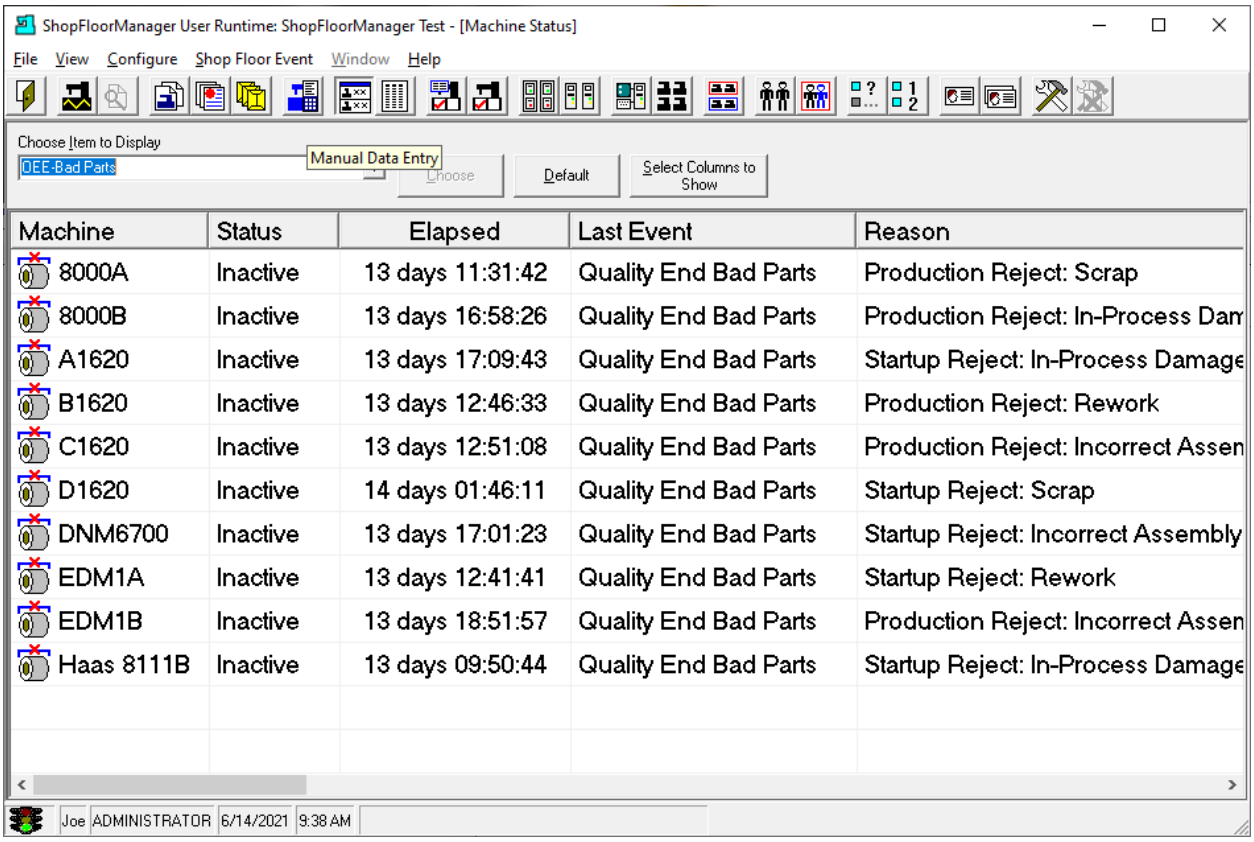


Click the “Choose Item to Display” and select the “Bad Parts” Program. Click the Choose Button next to the drop-down list to make this the active program!

ShopMonitor uses the Quality Role “Bad Parts” to designate particular times when a Machine has produced “Bad Parts” for Quality calculations.

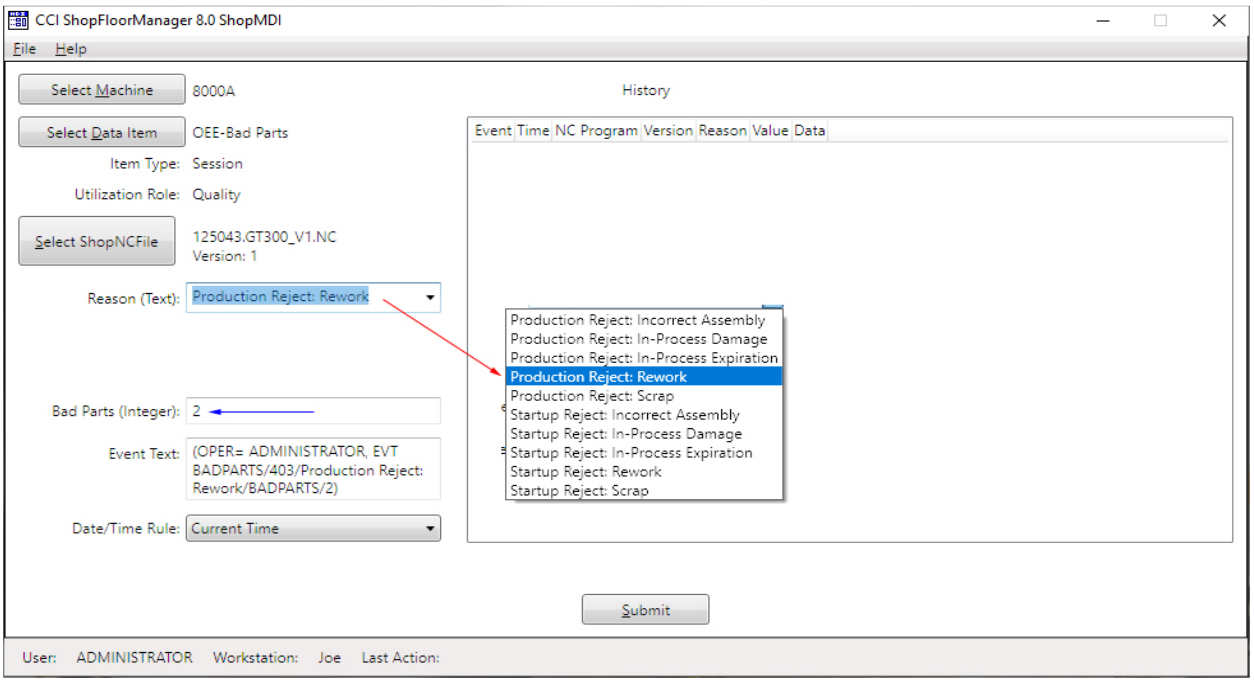
To illustrate this let’s use ShopMDI!

ShopMonitor Machine Status (Manual Data Entry - Icon)



Click on the “Manual Data Entry” Icon and the following Window is displayed!

ShopMonitor Machine Status (ShopMDI – Bad Parts Machine 8000A)



Use the “Select Machine” Button to select the Machine 8000A and the “Data Item” to select the Monitoring Program “OEE-Bad Parts”.

Next click on the “Reason” drop-down list, see **Red Arrow**, which displays multiple “OEE-Bad Parts” Reasons.

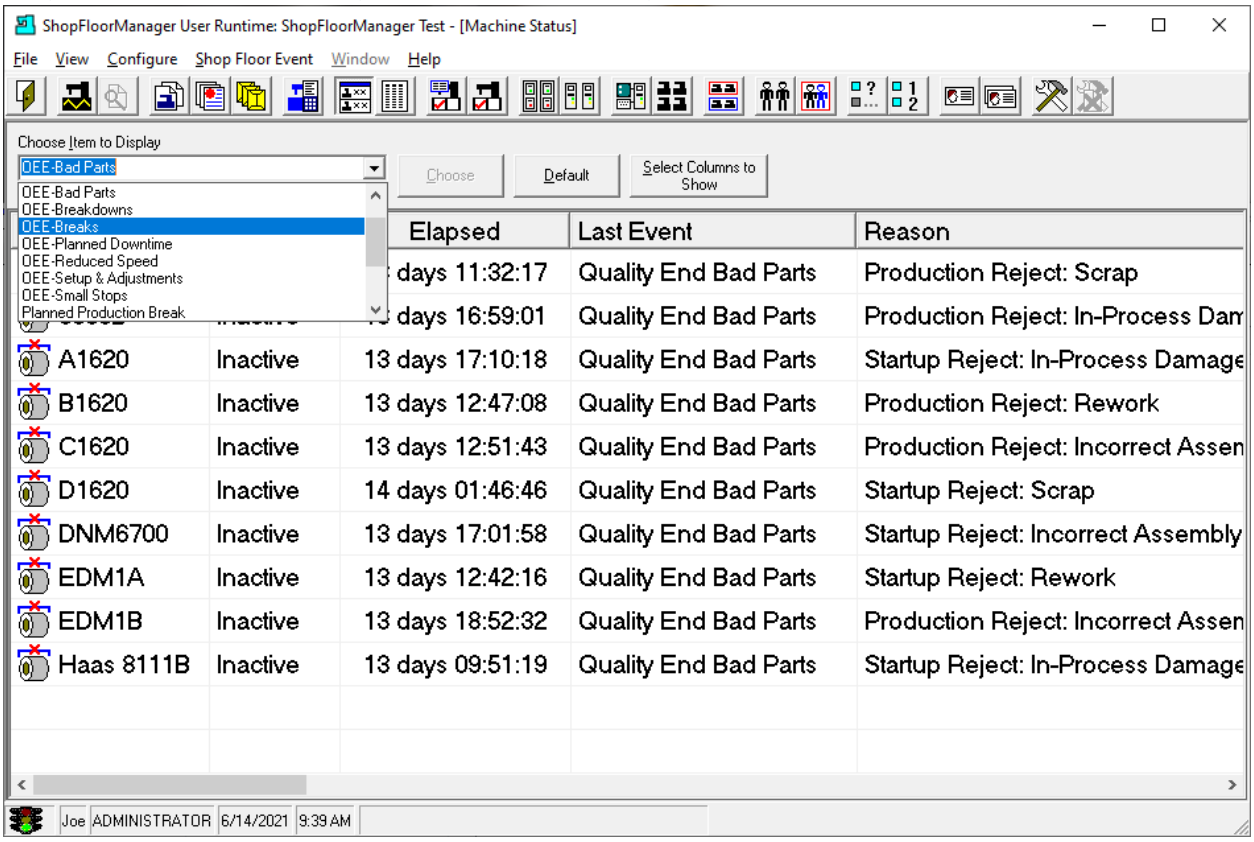
All of these items are of the category “OEE-Bad Parts” but are specifically named for different Quality Issues to aid in analyzing ShopReports!

You need to enter the number of Bad Parts! We have entered 2! See **Blue Arrow**!

Note: If there is a specific “OEE-Bad Parts” category that you would like to investigate separately, you can generate an-on-the fly Monitoring Program for only that category and generate ShopCharts & ShopReports for analyses! Click on the link ShopMDI for details on its use!

Next let’s investigate a Monitoring Program that is used to designate Times of Active Assets as “Not Scheduled” which is used in OEE Calculations. This category is designated “Not Scheduled”! .

ShopMonitor Machine Status (Item – OEE-Breaks EDM1B)



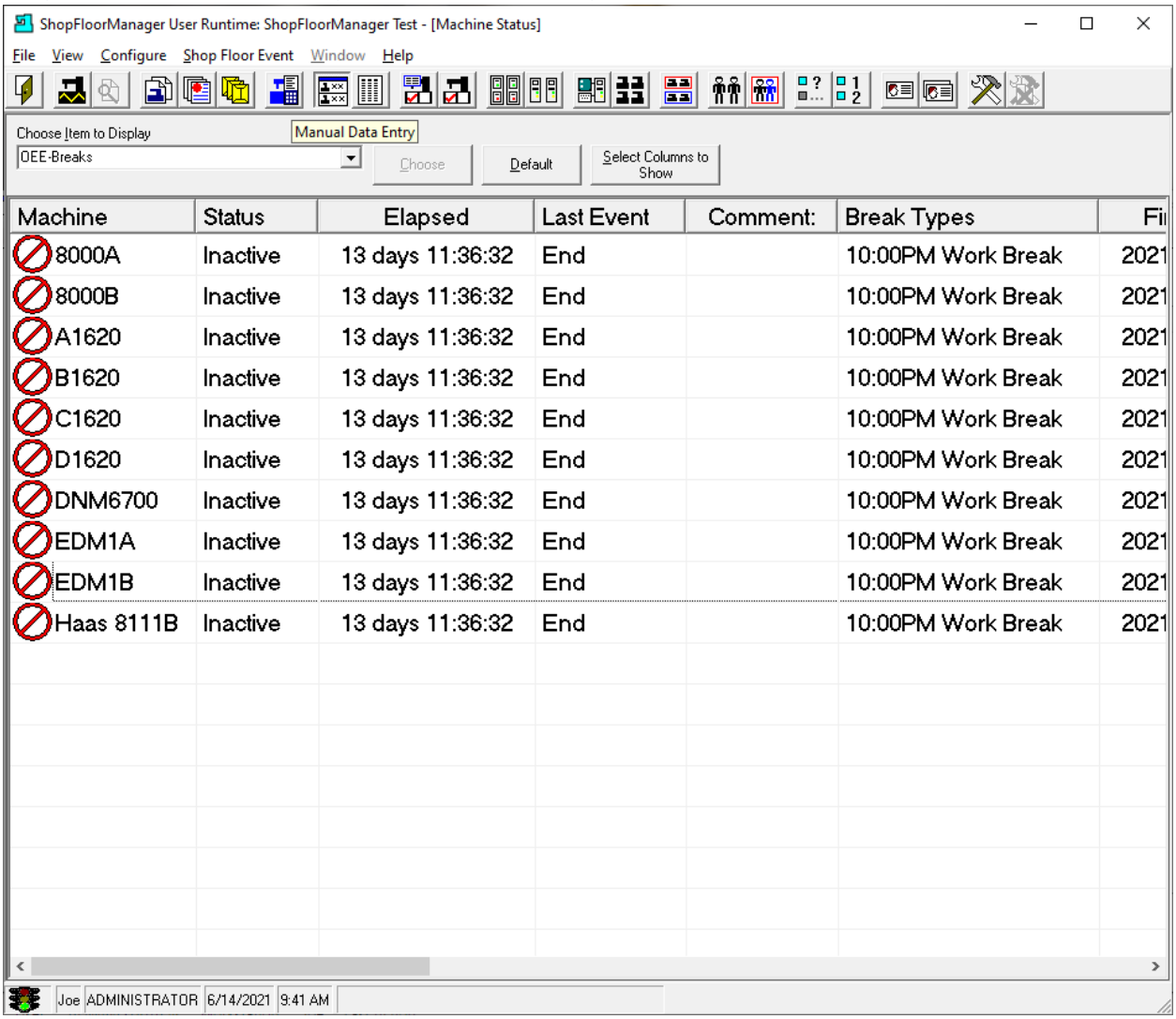
Click the “Choose Item to Display” and select the “OEE-Breaks” Program. Click the Choose Button next to the drop-down list to make this the active program! See the next page for a view of the “OEE-Breaks” in the “Machine Status” Window!

ShopMonitor uses the Utilization Role “Breaks” to designate particular times as “Not Scheduled” for Production.

Note: For doing OEE calculations you need to designate Times when a Machine is “Not Scheduled” for Production. This calculation effects the TEEP, OOE & OEE Category “Availability”!

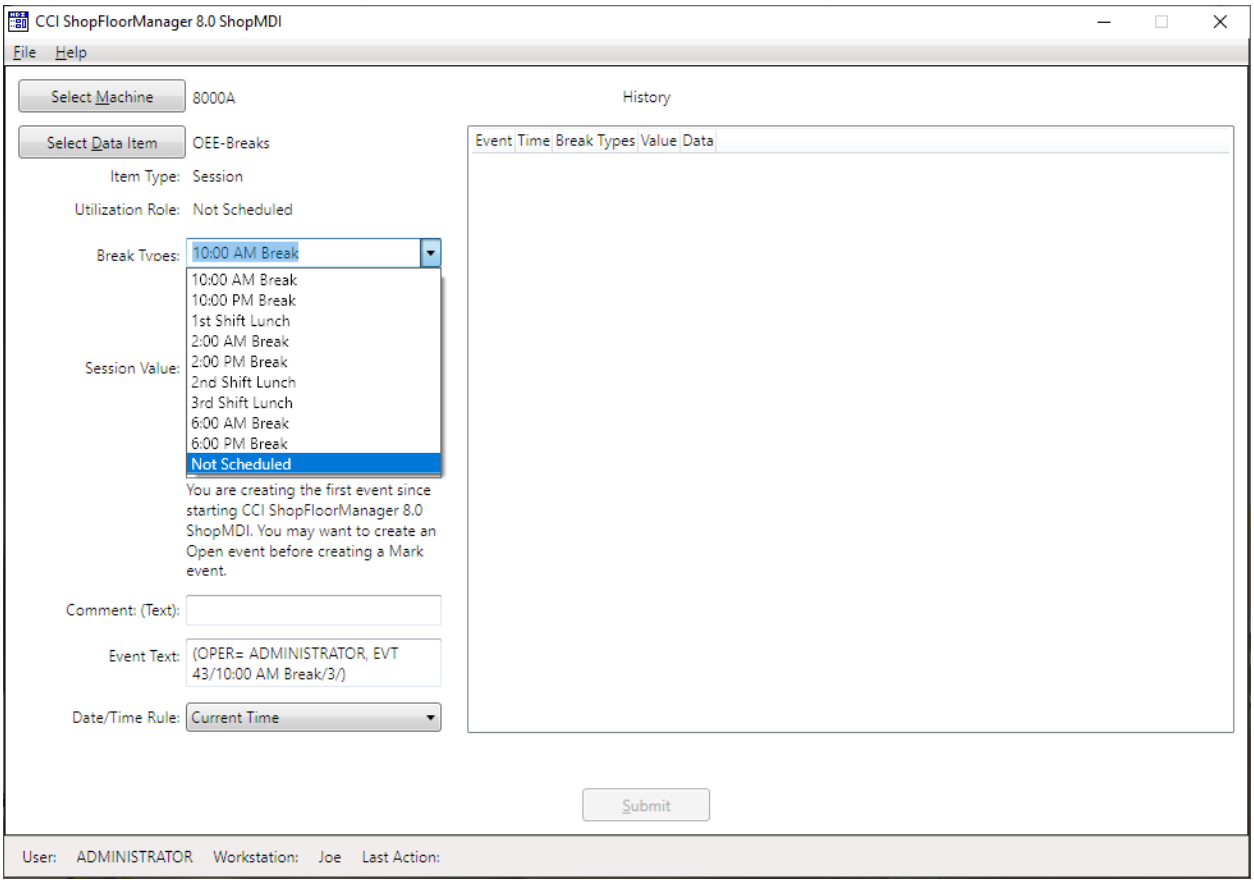
To illustrate this let’s use ShopMDI!

ShopMonitor Machine Status (Manual Data Entry - Icon)



Click on the “Manual Data Entry” Icon and the following Window is displayed!

ShopMonitor Machine Status (ShopMDI – Not Scheduled Machine EDM1B)



Use the “Select Machine” Button to select the Machine 8000A and the “Select Data Item” to select the Monitoring Program “OEE-Breaks”.

Next click on the “Break Types” drop-down list which displays multiple “Not Scheduled” categories including a general category “Not Scheduled”.

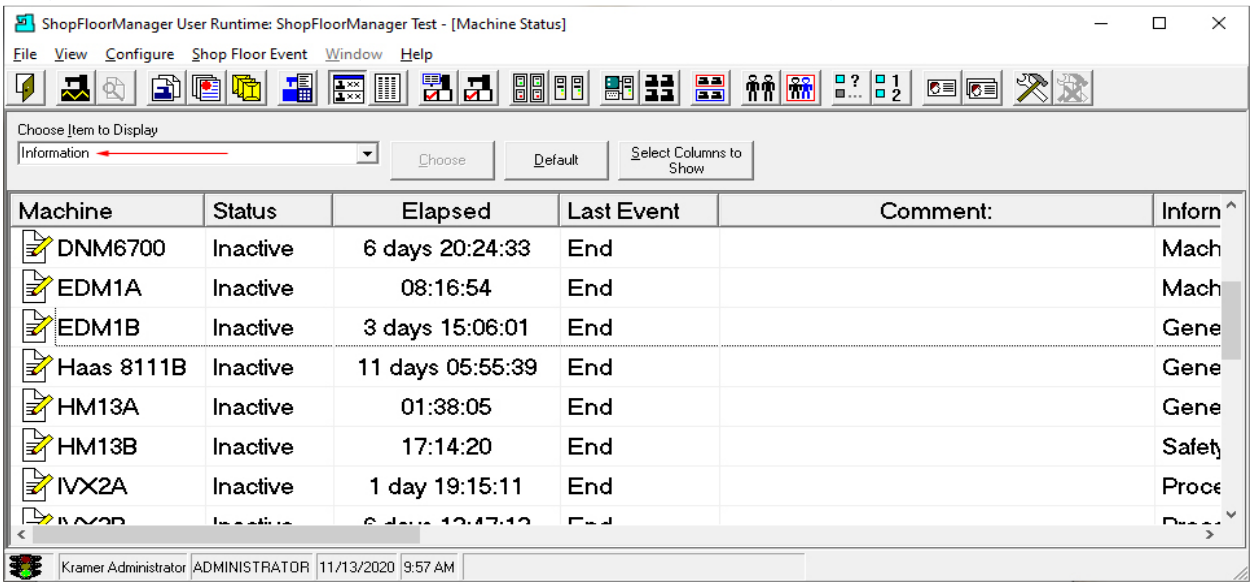
All of these items are of the category “Not Scheduled” but are specifically named for different category times to aid in analyzing ShopReports!

Note: If there is a specific “Not Scheduled” category that you would like to investigate separately, you can generate an on-the-fly Monitoring Program for only that category and generate ShopCharts & ShopReports for analyses! Click on the link ShopMDI for details on its use!

Next let’s investigate a Monitoring Program that is used to collect information that can be useful to improve shopfloor operations. This category is designated Information! .

This designation is not used in OEE Calculations but for feed-back from the shopfloor or other departments as useful!

ShopMonitor Machine Status (Item – Operator Feedback Machine EDM1B)

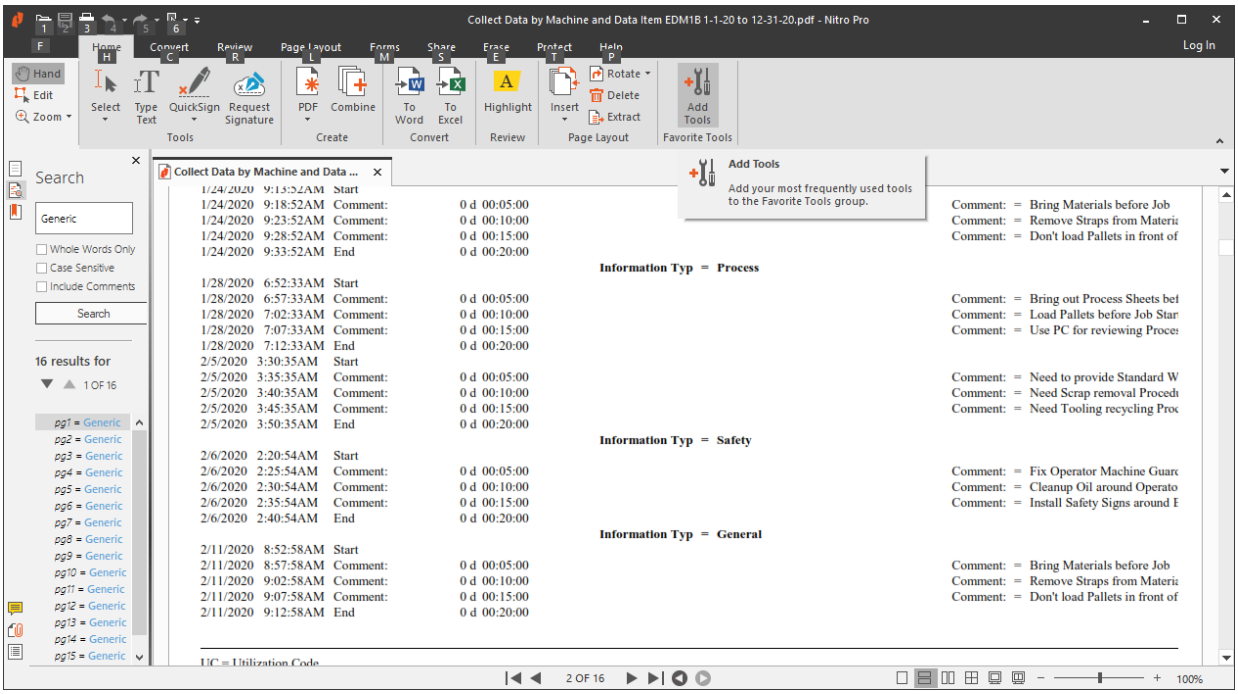


Click the “Choose Item to Display” drop-down list and select “Information”. Click the Choose Button next to the drop-down list to designate the as the active program!

Operator Feedback uses the Utilization “Information” which doesn’t affect OEE calculations but provides valuable feedback by Personnel that can help improve Safety, Machine Processes, material handling, etc. on the Shop Floor. As an example, It can be used to explain conditions such as exceeding a Nominal Cycle Time, why a Machine Tool is Idle, Tooling Problems, Machine Problems, etc.

Let’s quickly take a look at a ShopReport displaying the category “Information”! We won’t get into the report details as these covered in other sections of the Manual!

ShopMonitor Machine Status (ShopReport “Information” Example for EDM1B)



Example:

There is another way the Machine Status Window can be helpful in providing information on the State of a Machine Tool. Let’s suppose that the Maintenance Department Schedules Maintenance on a particular Machine and would like to be notified of the maintenance progress.

ShopMonitor supports creating Monitoring Programs that are not necessarily associated with recording Production or OEE Events. In fact, a Maintenance Manager could create a general or specific Monitoring Program(s) to provide real-time updates on any project on the shopfloor. They would use the Utilization Role “Information” for this type of Monitoring Program.

As Active Maintenance Projects proceed the Maintenance Department would be updated in real-time on every Active Maintenance Project in any detail they desire.

Let’s investigate how to generate and use “OEE-Controller based MDI” on the following pages.

ShopMonitor OEE-Controller-based-MDI (TEEP, OOE & OEE. World Class! Let Customers Know)

Note: See TEEP, OOE & OEE for differences! They vary in calculations involving "Not Scheduled" only!

It has been determined that one of the best approaches for improving Overall Machine Effectiveness on the Shop Floor is to collect and analyze OEE Data. The standard procedure for collecting OEE Data is to use scanners, PCs & associated hardware at each piece of equipment or in close proximity if being shared.

Using Scanners leads to additional Operator training, more paper work in an Operator's Area, and more associated hardware clutter, Just what an Operator needs! There may be times when this is the only way to gather the data, however, 99.9% of the time there is a better way! Using a Machine's Controller and an Operator's base knowledge of the controller you can accomplish collecting OEE data without scanners, PCs, data collection software, etc.

ShopFloorManager uses the synergies of a Machine Controller, the Operator's knowledge of the Controller and an OEE-Controller-base-MDI File for entering OEE data!

When we say OEE-Controller-base-MDI (Manual Data Input) File we are inferring using a Machine Tool Controller and a N/C **like** File for outputting (uploading) OEE data directly to ShopMonitor.

This approach doesn't require purchasing scanners, minimizes Operator Training, minimizes scanner Clutter, minimizes additional paper work and eliminates the cost of installing Scanners in the Operator's Work Areas. Think about that, no Scanner Costs, no installation costs, no Scanner Clutter, reduced Paper Clutter and virtually no Training! We will explain how this is accomplished in the following paragraphs and how ShopFloorManager automatically generates these OEE-Controller-base-MDI File Sets.

ShopMonitor OEE-Controller-based-MDI (Why use OEE-Controller-bases-MDI Files?)

The following File Set represents a complete set of possible "OEE-Planned Downtime" (Planned Breaks) Events that can be generated when an Operator Queues a ShopNCFile for downloading and can include "OEE-Controller base MDI" programs. These are automatically generated during the downloading process along with the ShopNCFile. This "OEE-Controller-bases-MDI" file can be used to accomplish the same outcome as using ShopMDI using the present Operator/Controller Paradigm without the need for a Scanner System! This methodology is possible because of ShopFloorManager's fully Integrated System vs the Addon after-thought Approach used by our competitors!

ShopMonitor OEE-Controller-based-MDI (What does a Controller MDI File Set look like?)

```
%
O4103
(* EVENT TEMPLATE FILE *) Important! This comment must not be deleted
(Event Data Item: OEE-Planned Downtime)

/(BEGIN Inspect-Oil System ----------)

/(EVT 3/Inspect-Oil System/1)
/(EVT 3/Inspect-Oil System/3/No Comment)
/(EVT 3/Inspect-Oil System/3/Enter Comment Here)
/(EVT 3/Inspect-Oil System/2)

/(END Inspect-Oil System ----------)
```

/(BEGIN Inspect-Electrical System ----------)

/(EVT 3/Inspect-Electrical System/1)
/(EVT 3/Inspect-Electrical System/3/No Comment)
/(EVT 3/Inspect-Electrical System/3/Enter Comment Here)
/(EVT 3/Inspect-Electrical System/2)

/(END Inspect-Electrical System ----------)

/(BEGIN Inspect-Coolant System ----------)

/(EVT 3/Inspect-Coolant System/1)
/(EVT 3/Inspect-Coolant System/3/No Comment)
/(EVT 3/Inspect-Coolant System/3/Enter Comment Here)
/(EVT 3/Inspect-Coolant System/2)

/(END Inspect-Coolant System ----------)

/(BEGIN Maint-Filter Change ----------)

/(EVT 3/Maint-Filter Change/1)
/(EVT 3/Maint-Filter Change/3/No Comment)
/(EVT 3/Maint-Filter Change/3/Enter Comment Here)
/(EVT 3/Maint-Filter Change/2)

/(END Maint-Filter Change ----------)

/(BEGIN Maint-Oil Change ----------)

/(EVT 3/Maint-Oil Change/1)
/(EVT 3/Maint-Oil Change/3/No Comment)
/(EVT 3/Maint-Oil Change/3/Enter Comment Here)
/(EVT 3/Maint-Oil Change/2)

/(END Maint-Oil Change ----------)

/(BEGIN Maint-Coolant Change ----------)

/(EVT 3/Maint-Coolant Change/1)
/(EVT 3/Maint-Coolant Change/3/No Comment)
/(EVT 3/Maint-Coolant Change/3/Enter Comment Here)
/(EVT 3/Maint-Coolant Change/2)

/(END Maint-Coolant Change ----------)

/(BEGIN Meetings-Company News ----------)

/(EVT 3/Meetings-Company News/1)
/(EVT 3/Meetings-Company News/3/No Comment)
/(EVT 3/Meetings-Company News/3/Enter Comment Here)
/(EVT 3/Meetings-Company News/2)

/(END Meetings-Company News ----------)

/(BEGIN Meetings-OSHA ----------)

/(EVT 3/Meetings-OSHA/1)
/(EVT 3/Meetings-OSHA/3/No Comment)
/(EVT 3/Meetings-OSHA/3/Enter Comment Here)
/(EVT 3/Meetings-OSHA/2)

/(END Meetings-OSHA ----------)

/(BEGIN Meetings-Production ----------)

/(EVT 3/Meetings-Production/1)
/(EVT 3/Meetings-Production/3/No Comment)
/(EVT 3/Meetings-Production/3/Enter Comment Here)
/(EVT 3/Meetings-Production/2)

/(END Meetings-Production ----------)

/(BEGIN Meetings-Quality ----------)

/(EVT 3/Meetings-Quality/1)
/(EVT 3/Meetings-Quality/3/No Comment)
/(EVT 3/Meetings-Quality/3/Enter Comment Here)
/(EVT 3/Meetings-Quality/2)

/(END Meetings-Quality ----------)

/(BEGIN Personnel-Mach Comp Eval ----------)

/(EVT 3/Personnel-Mach Comp Eval/1)
/(EVT 3/Personnel-Mach Comp Eval/3/No Comment)
/(EVT 3/Personnel-Mach Comp Eval/3/Enter Comment Here)
/(EVT 3/Personnel-Mach Comp Eval/2)

/(END Personnel-Mach Comp Eval ----------)

/(BEGIN Personnel-PPE Eval Safety ----------)

/(EVT 3/Personnel-PPE Eval Safety/1)
/(EVT 3/Personnel-PPE Eval Safety/3/No Comment)
/(EVT 3/Personnel-PPE Eval Safety/3/Enter Comment Here)
/(EVT 3/Personnel-PPE Eval Safety/2)

/(END Personnel-PPE Eval Safety ----------)

/(BEGIN Personnel-Training Adv ----------)

/(EVT 3/Personnel-Training Adv/1)
/(EVT 3/Personnel-Training Adv/3/No Comment)
/(EVT 3/Personnel-Training Adv/3/Enter Comment Here)
/(EVT 3/Personnel-Training Adv/2)

/(END Personnel-Training Adv ----------)

```
/(BEGIN Personnel-Training Basic ----------)

/(EVT 3/Personnel-Training Basic/1)
/(EVT 3/Personnel-Training Basic/3/No Comment)
/(EVT 3/Personnel-Training Basic/3/Enter Comment Here)
/(EVT 3/Personnel-Training Basic/2)

/(END Personnel-Training Basic ----------)

N9999M30
%
```

ShopMonitor is a very flexible system allowing a User to create a wide range of Monitoring Programs. This allows customers an almost unlimited creativity, but this also can produce complex sophisticated programs!

There may be times when this is necessary but in general simplicity is best if it meets your objectives. We have therefore designed the structure of our programs to be simple but able to meet every data collection needed for any OEE requirement.

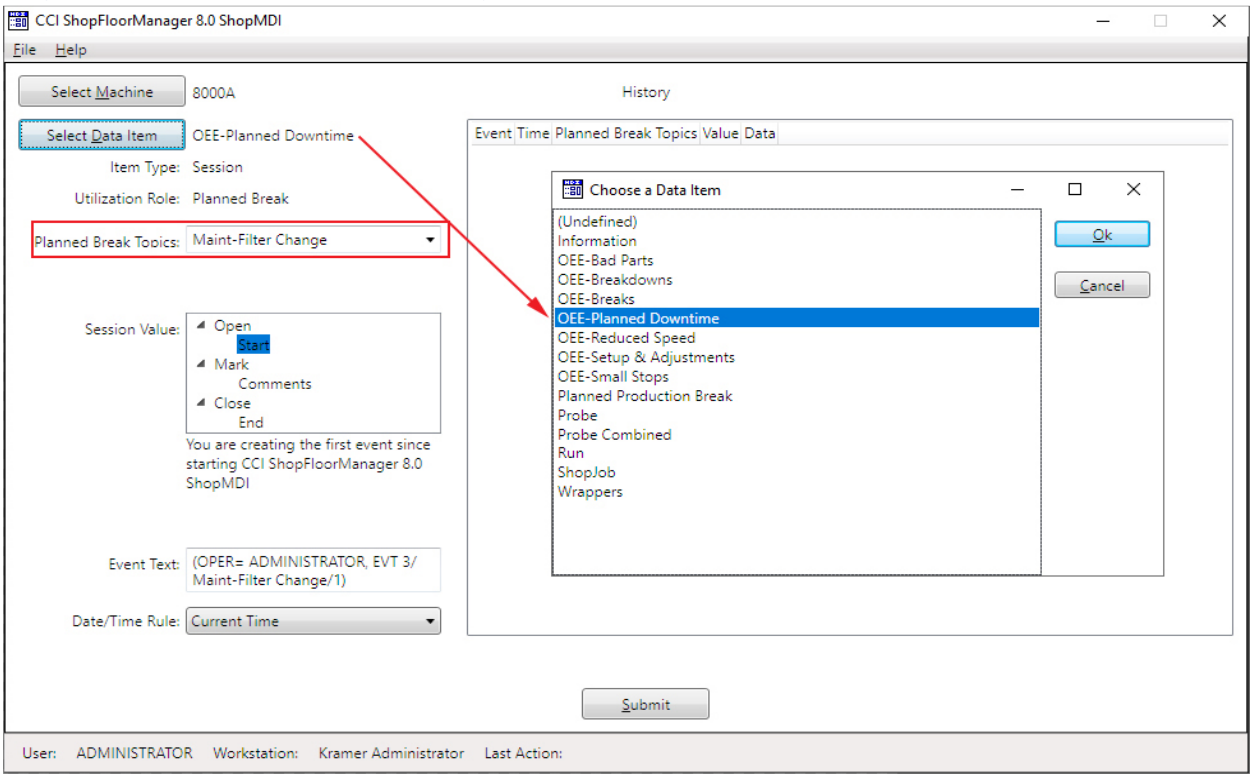
We recommend that any programs you develop for use as an "OEE-Controller base MDI" file uses the same structure!

We will be using ShopMDI to enter OEE Data first and compare this to entering this OEE Data using the "OEE-Controller-base-MDI" file above!

This Selected Data-Item "**OEE-Planned Downtime**" contains 14 **Planned Break Topics** as displayed above!

We will concentrate on the Data Item (monitoring program) "**OEE-Planned Downtime**" ! Let's get started!

ShopMonitor OEE-Controller-based-MDI (ShopMDI: Choose "OEE-Planned Downtime")



We will be using ShopMDI to demonstrate the Data Mapping from itself to sections in the "OEE-Controller base MDI" File!

ShopMonitor is capable of creating sophisticated Monitoring Programs, but first and foremost the programs should be designed with the User in mind! What do we mean by that?

It should be designed so a User can accomplish their "tasks" as efficiently as possible with minimum complexity. Only provide the User the minimum functionality and data selections needed to accomplish their tasks.

In our case the emphasis is on minimizing typing by providing over 95% of the OEE Data selections needed via Picklists!

First, we will investigate using ShopMDI for entering OEE data for the Data-Item "**OEE-Planned Downtime**"! We have selected "Maint-Filter Change", **Red Rectangle** above, from the "Planned Break Topics" drop-down list!

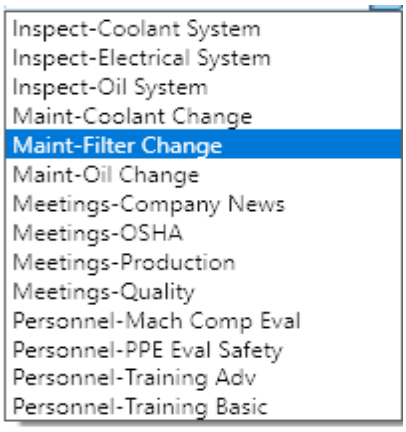
After this we will look at using an "OEE-Controller-base-MDI" File to submit the same OEE data! Refer to the graphic above which describes how ShopMDI is used for entering OEE data!

ShopMonitor OEE-Controller-based-MDI (Choosing OEE based Program "OEE-Planned Downtime" Cont_1)

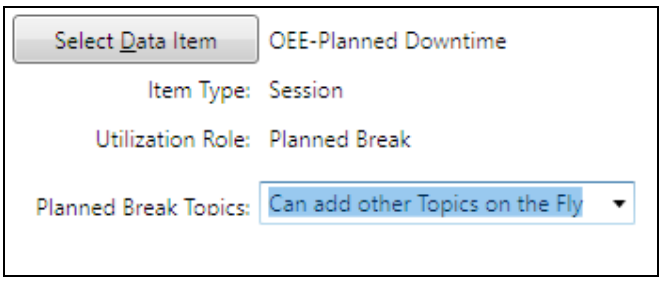
In the graphic above, clicking the Select-Data-Item Button displays all of the created Monitoring Programs in a drop-down Picklist.

Notice we named these according to their use! We used the Prefix OEE followed by the Specific Name of a Program so it obvious what these programs are used for! We suggest you follow this Rule to minimize confusion!

We have chosen the "OEE-Planned Downtime" Monitoring Program for our demonstration. We have selected "Maint-Filter Change" from the "Planned Break Topics" drop-down list! This list contains 14 selections.



These are the categories we can choose from to designate the OEE Reason for the "OEE-Planned Downtime". If you need another category that is not in the list, you can add a one-off on-the-fly as follows. Just highlight the Planned Break Topics "Text Area" and type in the Topic as below!



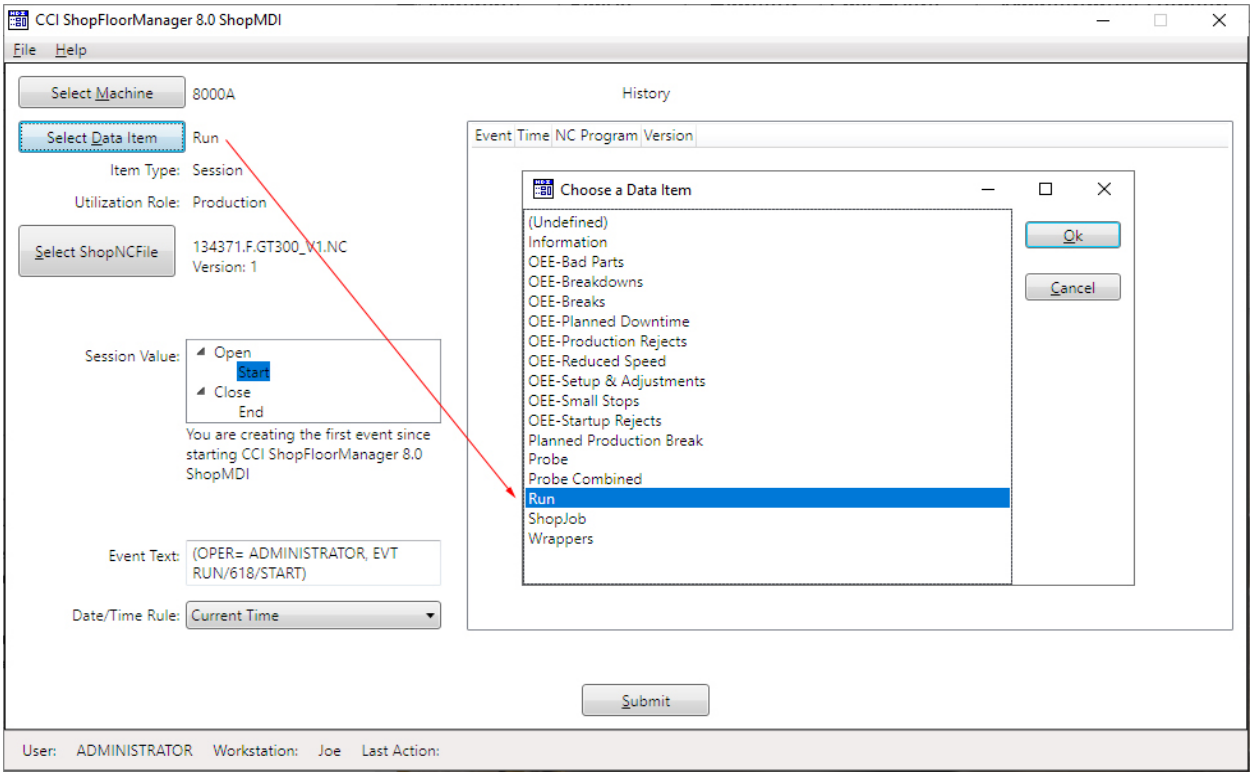
This category is used to account for any "Planned" time a Machine is taken out of Production. When this program was created, we estimated that 14 topics would cover all possible Planned Downtimes. If your company determines these are not sufficient for their general Topics, they can create additional categories to add to the list in minutes! They can also use the method above for one-offs and or add this topic to the permanent List later!

We will use ShopMDI to run the "OEE-Planned Downtime" Topic: "Maint-Filter Change" illustrating it's use.

ShopMonitor OEE-Controller-based-MDI (Choosing OEE based Program "OEE-Planned Downtime" Cont_2)

We will mimic what happens on the shopfloor when a "Run" Monitoring Program needs to stop mid cycle for a Planned Downtime Event! See for ShopMDI for general use!

ShopMonitor OEE-Controller-based-MDI (Choosing the default Program "Run")



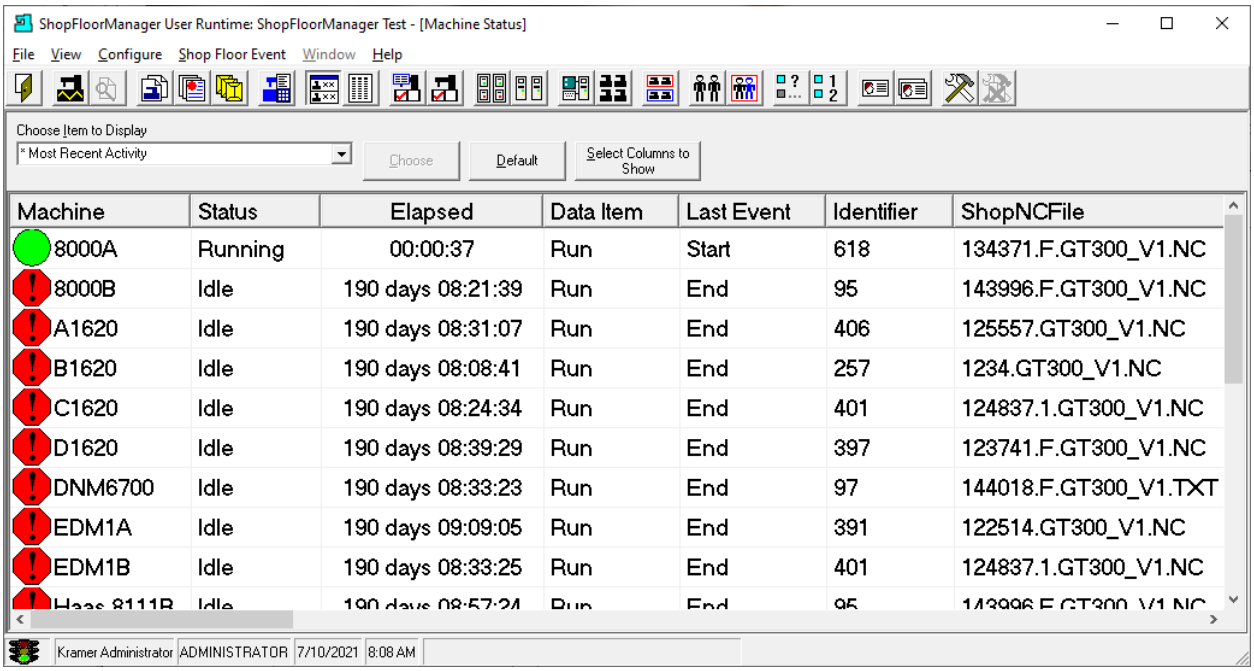
Normally this Program "Run" would be generated by Marcos which are automatically inserted in the ShopNCFile during Queueing or using Remote Request. For demonstration purposes we will use ShopMDI to execute the program Run.

First, click on the "Select Data Item" Button and select "Run". See the "**Red Arrow**" above. Then highlight the Start Icon and the Submit Button is activated!

When we click on the Submit Button it simulates the start of the cycle! In an actual executing program the DPRNT: (EVT RUN/618/START) is output to ShopMonitor. The DPRNT tells ShopMonitor that this is an Event(EVT), the ID of the ShopNCFile is 618 & the Event is a Start!

Let's view the Machine Status Window to view the status of this Cycle.

ShopMonitor OEE-Controller-based-MDI (ShopFloorManager Runtime "Show Shop Floor Event Status")

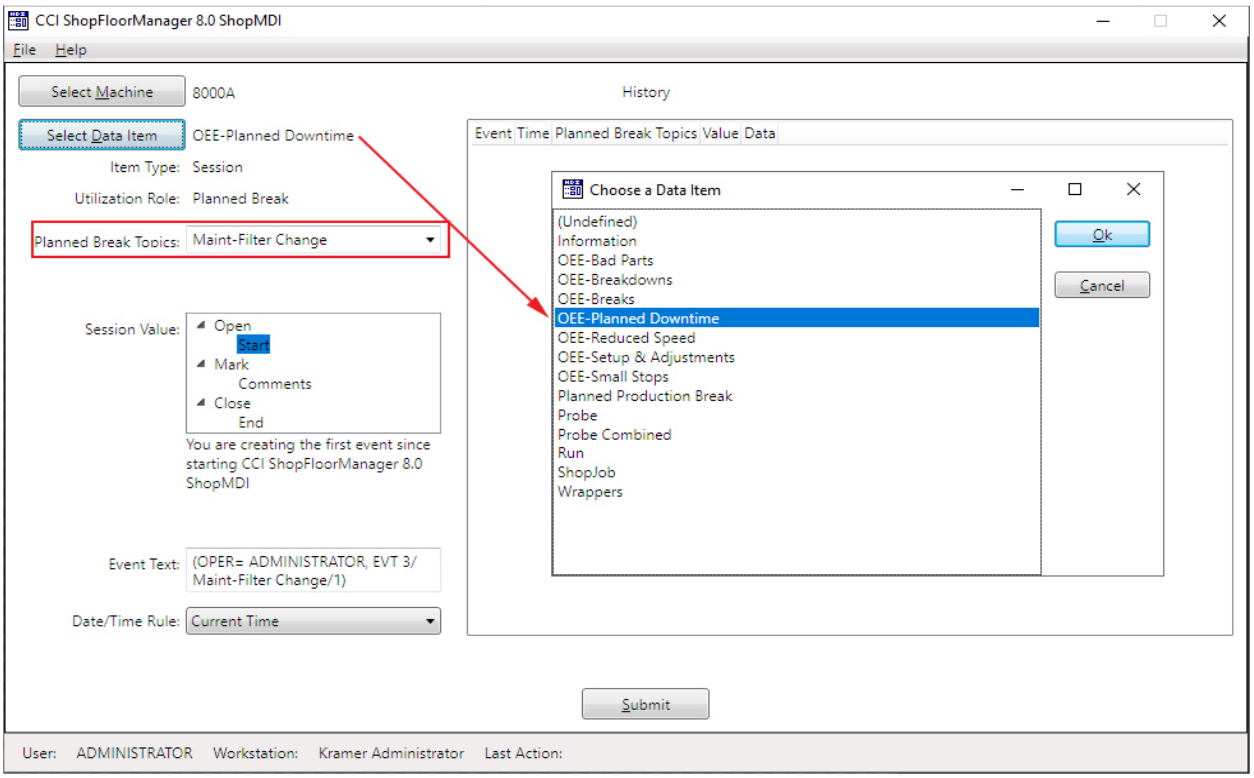


After clicking on the "Show Shop Floor Event Status" Icon the Machine-Status Window is displayed showing the Cycle has started!

As the cycle is executing, we will pause the Machine mid-cycle for a Planned Downtime accomplishing this by selecting the Date-Item "OEE-Planned Downtime" using the ShopMDI simulating a scheduled Planned Stop.

We will now return to ShopMDI to select OEE-Planned Downtime.

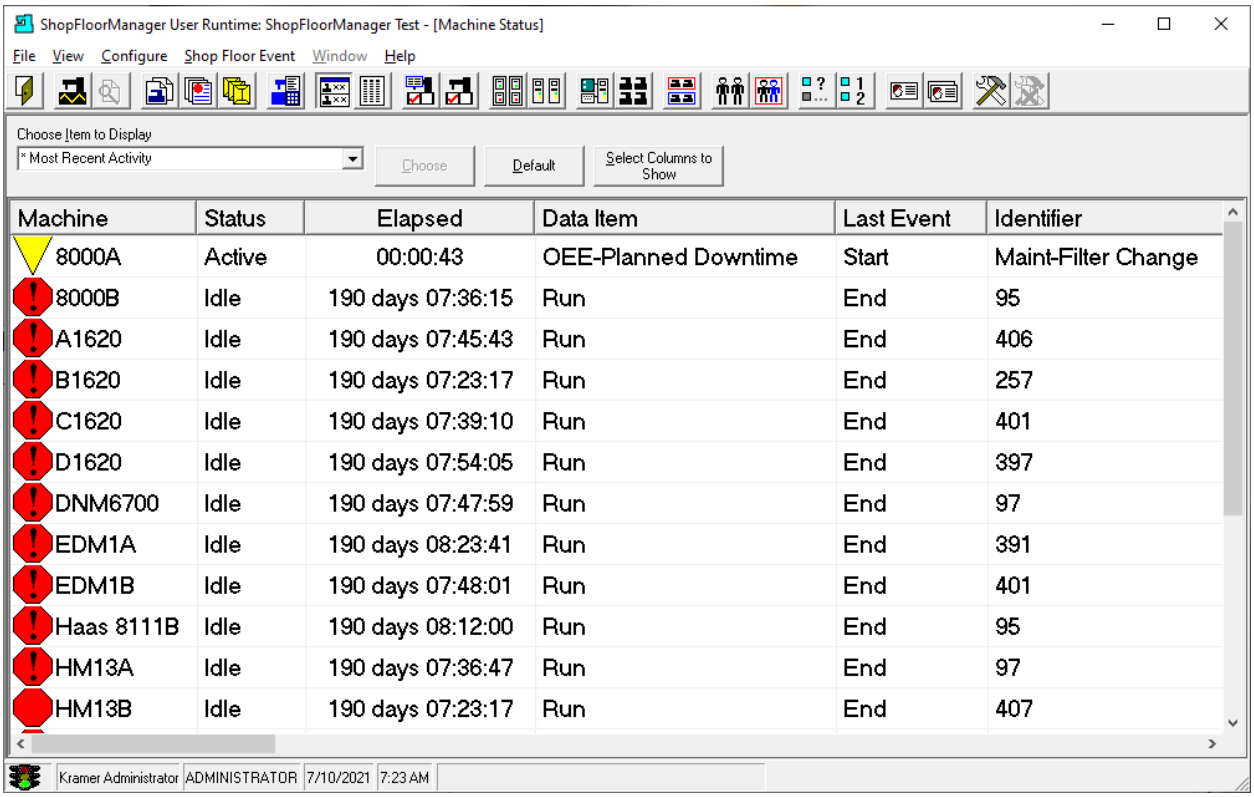
ShopMonitor OEE-Controller-based-MDI (Choosing OEE based Program "OEE-Planned Downtime" Start)



We have selected the Data-Item program "OEE-Planned Downtime" and the "Planned Break Topic" "Maint-Filter Change".

We then selected the Start Icon and click on the Submit Button. We can see that the "Machine Status" Window has been updated as follows.

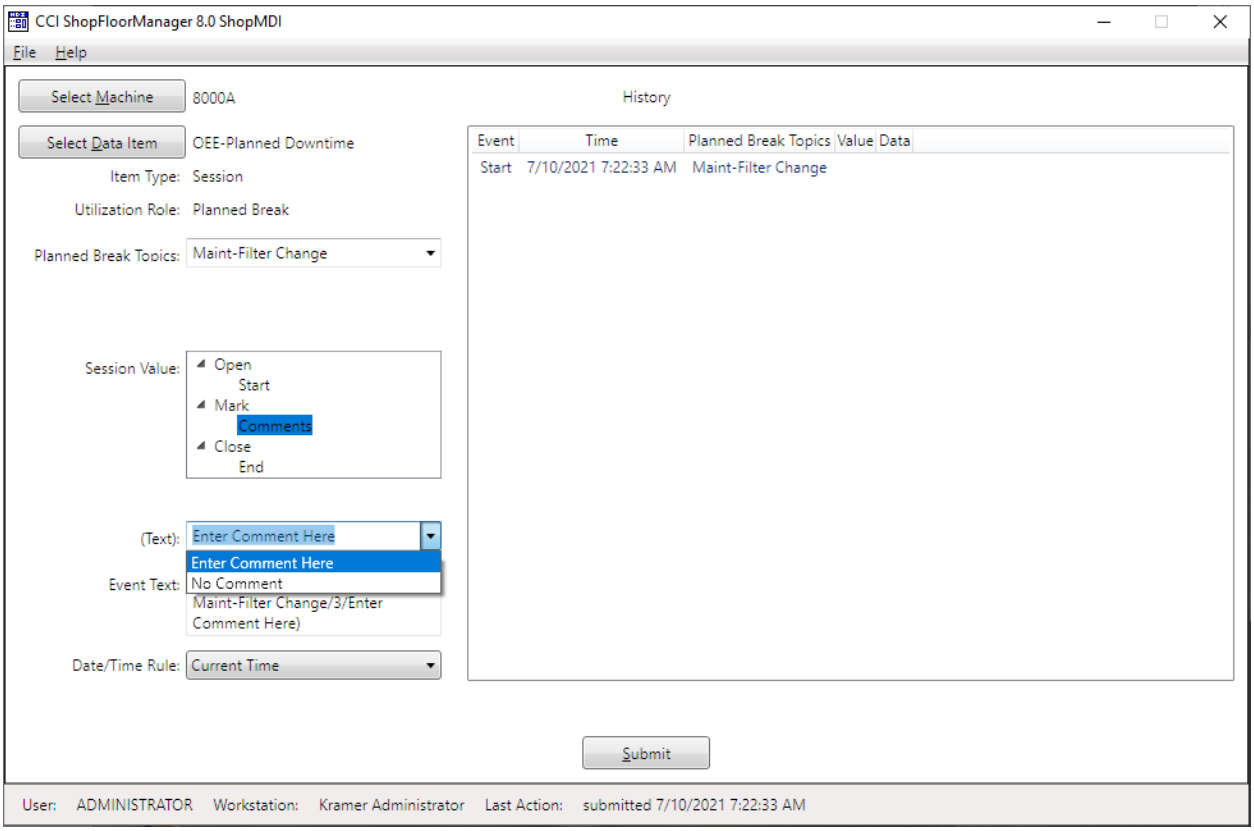
ShopMonitor OEE-Controller-based-MDI (Machine Status Window Updated)



The Machine Status Window now reflects the State of the Machine 8000A. This indicates that the Machine is still in a Production Cycle but has paused due to an “OEE-Planned Downtime”! The Reason is show in the column Identifier. “Maint-Filter Change”!

We will now return to the ShopMDI and add a Comment or multiple Comments if needed.

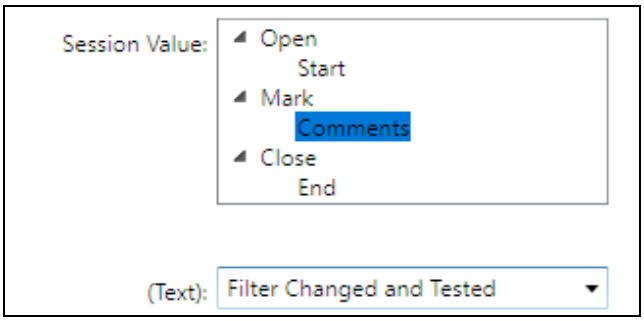
ShopMonitor OEE-Controller-based-MDI (OEE-Planned Downtime Comments



We have highlighted the Mark Comment Icon and a picklist with two options is displayed. These are No Comment & Enter Comment Here! These are the only two selections on this list, but your company can add additional selection as needed!

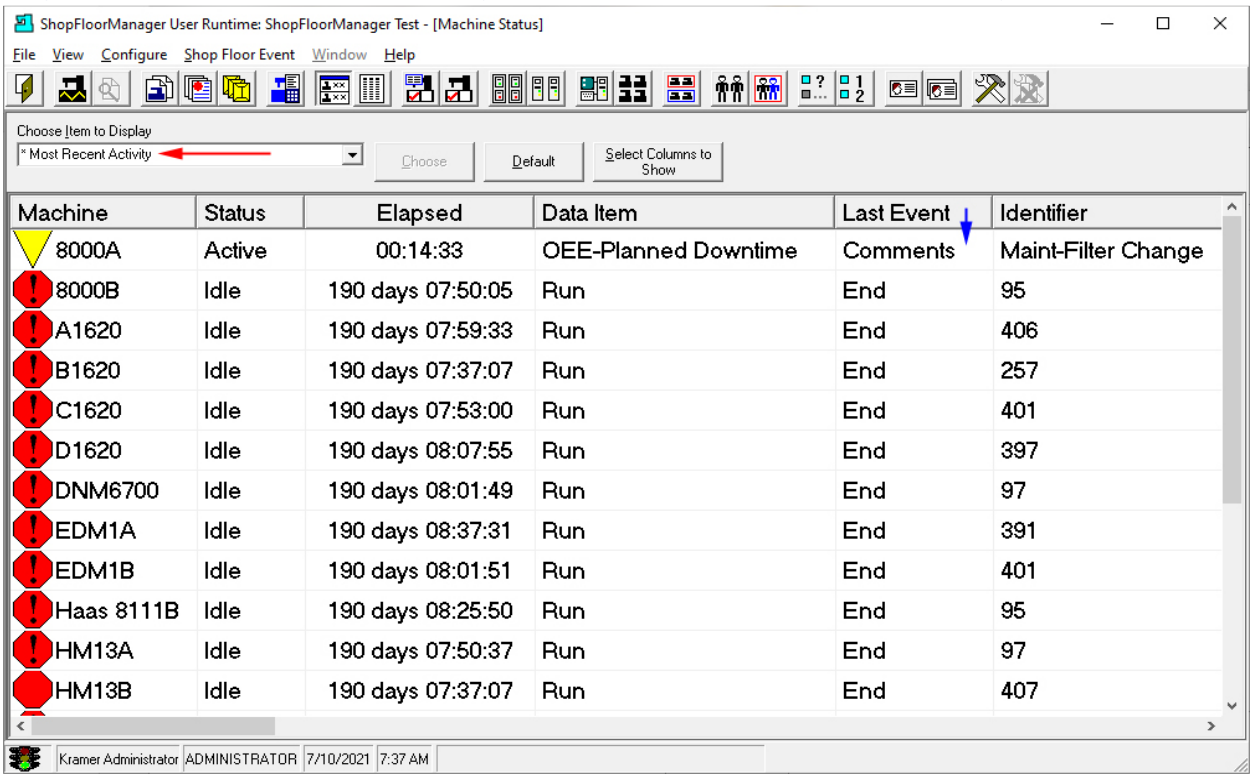
We will select the “Enter Comment Here” and type in our own on-the-fly Comment for a one-off!

We will type “Filter Changed and Tested”.



Click the Submit Button and the Comment displayed in the History Pane and updated in the “Machine Status” Window as shown in the next page.

*ShopMonitor OEE-Controller-based-MDI (OEE-Planned Downtime "*Most Recent Activity")*



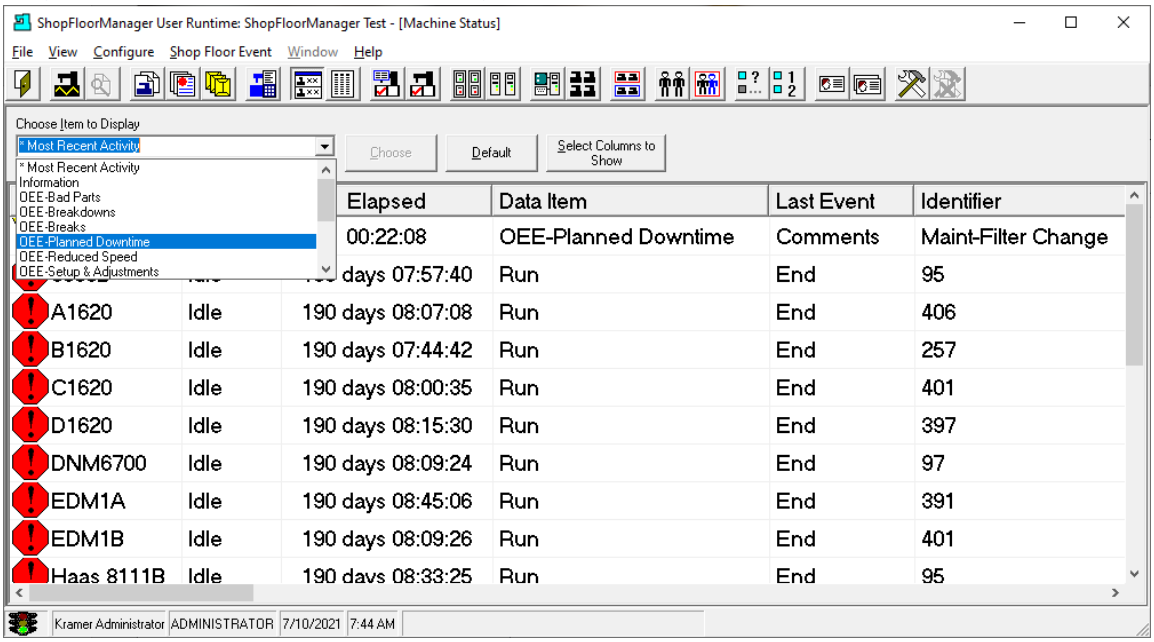
The Machine-Status appears not to have changed except you will notice that the Last Event came from the Comments' Event! See the **Blue Arrow**. The reason is the "Choose Item to Display" selection "*Most Recent Activity" chosen previously, see **Red Arrow** above, limits detailed information for any specific Data Item.

"*Most Recent Activity" allows displaying all programs executing at all Machines assigned to this Workstation! In order to be able to display these only the OEE Data that is common to all Data-Items (Monitoring Programs) can be displayed!

All the properties that are specific to a specific Data-Item are not all displayed. I.E., We selected the Comments and entered "Filter Changed and Tested" in ShopMDI. This was not displayed in the updated "Machine Status" Window because this is not a common property across Data-Items!

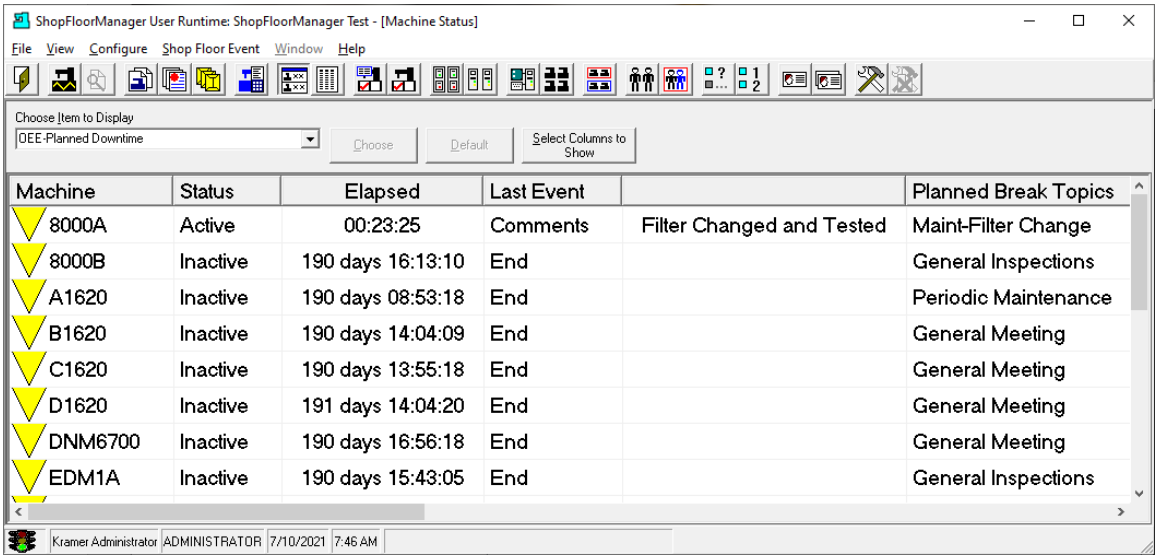
In order to get all of the specific details for a specific monitoring program we need to select that specific Data-Item Program. See the next Page for details!

ShopMonitor OEE-Controller-based-MDI (Choose Item to Display "OEE-Planned Downtime")



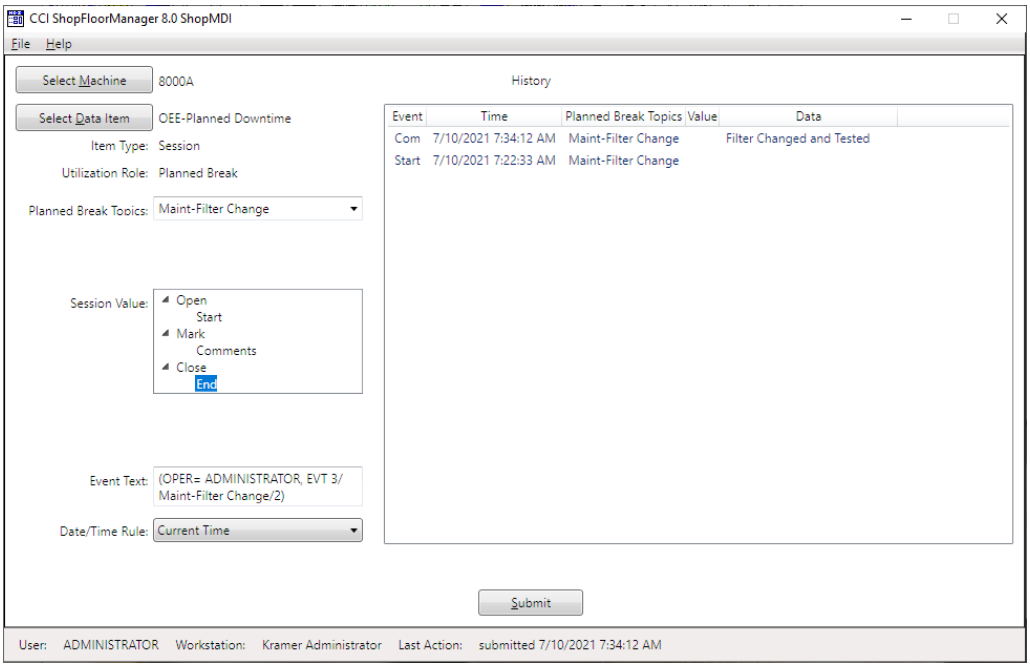
Select the Data-Item (Monitoring Program) "OEE -Planned Downtime", click the Choose Button and the following updated "Machine Status" Window is displayed.

ShopMonitor OEE-Controller-based-MDI (Machine Status Window Filter Change)



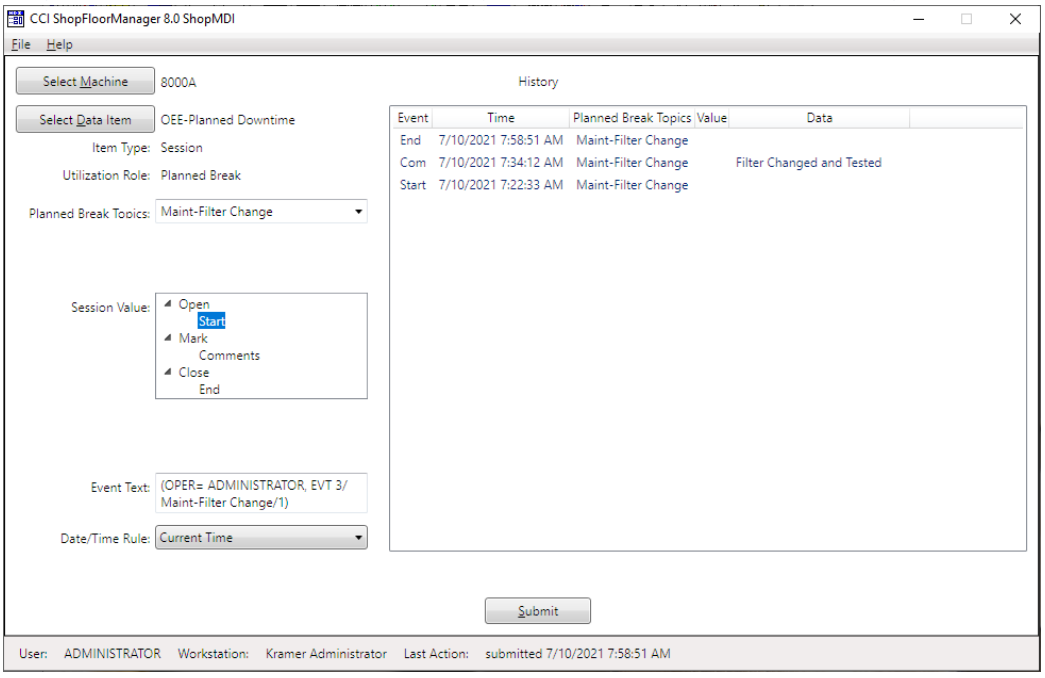
The detailed properties are now displayed including the Maintenance Comment: "Filter Changed and Tested"! Only Machines executing this program will be visible in the "Machine Status" Window! If you are watching this Window for Production status of all Machines, you need to select the Data-Item "*Most Recent Activity"! Let's finish the Planned Downtime and end the Run Cycle!

ShopMonitor OEE-Controller-based-MDI (Choose Item to Display "OEE-Planned Downtime" Select End)



We can add as many Comments as we want before ending the "OEE-Planned Downtime" Program. Highlight the End Icon and click the Submit Button! The following Window is displayed.

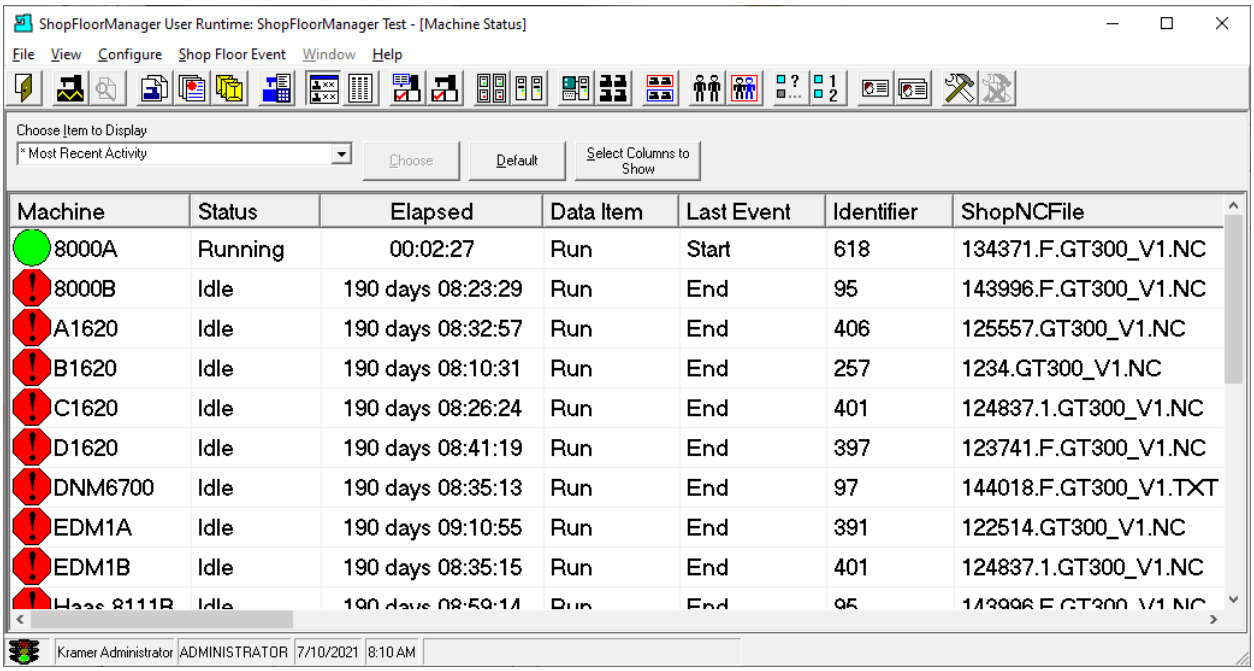
ShopMonitor OEE-Controller-based-MDI (Choose Item to Display – Back to Start)



You can see the updated History Pane showing the "OEE-Planned Downtime" End Event!

Let's return to "Machine Status" Window.

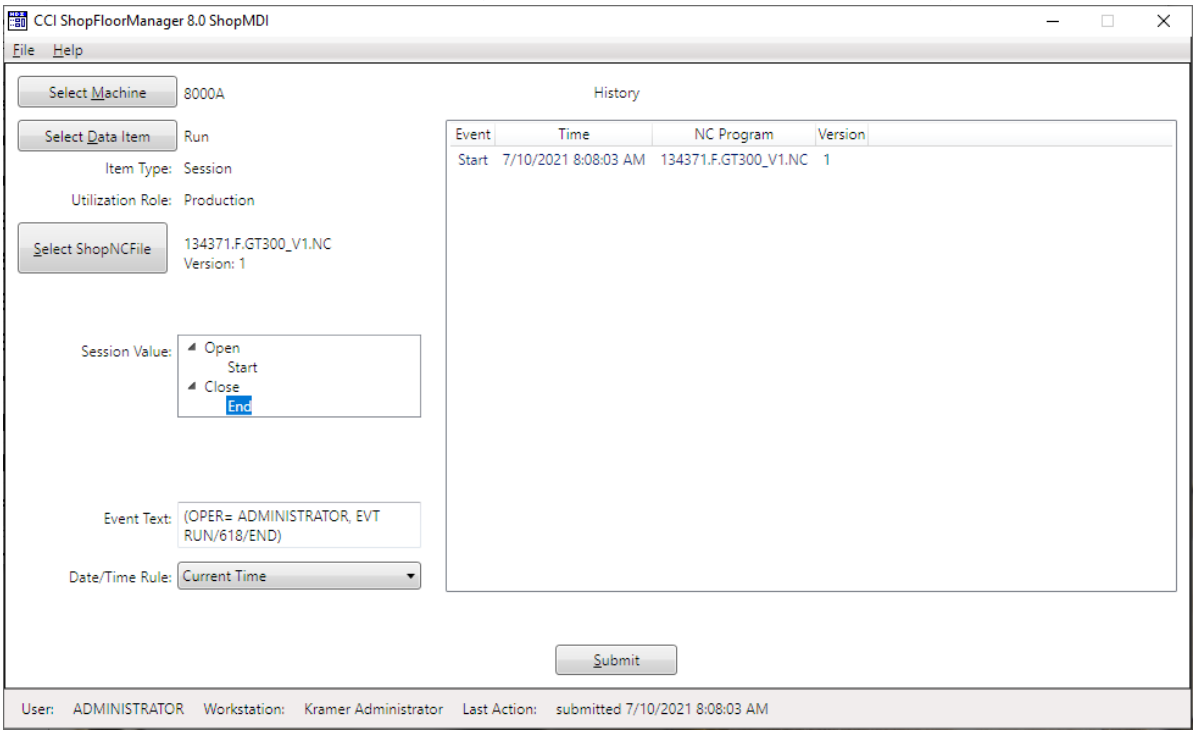
ShopMonitor OEE-Controller-based-MDI (Machine Status Window Running)



We have selected "*Most Recent Activity" for the Choose Item to Display" for the drop-down list and can see that the Machine 8000A is back in Production!

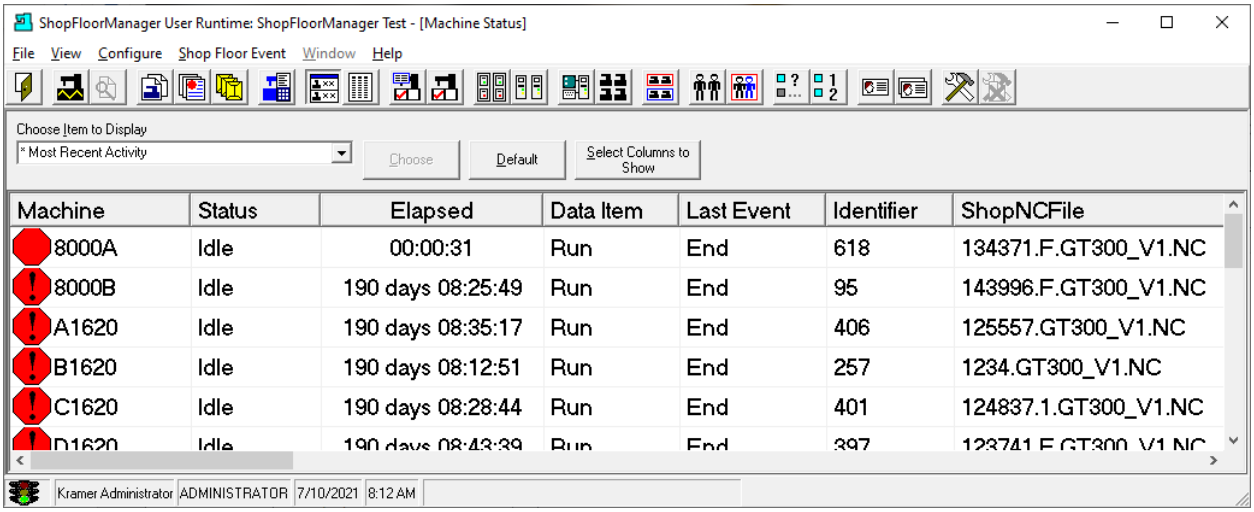
We will return to the ShopMDI Program to complete the Run Cycle duplicating what happens as a Cycle Ends in an executing ShopNCFile in a Machine as it outputs the End DPRNT.

ShopMonitor OEE-Controller-based-MDI (ShopMDI Choose Item to Display "Run" End)



We have ended the "OEE-Planned Downtime" program and have returned to the "Run" program. Select the End Icon and click the Submit Button and the following "Machine Status" Window is displayed.

ShopMonitor OEE-Controller-based-MDI (Machine Status Window Idle/End)



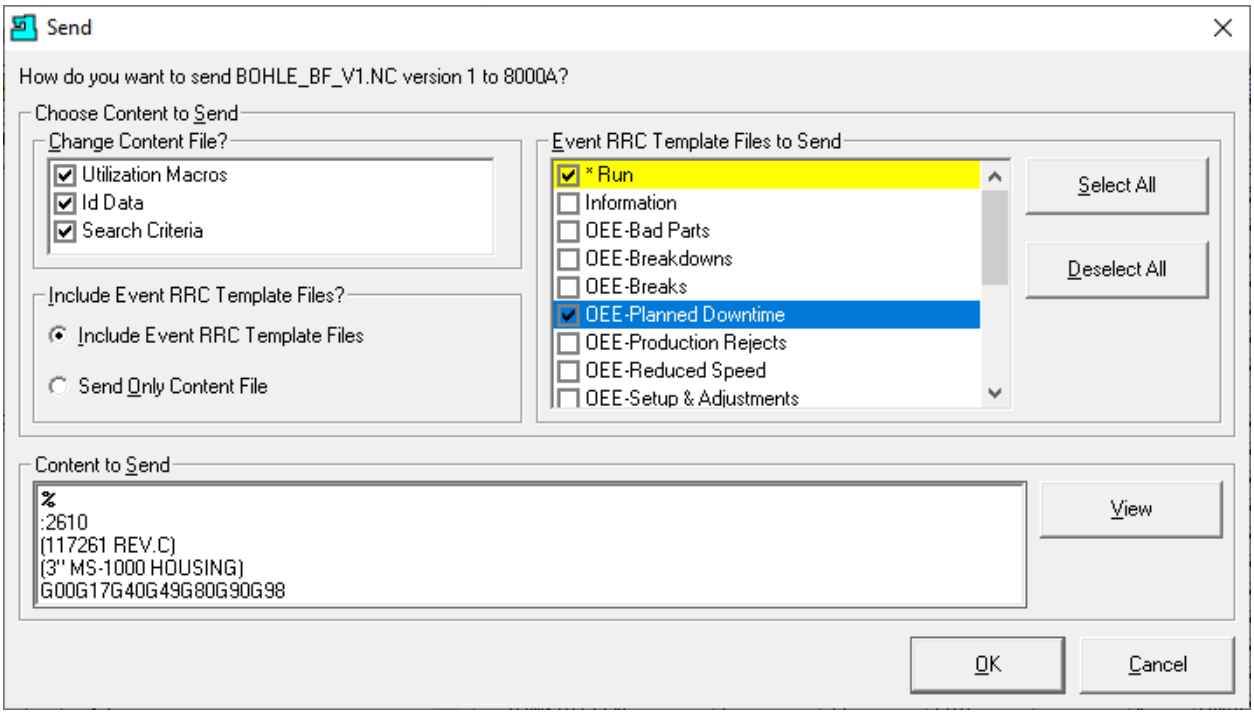
The Cycle has Ended! We will now investigate using the "OEE Controller base MDI" File(s) to accomplish what ShopMDI did in the previous section!

Let's start by showing how an Operator selects and downloads an "OEE-Controller-based-MDI" File!

ShopMonitor OEE-Controller-based-MDI (OEE-Planned Downtime)

During the Queuing Process an Operator selects any number of "OEE Controller base MDI" Files to download by checking the checkbox next to each in the Event-RRC-Template-Files-to Send Pane. Each particular File represent a particular monitoring Program.

ShopMonitor OEE-Controller-based-MDI (Downloading "OEE-Planned Downtime")



For this demonstration we have selected "**OEE-Planned Downtime**" to download. We could have chosen multiple "Event RRC Template Files"! Note that "Run" is always selected!

ShopMonitor OEE-Controller-based-MDI (OEE-Planned Downtime Content)

```
%

O4103

(* EVENT TEMPLATE FILE *) Important! This comment must not be deleted
(Event Data Item: OEE-Planned Downtime)

/(BEGIN Inspect-Oil System ----------)

/(EVT 3/Inspect-Oil System/1)
/(EVT 3/Inspect-Oil System/3/No Comment)
/(EVT 3/Inspect-Oil System/3/Enter Comment Here)
/(EVT 3/Inspect-Oil System/2)

/(END Inspect-Oil System ----------)
```

/(BEGIN Inspect-Electrical System ----------)

/(EVT 3/Inspect-Electrical System/1)
/(EVT 3/Inspect-Electrical System/3/No Comment)
/(EVT 3/Inspect-Electrical System/3/Enter Comment Here)
/(EVT 3/Inspect-Electrical System/2)

/(END Inspect-Electrical System ----------)

/(BEGIN Inspect-Coolant System ----------)

/(EVT 3/Inspect-Coolant System/1)
/(EVT 3/Inspect-Coolant System/3/No Comment)
/(EVT 3/Inspect-Coolant System/3/Enter Comment Here)
/(EVT 3/Inspect-Coolant System/2)

/(END Inspect-Coolant System ----------)

/(BEGIN Maint-Filter Change ----------)

/(EVT 3/Maint-Filter Change/1)
/(EVT 3/Maint-Filter Change/3/No Comment)
/(EVT 3/Maint-Filter Change/3/Enter Comment Here)
/(EVT 3/Maint-Filter Change/2)

/(END Maint-Filter Change ----------)

/(BEGIN Maint-Oil Change ----------)

/(EVT 3/Maint-Oil Change/1)
/(EVT 3/Maint-Oil Change/3/No Comment)
/(EVT 3/Maint-Oil Change/3/Enter Comment Here)
/(EVT 3/Maint-Oil Change/2)

/(END Maint-Oil Change ----------)

/(BEGIN Maint-Coolant Change ----------)

/(EVT 3/Maint-Coolant Change/1)
/(EVT 3/Maint-Coolant Change/3/No Comment)
/(EVT 3/Maint-Coolant Change/3/Enter Comment Here)
/(EVT 3/Maint-Coolant Change/2)

/(END Maint-Coolant Change ----------)

/(BEGIN Meetings-Company News ----------)

/(EVT 3/Meetings-Company News/1)
/(EVT 3/Meetings-Company News/3/No Comment)
/(EVT 3/Meetings-Company News/3/Enter Comment Here)
/(EVT 3/Meetings-Company News/2)

/(END Meetings-Company News ----------)

/(BEGIN Meetings-OSHA ----------)

/(EVT 3/Meetings-OSHA/1)
/(EVT 3/Meetings-OSHA/3/No Comment)
/(EVT 3/Meetings-OSHA/3/Enter Comment Here)
/(EVT 3/Meetings-OSHA/2)

/(END Meetings-OSHA ----------)

/(BEGIN Meetings-Production ----------)

/(EVT 3/Meetings-Production/1)
/(EVT 3/Meetings-Production/3/No Comment)
/(EVT 3/Meetings-Production/3/Enter Comment Here)
/(EVT 3/Meetings-Production/2)

/(END Meetings-Production ----------)

/(BEGIN Meetings-Quality ----------)

/(EVT 3/Meetings-Quality/1)
/(EVT 3/Meetings-Quality/3/No Comment)
/(EVT 3/Meetings-Quality/3/Enter Comment Here)
/(EVT 3/Meetings-Quality/2)

/(END Meetings-Quality ----------)

/(BEGIN Personnel-Mach Comp Eval ----------)

/(EVT 3/Personnel-Mach Comp Eval/1)
/(EVT 3/Personnel-Mach Comp Eval/3/No Comment)
/(EVT 3/Personnel-Mach Comp Eval/3/Enter Comment Here)
/(EVT 3/Personnel-Mach Comp Eval/2)

/(END Personnel-Mach Comp Eval ----------)

/(BEGIN Personnel-PPE Eval Safety ----------)

/(EVT 3/Personnel-PPE Eval Safety/1)
/(EVT 3/Personnel-PPE Eval Safety/3/No Comment)
/(EVT 3/Personnel-PPE Eval Safety/3/Enter Comment Here)
/(EVT 3/Personnel-PPE Eval Safety/2)

/(END Personnel-PPE Eval Safety ----------)

/(BEGIN Personnel-Training Adv ----------)

/(EVT 3/Personnel-Training Adv/1)
/(EVT 3/Personnel-Training Adv/3/No Comment)
/(EVT 3/Personnel-Training Adv/3/Enter Comment Here)
/(EVT 3/Personnel-Training Adv/2)

/(END Personnel-Training Adv ----------)

/(BEGIN Personnel-Training Basic ----------)

/(EVT 3/Personnel-Training Basic/1)
/(EVT 3/Personnel-Training Basic/3/No Comment)
/(EVT 3/Personnel-Training Basic/3/Enter Comment Here)
/(EVT 3/Personnel-Training Basic/2)

/(END Personnel-Training Basic ----------)

N9999M30
%

Note that every originally created "OEE Controller base MDI" File has a "/" in front of every Comment Line. If this file is not modified and uploaded to ShopFloorManager every line with the character "/" will not be processed and thus this original file would be ignored!

It is this feature that we take advantage of when using "OEE-Controller-base-MDI" Files as explained in the following Pages!

We will be modifying the section below to duplicate the results we had when using ShopMDI. The only section we need to be concerned with is the section-colored **Green**. We will not be showing the lines before and after this section even though they will be included in the "OEE-Controller base MDI" File: "OEE-Planned Downtime"! See the previous pages for a complete view of the File!

Step 1: The operator would remove the "/" Character in front of the Comment line shown below!

%

O4103

(* EVENT TEMPLATE FILE *) **Important!** This comment must not be deleted
(Event Data Item: OEE-Planned Downtime)

•••

/(BEGIN Maint-Filter Change ----------)

(EVT 3/Maint-Filter Change/1) <= Remove the character "/" from in front of the Comment Line
/(EVT 3/Maint-Filter Change/3/No Comment)
/(EVT 3/Maint-Filter Change/3/Enter Comment Here)
/(EVT 3/Maint-Filter Change/2)

/(END Maint-Filter Change ----------)

•••

N9999M30
%

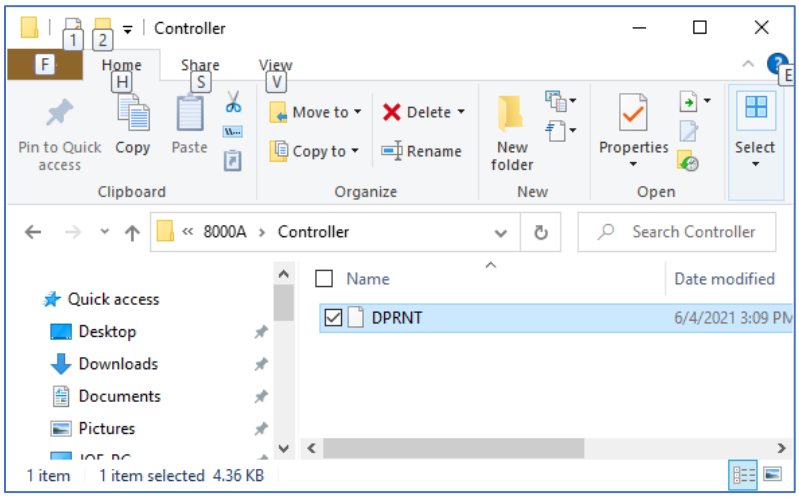
We will now investigate how RS232 and UNC Machines upload this to ShopMonitor!

ShopMonitor OEE-Controller-based-MDI (Monitoring Program: OEE- Planned Downtime Step 1 Cont.)

We need to account for RS232 and UNC Controllers for generating the above Events (DPRNTs).

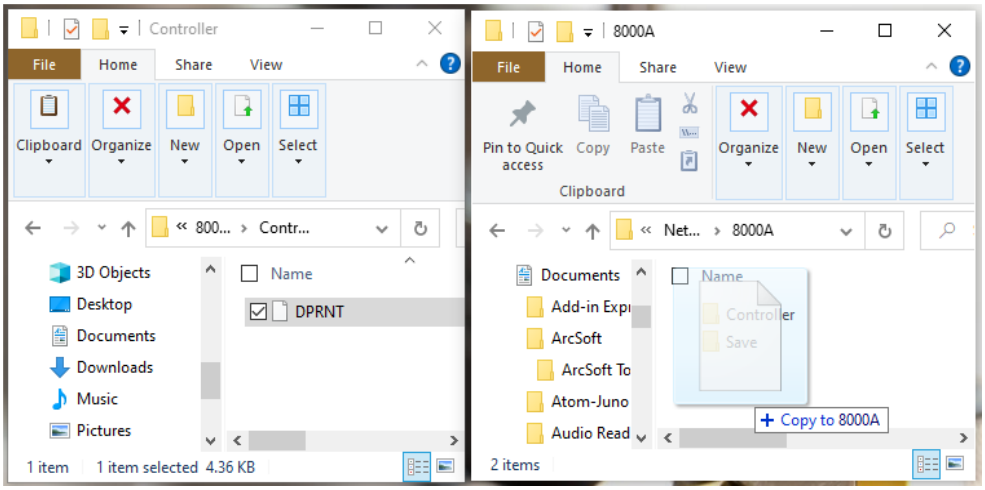
1. **RS232 Events**
   All the Operator would need to do is to upload/punch-out this file to start the "Planned Break"!
2. **UNC Events (Used in the following Example.)**
   We need to save this file with name DPRNT to a folder we have called Controller.

ShopMonitor OEE-Controller-based-MDI (Simulating File outputting OEE Data using a UNC Controller)



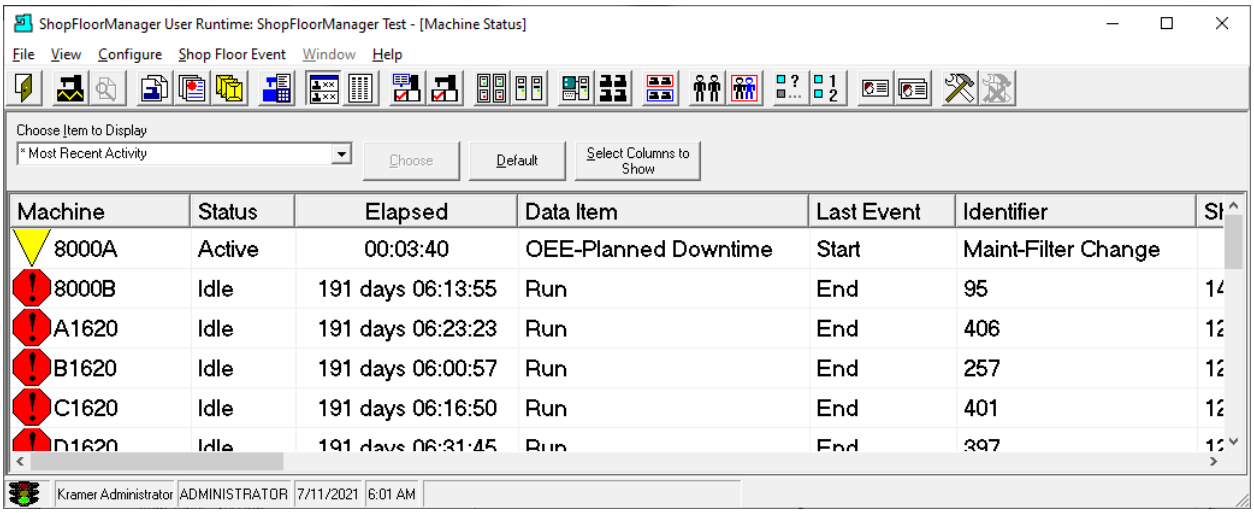
This is the Directory the UNC Operator would move the file named DPRNT for Uploading/Processing!

ShopMonitor OEE-Controller-based-MDI (Dragging & dropping File from Controller-to-Controller Folder)



This will start the monitoring program "OEE-Planned Downtime" Program! The combination of naming the File DPRNT & moving to it to the folder Controller starts the processing of this as an "OEE-Controller-based-MDI" File! See the "Machine Status" updated Window below after ShopMonitor processes the commands in this file! **Note**: The Controller Folder is the UNC send/receive Path used to share data between a UNC Machine & ShopMonitor/ShopFloorManager!

ShopMonitor OEE-Controller-based-MDI (Machine Status Window Start)



The monitoring program "OEE-Planned Downtime" has Start! See ShopMDI steps for generating the same result. We will now perform the next Step paralleling ShopMDI's Steps!

Note: We are using the monitoring program "*Most Recent Activity" in the Machine Status Window.

ShopMonitor OEE-Controller-based-MDI (Monitoring Program: OEE- Planned Downtime Step 2)

Step 2: Remove the "/" Character in front of the Comment line shown below!

%

O4103

(* EVENT TEMPLATE FILE *) **Important!** This comment must not be deleted
(Event Data Item: OEE-Planned Downtime)

•••

/(BEGIN Maint-Filter Change ----------)

/(EVT 3/Maint-Filter Change/1) <= Replaced the character "/"in front of the Comment Line
/(EVT 3/Maint-Filter Change/3/No Comment)
(EVT 3/Maint-Filter Change/3/Filter Changed and Tested) <= Removed character "/" in front of the Comment Line replace default Comment with "Filter Changed and Tested"
/(EVT 3/Maint-Filter Change/2)

/(END Maint-Filter Change ----------)

•••

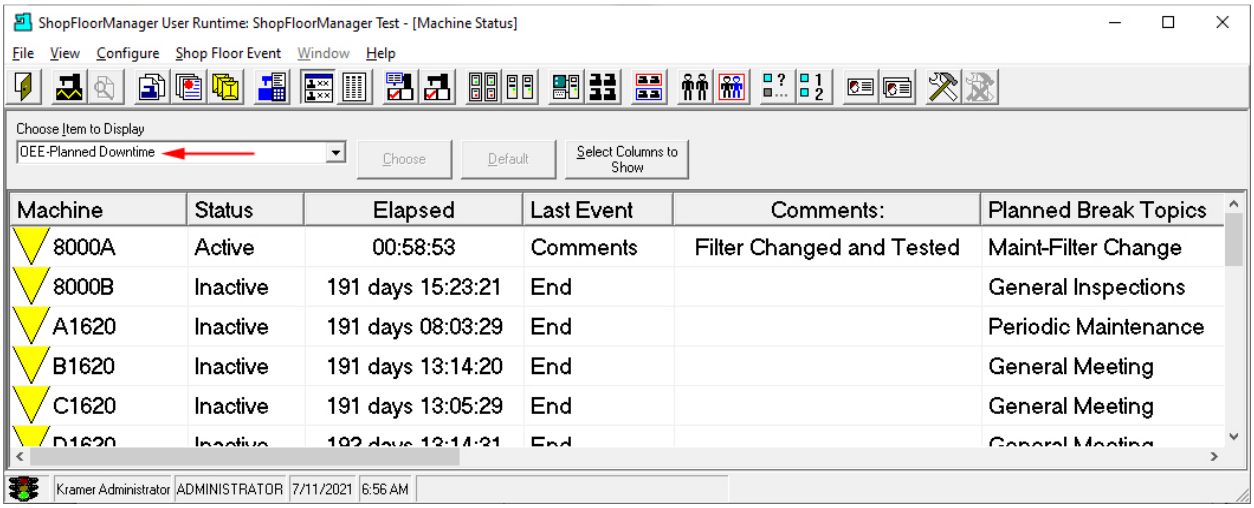
N9999M30
%

ShopMonitor OEE-Controller-based-MDI (DPRNT File content Second Update Cont.)

Submit this file to the Folder 8000A as a UNC Controller Operator. They would and see the “Machine Status” updated Window!

If this were a RS232 based controller you would just upload this File to get the same results as explained in a previous page!

ShopMonitor OEE-Controller-based-MDI (Machine Status Comments: “ Filter Change and Tested”)



Notice the Header Comments: “Filter Change and Tested” has been displayed! See **Note** below!

See ShopMDI steps for generating the same result. We will now perform the next Step paralleling ShopMDI’s Steps!

Let’s continue with Step 3: in the next page!

Note: We have changed the “Choose Item to Display” from “*Most Recent Activity” to “OEE Planned Downtime” to see all of the details for the program “OEE-Planned Downtime”.

If you remember “*Most Recent Activity” program only displays data common to all active programs including Production and Non-Production where as “OEE-Planned Downtime” only displays machines running this program!

ShopMonitor OEE-Controller-based-MDI (Monitoring Program: OEE- Planned Downtime Step 3)

Step 3: Remove the "/" Character in front of the last line shown below!

%
O4103

(* EVENT TEMPLATE FILE *) **Important!** This comment must not be deleted
(Event Data Item: OEE-Planned Downtime)

•••

/(BEGIN Maint-Filter Change ----------)

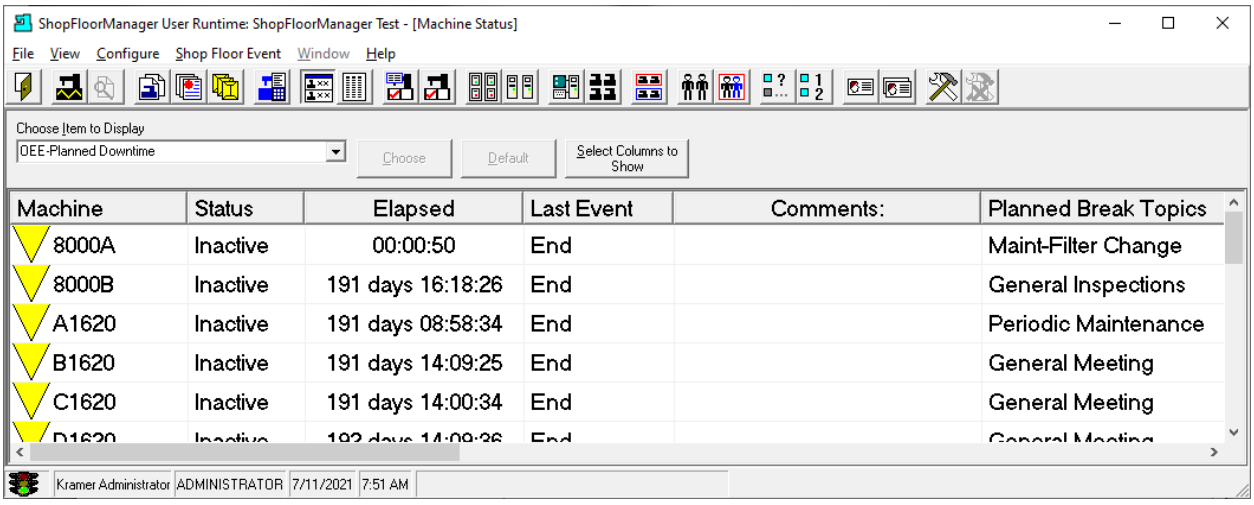
/(EVT 3/Maint-Filter Change/1
/(EVT 3/Maint-Filter Change/3/No Comment)
/(EVT 3/Maint-Filter Change/3/ Enter Comment Here) <= Replaced the character "/"in front of the Comment Line
(EVT 3/Maint-Filter Change/2) <= Removed character "/" in front of the Comment Line

/(END Maint-Filter Change ----------)

•••
N9999M30
%

Submit this file to the Folder 8000A as a UNC Controller Operator would and see the "Machine Status" updated Window! If this were a RS232 based controller you would just upload this File!

ShopMonitor OEE-Controller-based-MDI (Machine Status Window End)



The monitoring program "OEE-Planned Downtime" has Ended! See ShopMDI steps for generating the same result. So instead of Scanners the Operator makes minor changes and uploads information!

We have completed the "OEE Controller base MDI" Section!

ShopMonitor ShopCharts (Visions of ShopCharts Danced in their Heads! Santa Clause is Coming?)

What is ShopCharts

ShopCharts is suite of three interactive charts that presents real-time visuals of machine production's TEEP, OOE, OEE and Performance Events on the Shop Floor.

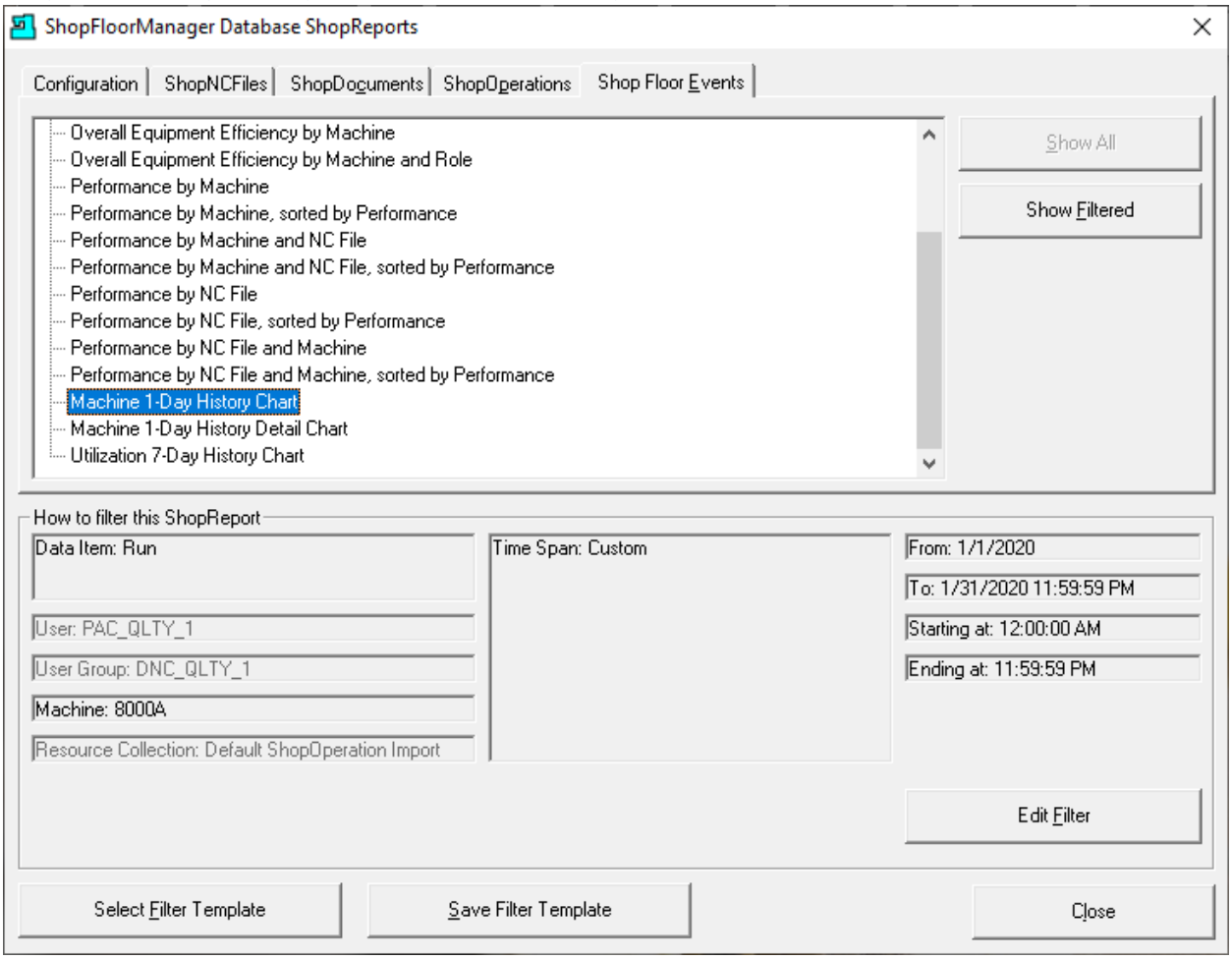
ShopCharts is comprised of three real-time interactive charts:

1. Machine 1-Day History Chart
   This Chart displays all the selected Machines in the ShopReport Filter for this Workstation. Each of these Bars contains a complete set of Events for the chosen Machine! You can click on any Event and the details will be displayed in the Right-Hand Pane!
2. Machine 1-Day History Detailed Chart
   This Chart displays a complete set of **Individual** OEE type Events & Other Customer Create Events for each selected Machine in the ShopReport Filter for this Workstation. You can click on any Event and the details will be displayed in the Right-Hand Pane!
3. Utilization 7-Day History Chart
   This Chart displays 7 Days of Events for the selected Machine in the ShopReport Filter for this Workstation. Each of these Bars contains a complete set of Events for the chosen Day! You can click on any Event and the details will be displayed in the Right-Hand Pane!

Once ShopCharts have been activated, they display in-real-time what is happening on the Shop Floor! You don't have to run to the Shop for details! Just click and interrogate any ShopChart Event in question and the details are displayed.

Let's look at each of the Charts and see how these are used on the Shop Floor to aid in finding Production Problems & Bottle Necks. See the next Page!

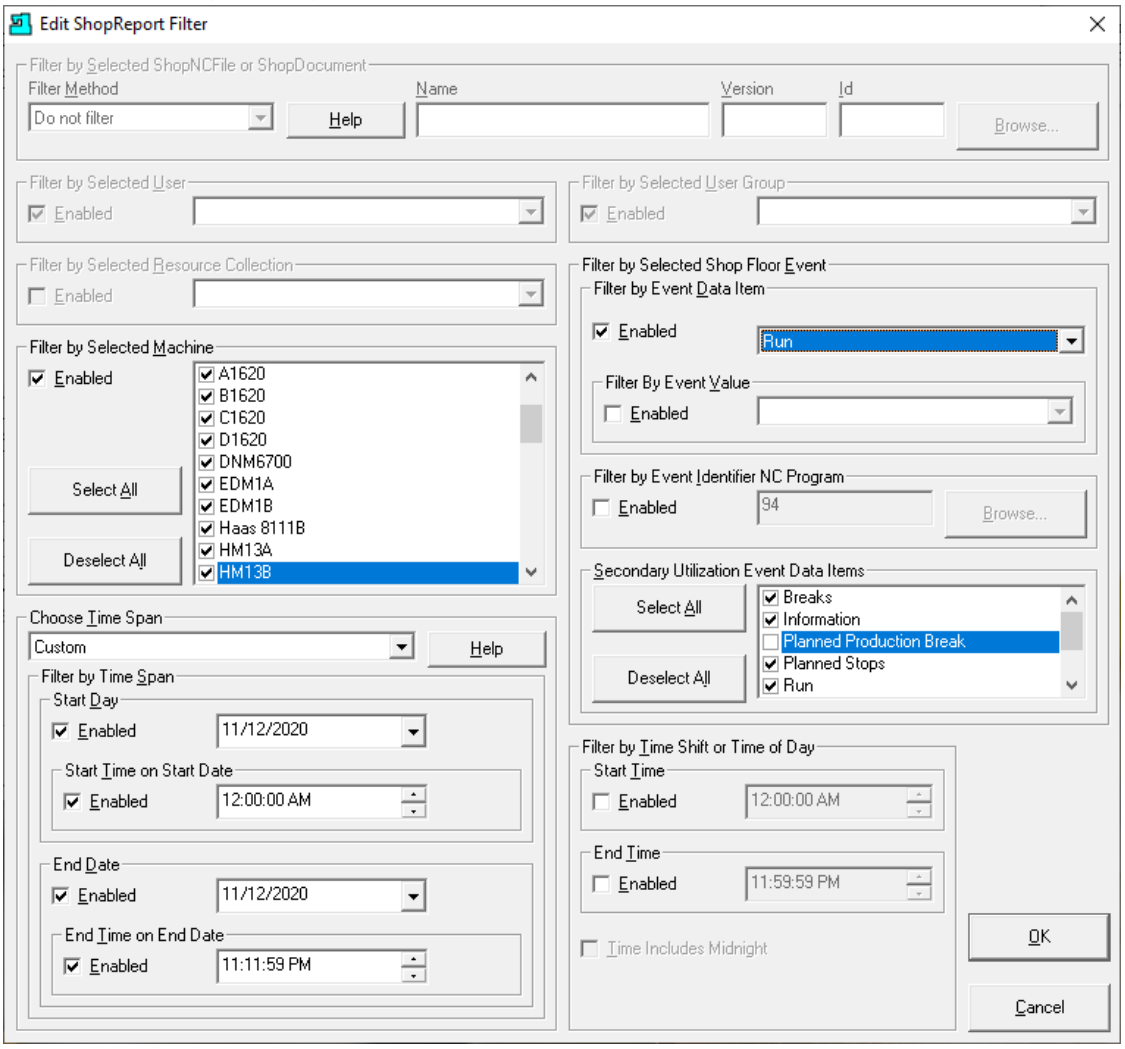
ShopMonitor ShopCharts (Machine 1-Day History Chart)



We will start our exploration of ShopCharts by highlighting the “Machine 1-Day History Chart” and clicking on the Edit Filter. The Edit Filter will allow us establish the Time Frame & Event Criteria for displaying ShopCharts. The following Window is displayed.

Note: The reason for highlighting the “Machine 1-Day History Chart” first before clicking on the Edit Filter Button is the ShopReport Filter’s configuration options, depends on the ShopChart/ShopReport Selected!

ShopMonitor ShopCharts (Edit ShopReport Filter)

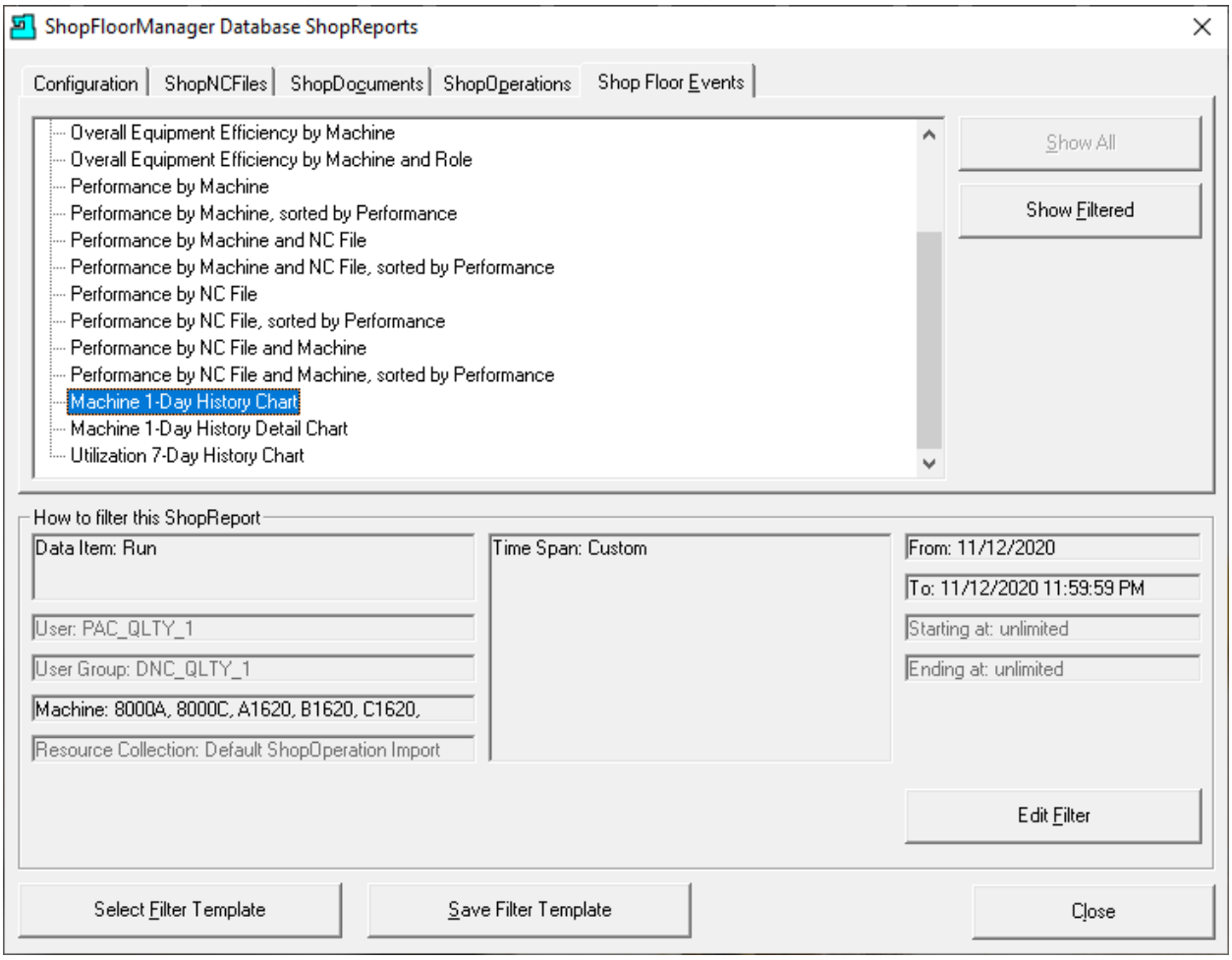


We won't cover the ShopReport Filter in detail here as this is covered in another section of the Manual. Following are the options we chose for generating the "Machine 1-Day History Chart".

Machines
8000A,8000B,A1620,….
Date
11/12/2020
Times
12:00AM to 11:59:59PM
Event Data Item (Main Monitoring Program)
Run
Secondary Utilization Event Data Items (Active Monitoring Programs)
Breaks, Information, Planned Stops, Run…

Click the OK Button and the following Window will be displayed.

ShopMonitor ShopCharts (Machine 1-Day History Chart Selected)

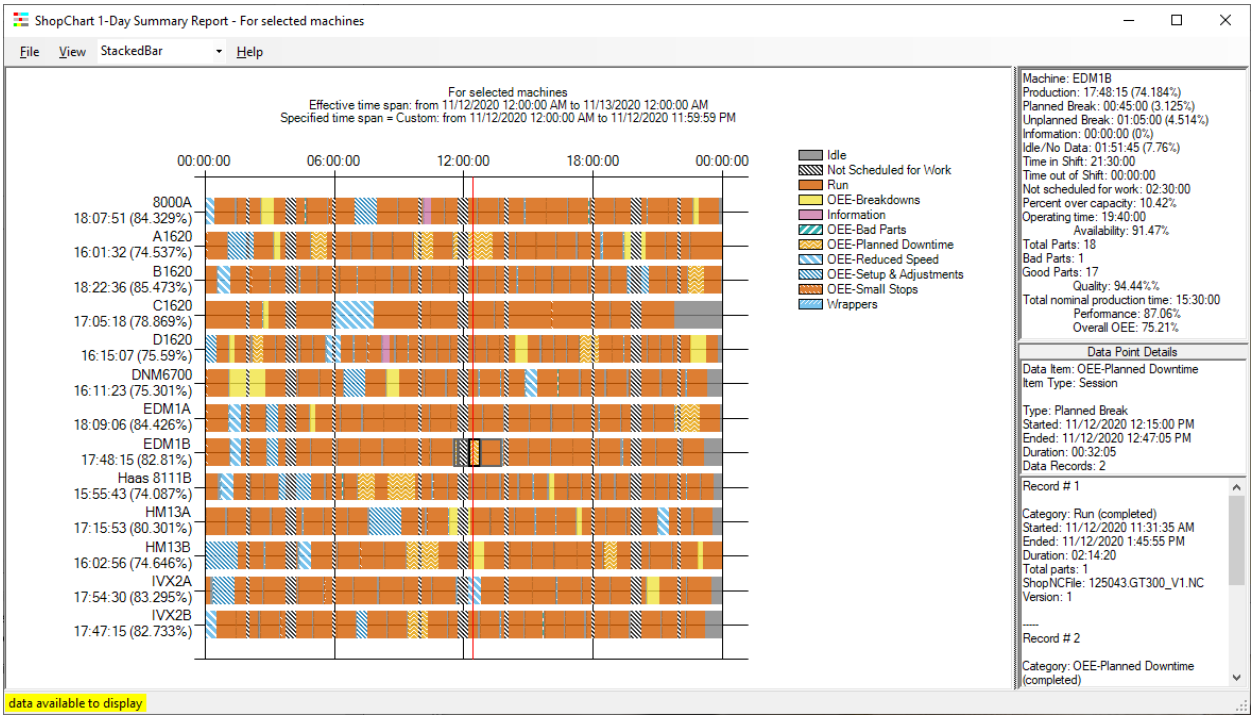


Now that we have selected all of the required options in the "ShopReport Filter" we can generate the selected ShopChart and investigate how it is used to locate Production and Non-Production Events that may display a problem. This will allow us to improve performance, efficiencies & machine effectiveness on the Shop Floor.

You will notice at the bottom of this Window a summary of the selected Filter Options. There are also additional options for selecting & saving these configured options for use in the future!

Click the "Show Filtered" Button and the following Chart is generated!

ShopMonitor ShopCharts (Machine 1-Day History Chart Displayed)



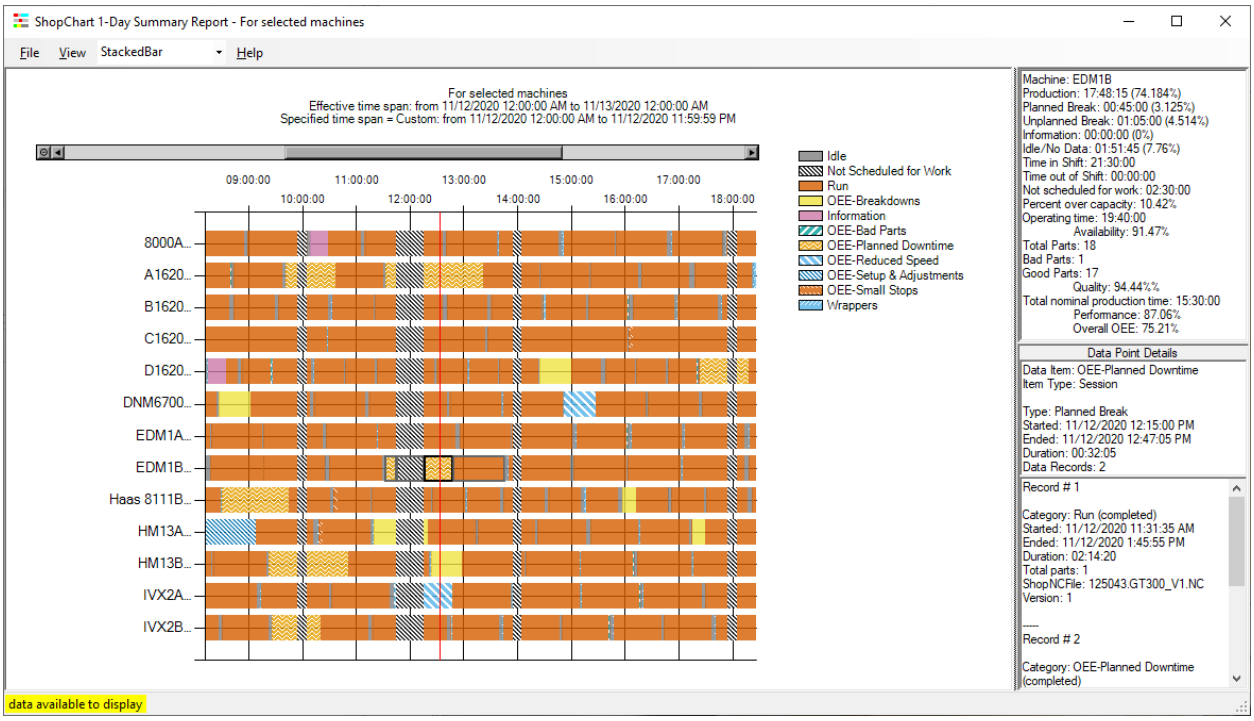
At this stage we need to adjust the ShopChart to get to the details of interest! ShopCharts provides the ability to instantly zoom in on any time frame by left-clicking the mouse on the right-hand side of the ShopChart at the desired end time and dragging to the left to the desired start time.

This zooms the ShopChart around the selected timeframe allowing you to view the details more clearly for analysis.

Let's zoom into the timeframe of approximately 9:00AM to 5:00 PM.

The following Window will be displayed.

ShopMonitor ShopCharts (Machine 1-Day Chart Zoomed around 9:00AM to 5:00PM)



Let's start by digging into what the ShopChart Presents and how this can be used to help improve efficiencies on the Shop Floor.

The number of Bars corresponds to the number of Machine Tools that were selected for this ShopChart/ShopReport.

At the front of each Bar is the Machine Name, the generated efficiency based on the actual production time/total time available and all of the Events that have taken place during the selected time frame.

Click on any Event on any Bar and the details are presented in the Right-Hand Window. We have selected the First Event on Machine EDM1B, and the details are presented in the right-hand Window.

ShopMonitor ShopCharts (Top Right-Hand Window)

There is a breakdown of times spent in each "Production Category". The Production Categories consist of Productive & Non-Productive Times as defined: (Hierarchy of Roles)

Production (Productive Time)
Planned Break (Non-Productive Time where Production Time could have taken place)
Unplanned Break (Non-Productive Time where Production Time was not possible)
Information (Operator recorded information while production was not affected)
Idle/No Data (Non-Productive Time in between cycles or when no data is recorded)
Time in Shift (Total time Production is scheduled)
Time out of Shift (Total possible time available per day not used)
Not Scheduled (Machine Times set as not used for Production: I.E. Weekends)
Percent over capacity: (How much of your Facility isn't being used!)
Detailed OEE Categories (Performance, Quality, Availability, & More!**)**

ShopMonitor ShopCharts (Middle Window)

Data Point Details:

Data Item: (Run, Planned Break, **Unplanned Stops**(Chart Above) , Information, etc.)
Item Type: Session
Type: **Unplanned Break** (Chart Above)
Start Time
The time when the Planned Break Started (Run is assumed paused)
Ended Time
The time when the Planned Break Ended (Run is assumed now in Production)
Data Records
This shows how many "Active Programs are Combined

ShopMonitor ShopCharts (Bottom Window)

The Active Record details:

Record # 1
Category: **Run (Completed)**
Started: **11/12/2020 11:31:35 AM**
Ended: **11/12/2020 1:45:55 PM**
Duration: **03:43:32**
Total Parts: **1**
ShopNCFile: **125043.GT300_V1.NC**
Version: **1**
Record # 2
Category: **OEE-Planned Downtime (completed)**
Started: **11/12/2020 11:32:05 AM**
Ended: **11/12/2020 12:47:05 PM**
Duration: **02:14:20**
Planned Break Topic: **General Meeting**
End Comments: OSHA Meeting Complete

Mark 1: **OEE General Meetings**
Time: **11/12/2020 12:17:05 PM**
Meeting Reason: **OSHA**

Note: These Type of Records are generated from the customer created Monitoring Programs! Each Monitoring Program produces different outputs based on the needs determined by the Customer!

This is a good thing since a customer can create a program that addresses their particular Needs, Problems, etc. When they review the real-time recorded comments and duration times, they can use this data to decide if corrective actions need to be taken and the priority in tackling these problems. There are also ShopReports that provide more clarity when reviewing this collected data.

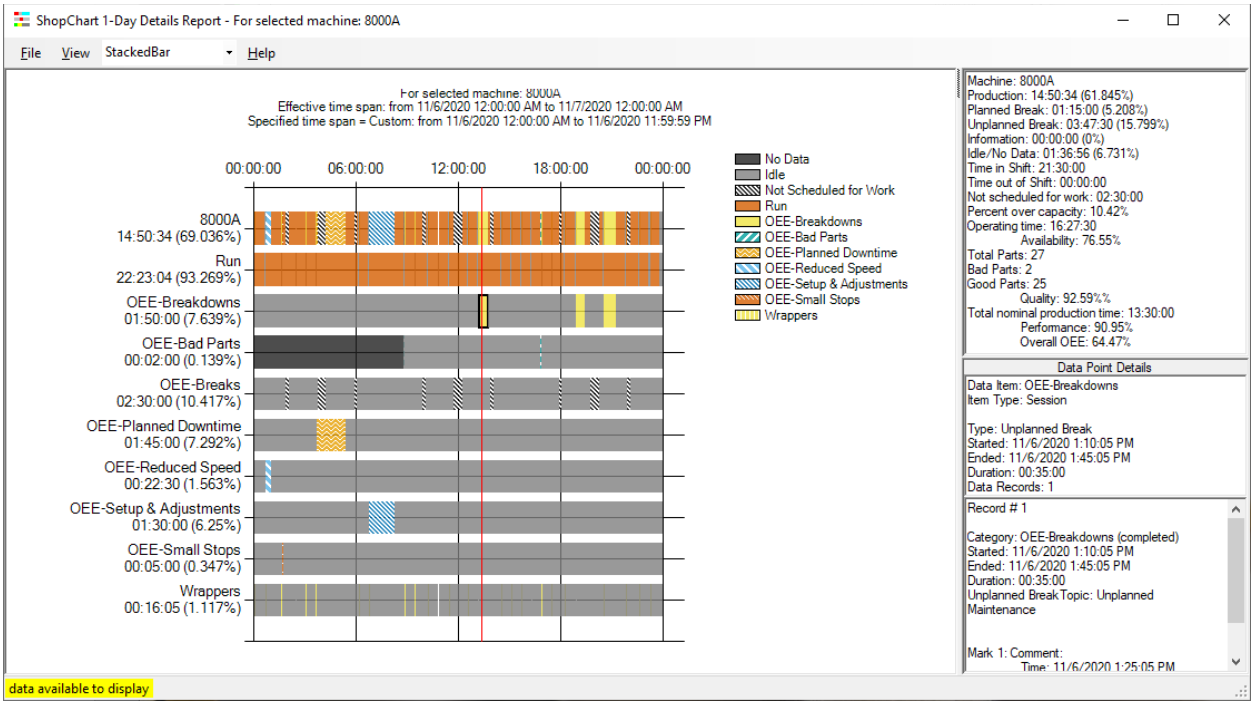
To look at one specific Machine for a clearer view of Event details click on the "Machine 1-Day History Detail" Chart and the following Chart(s) would be displayed.

Since this would include all of the selected machines in the report filter you may want to adjust the number of selected Machines.

ShopMonitor ShopCharts (Bottom Window (Cont.))

Let's select the Machine 1-Day History Detail and the following Chart is displayed. We will only investigate the 8000A Machine.

ShopMonitor ShopCharts (Machine 1-Day History Detailed Chart)



All of the details given in the previous two pages for the Machine 1-Day History Chart apply to this chart.

This Chart is for Machine 8000A and separates the Events in the Bar into Event Categories.

Each Event displays the % of Non-Production time that could have been used for Production. These areas need to be investigated to eliminate/reduce wasted time with the long-term goal of eliminating!

Let's do a quick analysis of each of the Events above:

Breaks

There are times when Machines require routine Maintenance. This are called a Planned Break and results in stopping Production to complete the Maintenance Task.

These are times that are designated Not Scheduled for Production. These times are removed from OEE calculations.

Planned Breaks

There are times set aside for routine Maintenance, Cleanup, OSHA Inspection, etc. These are designated Planned Stops. This category is effects Availability just as Unplanned Stops the difference being it is a planned production stop!

Unplanned Breaks

There are times when there are machine break downs that you can't directly control. However, if this particular Event occurs too often, more than likely there are actions that can and need to be done to prevent this from happening very rarely!

ShopMonitor ShopCharts (Machine 1-Day History Detailed Chart (Cont.))

- **Quality:**
  This is ShopFloorManager's term for OEE **Quality**! The ratio of good parts to bad parts: (good parts/(bad parts)! Used in OEE calculations!
- **Wrappers**
  These are informational and don't affect OEE calculations but can be used to provide information such as the time to complete a particular section of code! I.E. Tool Changes, Pocket Machining, Sub-Routines, etc.
- **Information**
  These are informational and don't affect OEE calculations but can be used to provide information regarding events happening on the Shopfloor that need to address such as Cleanliness, OSHA problems, etc.

Let's take a look at another ShopChart the "ShopCharts & ShopReport 7-Day Report" for a particular Machine Tool!

ShopMonitor ShopCharts (Machine 7-Day History Chart)

This Chart displays the last 7 days of Events for a particular Machine Tool. This will give a better view of any ongoing efficiency problem as the Right-Hand Window gives a 7 Day Production efficiency report!

If these readings vary significantly from the Machine 1-Day History Charts, there is a good chance that you need to take a closer look at what is happening on the shopfloor. We have finished this section! Let's move on the ShopMonitor ShopMDI!

ShopMonitor ShopMDI (The App Users use to Collect Important Data. Note Pad not Required!)

What is ShopMDI?

ShopMDI is an Application that executes ShopMonitor Programs for manually entering information(Usually Shop Non-Production Events) that are relevant to production status on the Shopfloor. These Events effect Quality, Production, Efficiency, Machine Effectiveness, Performance, Maintenance, Material Handling, etc.

Any Events entered into ShopMDI are displayed in real-time via real-time ShopCharts & ShopReports_ShopCharts_and_Supporting, Machine Status, ShopReports: Configurations, etc. reflecting the real-time production state of your shop.

Note: ShopMonitor Programs are customer created reflecting the actual needs of a particular manufacturing facility not a pre-configured program based on what someone else determines as your needs.

There are ways to input OEE Planned & Unplanned Events other than ShopMDI, but these are not feasible (see below) with the exception of "OEE-Controller base MDI" Files.

Why not just use the Macros to DPRINT information?

Once DPRINTs are inserted within a ShopNCFile they are static for the most part even though there are other ways available to read internal controller data via Macros, it is Controller by Controller Dependent and requires ShopNCFile by ShopNCFile insertion of customized DPRINTs. Doable but can be a pain!

As an example, even if internal Macros can report that a Machine has stopped it can't provide reasons for the stoppage. This problem also applies to hardware that monitors these points!

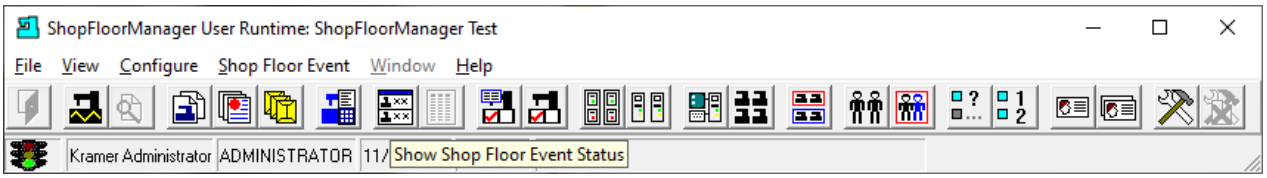
How can you address these situations to complement collecting Machine Events via Macro/DPRINTS while collecting other valuable activities, data & events that effect Production?

How can you make this information available in real-time, so personnel are aware of these non-macro generated events so they can address any problems immediately?

ShopMDI addresses these issues with real-time updating of a combination of Machine Status, ShopReports: Configurations, ShopCharts & ShopReports!

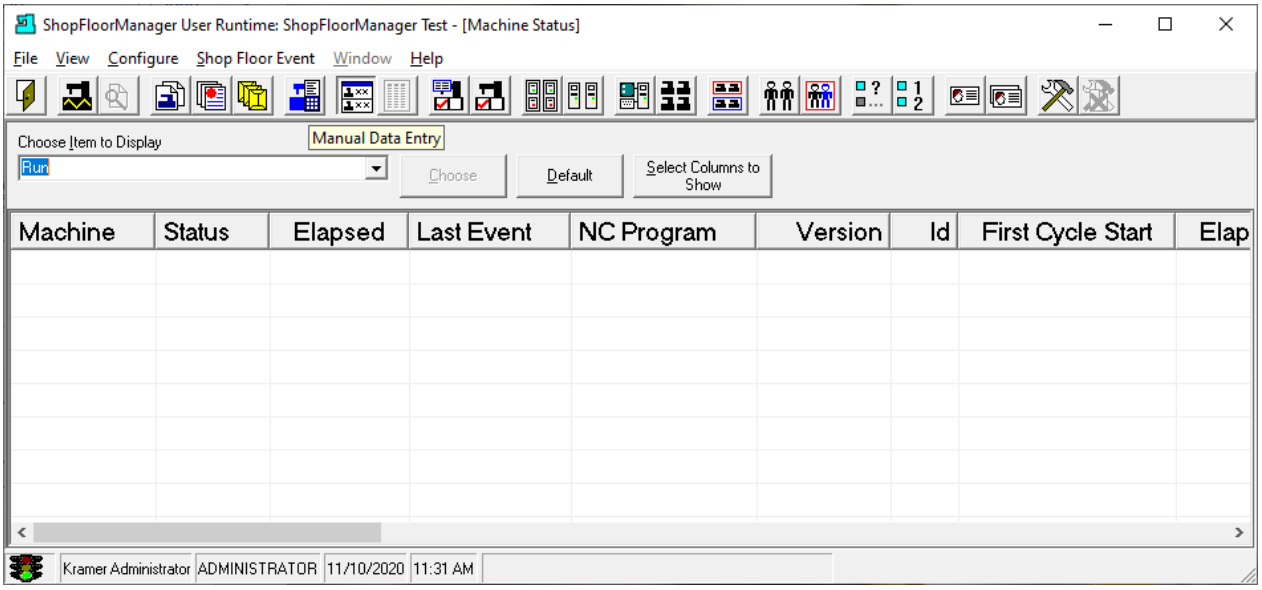
Let's investigate how ShopMDI is used in the following pages!

ShopMonitor ShopMDI (Show Shop Floor Event Status Icon)



Click on the "Show Shop Floor Event Status" Icon and the Machine Status Window will be displayed.

ShopMonitor ShopMDI (Show Shop Floor Event Status)



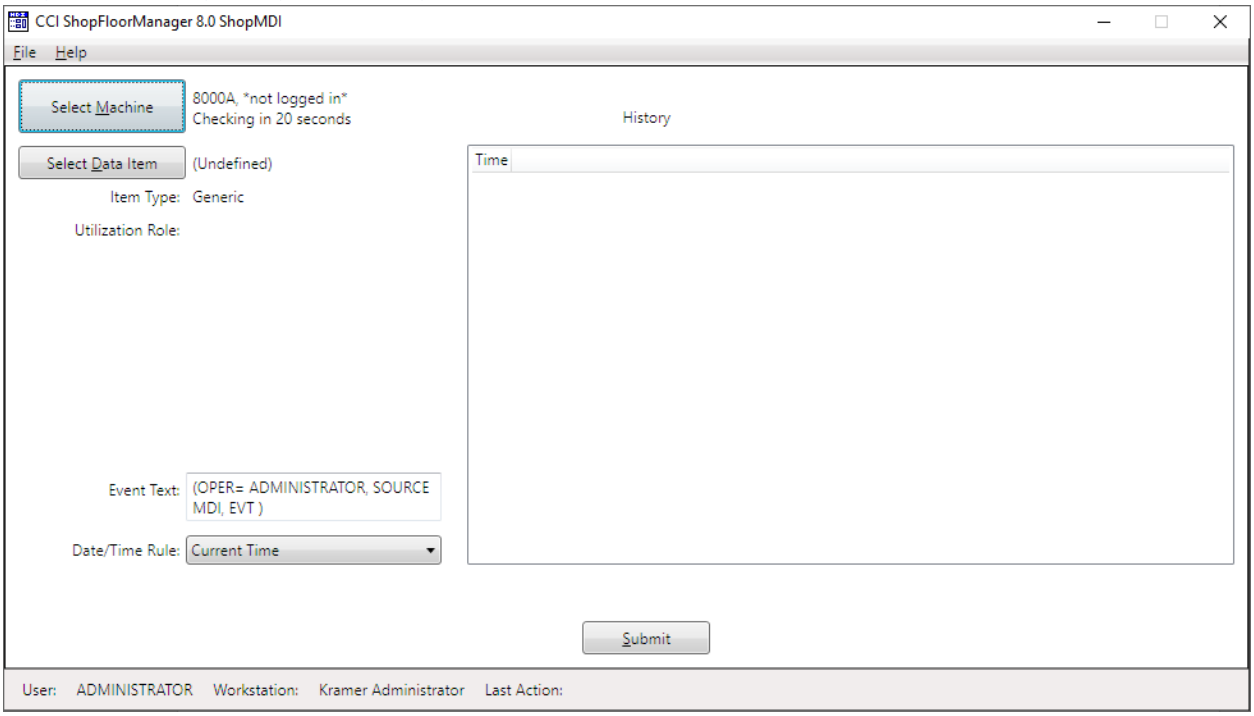
At the moment there is nothing displayed in the "Machine Status" Window indicating that no events have occurred since refreshing the "Machine Status" Window!

Click on the "Manual Data Entry" Icon and the following Window will be displayed.

Note: We have chosen the "Run" Item from the drop-down list "Choose Item to Display" to display in the "Machine Status" Window. This is the default ShopMonitor Program. A customer can create any number of ShopMonitor Programs complementing those supplied with ShopMonitor!

We will now investigate the ShopMDI Application.

ShopMonitor ShopMDI (Initial Screen)

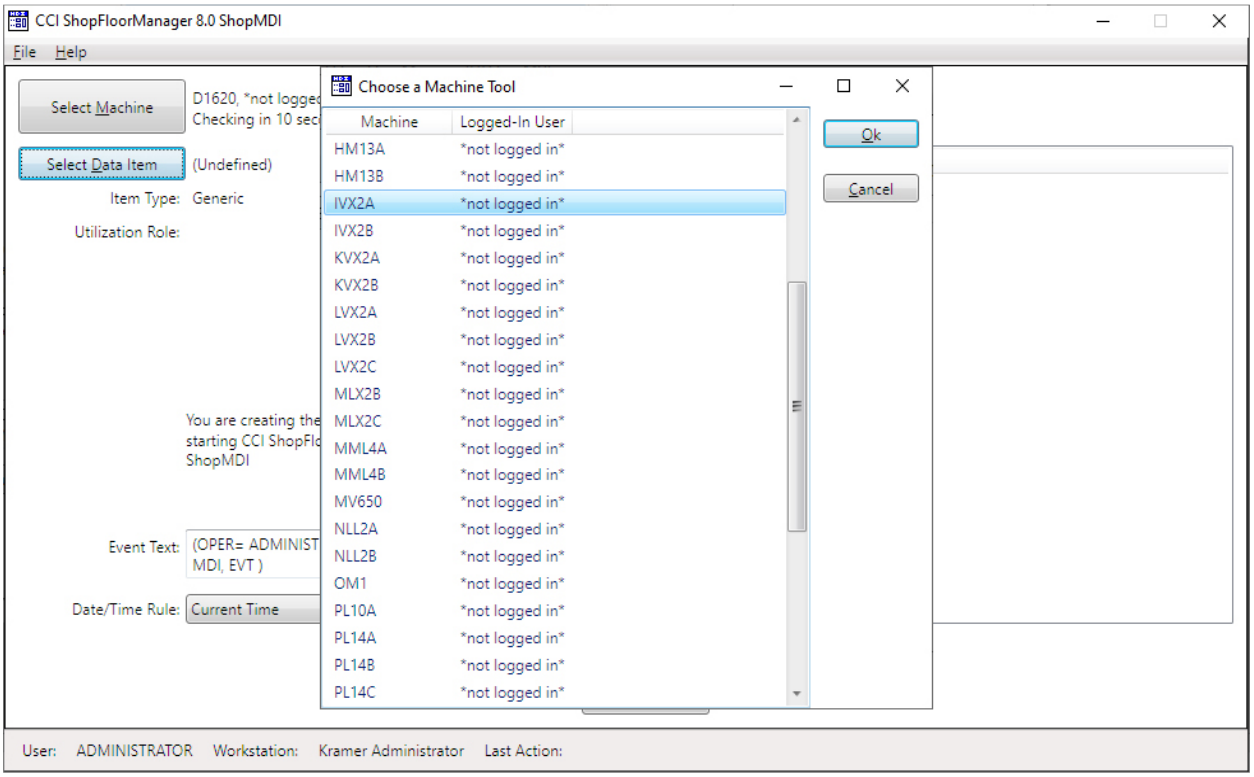


The above Window is display is typical the first time you start the ShopMDI. You will notice the 4 different Button/Icon that are displayed. This will increase as we select various Operations.

You will notice on the highlighted Icon “Select Machine” that Machine 8000A has been previously selected. For this beginning demonstration we will be selecting a different Machine.

Click on the Select Button and the following Window is displayed.

ShopMonitor ShopMDI (Initial Screen & Select Machine IVX2A)

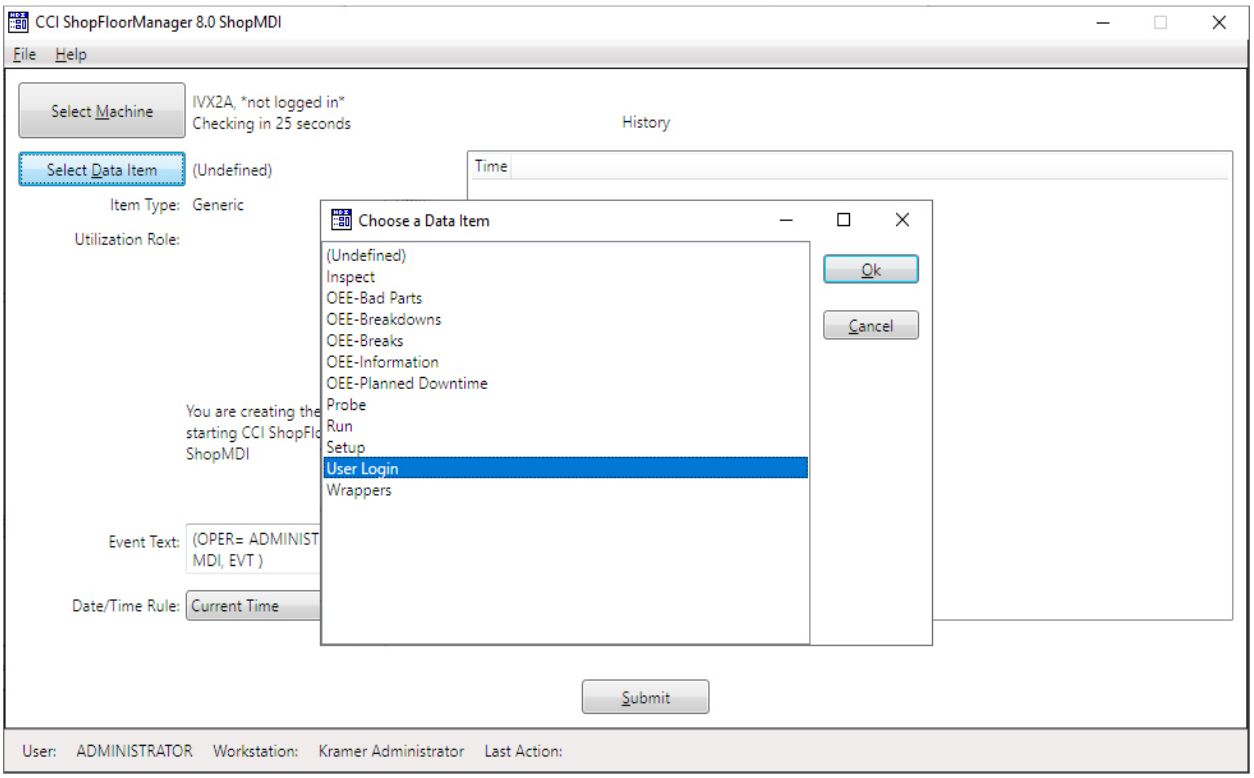


To get started we need to select the Machine Tool where we will be collecting information, events & various data!

After clicking on the “Select Machine” Button a list of all available Machines is displayed

We will select the Machine Tool IVX2A and click the OK Button and the following Window is displayed!

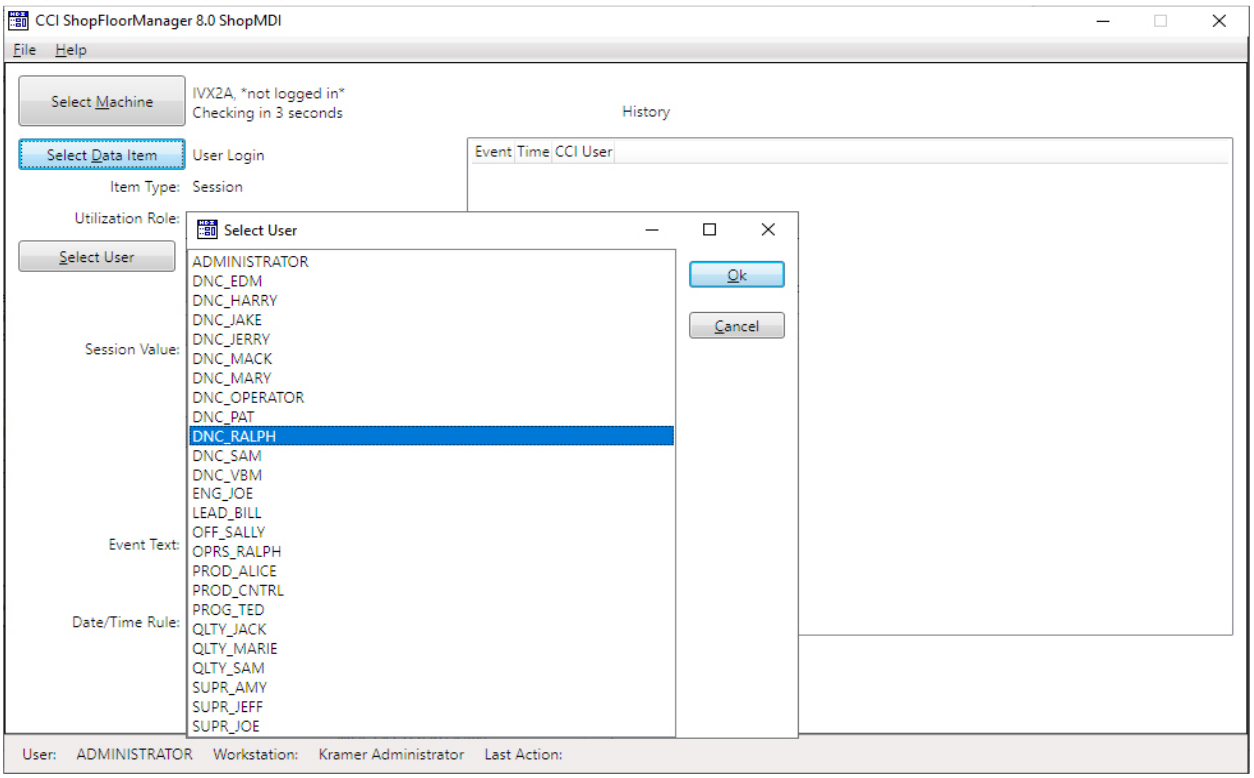
ShopMonitor ShopMDI (Machine IVX2A & Select Data Item User Login)



We are going to use one of the default Monitoring Program that allows us to login a User for a particular Machine Tool. We have clicked on the “Select Data Item” Button and list of available Monitoring Programs is displayed.

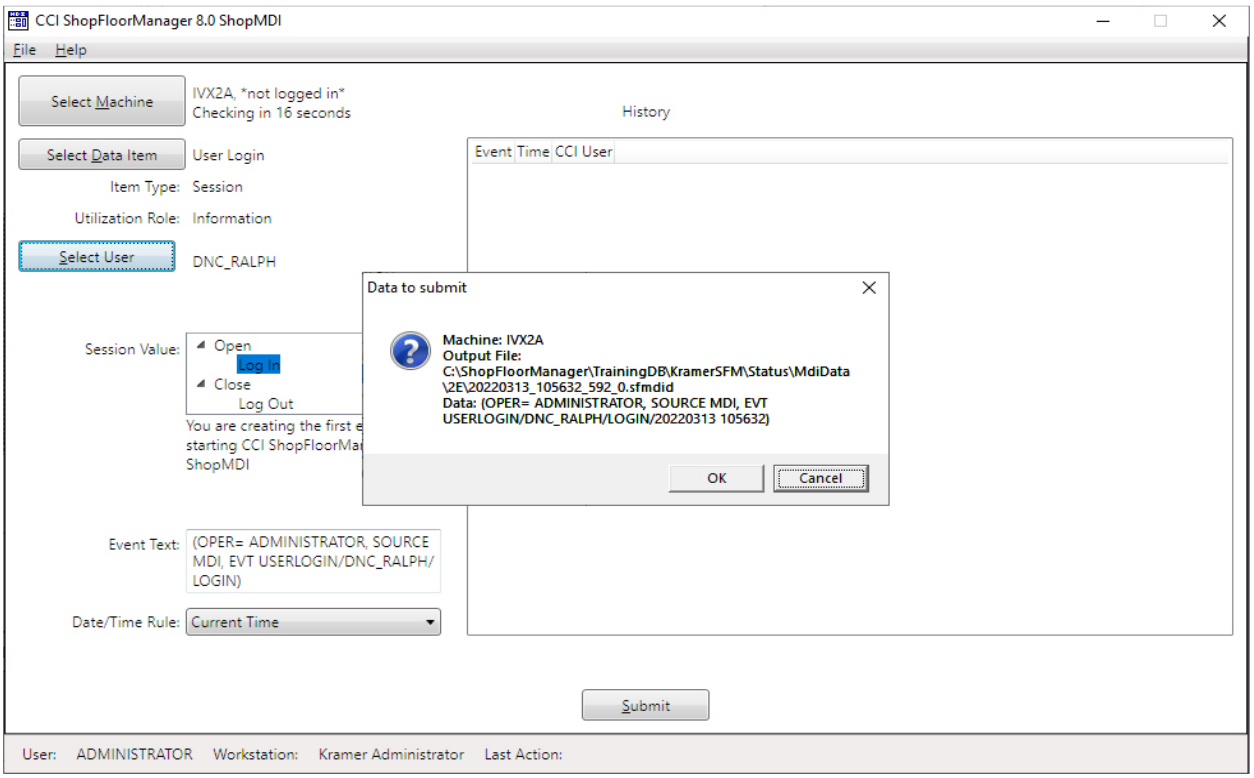
Select the User Login “Data Item” and click on the OK Button and the following Window will be displayed.

ShopMonitor ShopMDI (Machine IVX2A & Select Data Item User Login)



Now click the Select User Button and Select the User DNC_RALPH from the displayed list and click the OK Button and the following Window will be displayed.

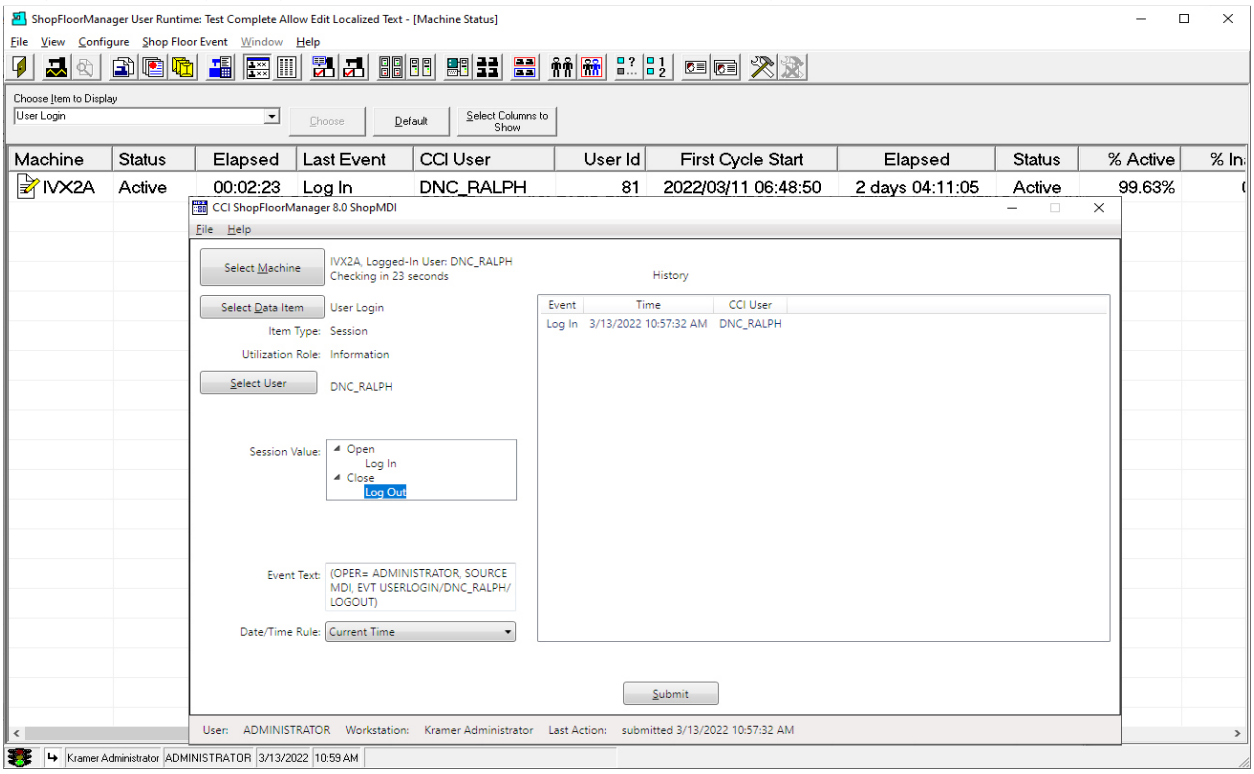
ShopMonitor ShopMDI (Machine IVX2A & Select Data Item User Login)



Now click on the “Data to Submit” Button to login the User DNC_RALPH.

Click on the OK button and the following Window is displayed.

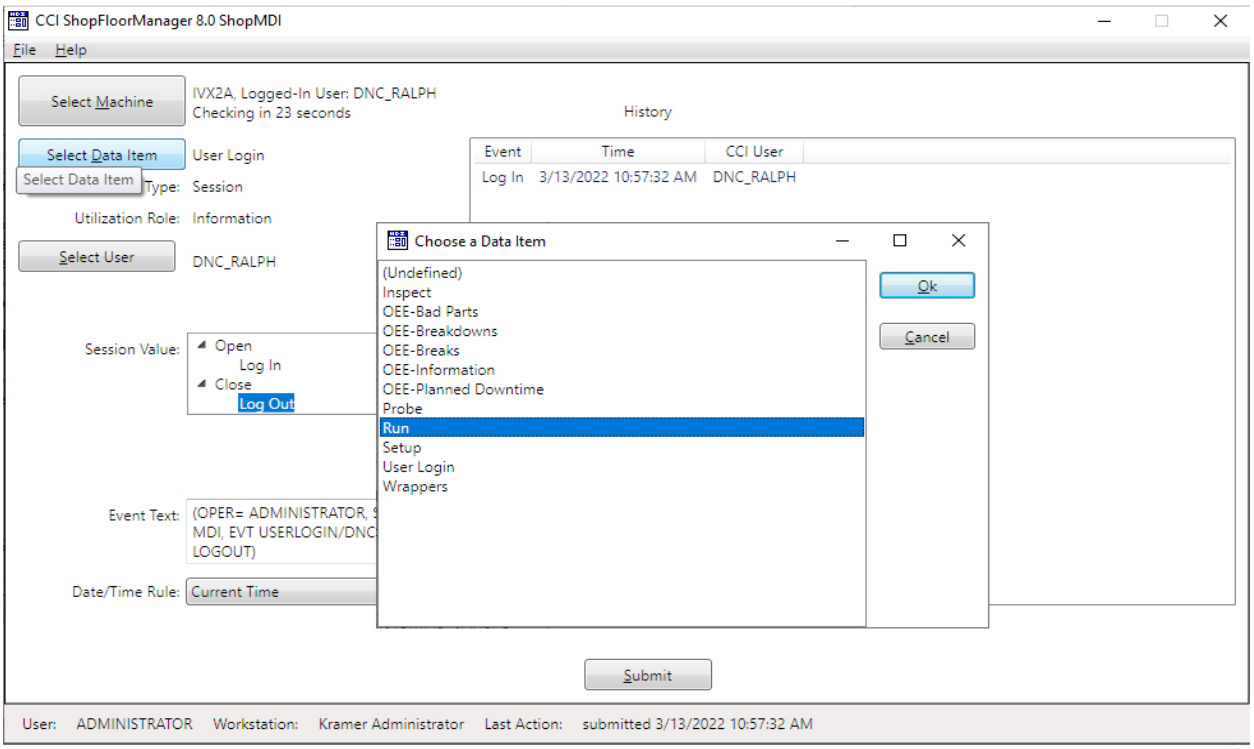
ShopMonitor ShopMDI (Machine IVX2A & Select Data Item User Login)



We have included the “Machine Status” Window displaying the “Data Item”(Monitoring Program) User Login that displays the login status of all configured to display machine tools for the Present Workstation.

The ShopMDI Window also displays this Event in its History Window.

ShopMonitor ShopMDI (Choose a Data Item - Run)

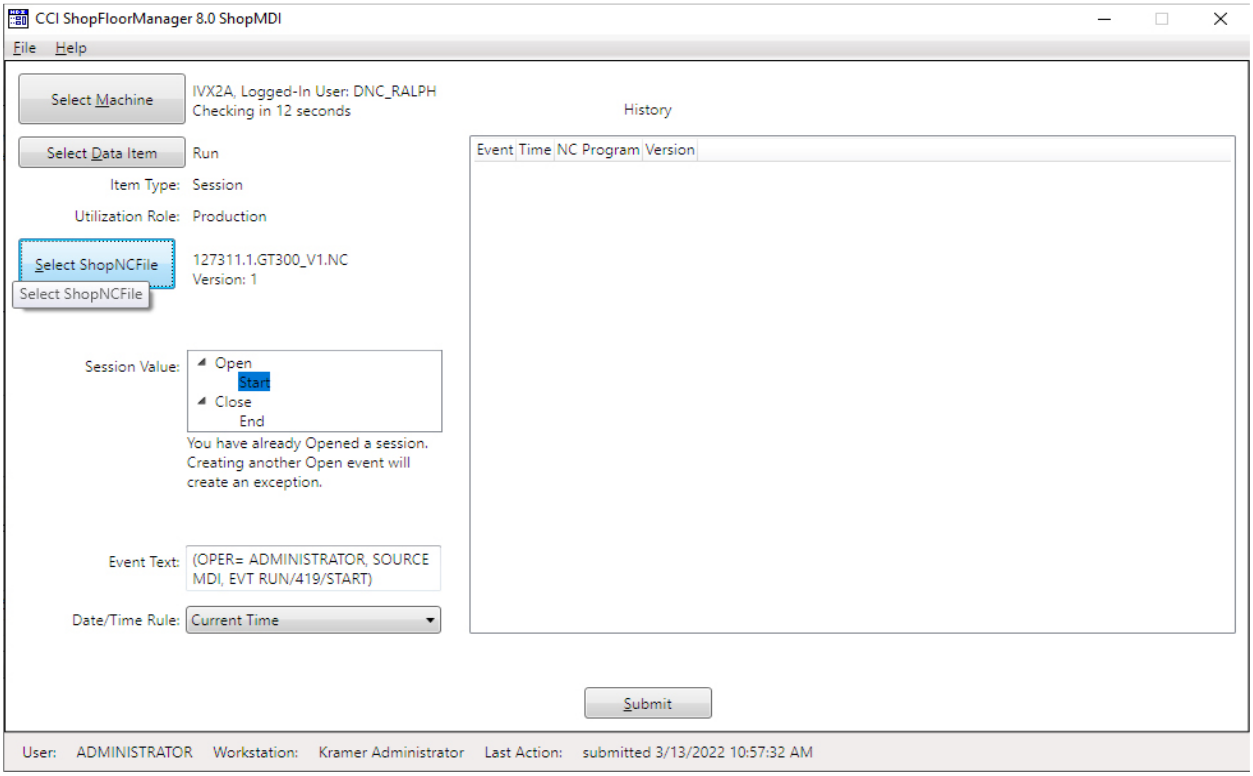


There are a few ShopMonitor Programs already create but our main focus for this demonstration will be the two Data Items (ShopMonitor Programs), Run & Planned Breaks.

Our main objective is to demonstrate the “Planned Breaks” program but before proceeding let’s investigate the default Monitoring Program “Run”. The use of Monitoring Program Run will give you an understanding on how ShopMDI operates.

Click on the OK Button and the following Window will be displayed.

ShopMonitor ShopMDI (Data Item Run)



When choosing the Data Item “Run” the only Events it can generate are: Start & End!

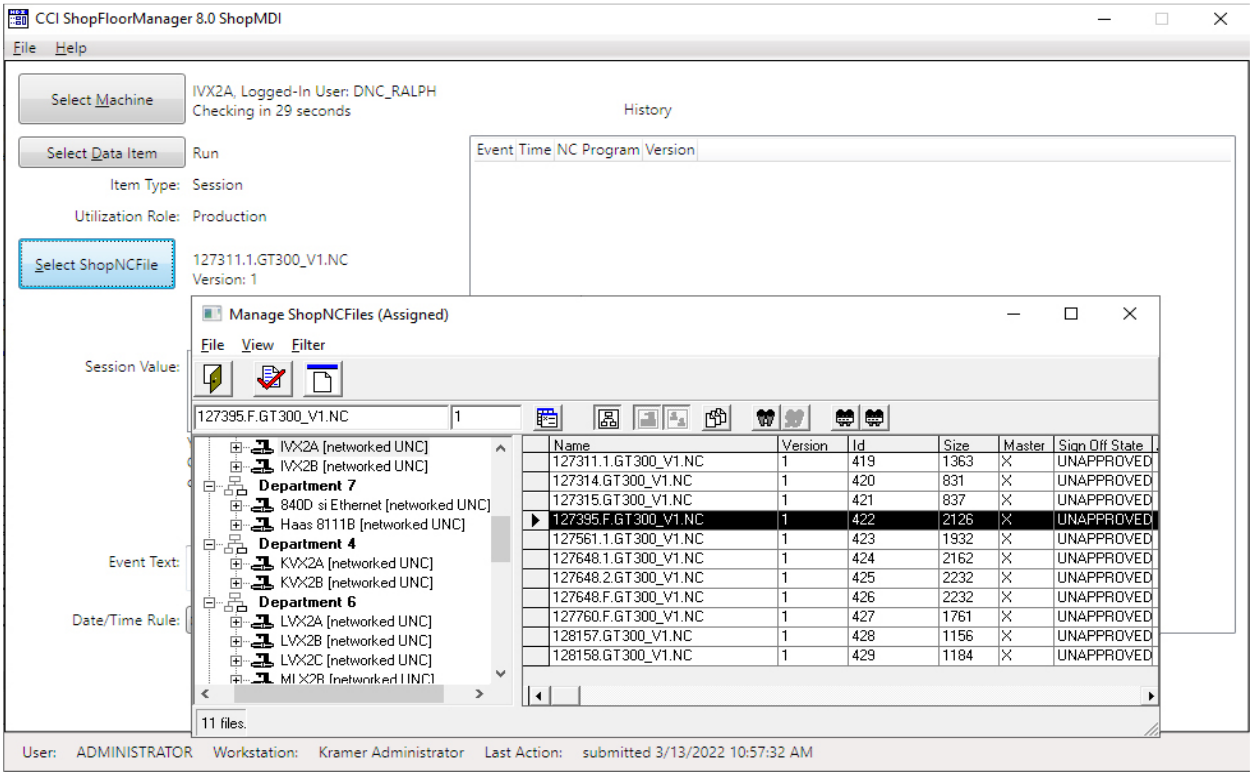
You will notice that under the Data Item: Run the Item Type: Session, & Utilization Role: Production are displayed.

See this link for more information on Sessions & Utilization Roles!

We need to select a specific ShopNCFile to associated with the Machine IVX2A to collect production events!

Click on the Select ShopNCFile Button in the following Window.

ShopMonitor ShopMDI (Manage ShopNCFile: Select ShopNCFile for MDI)

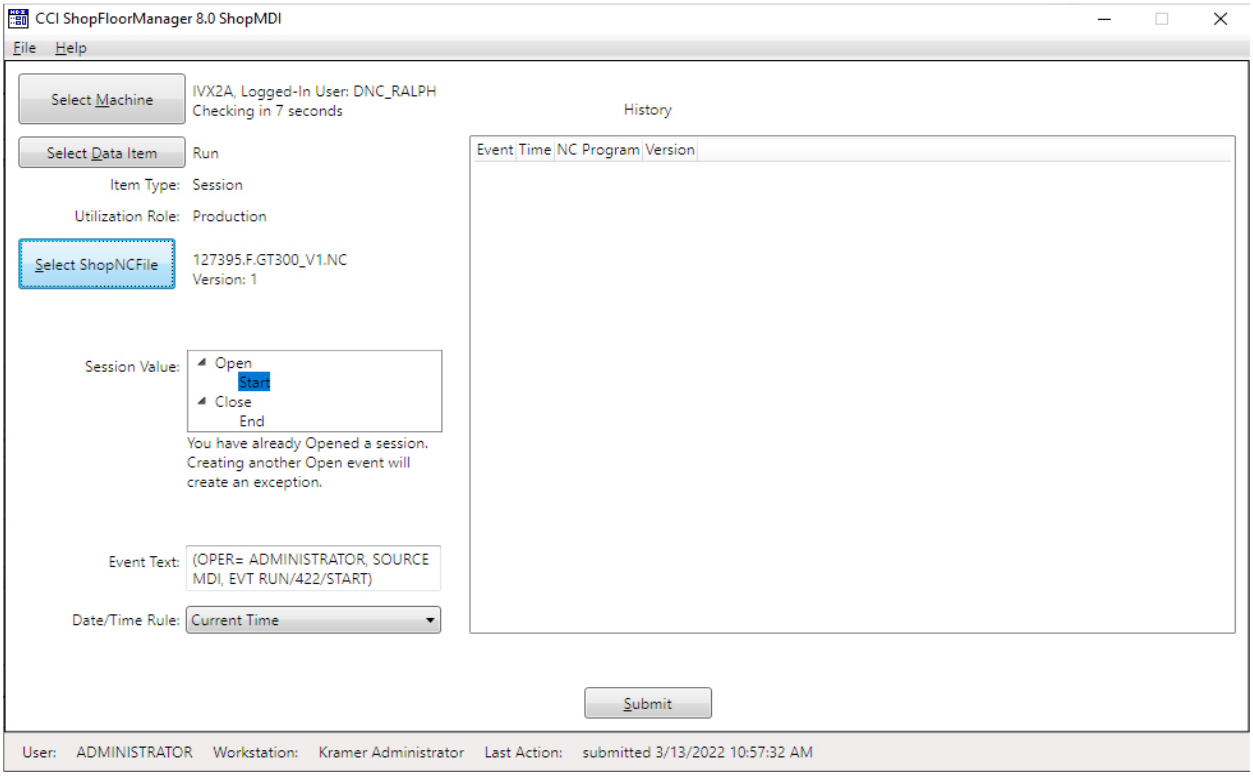


The displayed Form automatically chooses a list of ShopNCFiles specifically for the selected Machine.

We will choose the ShopNCFile 127395.F.GT300_V1.NC and click the Icon with the **Red Check** and the following Window will be displayed.

Note: The above view may be different than your view. For more information about configuring different views click on this link!

ShopMonitor ShopMDI (Machine IVX2A & File 127395.F.GT300_V1.NC)



ShopMDI has all of the information & data it needs to start a normal Run Session. If you haven't configured this App with a minimum required data set, you would not be able to submit any events to ShopFloorManager. I.E. The Submit Button would not be activated!

In general, ShopMDI would not be used to collect cycle Production information for Machines that Support DPRINTs but could be used on Manual Machines if the Cycle times are not too short.

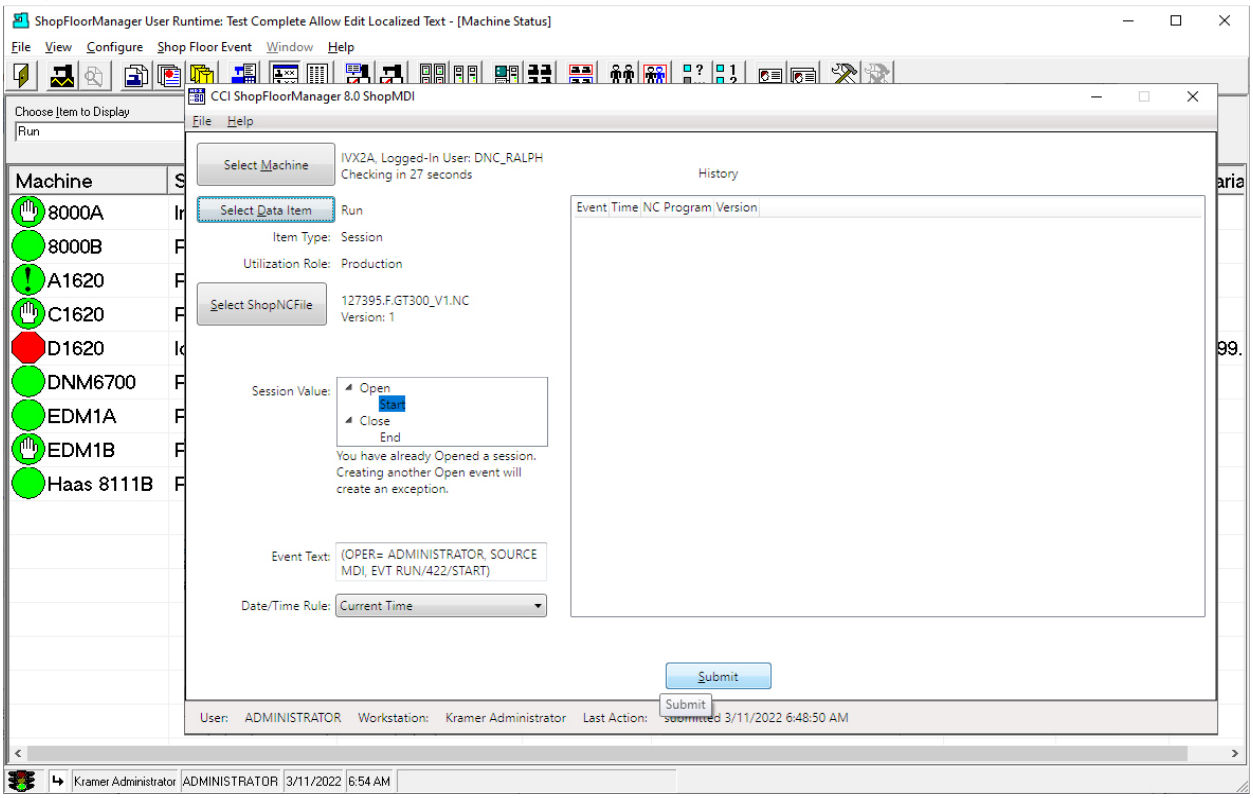
For example, if you were creating parts every few minutes using ShopMDI could be cumbersome on a Manual Machine but if you are producing parts every 20 minutes or so it would be practical! For another data entry program see: OEE-Controller based MDI!

For our demonstration we will use the ShopMDI to output the Events that are equivalent to the Events output by DPRNTs from macro-based machine tools.

Note: To display these Events on the "Machine Status" Window we need to activate the "Show Shop Floor Event Status" Window.

Let's display ShopMDI & the "Machine Status" Window together.

ShopMonitor ShopMDI (Machine Status Window)

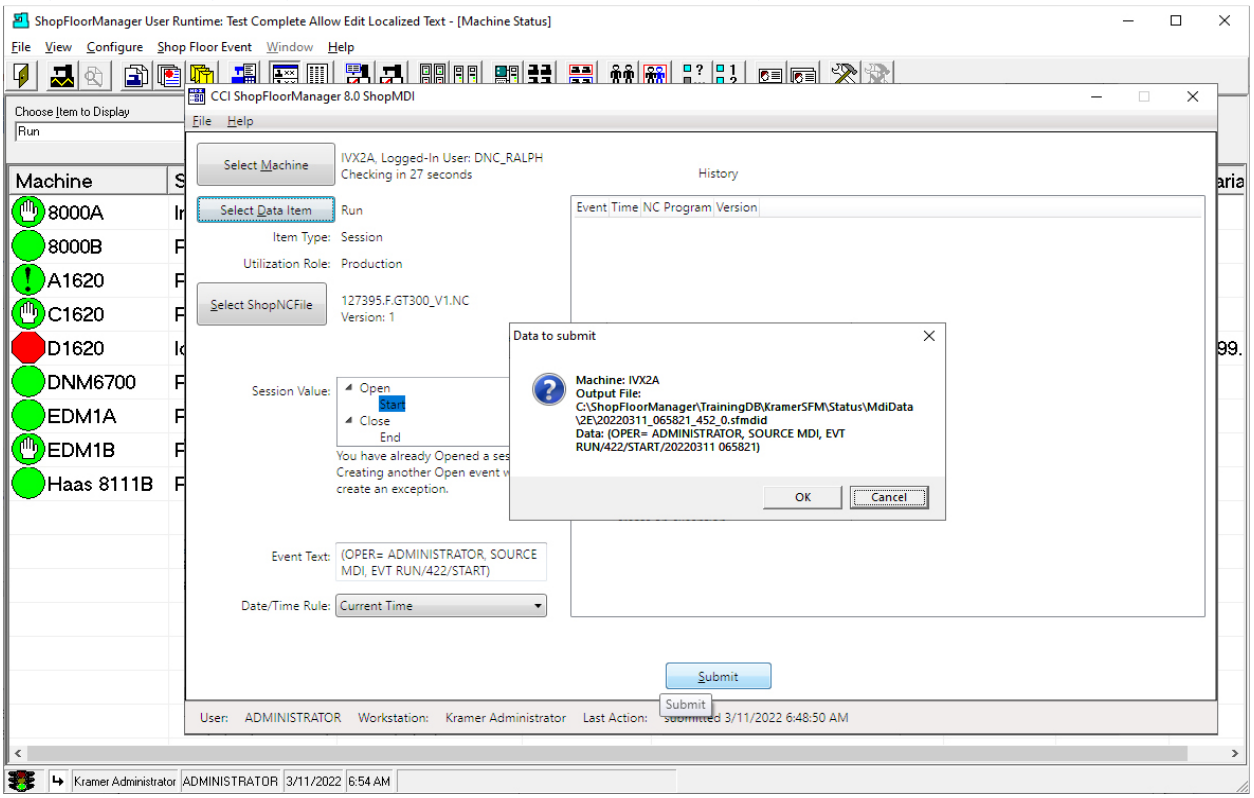


The Machine Status Window is displayed beneath the ShopMDI and is presently displaying various Icons indicating the different Production States of the Machines! See Machine Status for more information on Icon images and their meanings!

We will start by selecting the **Start** Icon in ShopMDI Session Value Window which is just below the Open Icon.

Click on the Submit Button and the following Window will be displayed.

ShopMonitor ShopMDI (Machine Status Window & MDI App Submit)



A “Data to submit” Form is displayed giving you a chance to submit or cancel. Click the OK Button to submit the “Event” to ShopMonitor.

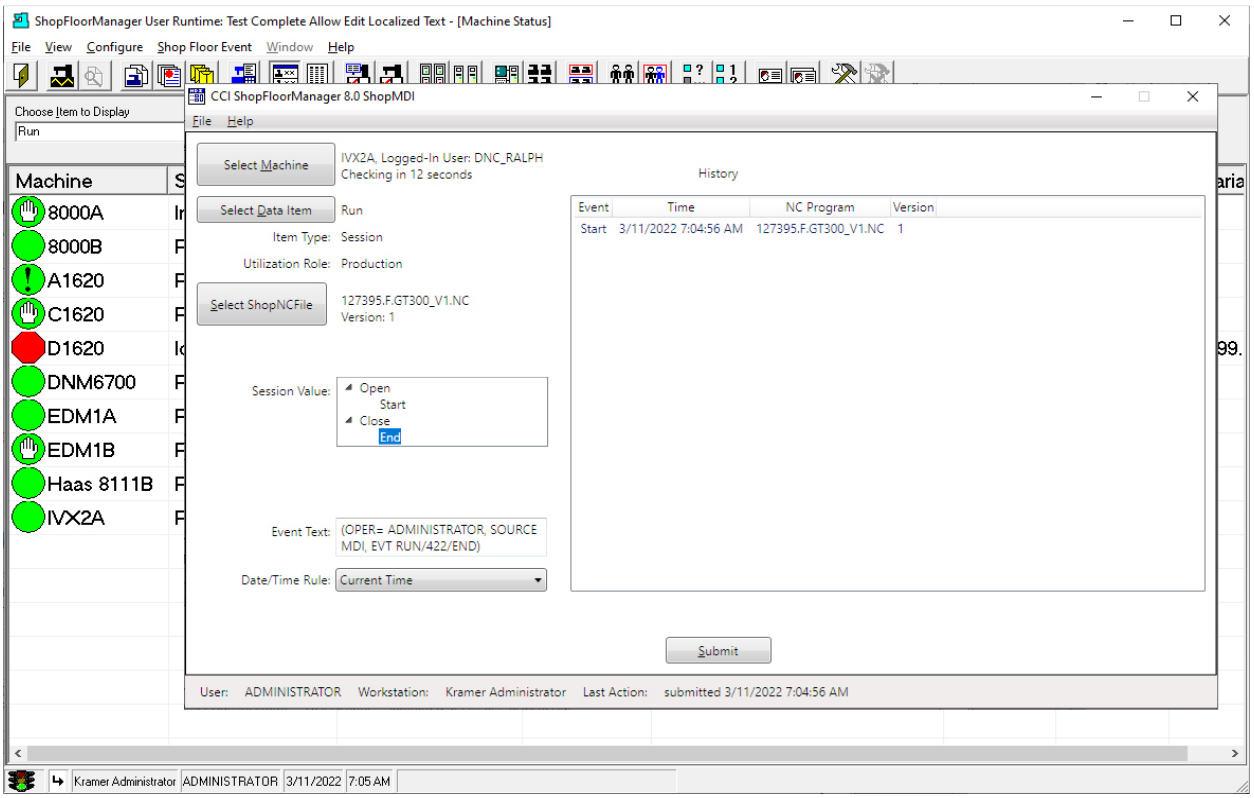
Event Structure: (OPER= ADMINISTRATOR, EVT RUN/422/START)

> **OPER= ADMINISTRATOR:** This tells ShopFloorManager the User of the ShopMDI
> **SOURCE MDI:** This tells ShopFloorManager where this Data Originated
> **EVT RUN:** This tells ShopFloorManager this is an Event & the Monitoring Program is “Run”
> **422:** This tells ShopFloorManager this is the unique ID of this ShopNCFile
> **START:** This tells ShopFloorManager the type of Event (Cycle start)

This is the Event a Machine Tool would output using DPRINTs possibly minus the “OPER= ADMINISTRATOR,” but including the Logged in User DNC_RALPH at Machine IVA2A.

Click the OK Button and the following Window is displayed!

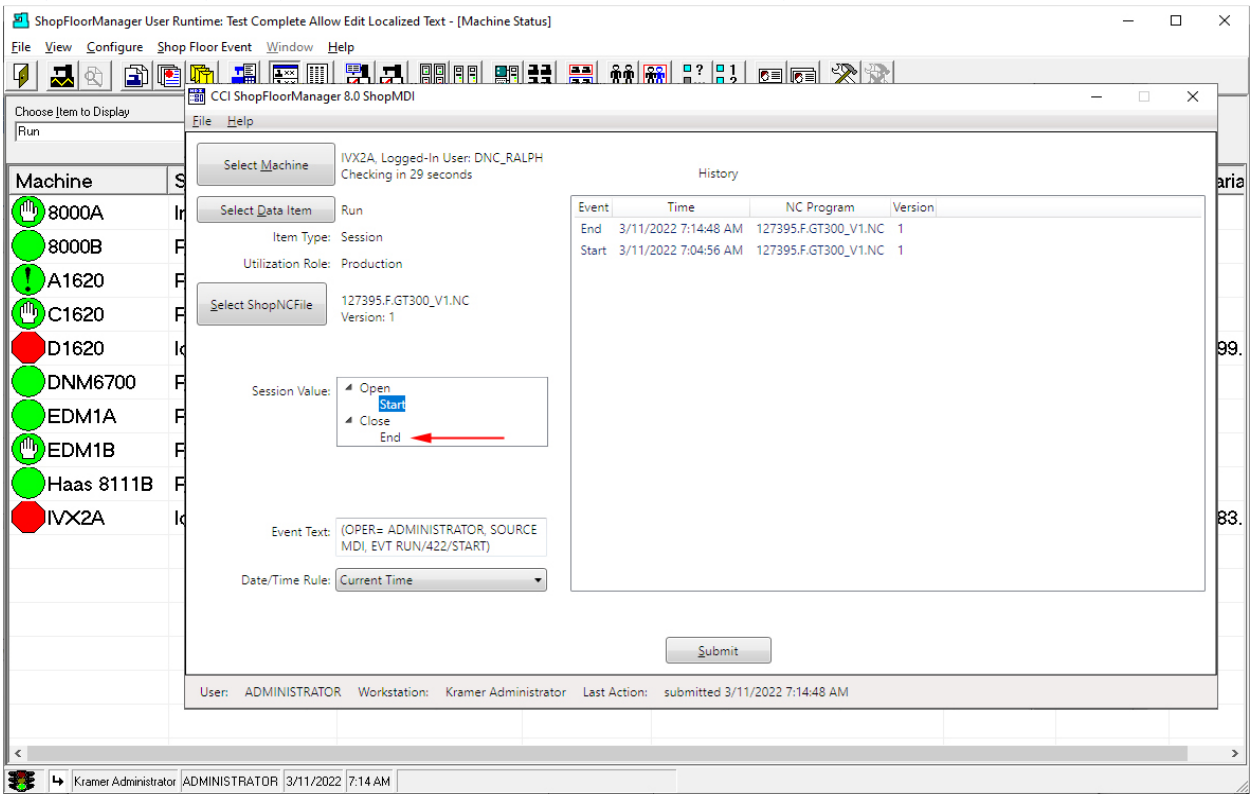
ShopMonitor ShopMDI (Machine Status Window IVX2A Running)



The “Machine Status” Window displays a **green circle** indicating the Machine IVX2A is in the Running State. If you look at the ShopMDI History Window, right-hand Pane, and compared it to the Machine Status Window you would see the same Event data that was submitted to ShopFloorManager!

Let’s finish the Run Cycle. See the next Page!

ShopMonitor ShopMDI (Machine Status Window IVX2A Cycle Complete)



Highlight the End Icon, **Red Arrow** above, and click the Submit Button and above ShopMDI is displayed!

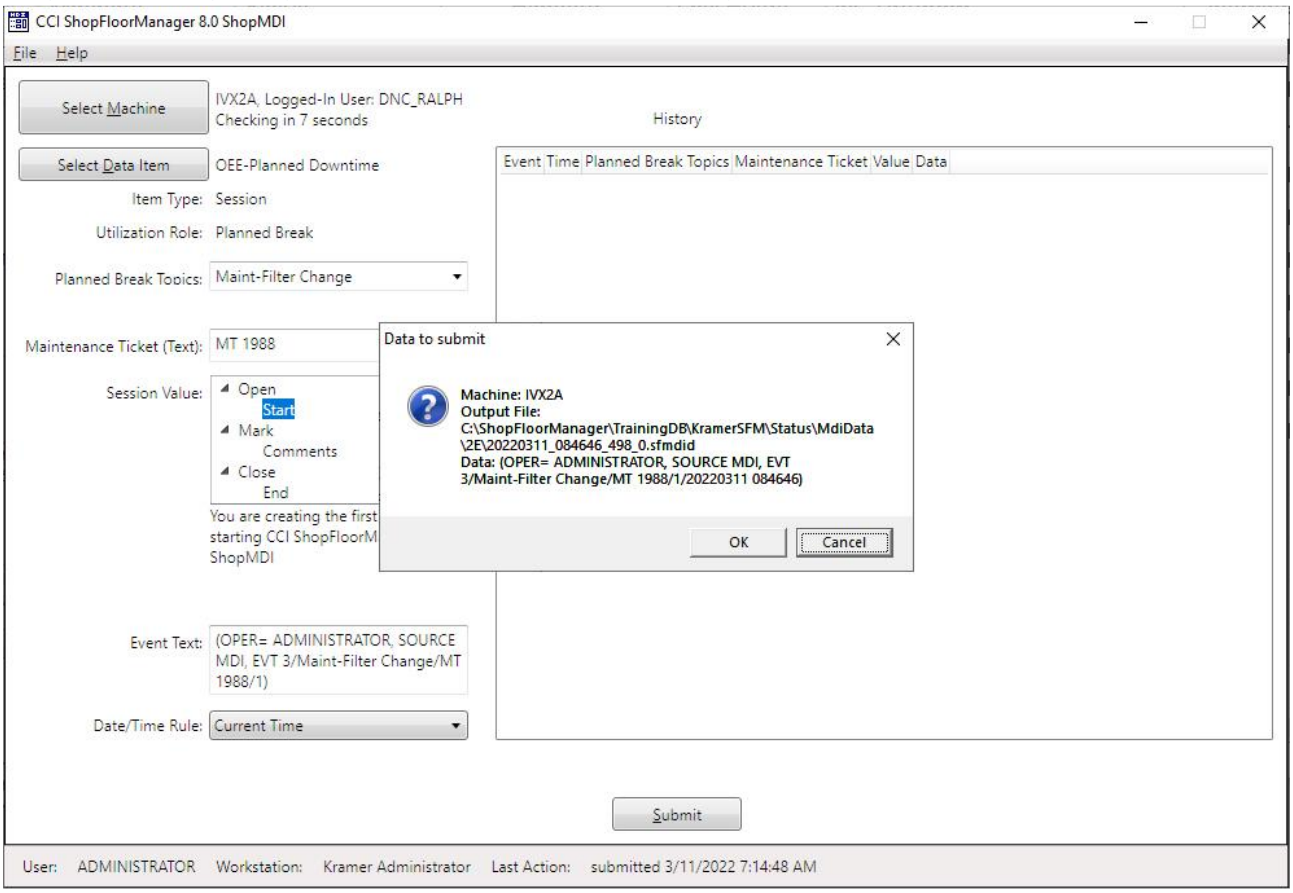
Notice that the Machine Status Window is displaying a **Red Hexagon** indicating the Machine IVX2A is not running and has completed a cycle.

You can see the last Event sent to ShopFloorManager in the ShopMDI History Window.

This brief side track should provide a feeling for what a ShopMonitor Program is & does!

Let's select the ShopMonitor Program Planned Breaks! See "Planned Production Break" for creating a Monitoring Program!

ShopMonitor ShopMDI (Machine IVX2A OEE-Planned Downtime)



We have configured the MDI program as follows.

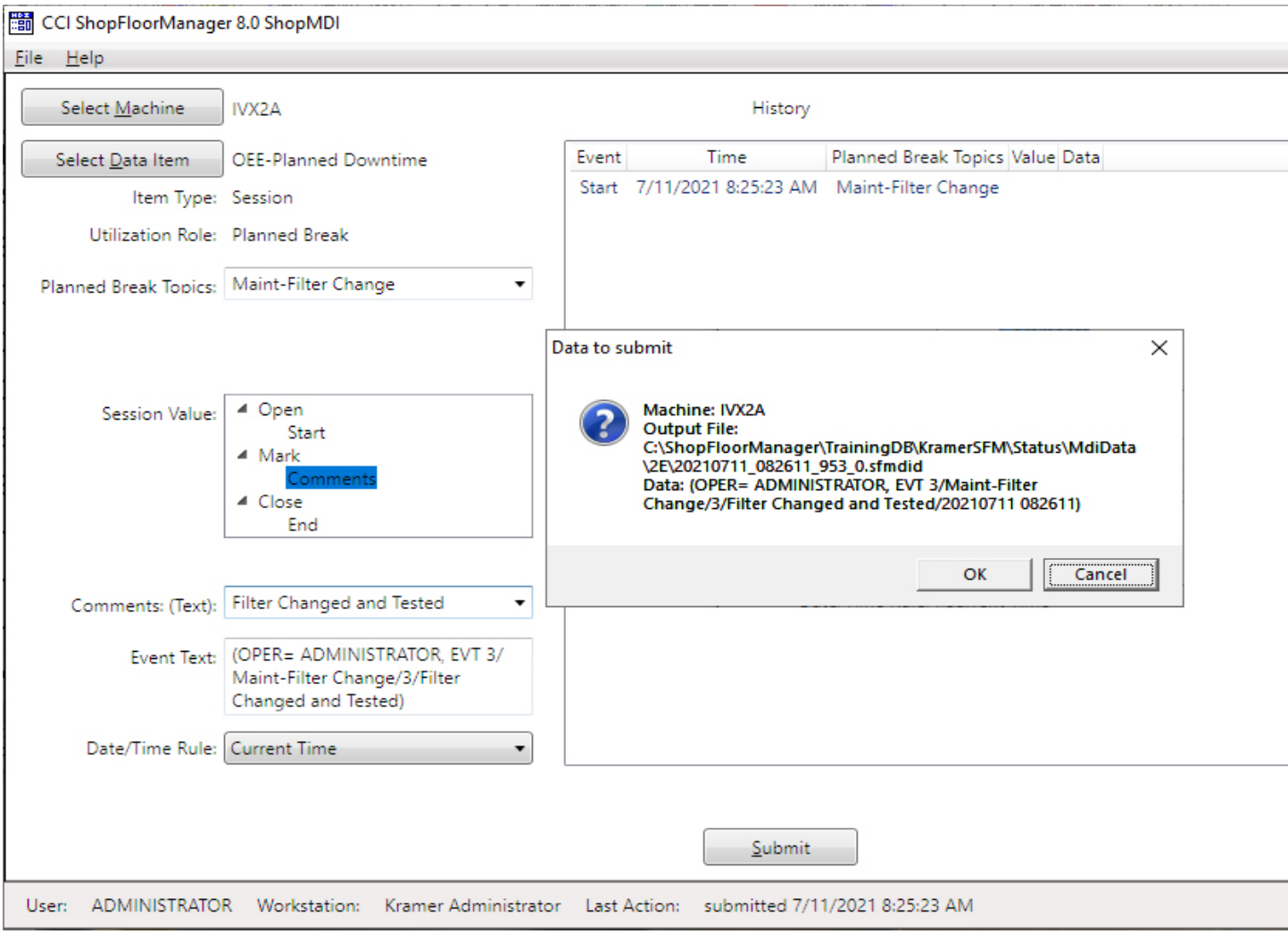
ShopMDI Configuration:

Clicked the "Select Machine" Button
Choose Machine: IVX2A
Clicked the "Select the Data Item" Button
Choose the: OEE-Planned Downtime Monitoring Program
Clicked the Drop-Down List Planned Break Topics
Choose the: Maint-Filter Change
Clicked the Drop-Down List Maintenance Ticket
Choose the: MT 1988

Click the Start Icon and the "Data to submit" Window is displayed. Click the OK button!

We will now start inputting data using the ShopMDI as would happen on the shopfloor. Once complete we will be showing ShopCharts & ShopReport, ShopReports & Machine Status Window visually displaying the effects of entering data into ShopMDI. Also look at OEE Controller base MDI for additional information on other data input methods!

ShopMonitor ShopMDI (Machine IVX2A OEE-Planned Downtime added Comment & Ready to Submit)

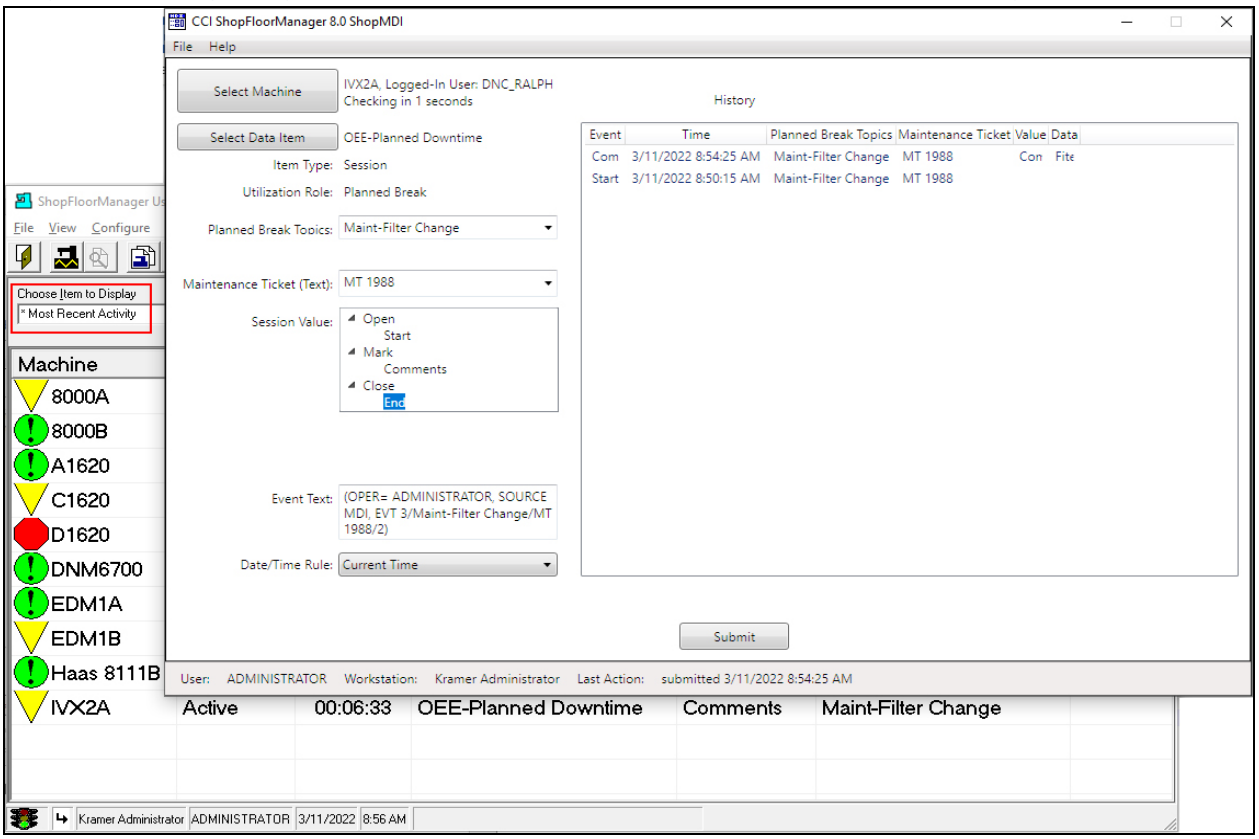


The Start Event details are displayed in the right-hand Pane!

Add the Comment “Filter Changed and Tested” to the Comments Text Area and submitted it to ShopMonitor.

Note: The Comment Icon should be automatically highlighted but if it is not, click & highlight!

ShopMonitor ShopMDI (Machine Status OEE-Planned Downtime End Event Ready to Submit)



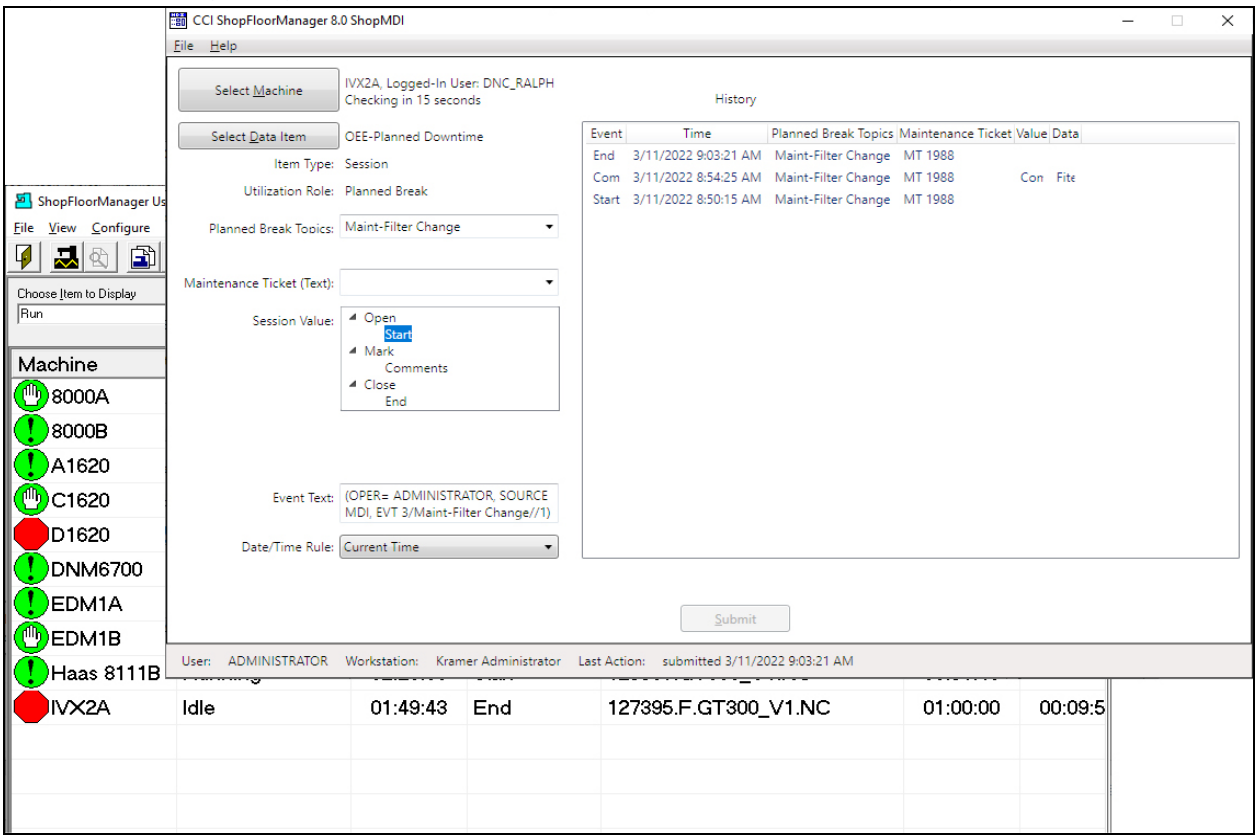
We have overlapped the two Windows to better illustrate using ShopMDI for collecting & submitting non-Production Information!

You will notice that the Machine Status Window has added a Yellow Triangle (Signifies non-Production Event) with the name of the Monitoring Program being used! We choose the Item to Display to be "*** Most Recent Activity**"! See the **red rectangle** above and Note below.

Note: In the above ShopMDI App, we have completed using this Monitoring program and are ready to end this, Session. We will now highlight the End Icon and click the Submit Button and the following OK Button! This will end the Monitoring Session!

See the following Window which is displayed after submitting this Event!

ShopMonitor ShopMDI (Machine Status OEE-Planned Downtime End Event Submitted)



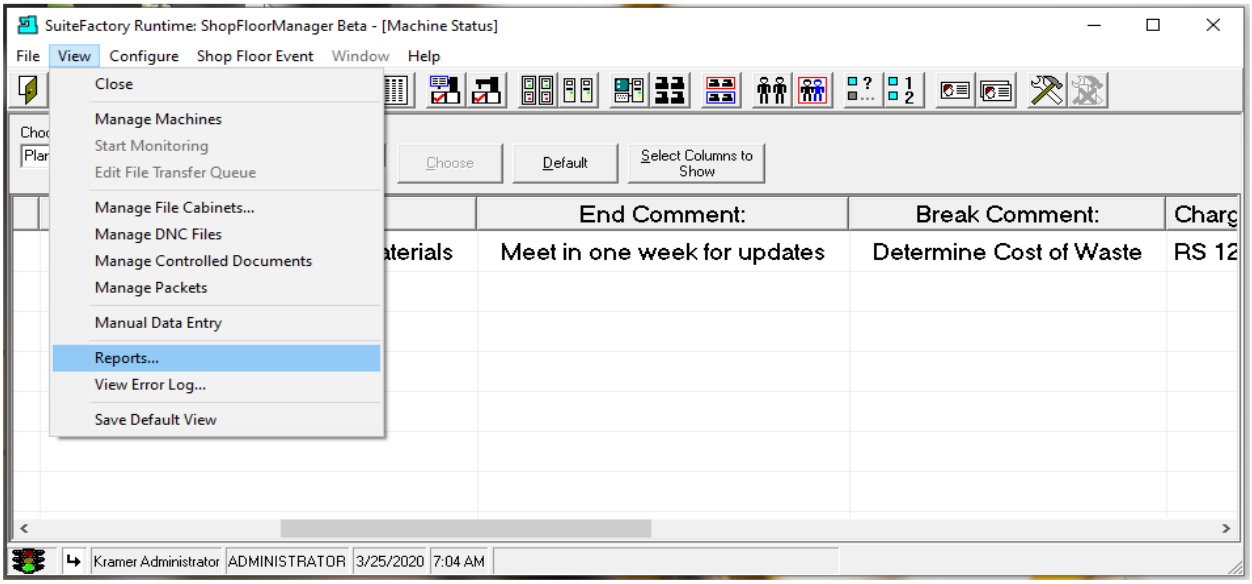
As you can see in the History Window the End Event has been submitted which ends this, Session.

After making this selection the Machine Status Window, Window behind the ShopMDI, displays the IVX2A as Idle indicating the last Monitoring Program is complete.

Now let's investigate how ShopCharts & ShopReports _ShopCharts_and_Supporting provide more Real-Time information to help find production bottle necks and improve shop Quality, Efficiencies, Performance & OEE Goals!

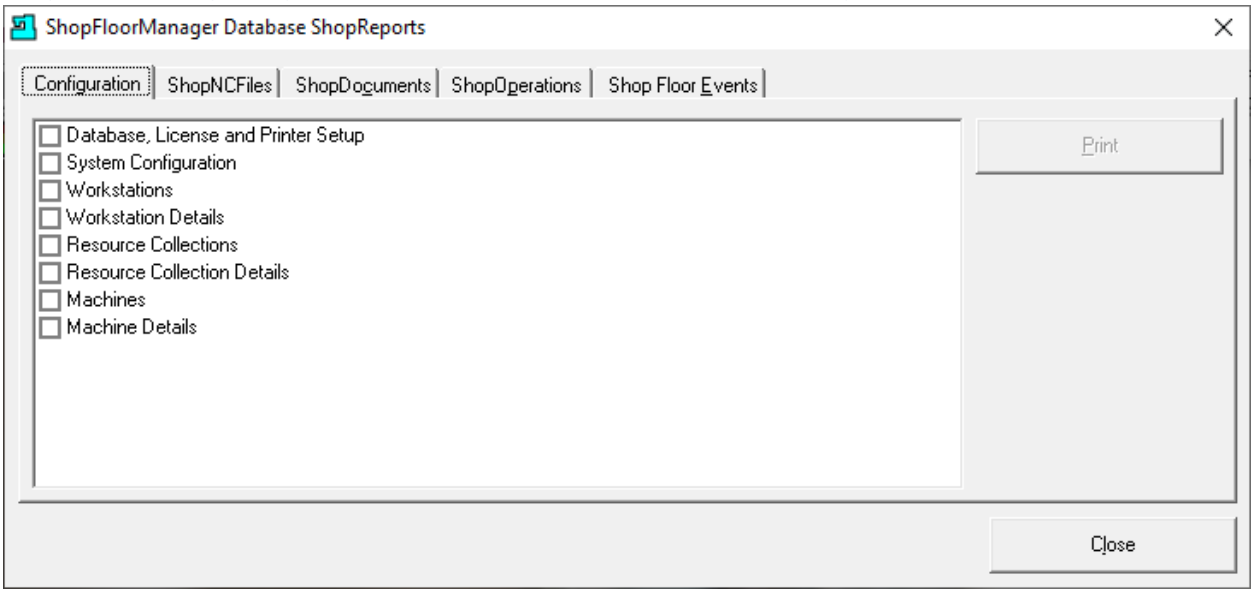
Note: We will be displaying various ShopCharts & ShopReports to display the results of using ShopMDI, OEE Controller base MDI, Machine Monitoring using DPRNTs and or a combination of all of these!

ShopMonitor ShopMDI (Machine Status Windows: View – Shop Floor Events)



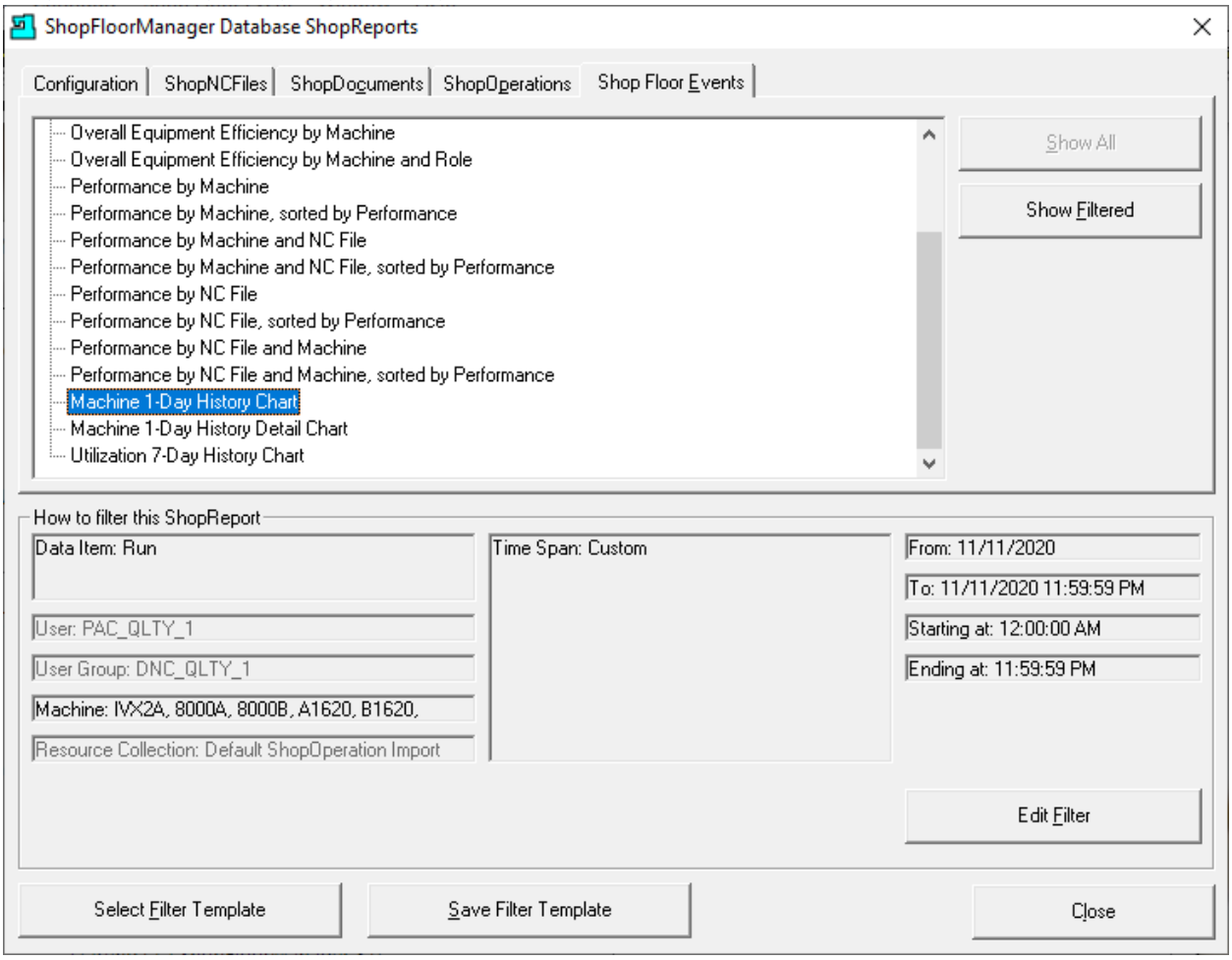
To investigate ShopCharts & ShopReport_ShopCharts_and_Supporting click on the View menu and then on the ShopReports… menu and the following Window is displayed.

ShopMonitor ShopMDI (Machine Status Windows: View – Shop Floor Events)



Click on the “Shop Floor Events” Tab and the following Window is displayed!

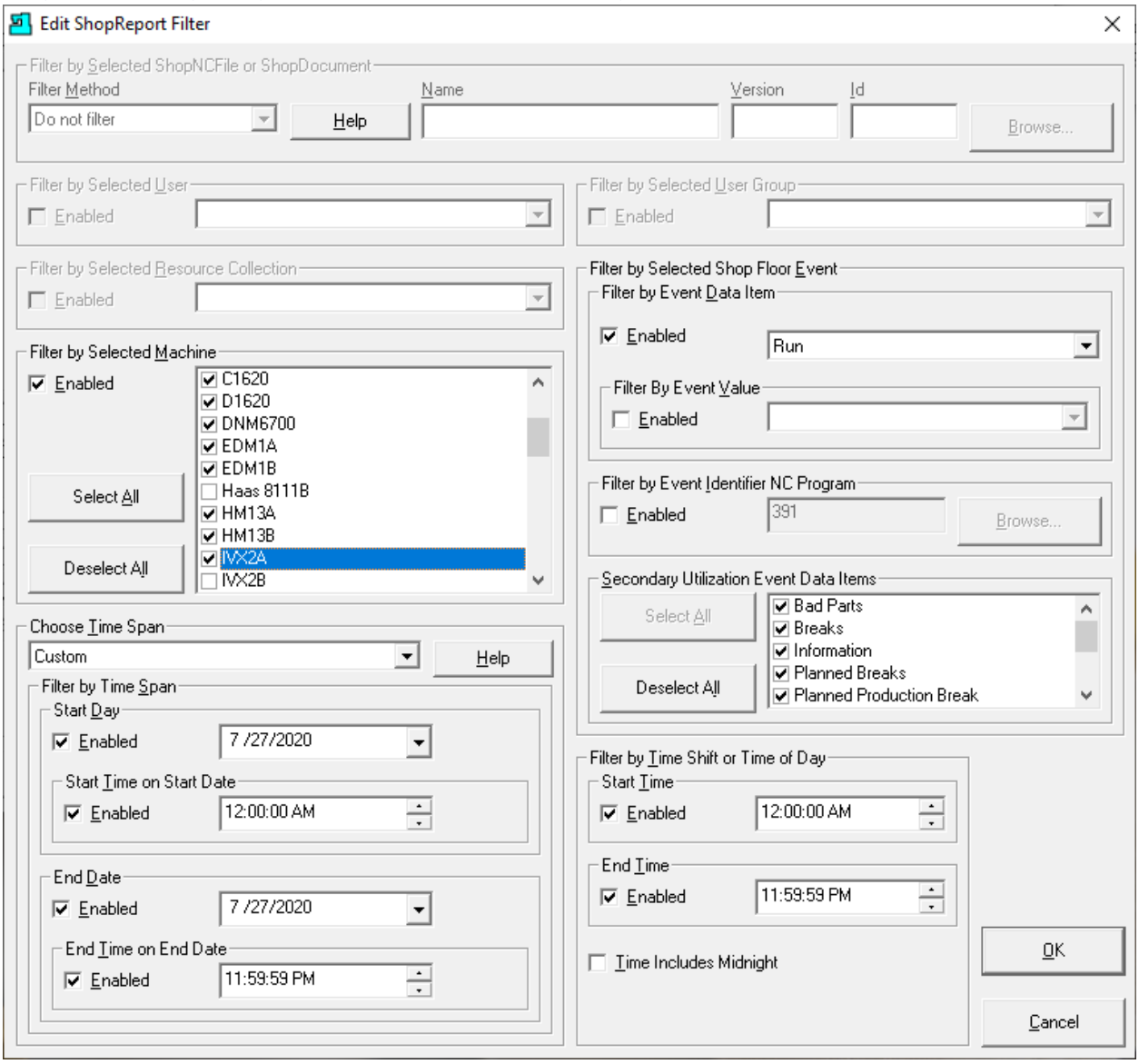
ShopMonitor ShopMDI (ShopMonitor)



Before we can choose a ShopChart or ShopReport we need to configure the ShopReport Filter!

Click on the Edit Filter Button and the follow Window is displayed.

ShopMonitor ShopMDI (Edit Filter: Machines IVX2A & Others)



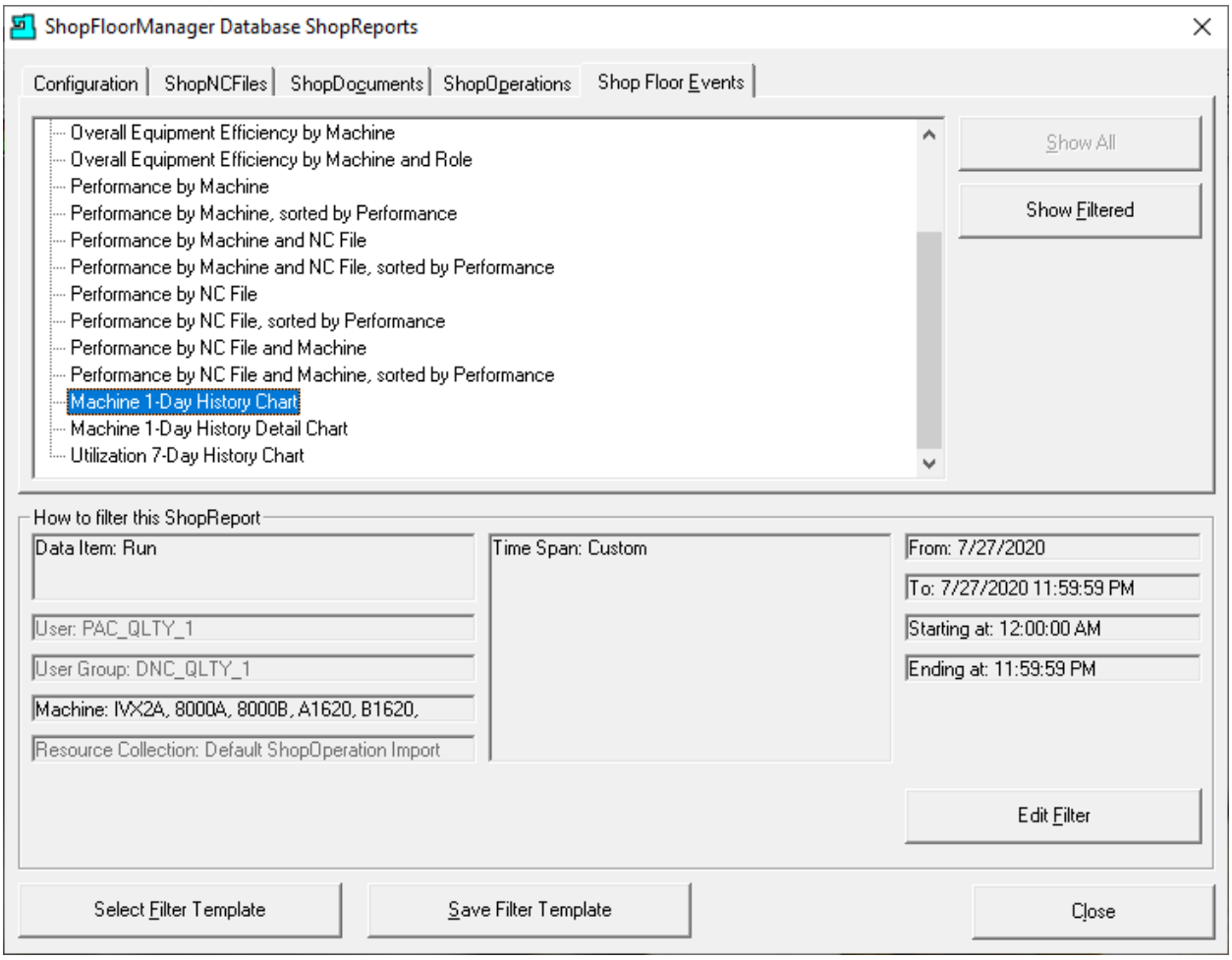
We have selected 13 Machines including IVX2A. We want to investigate how the associated Monitoring Programs (See those selected in Secondary Until…) relate to the various ShopCharts & ShopReport.

See the configured Dates/Times we are investigating.

Click the OK Button and the following Window will be displayed.

Note: Look at the section on the ShopReport Filter for more information!

ShopMonitor ShopMDI (Database ShopReports: Chart – 1-Day History Chart)



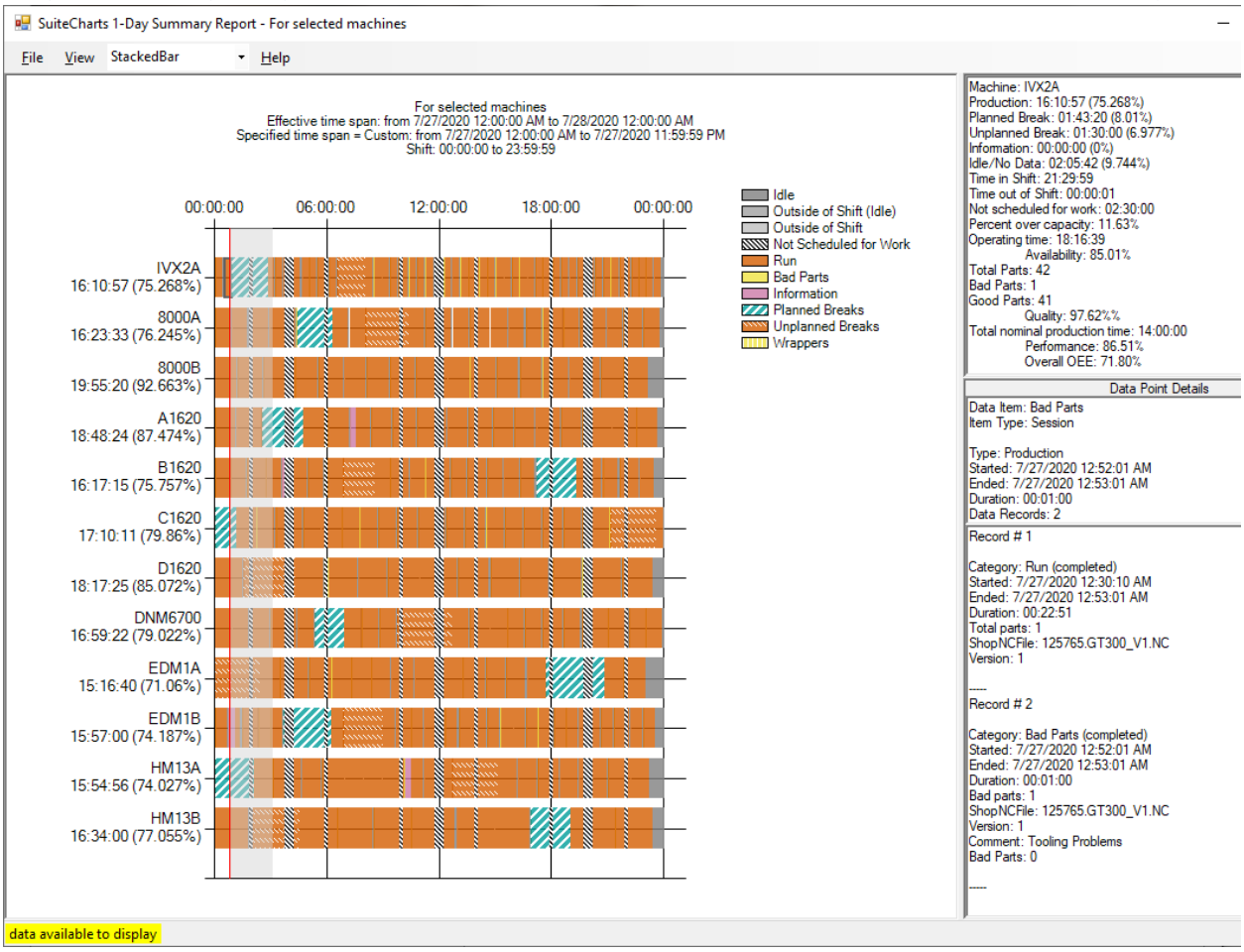
The Shop Floor Events Report Form has been updated to reflect the changes made!

Highlight the “Machine 1-Day History Chart” and click on the “Show Filtered” Button and the following Window is displayed!

This ShopChart will display all of the Machine Tools configured for this Workstation and will include their present production Status!

Note: You should limit number of Machines to no more than 20. You can open several ShopCharts & ShopReport with different Machines as needed. If you enter more than 20 Machines/ShopChart all of the data may not will be displayed properly!

ShopMonitor ShopMDI (Database ShopReports: Chart – 1-Day History Chart for Machines IVX2A & Others)



To zoom in on the above ShopChart hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

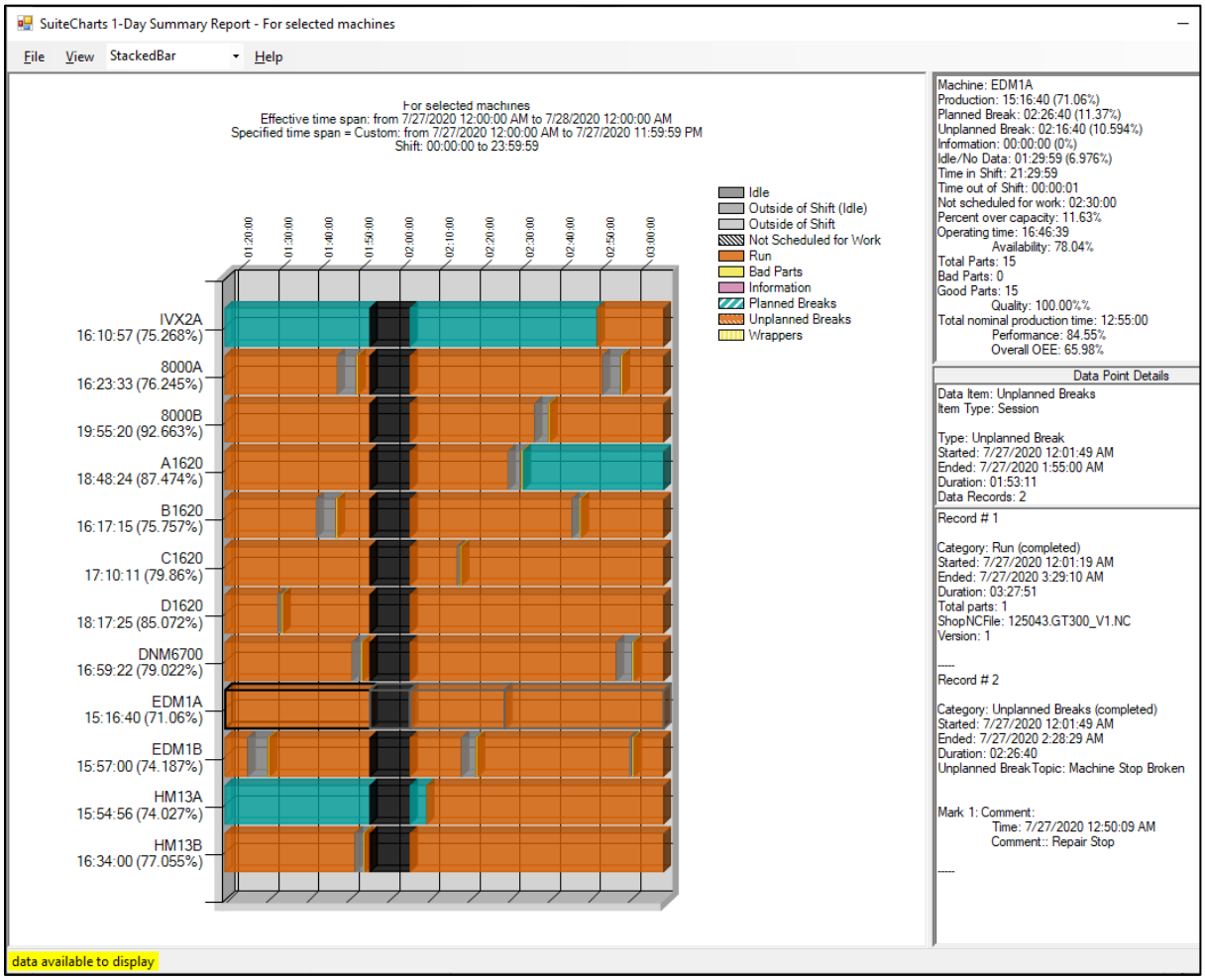
As you can see, we have assigned 13 Machines to this Workstations! When you click on any event that particular Machine's Quality, Efficiency, Effectiveness, Performance & OEE calculations are displayed in the right-hand three Panes!

To get a better view, ShopCharts & ShopReport allows you Zoom in anywhere on the Chart to see Event details.

To Zoom in you click on the Chart at any start time and drag the mouse to any end time, release and the Chart redisplays to the desired Zoom!

We will Zoom in from Approximately 12:30 AM to 3:30 AM and the following update Chart is Displayed.

ShopMonitor ShopMDI (Chart – 1-Day History Chart for Machines EDM1A & Others Zoomed & 3D)



This is the Zoomed in Chart which has also been set to display the Events in 3D.

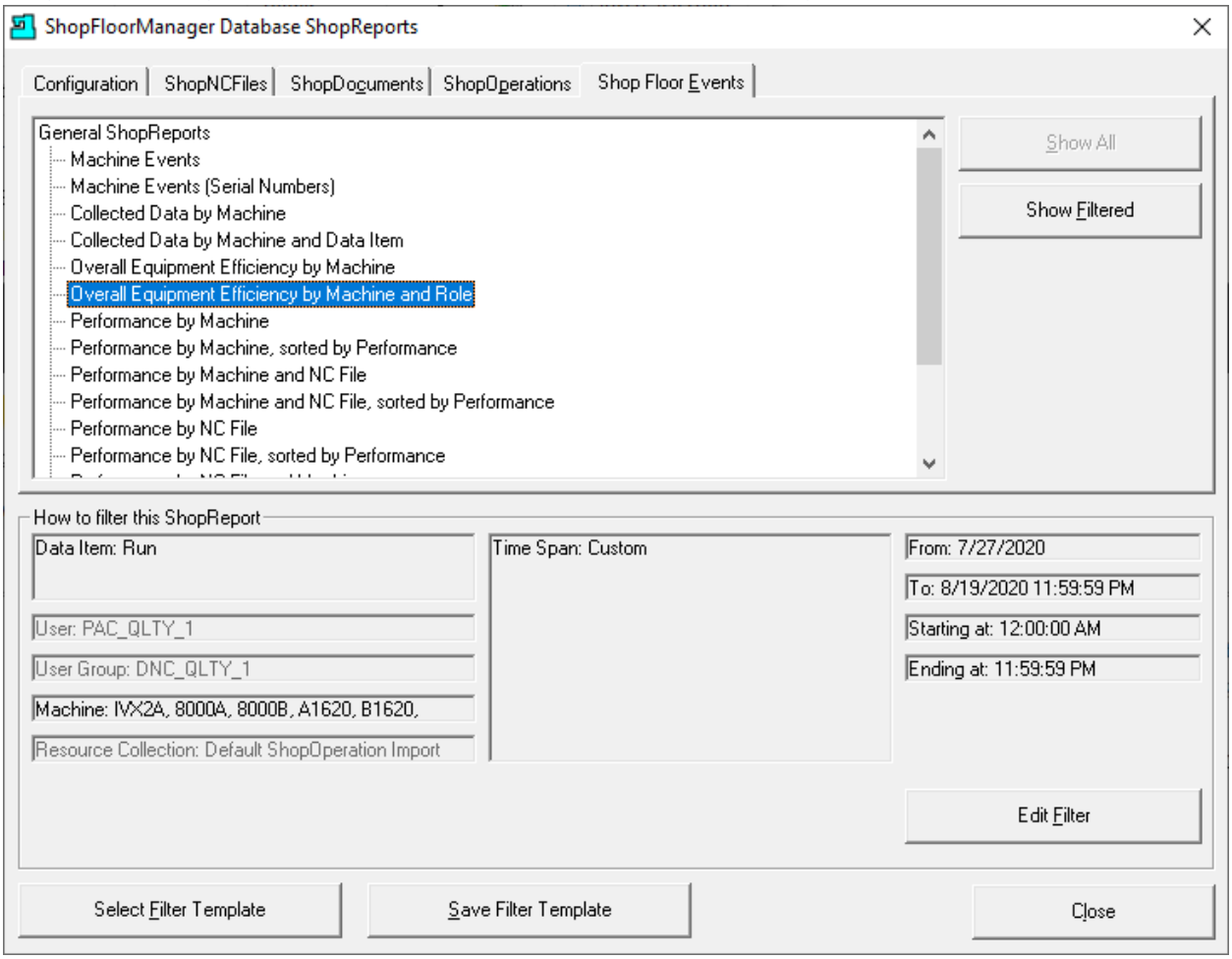
We have clicked on the orange patterned section on Machine EDM1A (Unplanned Breaks) displaying the Event details in the right-hand Window.

These Windows display all the details you need to know to determine the quality, efficiency, effectiveness, performance & OEE calculations for your Machine Tools and indicate unproductive assets and their excess times!

Let’s look at a report that displays the various Events in the instanced “Unplanned Breaks” program for the Machine IVX2A.

Return to the ShopFloorManager Database ShopReports Window.

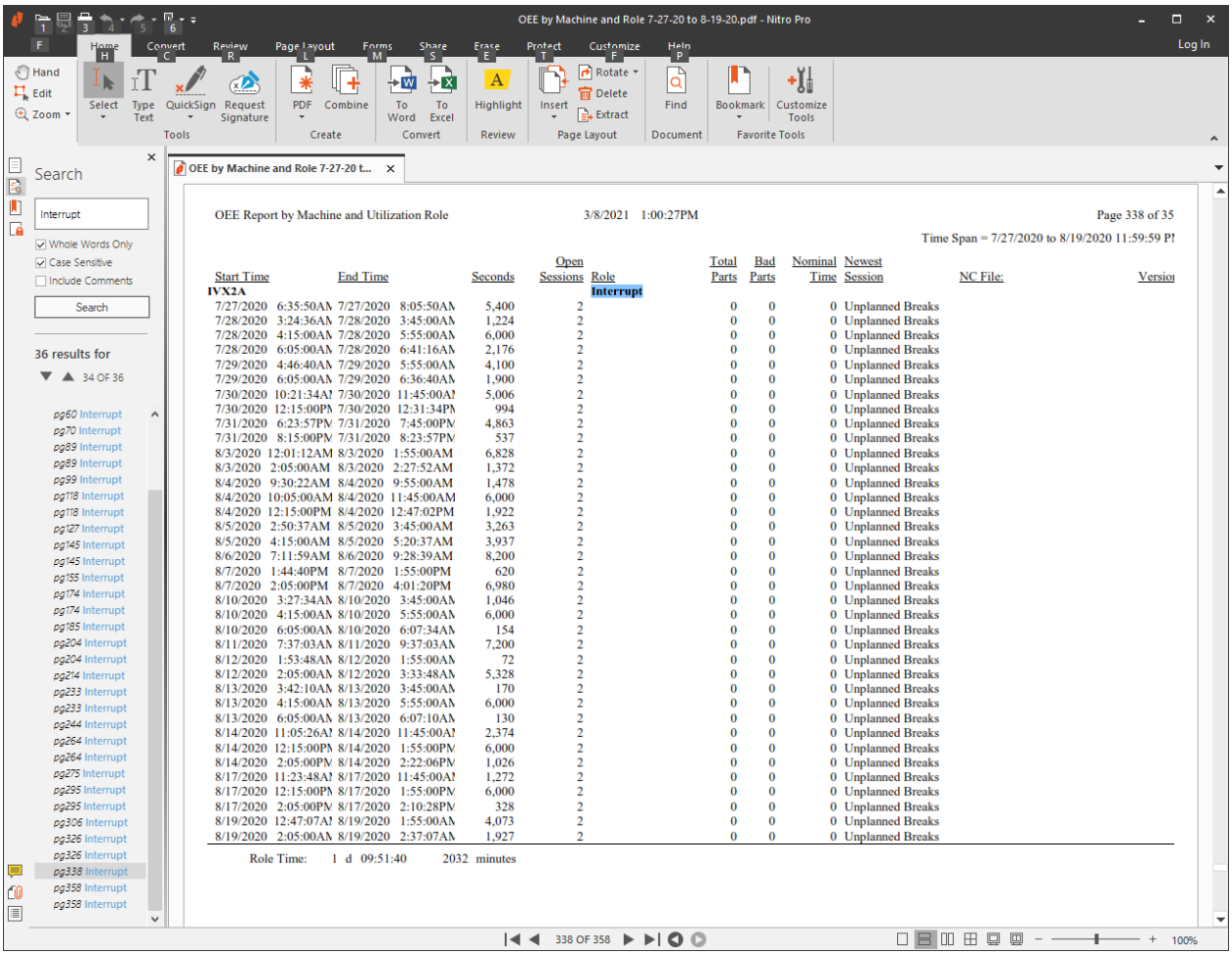
ShopMonitor ShopMDI (Database ShopReports: OEE by Machine and Role)



We have kept all of the previous settings with the exception of the dates. We are generating the ShopReport from 7/27/2020 to 8/19/2020! Click on the “OEE by Machine and Role” and the following Window will be displayed after processing. Processing may take a few minutes depending on the timeframe and number of machines chosen!

Note: See “ShopReports: Convert to PDF” for converting a generated ShopReport to a PDF!

ShopMonitor ShopMDI (OEE by Machine and Role)



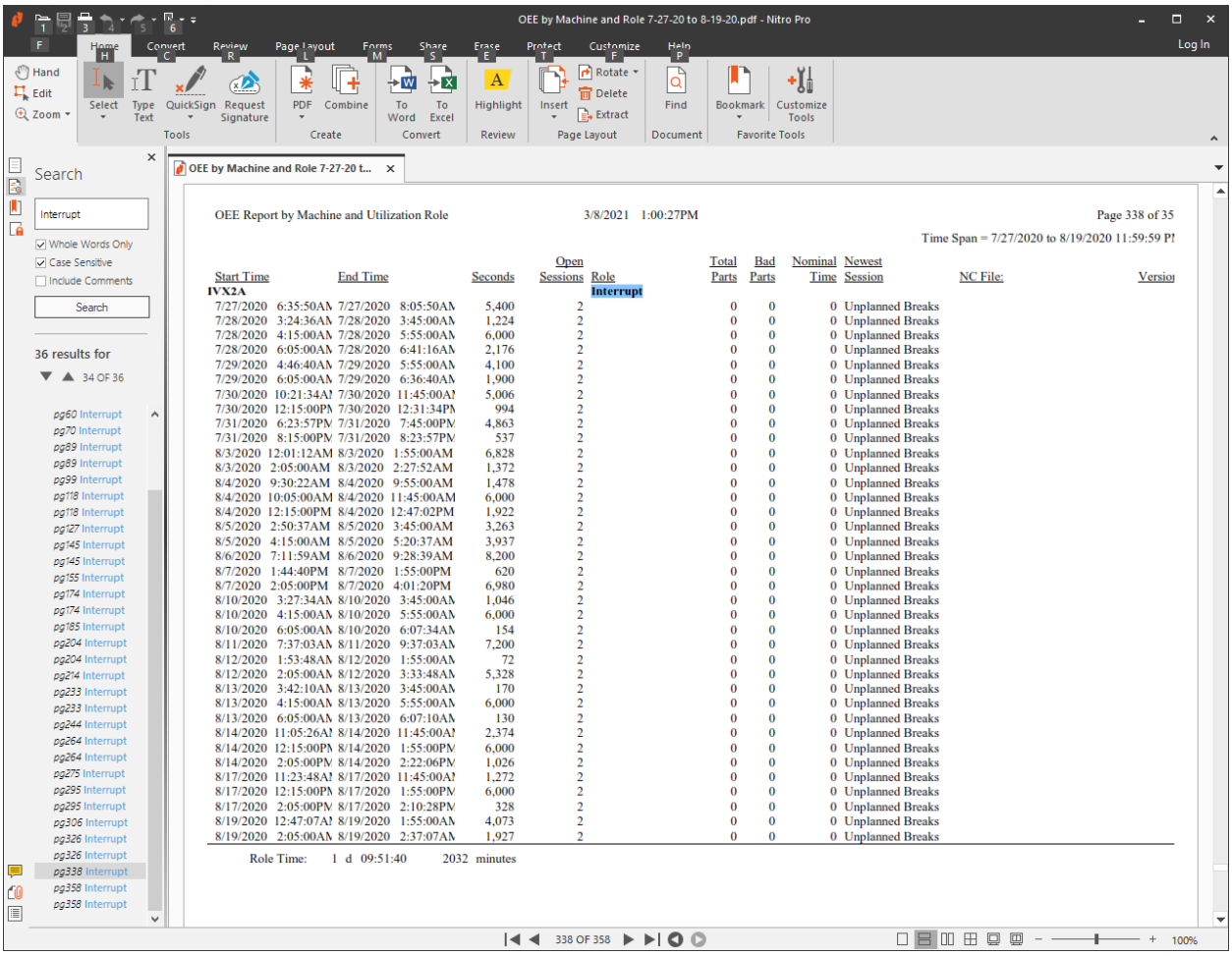
To zoom in on the Report above hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

The above ShopReport was converted to a PDF format. This allows for searching for key terms that you can enter.

We entered the key word Interrupt (unplanned breaks) and choose the options: Case Sensitive & Whole Words Only! We then clicked on the Search Button, and you can see a list of links that were generated and list in the left-hand side!

Clicking on the third & second from the last of the links displays the following!

ShopMonitor ShopMDI (OEE by Machine and Role Cont.)

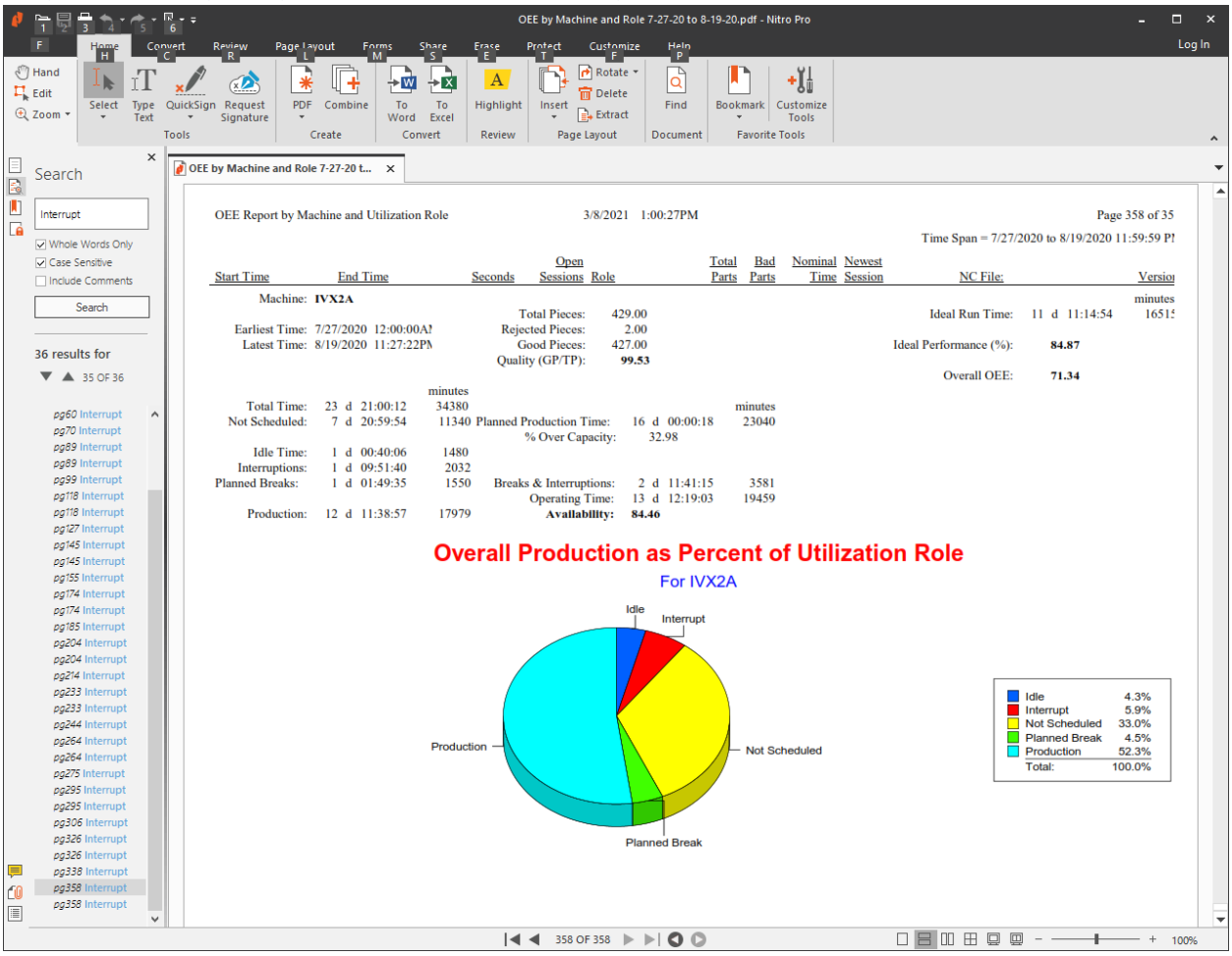


To zoom in on the Report above hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

These are all of the unplanned breaks with complete details for your analysis! You can use the Mouse Wheel to move forward or backward thru the report to find what you are looking for or if you have the details place them in the Search Text Box and Search!

We will click on the second from last link to see the OEE Report for the Machine IVX2A!

ShopMonitor ShopMDI (OEE by Machine and Role Cont.)



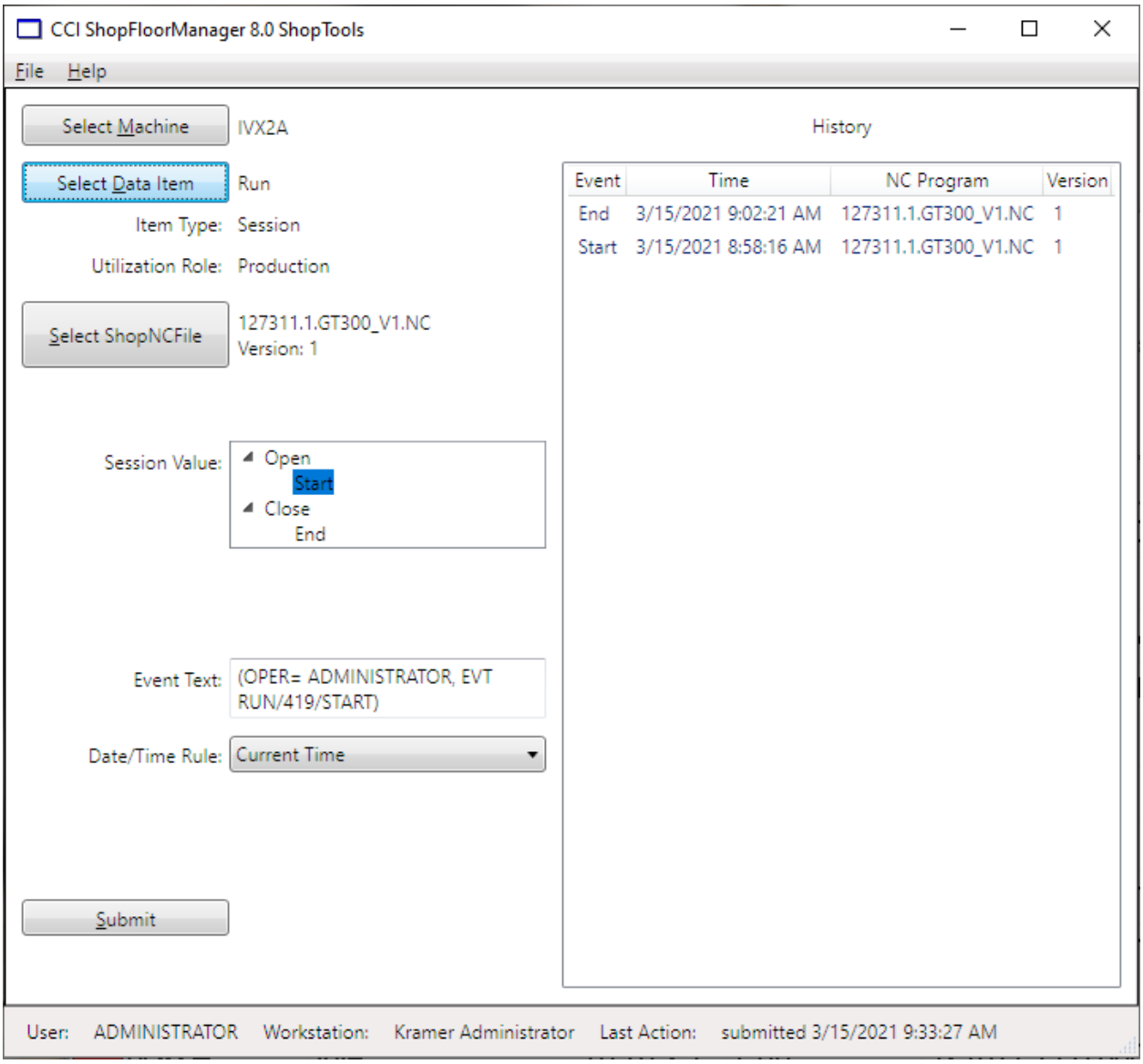
To zoom in on the Report above hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

All of the OEE calculations and categories are listed above for determining if your company is meeting its OEE Goals.

This is one of the main pieces of data you need for a complete Analysis!

Next, we look at how to enter Bad Part as the Quality part of OEE!

ShopMonitor ShopMDI (Quality)

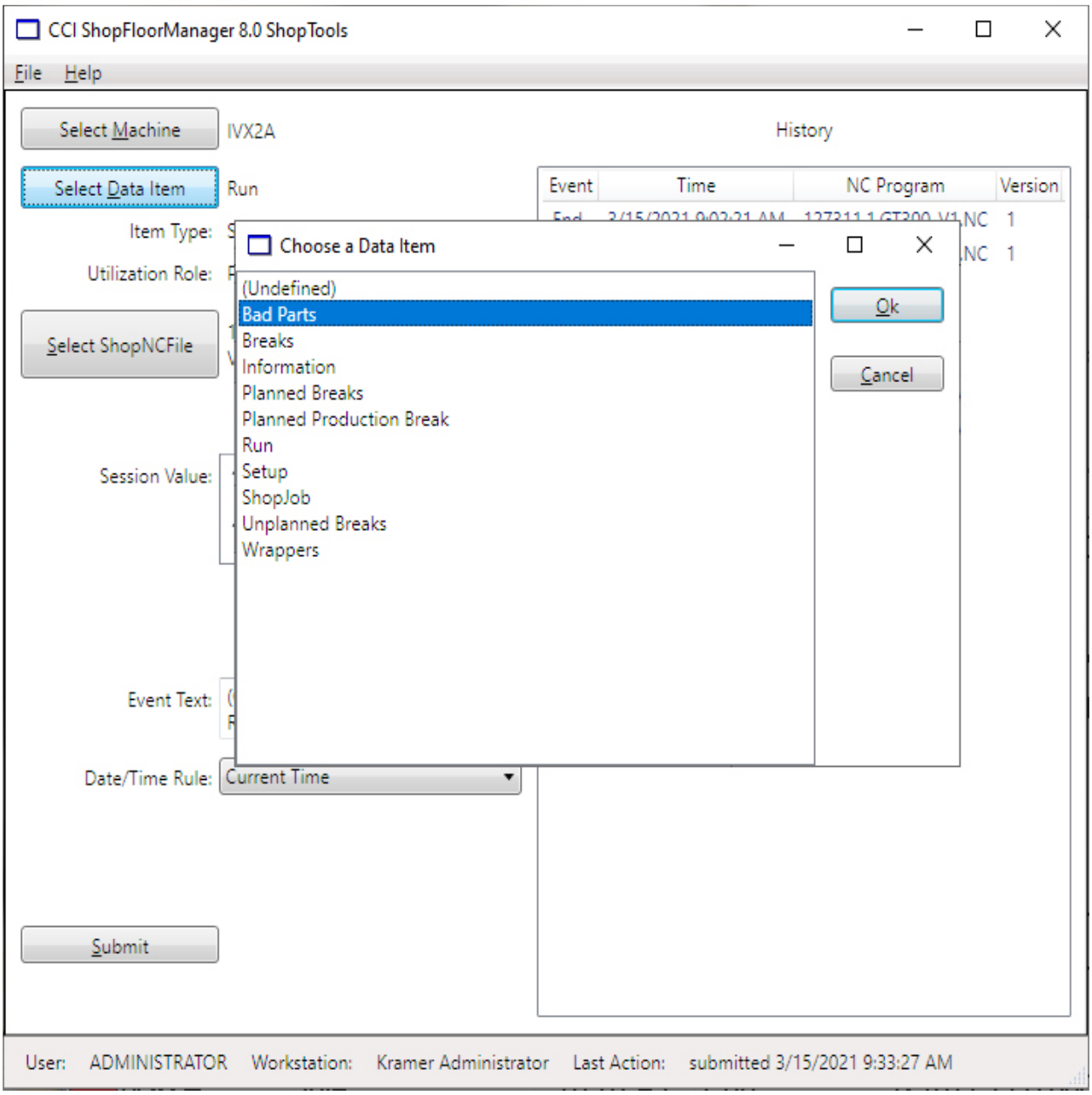


Part of using OEE to aid in improving all of its categories includes accounting for Bad Parts (Quality). For OEE a Bad Part is any part that needs to be reworked or scrapped!

ShopMDI has a Data Item (Quality ShopMonitor Program) that allows for entering Bad Parts.

To select this program, click on the “Select Data Item” Button and the following Window is displayed.

ShopMonitor ShopMDI (Quality – Bad Parts Data Item)

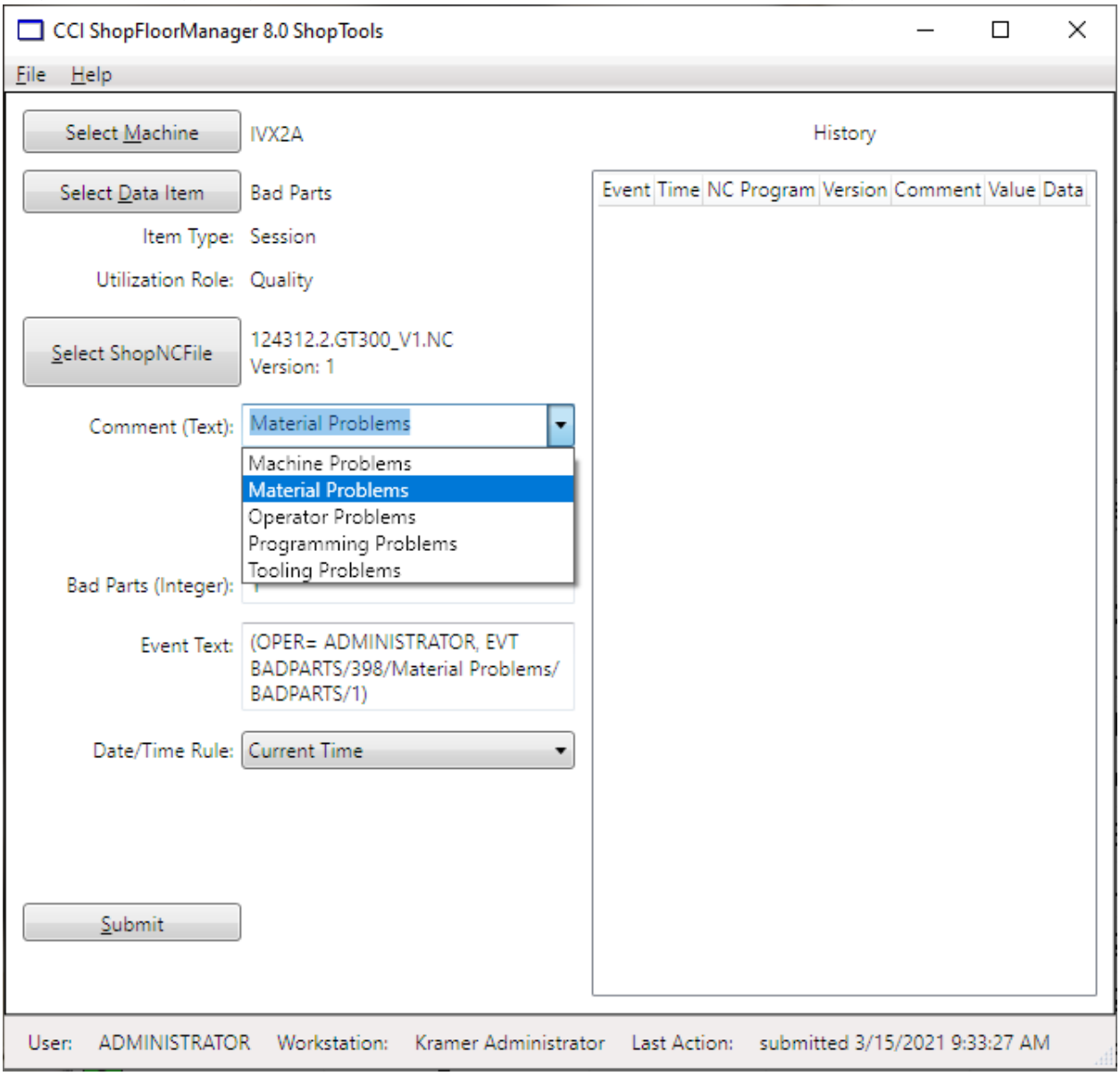


We needed a way to Enter Bad parts to address the OEE Quality Calculation. Entering Bad parts is a lot more subtle than it appears since there are times when Bad parts are not detected until after the Operation is complete!

You need to be able to account for bad parts found during the manufacturing phase and or after during the “Inspection” phase. This is how ShopMDI addresses both of these situations!

Select the Bad Parts Data Item and click the OK Button and the following Window is displayed!

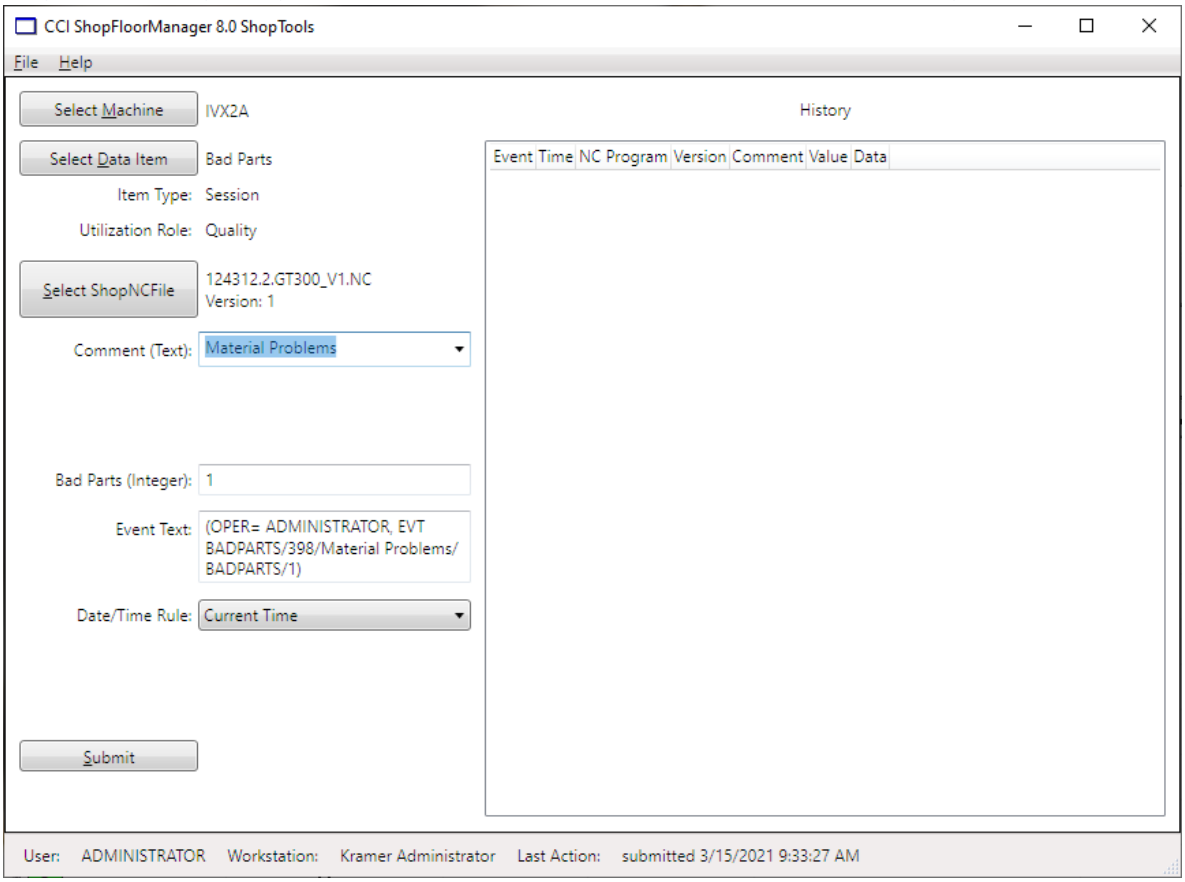
ShopMonitor ShopMDI (Quality – Bad Parts Data Item during the Manufacturing phase)



The above has already been configured for the ShopNCFile. This should be the ShopNCFile that was being executed and is used above for recording the Bad Part! If you would like to include a Comment, you can select a predetermined comment category from the picklist (customer extendable picklist) or enter a one-off if not included in the picklist!

Continue to the next page!

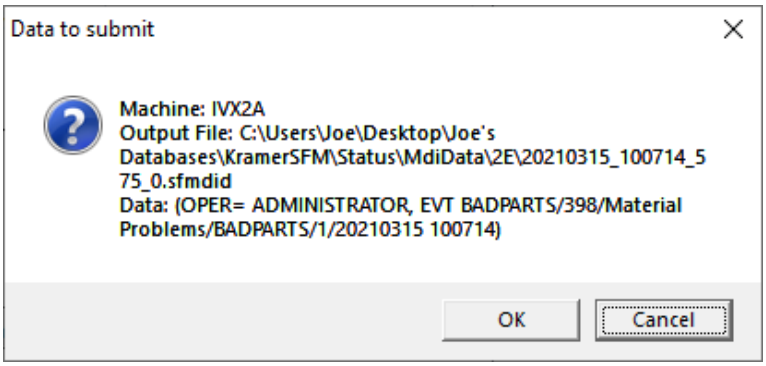
ShopMonitor ShopMDI (Quality – Bad Parts Data Item during the Manufacturing phase)



We have selected “Material Problems” from the Picklist and set the Bad Parts Quantity to 1! We are ready to submit this to ShopMonitor using the “Current Time” as this bad part was just produced during this shift.

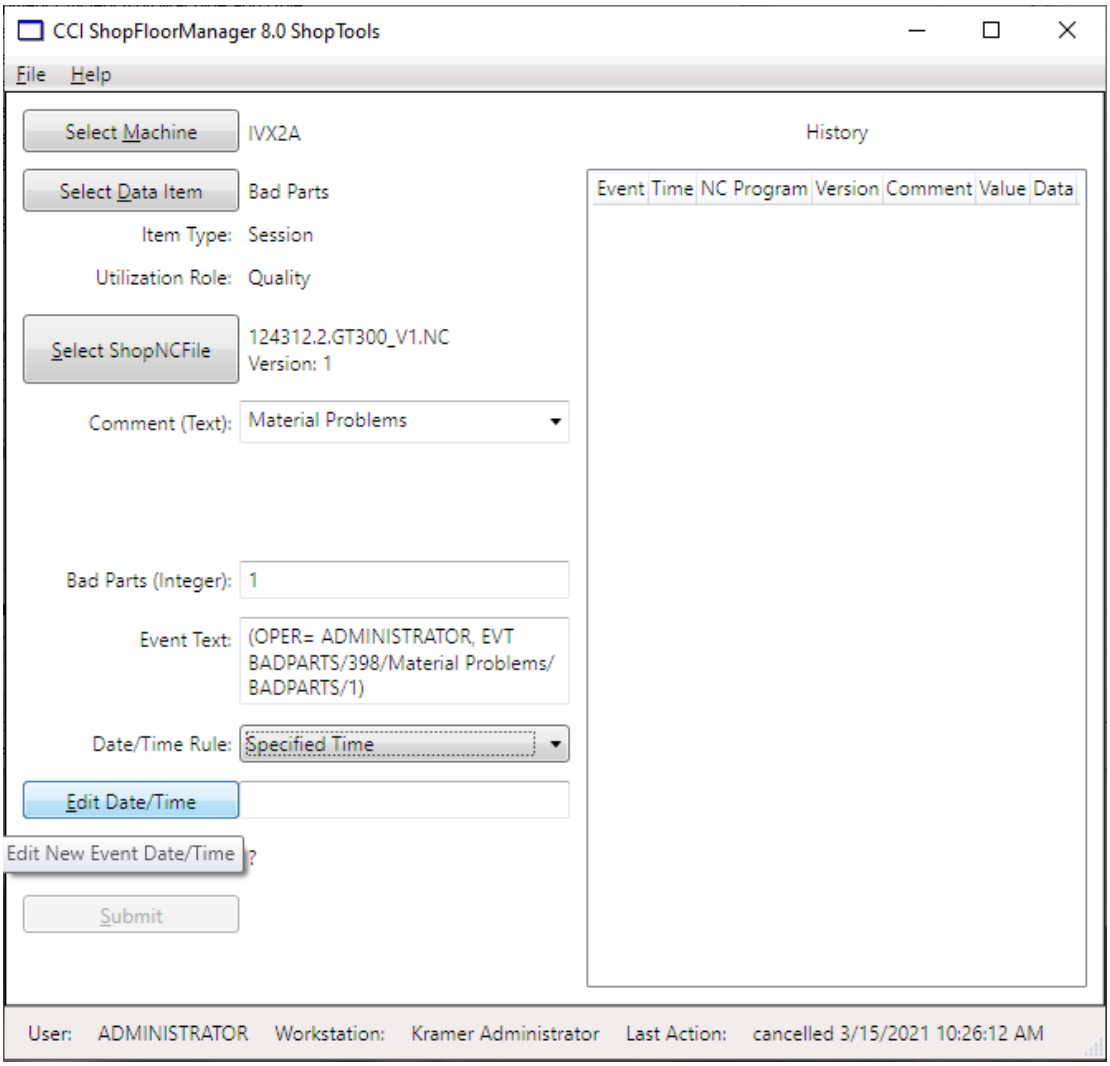
Note: The time doesn’t have to be exact so the present operator can enter it at any time during their present shift! If it’s entered after their shift use the second method! See the next page!

If you click the Submit Button the following Window is displayed.



Click the OK Button and the Bad Part Event is submitted to ShopMonitor!

ShopMonitor ShopMDI (Quality – Bad Parts Data Item after the Manufacturing phase)



Let's assume that the Bad Parts are discovered at "Inspection" within a few days after they were machined. Let's assume that you know the particular day, machine and the machining operation that took place! We will demonstrate how to enter a Bad Part(s) using ShopMDI.

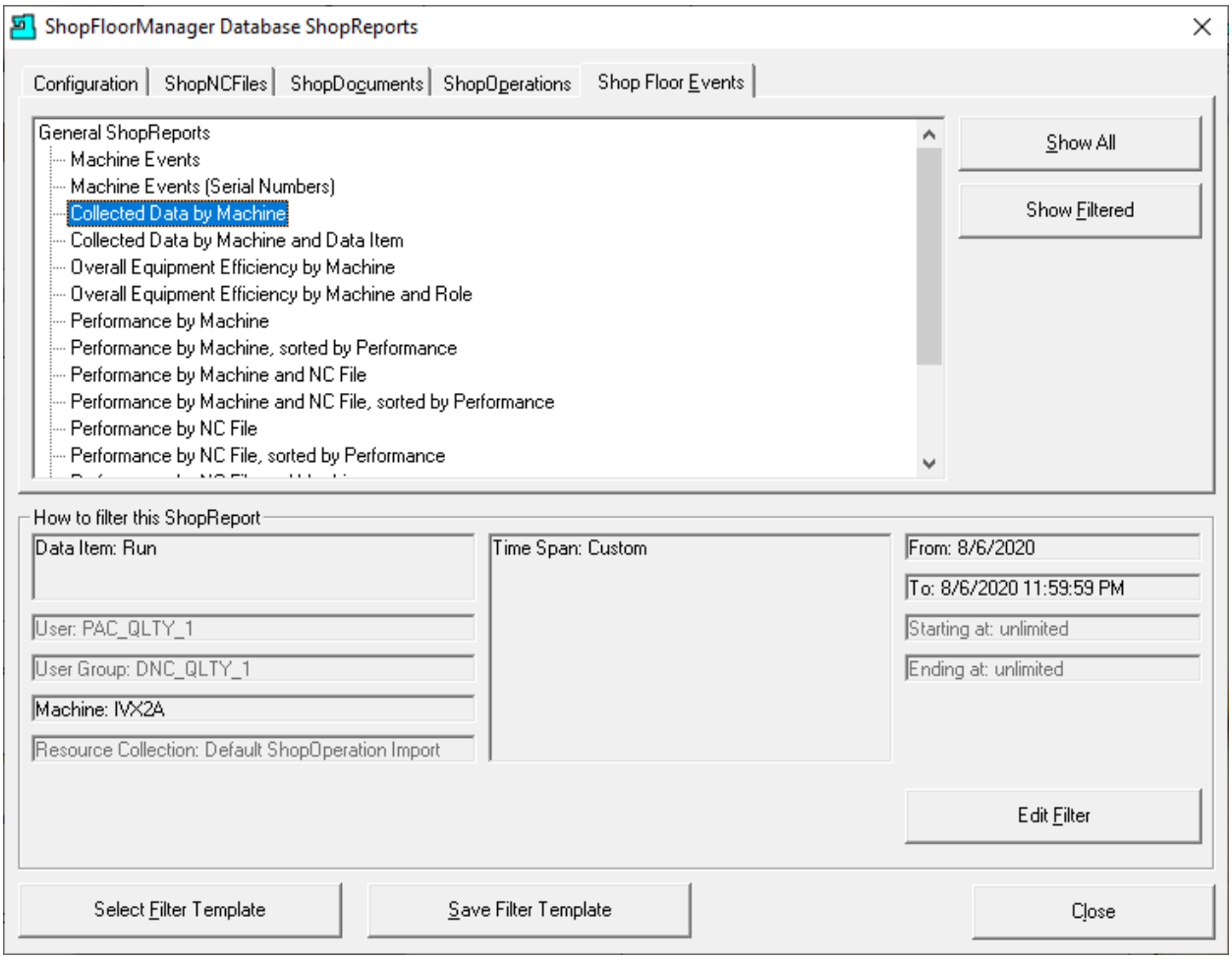
Machining Details:

- Date: 8/6/2020
- Machine: IVX2A
- Bad Parts 1

As part of this demonstration let's quickly generate a ShopReport for that machine & day! The "Collect by Machine" is the best ShopReport for what we want to do!

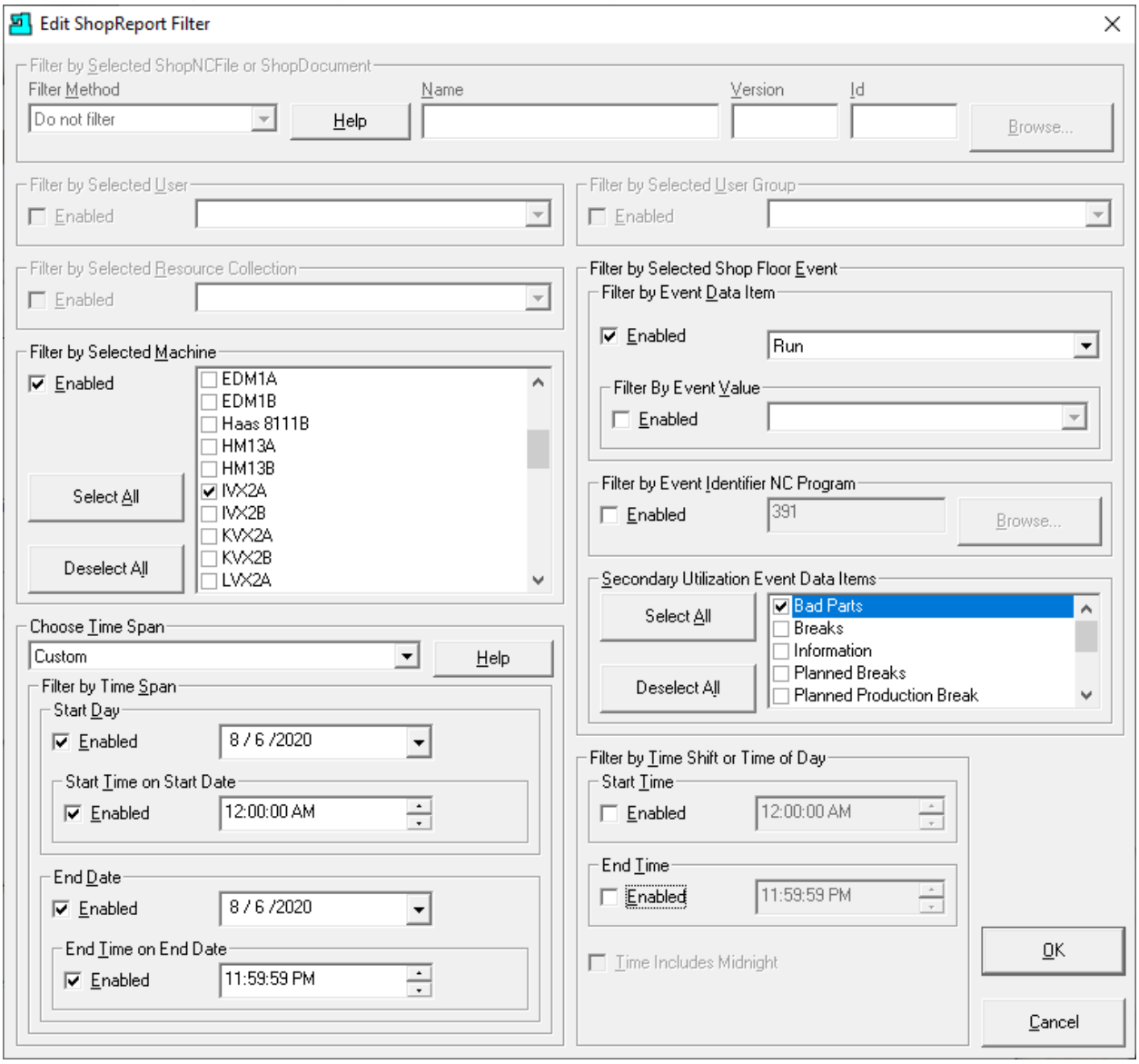
Open the ShopFloorManager Database ShopReports and see the following Window.

ShopMonitor ShopMDI Create (Database ShopReports: Collect Data by Machine)



Highlight the “Collect Data by Machine” and click on the “Edit Filter” Button and the following Window is displayed.

ShopMonitor ShopMDI Create (Edit Filter: Machines IVX2A)

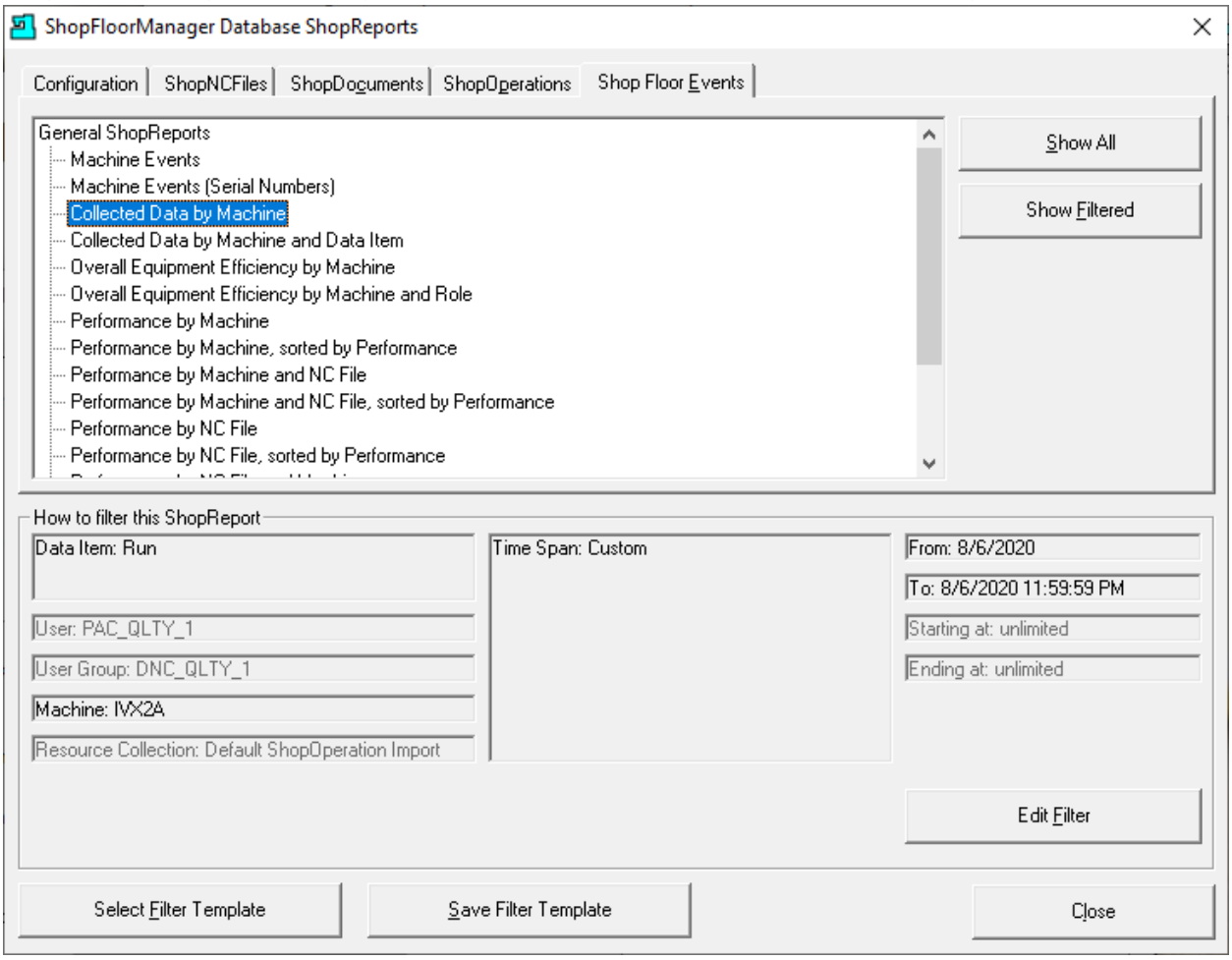


Configuration:

Machine IVX2A; **Time Span**: Custom; **Date** 8/6/2020; **Start Time**: 12:00:00 AM; **End Time**: 11:59:59 PM; **Event Data Item**: Run; **Secondary Event Data Items**: Bad Parts & Run.

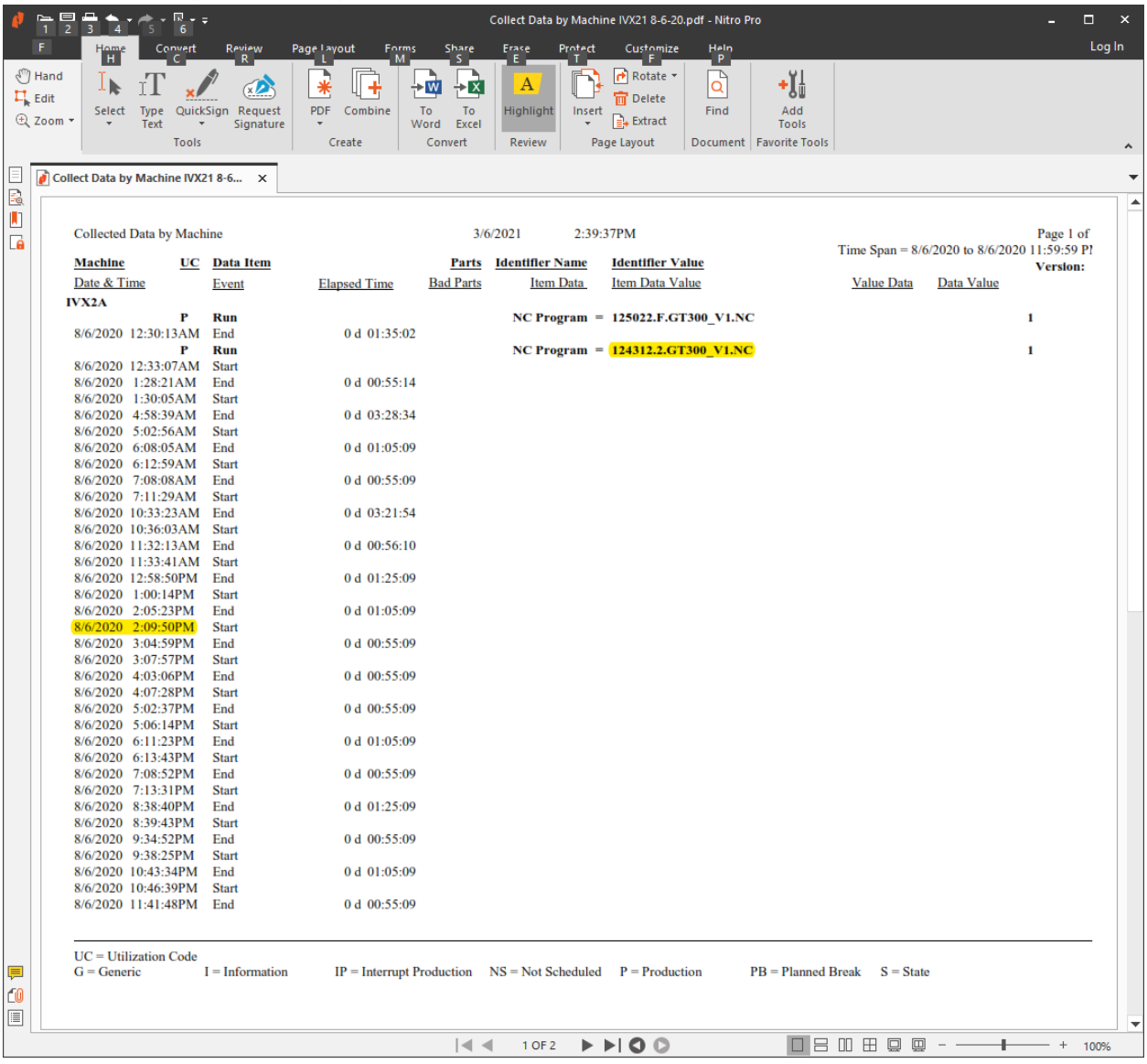
Click the OK Button and the following Window is displayed.

ShopMonitor ShopMDI Create (Database ShopReports: Collect Data by Machine updated)



Click the Show “Filtered Button” and the following Report will be generated!

ShopMonitor ShopMDI Create (Collect Data by Machine IVX21 8-6-20.pdf)



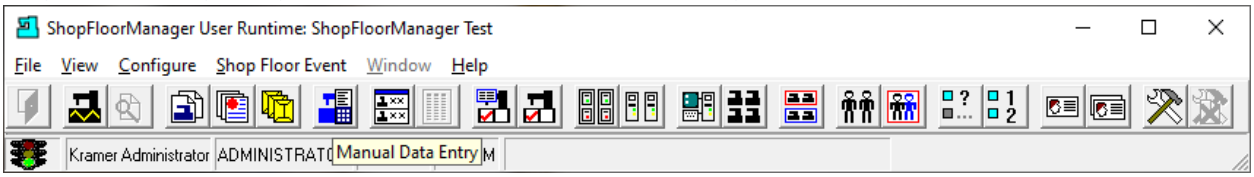
This is a PDF created for the original ShopReport. Click this ShopReport: Convert to PDF for details on creating a PDF ShopReport from a ShopReport!

This shows all of the parts/times that were created on the Machine and day of interest! We have highlighted the two pieces of information we will need for the entering the Bad Parts. At this time, the Bad Part(s) have not been entered but we have the following pertinent information!

ShopNCFile : 124312.2.GT300_V1.NC

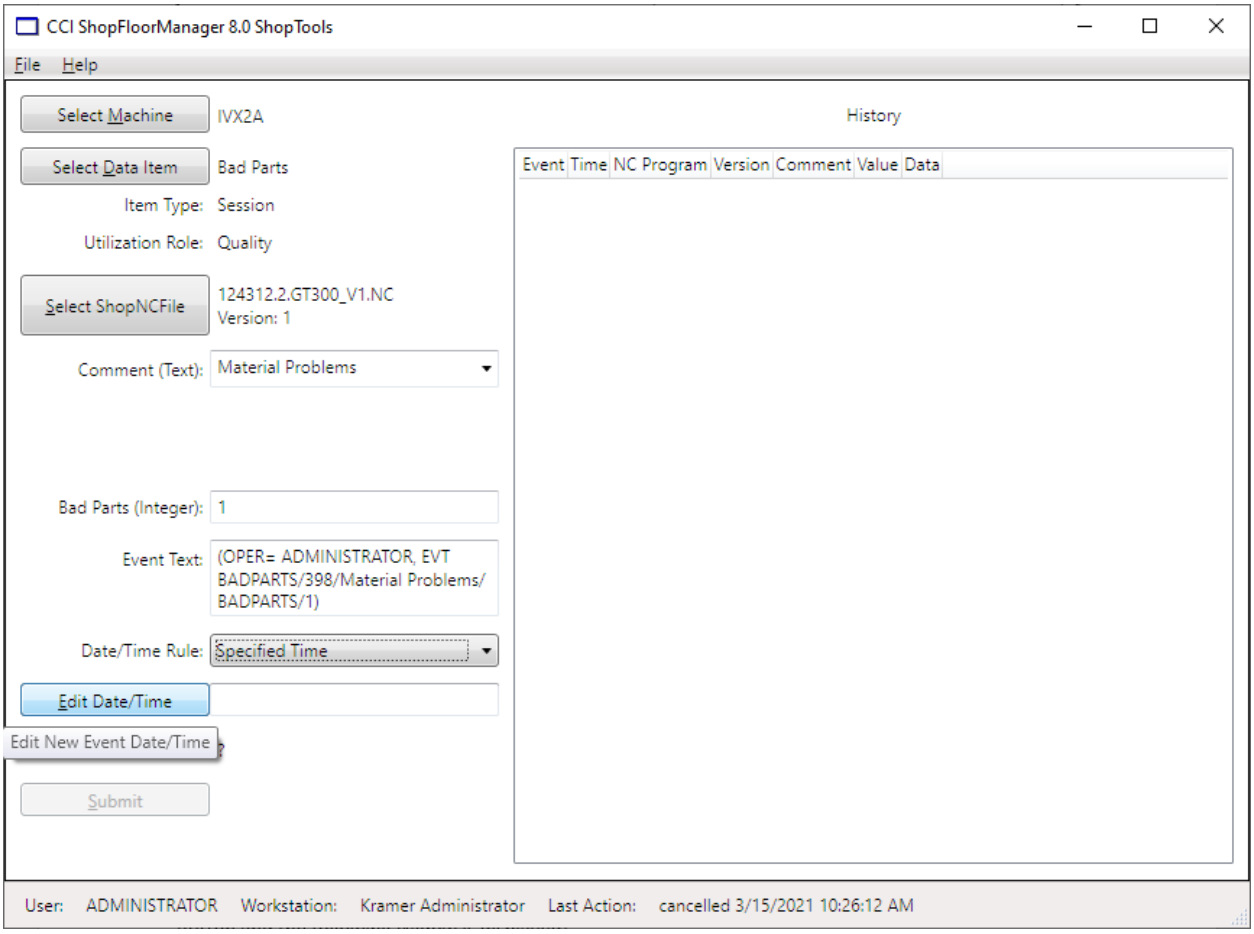
Bad Part Time: 8/6/2020 2:09:50PM (Time is an estimate! Doesn't have to be exact!)

ShopMonitor ShopMDI (Quality – Runtime Manual Data Entry Icon)



If ShopMDI is not already opened, then click on the "Manual Data Entry" Icon on Runtime!

ShopMonitor ShopMDI (Quality – Specified Time)

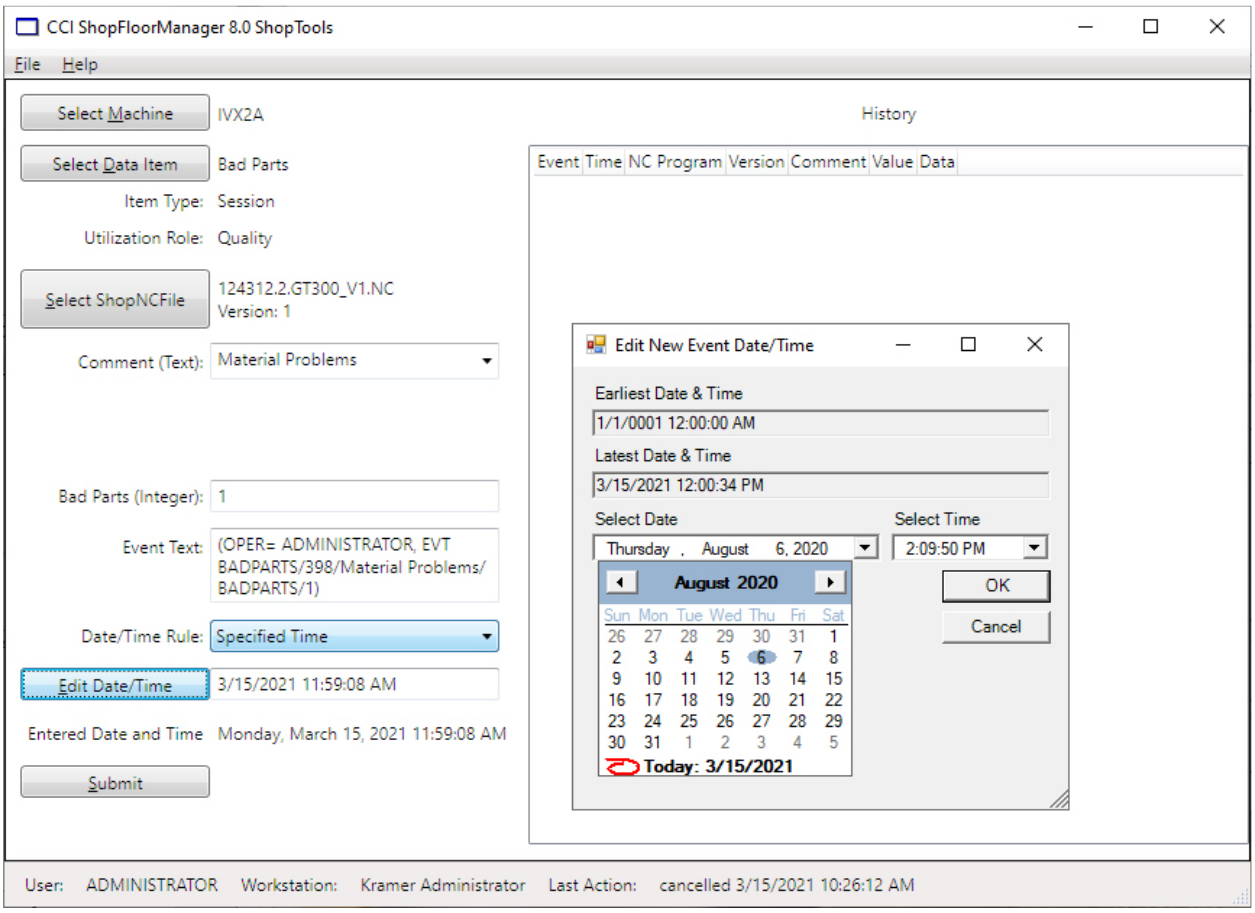


Configure ShopMDI as displayed above. First enter the number of Bad Parts in the Bad Parts Text Box. We have entered 1. If this cycle produced multiple parts enter the number affected!

Since we will use a Date & Time other than the Present, we need to specify the Date & Time!

There are two ways to select the time. The first way involves using the Edit Method! Click on the Edit Button and the following Widow is displayed!

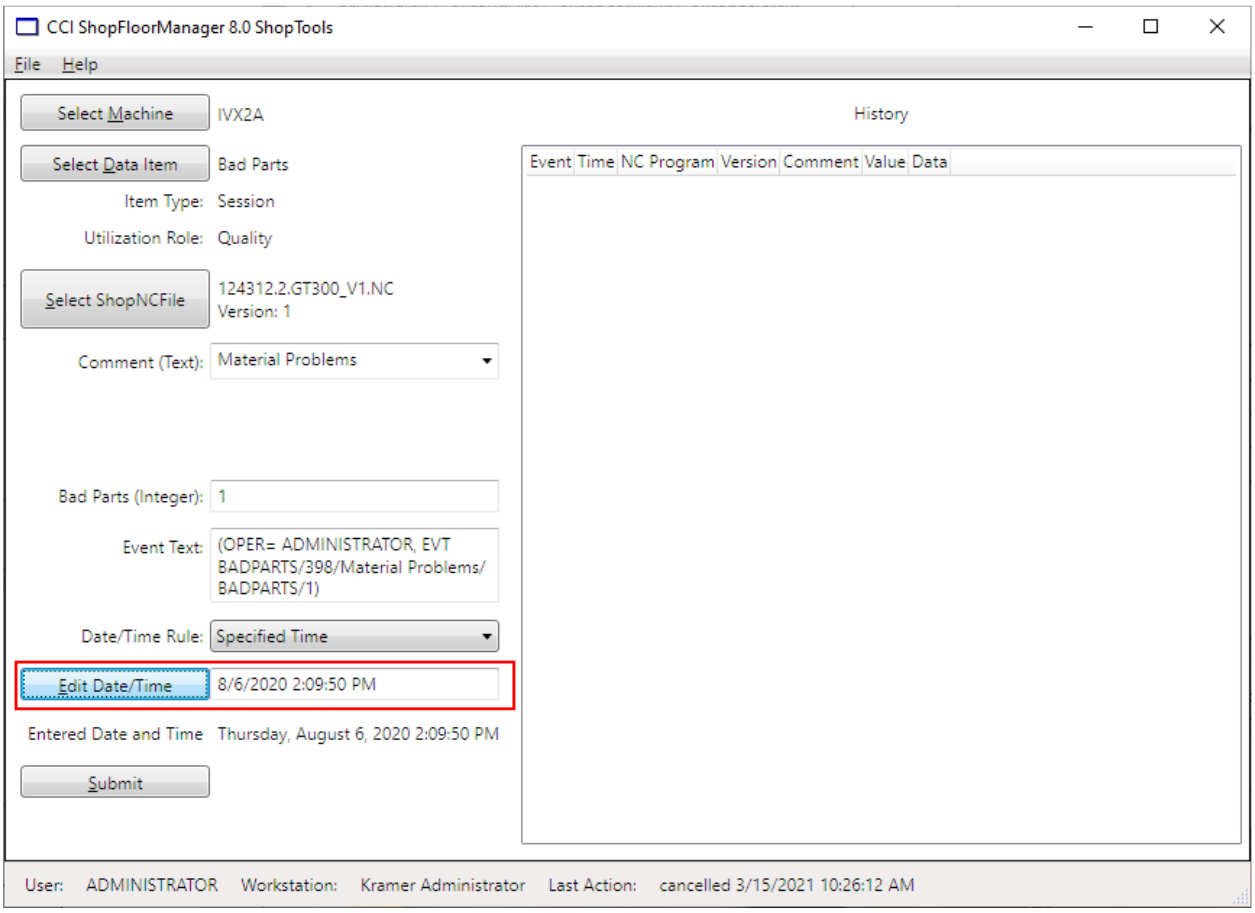
ShopMonitor ShopMDI (Quality – Specified Time selected)



Click on the “Select Date” drop-down list arrow and change the Date. Next click on the “Select Time” drop-down list arrow and select the time by directly clicking the individual hour, minute, second & AM/PM selections making the needed changes.

Click the OK Button and the following Window will be displayed!

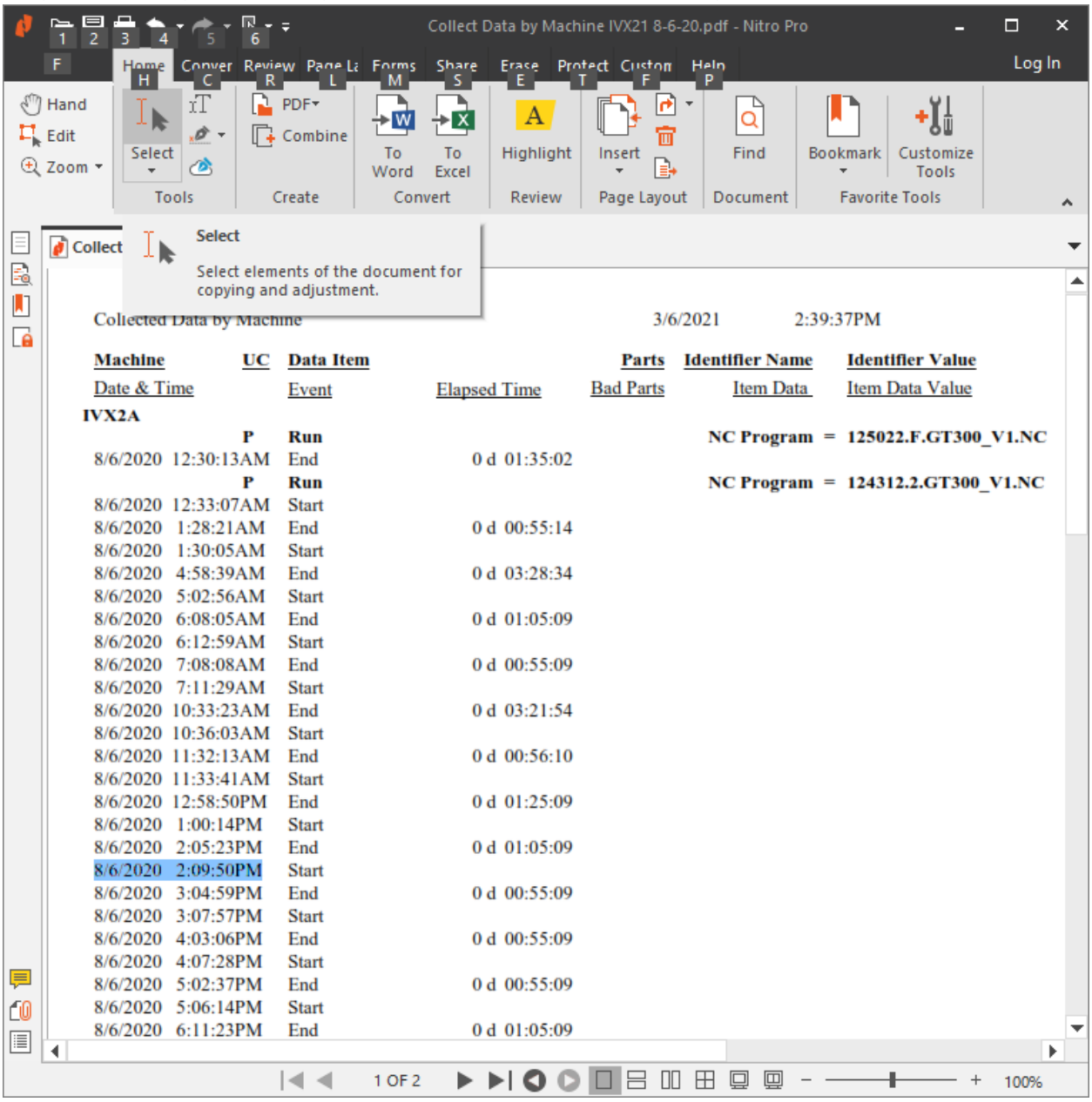
ShopMonitor ShopMDI (Quality – Specified Time selected)



The Date and Time have been updated! See the **red rectangle** above!

The second method involves coping the Date/Time directly from the PDF ShopReport into the Data and Time Text Box! Let's see how this is done! We will look at the previous ShopReport: "Collect Data by Machine" to copy this data!

ShopMonitor ShopMDI Create (Collect Data by Machine IVX21 8-6-20.pdf)

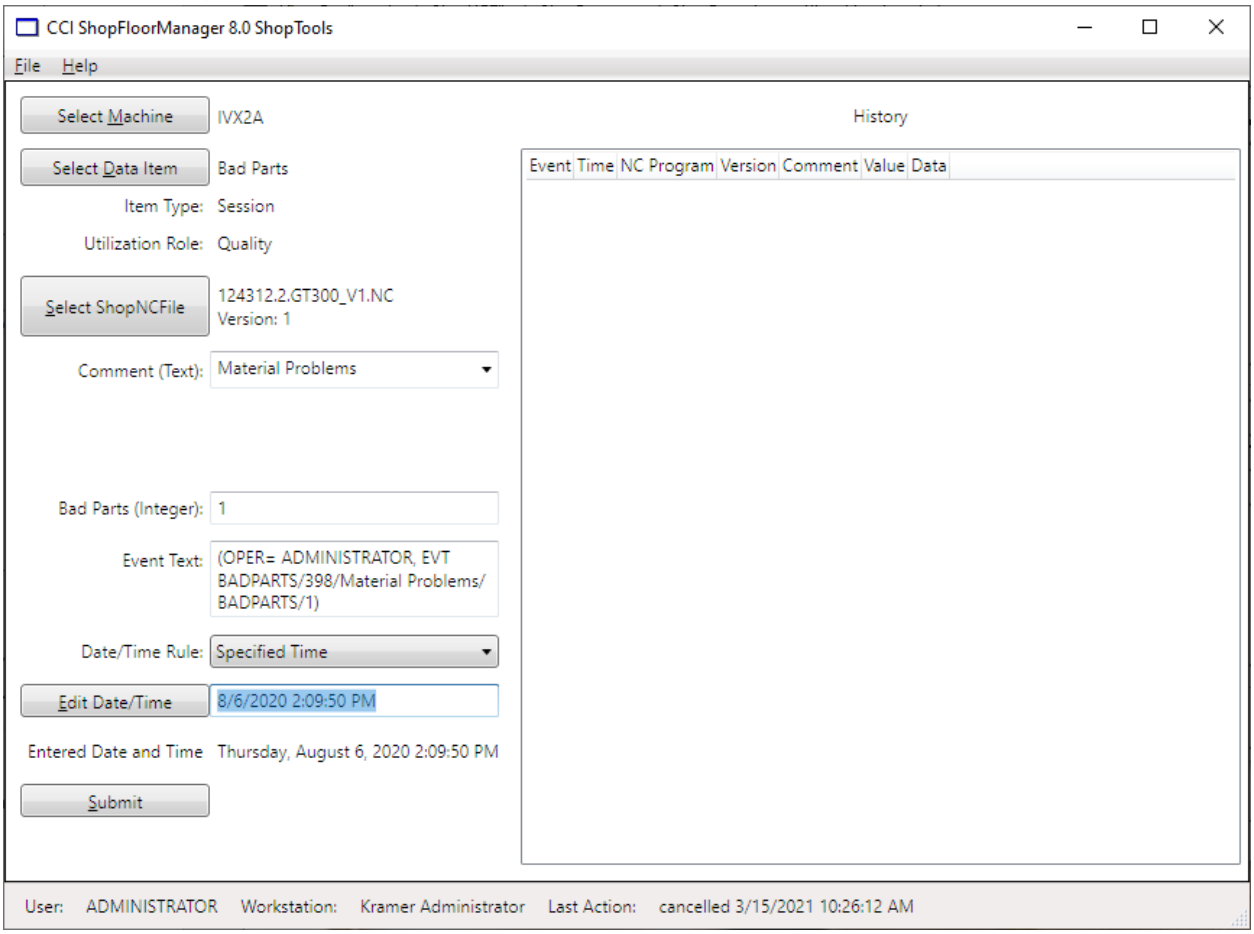


We have used the Select Option above for copying the date and Time! Highlight the Date/Time as shown above and copy!

We will paste this into the Date and Time Box in ShopMDI. See the following Window.

Note: We are using Nitro PDF Application, but Adobe offers the same capabilities!

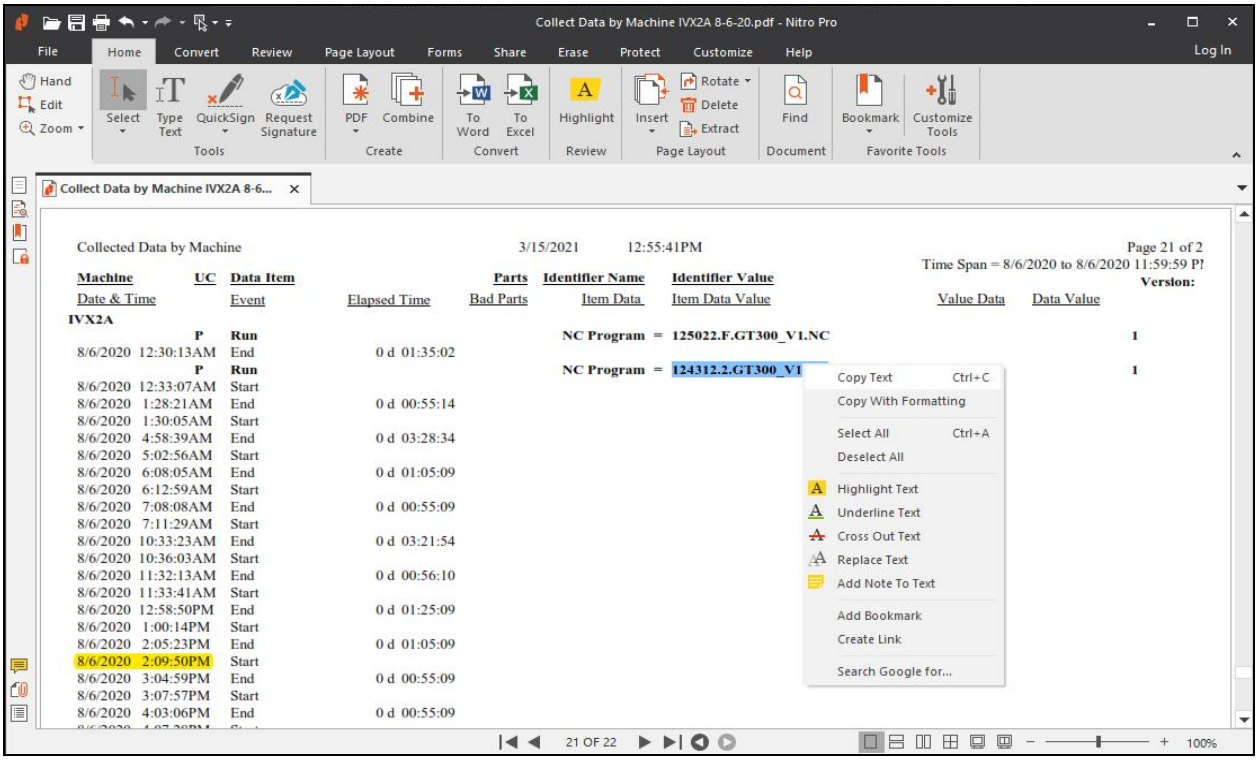
ShopMonitor ShopMDI (Quality – Specified Time copied from ShopReport)



We have clicked in the Date and Time Text box and pasted the data copied from the ShopReport on the previous page!

Next, we need to choose the ShopNCFile that was referenced in the ShopReport. It is in the right-hand upper right part of the ShopReport! See the next page.

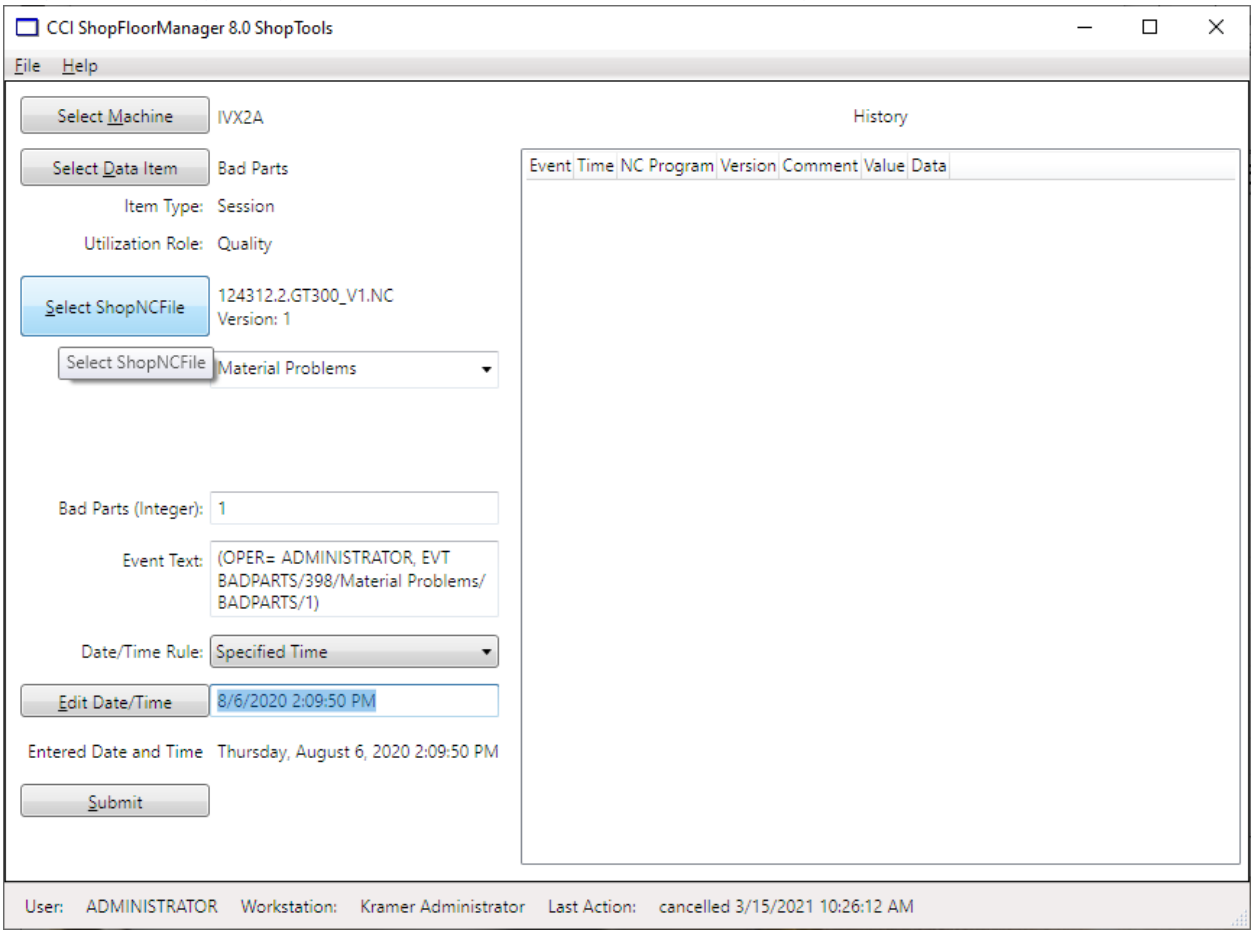
ShopMonitor ShopMDI Create (Collect Data by Machine ShopNCFile: 24312.2.GT300_V1.NC)



We have used the Select Option above for copying the ShopNCFile. Highlight the ShopNCFile: 24312.2.GT300_V1.NC as shown above and copied (Ctrl C) the number! See the next page for selecting this ShopNCFile using two methods!

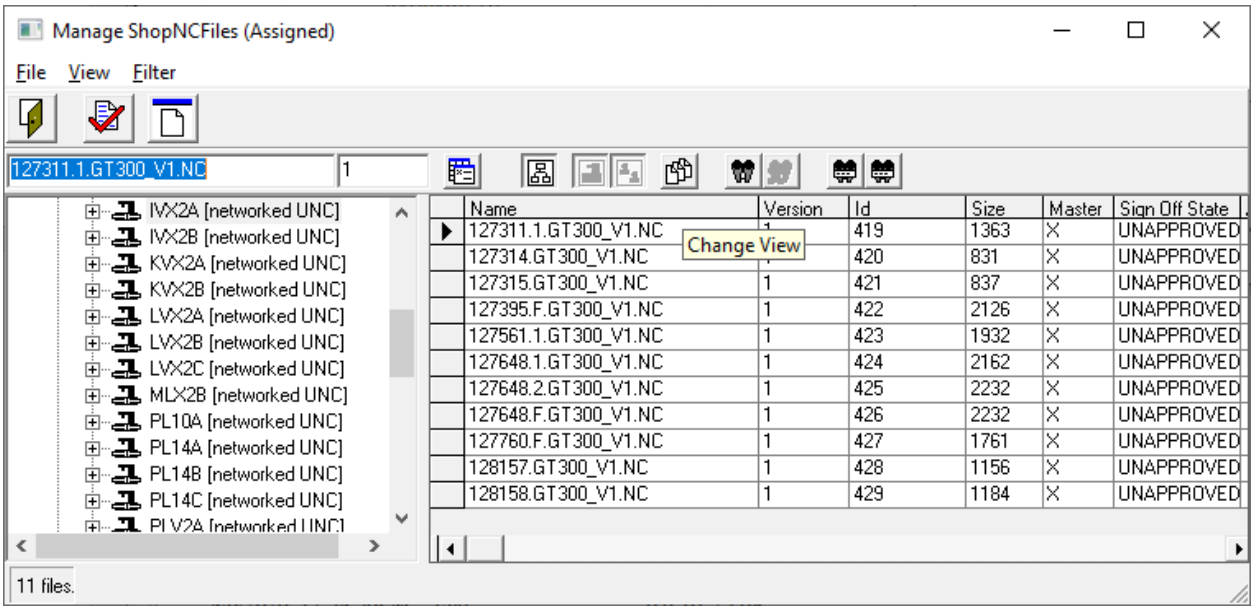
Note: Nitro also provides a copy method by right clicking the mouse over the highlighted number!

ShopMonitor ShopMDI (Quality – Specified Time copied from ShopReport)



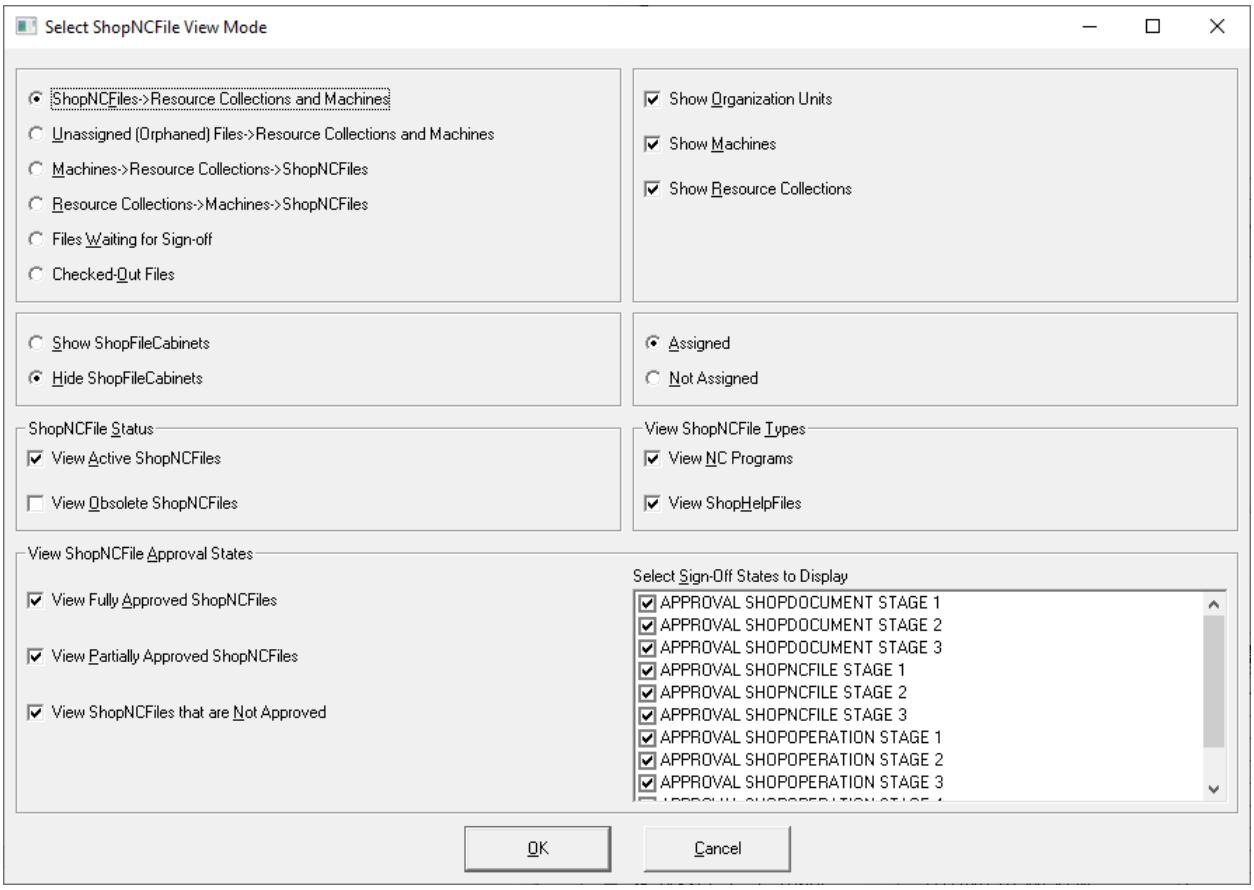
Click the Select ShopNCFile Button and the following Window is displayed.

ShopMonitor ShopMDI (Quality – Select ShopNCFile)



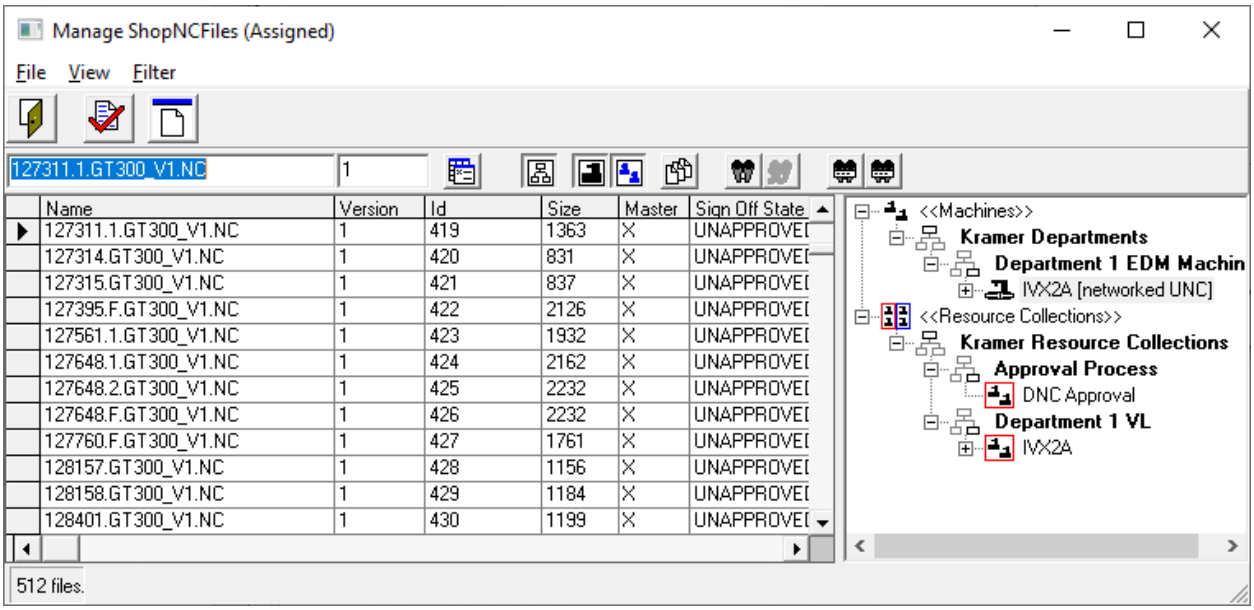
The View above is not the best so we will choose another View. Click on the "Change View" Icon and the following Window is displayed.

ShopMonitor ShopMDI (Quality – View Mode Form)



Configure the displayed form as shown above and click the OK Button and the following Window will be displayed.

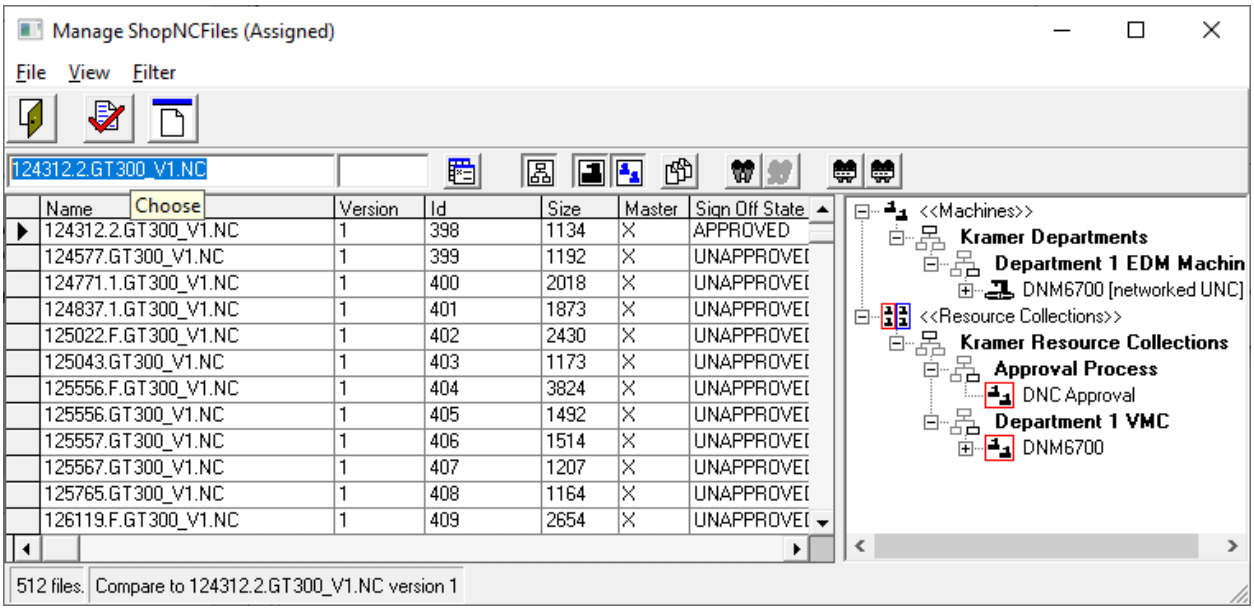
ShopMonitor ShopMDI (Quality – ShopNCFiles (Assigned) selection form)



At this stage we can enter the ShopNCFile name one character at a time until we find a Match to the correct ShopNCFile (first method) or we can paste the name from ShopReport directly into the highlighted box above.

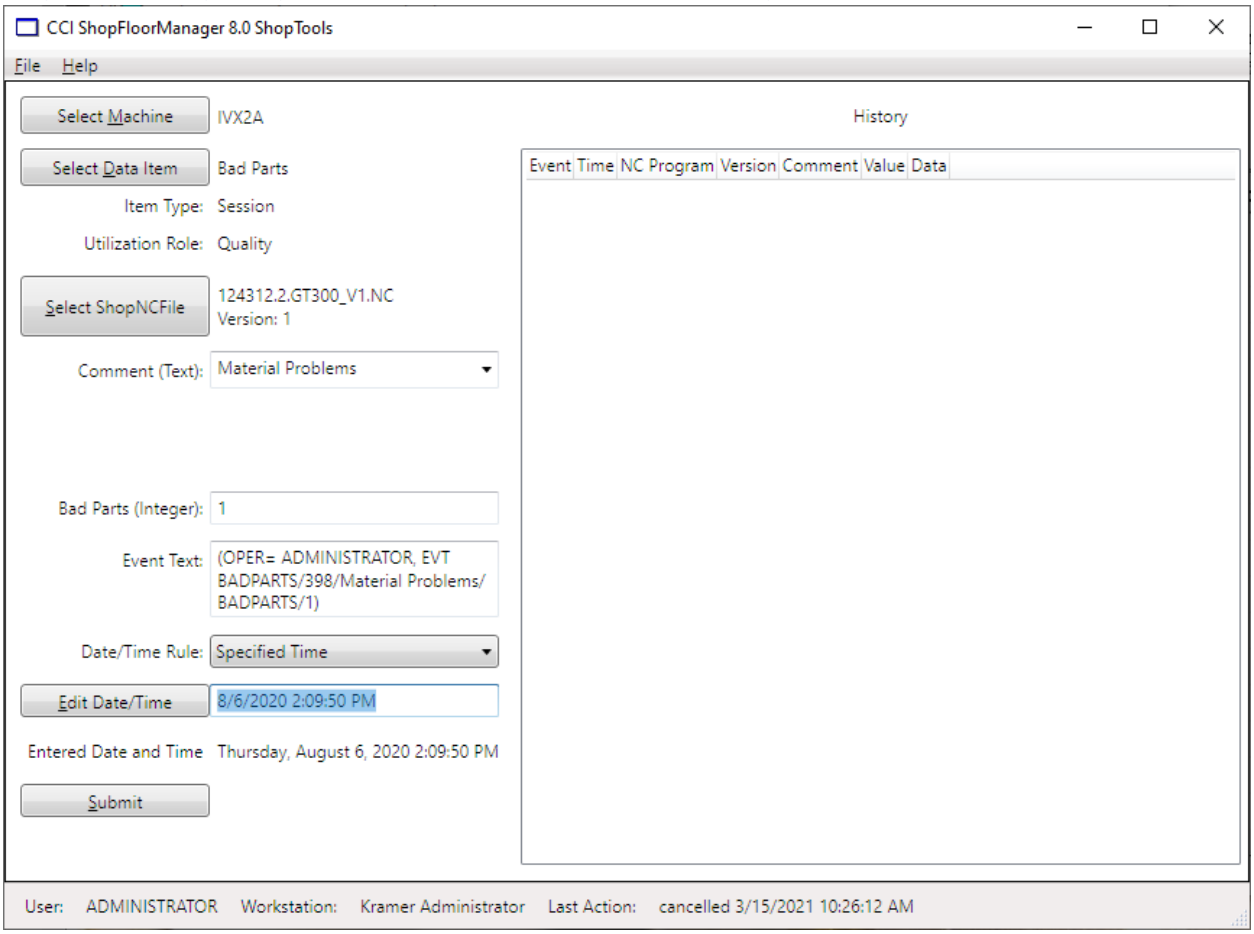
Let's Paste the name into the Text Box and the following Window is displayed.

ShopMonitor ShopMDI (Quality – ShopNCFiles: 124312.2.GT300_V1.NC selected)



The correct ShopNCFile has been selected. Click the Choose Icon and the following Window is Displayed!

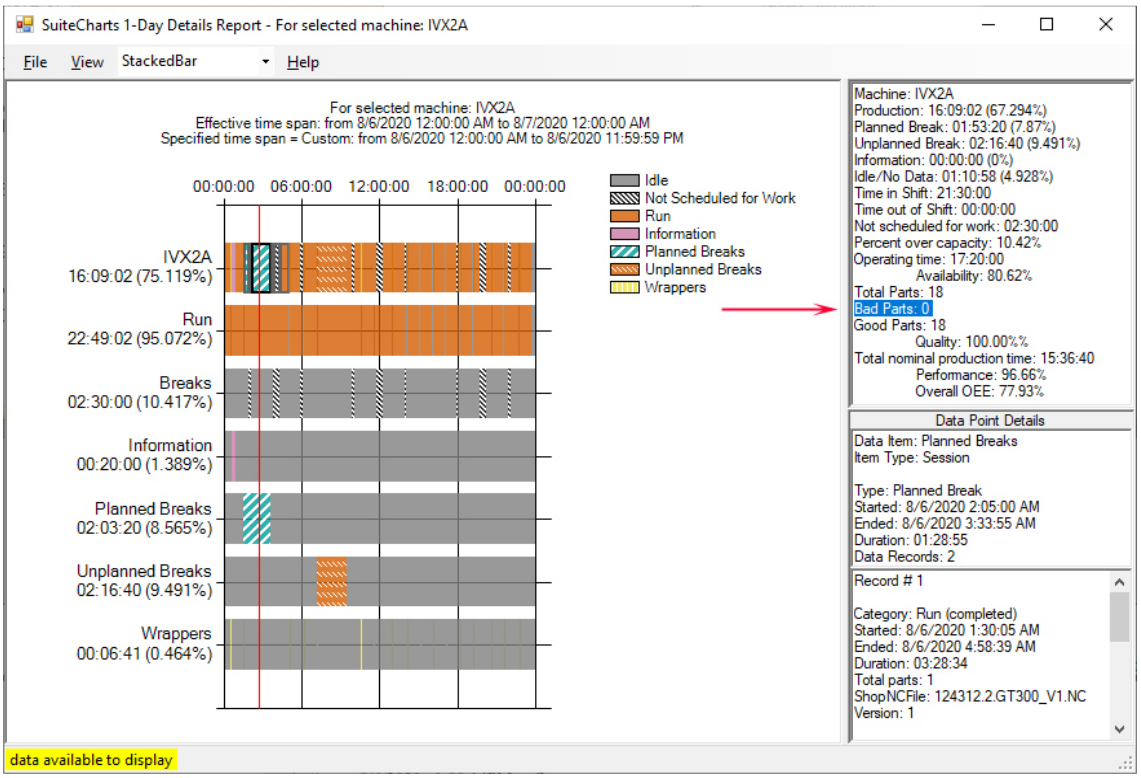
ShopMonitor ShopMDI (Quality – ShopMDI ready to Submit Bad Parts)



Before we submit this Bad Parts' Form let's take a look at the ShopChart "Machine 1-Day History Detail Chart". At this stage it will not display any bad parts until after the submission of this form!

See the next Page!

ShopMonitor ShopMDI (Quality – ShopCharts & ShopReport 1-Day Details Report)

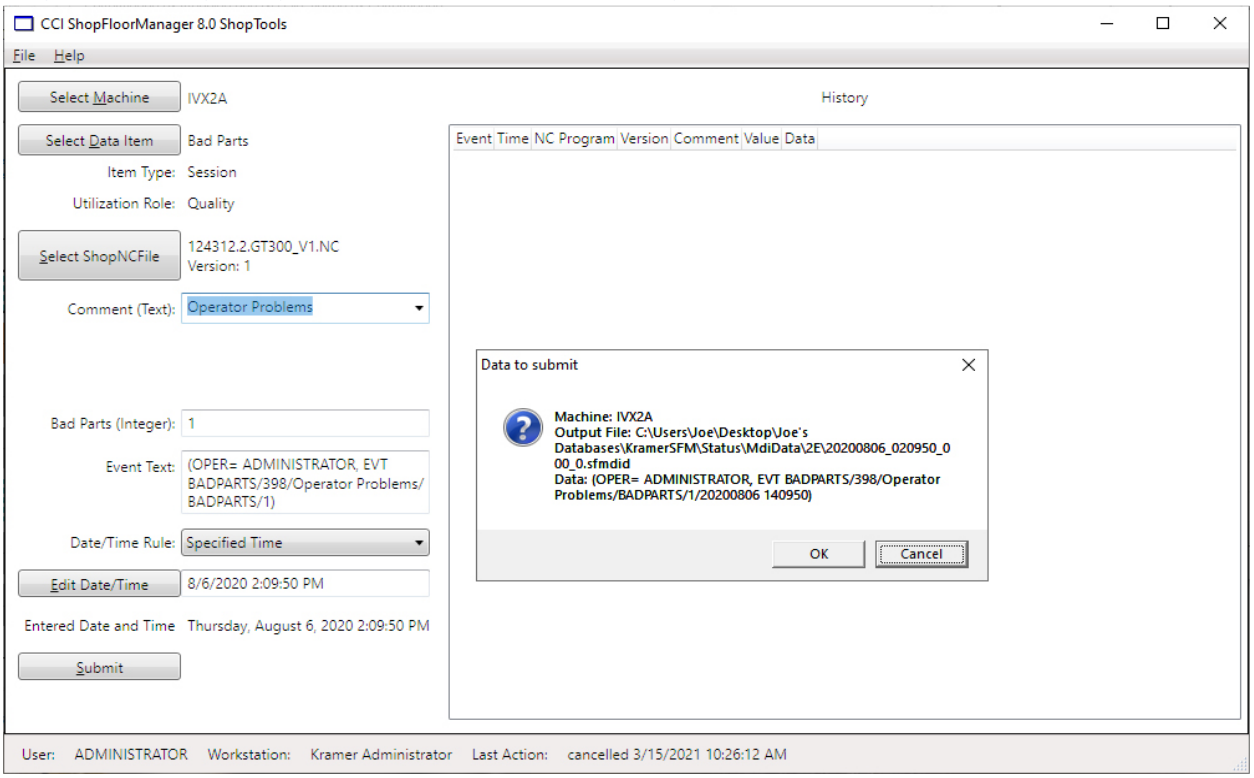


Look at the highlighted Bad Parts: 0! If this chart were presently being displayed this view would be presented! You should notice the at present there is no Bar indicating any Bad Parts. That will also change after submission of the Bad Parts Form. See **red arrow** above in right-hand top Pane!

Note: The "Machine Status" Window would also reflect the fact that a Bad Part was produced!

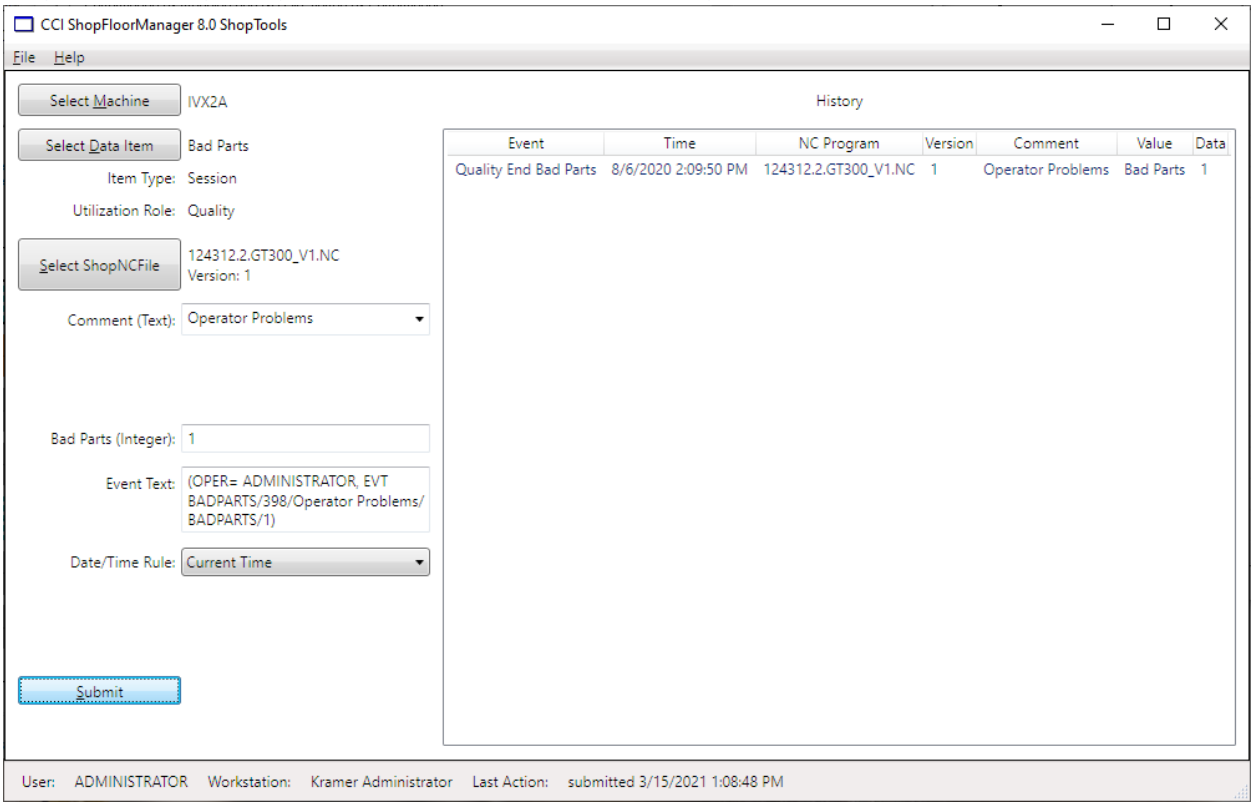
Let's submit the Bad Parts Form. See the next page.

ShopMonitor ShopMDI (Quality – ShopMDI Submit Bad Parts)



Click the Submit Button and the following “Data to submit” Window is displayed. Click the OK button and the following Window is displayed.

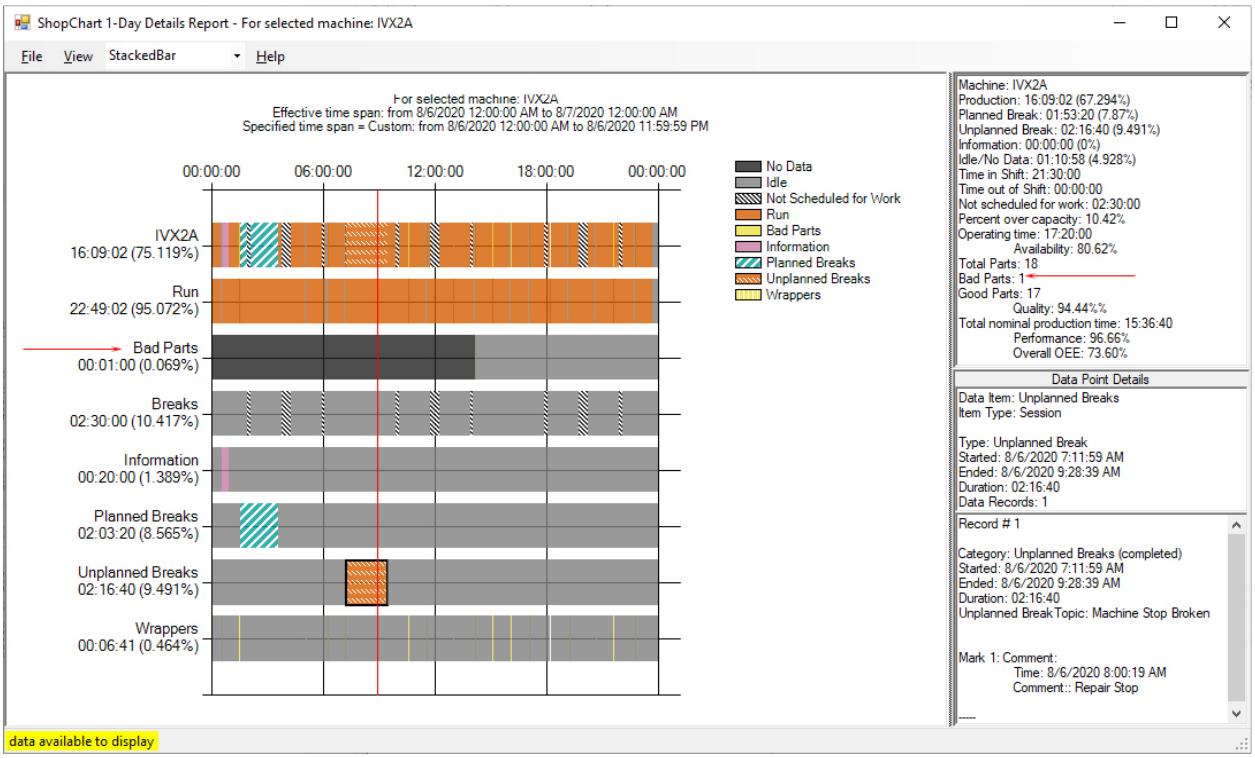
ShopMonitor ShopMDI (Quality – ShopMDI Bad Parts Submitted)



The submitted data is recorded in the left-hand Pane!

Let’s take a look at the ShopCharts & ShopReport 1-Day Details Report on the next page.

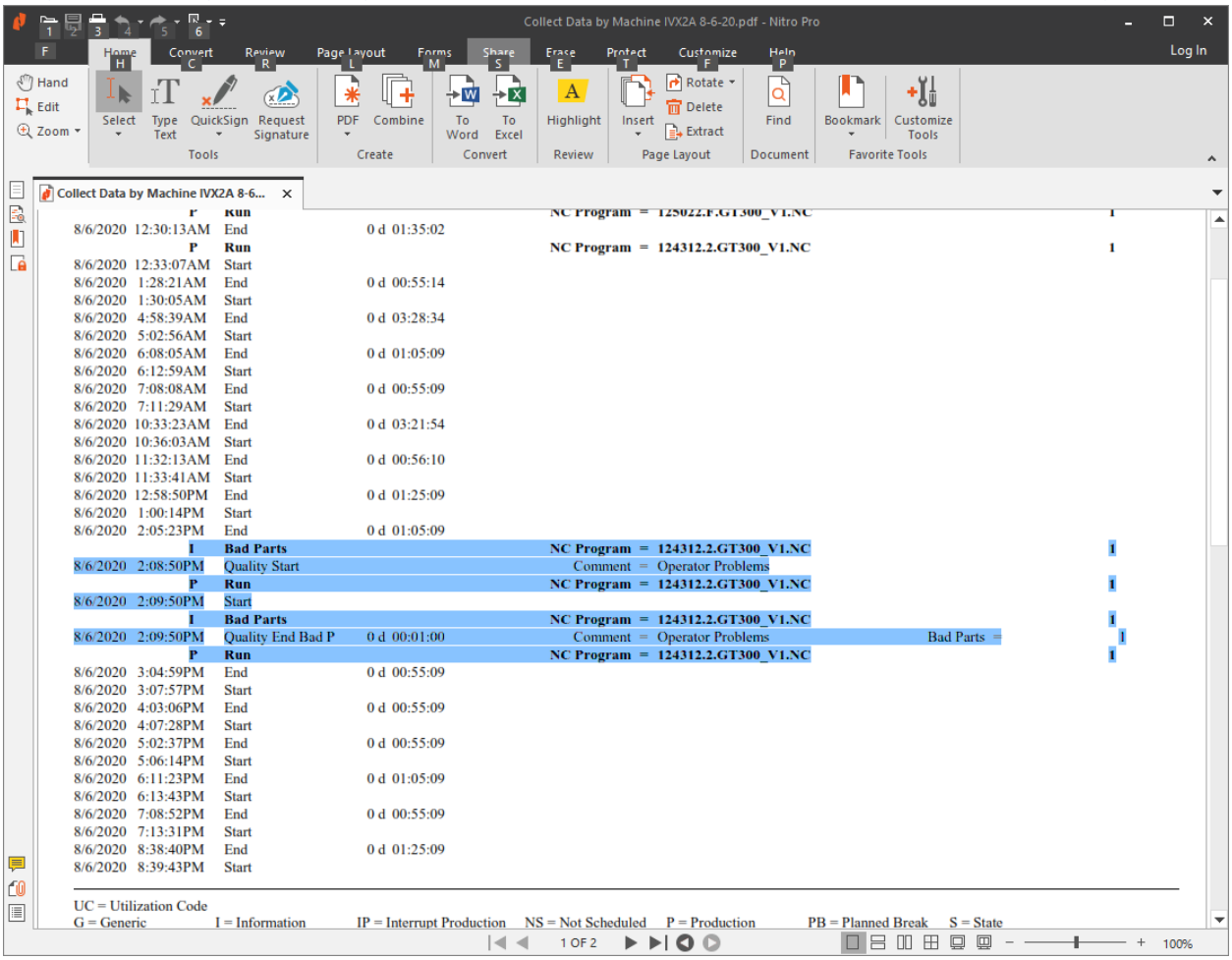
ShopMonitor ShopMDI (Quality – ShopCharts & ShopReport 1-Day Details Report updated with Bad Parts)



Look at the highlighted Bad Parts: 1 and the added Bad Parts Bar! See the **red arrows** above!

If we were to regenerate the Collect Data by Machine IVX2A 8-6-20.PDF would see the Bad Part added. See the next page!

ShopMonitor ShopMDI Create (Collect Data by Machine ShopNCFile: 24312.2.GT300_V1.NC Bad Part)



The ShopReports now display the Bad Parts with all of the details.

We are finished with this section!

ShopMonitor ShopReports (With a ShopReport here and a ShopReport there! Hey, where's the Cows?)

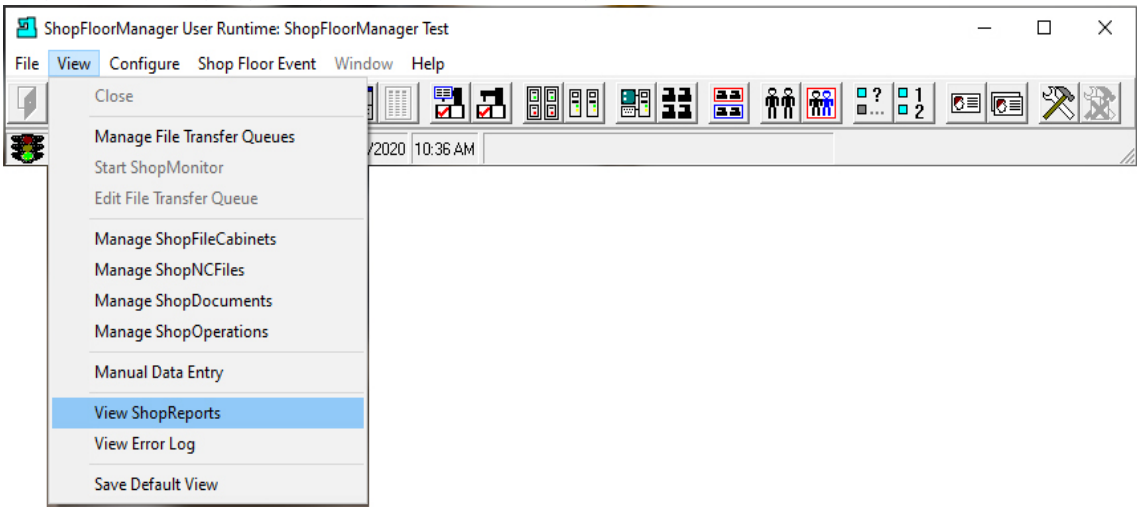
ShopReports complements ShopCharts by providing in depth In-Time & Historical detailed reports all of which are generated with the associate collected Production Events. A User can use these ShopReports & the ShopReport Filter to locate and narrow the focus in on any problem areas in real-time allowing for immediate corrective measures. Visit ShopReports: Convert to PDF how to create PDF ShopReports from Native ShopReports!

As a scenario, suppose you are in the office performing your daily tasks while the "Machine Status_Machine_Status_1" Window is active and one the Symbols Changes & indicates that one of the Machines is active but not in a Production Mode. This is indicated by displaying one of these Symbols:

You can follow the instructions in the "Machine Status_Machine_Status_1" section on how to interact with this Window so it presents the Shop Floor Events Tab where you can immediately select and start a real-time Chart to investigate Non-Production Activities.

Following is how you would investigate reports from ShopFloorManager Runtime!

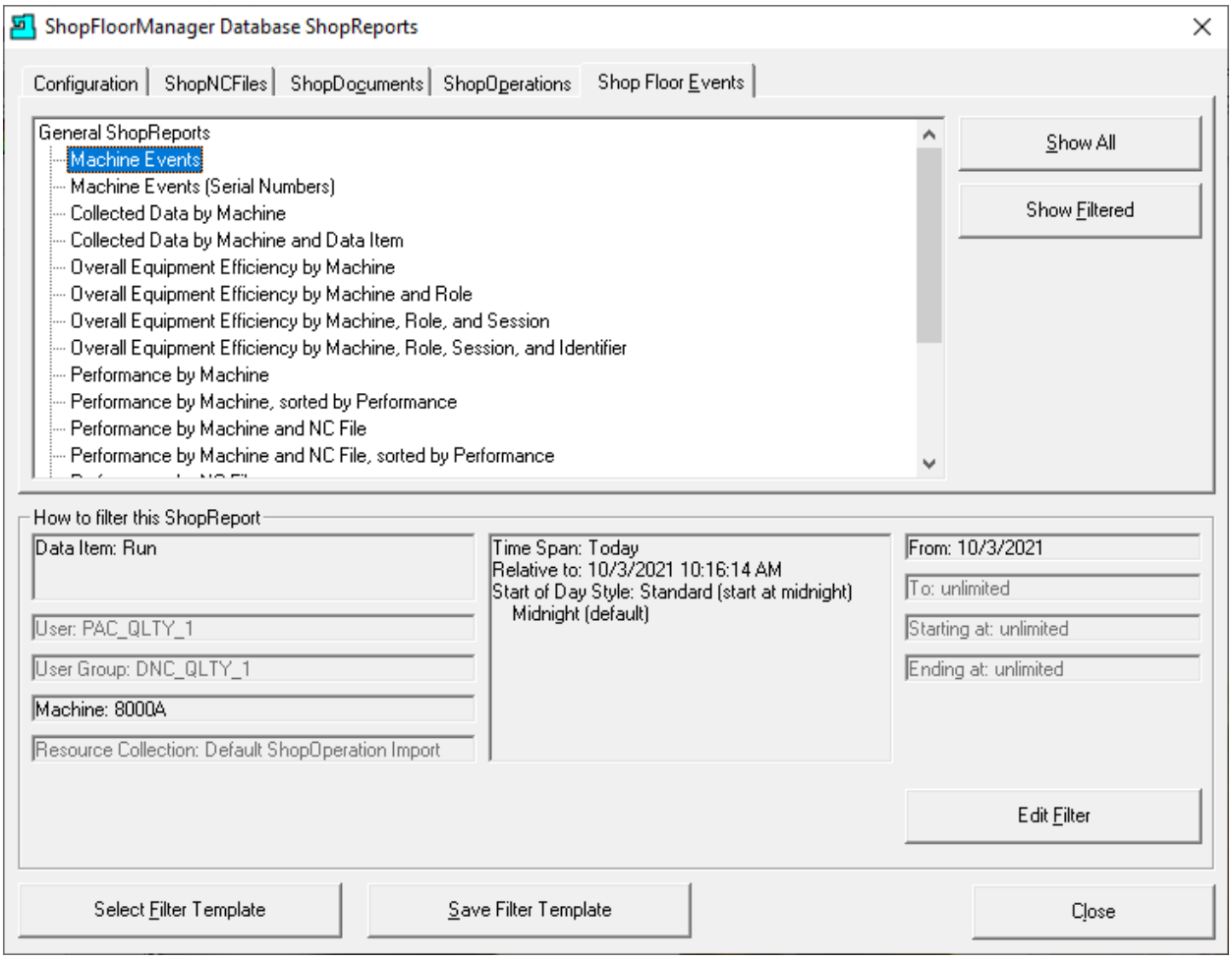
ShopMonitor ShopReports (View ShopReports Menu)



Click on the View Menu and then the "View ShopReports" Menu and the following Window is displayed.

Click on the Shop Floor Events Tab!

ShopMonitor ShopReports (ShopReports- Edit Filter)

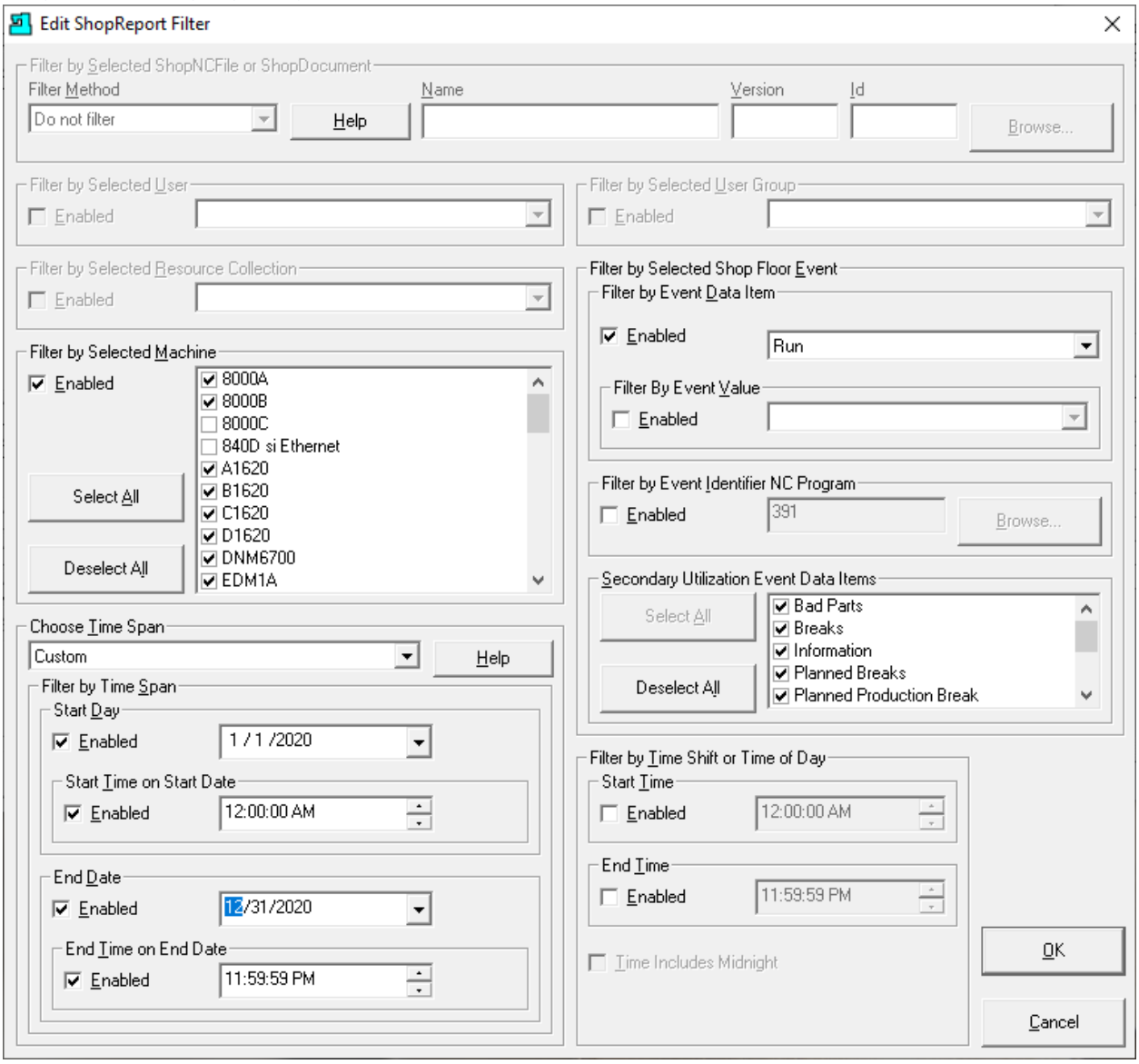


We will select and display each of the “ShopReports” in the order above detailing their use!

First, we need to configure the “Report Filter”, so the ShopReport generated meets the needs of each User.

Click the Edit Filter Button and the following Window is displayed.

ShopMonitor ShopReports (ShopReports- Edit Filter)



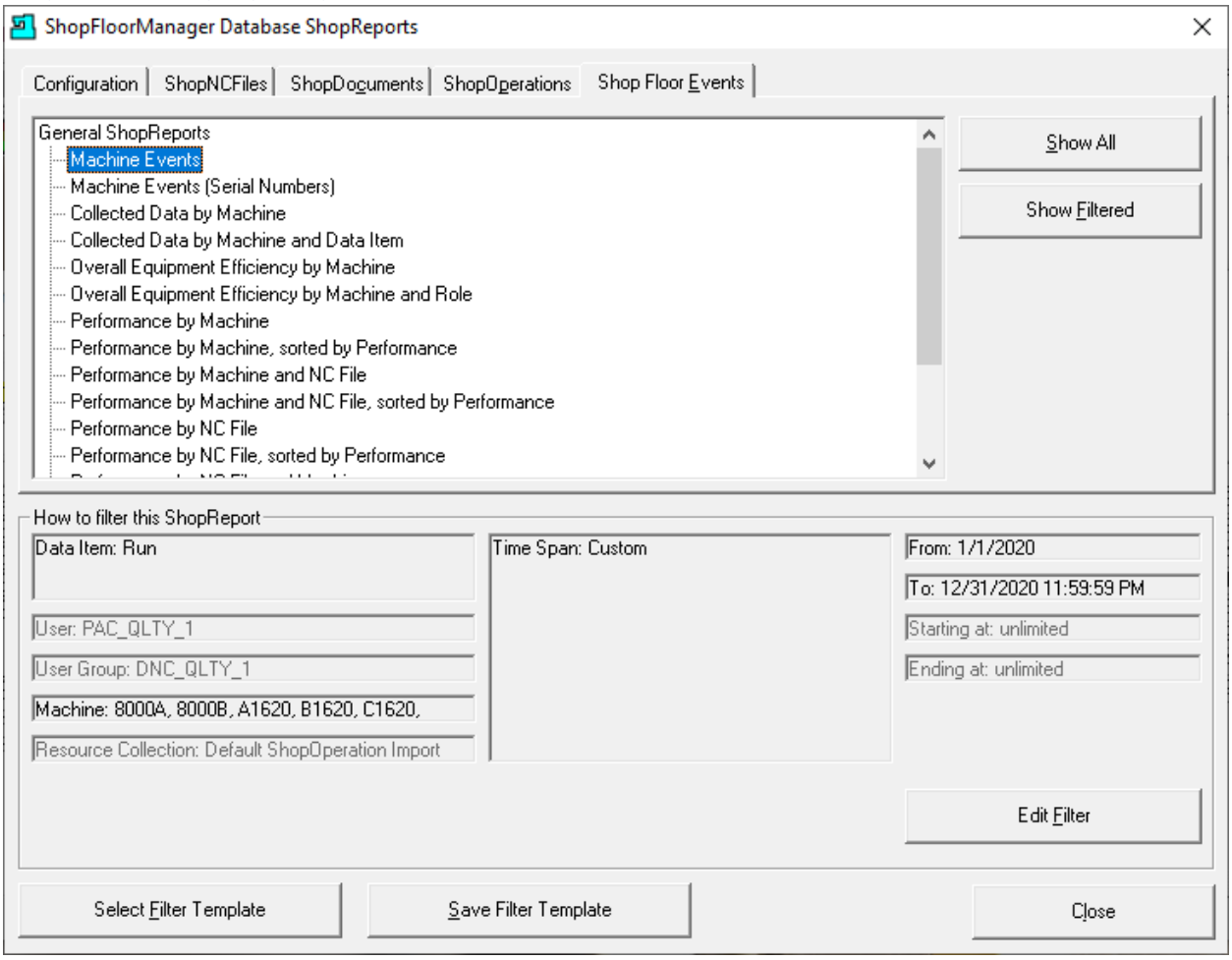
We are going to use the above configuration for all of the following ShopReports where it makes sense. In general, there are a few ShopReports where you would not want to generate a report using all of the Machines at the same time!

We will explain as we encounter those situations.

Note: See "ShopReport Filter" for details on configuring & using the Filter!

Click the OK Button and the following Window is displayed.

ShopMonitor ShopReports (ShopReports- Machine Events)



When generating ShopReports for Machine Events & Machine Events (Serial Numbers) only select the Machine and Time frame of interest! In any analysis this is all you will need!

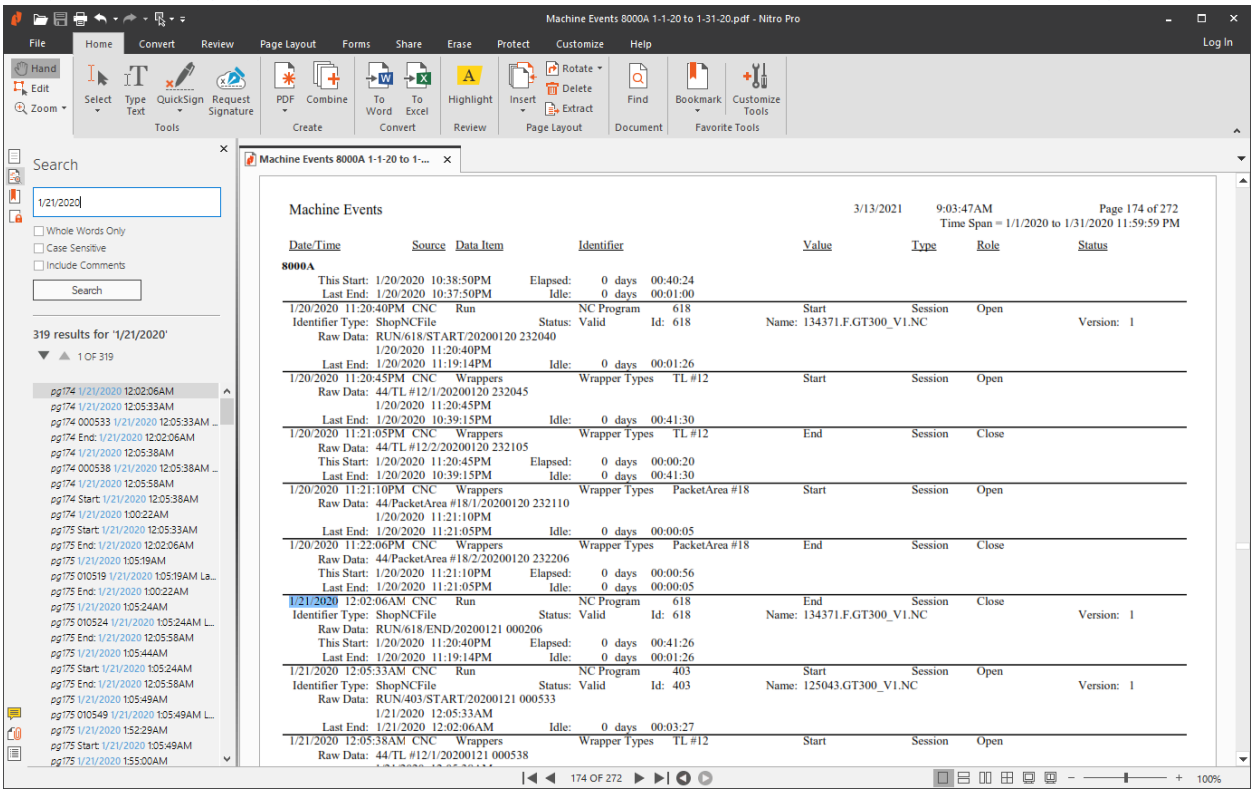
If you were to generate a ShopReport for a time frame of a year with 10 Machines the ShopReport would be consist of over 31,000 pages and 350,000 Events!

The ShopReport has a limit of around 34,000 pages of Events after which it will error out! You will find that generating the other ShopReports for a year for 20 Machines won't reach 34,000 pages but honestly you will never need to generate ShopReports where you select all of Machines since using it gets messy sorting machines, ShopNCFiles and various time frames!

Let's configure the above selecting one Machine 8000A for one month. 1/1/2020 to 1/31/2020!

Choose the General ShopReports "Machine Events" then click on the "Show Filtered" Button and the following Window is displayed.

ShopMonitor ShopReports (ShopReports- Machine Events 1/1/2020 to 1/31/2020 Search 1/21/2020)



To zoom in on the chart hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

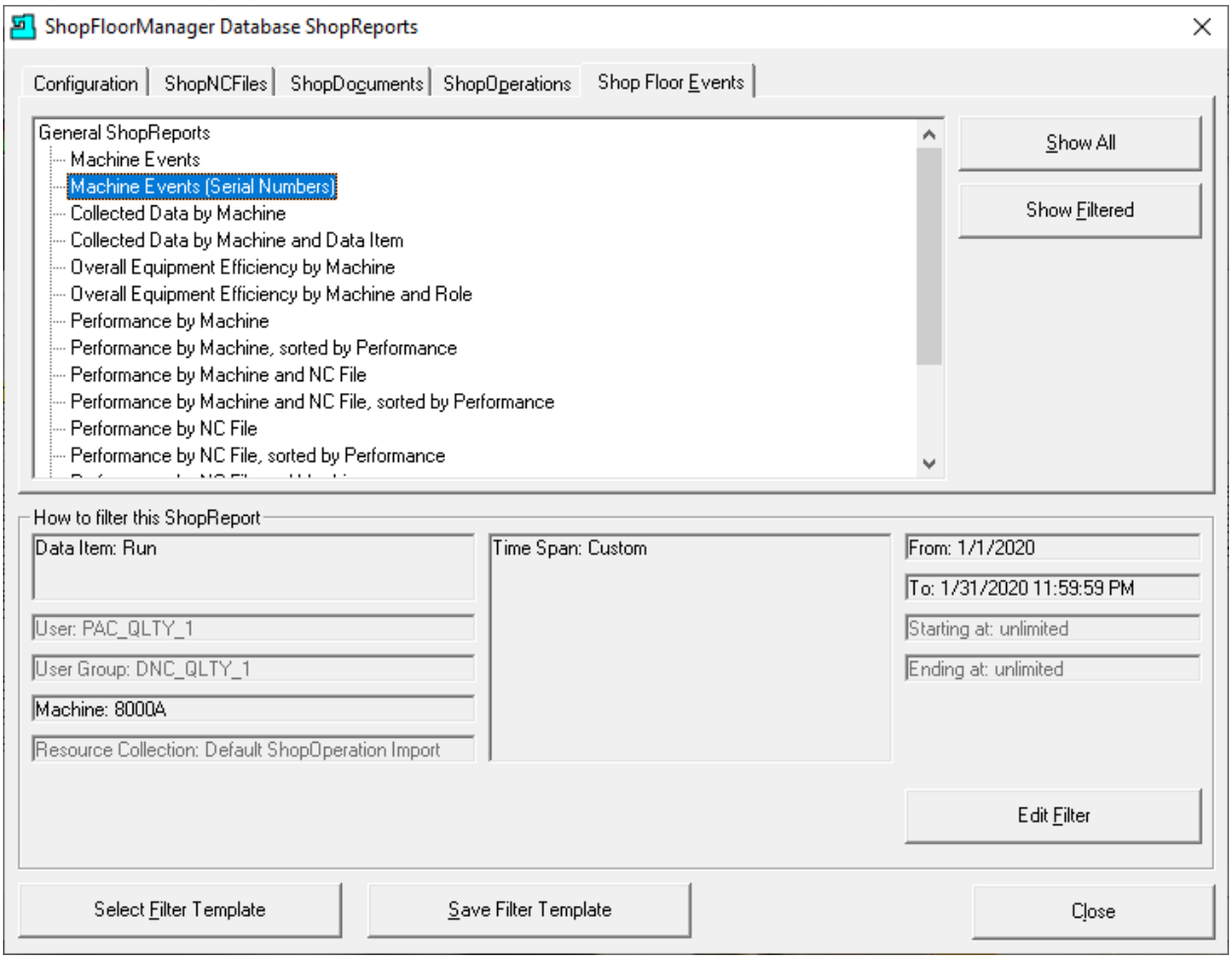
These are the Raw Machine Events that are used to generate all of the Reports & Charts. You can't get any more detailed information on each Event then these.

Using the general procedure detailed above you should be able to analyze any recorded Events on the Shopfloor allowing you to control your Company's Future Quality, Efficiency and Profits!

Note: See ShopReports: Convert to PDF for creating a PDF for a native ShopReport!

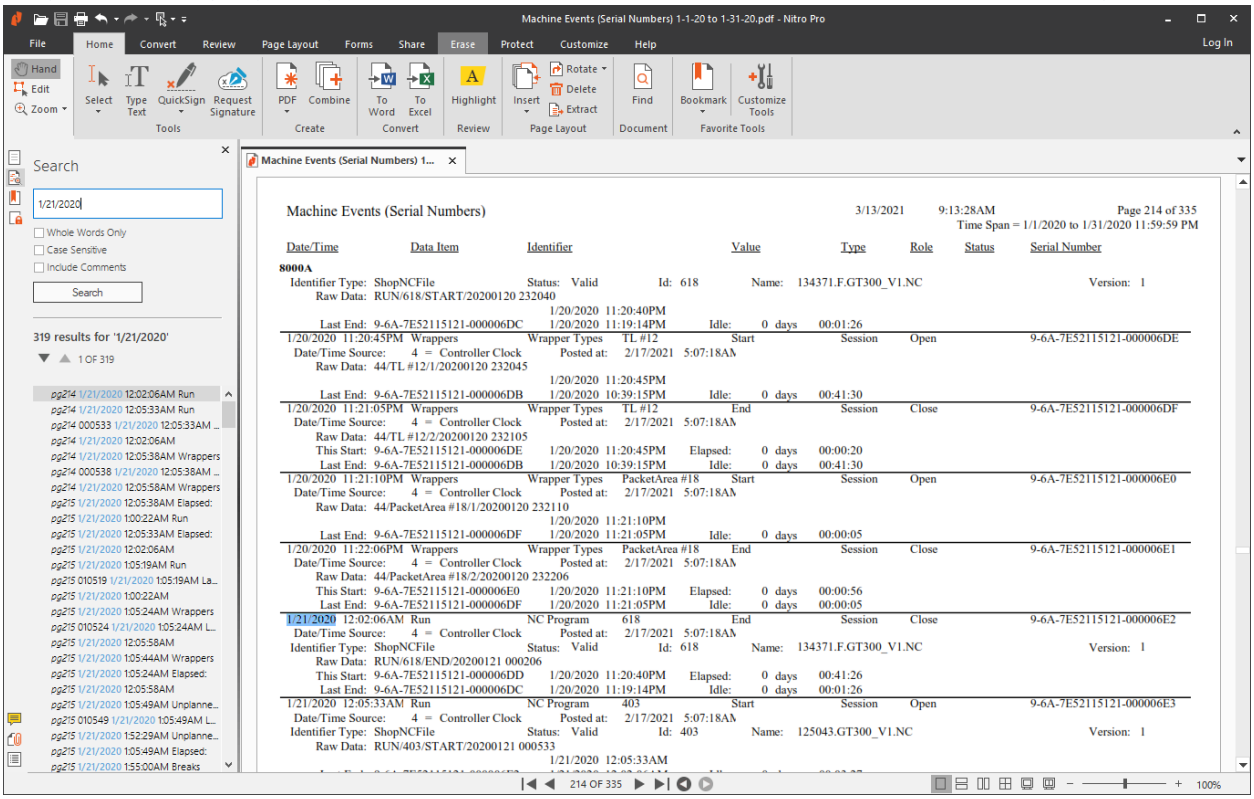
Now to the next Report "Collect Data by Machine"!

ShopMonitor ShopReports (ShopReports- Machine Events (Serial Numbers))



Use the same configuration as Machine Events and click on the “Show Filtered” Button and the following Window is displayed.

ShopMonitor ShopReports (ShopReports- Machine Events (Serial Number) 1/1/2020 to 1/31/2020…)



To zoom in on the chart hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

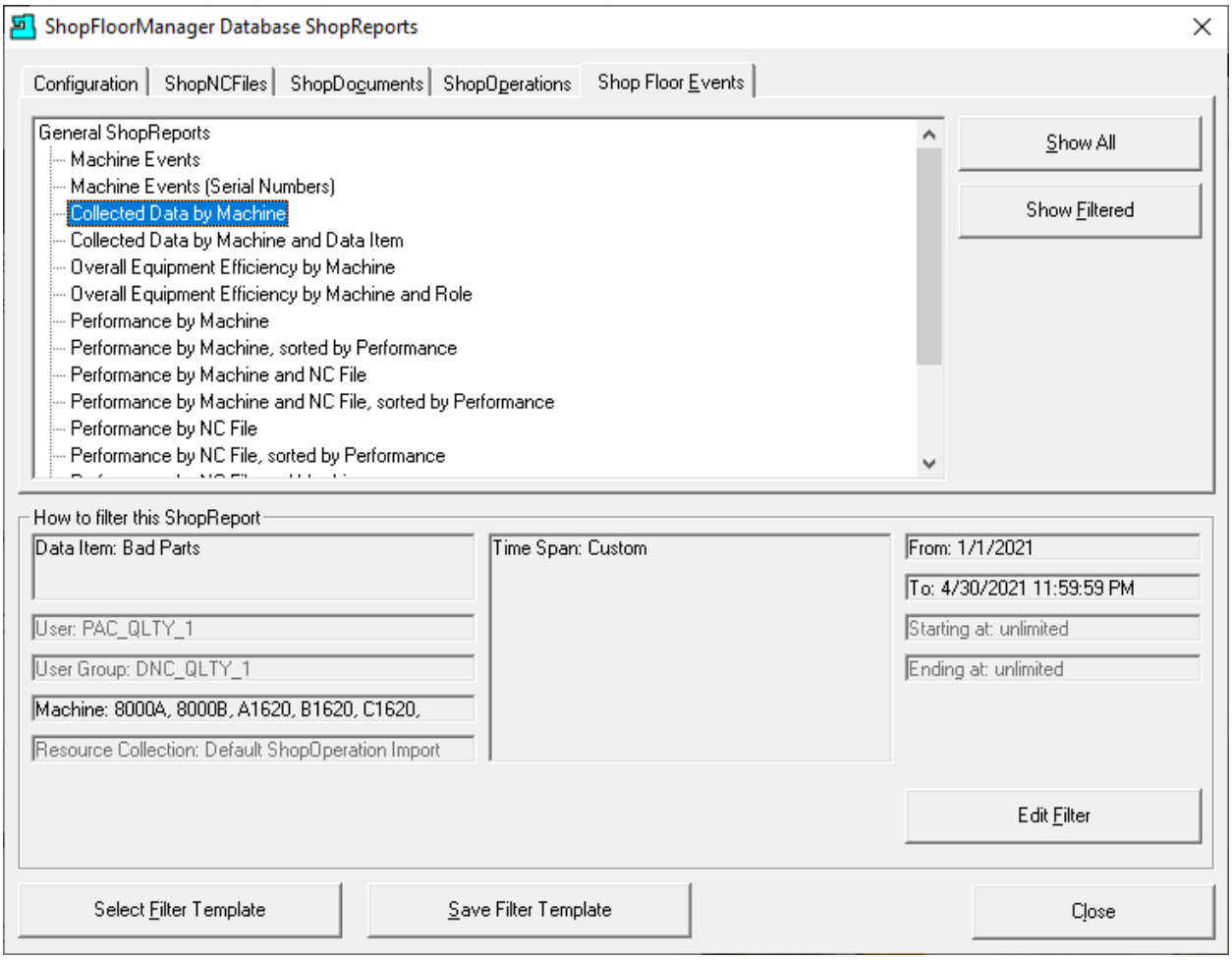
These are the Raw Machine Events that would only be used if you needed help from CCI analyzing a ShopReport that has stumped you!

The addition of Serial Numbers ties all Events together in a temporal Chain of Events.

Note: See ShopReports: Convert to PDF for creating a PDF for a native ShopReport!

Now to the next Report “Collect Data by Machine”!

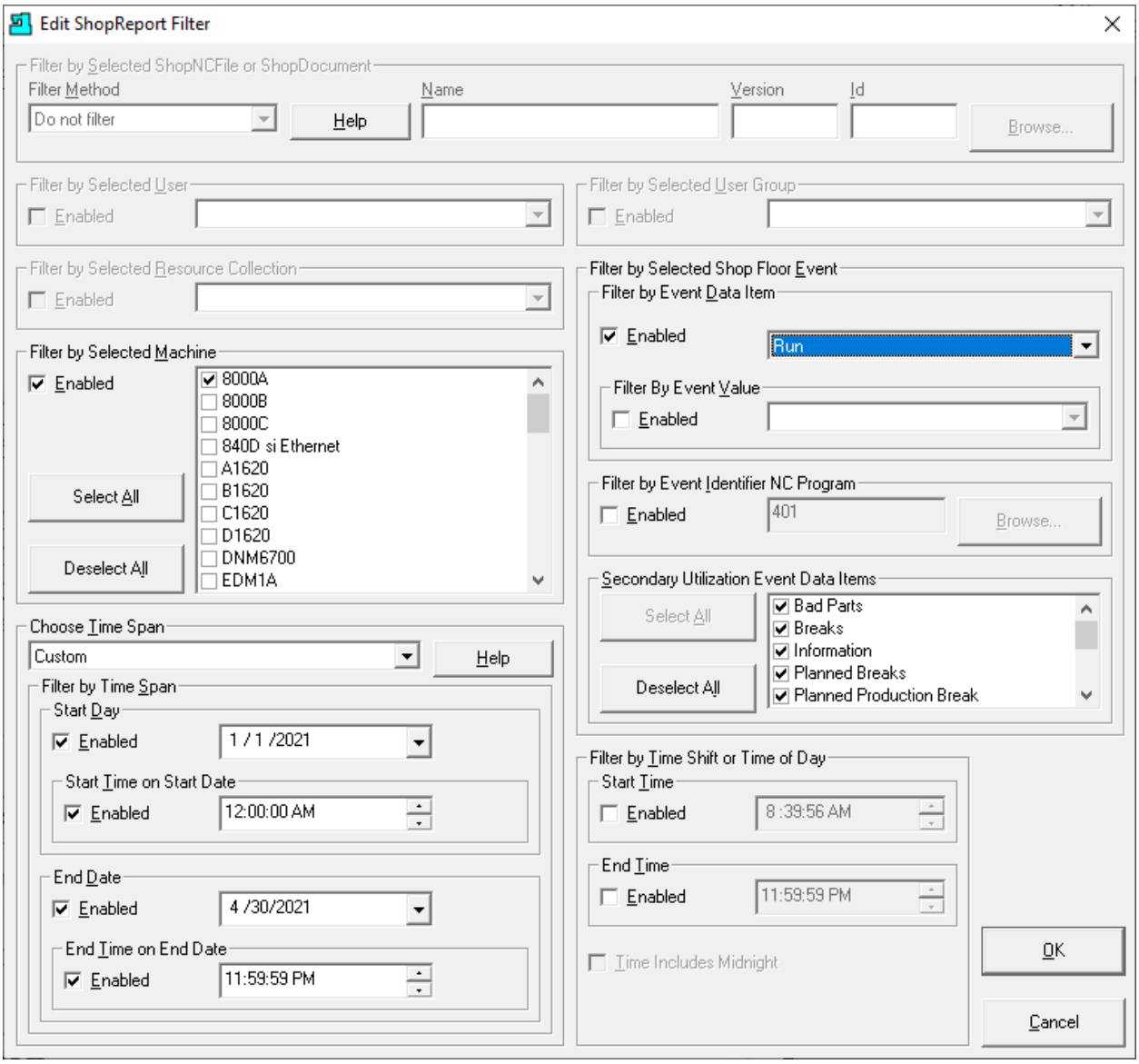
ShopMonitor ShopReports (Collected Data by Machine)



We need to configure the Report Filter before generating Reports. Click on the “Edit Filter” Button and the “Edit Report Filter” Window is displayed.

Note: We will use this section to dig in how we use the “ShopReport Filter” to Generate Reports that allows you to quickly find where you are having any Production Problems!

ShopMonitor ShopReports (Collected Data by Machine – "Report Filter")

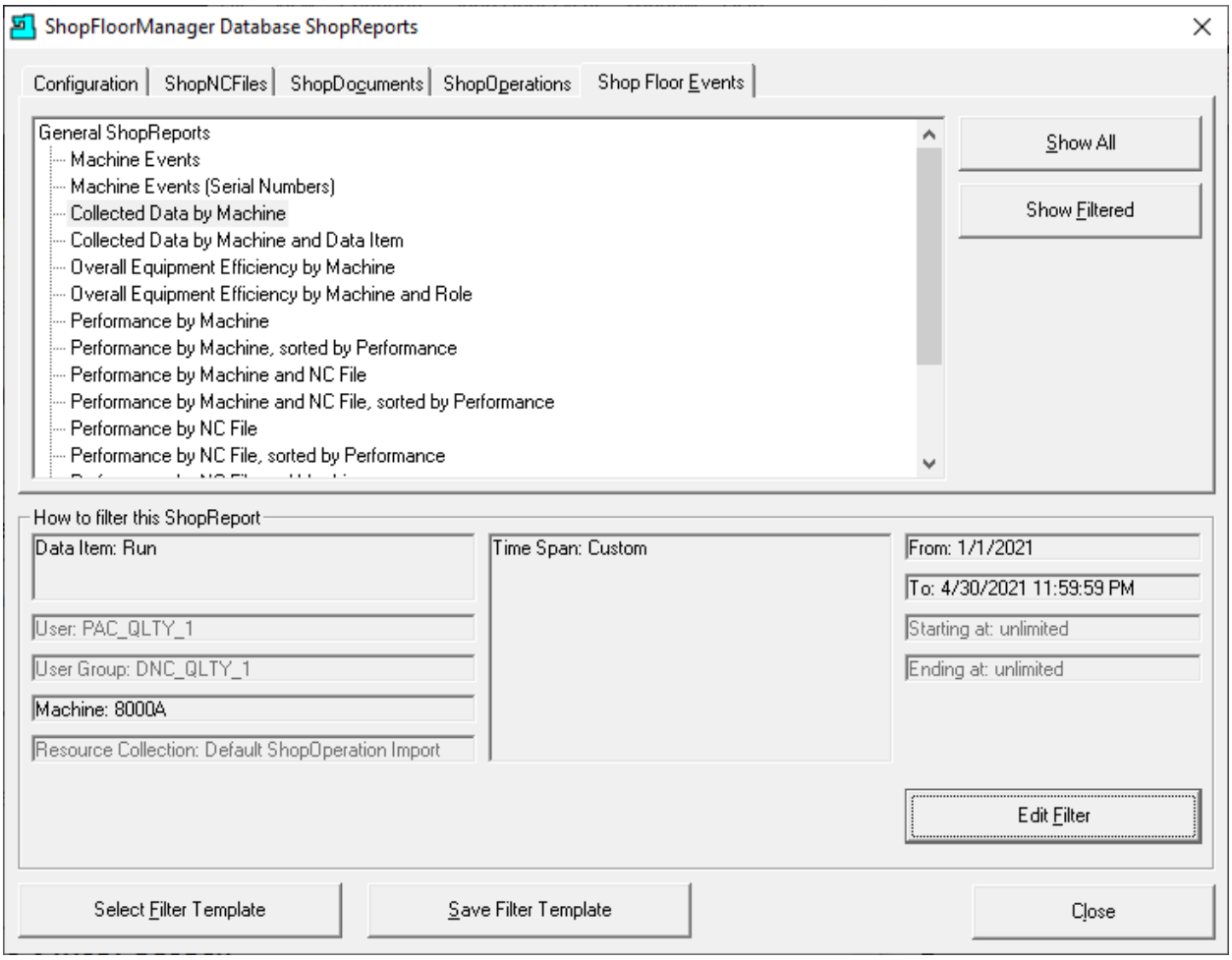


To find out more general information click on the previous link for the "ShopReport Filter". It is obvious what the above "Report Filter" does in terms limiting the generated Reports to the specific configuration! What is not obvious is why you would want to limit a specific report!

Let's generate a specific report for one Machine over a given time frame that includes many "options" in the "Filter by Selected Shop Floor Event" section! We will then narrow these "options" with the goal of locating Events that are of specific interest in finding production problems.

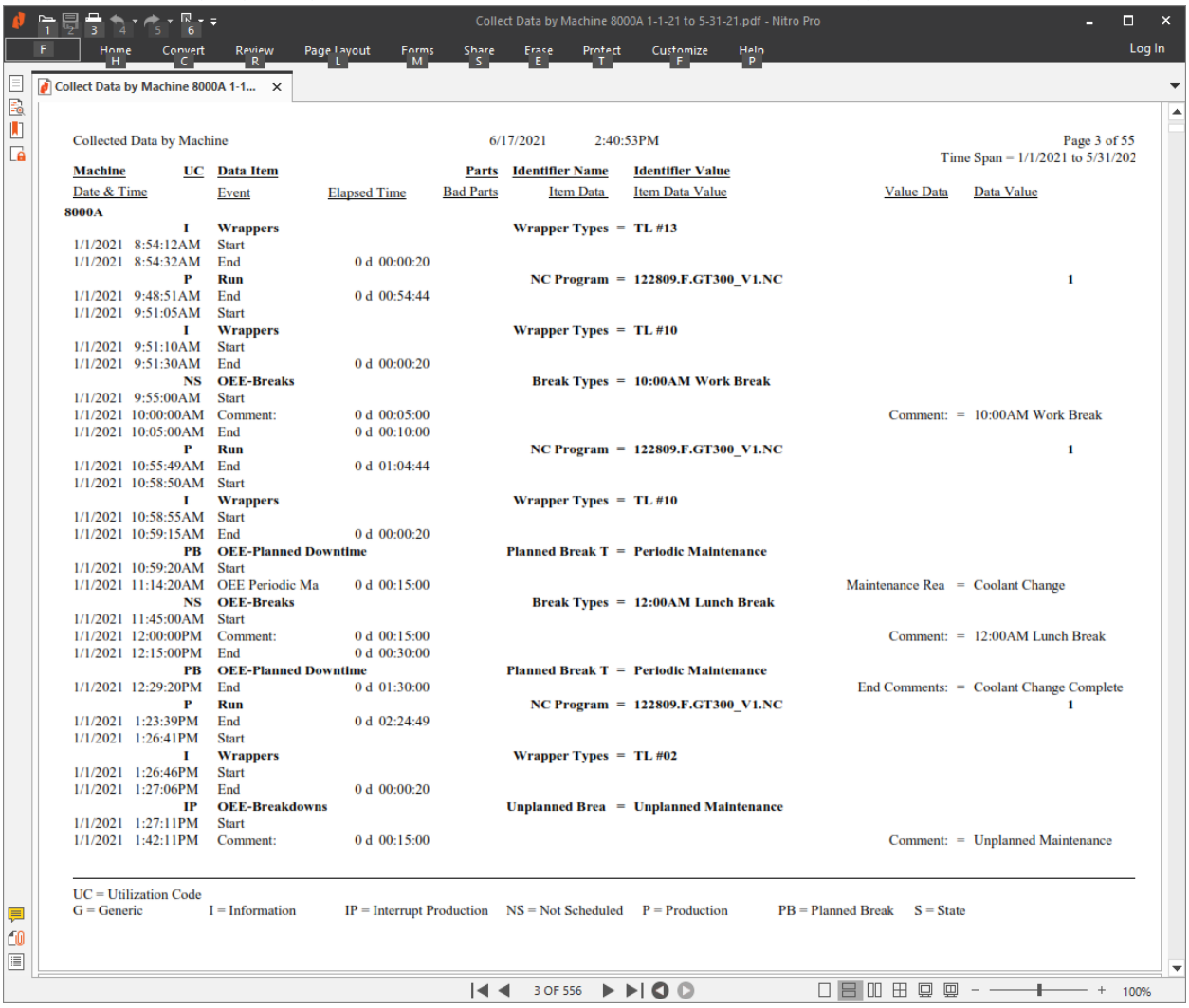
Using the configurations shown above click on the OK Button and the following Window will be displayed!

ShopMonitor ShopReports (Collected Data by Machine – Report Filter configured)



Click the “Show Filtered” Button to generate a ShopReport limited to the previous “ShopReport Filter” configuration! The following Report is generated. We will generate a PDF file from the base file. They will allow us to search for relevant data within the Report!

ShopMonitor ShopReports (Collected Data by Machine 8000A – Report Generated)



Collect Data by Machine 8000A 1-1-21 to 5-31-21.pdf - Nitro Pro

Collect Data by Machine 8000A 1-1...

Collected Data by Machine 6/17/2021 2:40:53PM Page 3 of 55

Time Span = 1/1/2021 to 5/31/202

Machine / Date & Time	UC	Data Item / Event	Elapsed Time	Parts / Bad Parts	Identifier Name / Item Data	Identifier Value / Item Data Value	Value Data	Data Value
8000A								
	I	**Wrappers**			**Wrapper Types**	**= TL #13**		
1/1/2021 8:54:12AM		Start						
1/1/2021 8:54:32AM		End	0 d 00:00:20					
	P	**Run**			**NC Program**	**= 122809.F.GT300_V1.NC**		**1**
1/1/2021 9:48:51AM		End	0 d 00:54:44					
1/1/2021 9:51:05AM		Start						
	I	**Wrappers**			**Wrapper Types**	**= TL #10**		
1/1/2021 9:51:10AM		Start						
1/1/2021 9:51:30AM		End	0 d 00:00:20					
	NS	**OEE-Breaks**			**Break Types**	**= 10:00AM Work Break**		
1/1/2021 9:55:00AM		Start						
1/1/2021 10:00:00AM		Comment:	0 d 00:05:00				Comment:	= 10:00AM Work Break
1/1/2021 10:05:00AM		End	0 d 00:10:00					
	P	**Run**			**NC Program**	**= 122809.F.GT300_V1.NC**		**1**
1/1/2021 10:55:49AM		End	0 d 01:04:44					
1/1/2021 10:58:50AM		Start						
	I	**Wrappers**			**Wrapper Types**	**= TL #10**		
1/1/2021 10:58:55AM		Start						
1/1/2021 10:59:15AM		End	0 d 00:00:20					
	PB	**OEE-Planned Downtime**			**Planned Break T**	**= Periodic Maintenance**		
1/1/2021 10:59:20AM		Start						
1/1/2021 11:14:20AM		OEE Periodic Ma	0 d 00:15:00				Maintenance Rea	= Coolant Change
	NS	**OEE-Breaks**			**Break Types**	**= 12:00AM Lunch Break**		
1/1/2021 11:45:00AM		Start						
1/1/2021 12:00:00PM		Comment:	0 d 00:15:00				Comment:	= 12:00AM Lunch Break
1/1/2021 12:15:00PM		End	0 d 00:30:00					
	PB	**OEE-Planned Downtime**			**Planned Break T**	**= Periodic Maintenance**		
1/1/2021 12:29:20PM		End	0 d 01:30:00				End Comments:	= Coolant Change Complete
	P	**Run**			**NC Program**	**= 122809.F.GT300_V1.NC**		**1**
1/1/2021 1:23:39PM		End	0 d 02:24:49					
1/1/2021 1:26:41PM		Start						
	I	**Wrappers**			**Wrapper Types**	**= TL #02**		
1/1/2021 1:26:46PM		Start						
1/1/2021 1:27:06PM		End	0 d 00:00:20					
	IP	**OEE-Breakdowns**			**Unplanned Brea**	**= Unplanned Maintenance**		
1/1/2021 1:27:11PM		Start						
1/1/2021 1:42:11PM		Comment:	0 d 00:15:00				Comment:	= Unplanned Maintenance

UC = Utilization Code
G = Generic I = Information IP = Interrupt Production NS = Not Scheduled P = Production PB = Planned Break S = State

3 OF 556 100%

To Zoom in on the above PDF hold down CTRL Key and manipulate the Mouse Wheel! The above Report is ideal when you want to look at every Machine Event in sequence for a particular Machine.

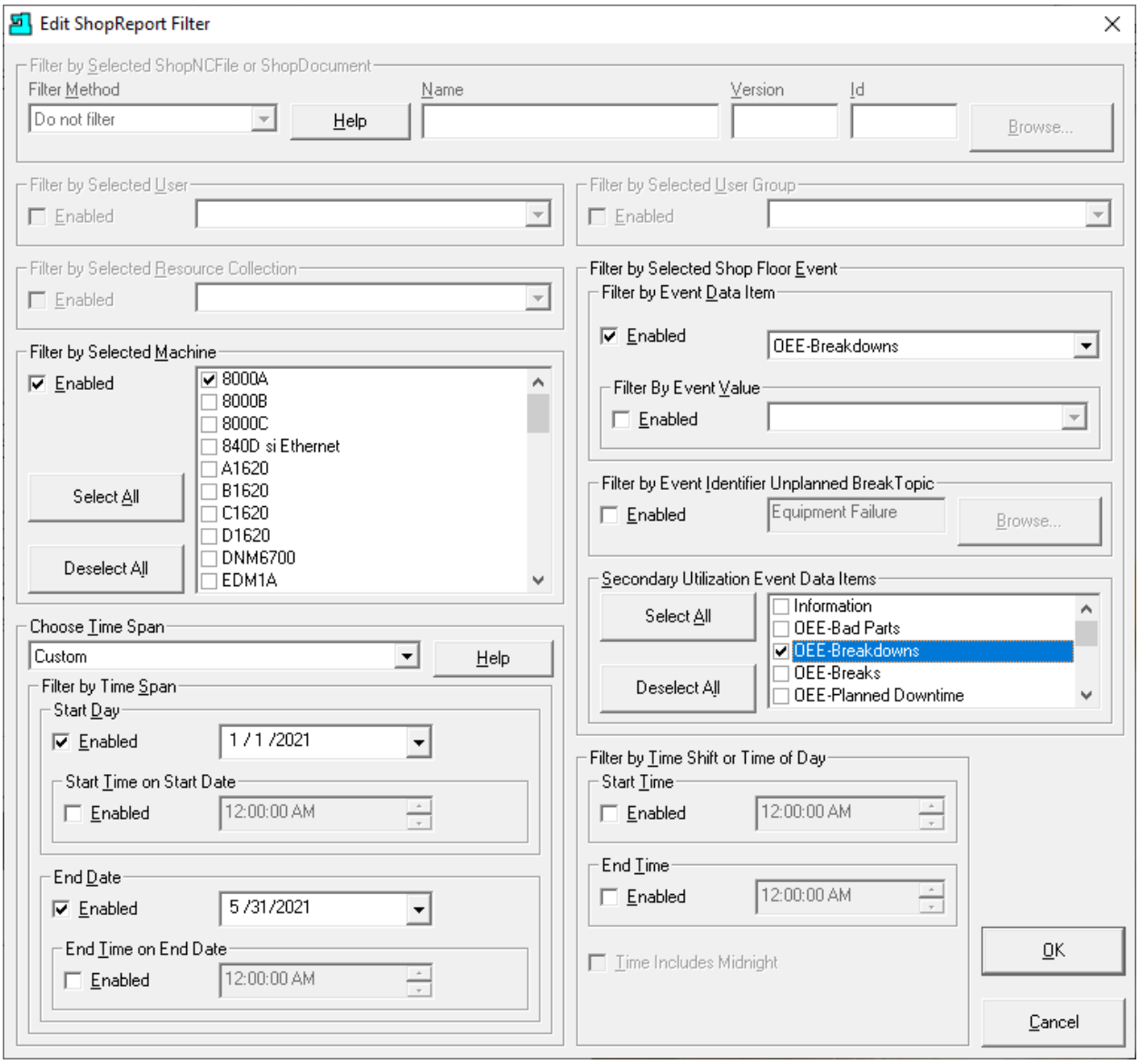
You can scroll through the Report hour by hour, day by day. If you know the general time span where these Events happened, you can narrow the Time Range! If you are looking for a few suspicious Events that won't show up in report that averages Event results this method works!

These Events could be an indication of future problems! Now suppose that other Reports such a OEE indicates you are having a problem with "OEE-Breakdowns" Events!

We would then change the "ShopReport Filter" as follows and regenerate the Report.

Note: See ShopReports: Convert to PDF for creating a PDF for a native ShopReport!

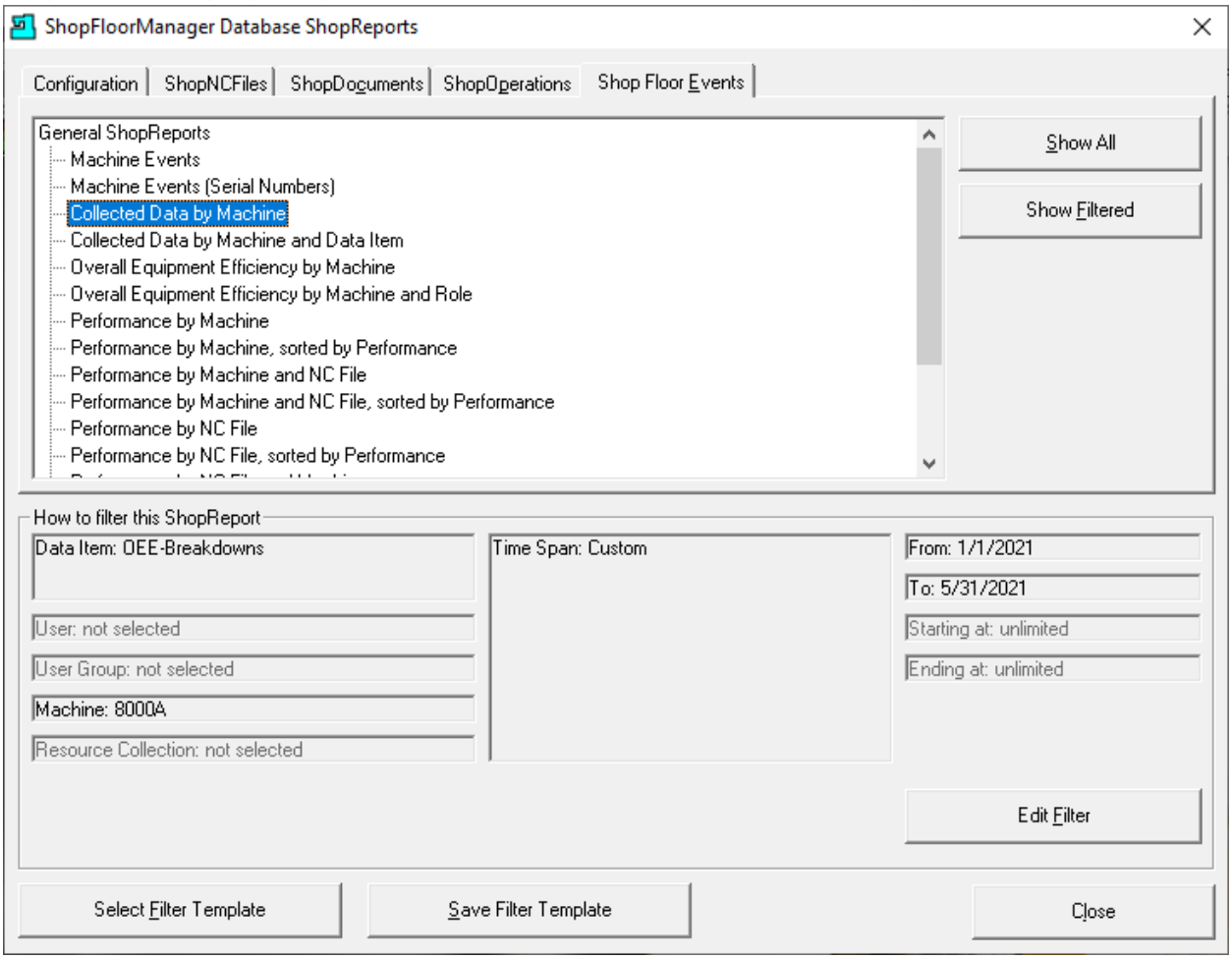
ShopMonitor ShopReports (Collected Data by Machine 8000A – "Report Filter - Modified")



We have changed the selections in the "Filter by Event Data Item" & "Secondary Utilization Event Data Items" sections to **ONLY SELECT** "OEE-Breakdowns"! The Report that will be generated with only these Events! You will not have to comb through every page to locate these Events!

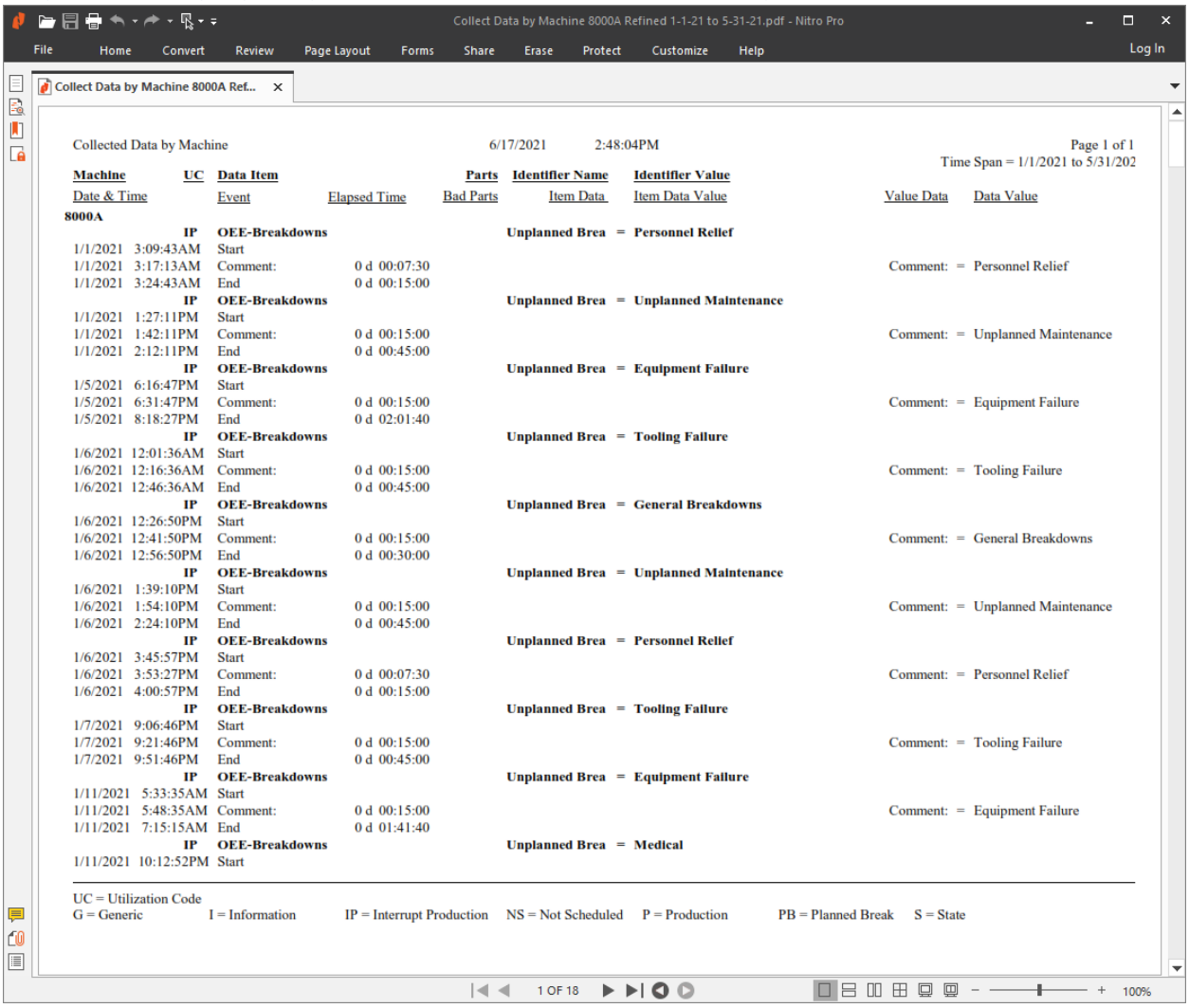
Click the OK Button and the following Window will be displayed!

ShopMonitor ShopReports (Collected Data by Machine – Report Filter re-configured)



Now click on the “Show Filtered” Button and the following Window is displayed.

ShopMonitor ShopReports (Collected Data by Machine – Report Refined)

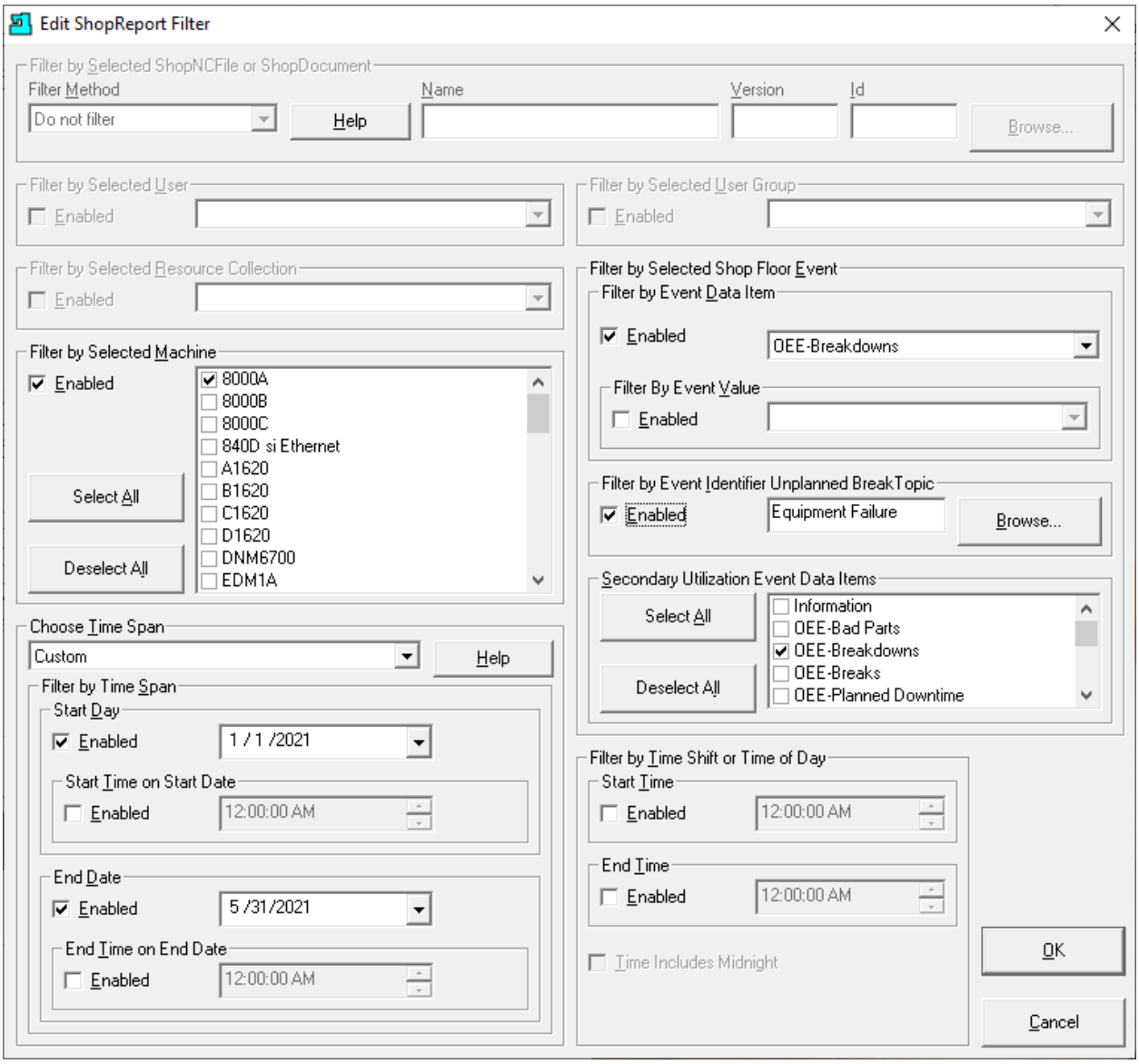


To Zoom in on the above PDF hold down CTRL Key and manipulate the Mouse Wheel! The above Report is ideal when you want to look at every Machine Event in sequence for a particular Machine.

As you can see only the Events associated with “OEE-Breakdowns” are shown. These also include all the User’s comments associated with a particular Event.

Note: See ShopReports: Convert to PDF for creating a PDF for a native ShopReport!

ShopMonitor ShopReports (Collected Data by Machine – "Report Filter – Refined again")

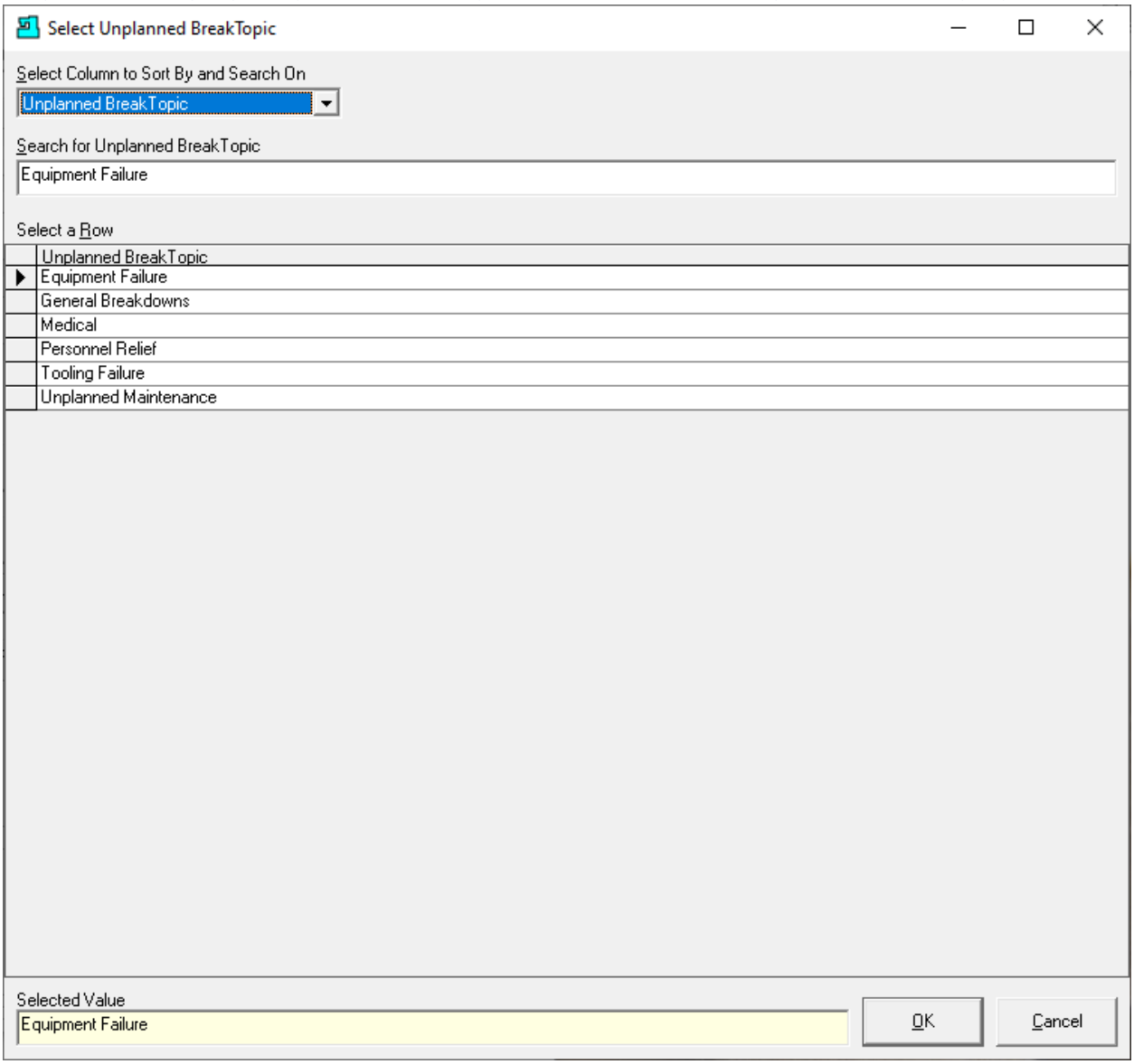


We have further refined the Events we want to investigate and have selected the "Filter by Event Identifier Unplanned Break Topic" Item: Equipment Failure!

Note: See the next page for the various Unplanned Break Topics that are available for selection.

Clicking the Enabled Checkbox & then the Browse Button and the following Window is displayed!

ShopMonitor ShopReports (Collected Data by Machine – " Search for Unplanned Break Topic")

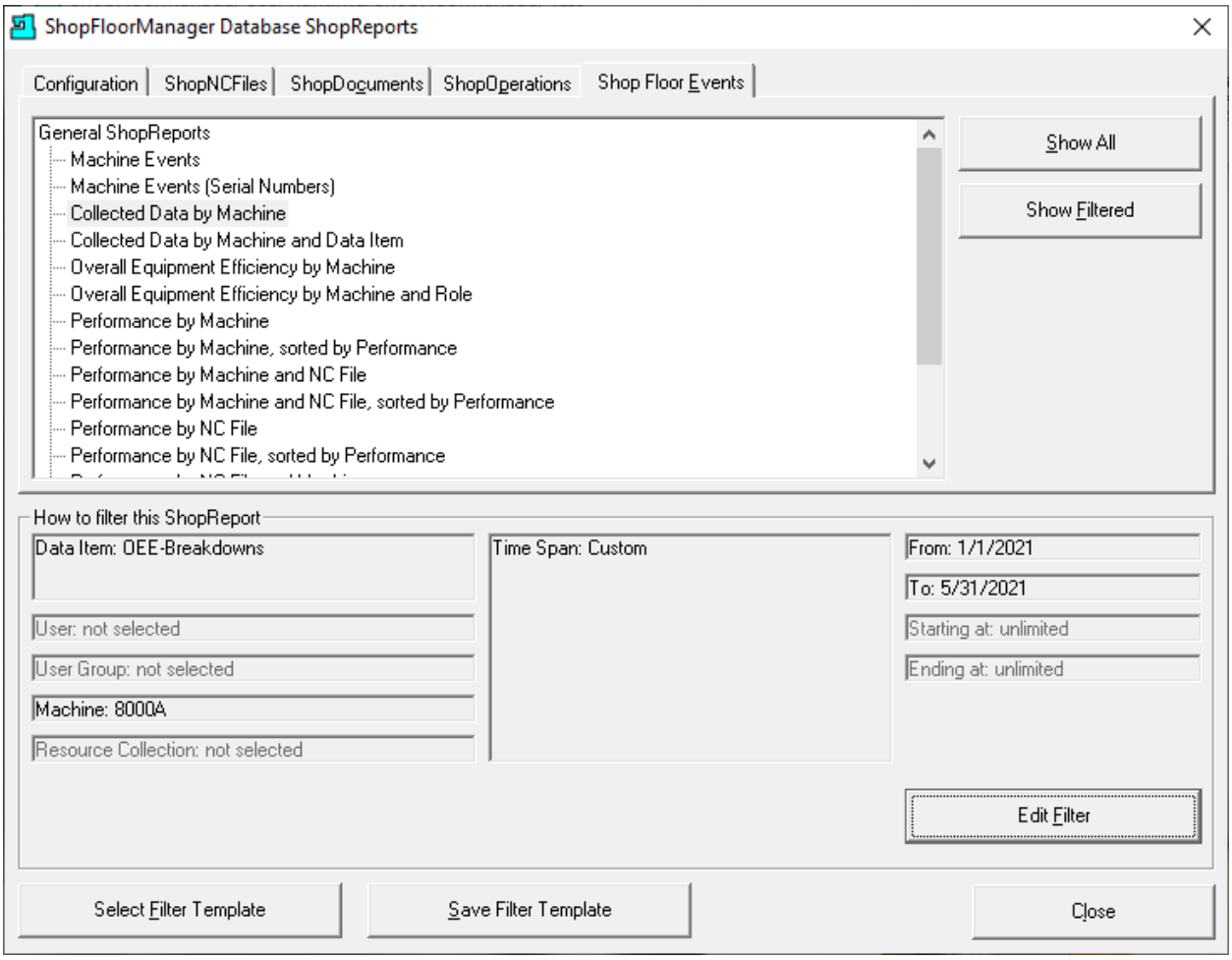


We have selected the "Equipment Failure" Topic to further refine the intersection of Events of interest.

After selecting the Event Topic click the OK Button and the previous Window will be displayed.

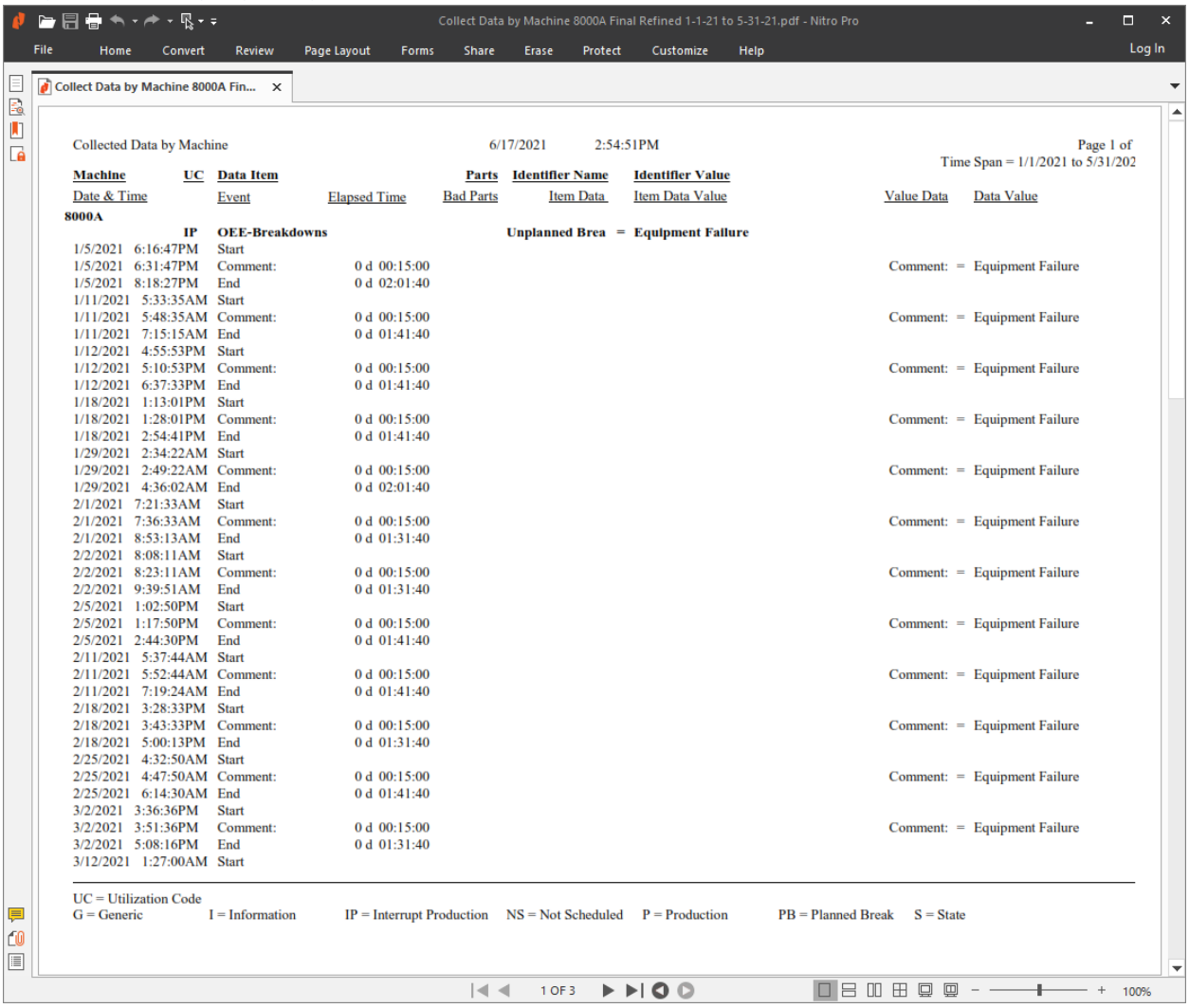
Click the OK Button and the following Window will be displayed!

ShopMonitor ShopReports (Collected Data by Machine – Report Filter re-configured)



Now click on the “Show Filtered” Button and the following Window is displayed.

ShopMonitor ShopReports (Collected Data by Machine 8000A – Refined ShopReportal Page 1)



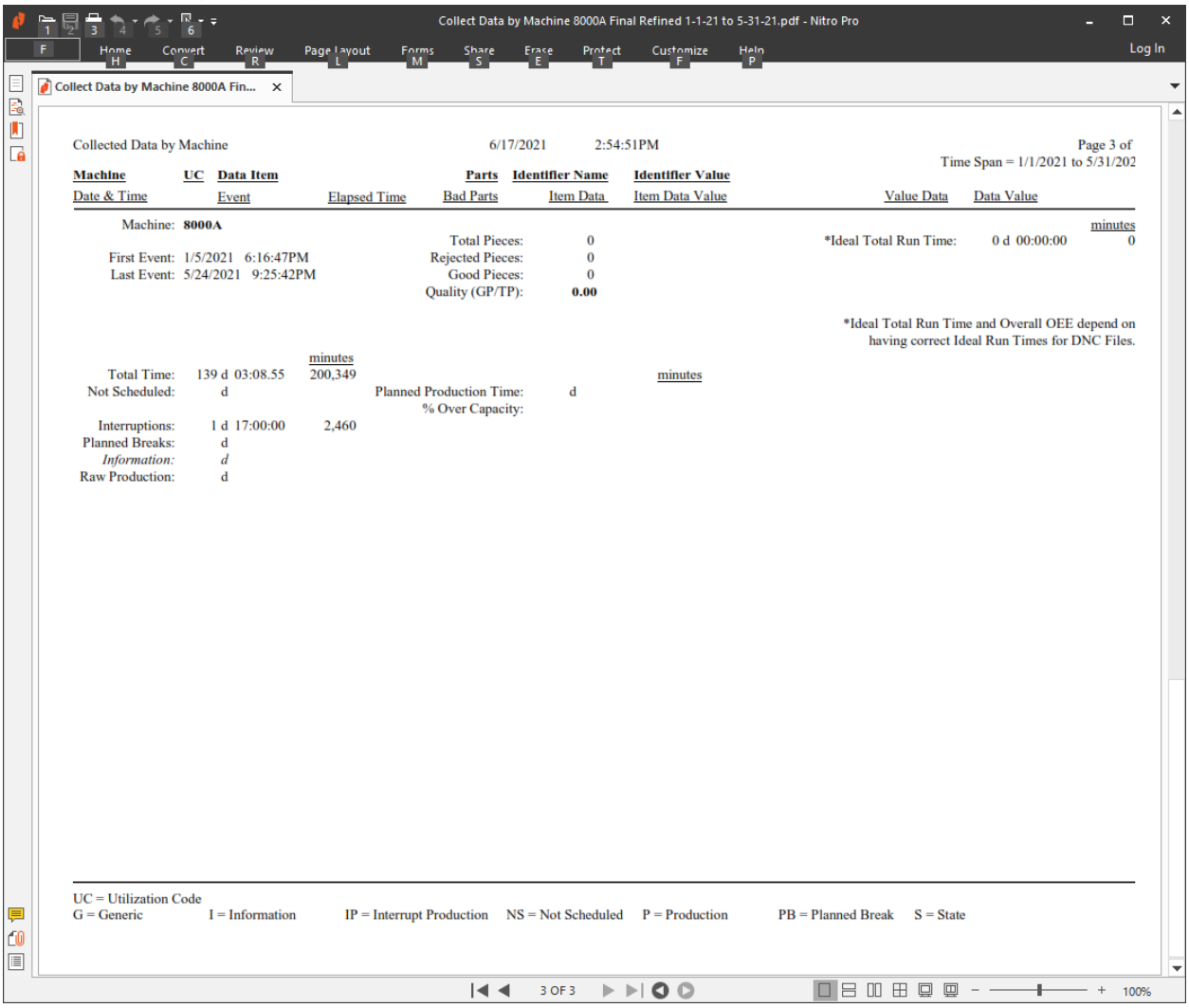
We have now selected the intersection of only the Events of which we are interested! This view displays only the first page. To see the ShopReport Summary click the last Black Arrow and the following Window will be displayed.

Note:

- To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!
- See ShopReports: Convert to PDF for creating a PDF for a native ShopReport!

Now to the next Report “Collect Data by Machine and Data Item”!

ShopMonitor ShopReports (Collected Data by Machine 8000A – Refined ShopReportal Page 3(Last))



The is the summary page with time details regarding the Events of interest. You can also examine the other pages for complete details of every Event!

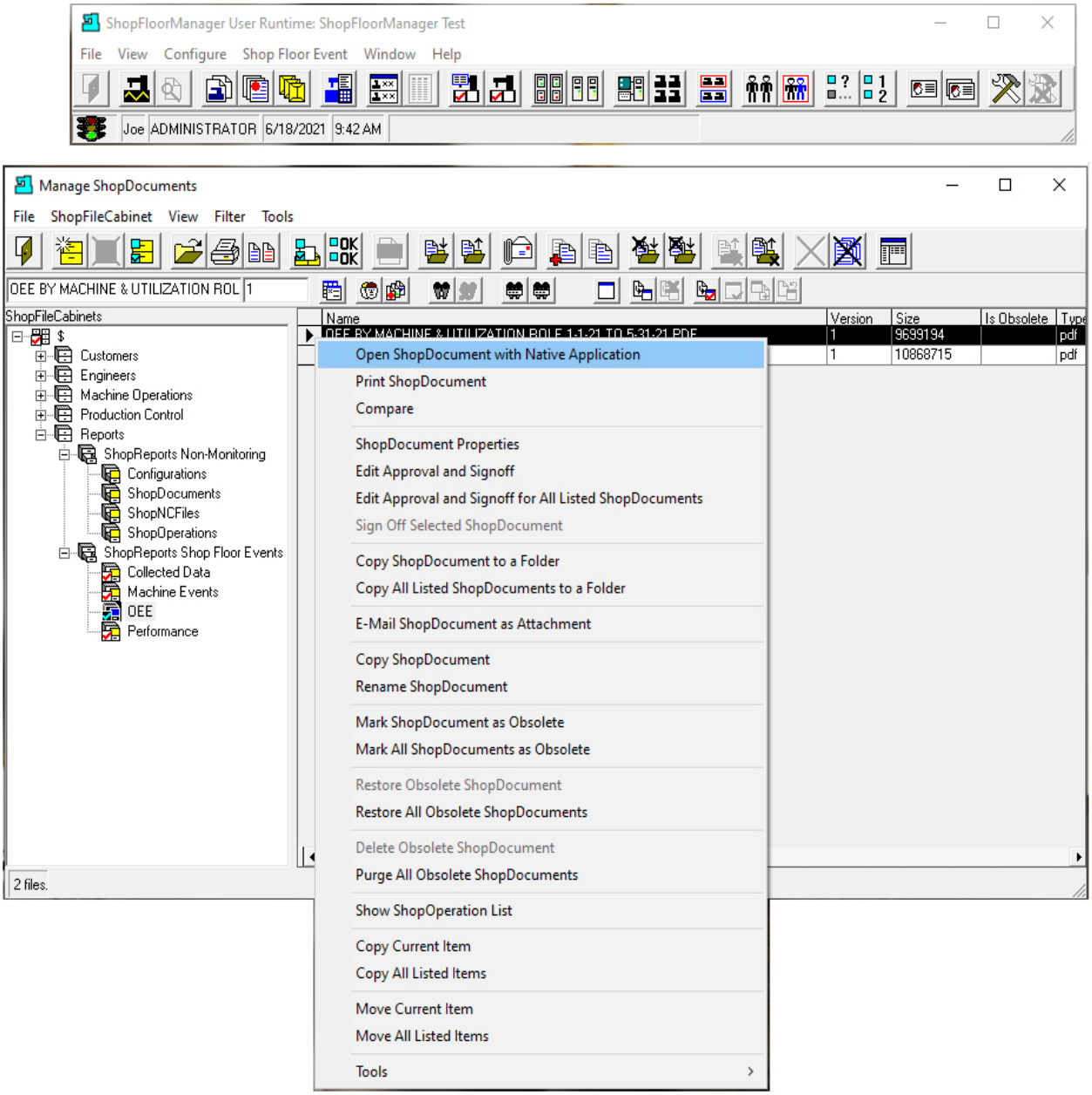
One of the benefits of converting the ShopReports to PDFs is the ability to perform searches on the PDF ShopReports.

Following we will use the PDF ShopReport "OEE by Machine & Utilization Role" to demonstrate the search capabilities and their uses.

Note:

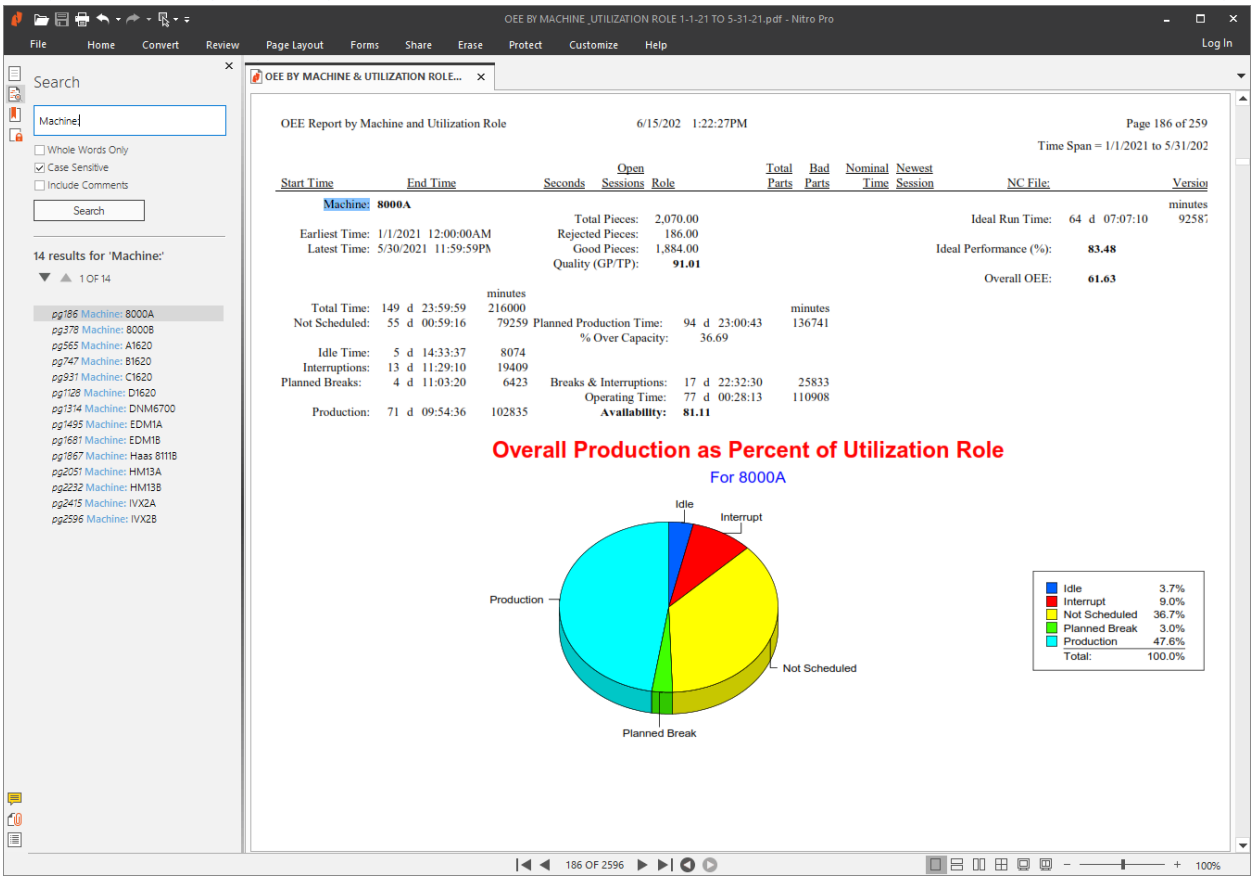
- To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!
- See ShopReports: Convert to PDF for creating a PDF for a native ShopReport!

ShopMonitor ShopReports (ShopFloorManager Runtime: Manage ShopDocuments Menu: Open ShopDoc…)



By Highlighting the ShopFileCabinet “OEE” and selecting the ShopReport “OEE By Mach…” this ShopReport is opened. See the next page!

ShopMonitor ShopReports (Collected Data by Machine 8000A –OEE by Machine & Util… Role 1-1-21 to 5-31-21)



We are using the Nitro PDF Application, but similar capabilities are also available using Adobe Reader. Once the Search Box is open you can enter any expressions that matches particular expressions in the ShopReport!

We have entered “Machine:”, have selected and set properties for the search, Case Sensitive, and then clicked the Search Button.

You can see the results for the search. Clicking on any of the results brings you to particular Machine and its OEE Calculations.

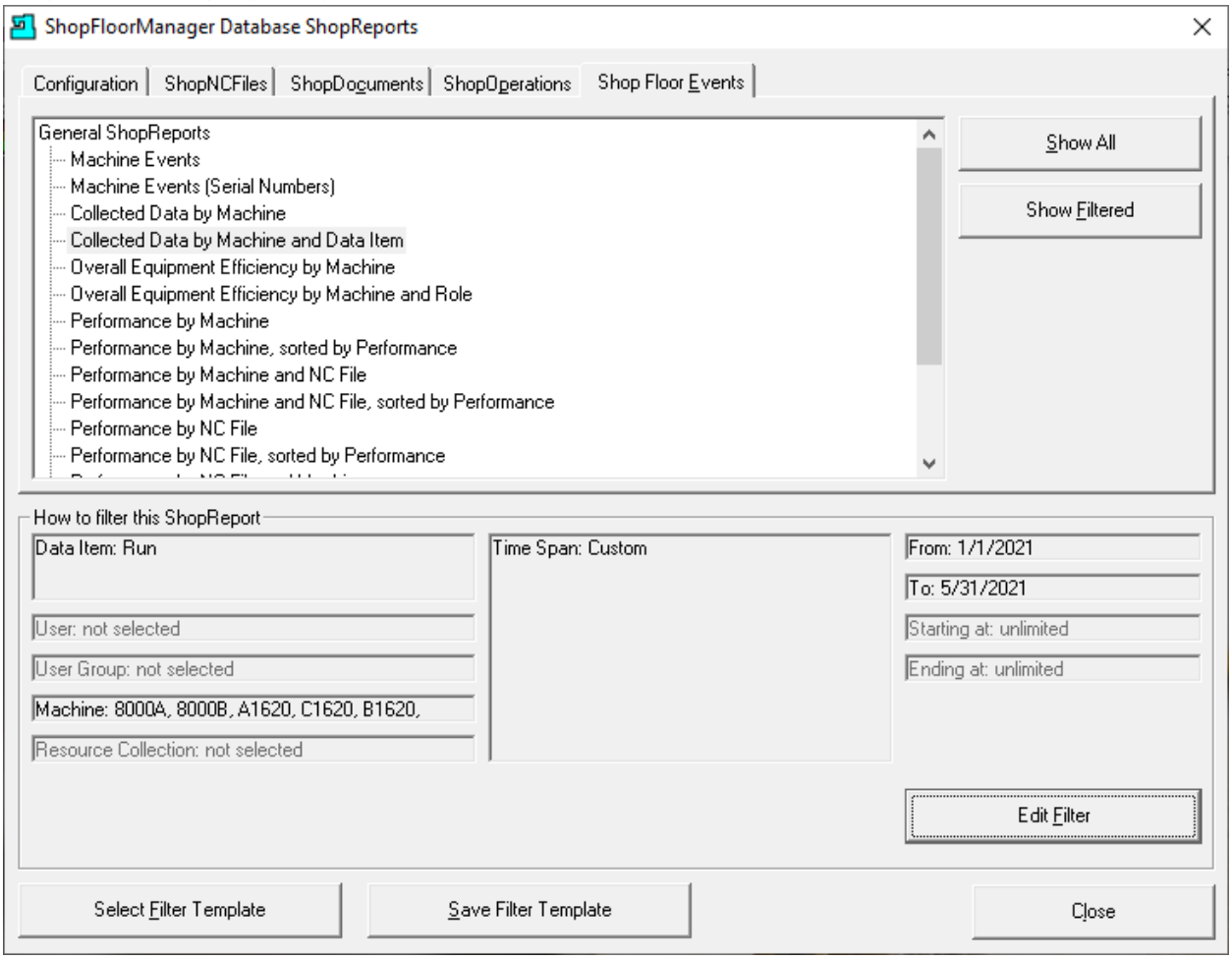
You can use the same approach for any of the PDF Reports and locate the information you are looking for. By using the ShopReport Filter & Search Phrases you can quickly find what you are looking for!

Note:

- To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!
- See ShopReports: Convert to PDF for creating a PDF for a native ShopReport!

We will now briefly look at the other Reports!

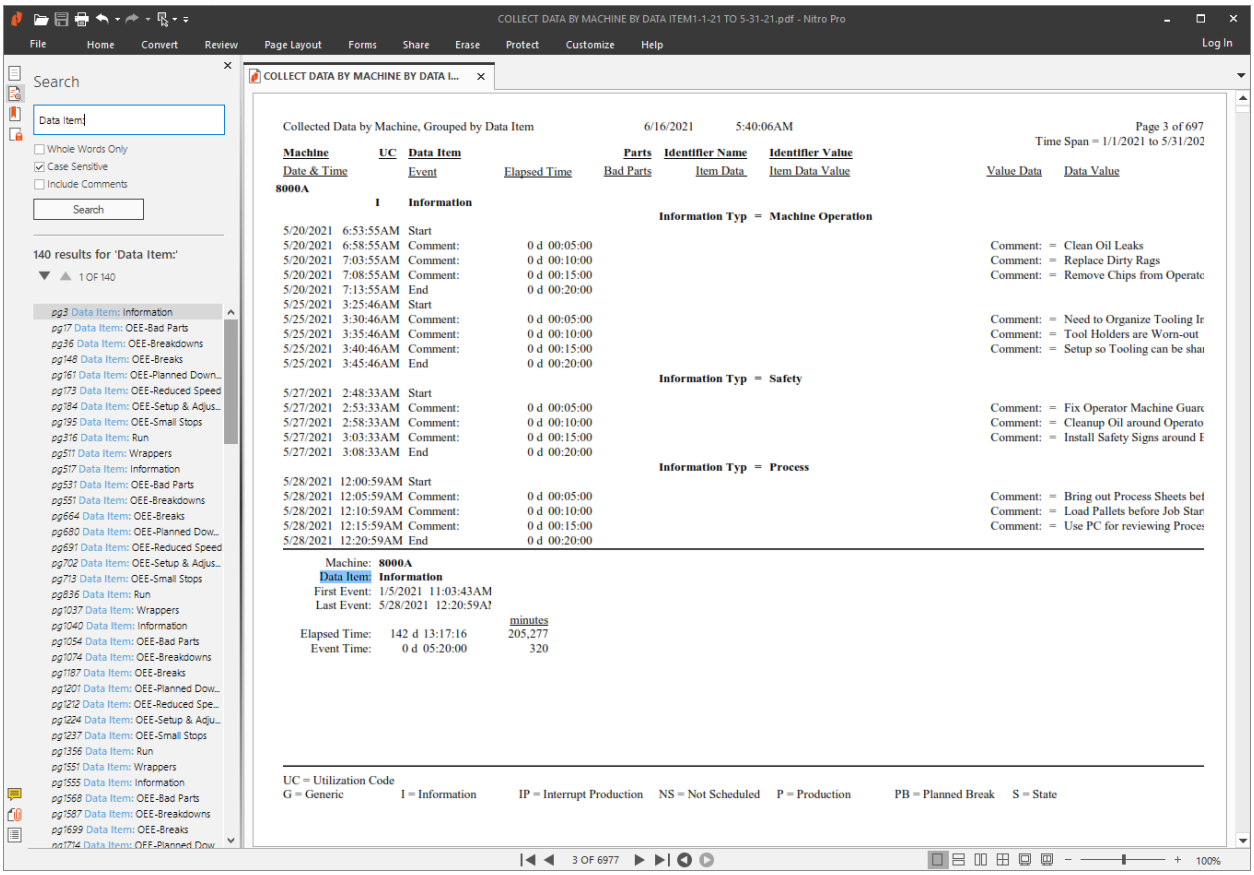
ShopMonitor ShopReports (Collected Data by Machine and Data Item)



Click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit [ShopReports: Convert to PDF] and read that section! This is important!

ShopMonitor ShopReports (Collected Data by Machine and Data Item - ShopReport)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

We have used the Search Box and typed in or copied “Data Item:” and selected the “Case Sensitive” Option and clicked on the Search Button.

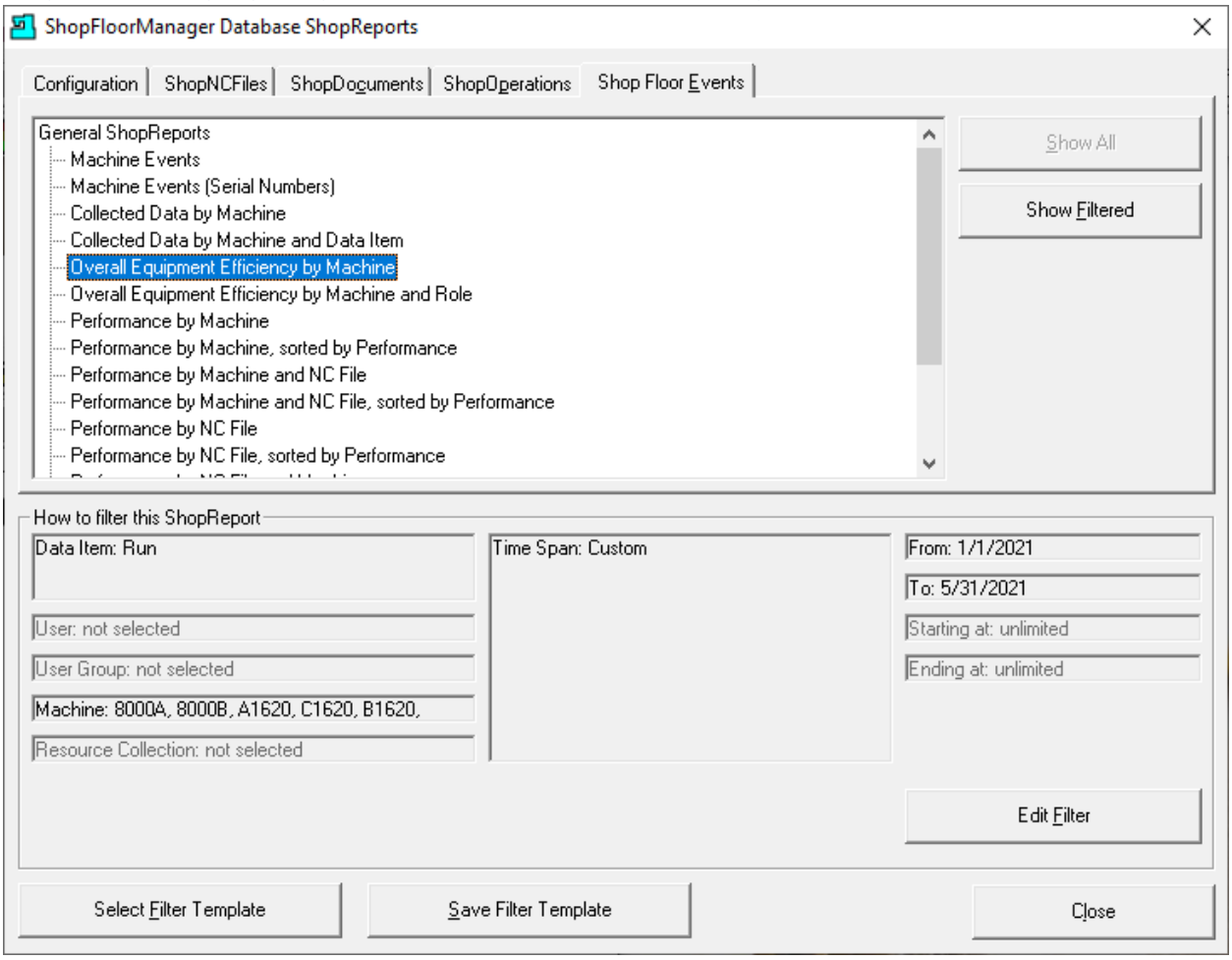
This will generate links for each Machine/Data Item! Click on any of the links and these will take you to the Machine/Data Item of interest in this ShopReport!

This Report has the completed details on each machining cycle including every Event/Role of this Cycle!

This ShopReports differs from the previous ShopReport in that it sections it off according to the Event/Role!

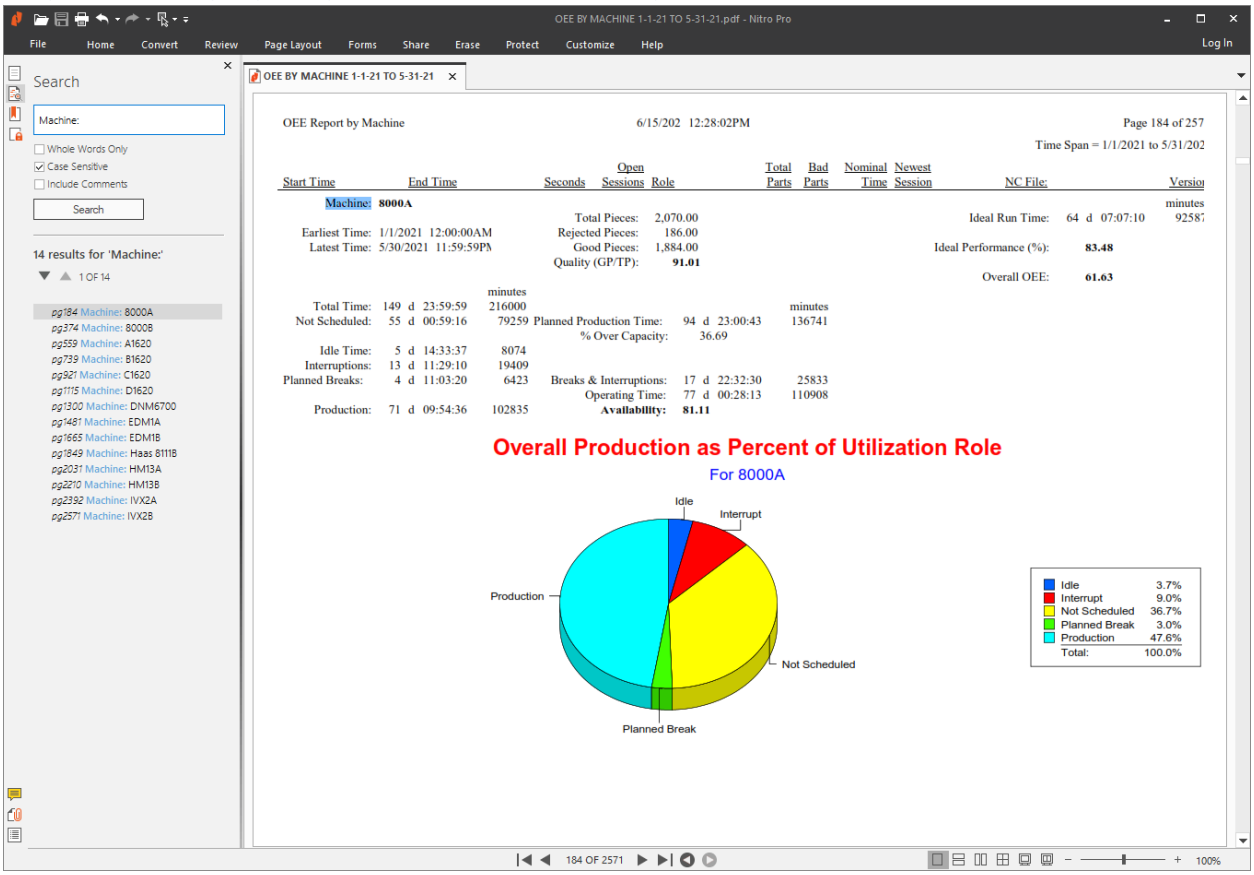
Now to the next Report “OEE by Machine”!

ShopMonitor ShopReports (Overall Equipment Efficiency by Machine)



Click the “Show Filtered” Button and the following Report will be displayed.

ShopMonitor ShopReports (OEE by Machine - ShopReport)



To zoom in on the above Chart hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

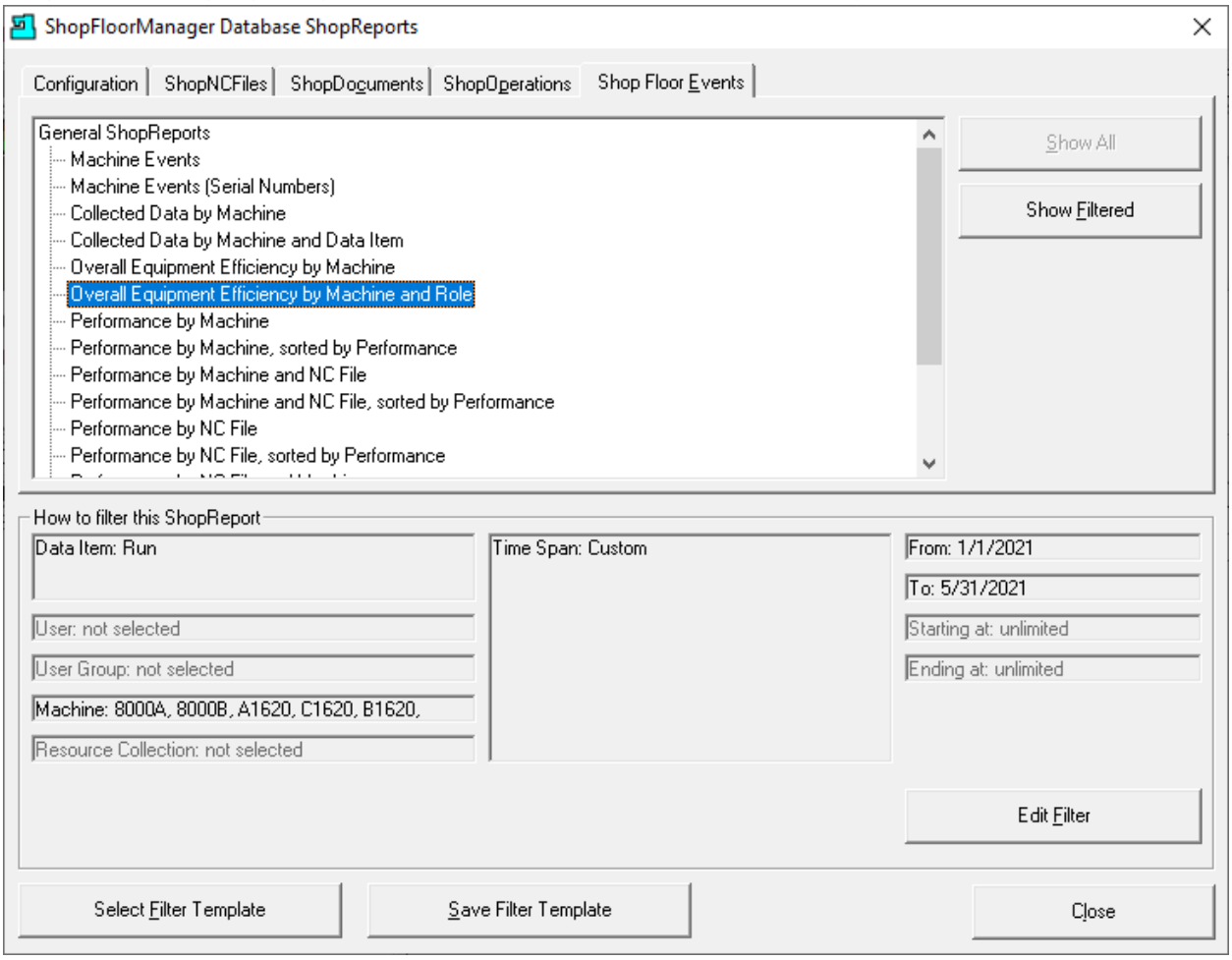
As you can see, we have opened the “OEE by Machine” Shop Report!

Click on the “Search the Document” Icon and a Search Text Box with several options are displayed. Type the text “Machine:” or “For” in the box and select the Case Sensitive option.

Click the Search Button and there will be a list of links that are generated that will take you to every Machines’ OEE Calculation!

When the link generation is complete the ShopReport displays the First OEE Calculations for the first Machine!

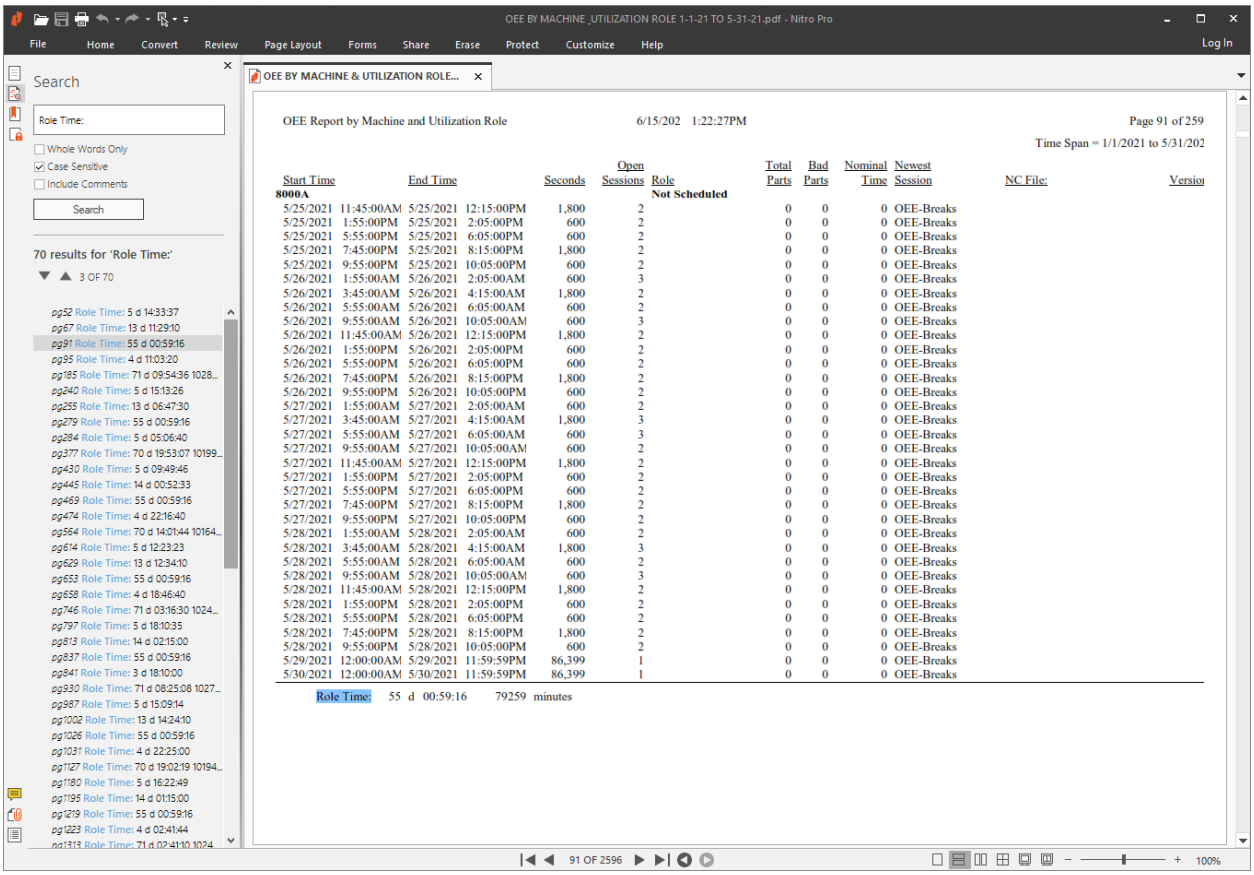
ShopMonitor ShopReports (Overall Equipment Efficiency by Machine and Role)



Highlight the “Overall Equipment Efficiency by Machine and Role” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit [ShopReports: Convert to PDF](#) and read that section! This is important!

ShopMonitor ShopReports (OEE by Machine and Role - ShopReport)

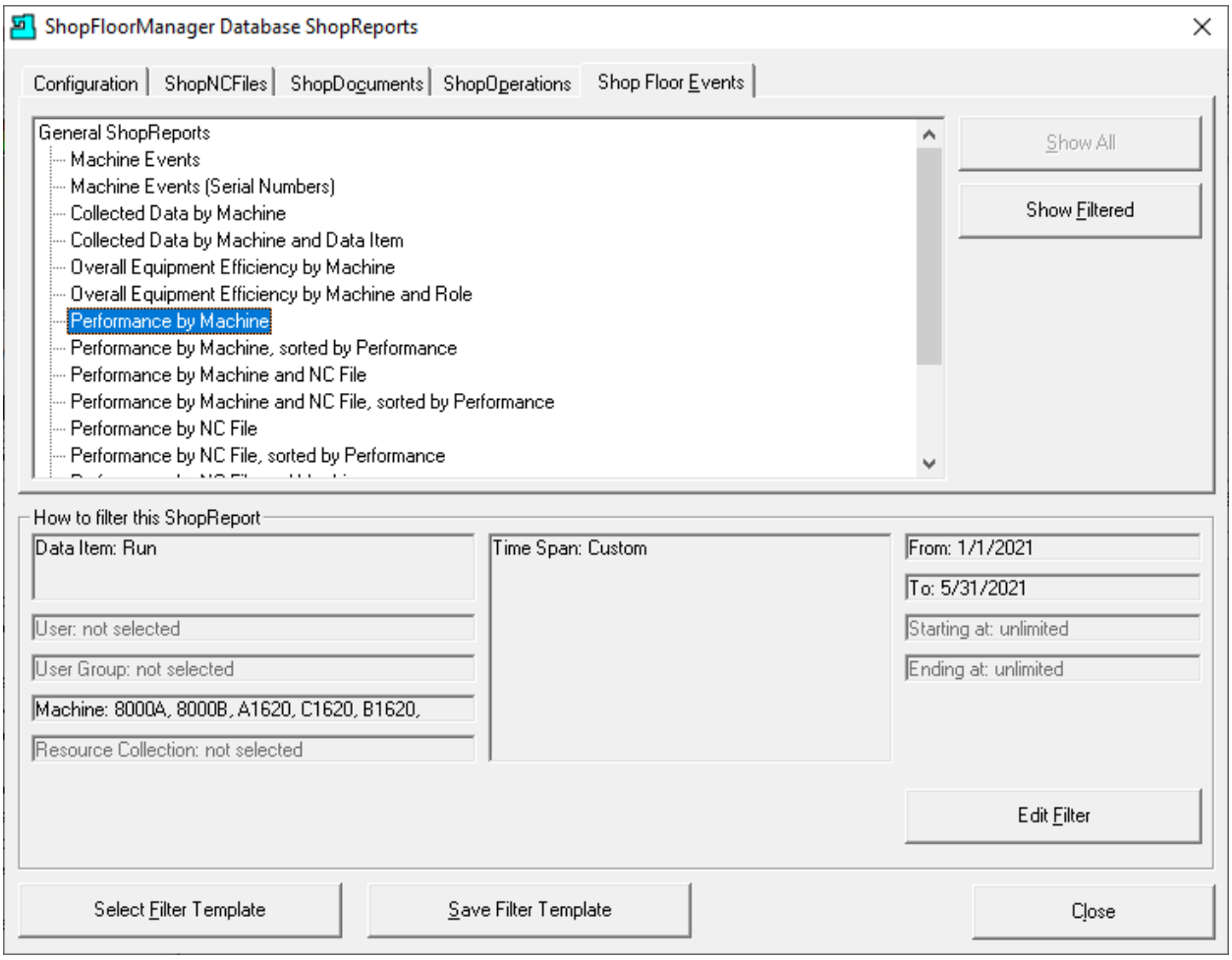


To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

We have used the Search Box and typed in “Role Time:” and selected the “Case Sensitive” Option and a generated list of links are displayed that can be clicked to go to those sections of the Report! These links will take you to the different OEE Calculations for each Machine Tool!

Now to the next Report “Performance by Machine”!

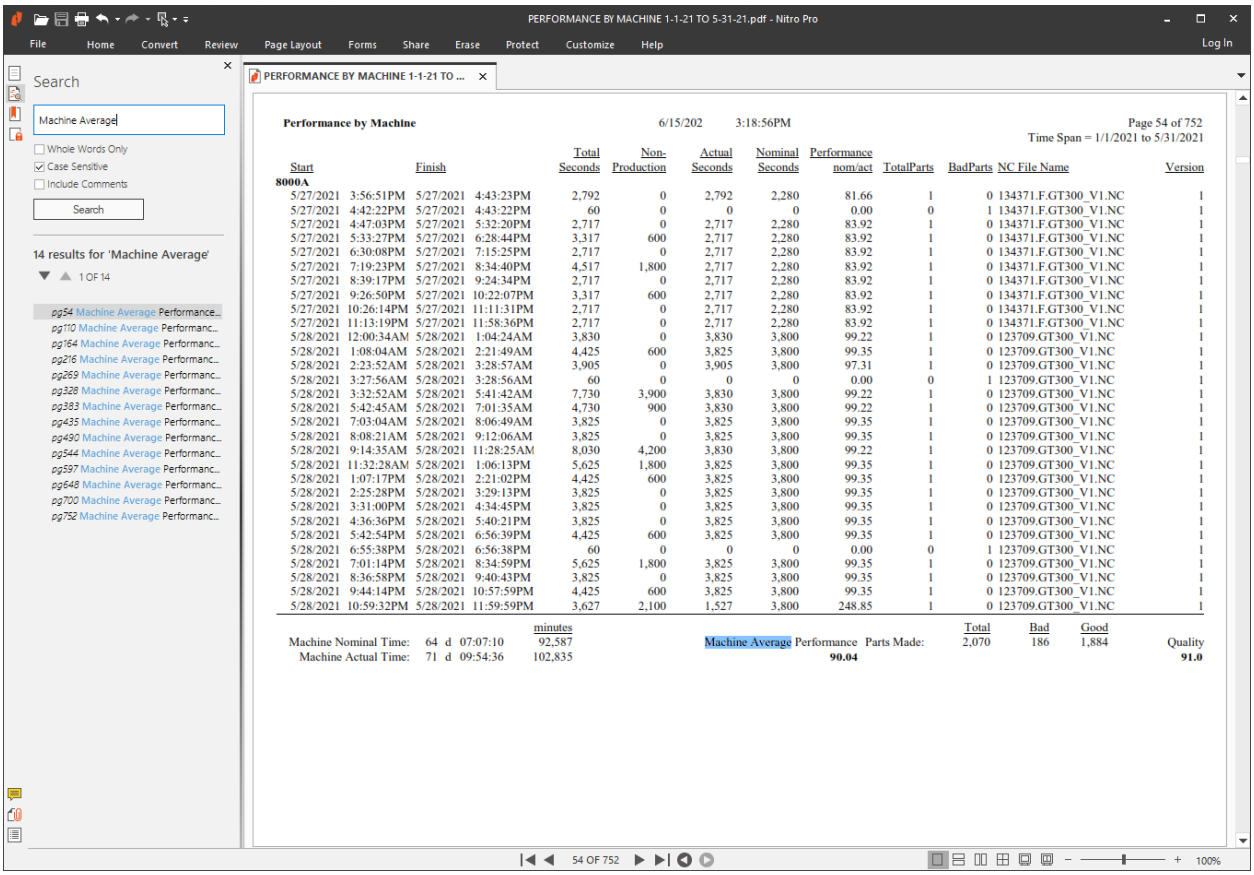
ShopMonitor ShopReports (Performance by Machine)



Highlight the “Performance by Machine” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit ShopReports: Convert to PDF and read that section! This is important!

ShopMonitor ShopReports (Preformance by Machine - ShopReport)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

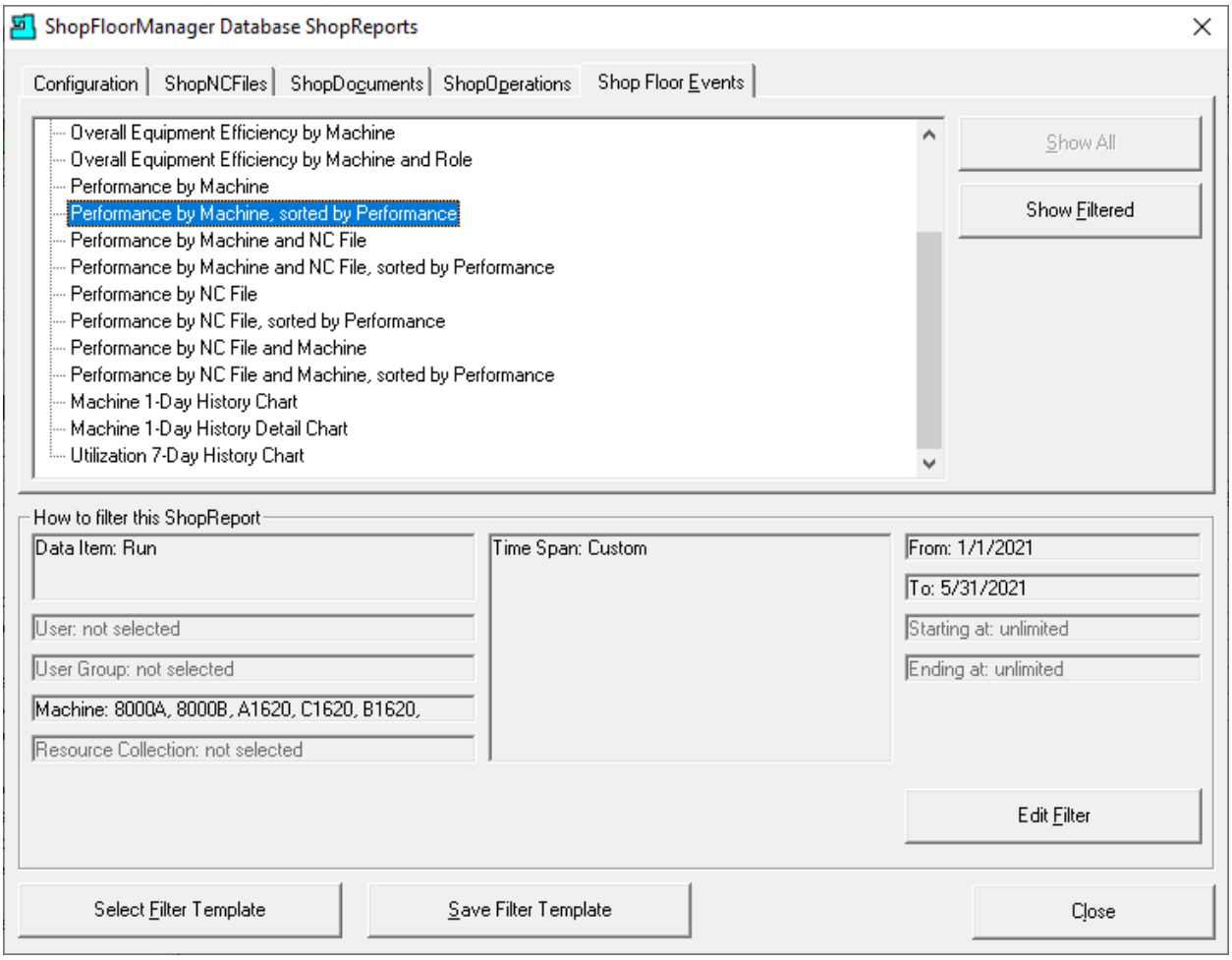
We have used the Search Box and typed in “Machine Average” and selected the “Case Sensitive” Option and a generated list of links are displayed that can be clicked to go to those sections of the Report!

Why is this Report useful? This report allows you to look at the efficiencies of the particular machines! If you are not happy with these numbers, you probably need to dig deeper!

These links will take you to the different OEE Calculations for each Machine Tool!

Now to the next Report “Performance by Machine, Sorted by Performance”!

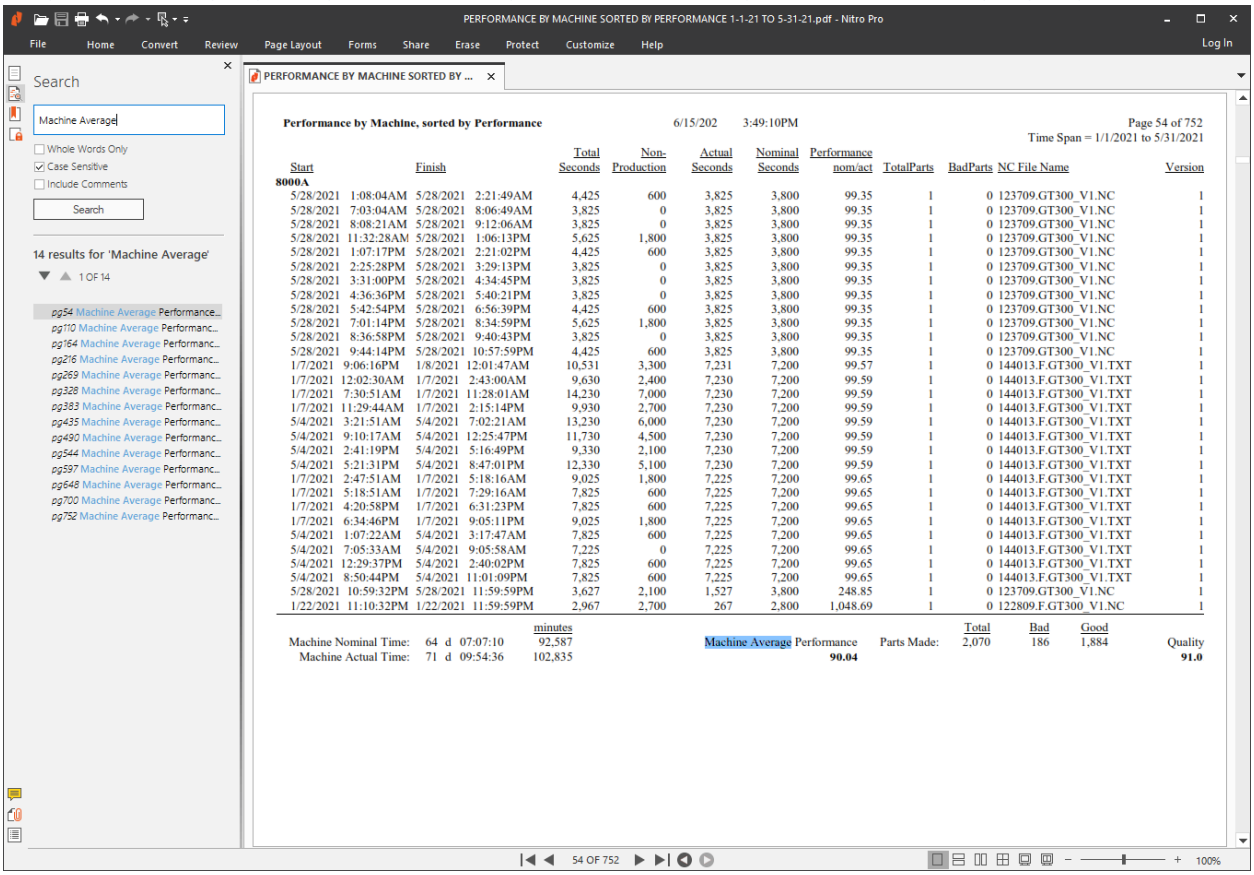
ShopMonitor ShopReports (Performance by Machine, Sorted by Performance)



Highlight the “Performance by Machine, sorted by Performance” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit [ShopReports: Convert to PDF](#) and read that section! This is important!

ShopMonitor ShopReports (Preformance by Machine, Sorted by Performance - ShopReport)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

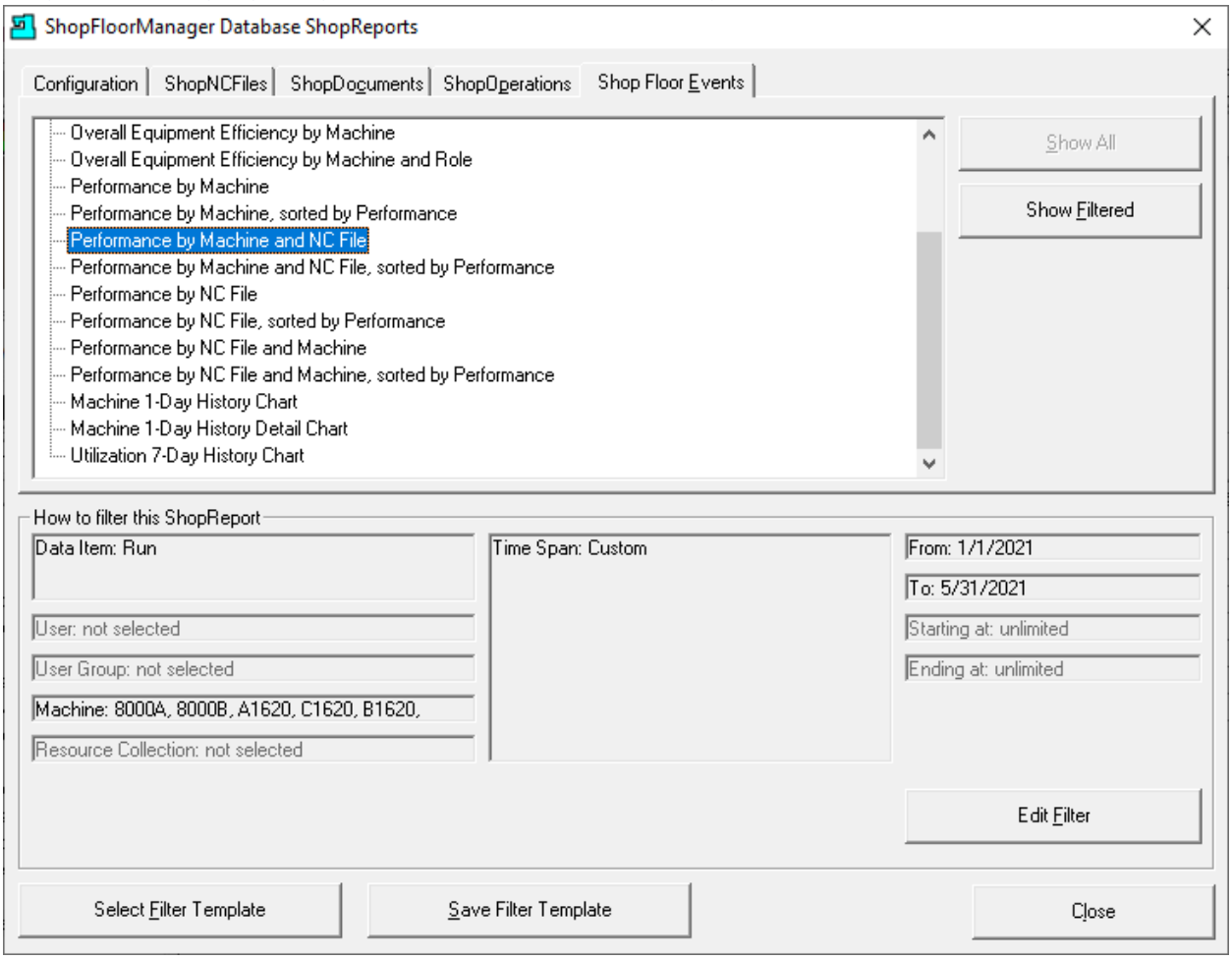
We have used the Search Box and typed in “Machine Average” and selected the “Case Sensitive” Option and a generated list of links are displayed that can be clicked to go to those sections of the Report!

Why is this Report useful? The report allows you to compare the efficiencies sorted by Machine & Performance! Why should there be any efficiency differences between machines? Is it due to the ShopNCFiles they are running, perhaps the Tooling, perhaps the machine layout, perhaps the ShopNCFiles should be run on specific machines for better efficiencies? If there are significant differences you need to dig deeper!

These links will take you to the different OEE Calculations for each Machine Tool!

Now to the next Report “Performance by Machine and NC File”!

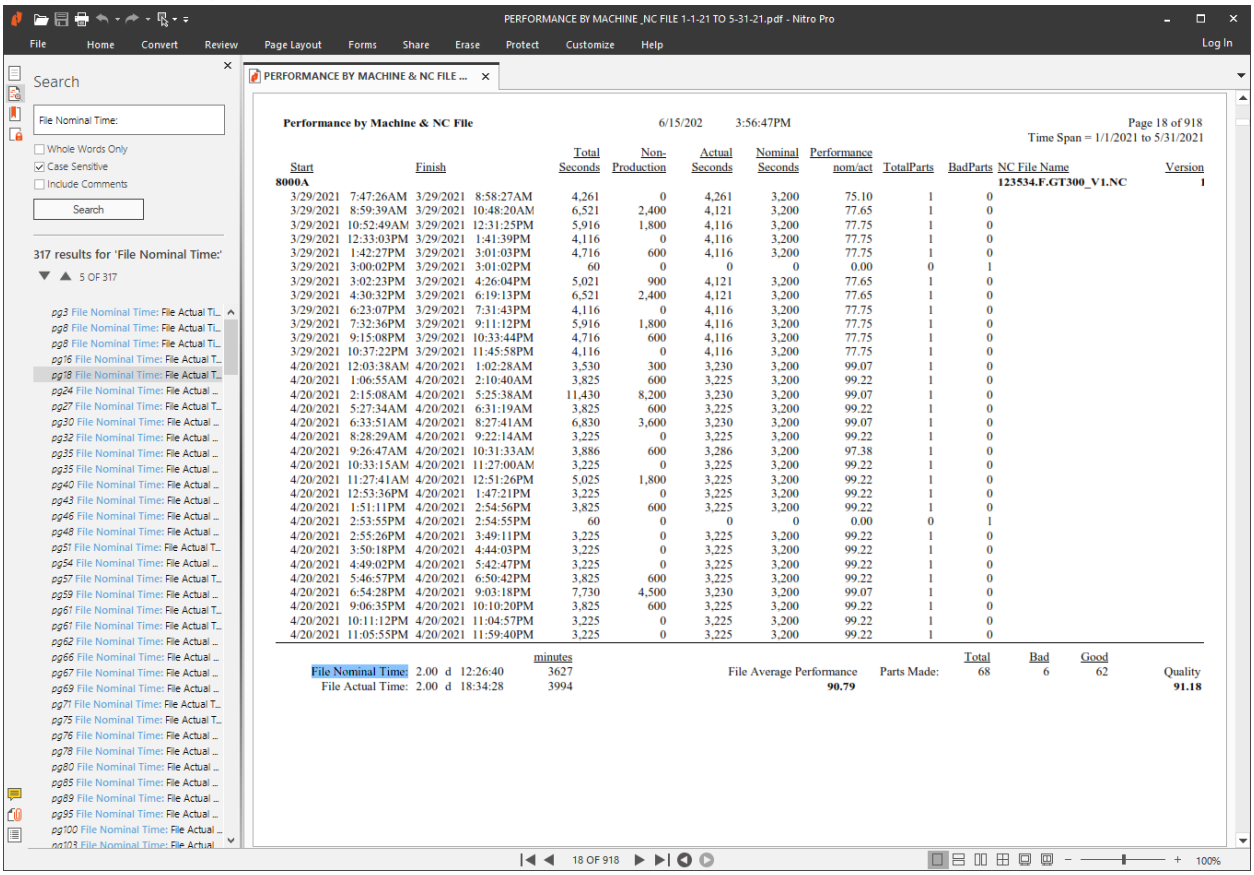
ShopMonitor ShopReports (Performance by Machine and NCFile)



Highlight the “Performance by Machine and N/C File” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit [ShopReports: Convert to PDF]() and read that section! This is important!

ShopMonitor ShopReports (Performance by Machine and NC File - ShopReport)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

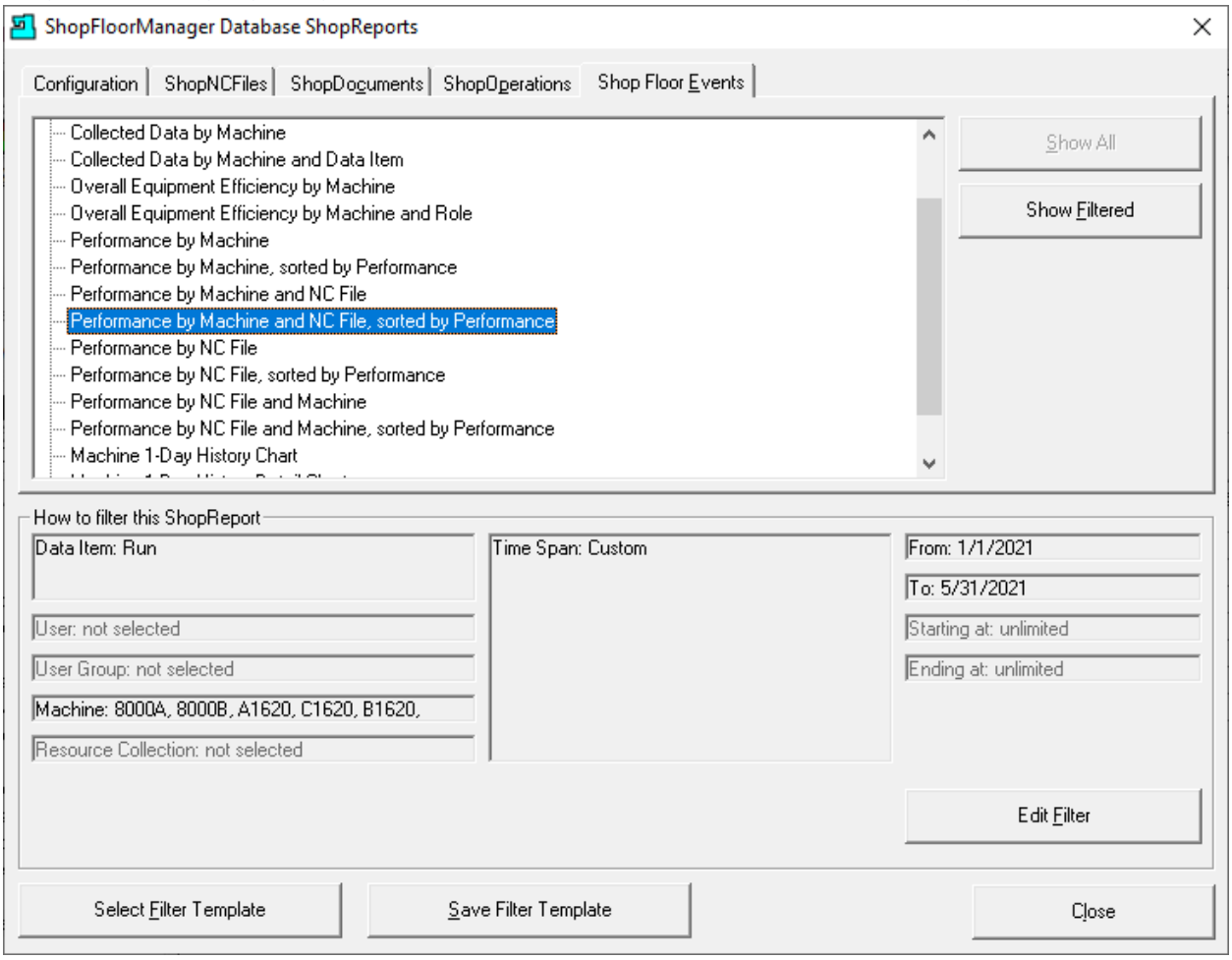
We have used the Search Box and typed in “File Nominal Time:” and selected the “Case Sensitive” Option and a generated list of links are displayed that can be clicked to go to those sections of the Report!

These links will take you to the different Performance by Machine & NC File! If you know the specific ShopNCFile you are interested in, you can type that in the Search Box, and it will only find those ShopNCFiles!

Why is this Report useful? The report allows you to compare the efficiency differences of machines running the same ShopNCFiles! Why should there be any efficiency differences between machines running the same ShopNCFiles? If there are significant differences you need to dig deeper! If this is indeed true you should probably run this file on the machine that is most Efficient whenever possible!

Now to the next Report “Performance by Machine & NC File, sorted by Performance”!

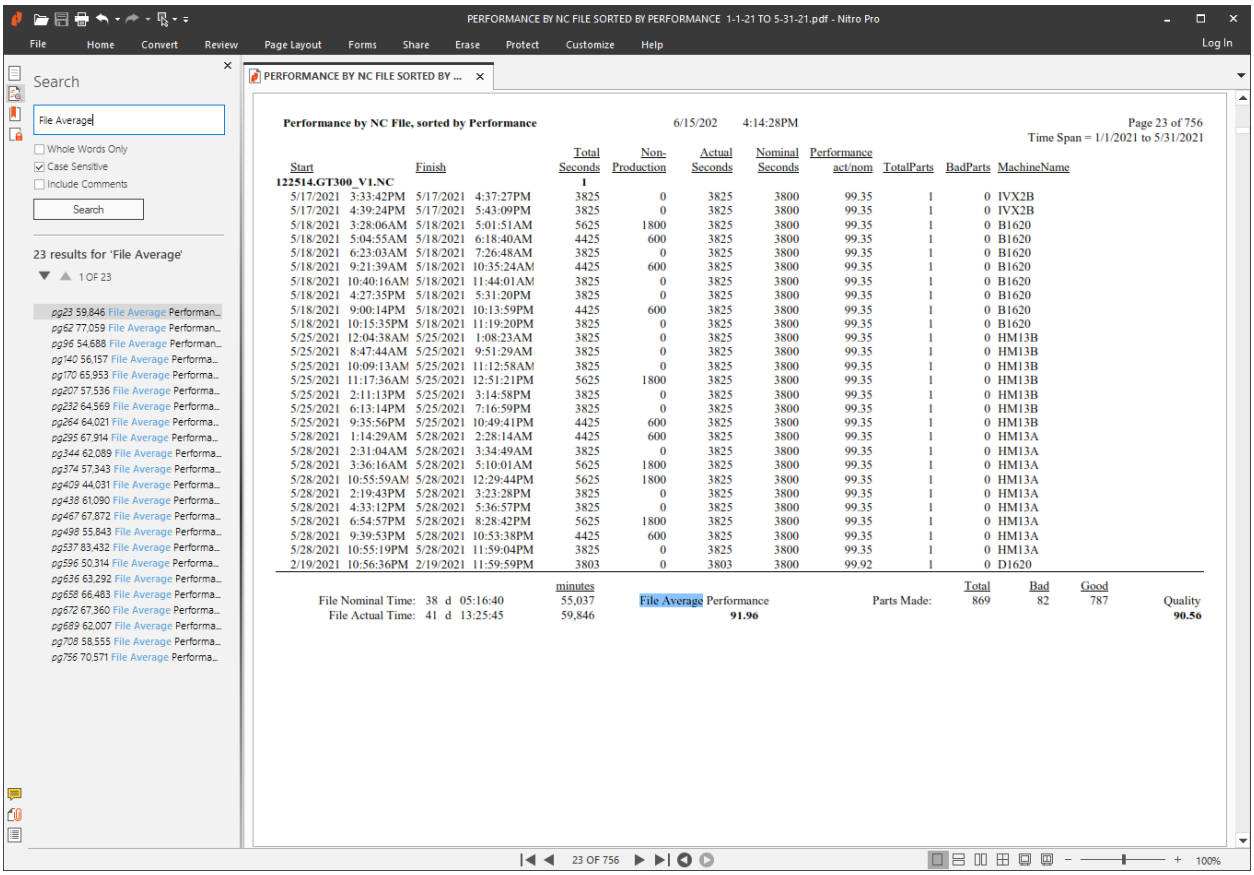
ShopMonitor ShopReports (Performance by Machine and NCFile, Sorted by Performance)



Highlight “Performance by Machine and NC File, sorted by Performance” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit [ShopReports: Convert to PDF](#) and read that section! This is important!

ShopMonitor ShopReports (Performance by Machine and NCFile, Sorted by Performance)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

We have used the Search Box and typed in “File Average” and selected the “Case Sensitive” Option to generate a list of links.

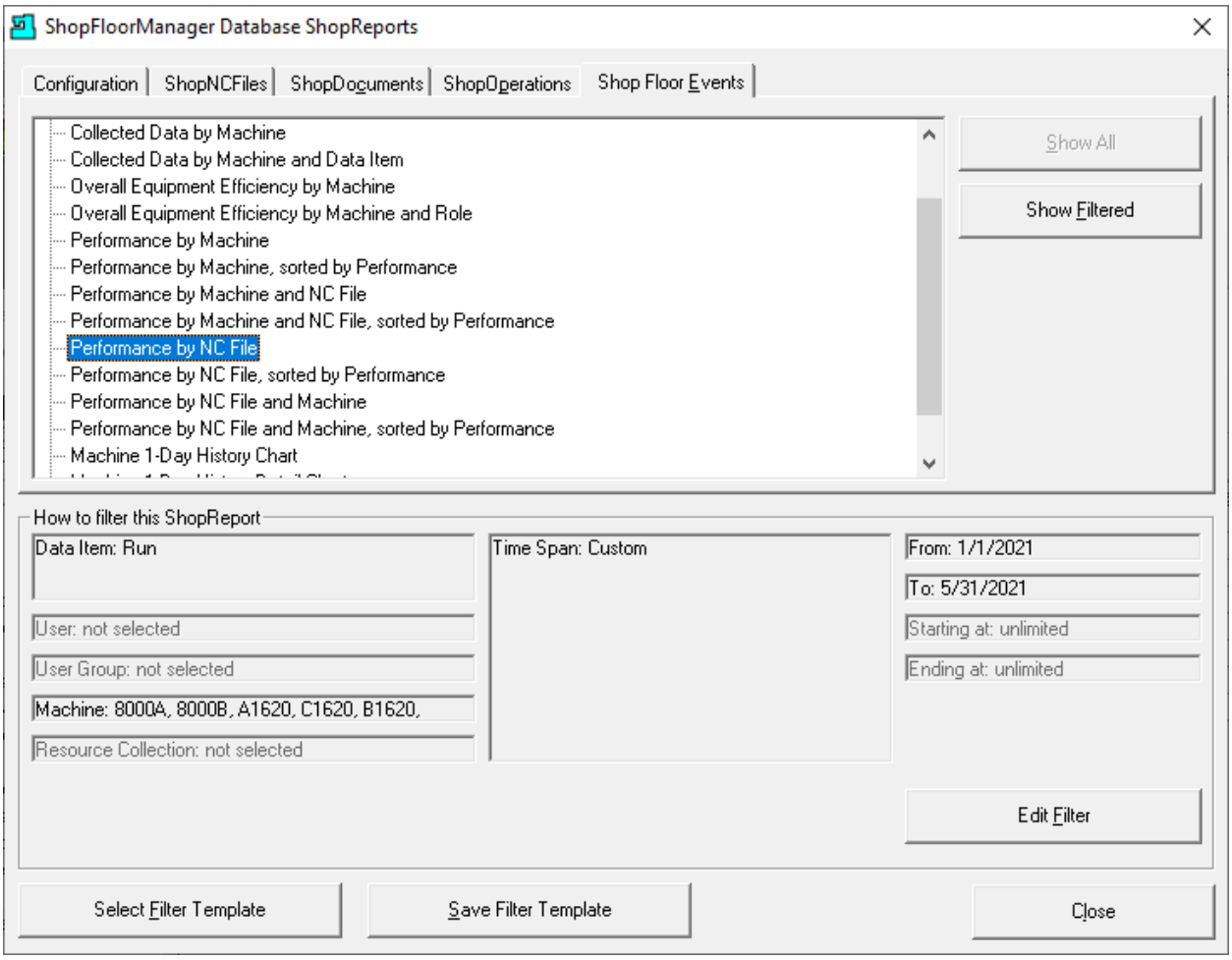
You can click any of list’s entries and go to the referenced linked sections of the Report! These links will take you to the important Performance by Machine & NC File references!

Using the “File Average” Search criteria will take you to every referenced ShopNCFile to view the individual Machine/NC Performance. A long list. If you chose “Machine Average” it will take you to the Average for each Machine!

Why is this Report useful? The report allows you to compare the efficiencies of Machines running the same N/C Files sorted by Performance! Why should there be any efficiency differences between machines? Is it due to the ShopNCFiles they are running, perhaps the Tooling, perhaps the machine layout, perhaps the ShopNCFiles should be run on a specific machine to achieve a better efficiency! If there are significant differences you need to dig deeper!

If you know the specific ShopNCFile you are interested in, you can type that in the Search Box, and it will only find those ShopNCFiles! This time it sorts by Performance!

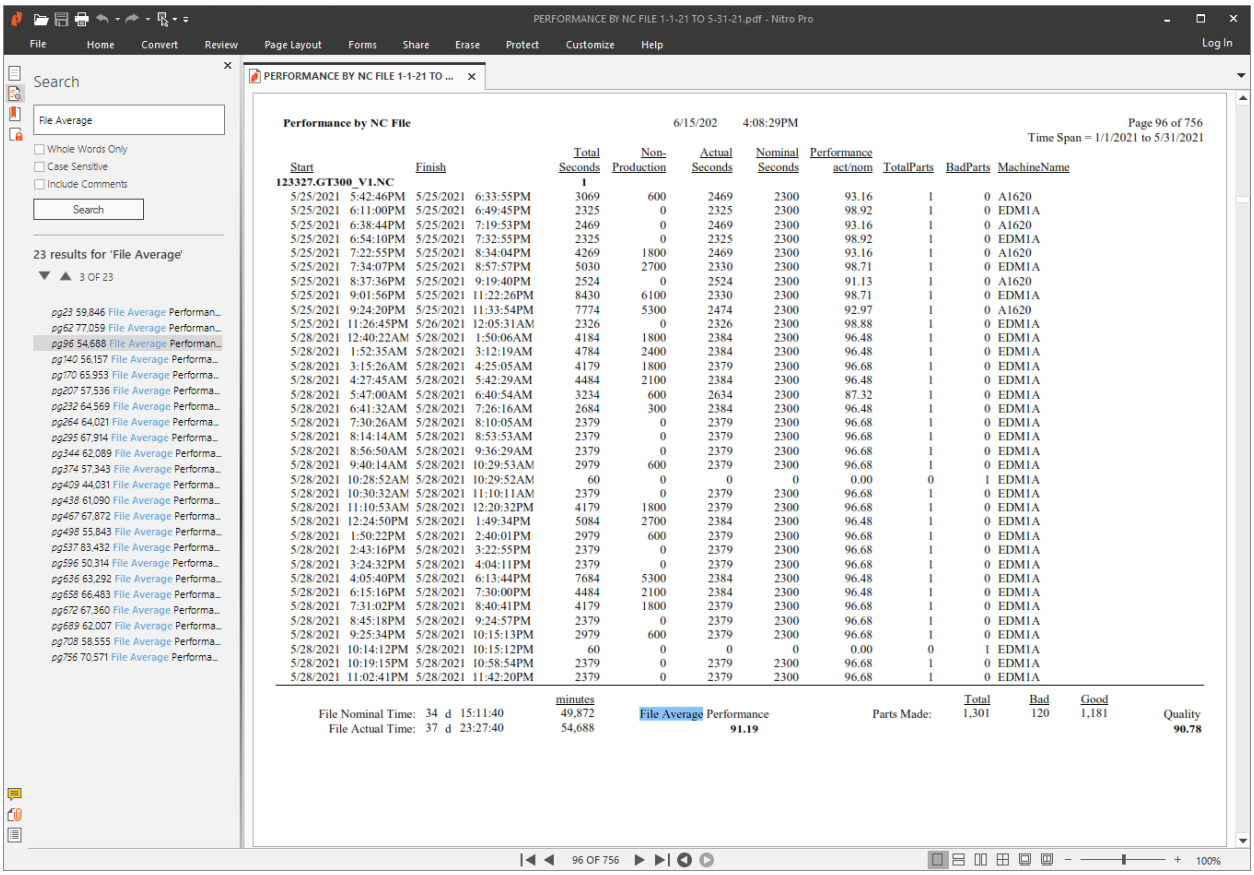
ShopMonitor ShopReports (Performance by NC File)



Highlight “Performance by NC File” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit [ShopReports: Convert to PDF] and read that section! This is important!

ShopMonitor ShopReports (Performance by NC File - ShopReport)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

We have used the Search Box and typed in “File Average” and selected the “Case Sensitive” Option to generate a list of links.

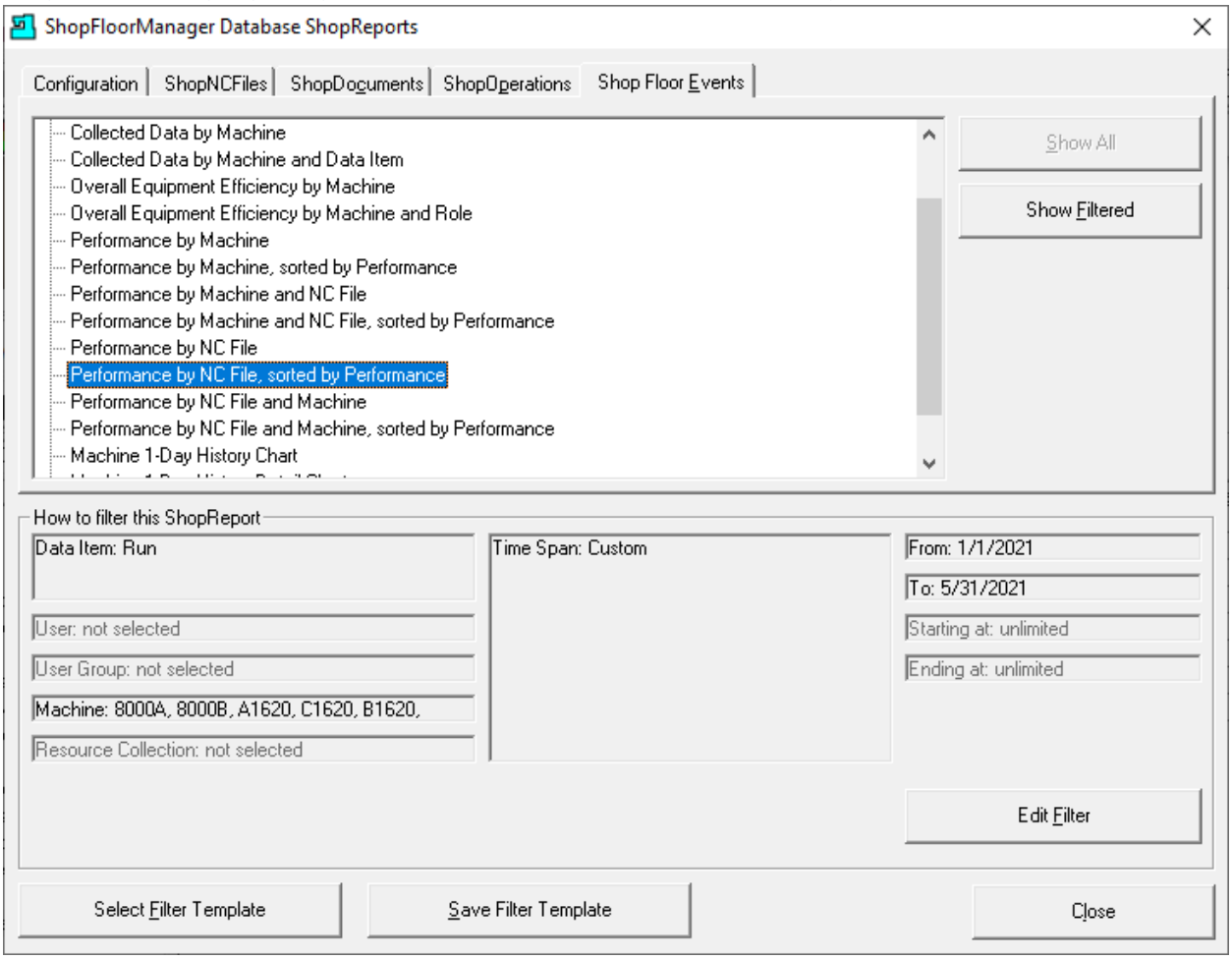
You can click any of list’s entries and go to the referenced linked sections of the Report! These links will take you to the important Performance by Machine & NC File references!

Using the “File Average” Search criteria will take you to every single ShopNCFile to view the individual Machine/NC Performance.

Why is this Report useful? The report allows you to compare the efficiencies of N/C Files vs different Machines! Why should there be any efficiency differences between N/C Files being run on different Machines? Is it due to the ShopNCFiles they are running, perhaps the Tooling, perhaps the machine layout, perhaps the ShopNCFiles should be run on a specific machine for a better efficiency! If there are significant differences you need to dig deeper!

If you know the specific ShopNCFile you are interested in, you can type that in the Search Box, and it will only find that ShopNCFile!

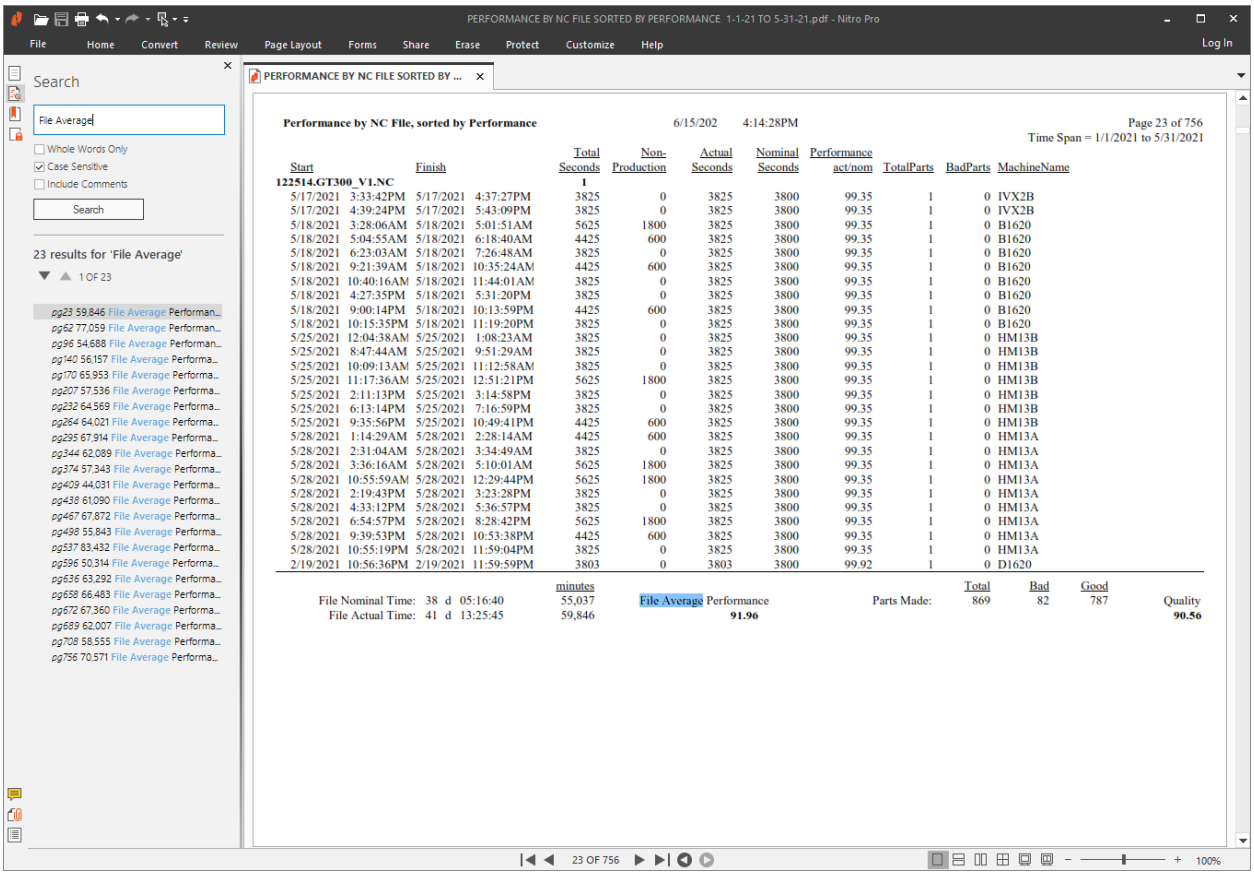
ShopMonitor ShopReports (Performance by NC File, Sorted by Performance)



Highlight “Performance by NC File, sorted by Performance” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and how ShopReports are Imported into ShopFileCabinets visit ShopReports: Convert to PDF and read that section! This is important!

ShopMonitor ShopReports (Performance by NC File, Sorted by Performance - ShopReport)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

We have used the Search Box and typed in “File Average” and selected the “Case Sensitive” Option to generate a list of links.

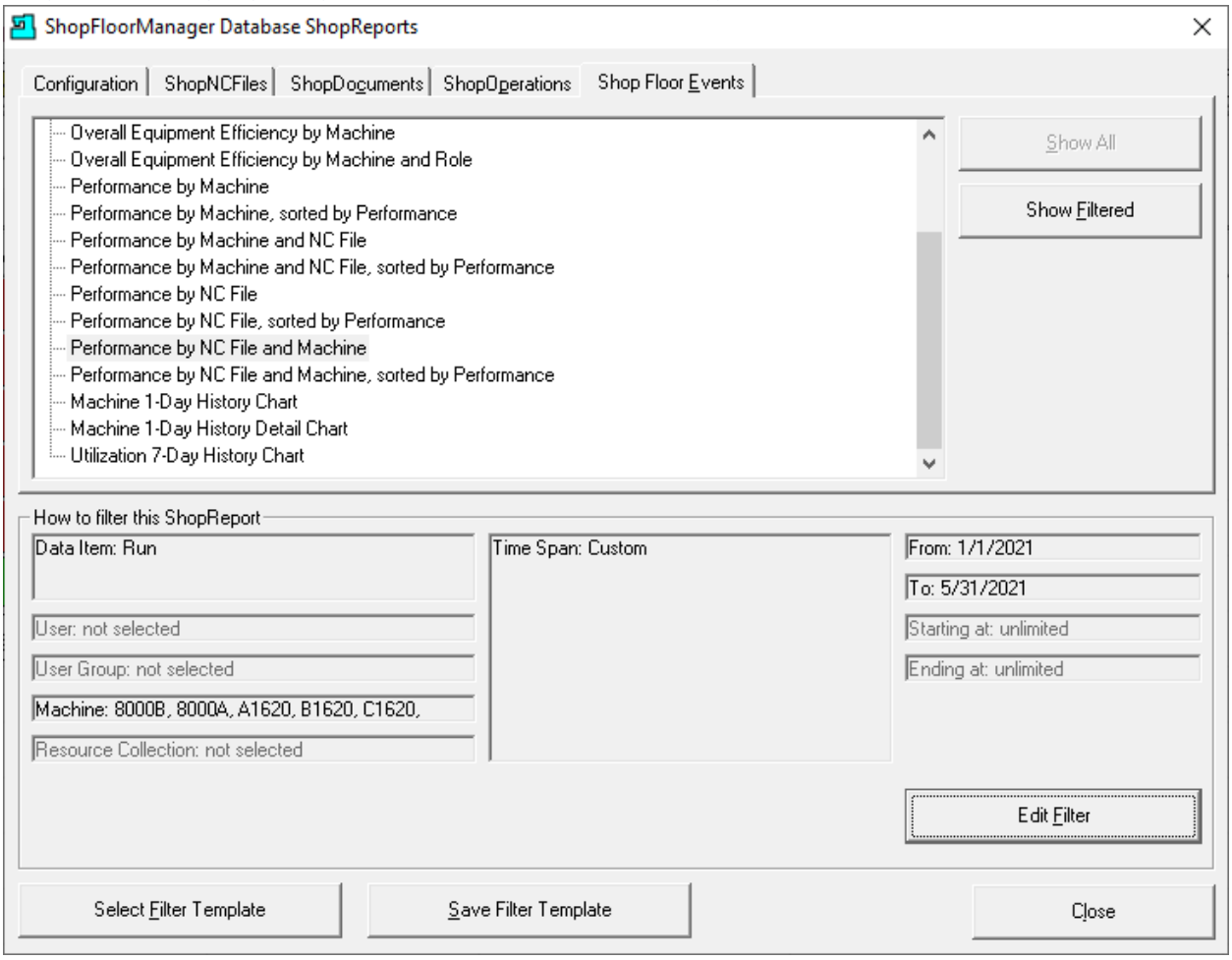
You can click any of list’s entries and go to the referenced linked sections of the Report! These links will take you to the important Performance by Machine & NC File references!

Using the “File Average” Search criteria will take you to every single ShopNCFile to view the individual Machine/NC Performance.

Why is this Report useful? The report allows you to compare the efficiencies of N/C Files vs different Machines! Why should there be any efficiency differences between N/C Files being run on different Machines? Is it due to the ShopNCFiles they are running, perhaps the Tooling, perhaps the machine layout, perhaps the ShopNCFiles should be run on a specific machine for a better efficiency! If there are significant differences you need to dig deeper!

If you know the specific ShopNCFile you are interested in, you can type that in the Search Box, and it will only find that ShopNCFile!

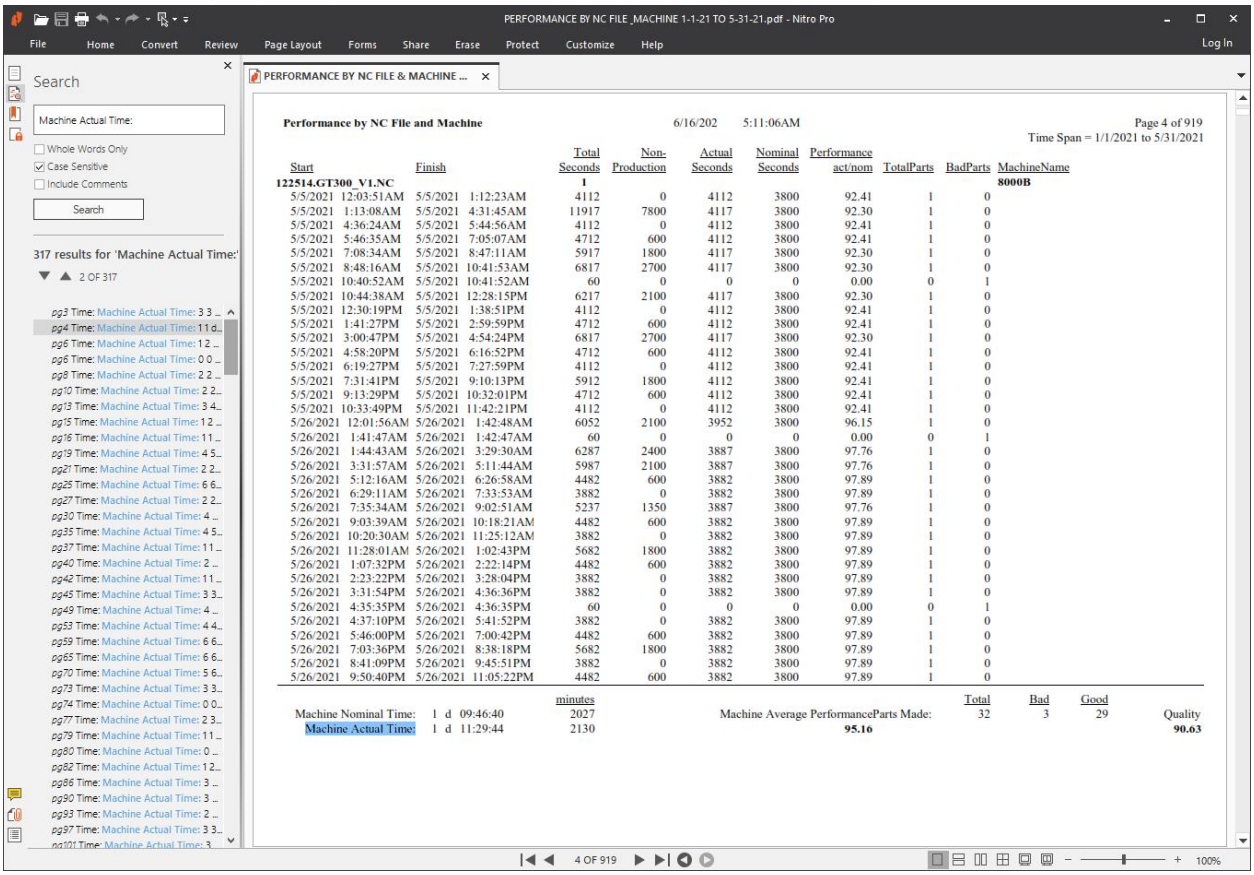
ShopMonitor ShopReports (Performance by NC File and Machine)



Highlight “Performance by NC File and Machine” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit [ShopReports: Convert to PDF] and read that section! This is important!

ShopMonitor ShopReports (Performance by NC File and Machine - ShopReport)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

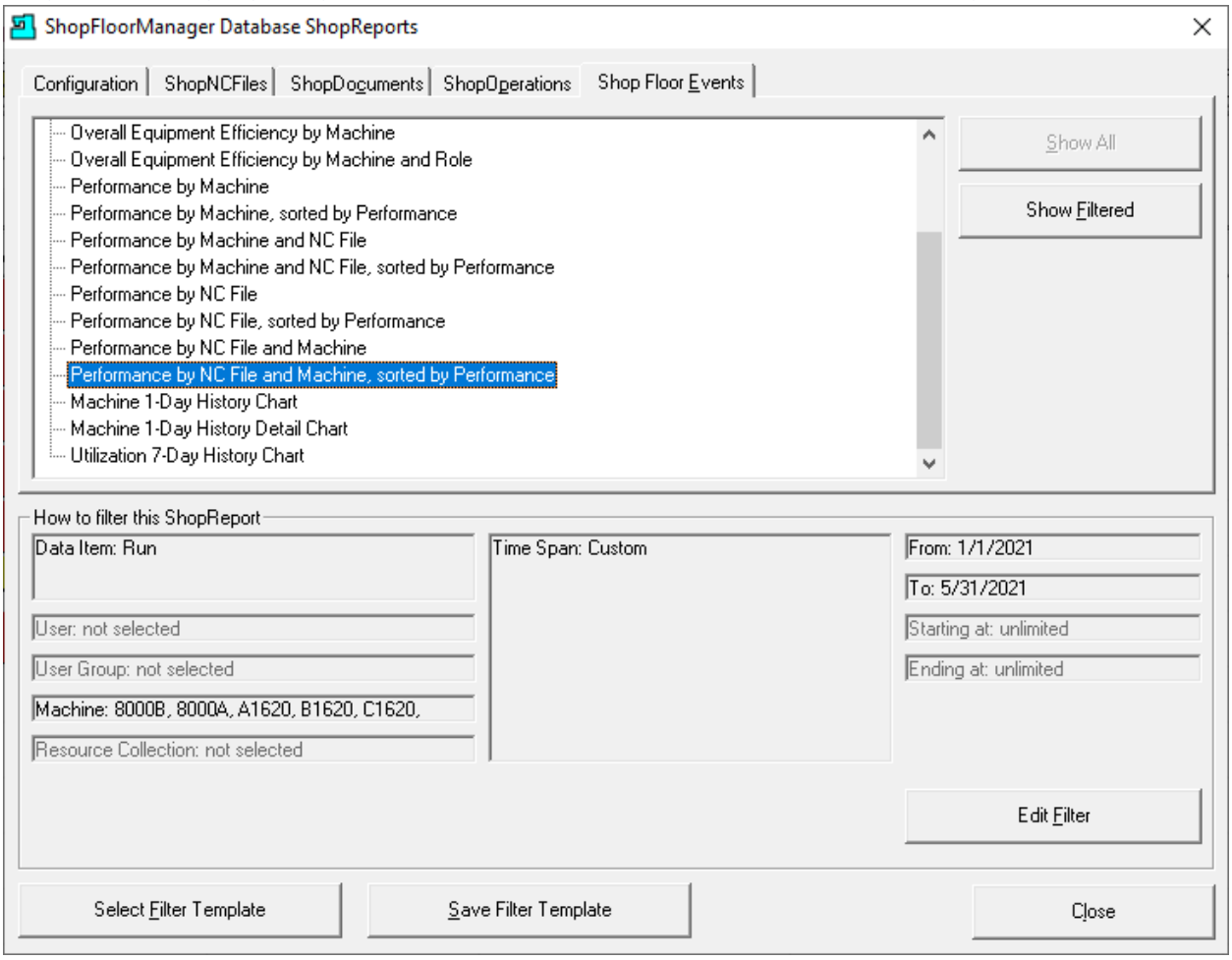
We have used the Search Box and typed in “Machine Actual Time:”, could also use “Machine Nominal Time:”, and selected the “Case Sensitive” Option to generate a list of links.

You can click any of list’s entries and go to the referenced linked sections of the Report! These links will take you to the important Performance by NC File and Machine references!

These links will take you to each N/C File vs Machine displaying the Actual vs Nominal Values!

If you know the specific ShopNCFile you are interested in, you can type that in the Search Box, and it will only find that ShopNCFile!

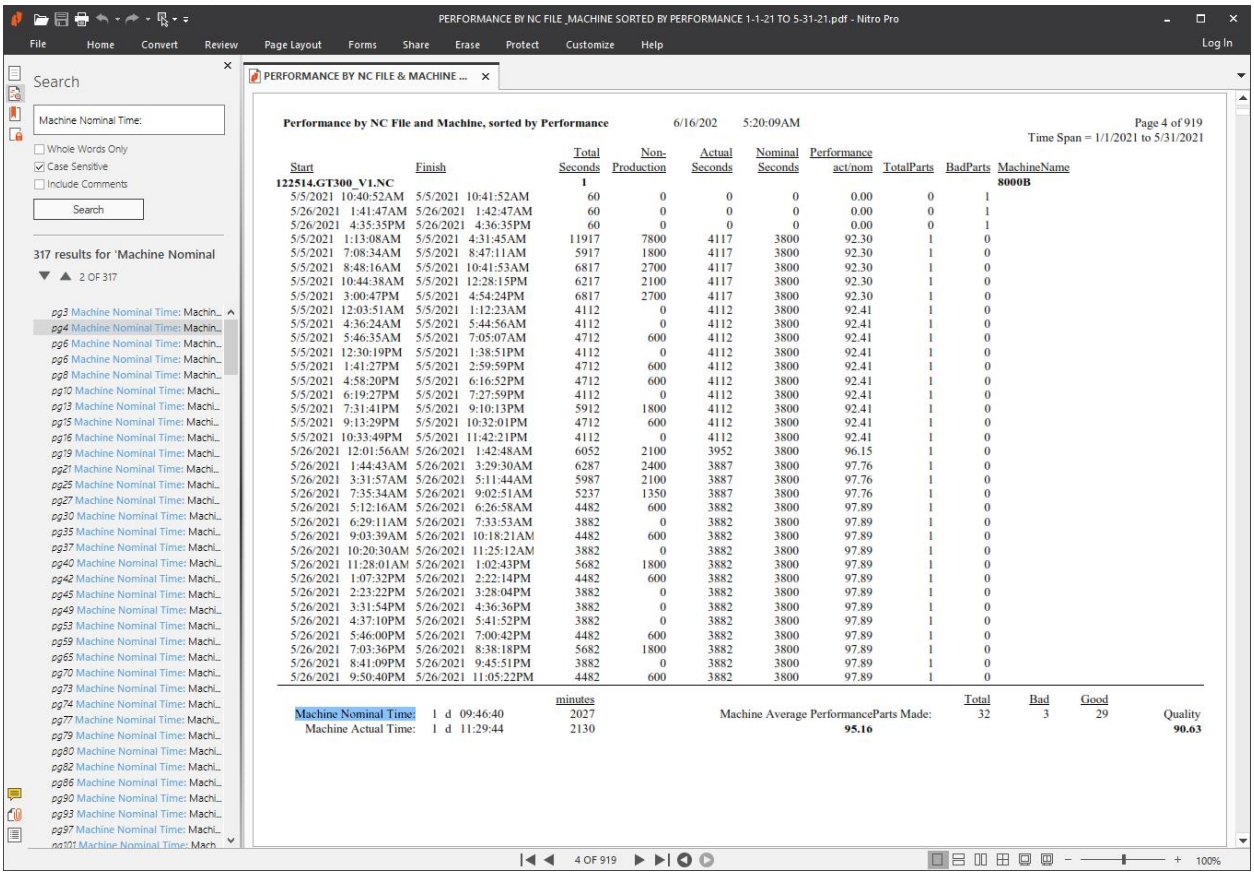
ShopMonitor ShopReports (Performance by NC File and Machine, Sorted by Performance)



Highlight “Performance by NC File and Machine, sorted by Performance” and click the “Show Filtered” Button and the following Report will be displayed.

To see how a PDF Report is created and ShopReports are Imported into ShopFileCabinets visit [ShopReports: Convert to PDF] and read that section! This is important!

ShopMonitor ShopReports (Performance by NC File and Machine, Sorted by Performance – Report)



To view the Report up closer use the Ctrl Key and Mouse Wheel to zoom in and out!

We have used the Search Box and typed in “Machine Actual Time:”, could also use “File Nominal Time:”, and selected the “Case Sensitive” Option to generate a list of links.

These links will take you to each N/C File vs Machine displaying the Actual vs Nominal Values! If you choose “File Nominal Time:” you will see the averages for each File vs Machines which displays fewer pages! If you choose “Machine Actual Time:” you will see the averages of each Machine vs File which generates more Pages!

If you know the specific ShopNCFile you are interested in, you can type that in the Search Box, and it will only find that ShopNCFile! We have finished the ShopMonitor ShopReports section!

ShopReports: Convert to PDF (Printing Hundreds of Paper Pages will get you Fired! Go PDF)

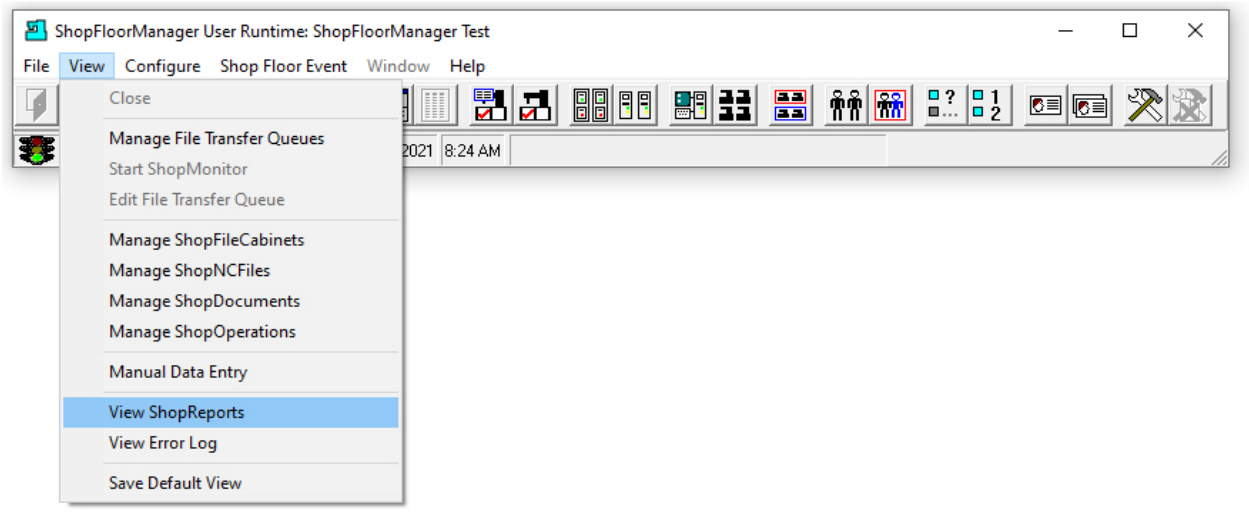
In the following pages we will demonstrate how to generate a PDF Document from ShopFloorManager's Native Database ShopReports! We have previous configured the Print App to print out to a PDF Driver!

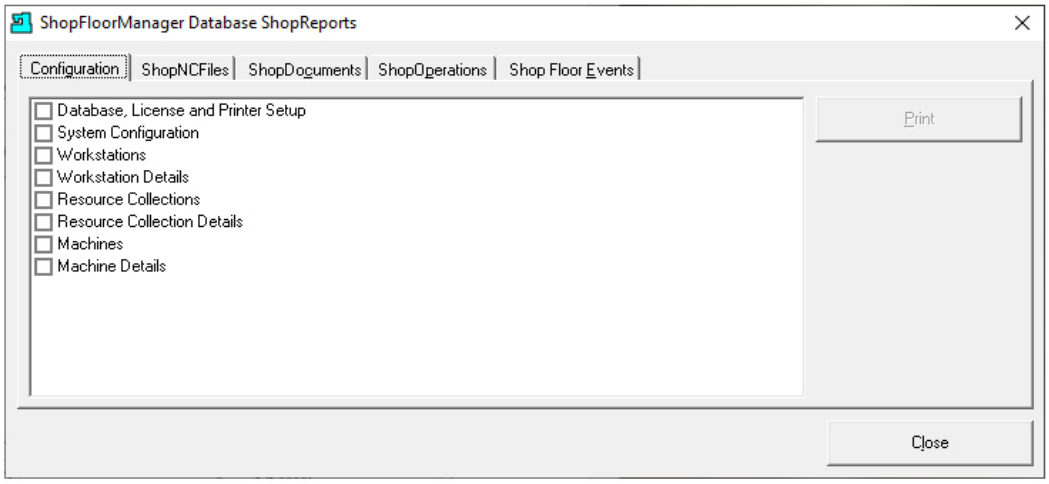
We will be Using the "OEE by Machine" ShopReport to demonstrate but the Procedure is the same for all ShopReports!

PDF Documents provide Searching capabilities not available in the native ShopReports and honestly there is no way you're going to printout thousands of paper pages of a ShopReport unless you own stock in a paper company!

ShopReports: Convert to PDF (ShopFloorManager User Runtime)

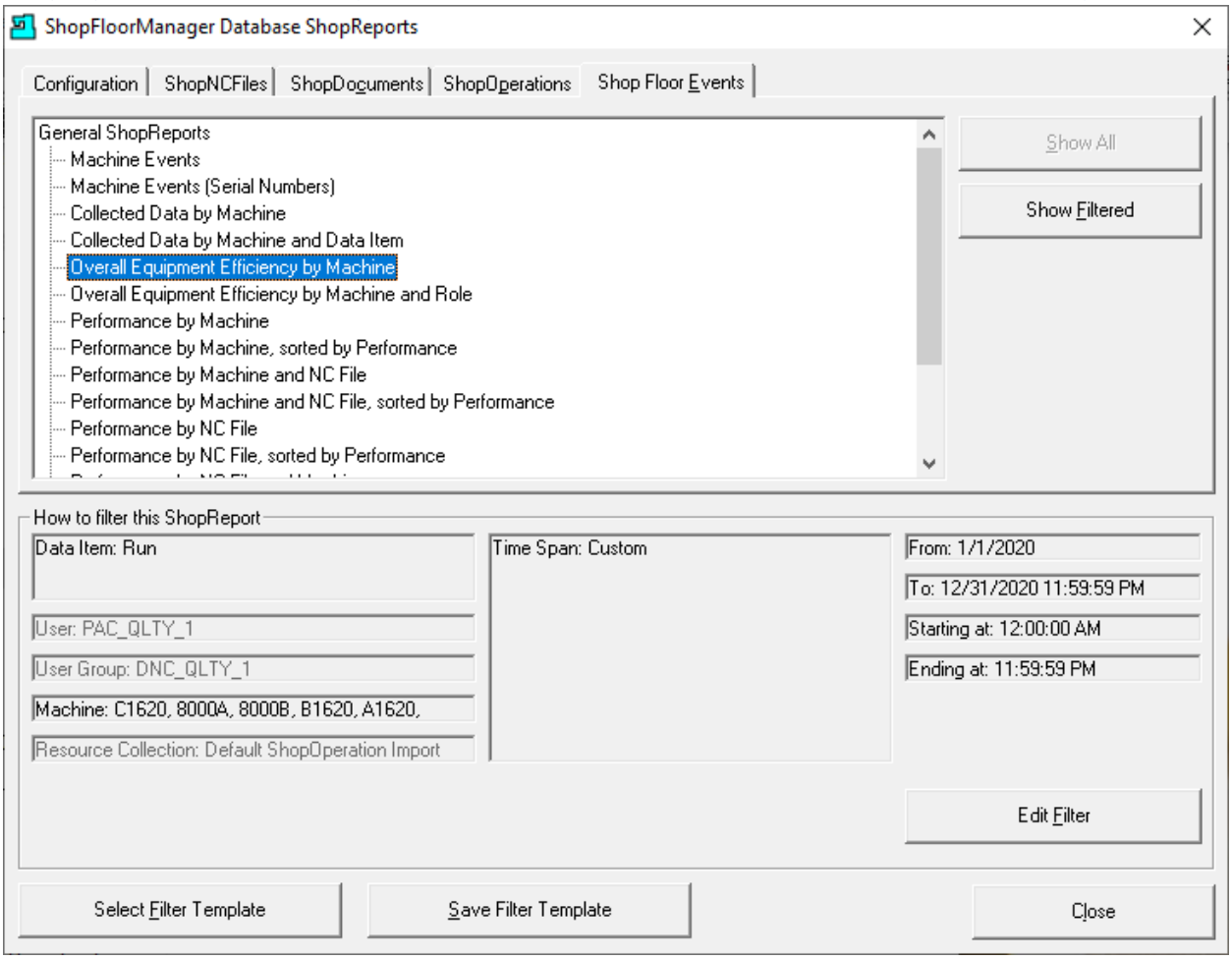
Click the View Menu and then the View ShopReport Menu and the following Window will be displayed.





Click on the "Shop Floor Events" Tab and the following Window will be displayed!

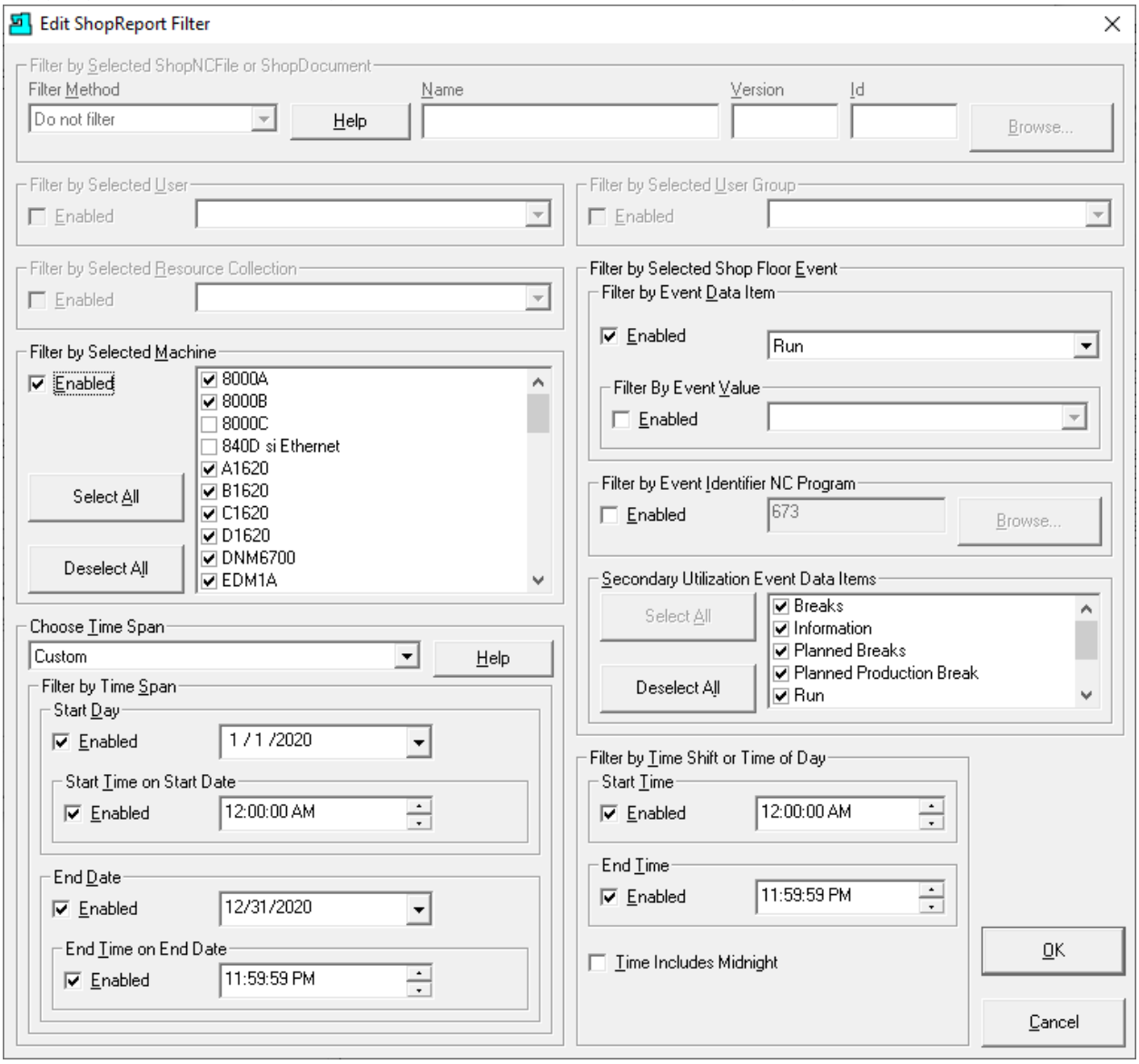
ShopReports: Convert to PDF: (SFM Database ShopReports Overall Equipment Efficiency by Machine)



We are going to demonstrate how to generate a specific Report, “OEE by Machine” as all reports are similarly generated! Highlight the selections as shown above!

Click the “Edit Filter” Button and the following Window is displayed.

ShopReports: Convert to PDF: (ShopFloorManager Database ShopReport Filter)

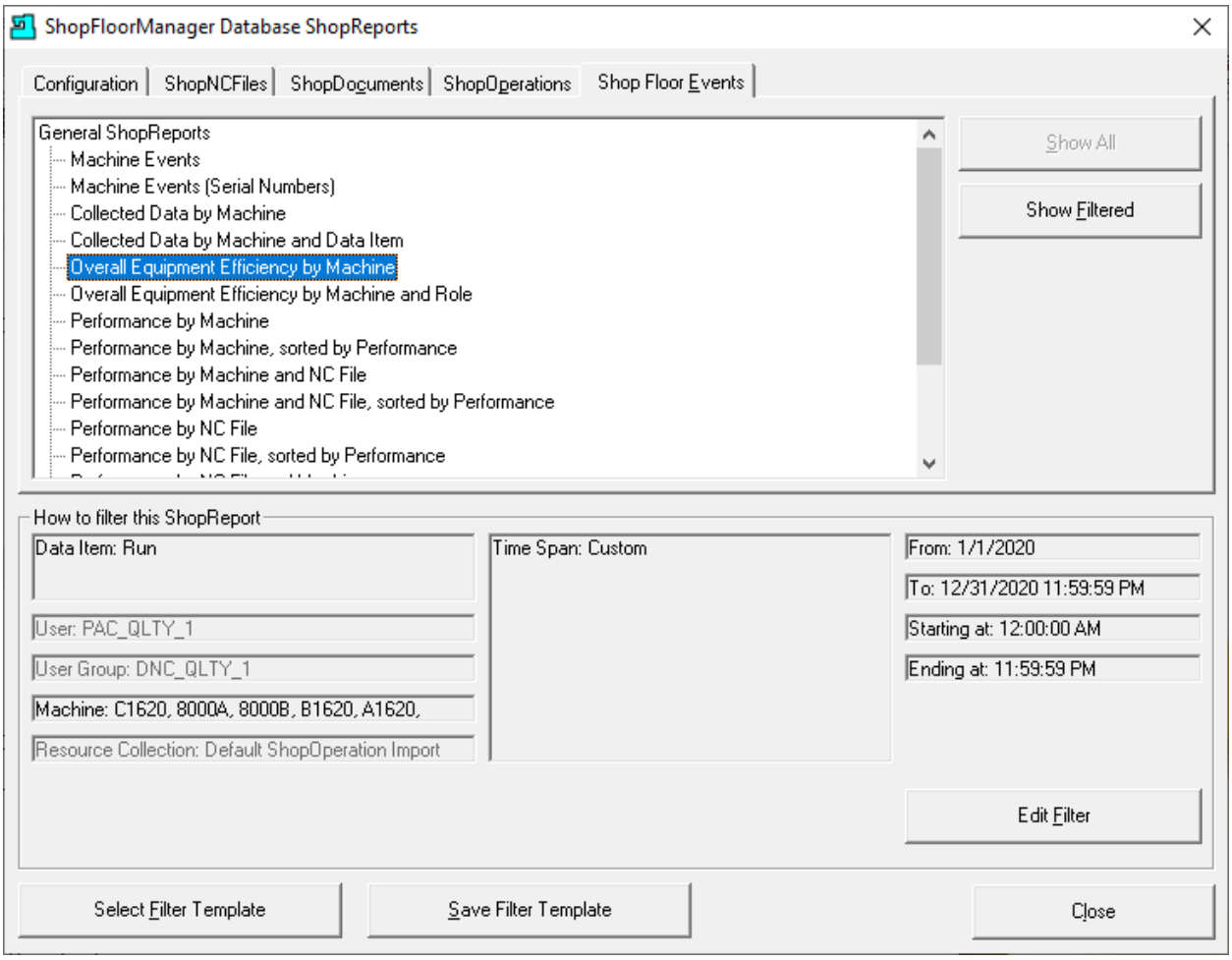


This is used to configure the Machines, Times & other settings to generate the specific ShopReport that meets your needs!

For all of the basic reports in this manual we are going to configure the _ShopCharts:_Production;_OEE;_1ShopReport Filter as shown above.

After completing the configuration click the OK Button and the following Window will be displayed.

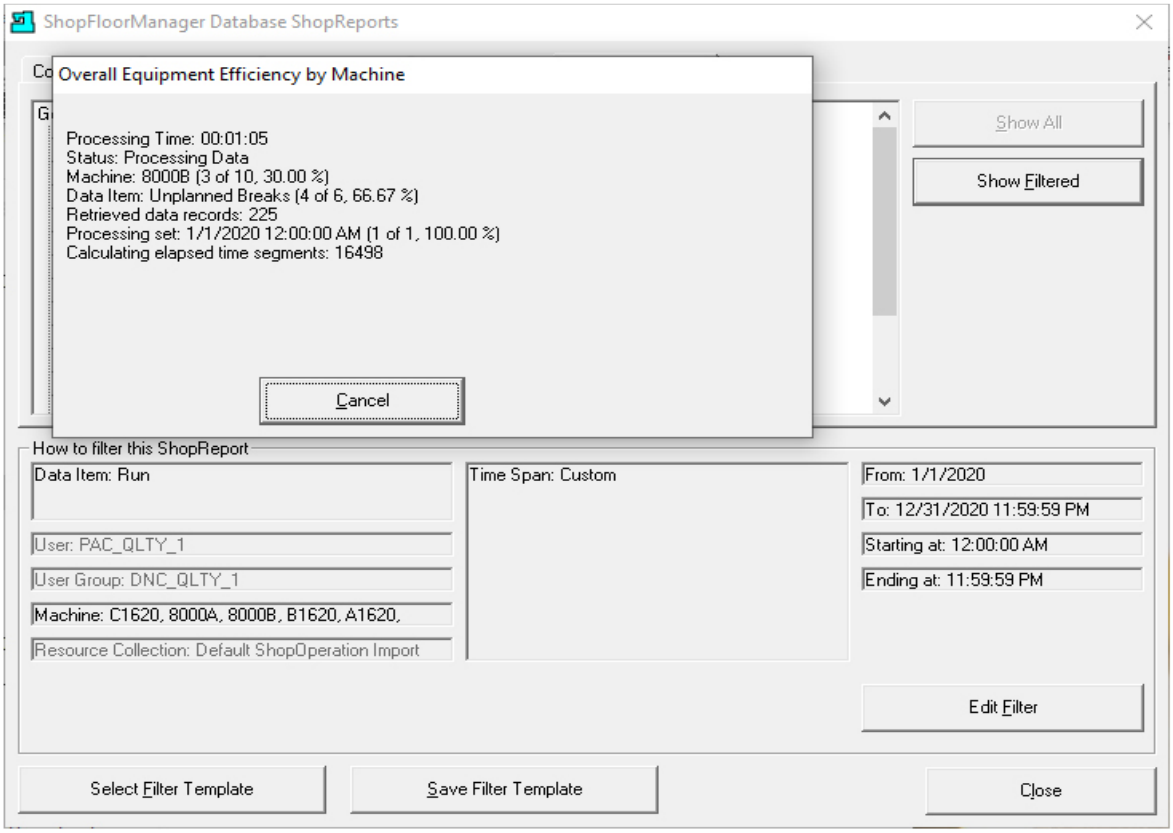
ShopReports: Convert to PDF: (ShopFloorManager ShopReports Overall Equipment Efficiency by Machine)



You will notice that the above Window has been updated to reflect changes made in the Report Filter Form!

Click the “Show Filtered” Button and the following ShopReport will be displayed.

ShopReports: Convert to PDF: (ShopFloorManager ShopReports Overall Equipment Efficiency by Machine)



An informational processing window is displayed as the data is being gathered & processed to generate this Report. Once the process is complete the ShopReport is displayed as shown in the next Page.

Note: Some of the ShopReports will not have the above Processing Informational Window but will display a blank ShopReport as it processes the data before displaying the native ShopReport! This may take several minutes to generate! **ShopCharts** don't show a processing Window but may also take several minutes while to display!

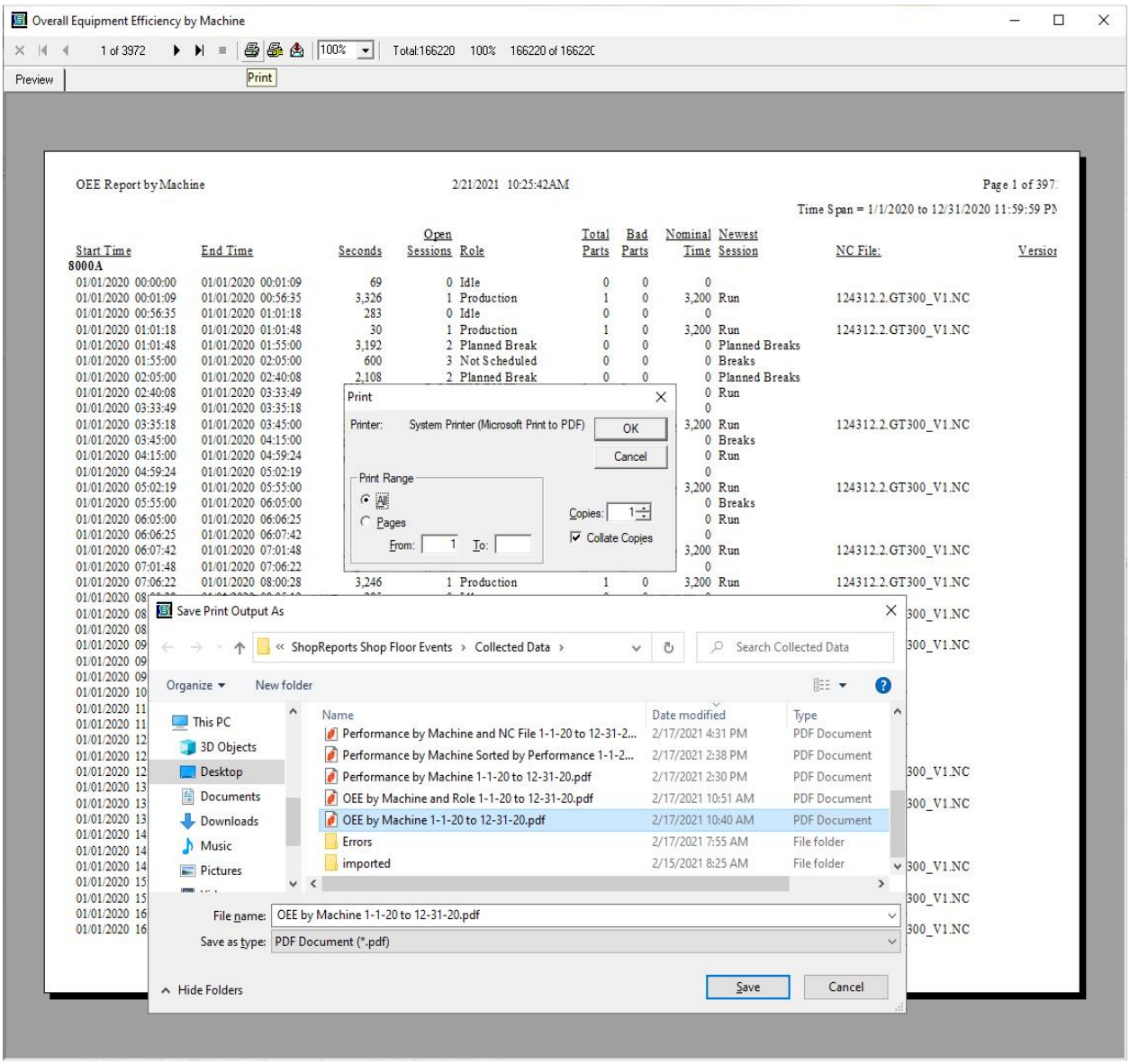
ShopReports not displaying informational processing window:

- **Machine Events**
- **Machine Events (Serial Numbers)**
- **Collected Data by Machine**
- **Collected Data by Machine Data Item**

In the following Window we have combined several steps needed to generate a PDF File. We will explain in the next Window.

Continued on next page!

ShopReports: Convert to PDF: (ShopFloorManager ShopReports OEE by Machine – Print to PDF)



We have overlaid several windows to illustrate the process for creating a PDF File. Normally you would only see the native ShopReport below the two informational windows!

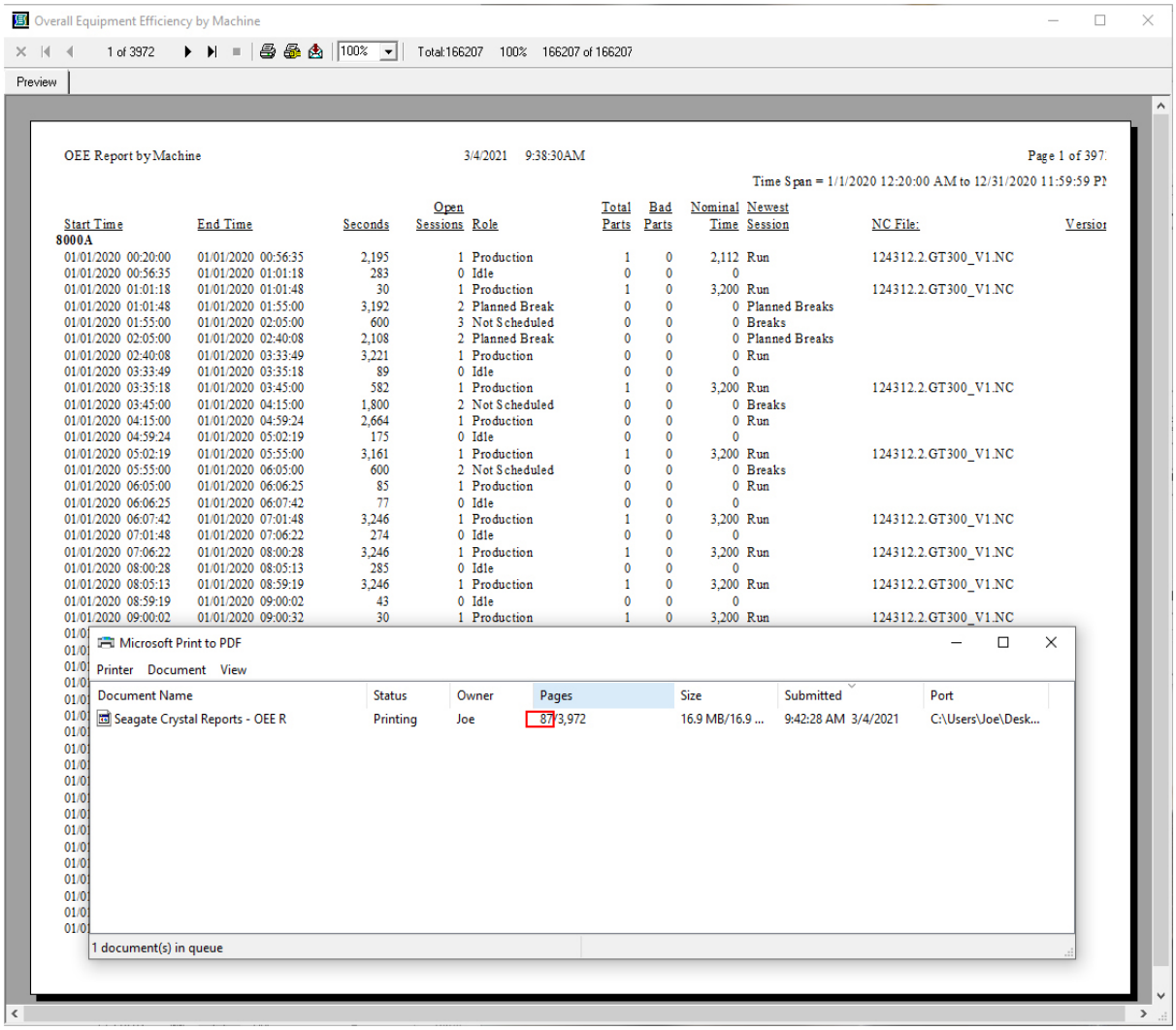
To convert any native ShopReport to a PDF format use the following Procedure!

Click the Print Icon at the top of the ShopReport. The Print dialog window is presented. The Microsoft PDF driver was chosen earlier as the default “Printer”. When you click on the OK Button you will be asked to select a temporary folder to store the ShopReport and a name for this ShopReport.

As a minimum we suggest naming it according to the type of Report with a time span.

Click the Save Button and the following Window is displayed.

ShopReports: Convert to PDF: (ShopFloorManager ShopReports OEE by Machine - Print)



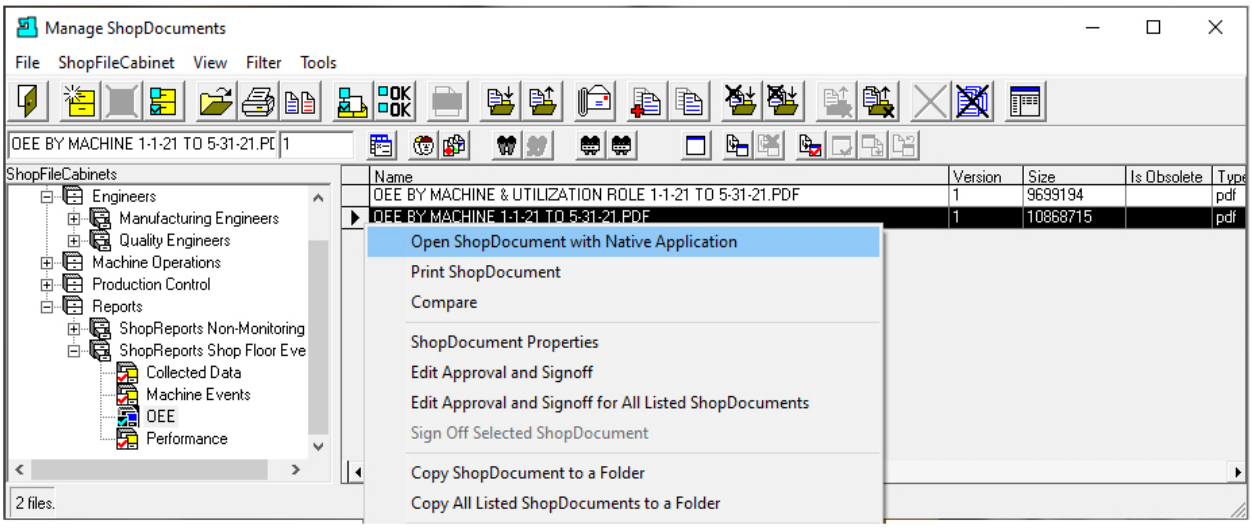
To zoom in on the above Chart hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

As the report is being generated you will see the "Printing Records" Window being updated as well as the PDF Printer Window. **Don't close the Report** until the PDF Printer Window, see in previous page, disappears and page numbers I.E., **87**/**3972** on the **left-side** starts updating and the **right-side** has stopped! This may take a few minutes to generate since as this ShopReport covers a whole year for ten machines! **You can't open this PDF ShopReport** until The "Microsoft Print to PDF" form above is blank!

After creating this report, you can view this Report in ShopFloorManager! This assumes you are using the Maintenance Engine to import these ShopReports!

See the next page for viewing the "OEE by Machine" PDF File!

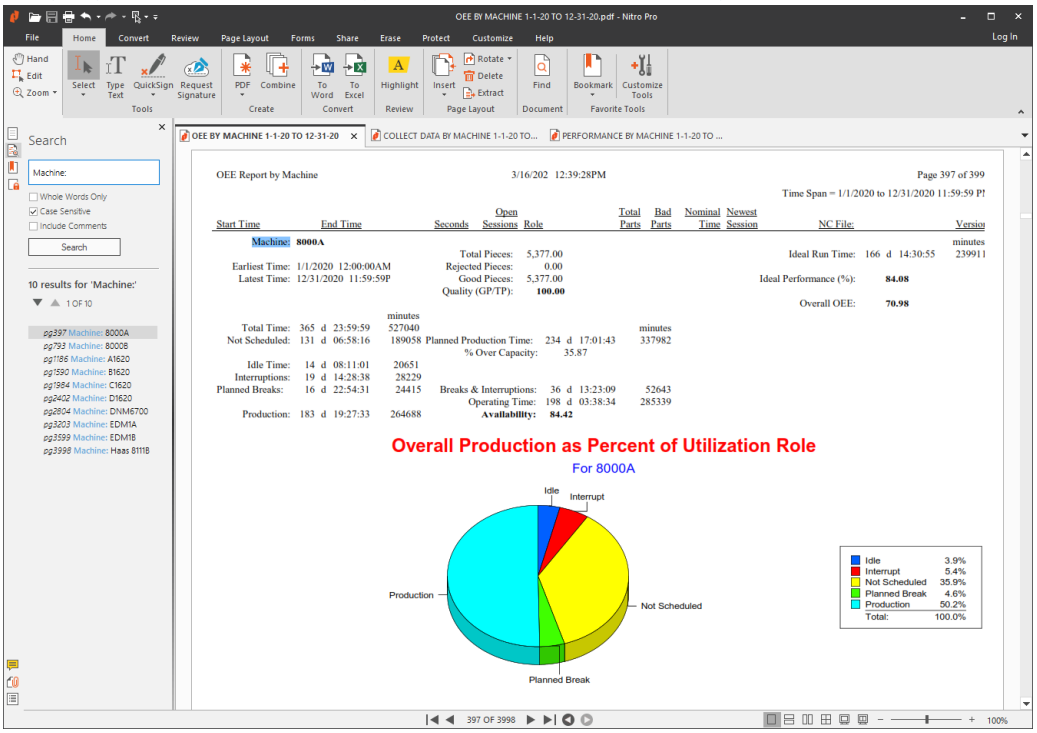
ShopReports: Convert to PDF: (Manage ShopDocuments – Imported into the appropriate ShopFileCabinets)



To zoom in on the above Chart hold the Ctrl Key and use the Mouse Wheel to zoom in and out!

After generating the reports move them from the temporary folder to the folder associated with the ShopFileCabinets Import folders! The Maintenance Engine will import them into ShopFloorManager's ShopFileCabinets! That's all there is to create and store a PDF ShopReport in ShopFloorManager!

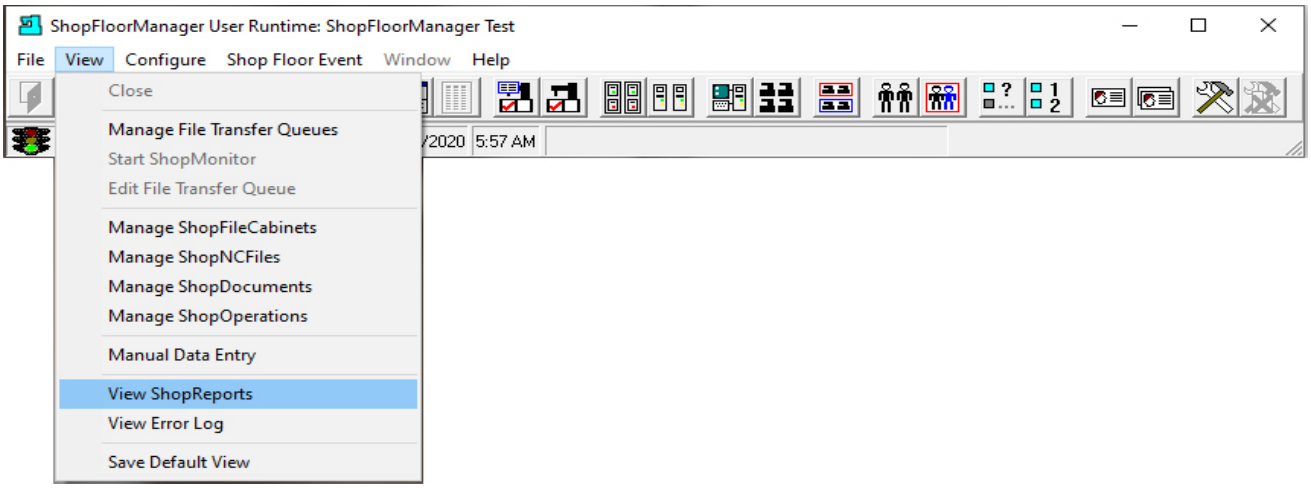
ShopReports: Convert to PDF: (OEE by Machine PDF ShopReport)



This is what the "OEE by Machine PDF" File looks like!

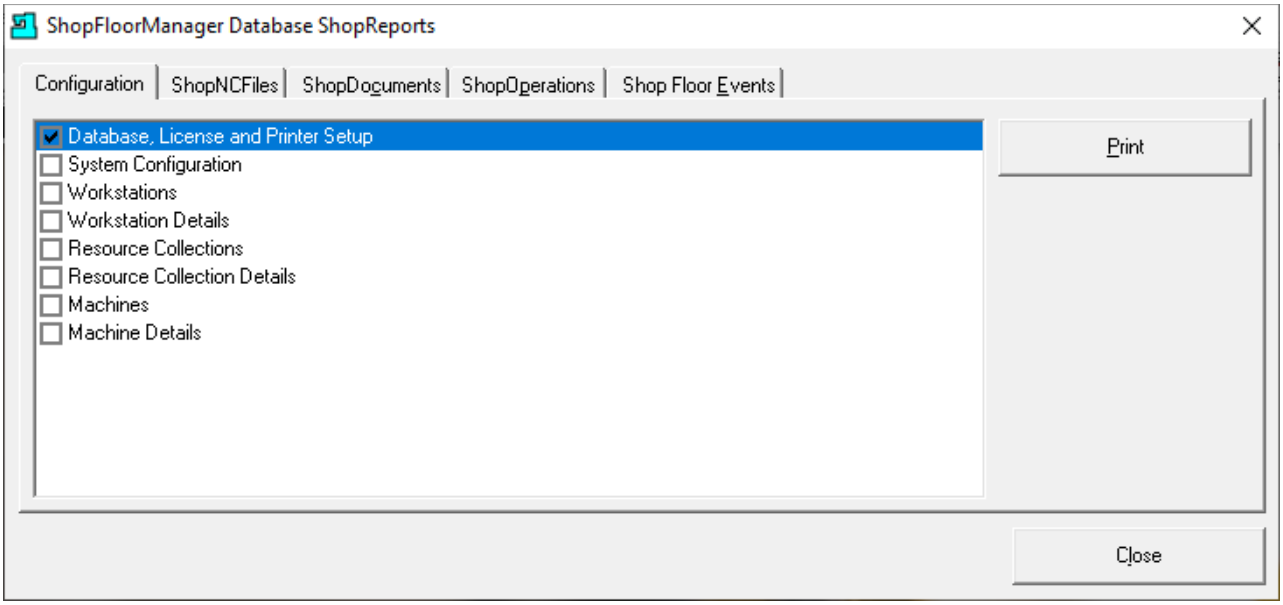
This finishes this section!

ShopReports: Configurations; Other (For your Eyes Only! Reports & More Reports!)



Click on the ShopReports… Menu and the following Window is displayed.

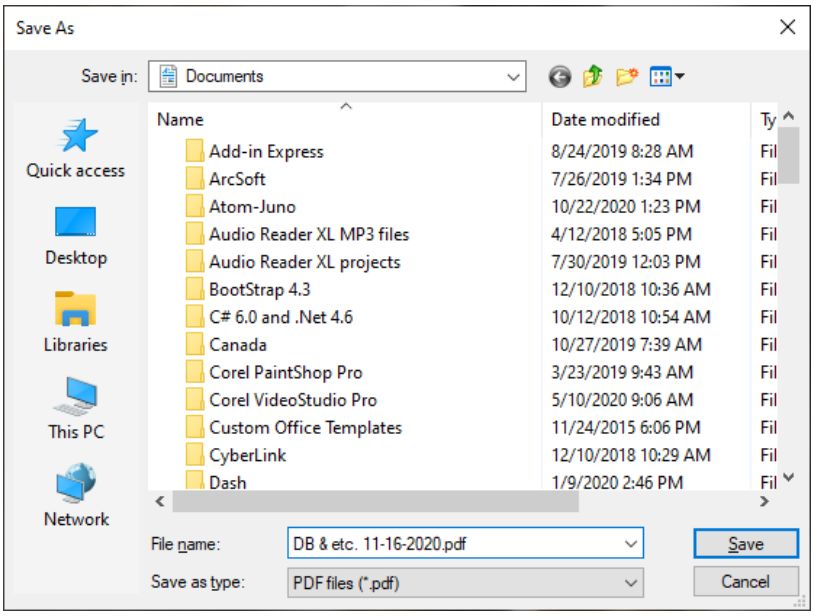
ShopReports: Configurations; Other (Configuration ShopReports)



These reports are used to provide System Configuration Details, Relationships & Histories of ShopNCFiles, ShopDocuments & ShopOperations. It is suggested to “Print Out” these reports using a PDF Application. There can be hundreds of thousands of pages depending on how many Machines, Files, ShopDocuments, ShopOperations and the selected time frame configured in the ShopReport Filter!

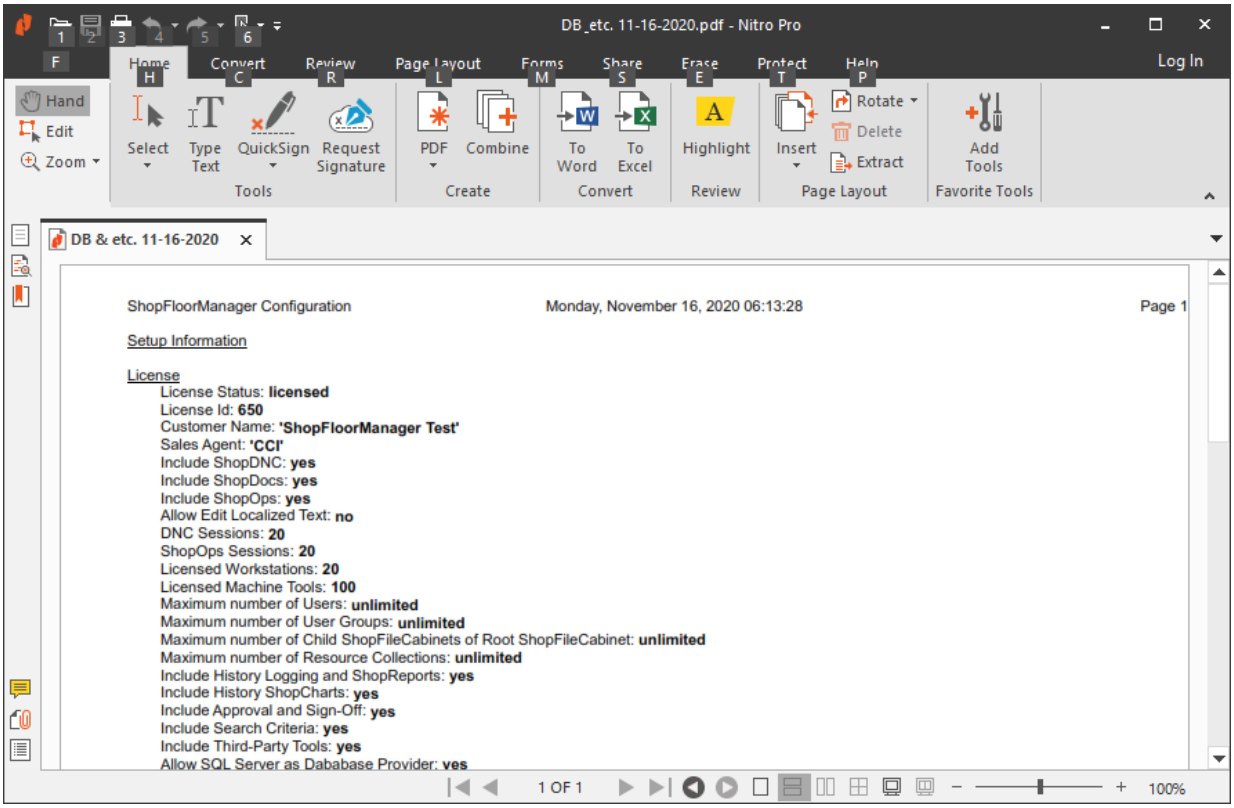
Check the checkbox next to the Reports you want and click the “Print Button”. We will show only one of the ShopReports. Let’s Print out the selection above. Click the Print Button and the following Window will be displayed.

ShopReports: Configurations; Other (Create PDF of Database, License & Printer Configuration)



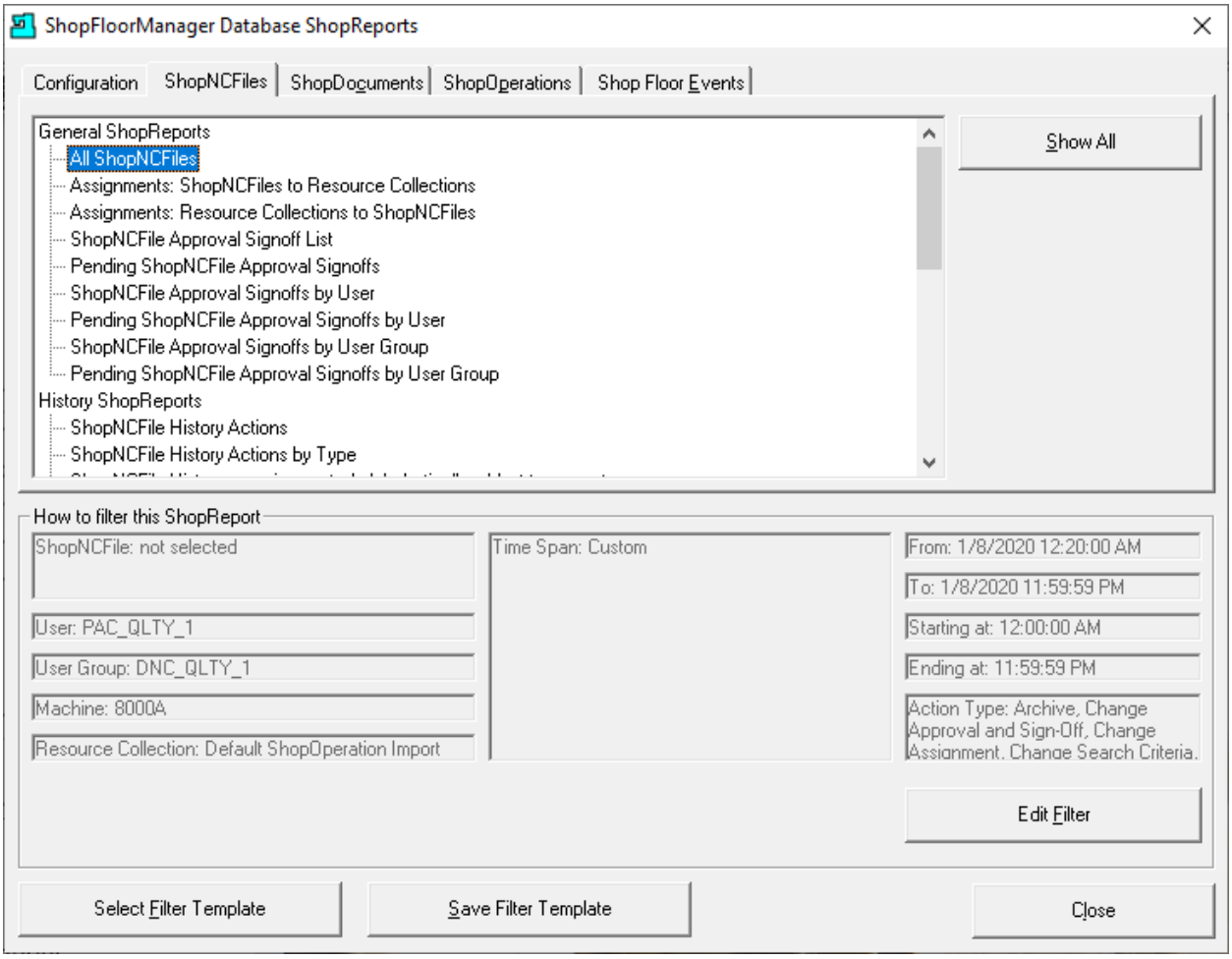
Change Title and click the Save Button. Open the File by clicking on it and the following Report is displayed.

ShopReports: Configurations; Other (PDF Report of Database, License & Printer Configuration)



This is the general procedure for printing out this section! Close when Finished.

ShopReports: Configurations; Other (ShopNCFiles)



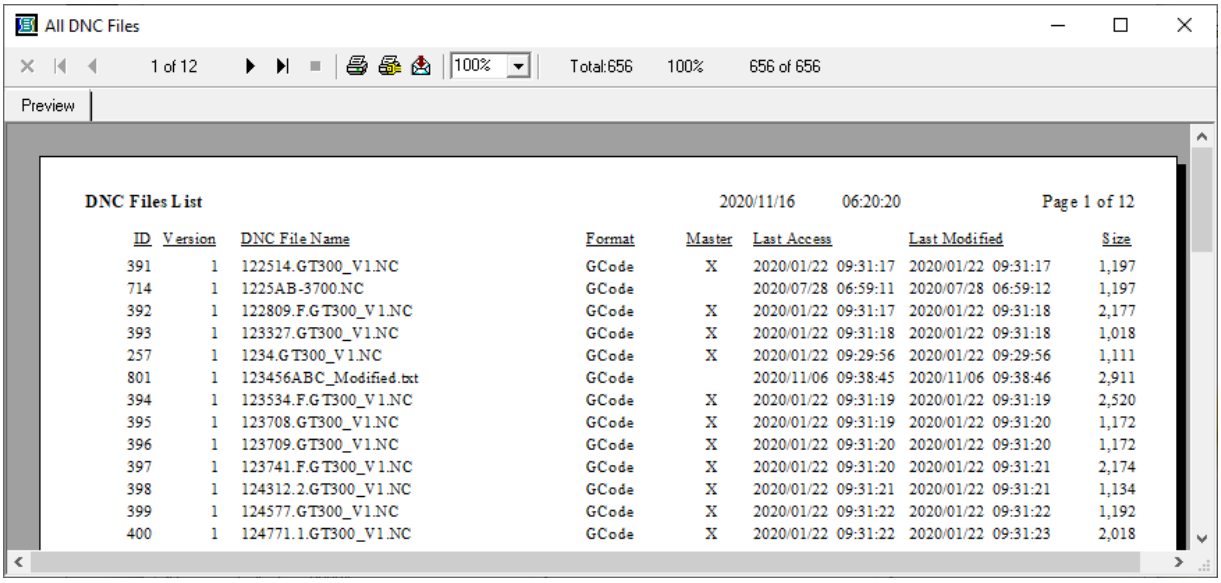
We will not show every Report in detail but show a class of reports so you can dig into these on your own. There are two Areas we will investigate:

We will be showing the ShopReports ShopNCFiles in detail but since ShopDocuments & ShopOperations have the same formatted ShopReports, we will not be showing them.

Click on the “All ShopNCFiles” selection and click the “Show All” Button and the following Window will be displayed!

ShopReports: Configurations; Other (General ShopReports):

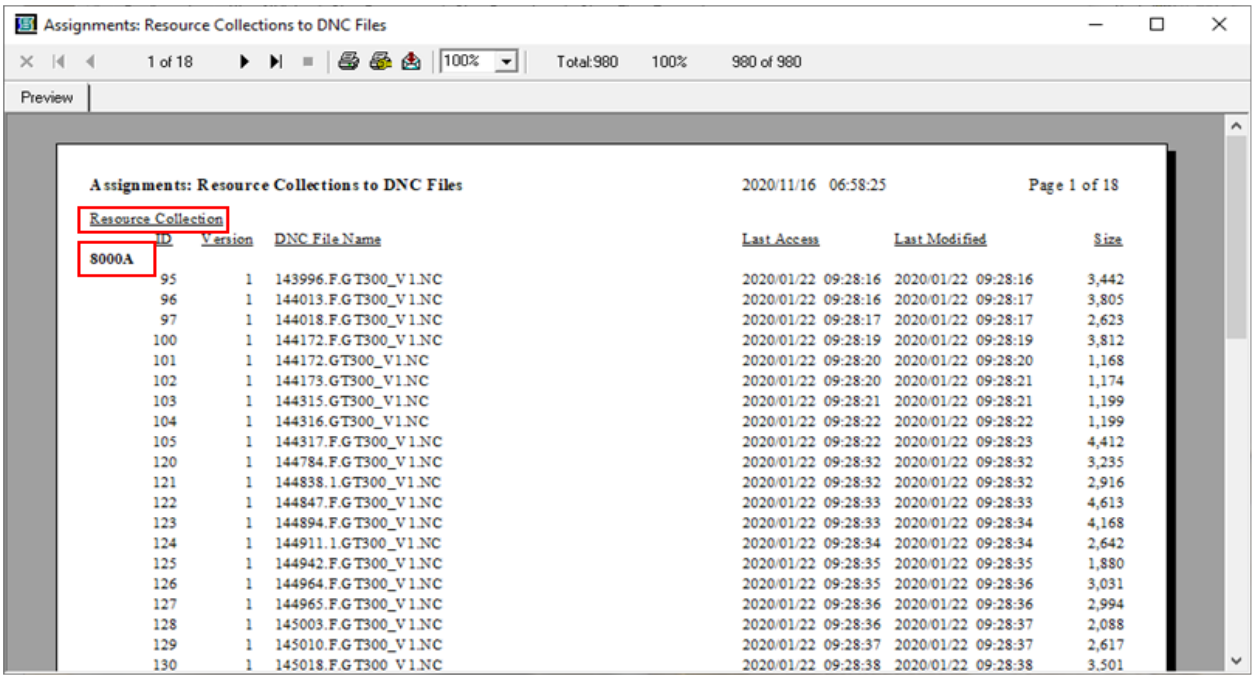
ShopReports: Configurations; Other (All ShopNCFiles)



ID	Version	DNC File Name	Format	Master	Last Access	Last Modified	Size
391	1	122514.GT300_V1.NC	GCode	X	2020/01/22 09:31:17	2020/01/22 09:31:17	1,197
714	1	1225AB-3700.NC	GCode		2020/07/28 06:59:11	2020/07/28 06:59:12	1,197
392	1	122809.F.GT300_V1.NC	GCode	X	2020/01/22 09:31:17	2020/01/22 09:31:18	2,177
393	1	123327.GT300_V1.NC	GCode	X	2020/01/22 09:31:18	2020/01/22 09:31:18	1,018
257	1	1234.GT300_V1.NC	GCode	X	2020/01/22 09:29:56	2020/01/22 09:29:56	1,111
801	1	123456ABC_Modified.txt	GCode		2020/11/06 09:38:45	2020/11/06 09:38:46	2,911
394	1	123534.F.GT300_V1.NC	GCode	X	2020/01/22 09:31:19	2020/01/22 09:31:19	2,520
395	1	123708.GT300_V1.NC	GCode	X	2020/01/22 09:31:19	2020/01/22 09:31:20	1,172
396	1	123709.GT300_V1.NC	GCode	X	2020/01/22 09:31:20	2020/01/22 09:31:20	1,172
397	1	123741.F.GT300_V1.NC	GCode	X	2020/01/22 09:31:20	2020/01/22 09:31:21	2,174
398	1	124312.2.GT300_V1.NC	GCode	X	2020/01/22 09:31:21	2020/01/22 09:31:21	1,134
399	1	124577.GT300_V1.NC	GCode	X	2020/01/22 09:31:22	2020/01/22 09:31:22	1,192
400	1	124771.1.GT300_V1.NC	GCode	X	2020/01/22 09:31:22	2020/01/22 09:31:23	2,018

This report is full dump of all of the ShopNCFiles contained in the database in alphanumeric order.

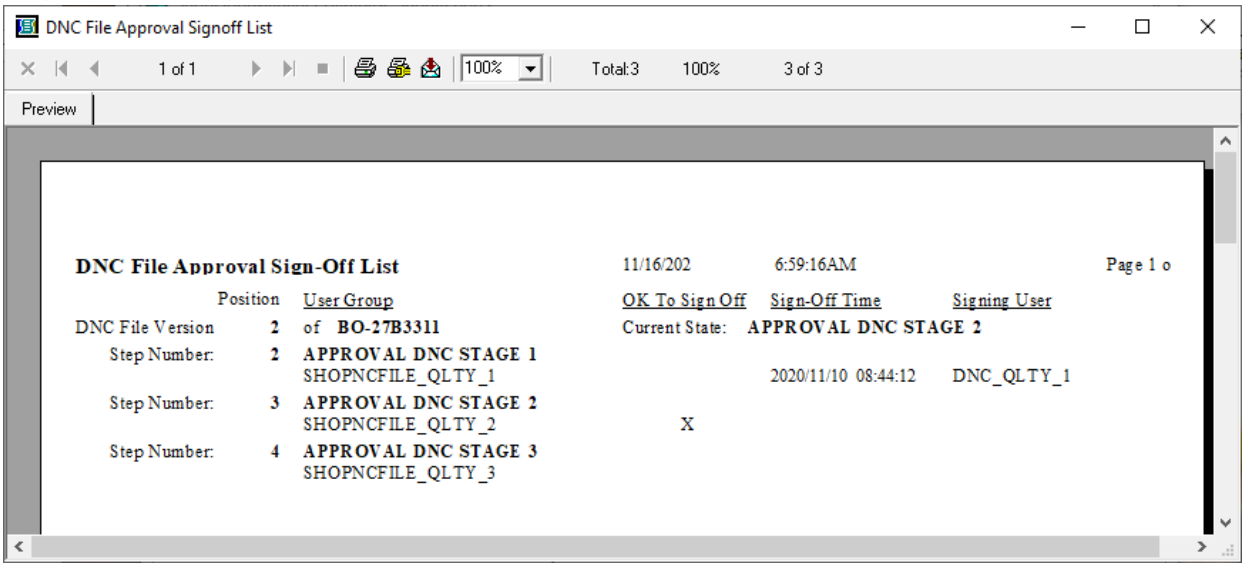
ShopReports: Configurations; Other (Assignments: ShopNCFiles to Resource Collection & reversed Relationship)



Resource Collection	ID	Version	DNC File Name	Last Access	Last Modified	Size
S000A	95	1	143996.F.GT300_V1.NC	2020/01/22 09:28:16	2020/01/22 09:28:16	3,442
	96	1	144013.F.GT300_V1.NC	2020/01/22 09:28:16	2020/01/22 09:28:17	3,805
	97	1	144018.F.GT300_V1.NC	2020/01/22 09:28:17	2020/01/22 09:28:17	2,623
	100	1	144172.F.GT300_V1.NC	2020/01/22 09:28:19	2020/01/22 09:28:19	3,812
	101	1	144172.GT300_V1.NC	2020/01/22 09:28:20	2020/01/22 09:28:20	1,168
	102	1	144173.GT300_V1.NC	2020/01/22 09:28:20	2020/01/22 09:28:21	1,174
	103	1	144315.GT300_V1.NC	2020/01/22 09:28:21	2020/01/22 09:28:21	1,199
	104	1	144316.GT300_V1.NC	2020/01/22 09:28:22	2020/01/22 09:28:22	1,199
	105	1	144317.F.GT300_V1.NC	2020/01/22 09:28:22	2020/01/22 09:28:23	4,412
	120	1	144784.F.GT300_V1.NC	2020/01/22 09:28:32	2020/01/22 09:28:32	3,235
	121	1	144838.1.GT300_V1.NC	2020/01/22 09:28:32	2020/01/22 09:28:32	2,916
	122	1	144847.F.GT300_V1.NC	2020/01/22 09:28:33	2020/01/22 09:28:33	4,613
	123	1	144894.F.GT300_V1.NC	2020/01/22 09:28:33	2020/01/22 09:28:34	4,168
	124	1	144911.1.GT300_V1.NC	2020/01/22 09:28:34	2020/01/22 09:28:34	2,642
	125	1	144942.F.GT300_V1.NC	2020/01/22 09:28:35	2020/01/22 09:28:35	1,880
	126	1	144964.F.GT300_V1.NC	2020/01/22 09:28:35	2020/01/22 09:28:36	3,031
	127	1	144965.F.GT300_V1.NC	2020/01/22 09:28:36	2020/01/22 09:28:36	2,994
	128	1	145003.F.GT300_V1.NC	2020/01/22 09:28:36	2020/01/22 09:28:37	2,088
	129	1	145010.F.GT300_V1.NC	2020/01/22 09:28:37	2020/01/22 09:28:37	2,617
	130	1	145018.F.GT300_V1.NC	2020/01/22 09:28:38	2020/01/22 09:28:38	3,501

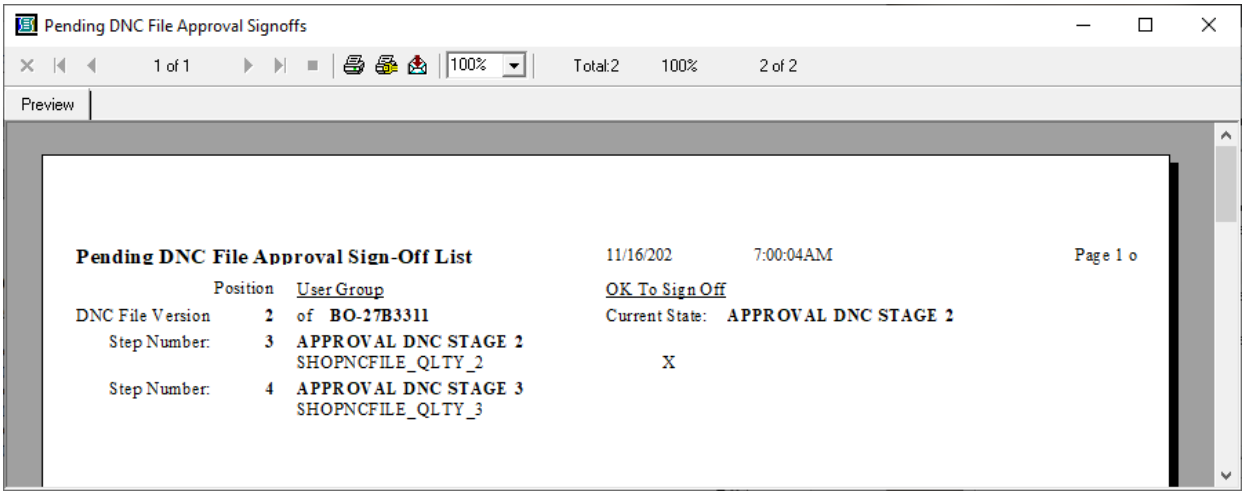
This report shows every ShopNCFile and its associated Resource Collection associations.

ShopReports: Configurations; Other (ShopNCFile Approval Signoff list)



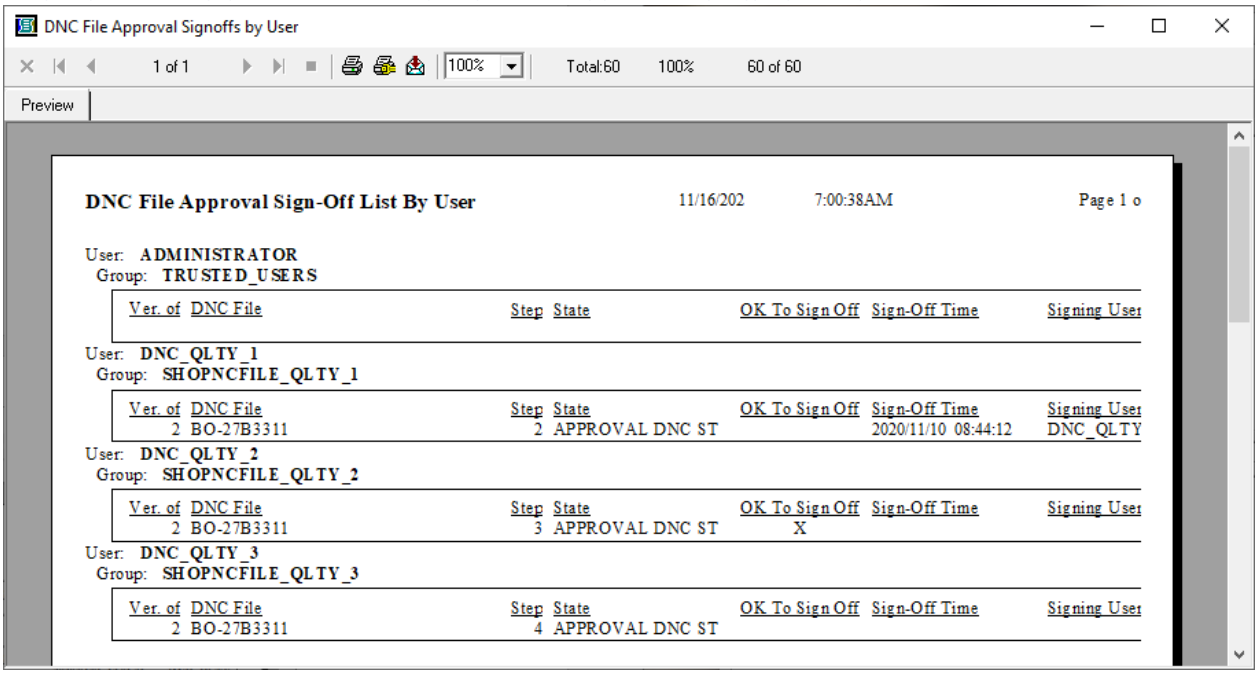
This report shows every ShopNCFile Signoff List and any Signoffs.

ShopReports: Configurations; Other (Pending ShopNCFile Approval Signoffs)



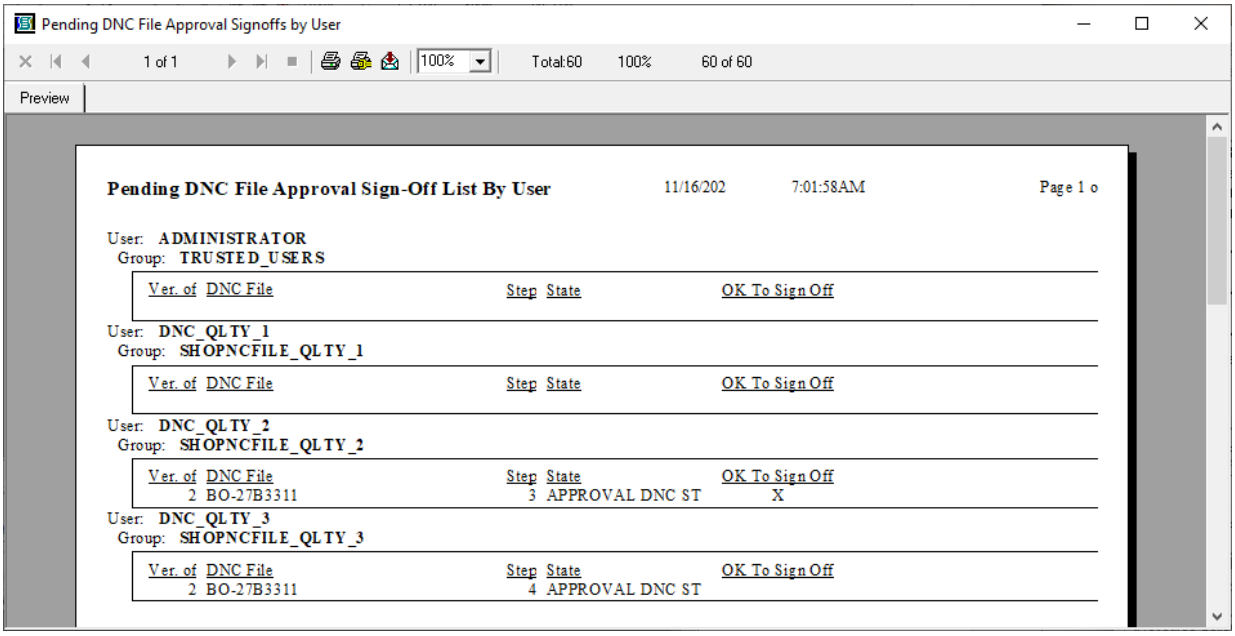
This report shows every Pending ShopNCFile Signoff List Stage.

ShopReports: Configurations; Other (ShopNCFile Approval Signoff by User)



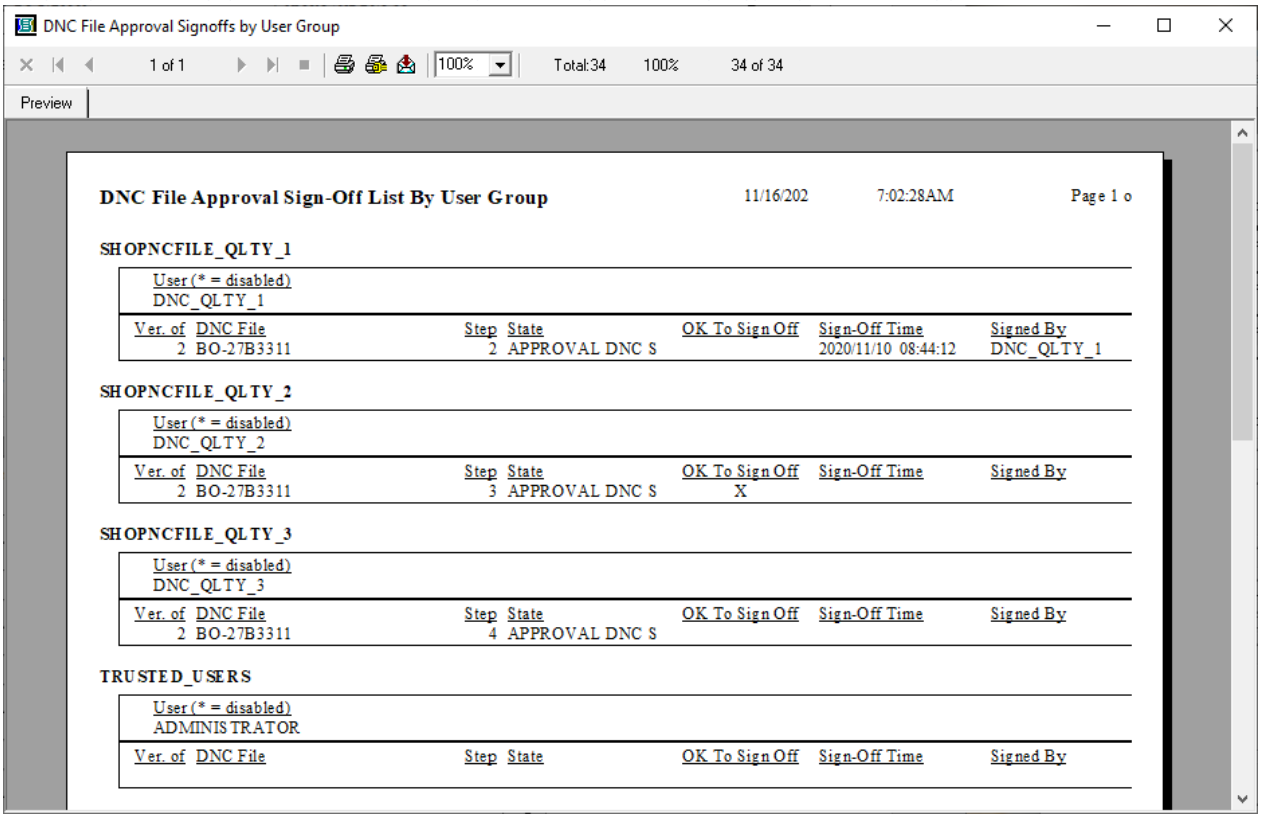
This report shows every ShopNCFile Approval Signoff List By User Signoff.

ShopReports: Configurations; Other (Pending ShopNCFile Approval Signoffs by User)



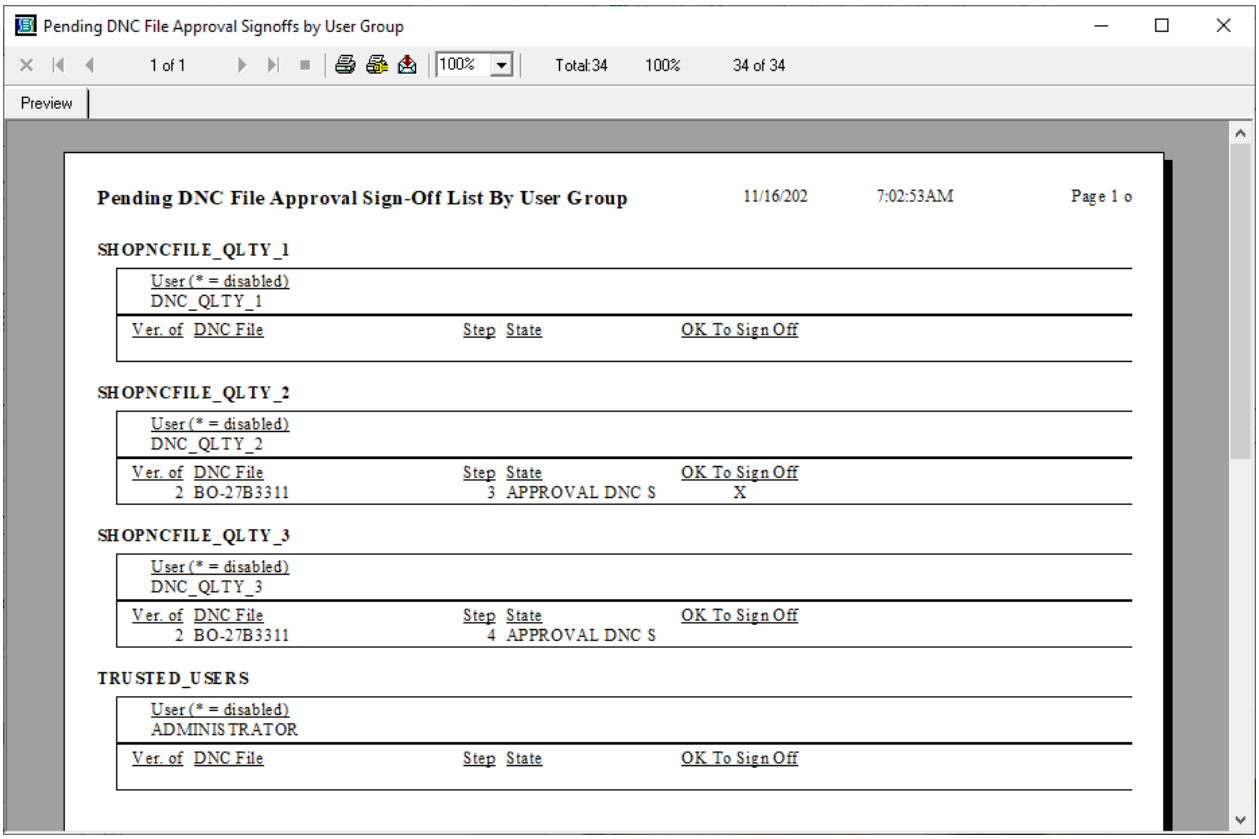
This report shows every Pending ShopNCFile Approval Signoff List By User.

ShopReports: Configurations; Other (ShopNCFile Approval Signoffs by User Group)



This report shows every ShopNCFile Approval Signoff List By User Group Signed off.

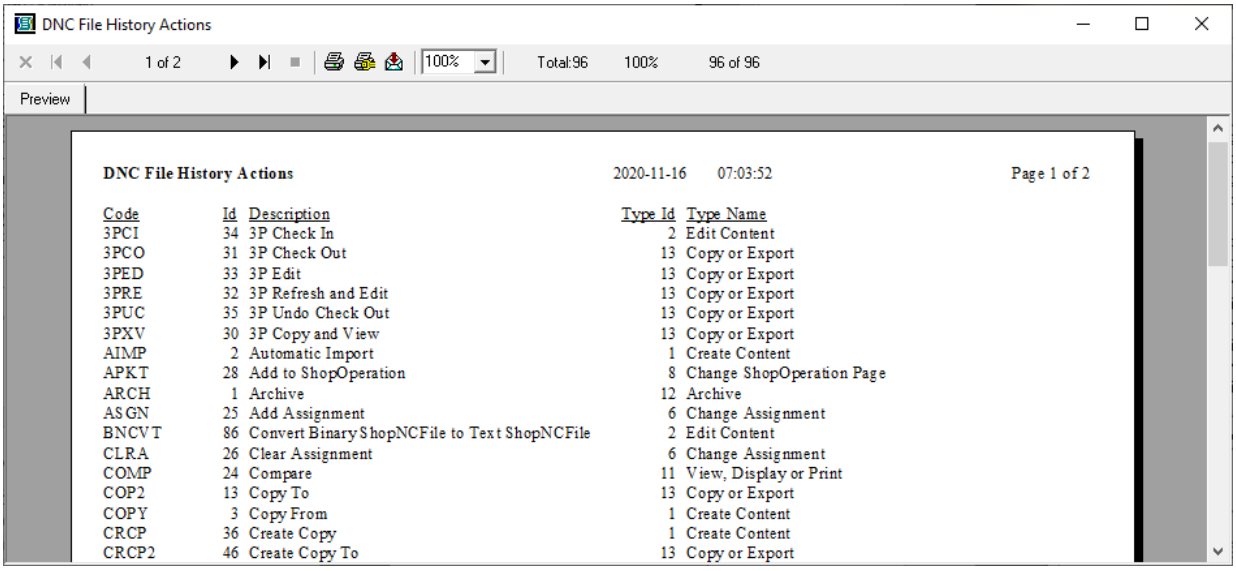
ShopReports: Configurations; Other (Pending ShopNCFile Approval Signoffs by User Group)



This report shows every Pending ShopNCFile Approval Signoff List By User Group.

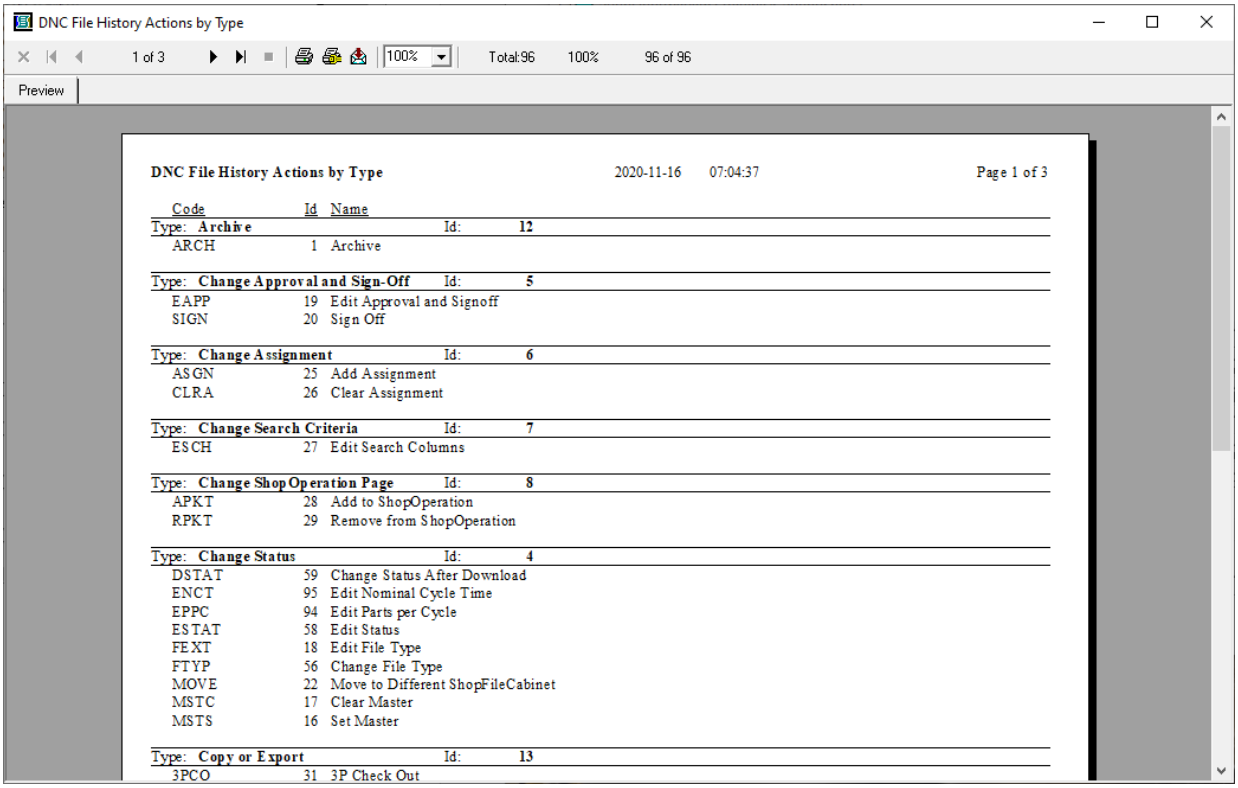
ShopReports: Configurations; Other (History ShopReports):

ShopReports (ShopNCFile History Actions)



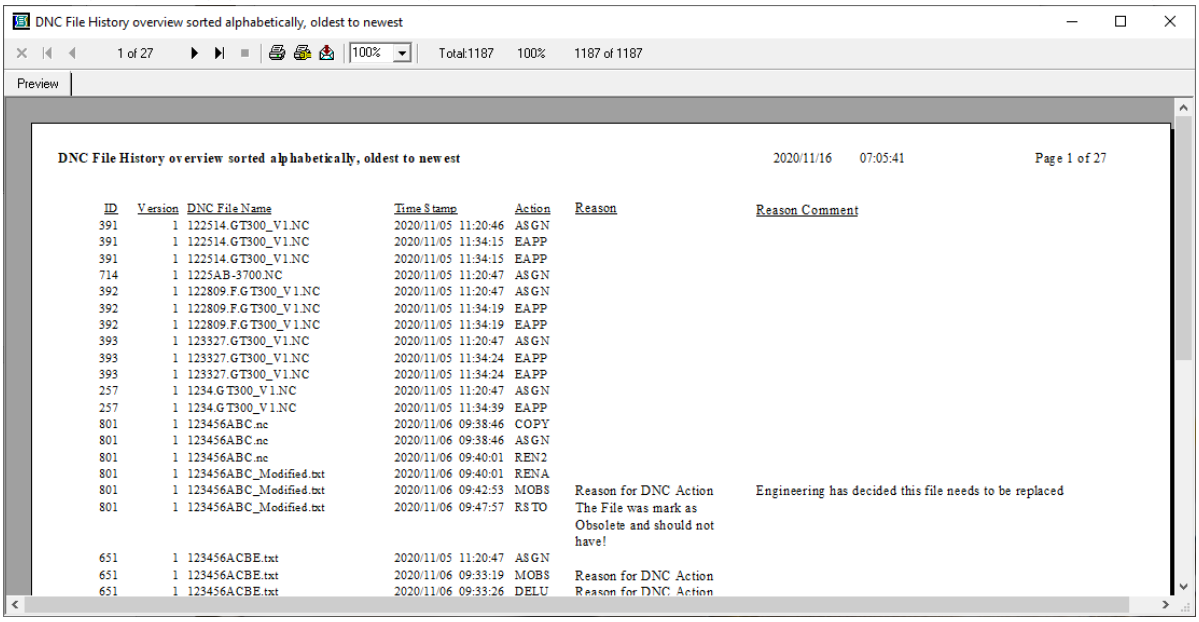
This Report is a list of all Acronyms for History Actions that can be recorded in File Histories.

ShopReports: Configurations; Other (ShopNCFile History Actions by Type)



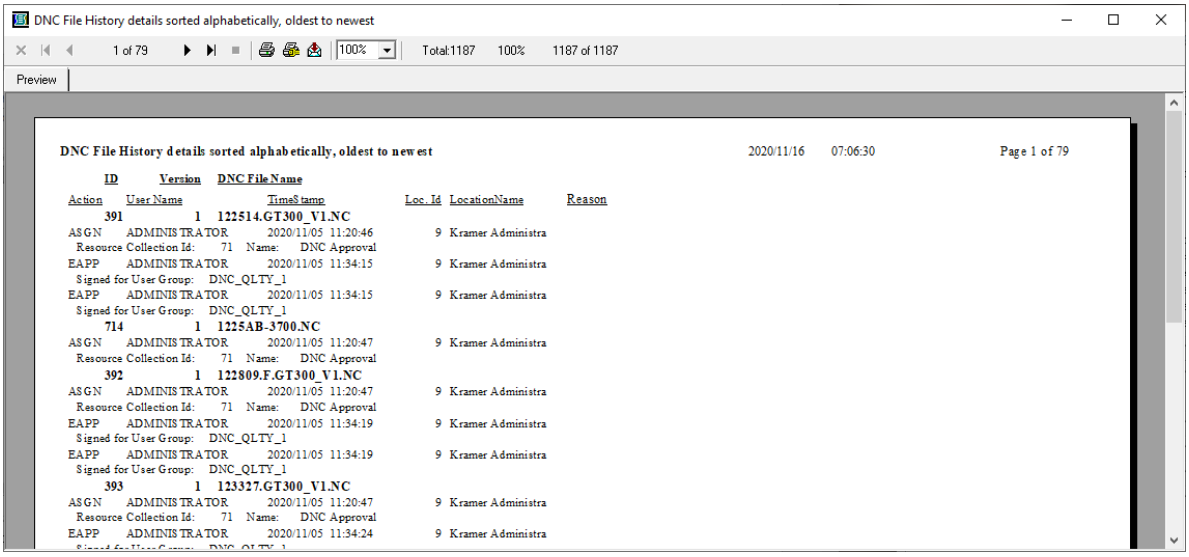
This Report is a list of all Acronyms by Type.

ShopReports: Configurations; Other (ShopNCFile History overview sorted alphabetically, oldest to newest)



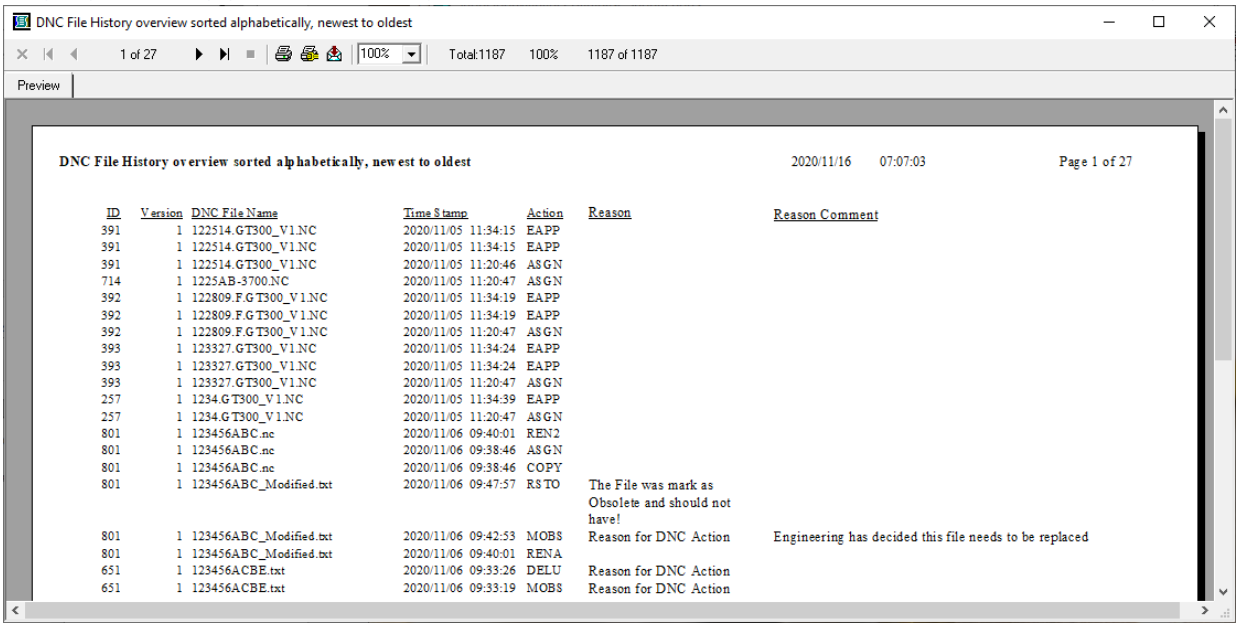
This a report of every ShopNCFile history overview sorted alphanumerically order oldest to newest with dates & Action Acronym. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile History details sorted alphabetically, oldest to newest)



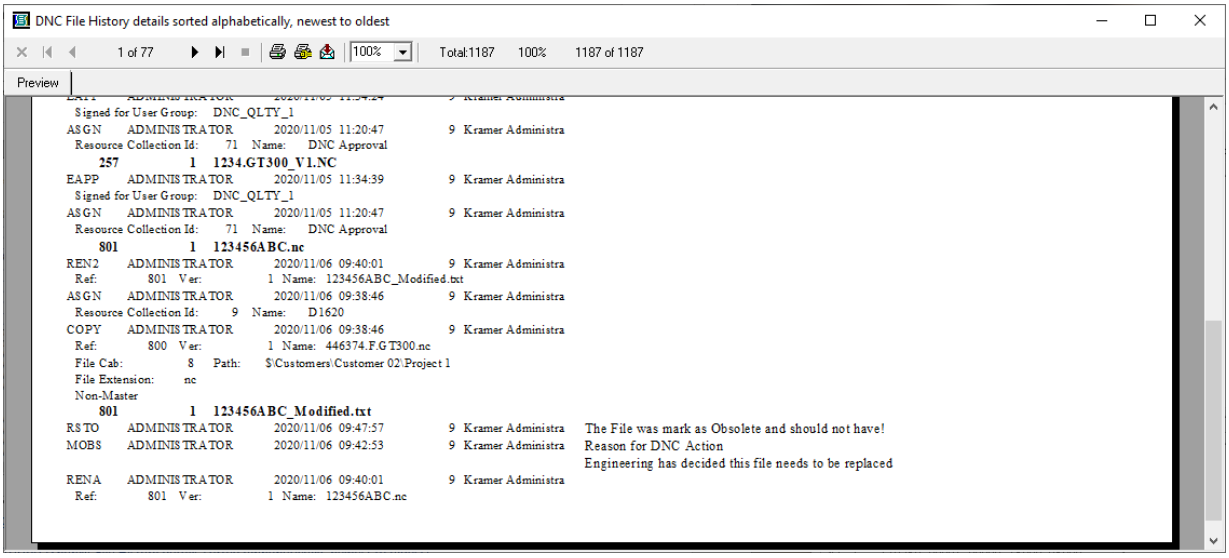
This a report of every ShopNCFile history details sorted alphanumerically order oldest to newest with dates & Action Acronym. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile History overview sorted alphabetically, newest to oldest)



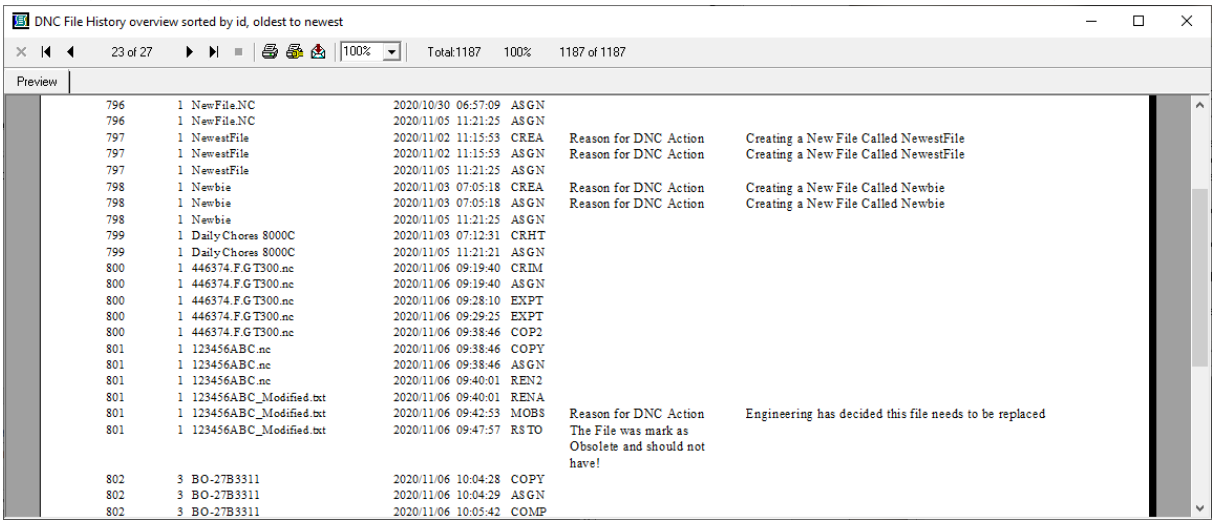
This a report of every ShopNCFile history overview sorted alphanumerically order oldest to newest with dates & Action Acronym. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile History details sorted alphabetically, newest to oldest)



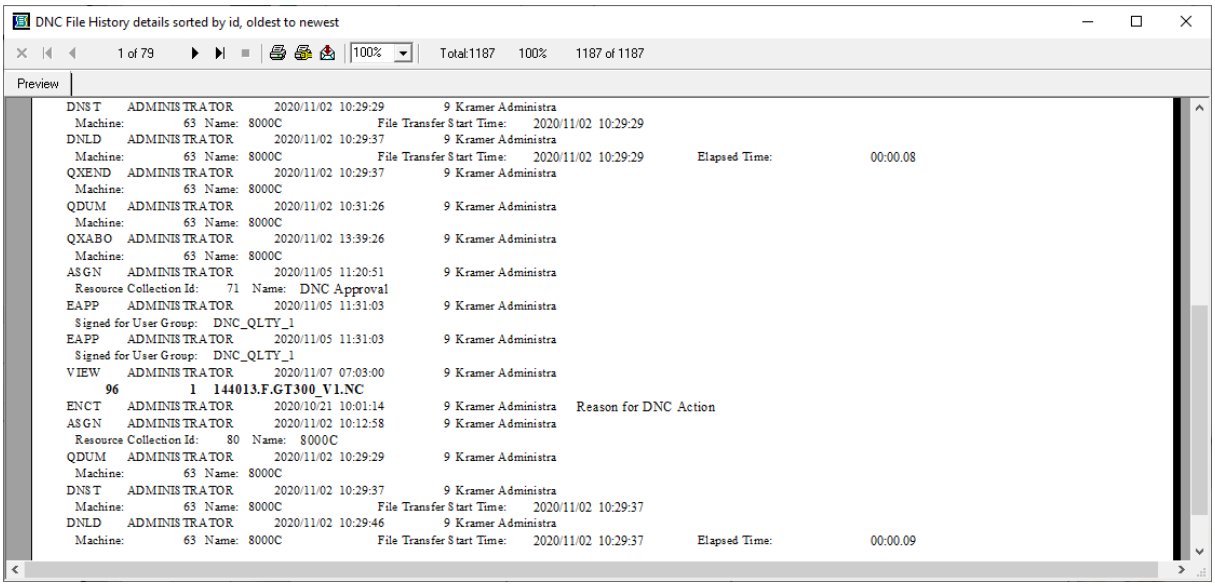
This a report of every ShopNCFile history details sorted alphanumerically order oldest to newest with dates & Action Acronym. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile History overview sorted by id, oldest to newest)



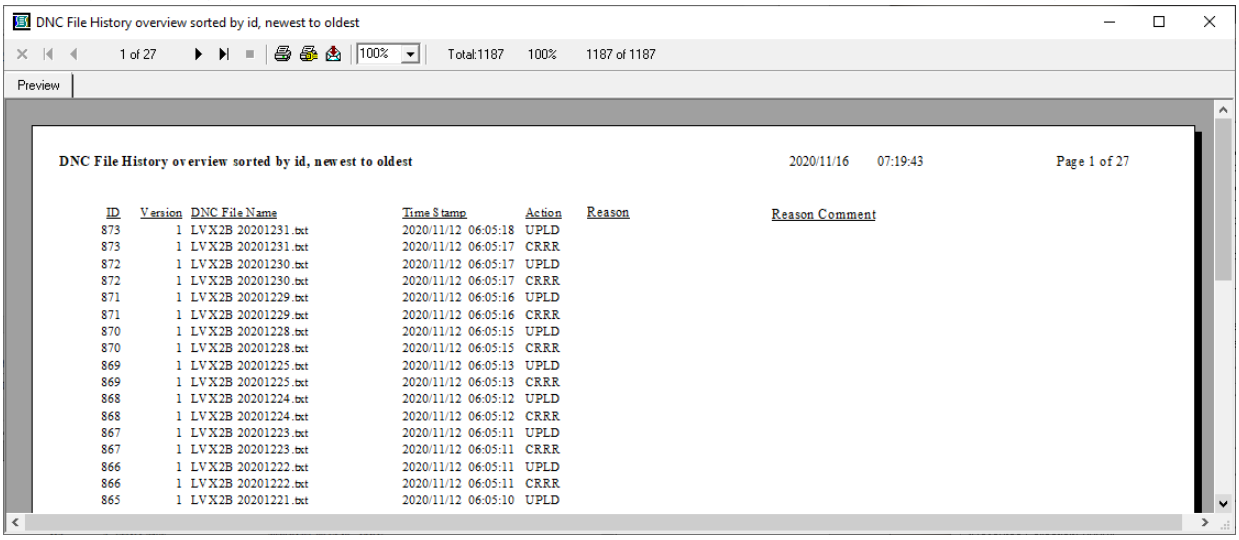
This a report of every ShopNCFile history overview sorted by id, oldest to newest with dates & Action Acronym. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile History details sorted by id, oldest to newest)



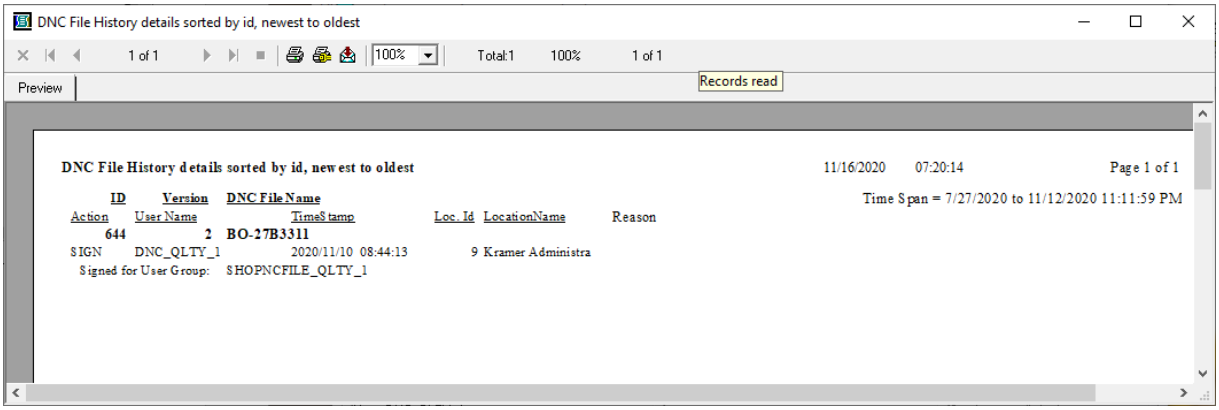
This a report of every ShopNCFile history details sorted by id, oldest to newest with dates & Action Acronym. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile History overview sorted by id, newest to oldest)



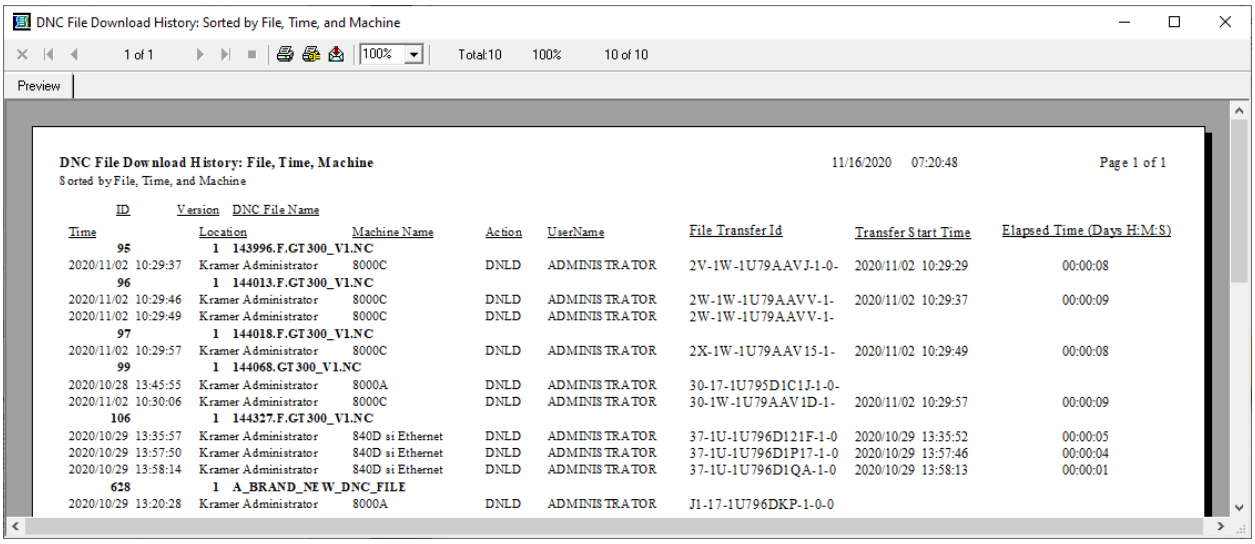
This a report of every ShopNCFile history overview sorted by id, newest to oldest with dates & Action Acronym. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile History details sorted by id, newest to oldest)



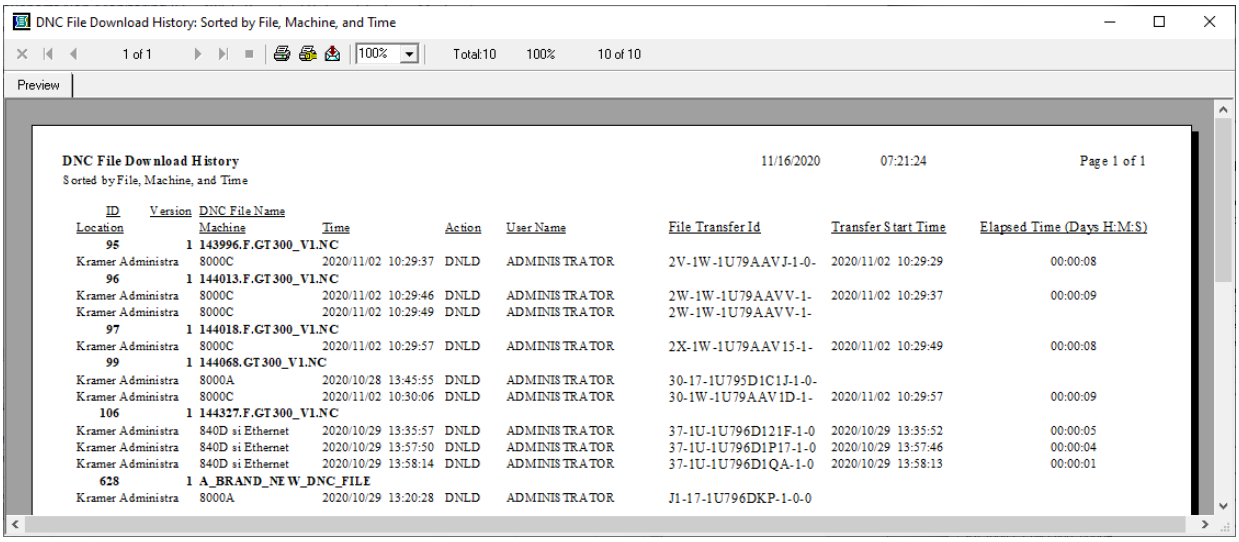
This a report of every ShopNCFile history details sorted by id, newest to oldest with dates & Action Acronym. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile Download History: File, Time, Machine)



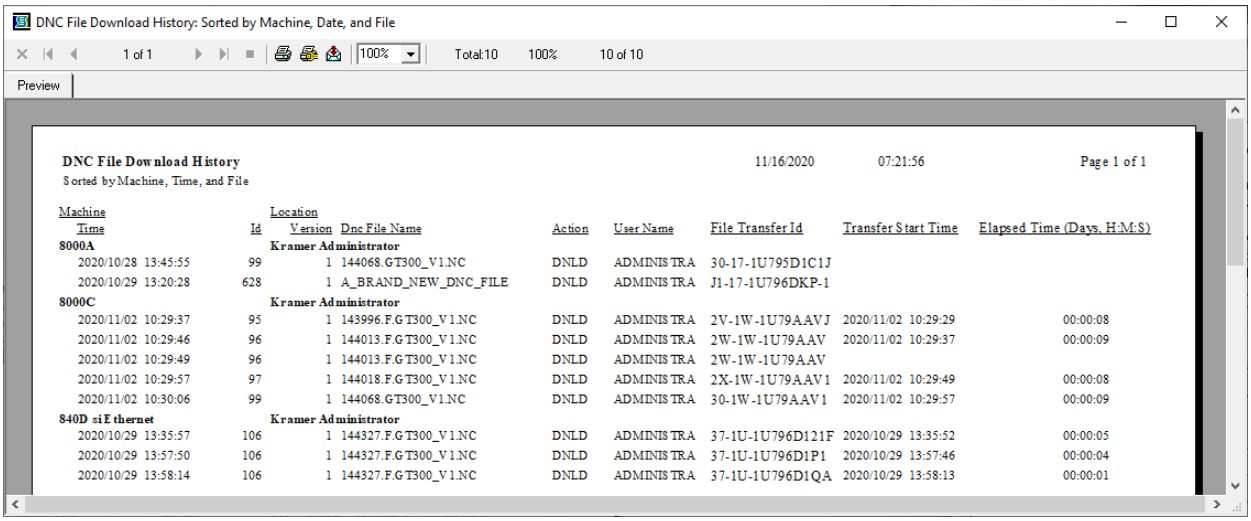
This a report of every ShopNCFile Download history sorted by File, Time, and Machine. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile Download History sorted by File, Machine and Time)



This a report of every ShopNCFile Download history sorted by File, Machine and Time. Can use ShopReport Filter to customize results.

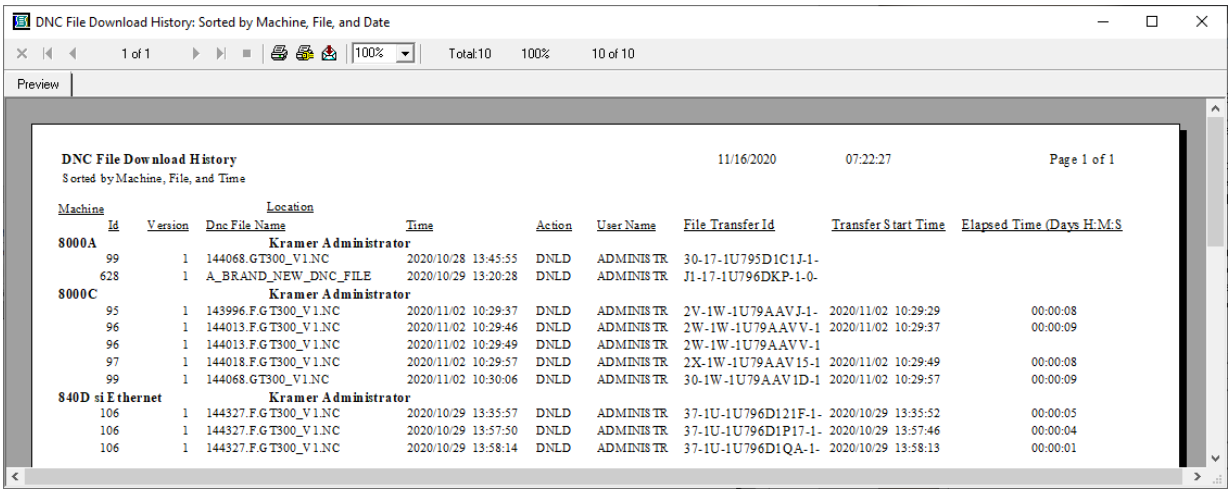
ShopReports: Configurations; Other (ShopNCFile Download History sorted by Machine, Time and File)



Machine / Time	Id	Location / Version	Dnc File Name	Action	User Name	File Transfer Id	Transfer Start Time	Elapsed Time (Days, H:M:S)
8000A		**Kramer Administrator**						
2020/10/28 13:45:55	99	1	144068.GT300_V1.NC	DNLD	ADMINISTRA	30-17-1U795D1C1J		
2020/10/29 13:20:28	628	1	A_BRAND_NEW_DNC_FILE	DNLD	ADMINISTRA	J1-17-1U796DKP-1		
8000C		**Kramer Administrator**						
2020/11/02 10:29:37	95	1	143996.F.GT300_V1.NC	DNLD	ADMINISTRA	2V-1W-1U79AAVJ	2020/11/02 10:29:29	00:00:08
2020/11/02 10:29:46	96	1	144013.F.GT300_V1.NC	DNLD	ADMINISTRA	2W-1W-1U79AAV	2020/11/02 10:29:37	00:00:09
2020/11/02 10:29:49	96	1	144013.F.GT300_V1.NC	DNLD	ADMINISTRA	2W-1W-1U79AAV		
2020/11/02 10:29:57	97	1	144018.F.GT300_V1.NC	DNLD	ADMINISTRA	2X-1W-1U79AAV1	2020/11/02 10:29:49	00:00:08
2020/11/02 10:30:06	99	1	144068.GT300_V1.NC	DNLD	ADMINISTRA	30-1W-1U79AAV1	2020/11/02 10:29:57	00:00:09
840D siEthernet		**Kramer Administrator**						
2020/10/29 13:35:57	106	1	144327.F.GT300_V1.NC	DNLD	ADMINISTRA	37-1U-1U796D121F	2020/10/29 13:35:52	00:00:05
2020/10/29 13:57:50	106	1	144327.F.GT300_V1.NC	DNLD	ADMINISTRA	37-1U-1U796D1P1	2020/10/29 13:57:46	00:00:04
2020/10/29 13:58:14	106	1	144327.F.GT300_V1.NC	DNLD	ADMINISTRA	37-1U-1U796D1QA	2020/10/29 13:58:13	00:00:01

This a report of every ShopNCFile Download history sorted by Machine, Time, and File. Can use ShopReport Filter to customize results.

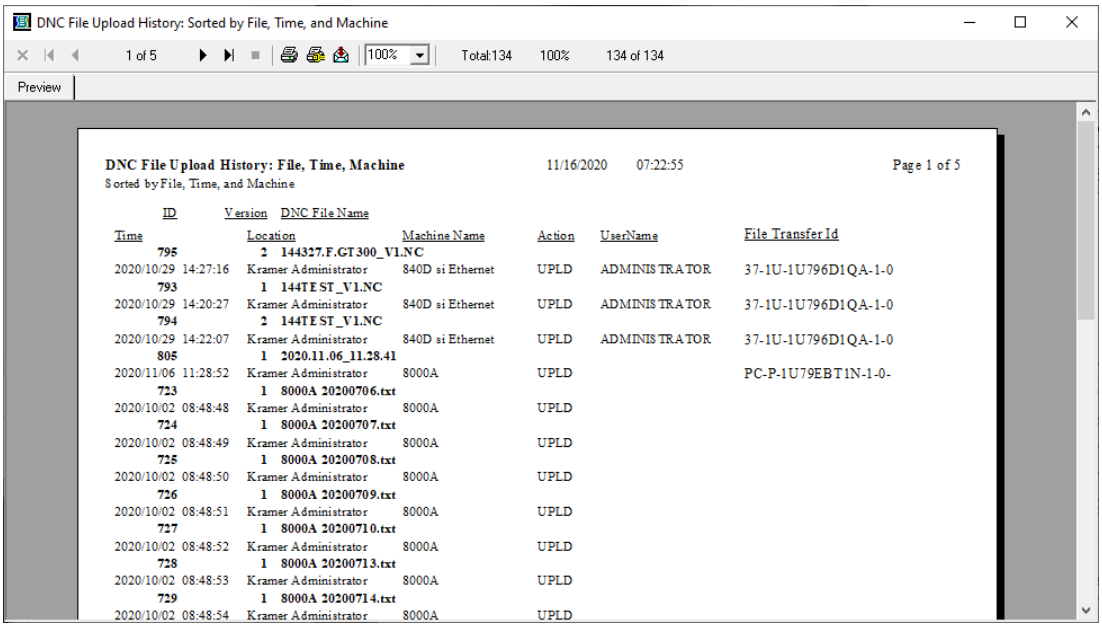
ShopReports: Configurations; Other (ShopNCFile Download History sorted by Machine, File and Time)



Machine / Id	Version	Location / Dnc File Name	Time	Action	User Name	File Transfer Id	Transfer Start Time	Elapsed Time (Days H:M:S
8000A		**Kramer Administrator**						
99	1	144068.GT300_V1.NC	2020/10/28 13:45:55	DNLD	ADMINISTR	30-17-1U795D1C1J-1-		
628	1	A_BRAND_NEW_DNC_FILE	2020/10/29 13:20:28	DNLD	ADMINISTR	J1-17-1U796DKP-1-0-		
8000C		**Kramer Administrator**						
95	1	143996.F.GT300_V1.NC	2020/11/02 10:29:37	DNLD	ADMINISTR	2V-1W-1U79AAVJ-1-	2020/11/02 10:29:29	00:00:08
96	1	144013.F.GT300_V1.NC	2020/11/02 10:29:46	DNLD	ADMINISTR	2W-1W-1U79AAVV-1	2020/11/02 10:29:37	00:00:09
96	1	144013.F.GT300_V1.NC	2020/11/02 10:29:49	DNLD	ADMINISTR	2W-1W-1U79AAVV-1		
97	1	144018.F.GT300_V1.NC	2020/11/02 10:29:57	DNLD	ADMINISTR	2X-1W-1U79AAV15-1	2020/11/02 10:29:49	00:00:08
99	1	144068.GT300_V1.NC	2020/11/02 10:30:06	DNLD	ADMINISTR	30-1W-1U79AAV1D-1	2020/11/02 10:29:57	00:00:09
840D siEthernet		**Kramer Administrator**						
106	1	144327.F.GT300_V1.NC	2020/10/29 13:35:57	DNLD	ADMINISTR	37-1U-1U796D121F-1-	2020/10/29 13:35:52	00:00:05
106	1	144327.F.GT300_V1.NC	2020/10/29 13:57:50	DNLD	ADMINISTR	37-1U-1U796D1P17-1-	2020/10/29 13:57:46	00:00:04
106	1	144327.F.GT300_V1.NC	2020/10/29 13:58:14	DNLD	ADMINISTR	37-1U-1U796D1QA-1-	2020/10/29 13:58:13	00:00:01

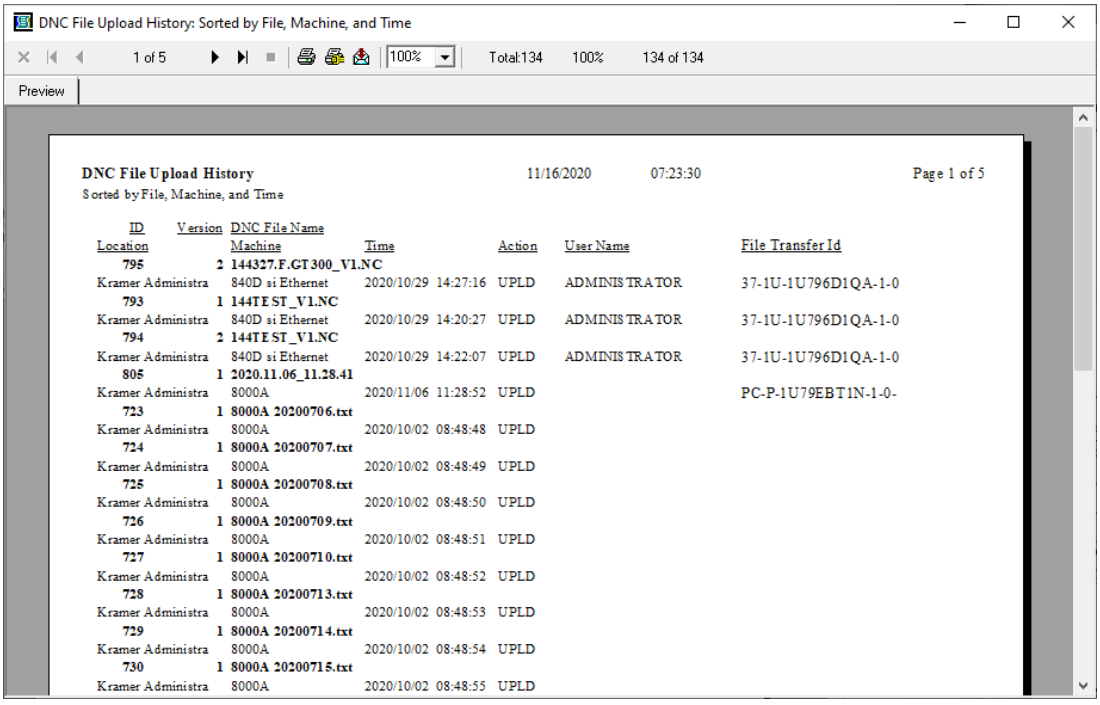
This a report of every ShopNCFile Download history sorted by Machine, File and Time. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile Upload History: File, Time, Machine)



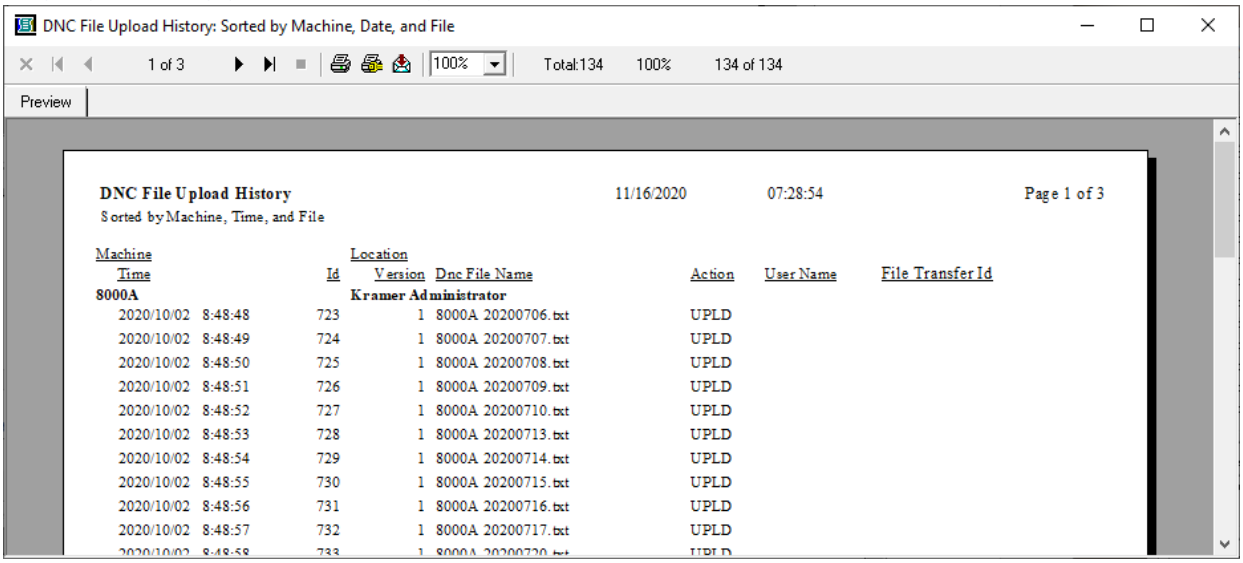
This a report of every ShopNCFile Upload history sorted by File, Time, and Machine. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile Upload History: Sorted by File, Machine and Time)



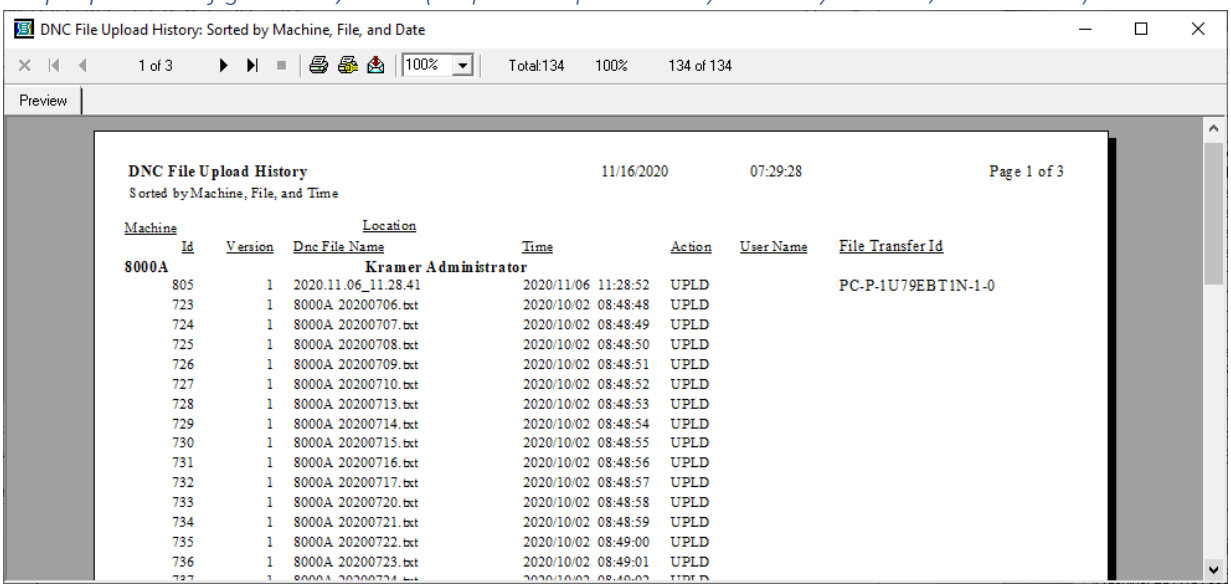
This a report of every ShopNCFile Upload history sorted by File, Machine and Time. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile Upload History: Sorted by Machine, Date, and File)



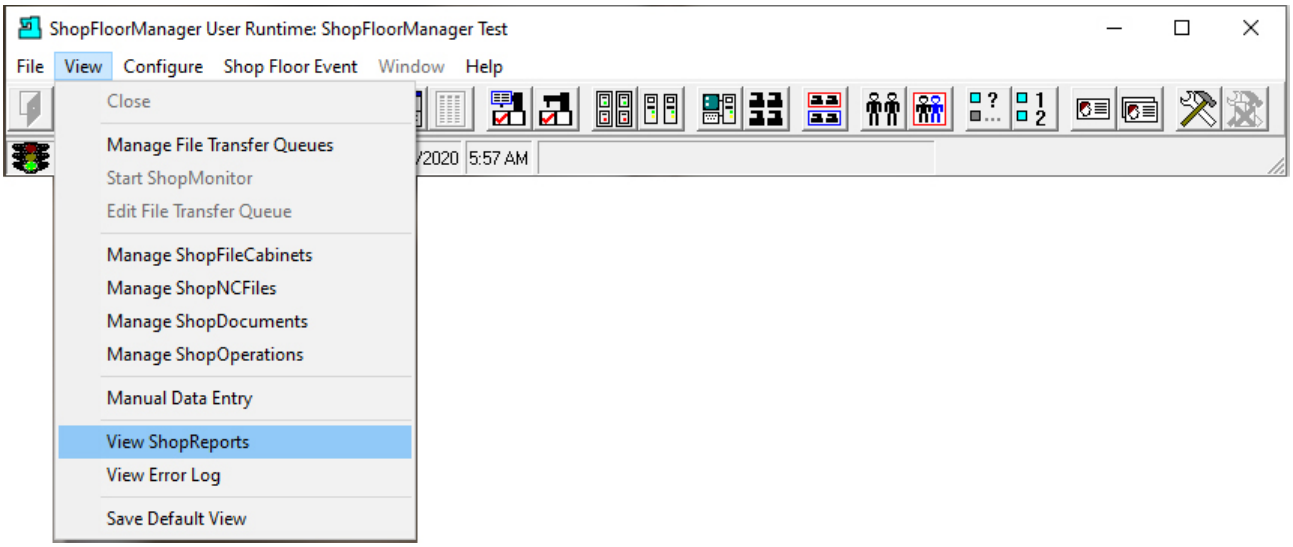
This a report of every ShopNCFile Upload history sorted by Machine, Time, and File. Can use ShopReport Filter to customize results.

ShopReports: Configurations; Other (ShopNCFile Upload History: Sorted by Machine, File and Date)



This a report of every ShopNCFile Upload history sorted by Machine, File and Time. Can use ShopReport Filter to customize results.

ShopReport Filter (Be Selfish, Look at the Data your Way! It's your Reports!)



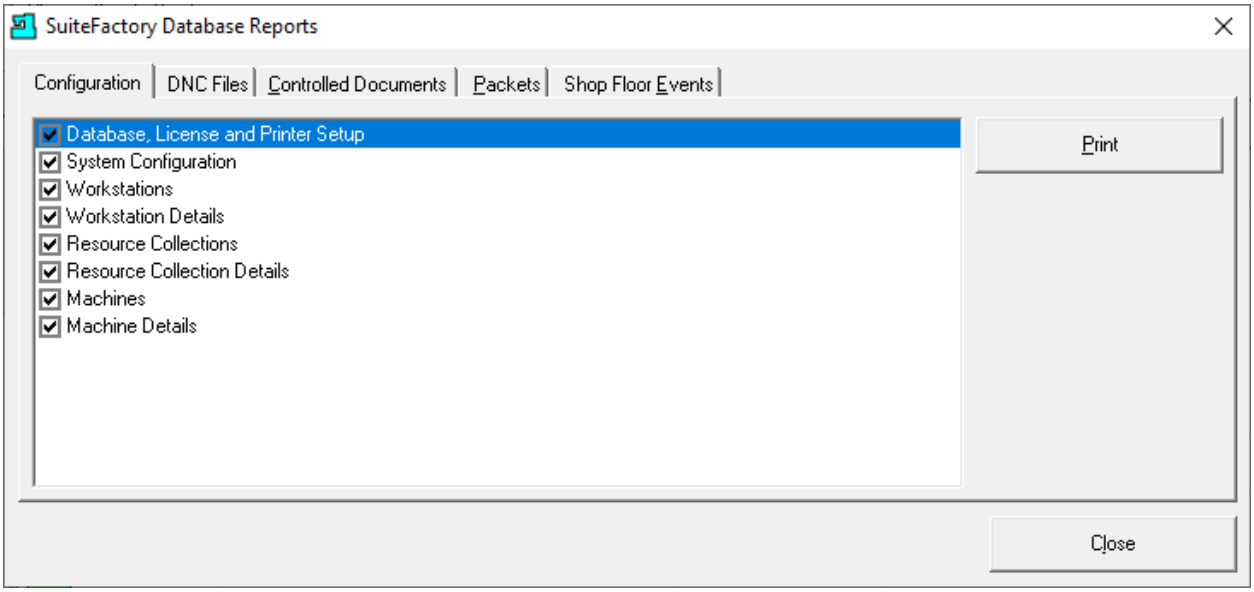
One of the most useful utilities when dealing with "ShopReports" is the ShopReport Filter. When you have masses of data, trying to sift through to correlate this data into meaningful Presentations/ShopReports can be a daunting task!

The ShopReport Filter allows a User to configure almost every useful property attributed to ShopNCFiles, ShopDocuments, ShopOperations and Events to generate "ShopReports" that are used to generate useful and meaningful Reports.

Let's look at each Category of ShopReports and see the Tools that a User has at their fingertips to extract the Presentations/ShopReports they need to answer any Questions they have regarding the data being collected by ShopFloorManager.

Click on the View Menu->ShopReports… and the following Window is displayed.

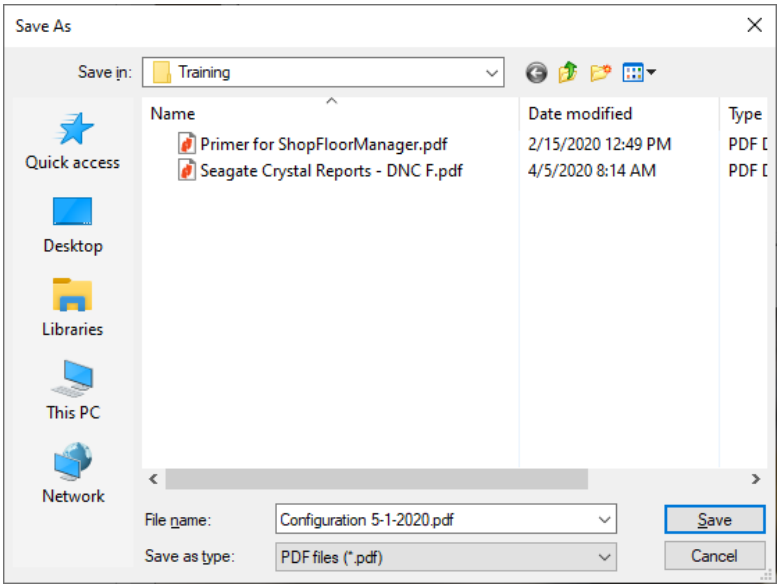
ShopReport Filter (Configuration Tab)



Periodically you need to record the present the state of your system configuration. This is the place to product those reports! Put a check next to the Report you want to generate. What we suggest is not to print to paper since the printout could be over 100 Pages but print to PDF Files.

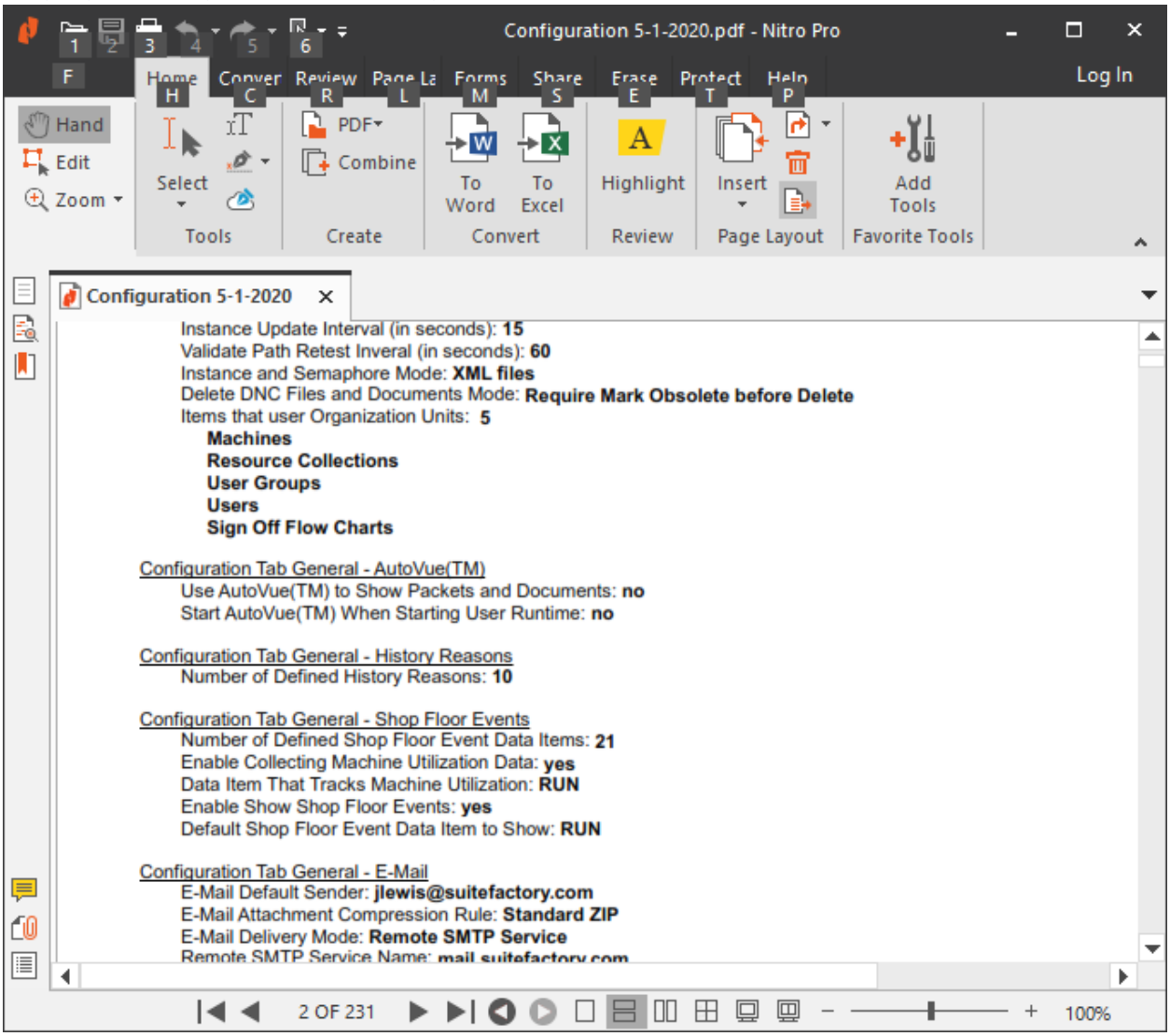
Click on the Print Button and the following Window will be displayed.

ShopReport Filter (Browser for finding Folder to Save Report)



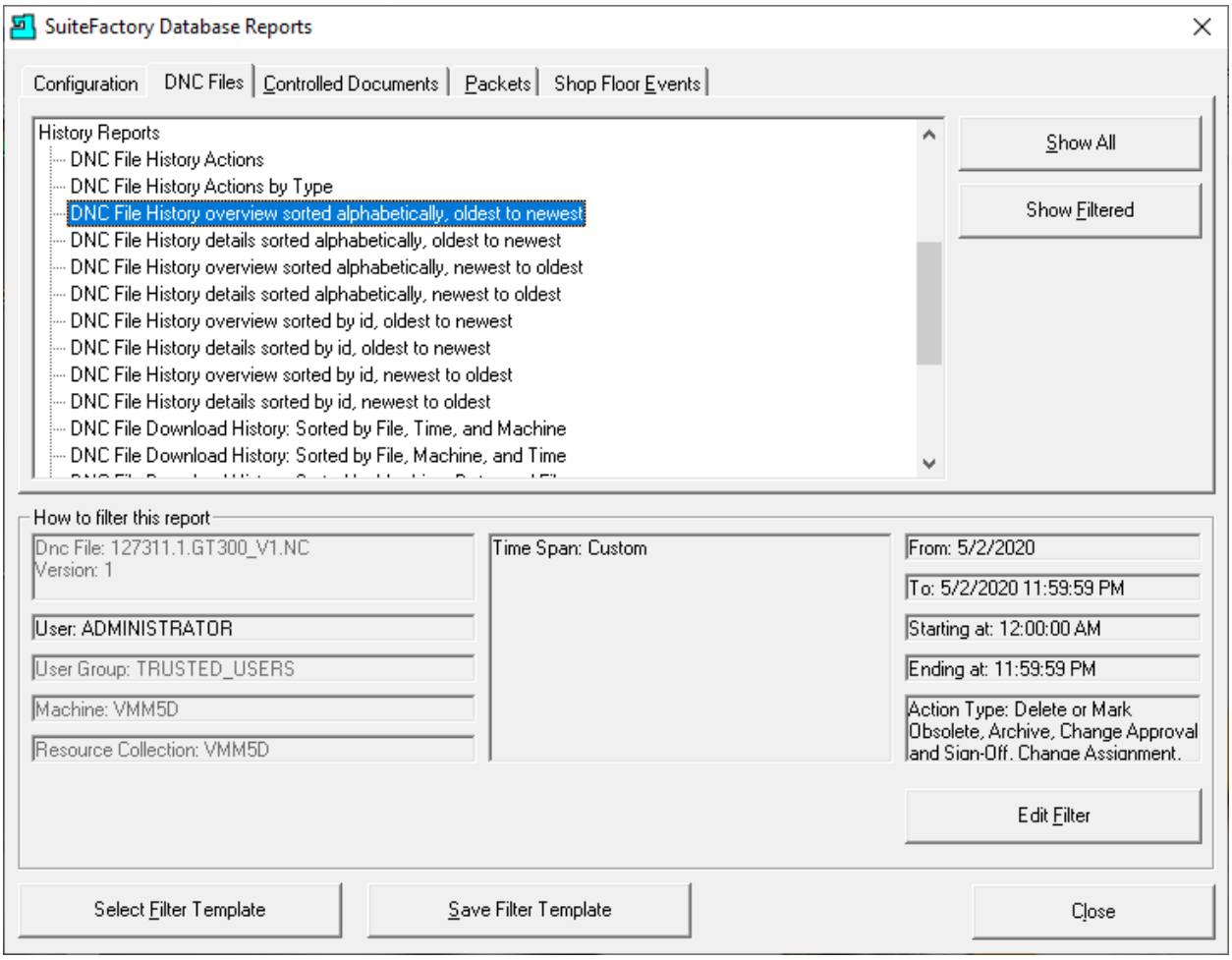
Name the PDF file appropriately, click the Save Button and the follow form is displayed.

ShopReport Filter (Configuration PDF File)



This PDF File is over 200 Pages! Please don't print to paper! Close this file and choose the ShopNCFiles Tab and the following Window is displayed.

ShopReport Filter (ShopNCFiles Tab)



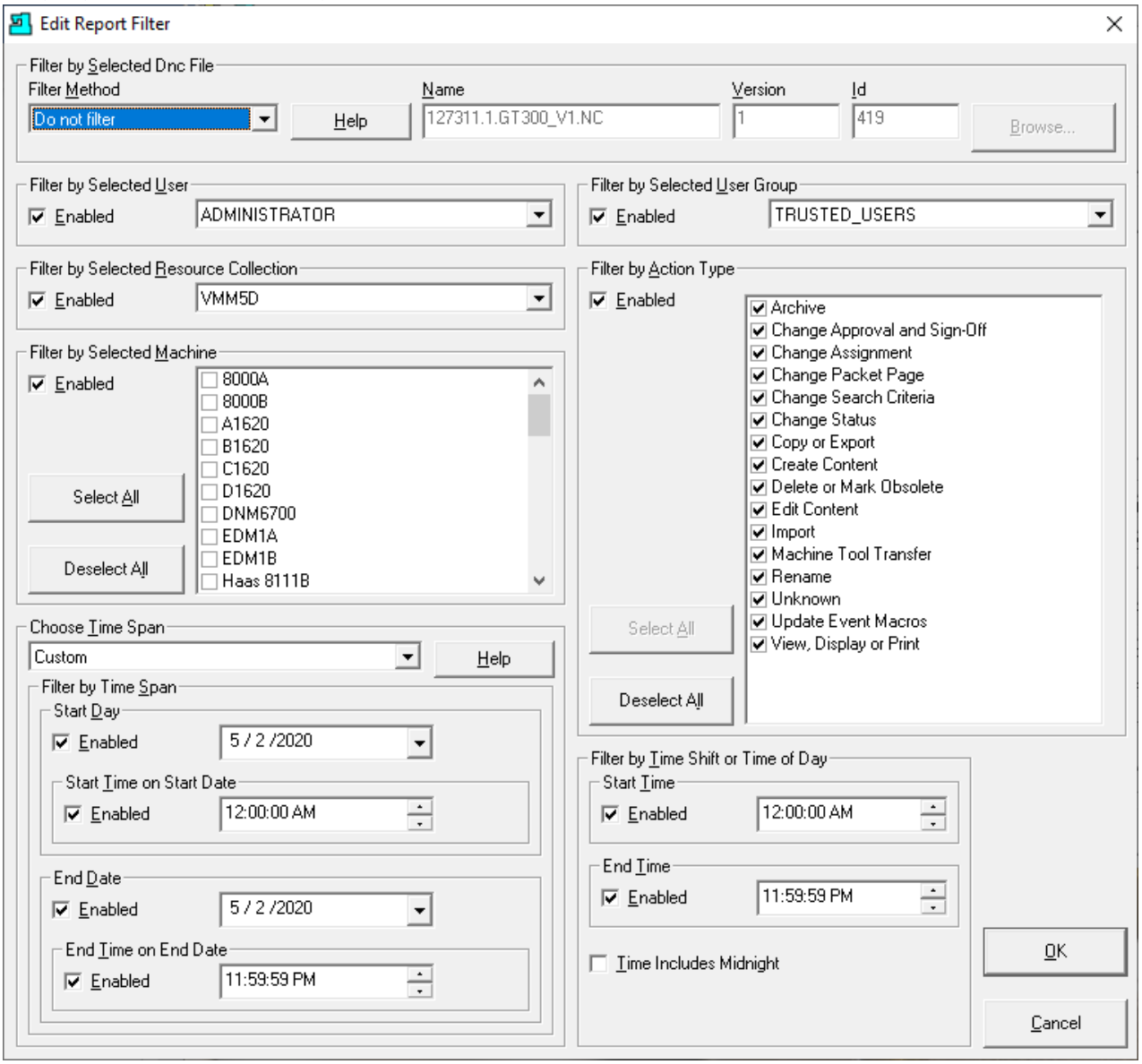
We will now look at the Edit Filter which is applicable to all of the ShopReports in this section and the sections: ShopDocuments & ShopOperations.

The different configurations settings for each are obvious as you configure each section as needed so we will let you investigate.

After we cover the ShopReport Filter you will be able to apply what you have learned to the other sections. The Shop Floor Events is different so we will cover that in detail.

Click on the “Edit Filter” Button and the following Window is displayed.

ShopReport Filter (Filter - Form)



As you can see there several sections delineated of which some apply to all “Documents” and some not!

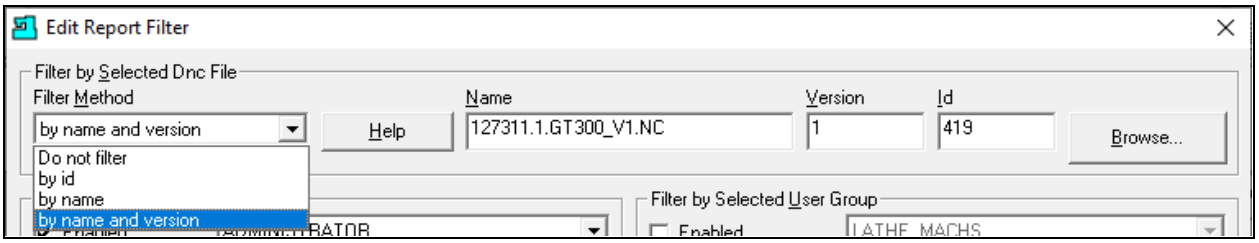
Following we have separated the various configurable sections explaining what each is used for when generating ShopReports to your particular requirements.

We will display each section independently and explain the options!

ShopReport Filter (Sections)

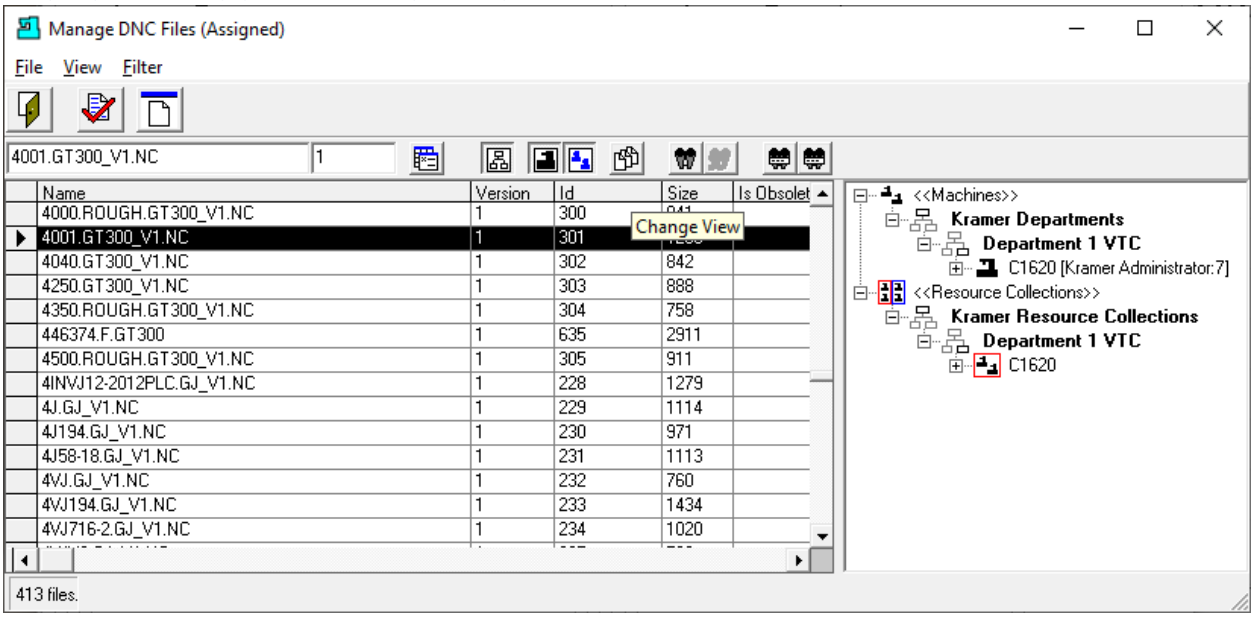
The following Sections are only active for particular ShopReports. If these areas are grayed out they don't apply to the particular ShopReport you are configuring!

ShopReport Filter by Selected ShopNCFile



If you want to limit your search for ShopNCFiles you can select a particular ShopNCFile & Version number! If you want to limit the search to a particular file, choose the "by name and version" drop down selection! Then click the Browse Button and the following Window will be displayed.

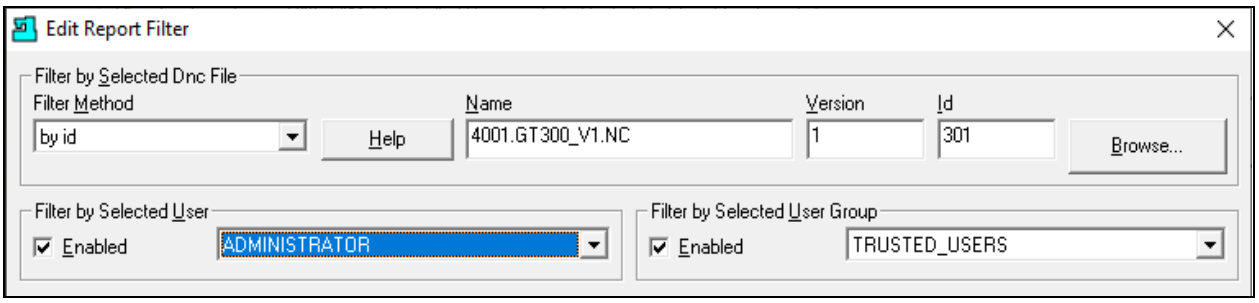
ShopReport Filter (by Selected ShopNCFile)



If the View above doesn't look like this click on the "Change View" Icon and make the necessary changes.

Select the ShopNCFile and click on the **Red** Check Mark under the View Menu and this file will now be used as part of the ShopReport Filter and we will be brought back to the ShopReport Filter.

ShopReport Filter (by Selected User & Filter by Selected User Group)

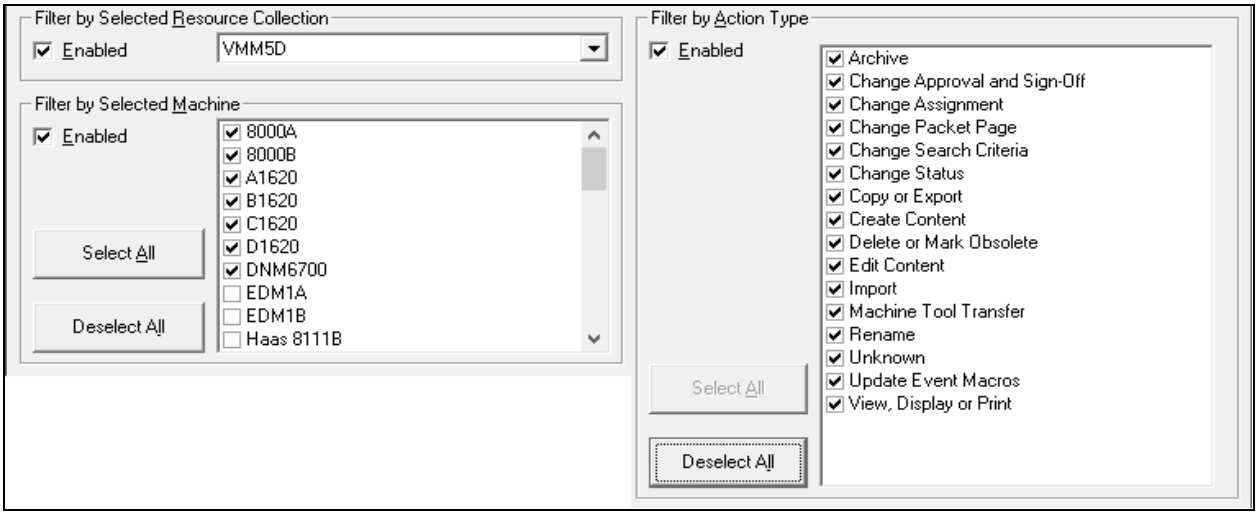


If you choose to limit the search to a particular User, check the Enable box and select the User from the drop-down list.

If you choose to limit the search to a particular User Group, check the Enable box and select that User Group from the drop-down list.

Sometimes these don't apply even though they are settable.

ShopReport Filter (by Selected Resource Collection, Filter by Selected Machine & Filter by Action Type)

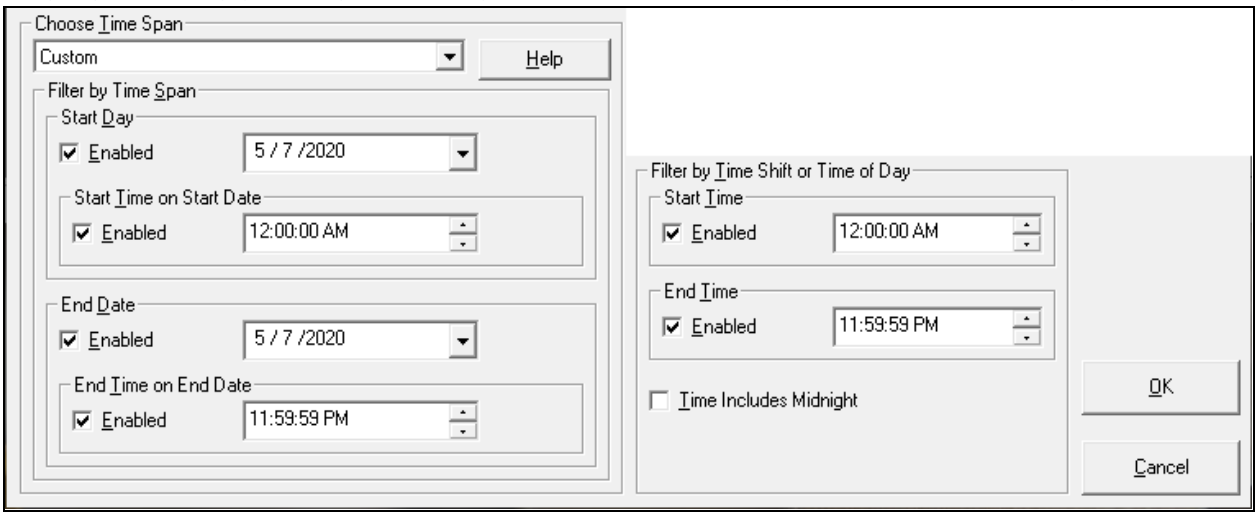


If you choose to limit the search to a specific Resource Collection, check off the check the Enable checkbox and select a Resource Collection from the drop-down list.

If choose to limit the search to the selected Machine Tools check off the Enable box and then the Machines of interest!

If you choose to limit the Action Types check the Enable box and those Action Types of interest. There are specific "Action Types" for ShopNCFile, Document & ShopOperations but the basic usage is the same!

ShopReport Filter (by Time Span, Filter by Time Shift or Time of Day & Time includes Midnight)



There are 19 different "Choose Time Span" selection from which to select. We will use Custom as this can be used to match any of the practical selections.

Use the drop-down lists to select the time frames for which you want to generate the Report! The "Filter by Time Shift or Time of Day" can further limit the Time Frame of the Report! If you check the checkbox next to the "Time includes Midnight" it tells the Report filter to span Midnight when doing the ShopReports.

Note: You will notice while using the Filter there are times when certain Sections are grayed out! This indicates that that Section is not used in the ShopReport Filter. As an example, Resource Collections are not used with ShopDocuments and thus it is grayed out!

Visit these links for detail for using the ShopReport Filter with the Shop Floor Events.

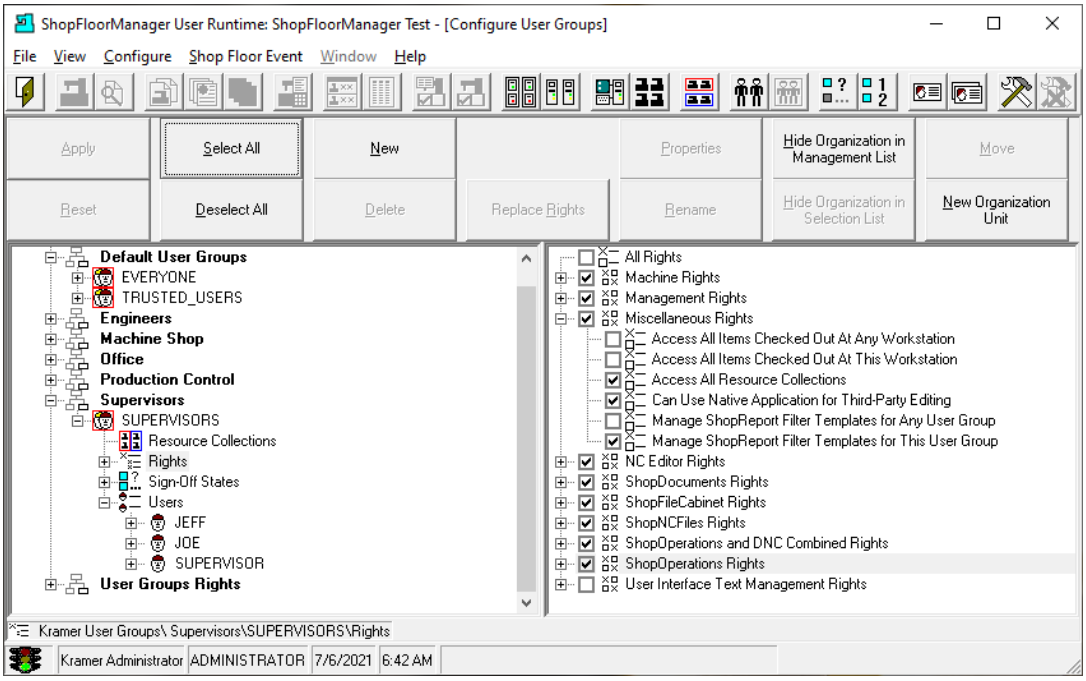
_ShopCharts_and_Supporting_2ShopCharts & ShopReports
ShopMDI (Database ShopReports: Edit Filter)
ShopReports: Configurations
Machine Status_Machine_Status_1

Next let's see how to save & retrieve the Report Filter Configures. When finished click the OK Button and the following Window is displayed.

ShopReport Filter (Save Filter Template – Logged in as User Joe)

User Joe is a Supervisor and is associate with the User Group Supervisor. Let's a look at the Rights this User Group as for Managing ShopReport Filter Temples.

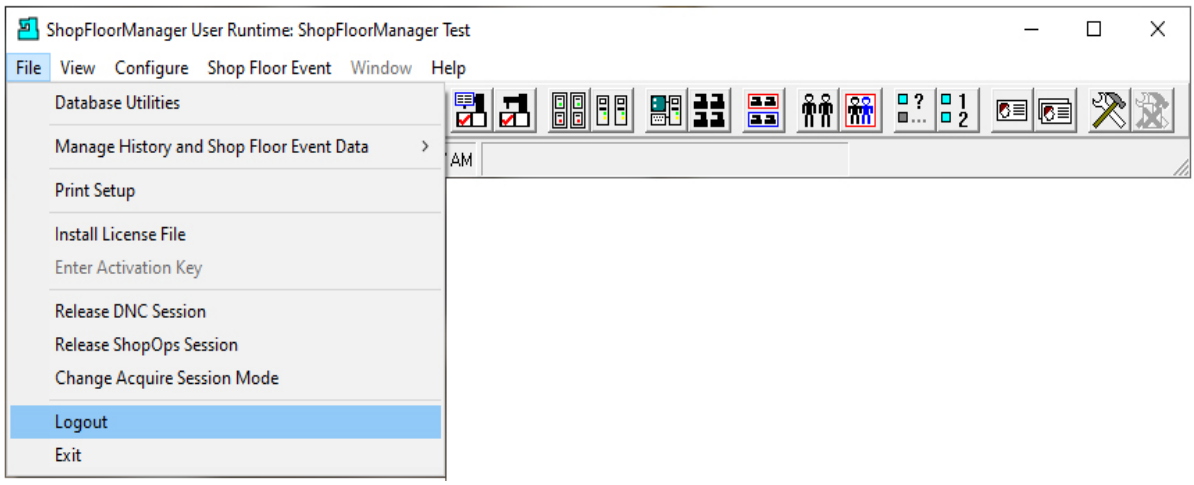
ShopReport Filter (Save Filter Template – User Group Supervisor's Rights includes User Joe)



We have given the "User Group" Supervisor the Right to "Manage ShopReports Filter Templates for this User Group" only. We will discuss the limits this User has for these Templates.

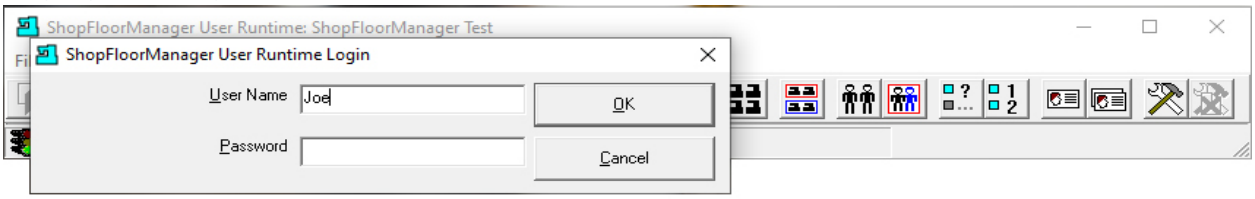
Next, we will login as User Joe.

ShopReport Filter (Save Filter Template – Logout)



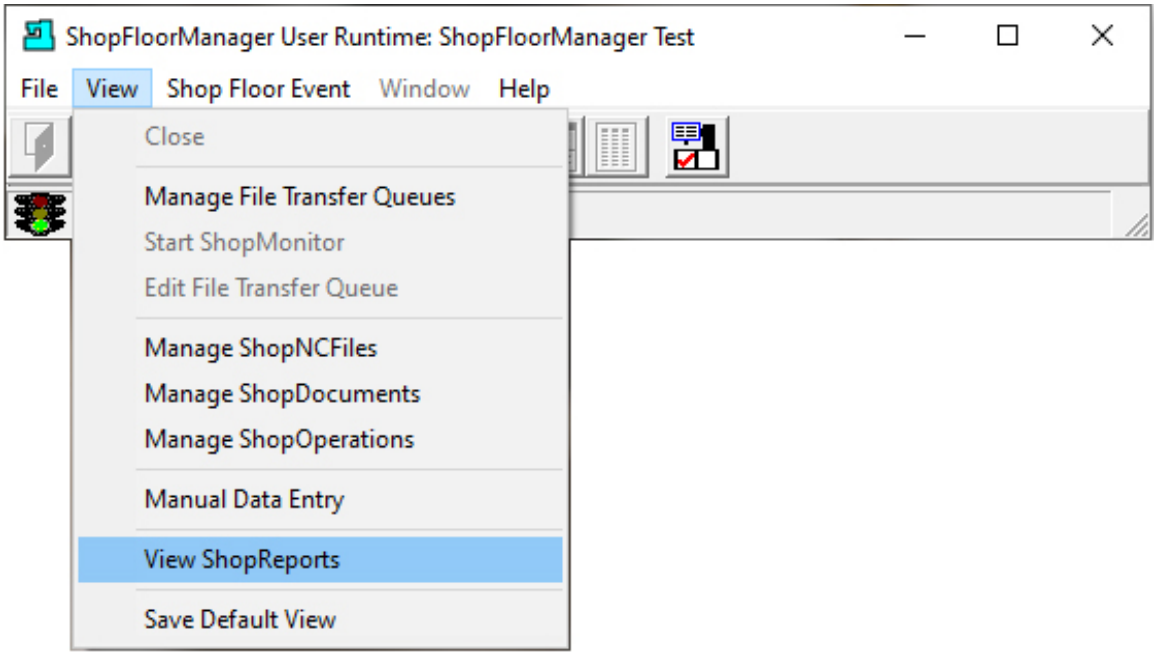
Click on the File Menu and then the Logout Menu and the following Window is displayed.

ShopReport Filter (Save Filter Template – Login as User Joe)



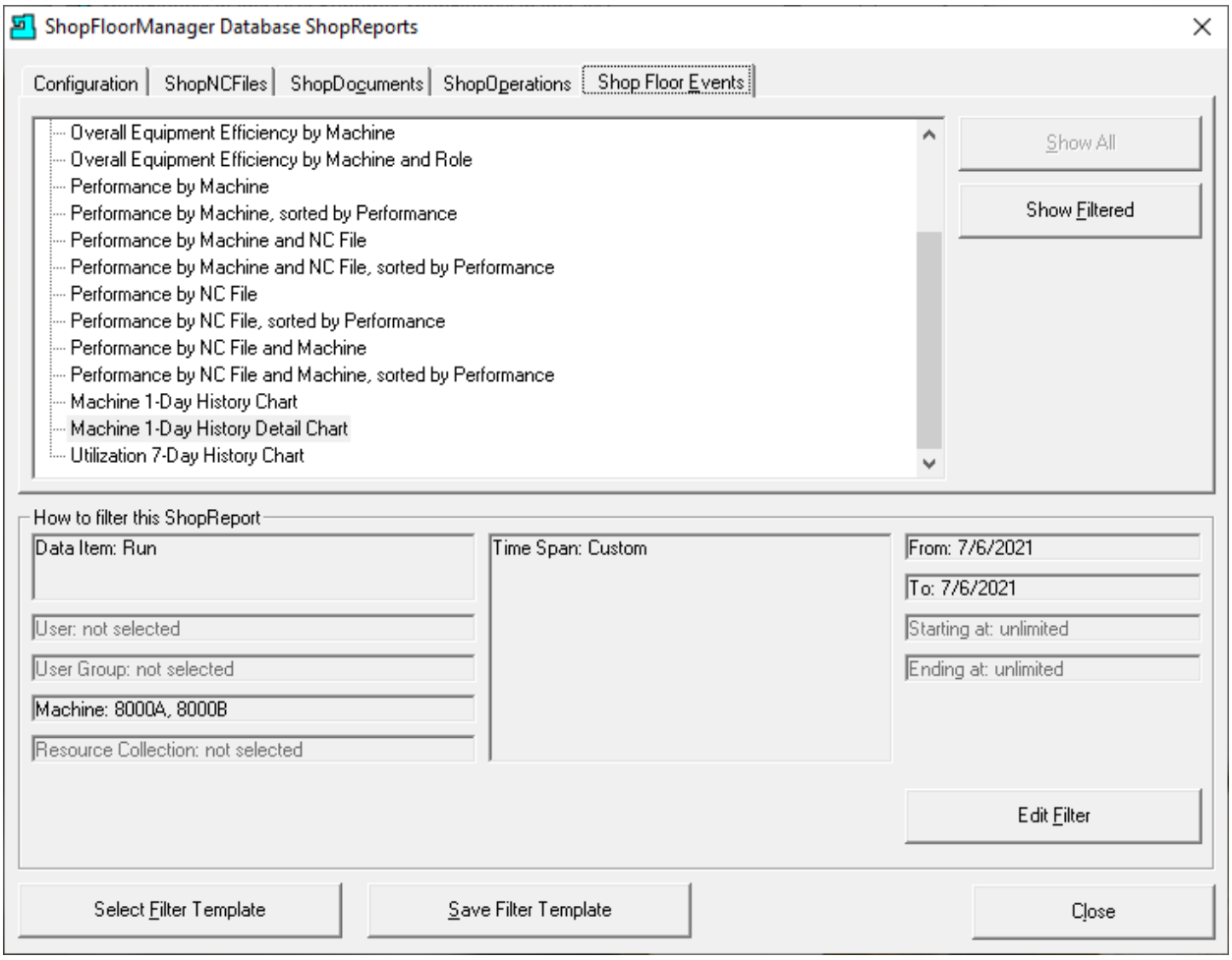
Login as the User Joe and add the password if used. Click the OK Button and the following Window is displayed.

ShopReport Filter (Save Filter Template – Logged in as User Joe)



Click on the View Menu and then the View ShopReports and the following Window is displayed.

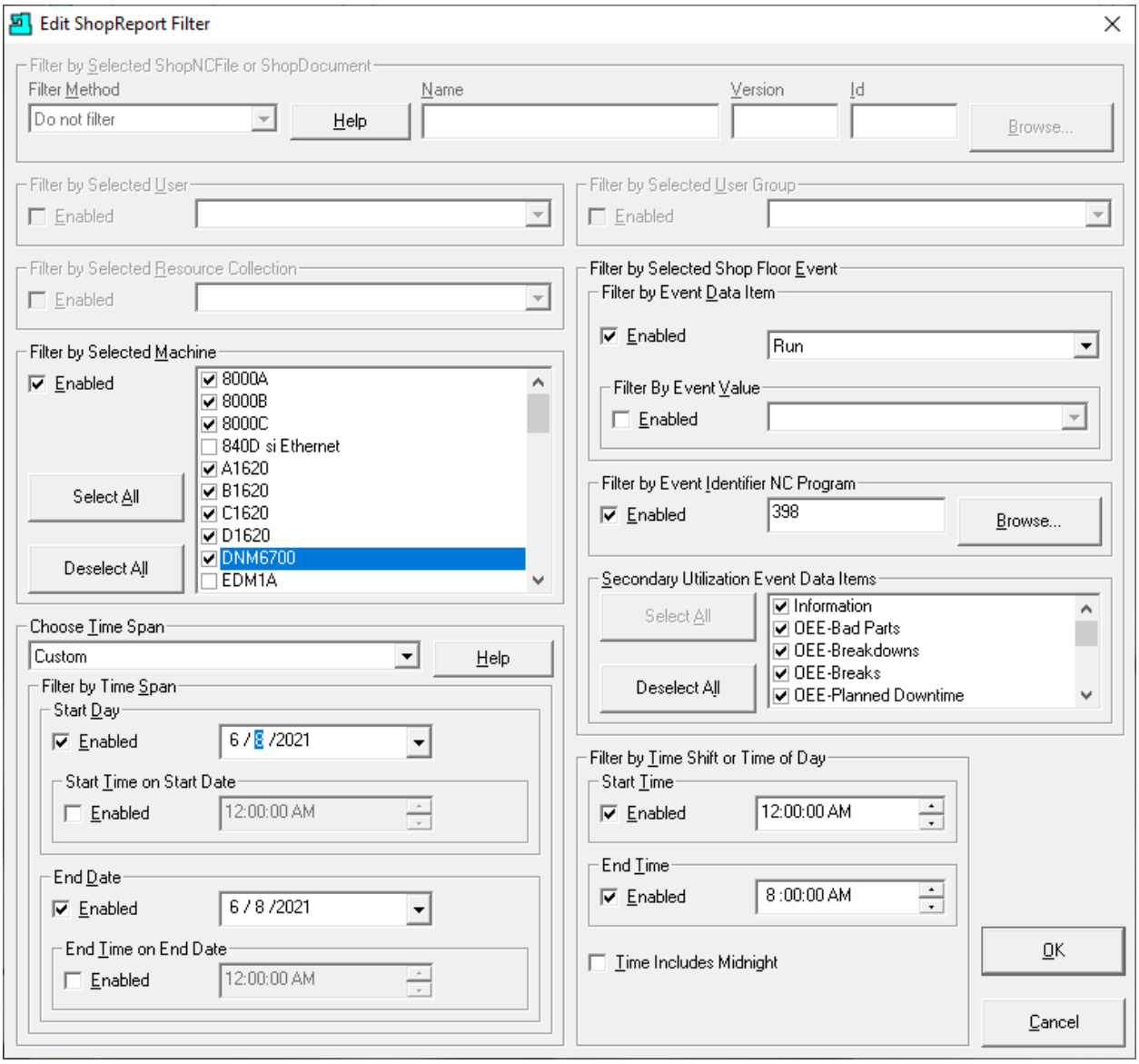
ShopReport Filter (Save Filter Template – ShopReports: Shop Floor Events)



Click on the Edit Filter Button and the following Window is displayed.

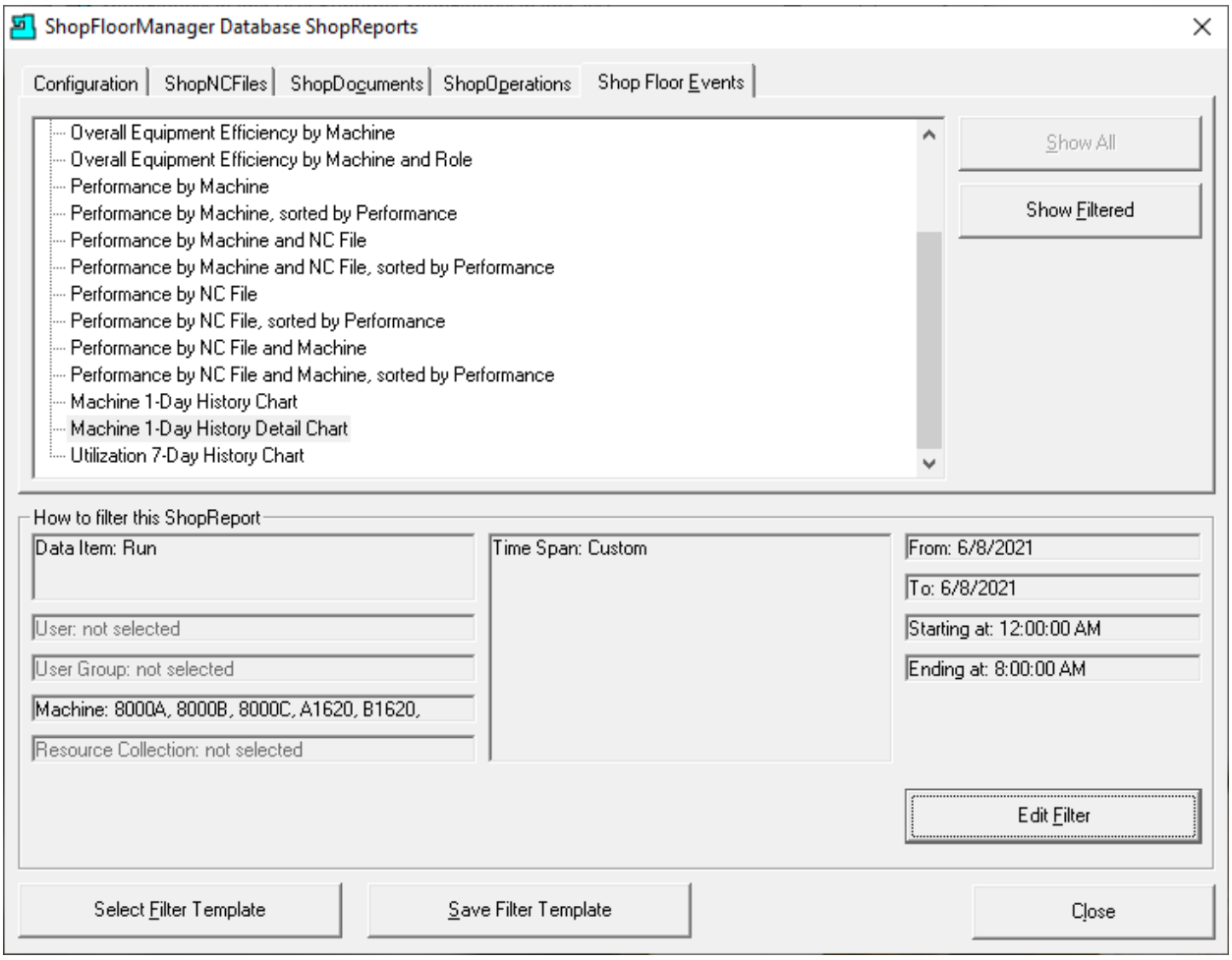
Note: The Reason we have selected the Machine 1-Day History Detail Chart is this item activates most ShopReport Filter options since the Report Filter's Options depends on the "ShopReport" chosen.

ShopReport Filter (Save Filter Template – ShopReport Filter)



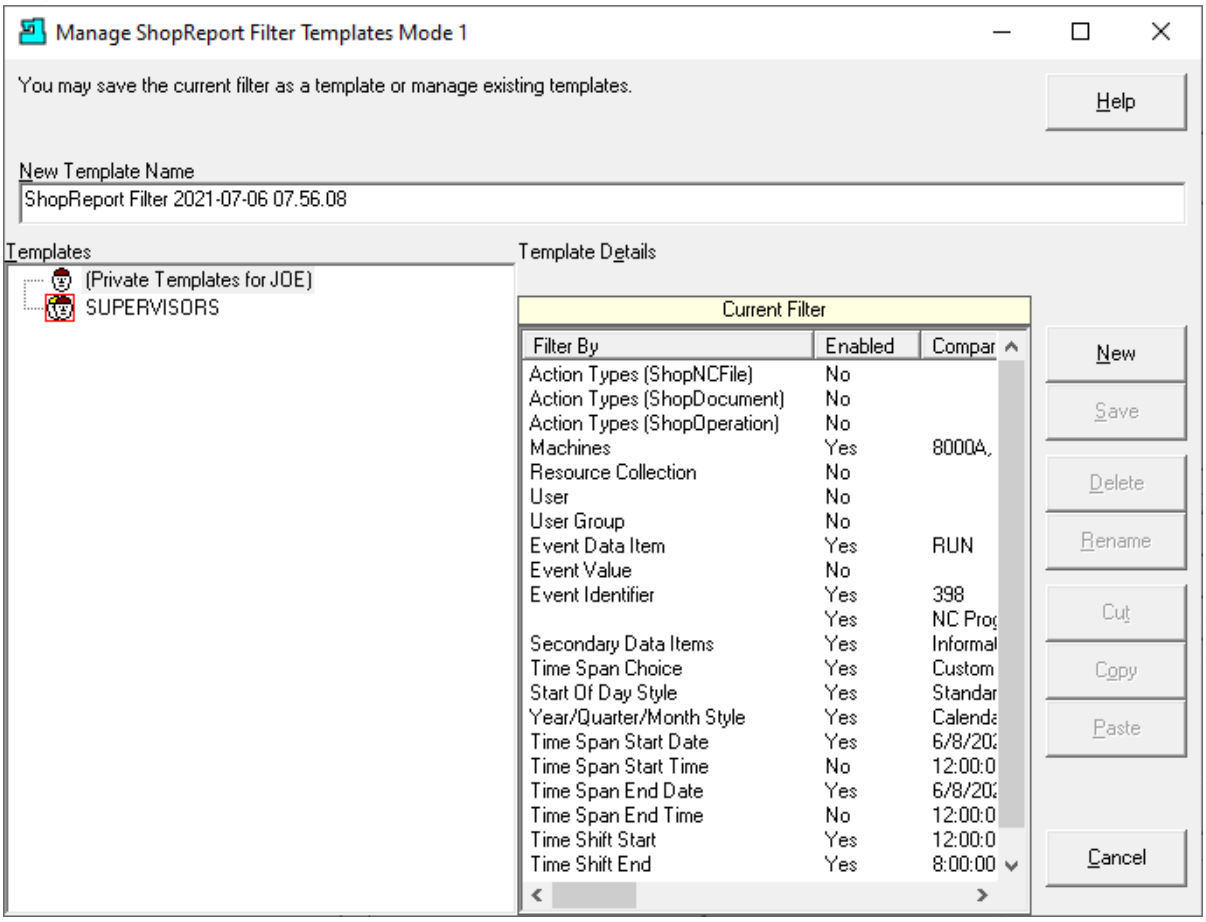
We have configured the ShopReport Filter to reflect the options we need to produce a particular ShopReport. Once finished click the OK Button and the following Window is displayed!

ShopReport Filter (Save Filter Template – ShopReports: Shop Floor Events)



After configuring the Report Filter you can save this configuration for future use! Click on the “Save Filter Template” Button and the following Window is displayed.

ShopReport Filter (Save Filter Template – User Joe Blank Form)

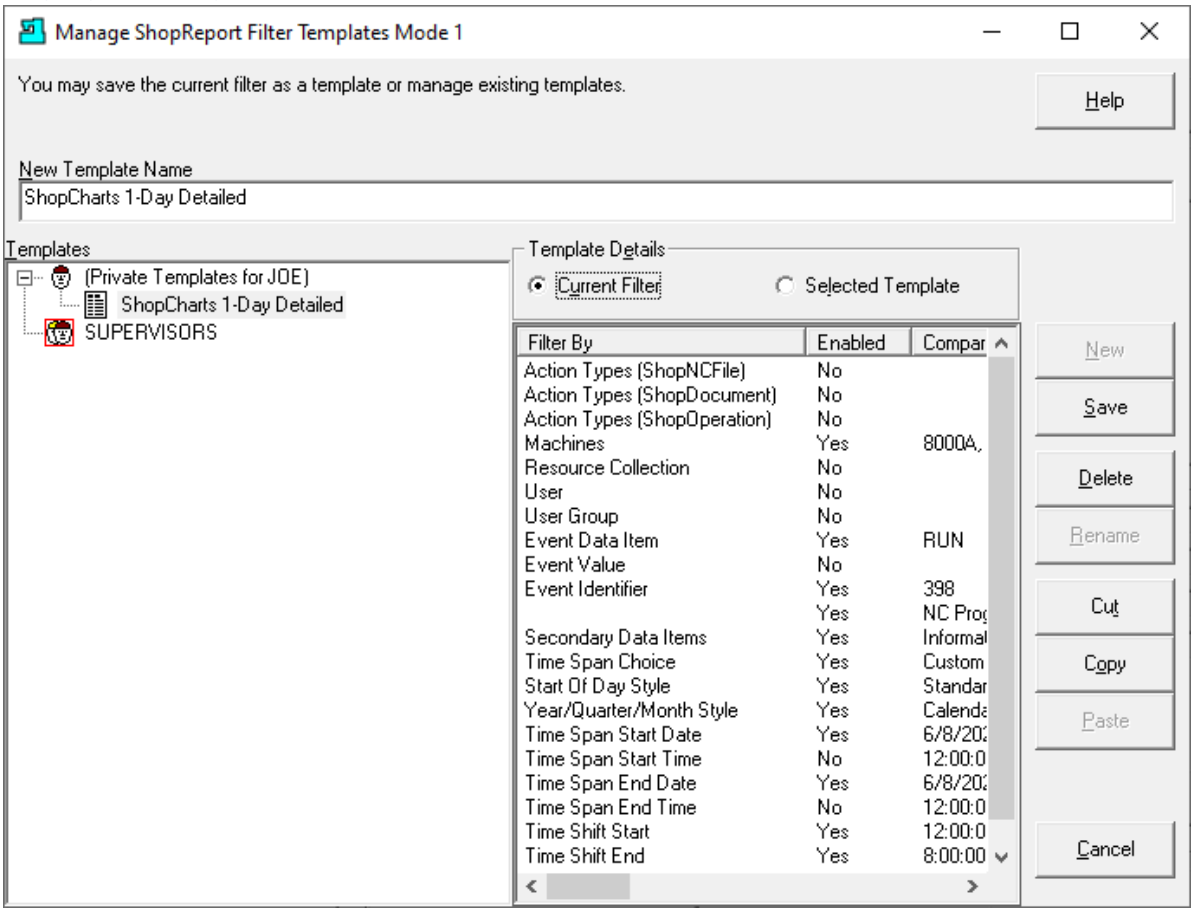


As seen above there have been no Report Filter Templates save as of yet. The “Private Templates for Joe” has been highlighted and a suggested report name has been inserted in the “New Template Name” textbox. You can accept this name or change it to a more meaningful name.

Let’s change it to “ShopCharts 1-Day Detailed” and click the New Button and the following Window is displayed.

Note: The header in the Template Details Pane indicates the Current Filter Configuration! So, when you click the New Button that is what is saved!

ShopReport Filter (Save Filter Template – Save as "ShopCharts 1-Day Detailed")

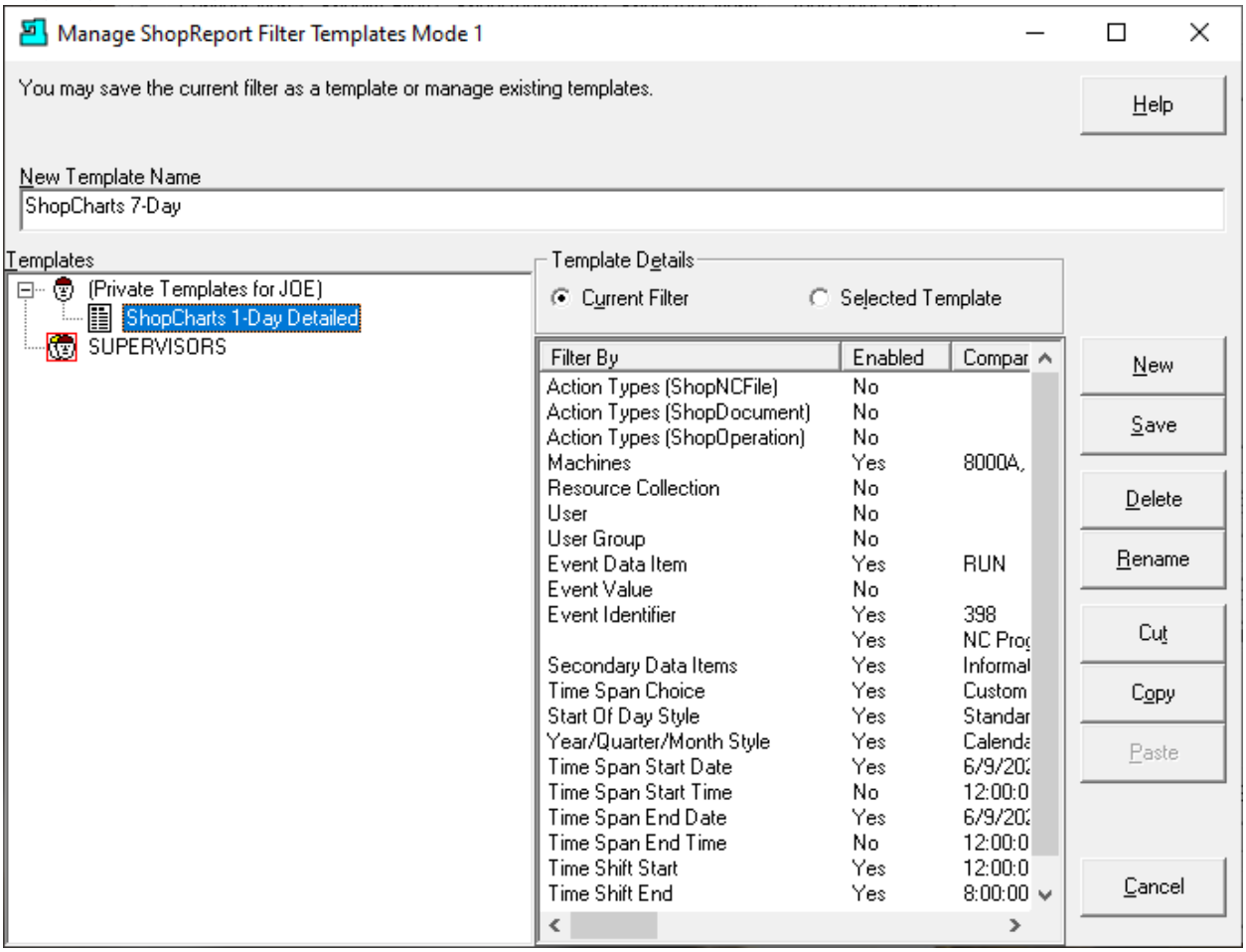


As you can see this Report Template has been added the "Private Templates for the User Joe". Templates in this category will only be available to the User Joe.

Note that the Current Filter Radio Button has been chosen. This displays the details of the Current Filter in the Template Details Pane! It just so happens that the save Template and the Current Filter are the same.

Next let's see what happens when we change the Current Filter. We will change the Time Span Start & End Date by one day from 8 to 9 and nothing else! After this change the Window will reflect the changes for the 'Current Filter" selection!

ShopReport Filter (Save Filter Template – Save as "ShopCharts 1-Day Detailed" Modified)



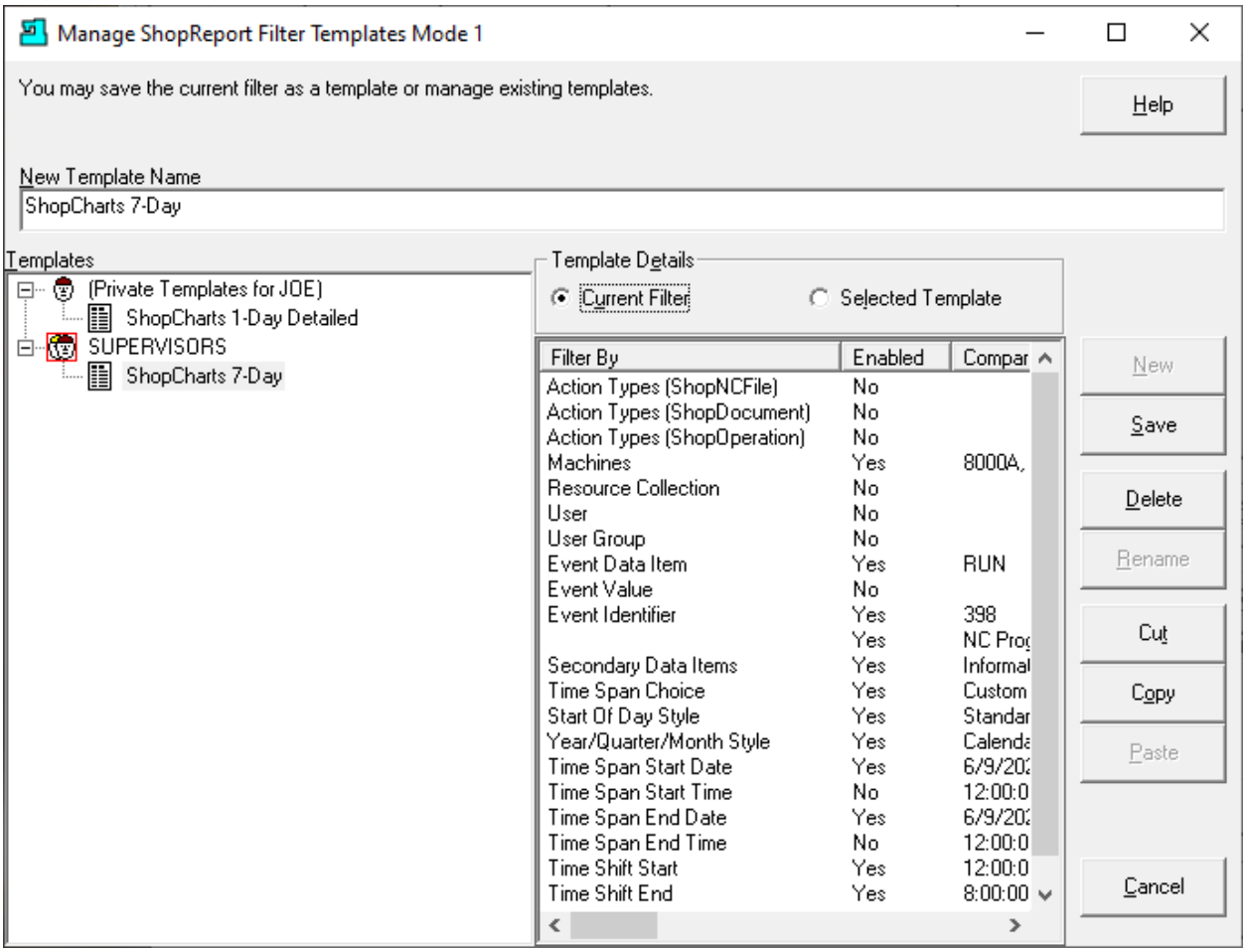
You will notice that we have highlighted the "ShopCharts 1-Day Detailed" Template but the details in the "Template Details" Pane show the Current Filter because the Radio Button "Current Filter" is selected and is independent of any **Highlighted Template**! Vice versa if Radio Button "Selected Template" was selected!

This may seem a bit strange but bear with me! If you wanted to save the Current Filter to the selected Template, you would click the Save Button and this Filter would be updated to the Current Filter.

If you wanted to create a New Template with the name in the "New Template Name" Text Area you would click the New Button and a New Template is created **no matter which Template is highlighted**! However, the category chosen does make a difference where the new templated is stored.

If you have selected the "Private Templates for Joe" or any Template in this category the New Template would be placed in this category. This is important as any template in this category is only accessible to the User Joe! If you had selected the "SUPERVISORS" category this template would be located in this category! This is important since any template in this category is accessible to all Users of the User Group "SUPERVISORS"! We will select this category and click the New Button and the following Window is displayed.

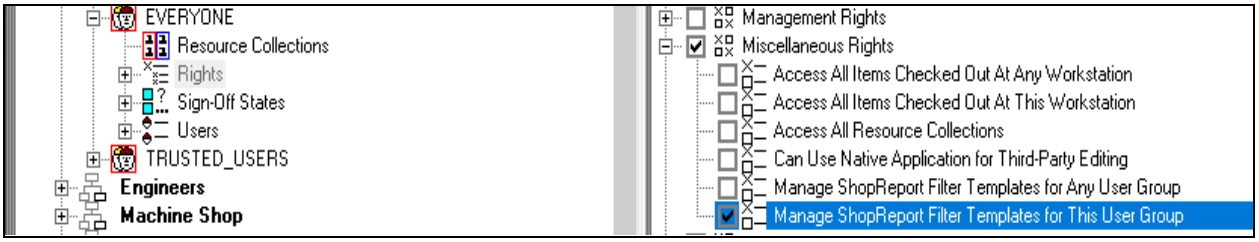
ShopReport Filter (Save Filter Template – Save as "ShopCharts 7-Day")



We will not describe the other Buttons as these are self-exclamatory!

Note: Usually we don't suggest using the "User Group" Everyone, but this may be an exception. If indeed there are "ShopReport Filter Templates" that are used by everybody, you would add this Right to the Everybody User Group as show below!

ShopReport Filter (Save Filter Template – User Group Everyone – Rights "Manage ShopReport…")

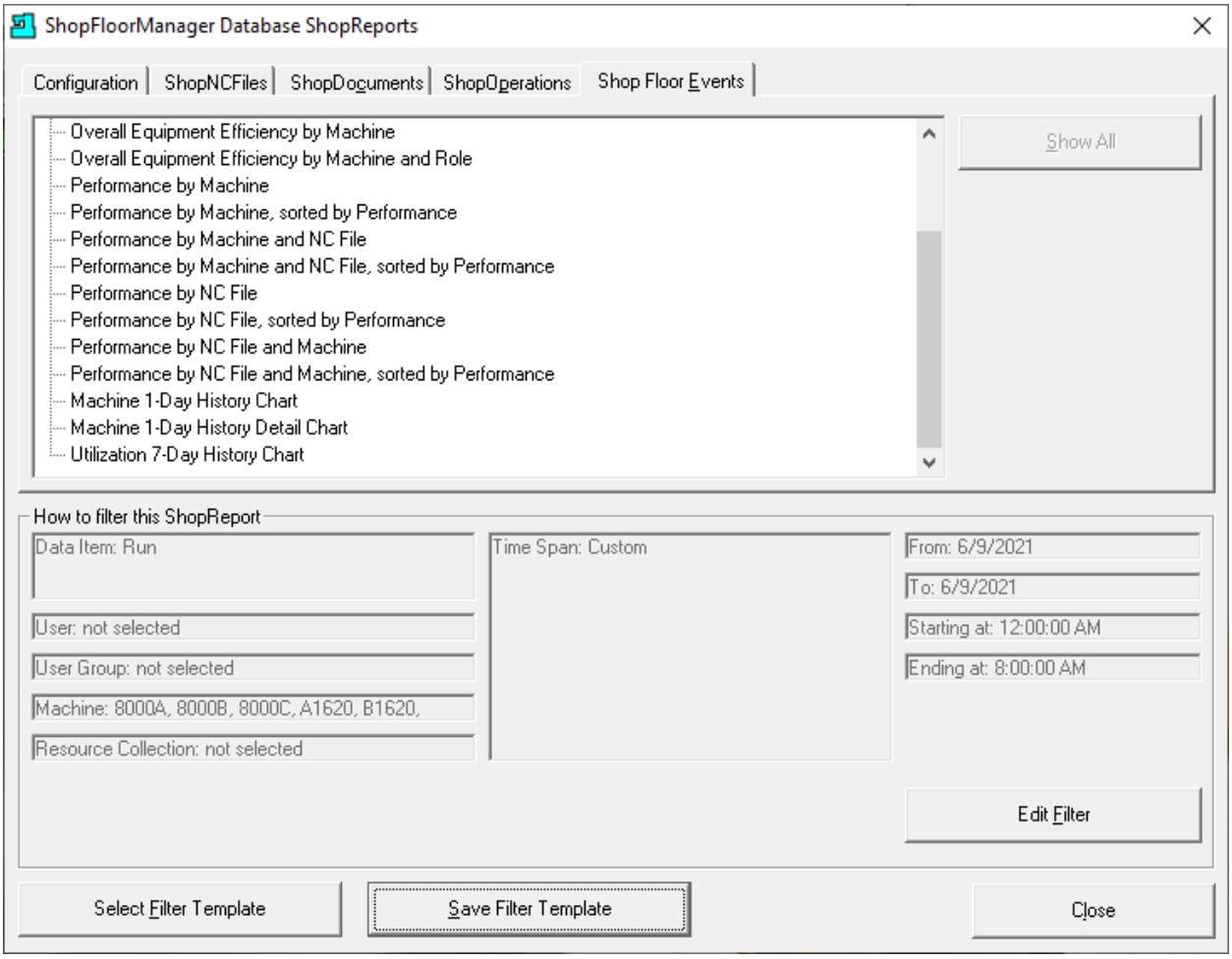


Close the Manage ShopReport Filter Templates Mode 1 and the following Window is displayed.

ShopReport Filter (Select Filter Template – Logged in as User Joe)

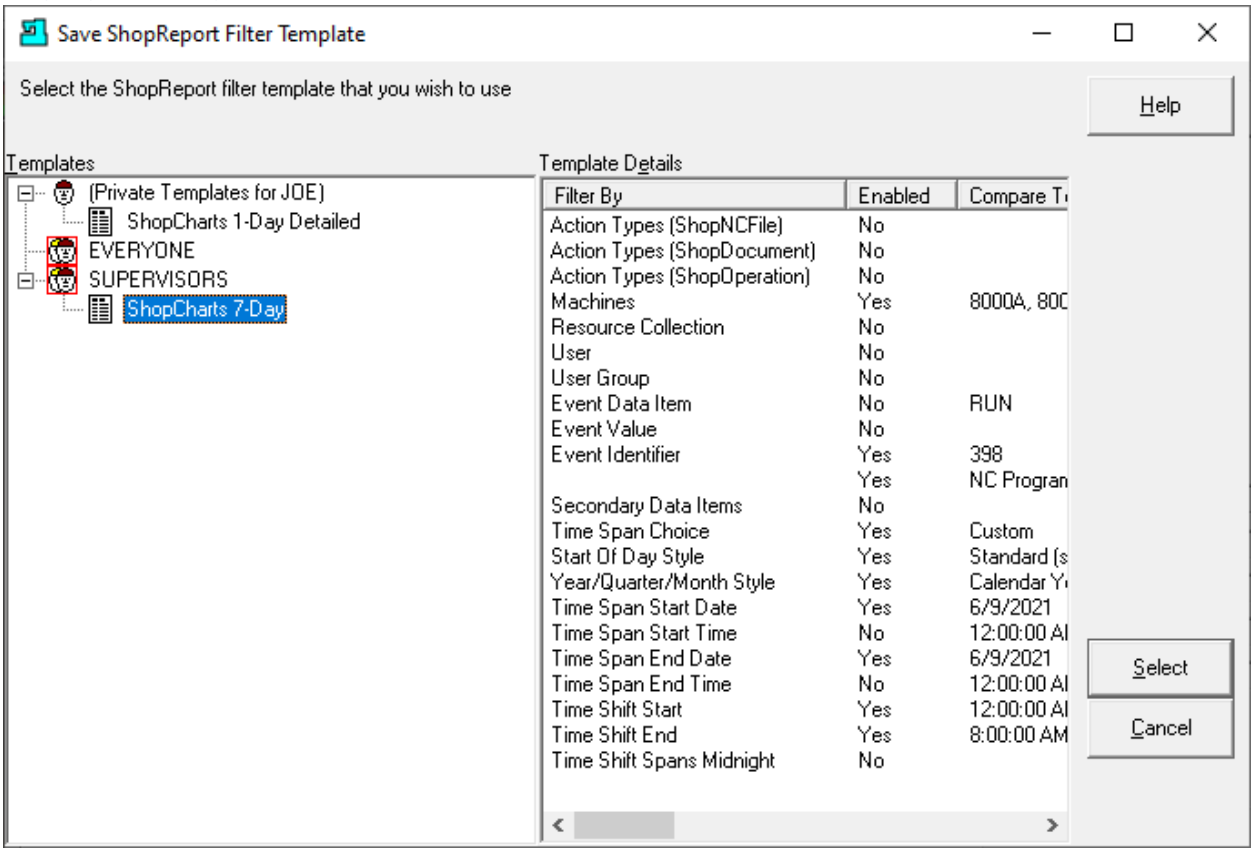
Selecting a ShopReport Filter to use for ShopReports!

ShopReport Filter (Select Filter Template)



We will now demonstrate how to select a Report Filter. Click on the “Select Filter Template” Button and the following Window is displayed.

ShopReport Filter (Select the ShopReport Filter – "ShopCharts 7-Day")



Highlight the ShopReport Filter you want to use and click on the Select Button, and this will configure the "Current Filter" based on the Template Chosen.

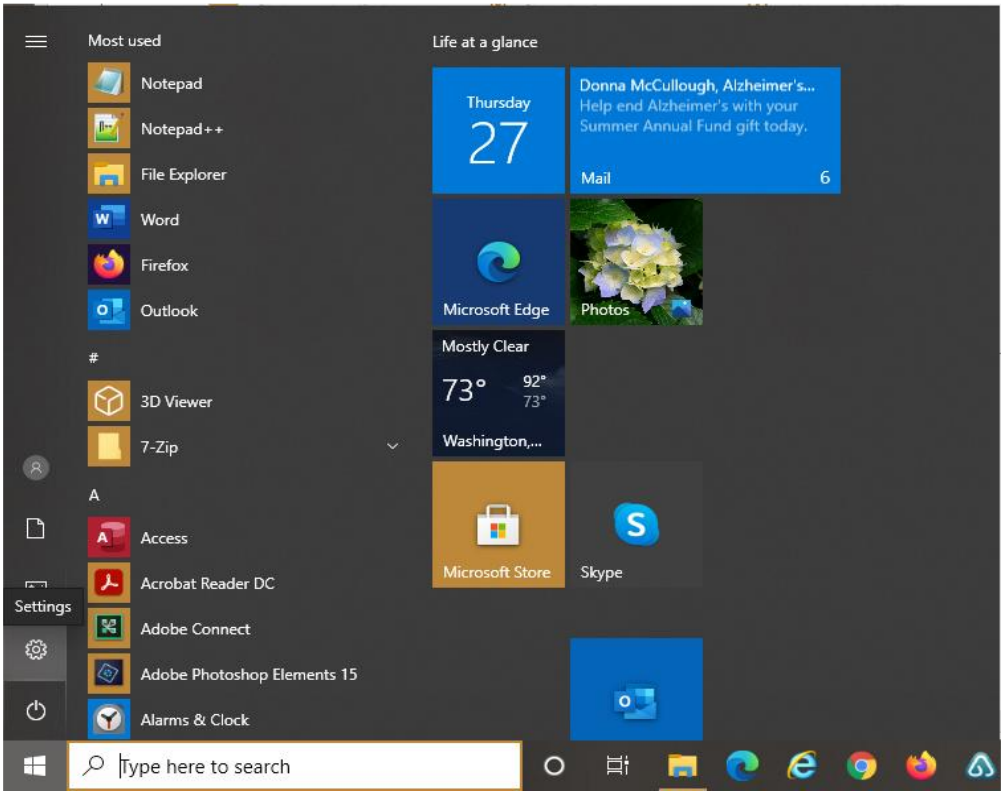
Note: You may want to change the Selected Time Span Start Date & Time if this ShopReport applies to a specific Time & Date! Configure the Report Filter accordingly but in general you wouldn't change this ShopReport Filter for these minor changes as this may be a daily task with only a few repeated changes!

This Section is complete!

Upgrading to a New Version (I know you like the Old Version but it's Time to Move on!)

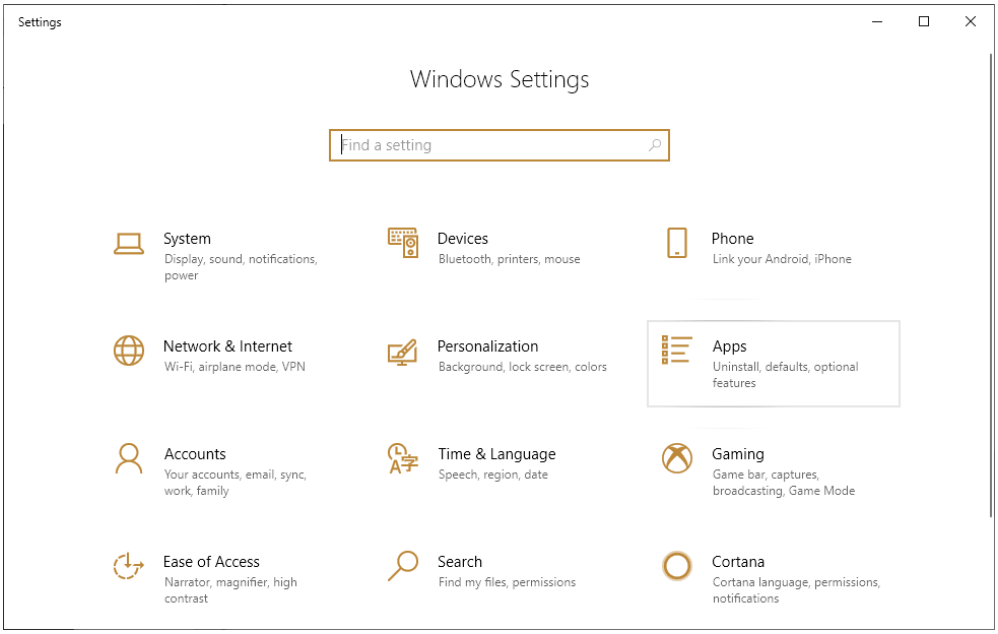
When upgrading to a later version you will need to uninstall the older versions as follows. We are using Window 10 as an example, but other versions are similar.

Start Menu Window



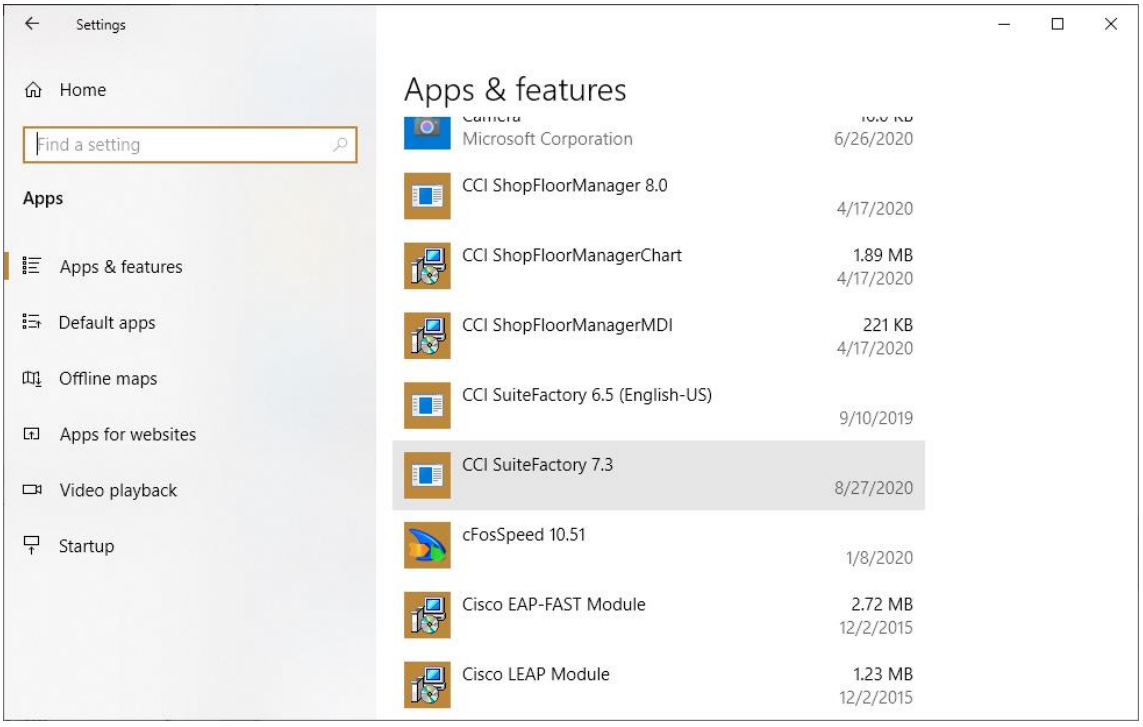
Click on the Start Button on the lower left corner and select the Setting Icon and the following Window is displayed.

Upgrading to a New Version (Settings Window)



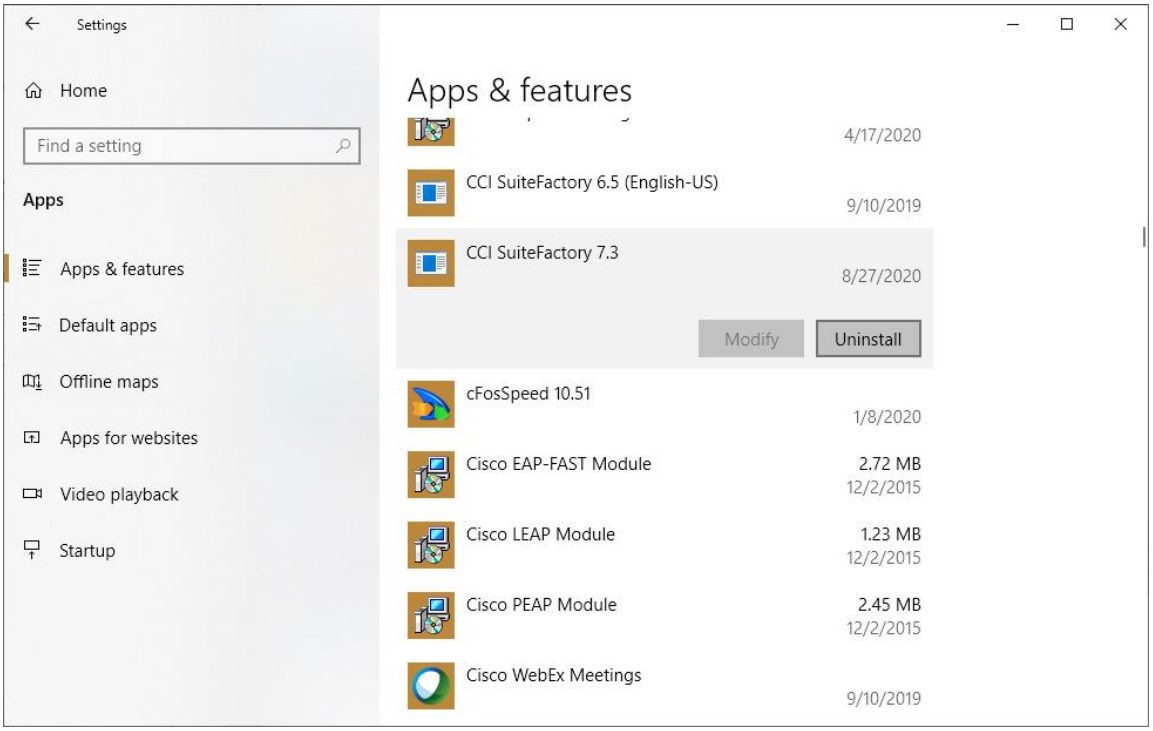
Click on the Apps Selection and the following Window will be displayed.

Upgrading to a New Version (CCI Suitefactory 7.3/CCI ShopFloorManager 8.0)



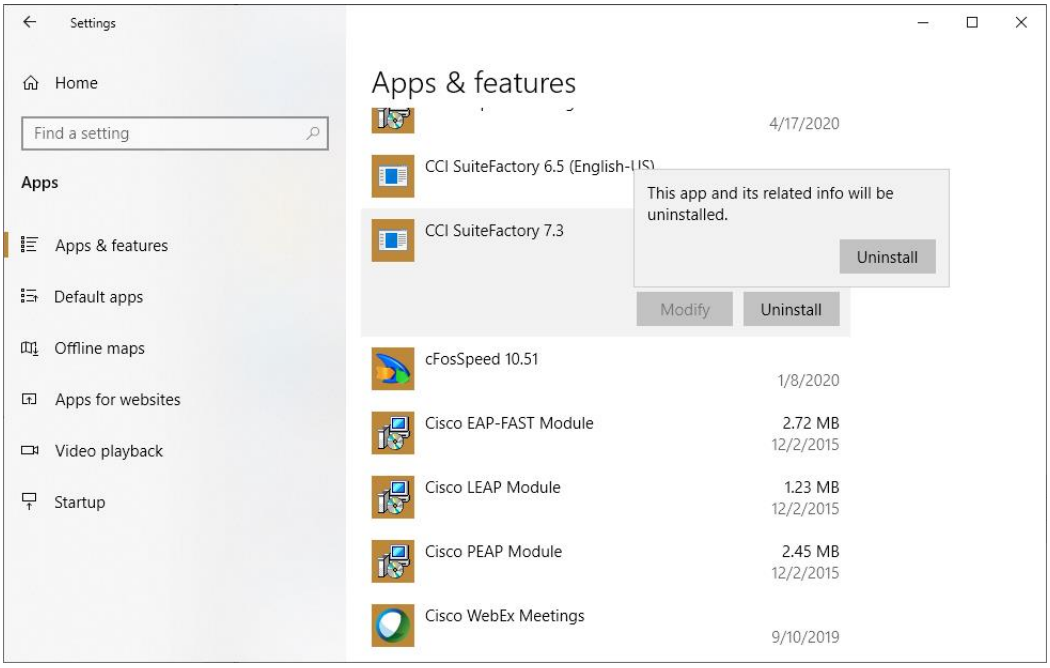
Click on the CCI Suitefactory 7.3 selection and the following Window will be displayed.

Upgrading to a New Version (Uninstall CCI Suitefactory 7.3 Selection/CCI ShopFloorManager 8.0)



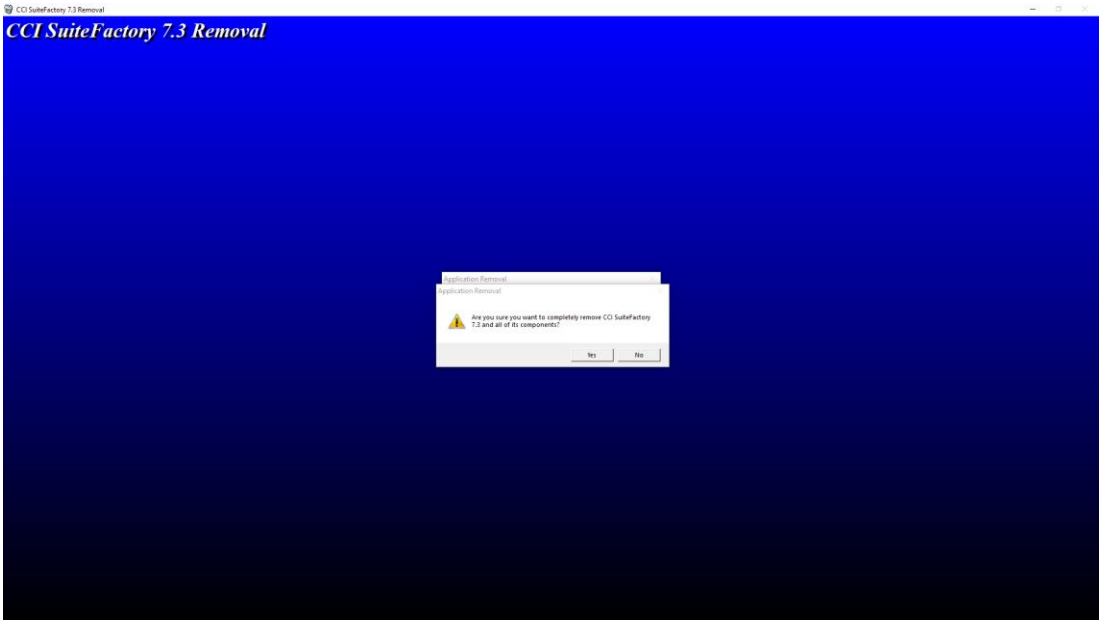
Click the Uninstall Button and the following Window will be displayed.

Upgrading to a New Version (Uninstall CCI Suitefactory 7.3/CCI ShopFloorManager 8.0 Warning)



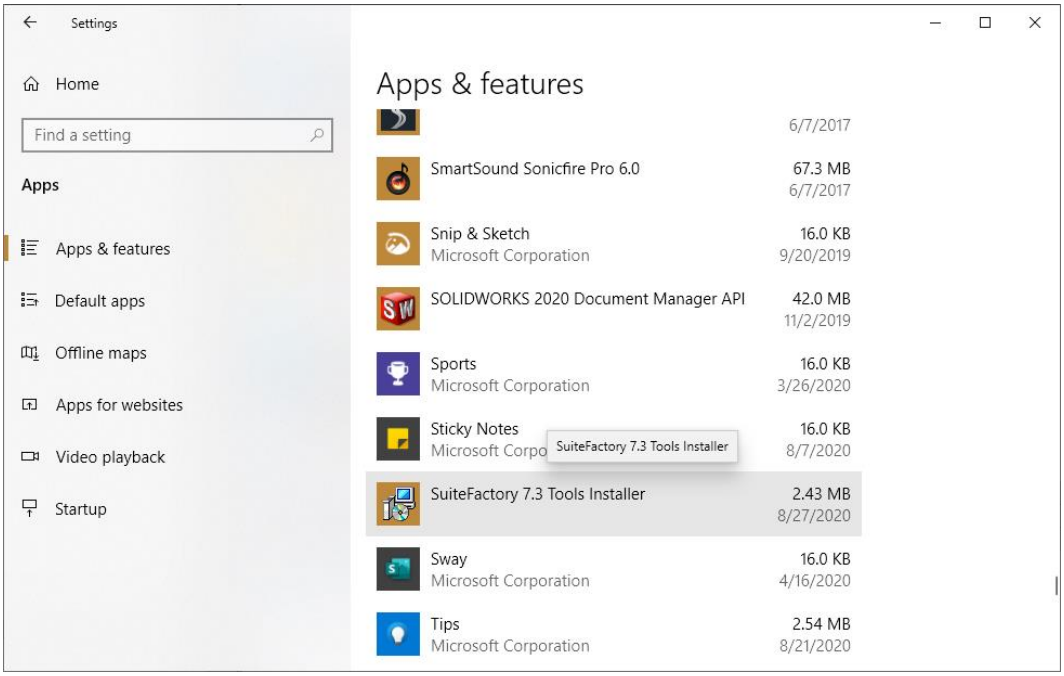
Click the Uninstall Button and the following Window is displayed.

Upgrading to a New Version (Uninstall CCI Suitefactory 7.3/CCI ShopFloorManager 8.0 Last Warning)



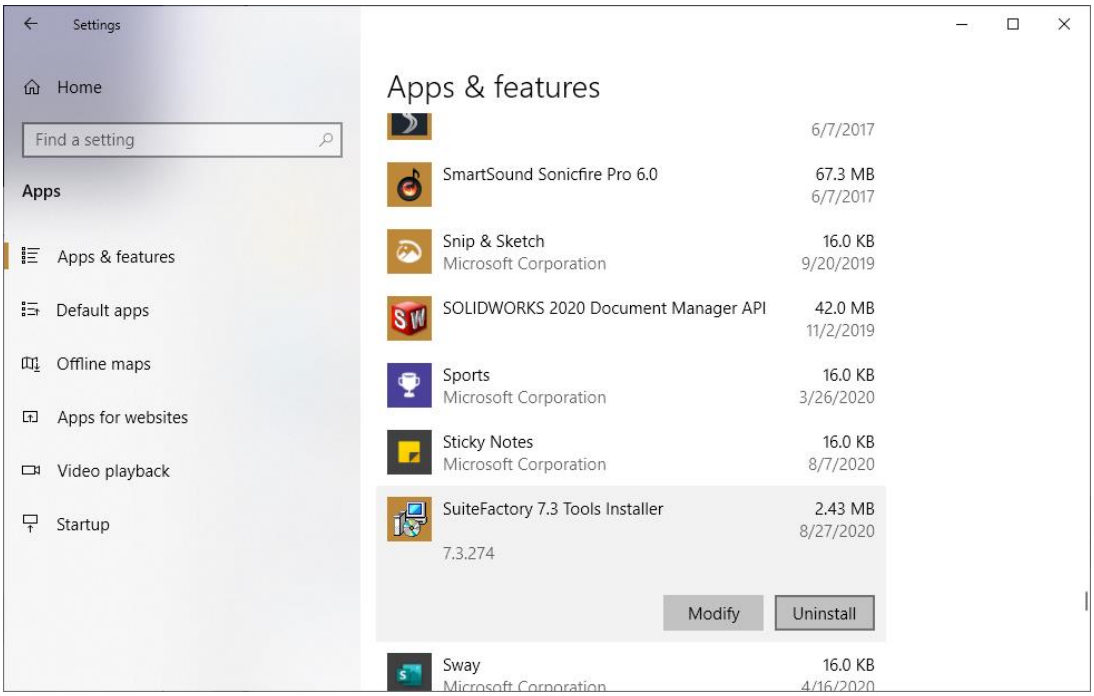
Click the OK Button and the following Window is displayed.

Upgrading to a New Version (Locate Suitefactory 7.3/CCI ShopFloorManager 8.0 Tools Installer)



Locate the SuiteFactory 7.3 Tools Installer and click on the selection and the following Window is displayed.

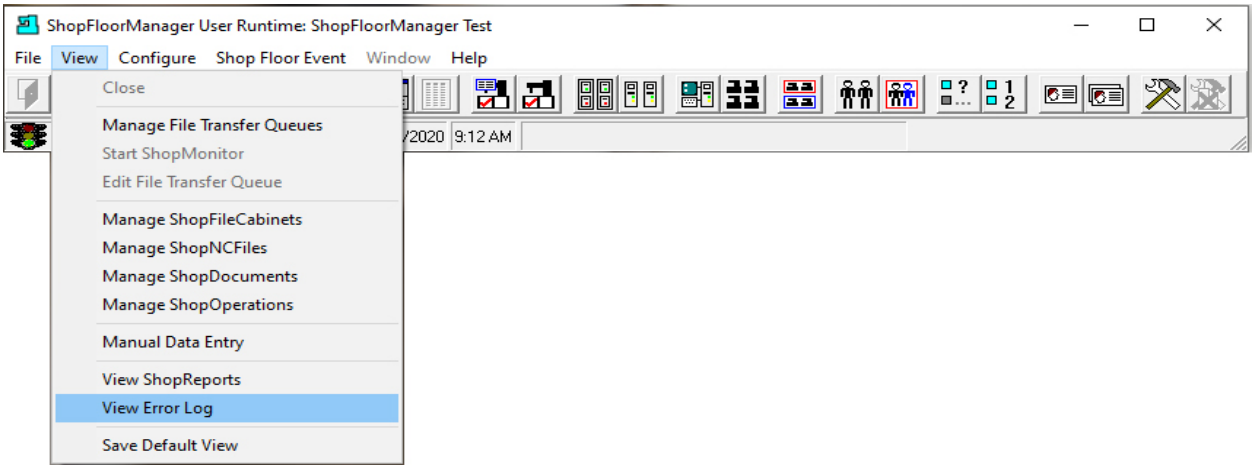
Upgrading to a New Version (Uninstall Suitefactory 7.3 Tools/CCI ShopFloorManager 8.0 Installer)



Click the Uninstall Button and follow the instructions for uninstalling.

Note: Click the link: [Install-ShopFloorManager] for instructions for installing ShopFloorManager!

View Error Log (Errors, You got to be Kidding! Not on my Watch! Well, maybe a few!)



As with any Enterprise System ShopFloorManager operates within a Company's Network is subject to any errors that occur on that Network.

As ShopFloorManager and any of its Users/Workstations are accessing its Database Server or using any of the Network's Resources they're inevitable times when errors are going to occur.

Occasionally, ShopFloorManager itself will generate its own internal errors. Most of the times these errors are temporary and don't affect its operation for more than a few seconds and may even go unnoticed. ShopFloorManager doesn't discard these errors no matter what these are: ShopFloorManager Errors, Company's Network Resource Errors or Error's whose origins are not immediately determinable.

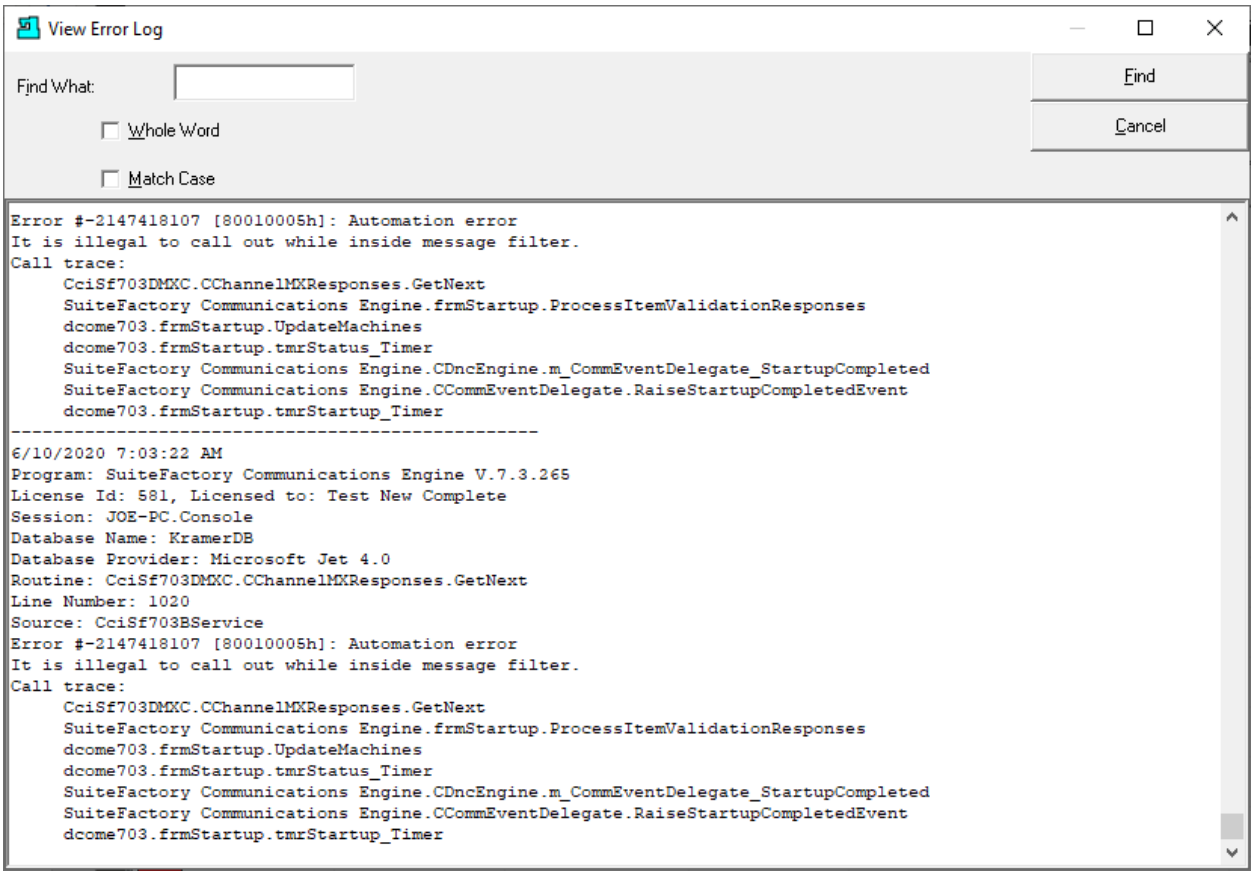
ShopFloorManager records all Errors in its Error Log. These Logs can be copied and Emailed to:

support@ShopFloorManager.com

for analysis if needed! As ShopFloorManager collects these errors as the size of file grows it is backed up when it reaches a predefined size. These files are stored in folders for later access if needed. At the same time ShopFloorManager creates a new error log for error collection.

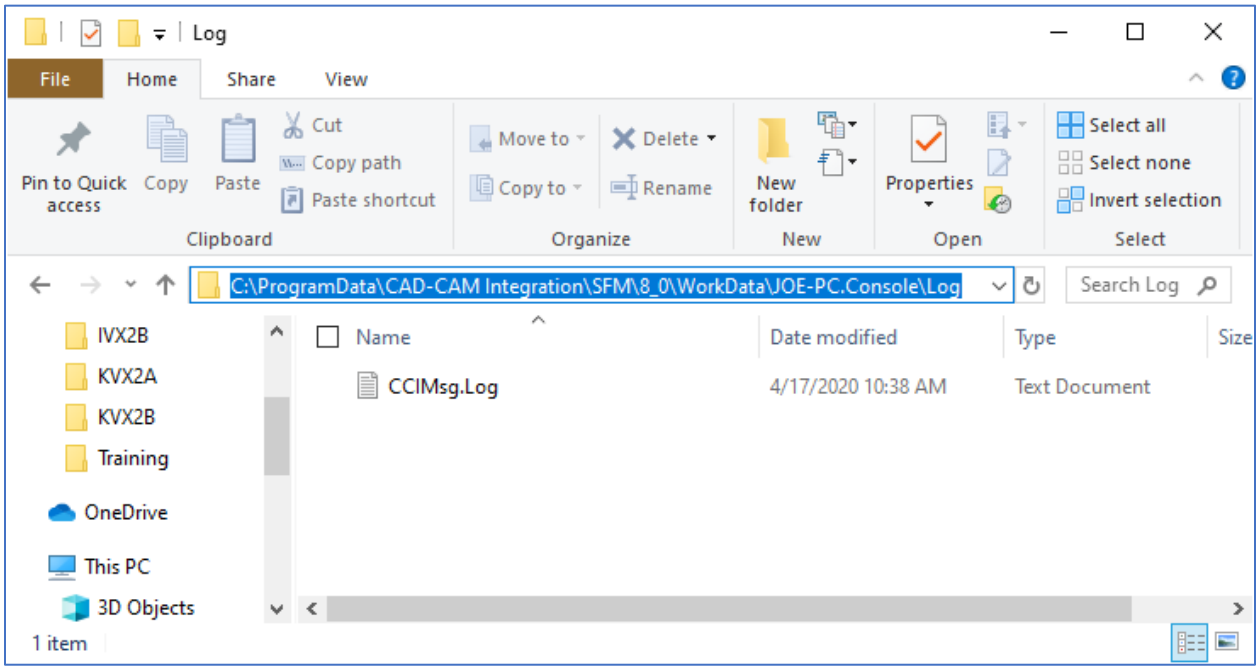
To view the error log directly from ShopFloorManager click on the View Menu and then the View Error Log… Menu and the following Error Log View is presented.

View Error Log (Txt File View)



You can search through the list of errors as needed. Generally, if you are having serious issues these should be Emailed to support@shopfloormanager.com These log files are stored in the following location if you are using Windows 10!

View Error Log (Windows 10 – Location)



As you can see it is located as shown above subject the specific Server/Workstation Name! Don't delete any files as these cannot be reproduced. You can make a copy of this file and forward it to support@ShopFloorManager.com.

Workstations (The only Portal to ShopFloorManager! A Mushroom Free Magic Carpet Ride!)

Note: The Grayed Window above is displayed when a new System is installed or when a Workstation has been unregistered. **No Magic Carpet Ride if your Workstation Isn't Registered! For you old timers: Steppenwolf - Magic Carpet Ride 1968**

These are not physical Workstations but Virtual Workstations that a particular User can customize to meet their particular viewing needs.

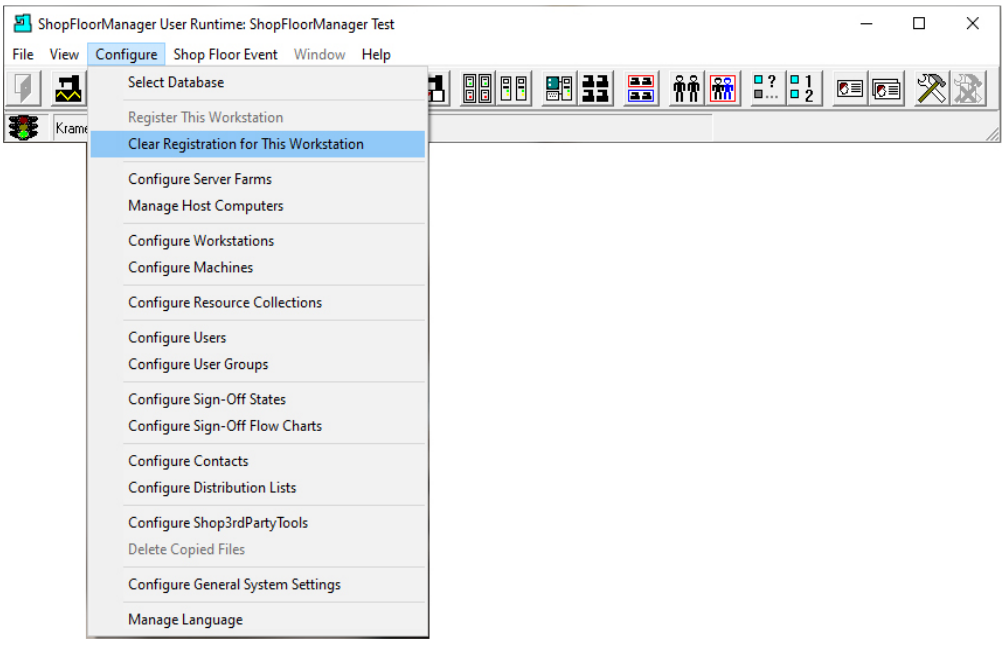
As a User visits different "Areas" of ShopFloorManager they can modify various views and save these as part of their default views associated with this particular Registered Workstation.

These Workstations can then be registered with any Host Computer on the Network! This allows a User to move to any physical Host Computer and register their Workstation to that Host Computer and maintain the various default settings they have saved!

Let's assume you have just installed ShopFloorManager and have not created a unique Workstation yet or you want to register your Virtual Workstation to a particular Host Computer.

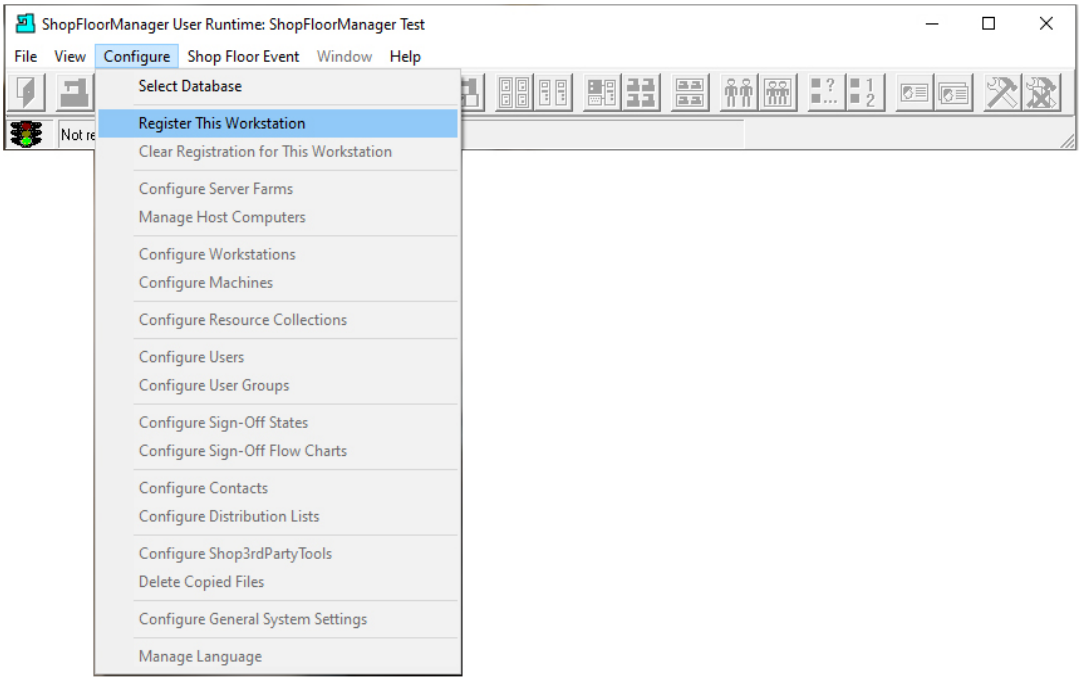
To get started click the Configure Menu and the following Window will be displayed.

Workstations (Clear Registrations for this Workstation)



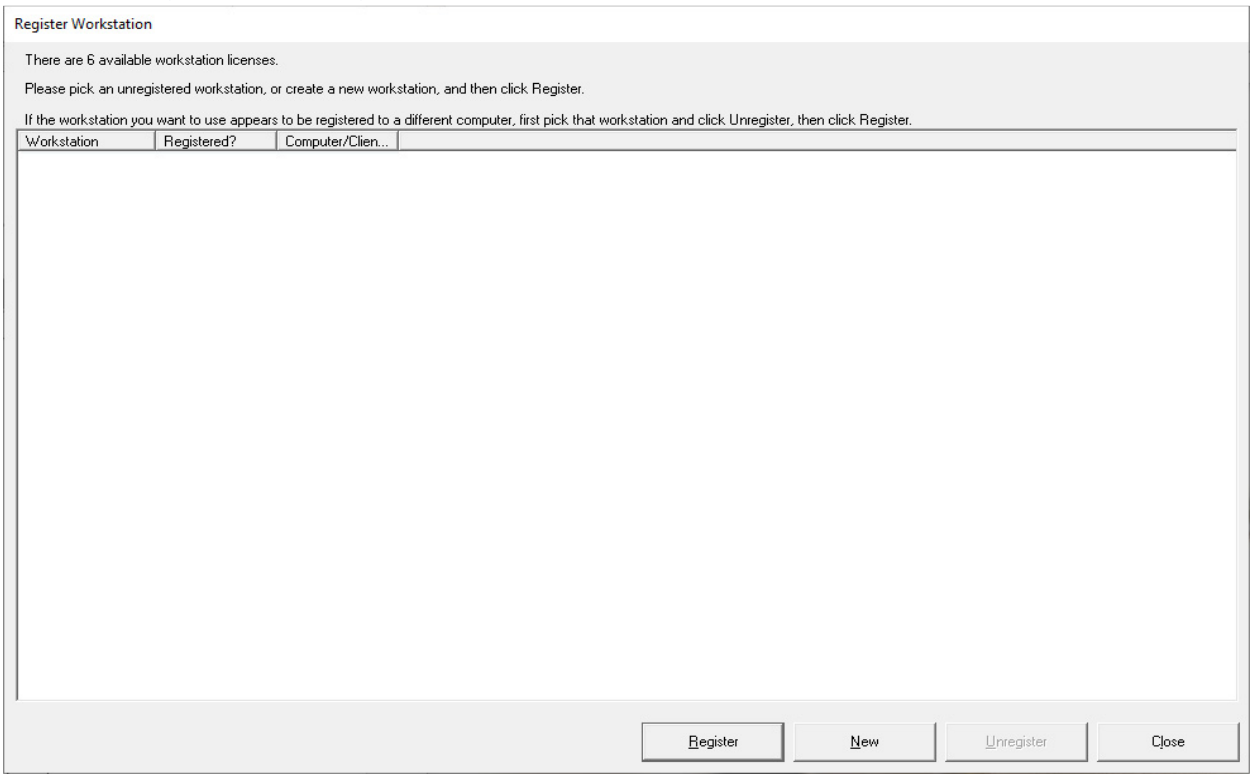
To Unregister (Clear) a Workstation click on the "Configure->Clear Registration for this Workstation" Menus and a fully Grayed out Window is displayed. See the Window at the Top!

Workstations (Register)



Assuming the Window has been Unregistered, click on the “Configure->Register This Work Station” Menus and the following Window will be displayed.

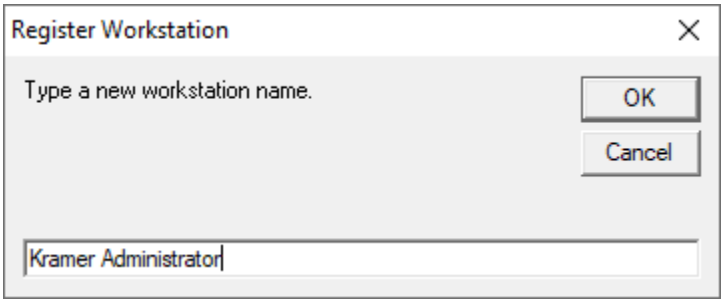
Workstations (New Workstation)



We are assuming that this is a new installation there will be no Virtual Workstations that have been created and thus none displayed in this Window.

Click the New Button and the following Window will be displayed.

Workstations (New Workstation)

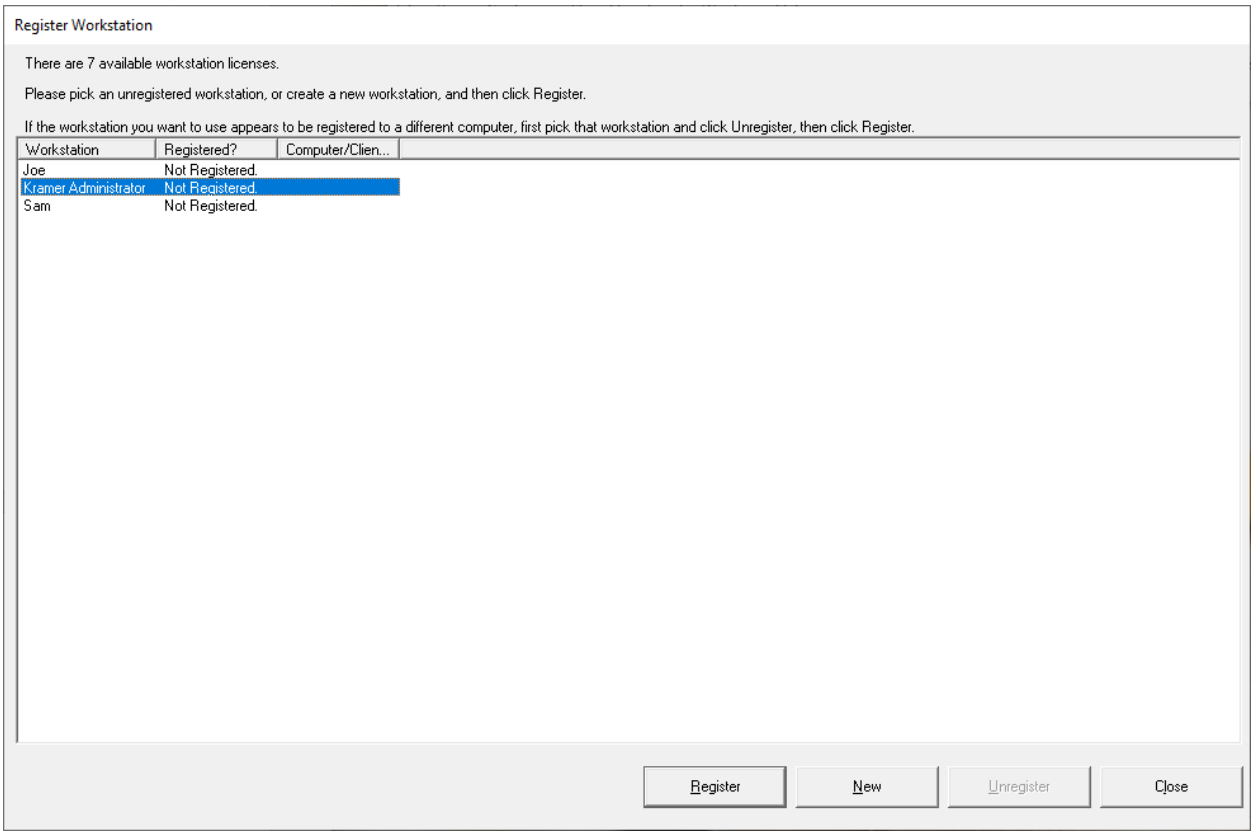


It is suggested that the name of the Virtual Workstation indicates the role of the User or relates to the duties of the Users of this Virtual Workstation!

Click the OK Button and the following Window is displayed.

Note: In the following Window we have create several Windows including the above.

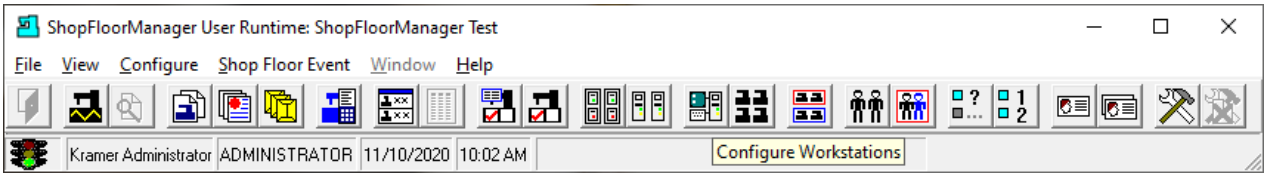
Workstations (New Workstation)



Let's register this Window. If this Workstation were registered to a different User, you would need to unregister it first. You would highlight that "Workstation" and the Unregister Button would become active. Click on that Button and the Window above would be displayed without any registered Users.

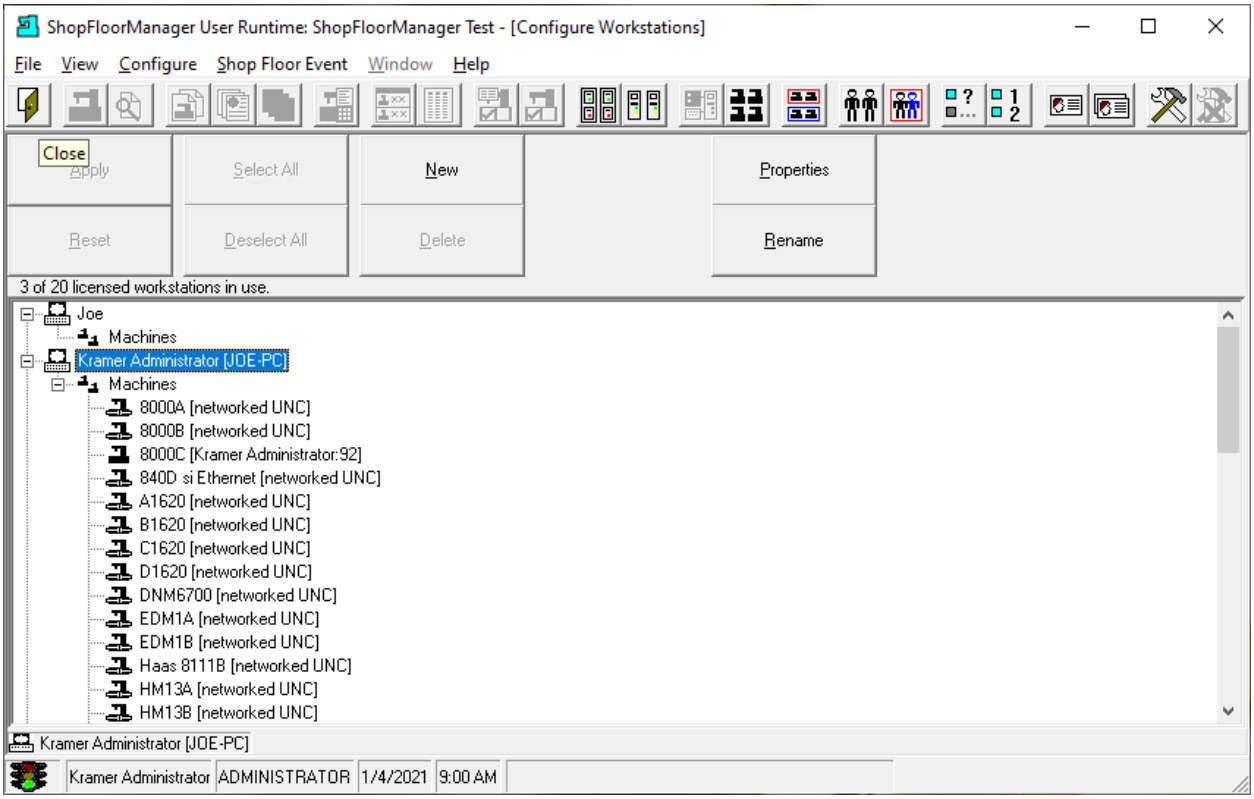
Now highlight the "Kramer Administrator" Workstation and click on the Register Button and the following Window will be registered and displayed as "Kramer Administrator".

Workstations, Configure (Kramer Administrator)



Now click on the “Configure Workstations” Icon and the following Window will be displayed.

Workstations, Configure (Properties)



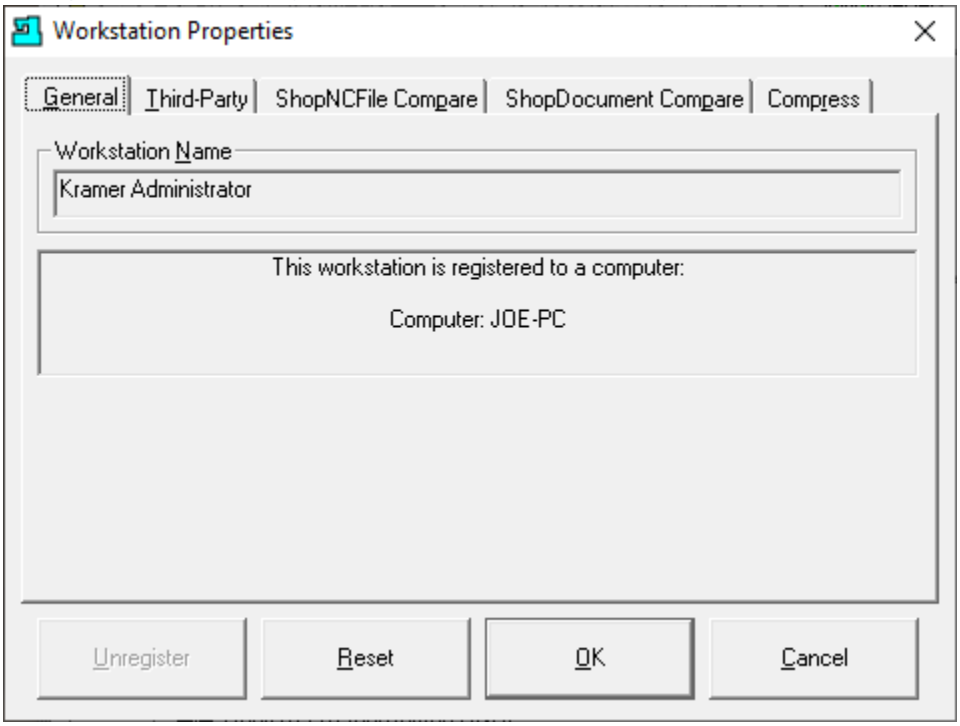
This is a view of all of the Registered Workstations with the Active Workstation being Displayed.

As mentioned before a Workstation from ShopFloorManager’s prospective is a personalized Virtual Workstation that can be configured uniquely for each individual.

As a User registers “Their” unique Workstation it gives them a Portal into ShopFloorManager. As a User visits different screens within ShopFloorManager and saves their Default Views they will be maintained whenever they register “Their” Workstation and return!

Click on the Properties Button (We have highlighted the Kramer Administrator Workstation) and the following Window will be displayed.

Configure Workstations (Properties - Kramer Administrator)



Here is a list of the various Properties that can be set besides the default views!

Properties Tabs:

General
Informational only can't change anything here!

Third-Party
This is the Path where temporary files are maintained when using Third-Party Tools. You can use the default or choose your own.

ShopNCFile Compare
There is a list of ShopNCFile compare Tools available from which to choose.

ShopDocument Compare
There is a list of Document compare Tools available from which to choose.

Compress
You can choose which App you want to use for Compressing ShopNCFiles, ShopDocuments or ShopOperations when Emailing!

When finished click the OK Button if any changes were made or else the Reset/Cancel Button. Click the Close Icon on the previous Window and the following Window is displayed.

Appendix

Upsizing From Access to SQL Server (Moving from Adolescents to Adulthood)

Following is a detailed description of migrating from an Access Database to an SQL Server/Database. It is important to follow the instructions in this document in the order described. If you need help, please call CCI 1-781-933-9500 for help.

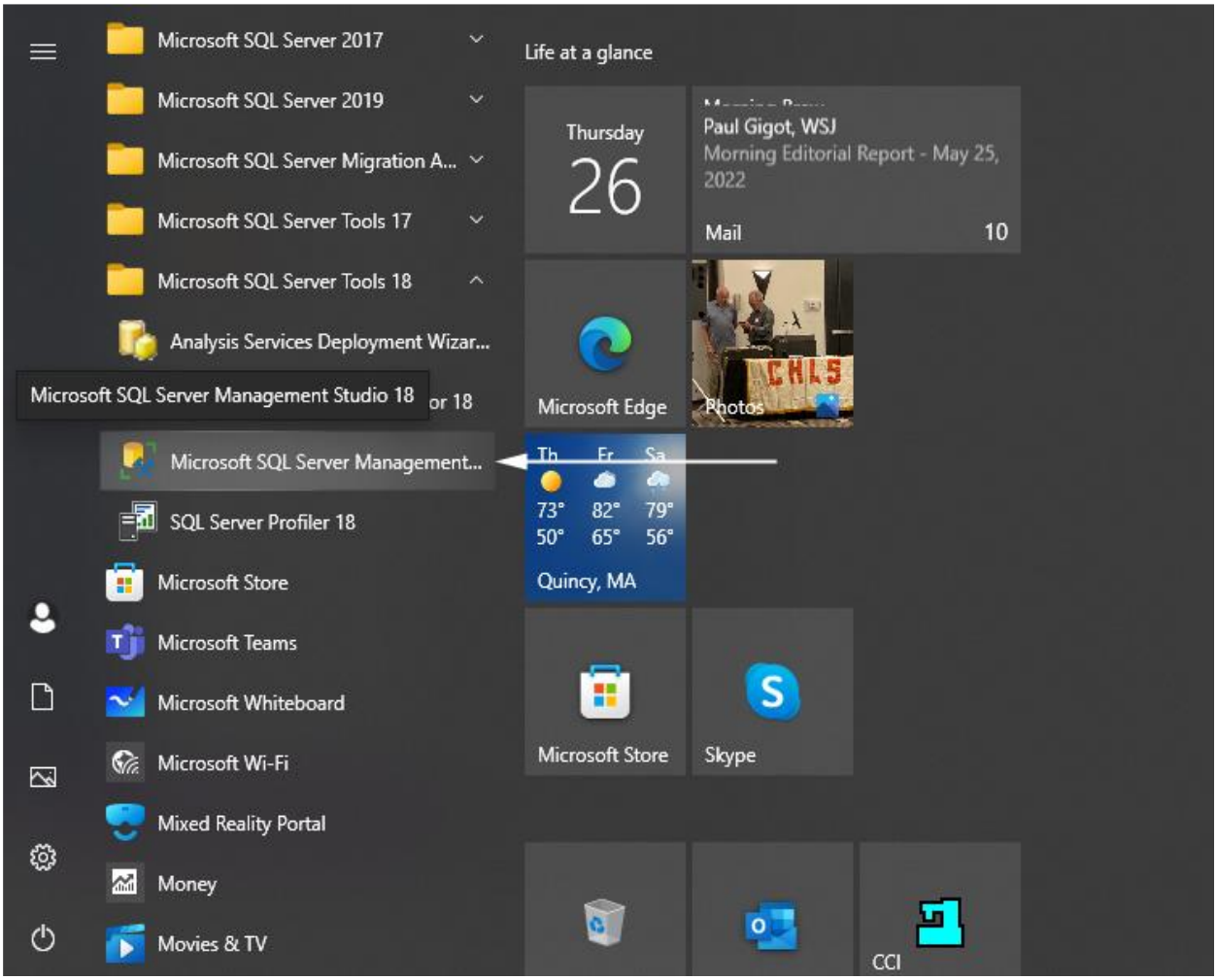
Pre-Upsizing requirements

1. Update the Access Database to the latest SF7.3.276 and then to ShopFloorManager's Ver. 8.0.xx, where xx is the latest version. If you are an active customer and need a SQL license/key, please call.
2. You need to install the Microsoft SQL Server 20xx Express & Microsoft SQL Server Management Studio (MSSMS). First read the ShopFloorManager's User Manual sections "**Install SQL Server 2019 Express, SSMS & ShopFloorManager**" & "**Moving a SQL database from an old Server to new Server**", and then install the software before proceeding. **These procedures must be completed first!**
3. Make a complete backup of the folder where the Access Database & Data folder are located and copied this to the new Server/folder. There are two options:
    a. If you are presently on a newer Server and are satisfied this is sufficient for your needs, make a backup of this folder and **all its contents**. We will be using the original folder for the SQL Data Folder. This is the best option if:
        i. Your import folders are contained in this folder
        ii. The hardware drivers (Moxa, Comtrol, etc.) are installed on this Server
        iii. The Communication Engine & the Maintenance Engine run on this Server, etc.
        Note: If not already a Shared Folder, configure it as a Shared Folder (Network Folder). See the User Manual for creating a Shared Folder!
    b. If you are moving to a new Server then copy the complete folder including the Access Databases to the new Server maintaining the same path-relationships, **if possible**. See the Documents above for details.

        You can delete the Access Databases after the Migration is successful, but we suggest that you initially keep a copy of the Access Databases just in case you need to re-migrate.

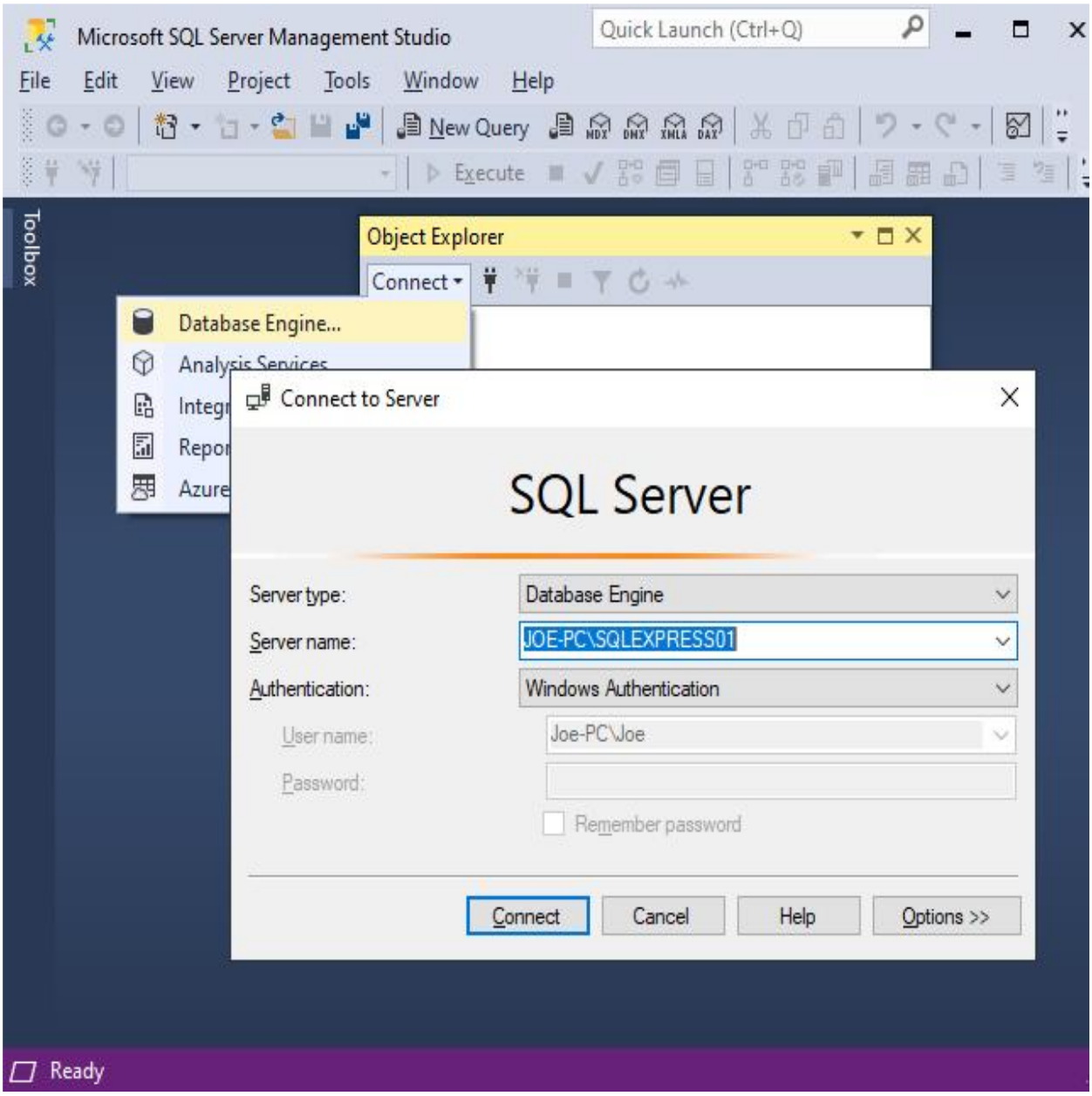
        The reason for copying all contents is to make sure everything is copied! You can guarantee this if nothing is deleted beforehand! You can clean up after the Migration.
4. ShopFloorManager should not be running on the SQL Server that we are using. There should not be any active ShopFloorManager Apps on any Workstations and the Maintenance Engine should not be running!
5. Download and install the Microsoft SQL Server Migration Assistant for Access.

Start Upsizing Procedure.



Start up the Microsoft SQL Server Management Studio and following the Window will be displayed.

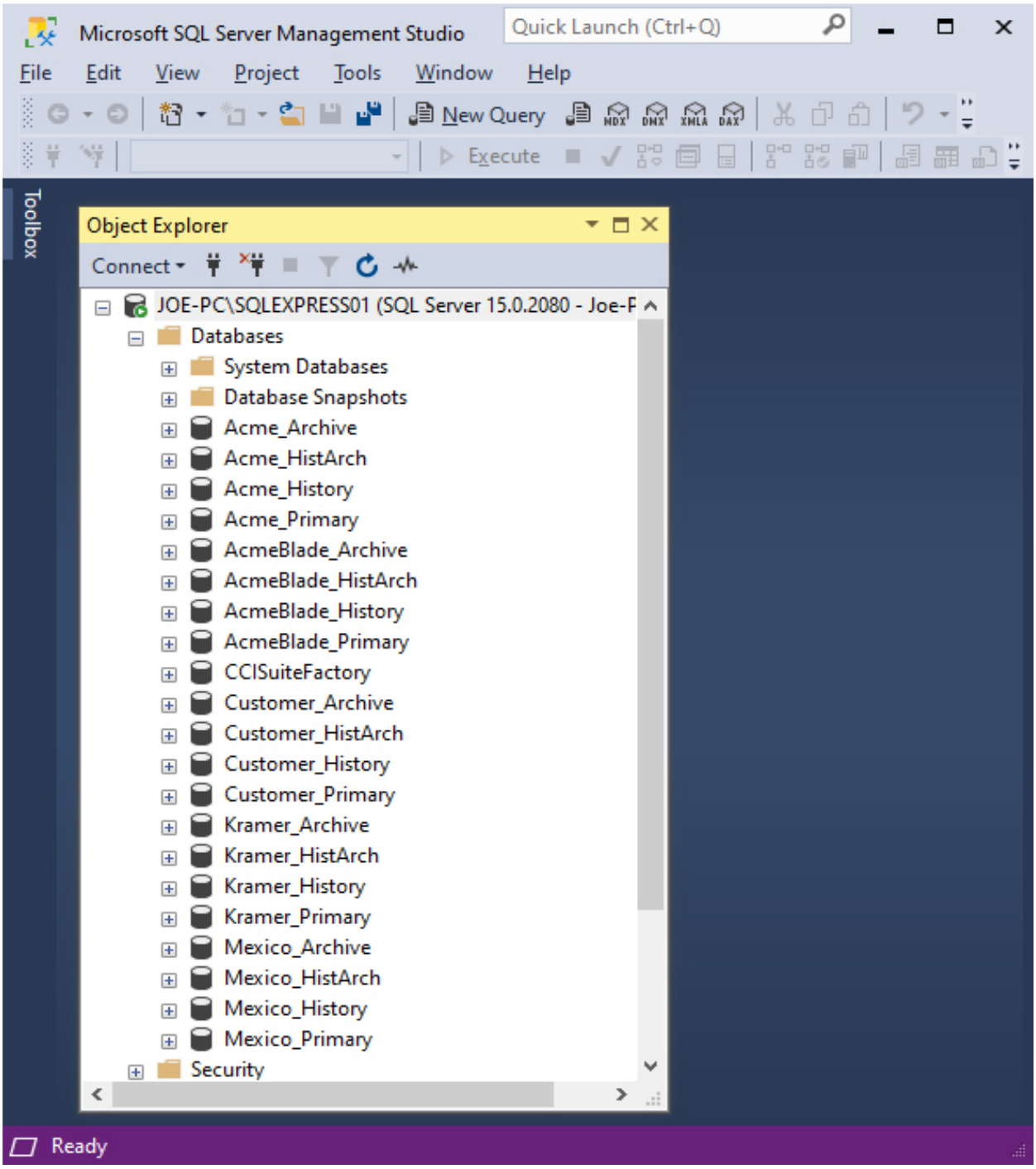
Starting Up MSSM, Database Engine & Selecting SQL Server



After starting up MSSM click the Connect Drop-Down Menu and then select the Database Engine… Menu and your preferred Database Engine if there is more than one.

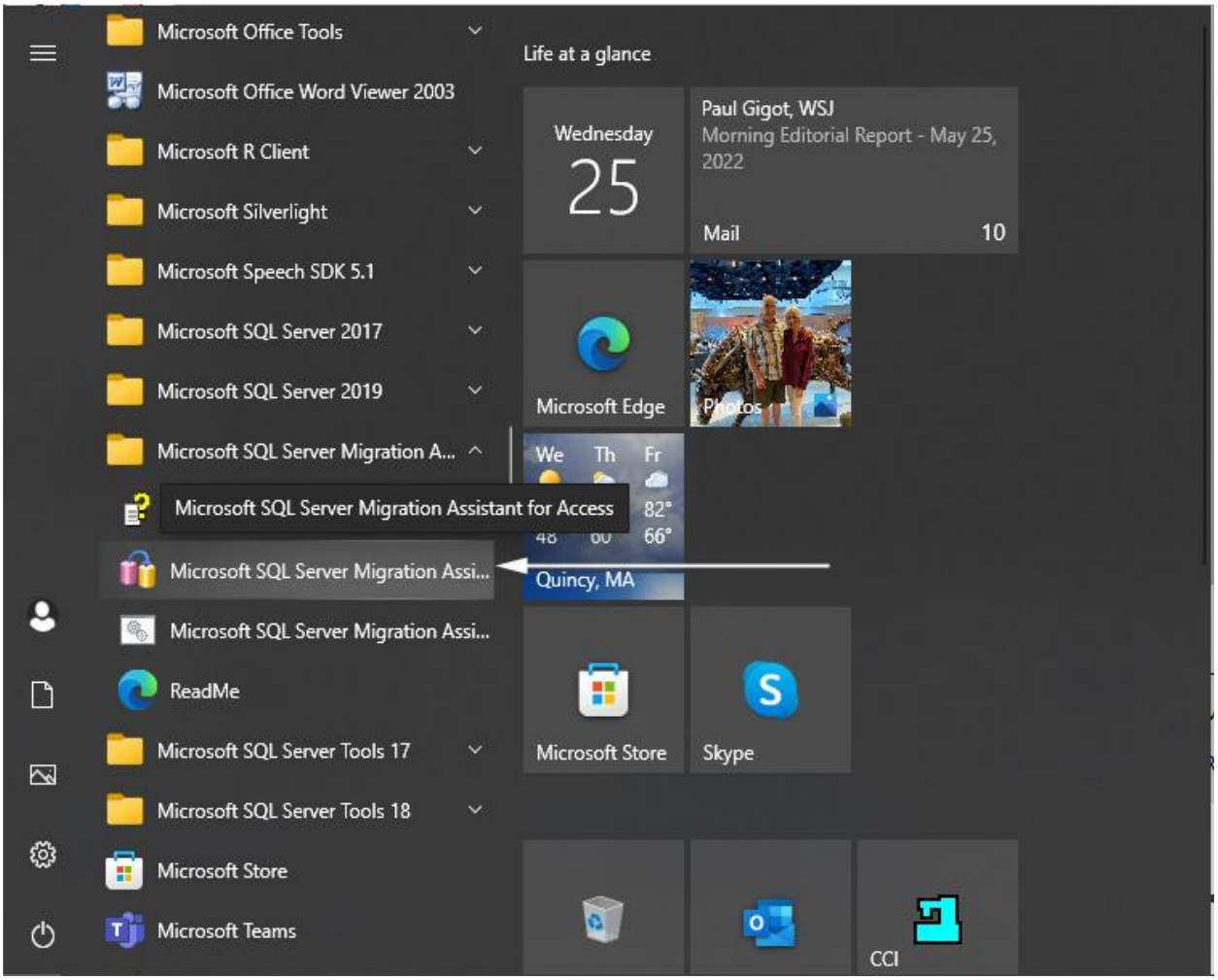
Click on the Connect Button and the following Window is displayed.

MSSM Studio with SQL Server displayed



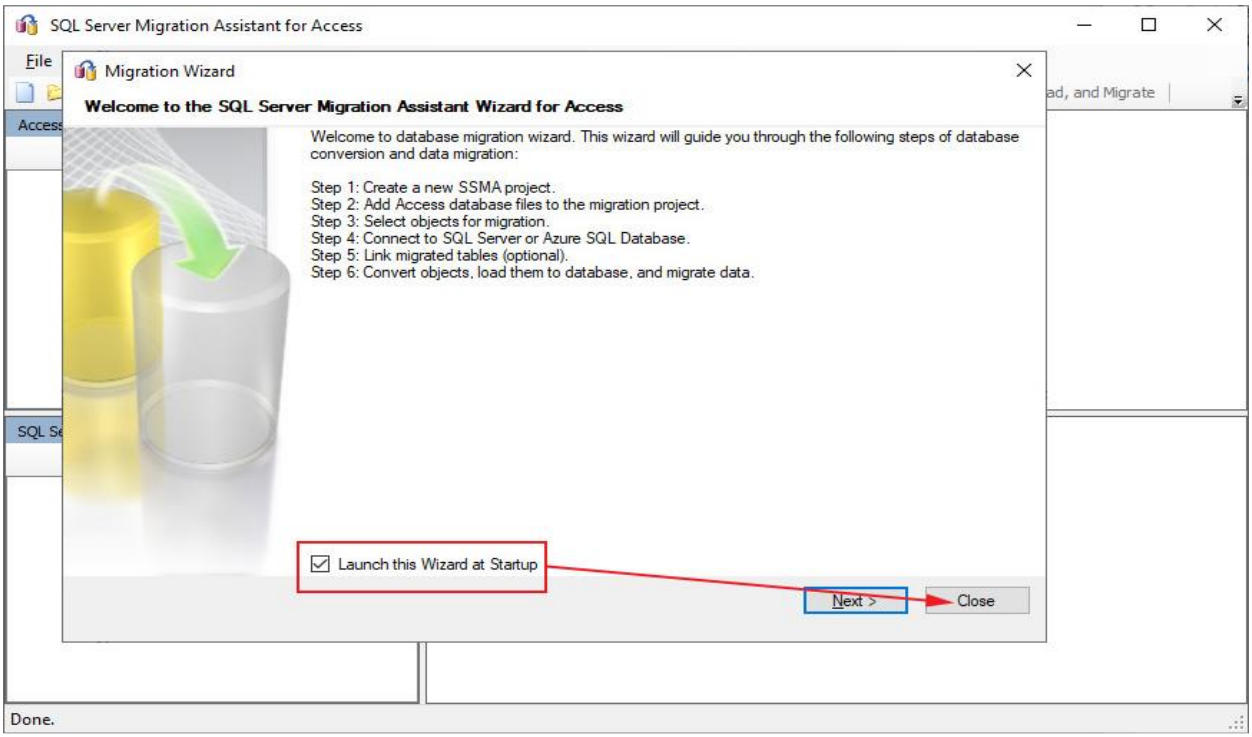
Your view will obviously be different! Now on to the Procedure!

Startup the Server Migration Assistant for Access



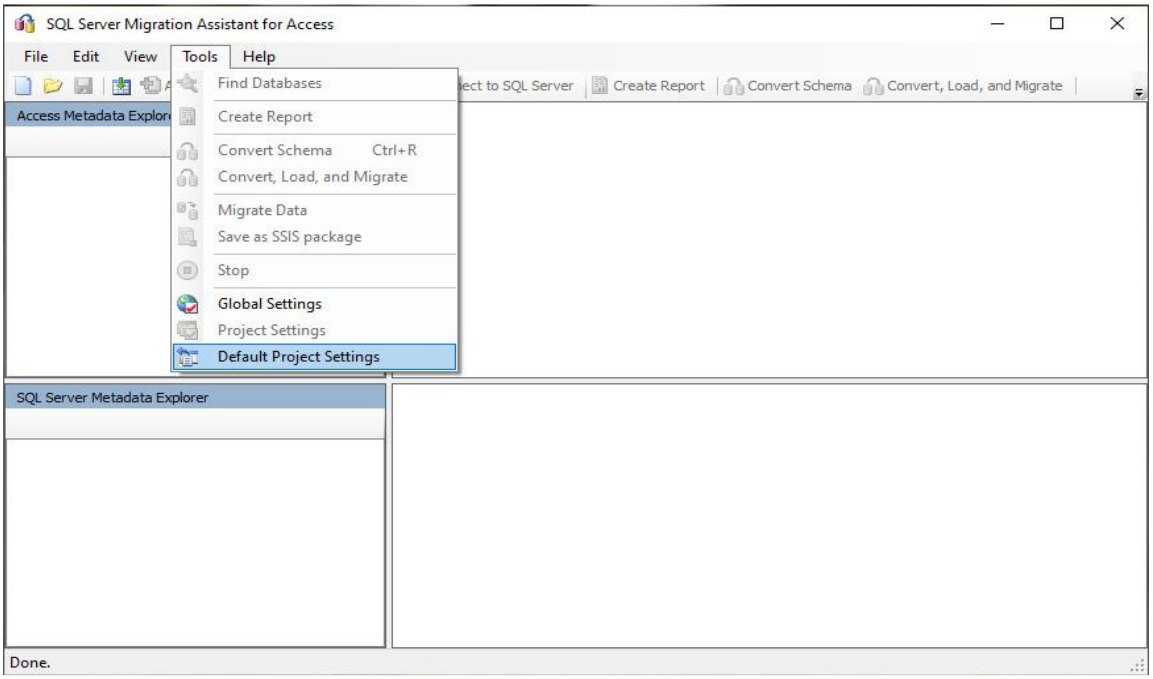
Click on the Microsoft SQL Server Mig… menu and the following Application is displayed.

SQL Server Migration Assistant for Access (Close Migration Wizard)



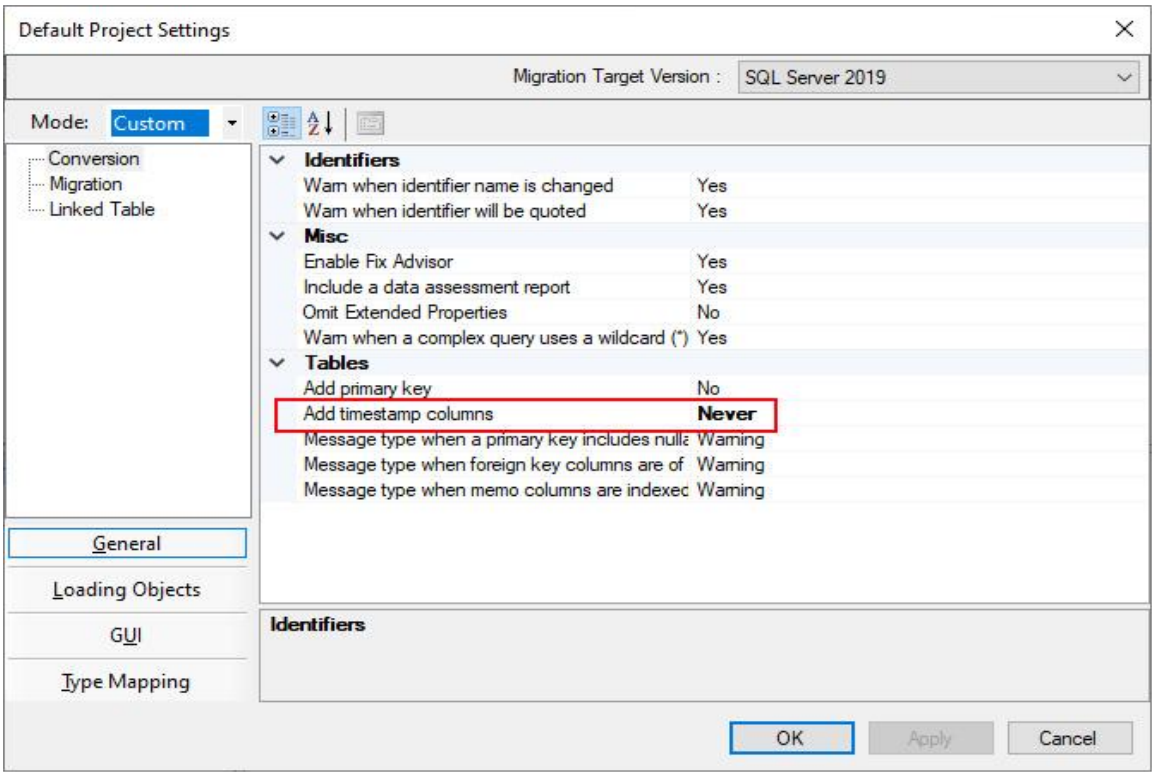
Close the open Migration Wizard Window if displayed and the following Window is displayed.

SQL Server Migration Assistant for Access (Tools/Default Project Settings)



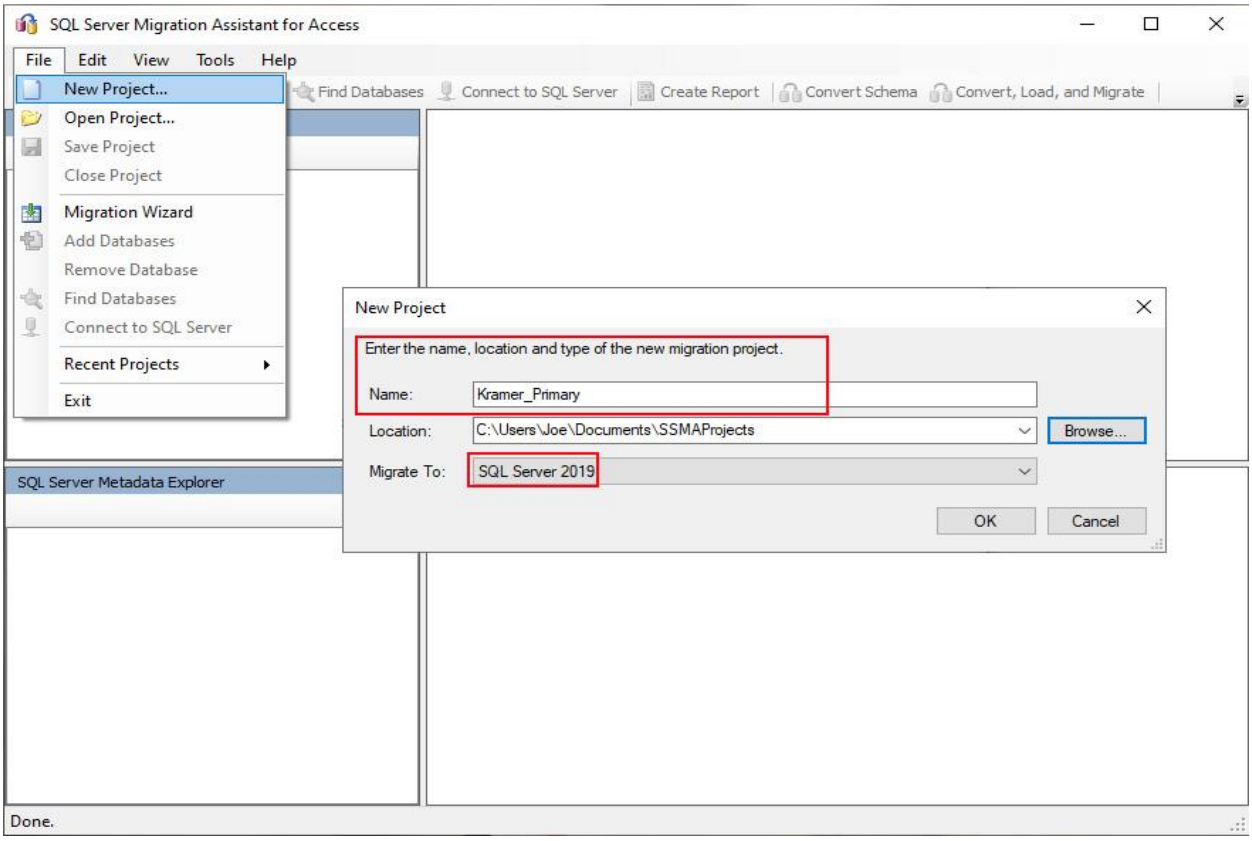
Click on the Menu Tools/Default Project Settings and the following Window is displayed.

SQL Server Migration Assistant for Access (Add timestamp columns = Never)



Set “Add timestamp columns” to **Never**. This is very important! Click the OK Button and the following Window is displayed.

SQL Server Migration Assistant for Access (New Project)



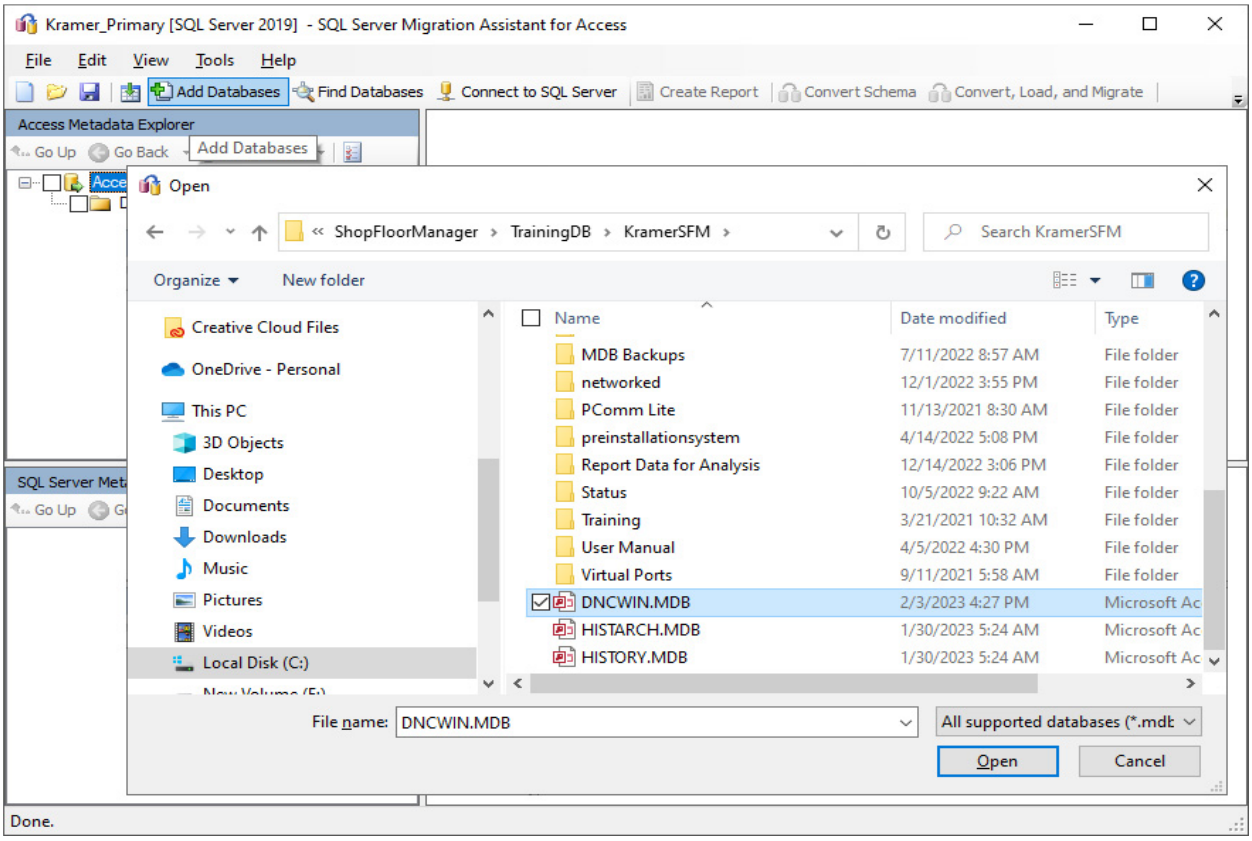
Click on the File Menu and select the New Project… Menu and the New Project Window is displayed. We have entered Kramer_Primary for the name of the Project of course your Name would be different.

We have chosen this Name which will be the same Name of the Database we are creating so if we need to Locate the particular project/database later, they are named the same!

Make sure to select the SQL Server Version you are migrating to!

Click the OK button and the following Window is displayed.

SQL Server Migration Assistant for Access (Add Databases)



The following Process will be repeated up to four times for each existing database. (Could be a total of four). If a database doesn't exist ShopFloorManager will automatically create it during installation. As a minimum there must be the database DNCWIN.MDB but it would be unusual if HISTORY.MDB didn't also exist! If the Archive Database exists, it located in the ARCHIVE Folder in this directory. The following pattern is the same for all databases that exist , the only difference is the database selection and naming conventions.

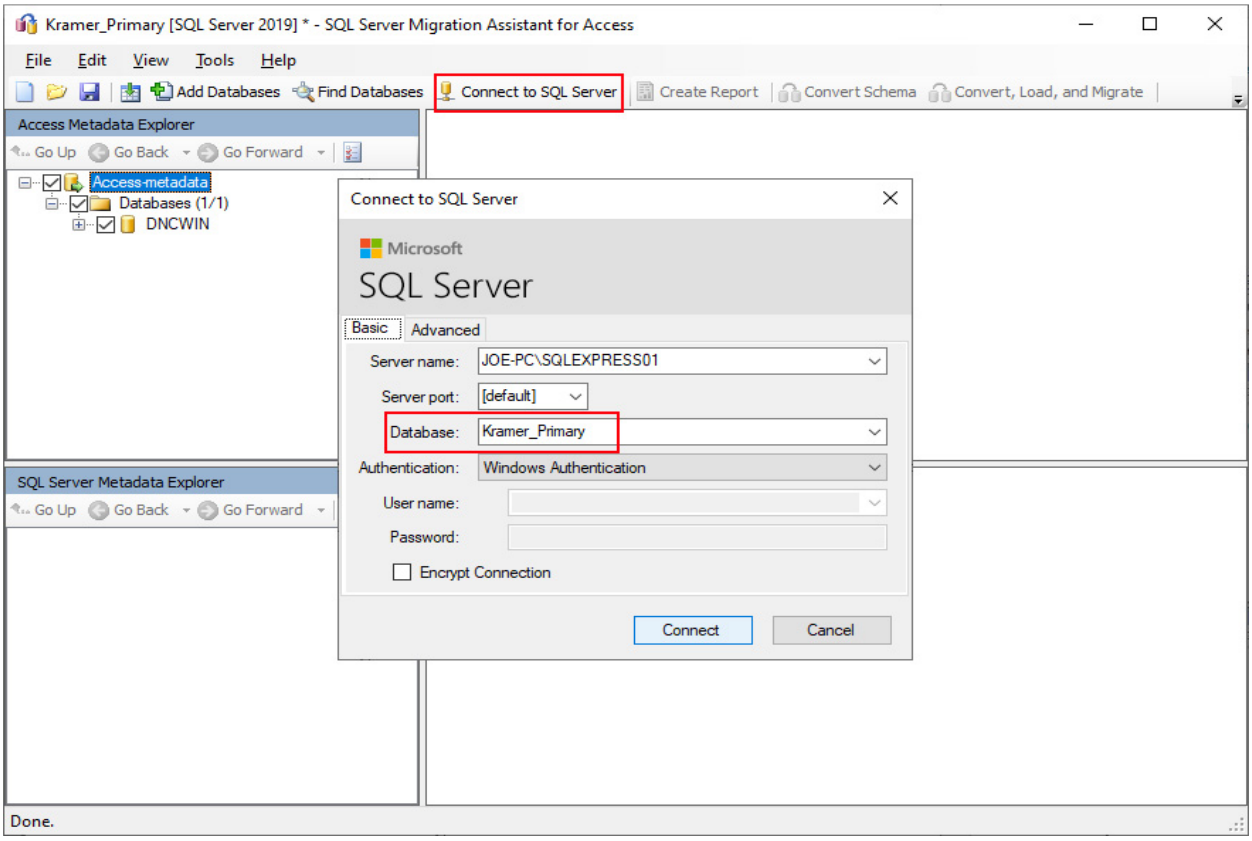
Naming Conventions

1. DNCWIN.MDB: **Kramer _Primary** (Substitute your Name for our name **Kramer**)
2. HISTORY.MDB**: Kramer _History** (Substitute your Name for our name **Kramer**)
3. HISTARCH.MDB: **Kramer _HistArch** (Substitute your Name for our name **Kramer**)
4. ARCHIVE.MDB: **Kramer _ARCHIVE** (Substitute your Name for our name **Kramer**)

Note: It's possible that there may only be one database, DNCWIN.MDB, that has data in it. If that's the case the Migration Wizard will not upsize those particular databases and the menus are grayed out. However, you can save the Project and create an empty database, or you can just close it! It is preferred to create the empty database maintaining the migrating process procedure. It's up to you! ShopFloorManager will automatically create these empty databases during the process if needed.

Click on the Add Databases and locate the Access Database that is to be upsized. The **first to select** is DNCWIN.MDB. Click on the OPEN Button on the bottom Right and the following Window is displayed.

SQL Server Migration Assistant for Access (Connect to SQL Server)

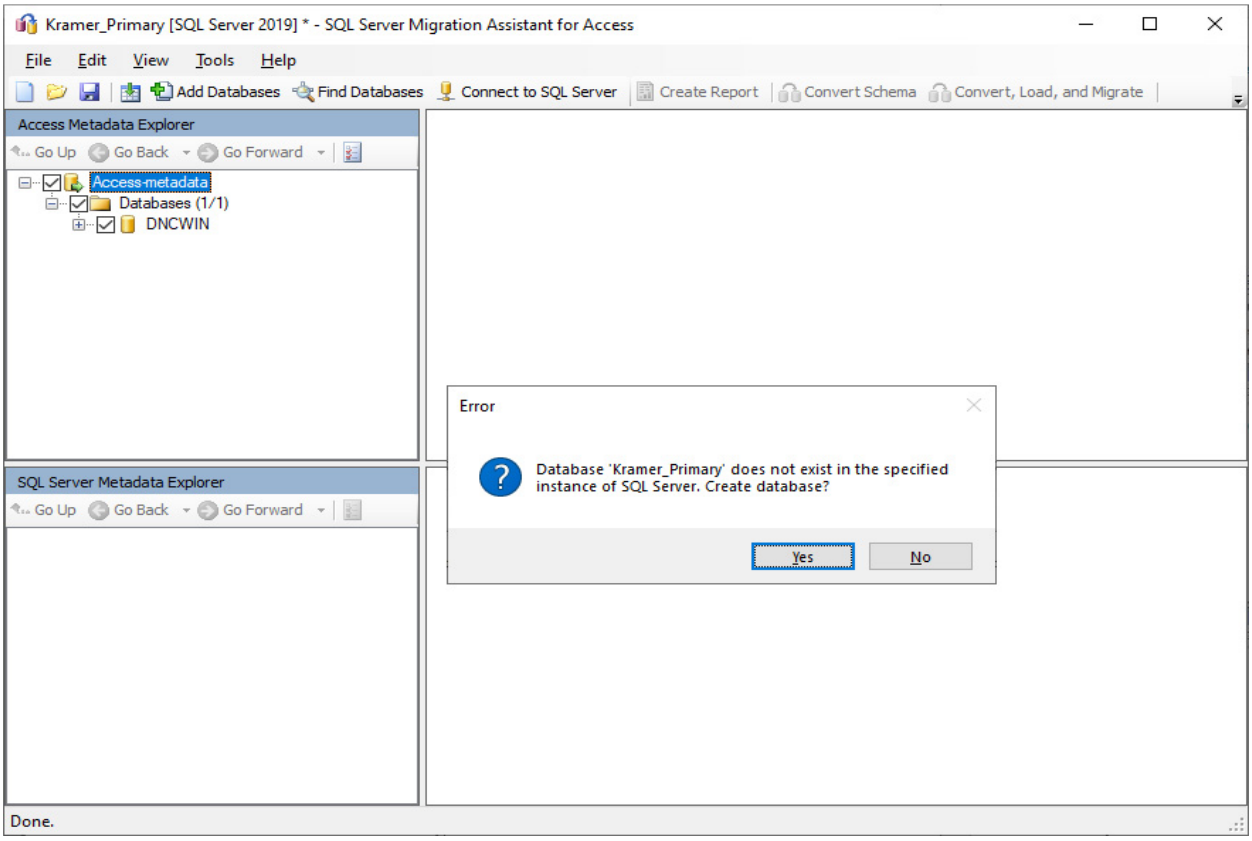


Click on the “Connect to SQL Server” menu and the “Connect to SQL Server” Form will be displayed. Enter the Database Name “Kramer_Primary” and click on the Connect Button and the following Window is displayed.

Note: If you enter the wrong name don’t worry you can delete this database from the list of SQL Server Databases and redo this stage. Deleting this database will not effect on the other databases. The worst that can happen is you delete all of the databases you just created and start over from scratch. **DONOT** delete anything else. If in doubt call us at: 1-781-933-9500.

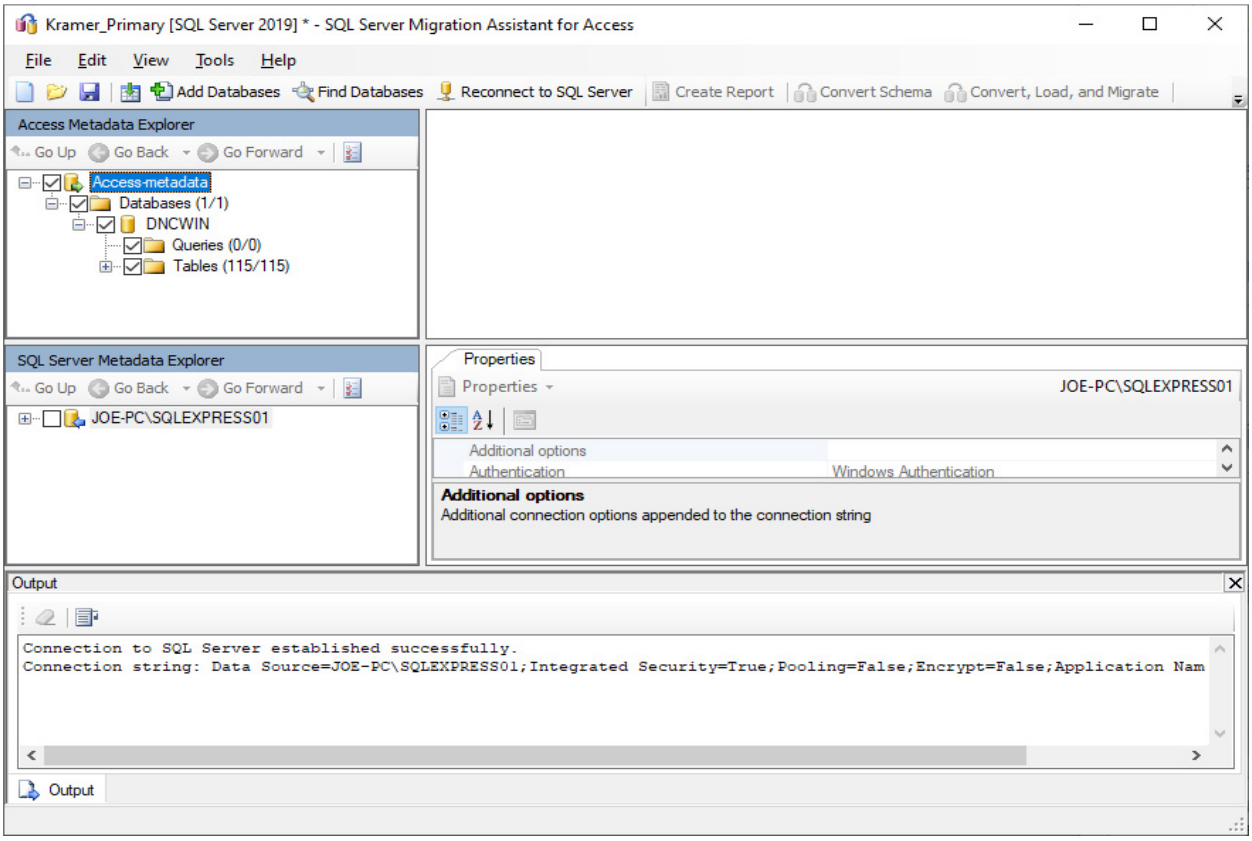
The following Window is displayed.

SQL Server Migration Assistant for Access (Create database)



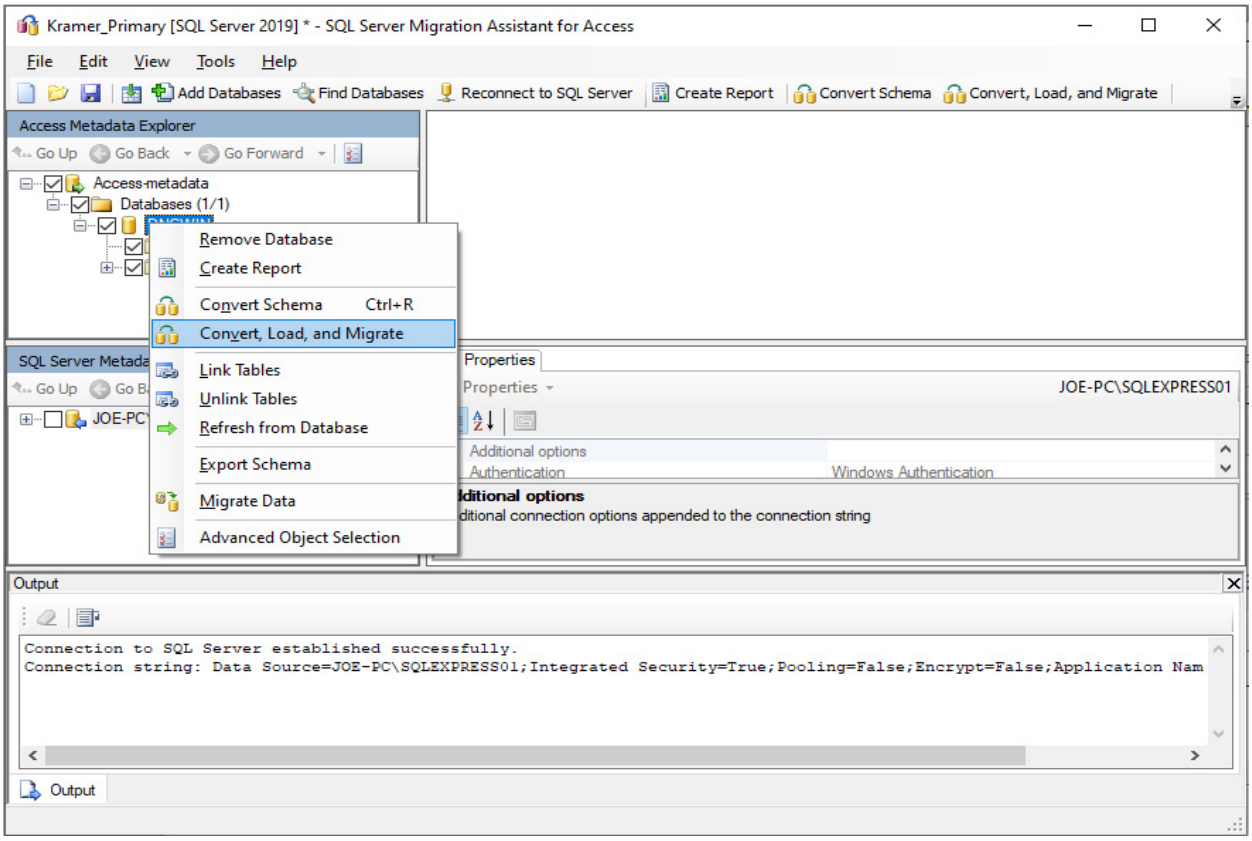
Click on the Yes button and the following Window is displayed. If you don’t see this Window stop and call us. 1-781-933-9500.

SQL Server Migration Assistant for Access (Created Database Displayed)



It may take a few seconds to create the database. You can see the progress in bottom right hand of the form. When finished click on the plus + signs next to the hierarchy to open the view as seen above. Check the Tables Box, and see the following Window.

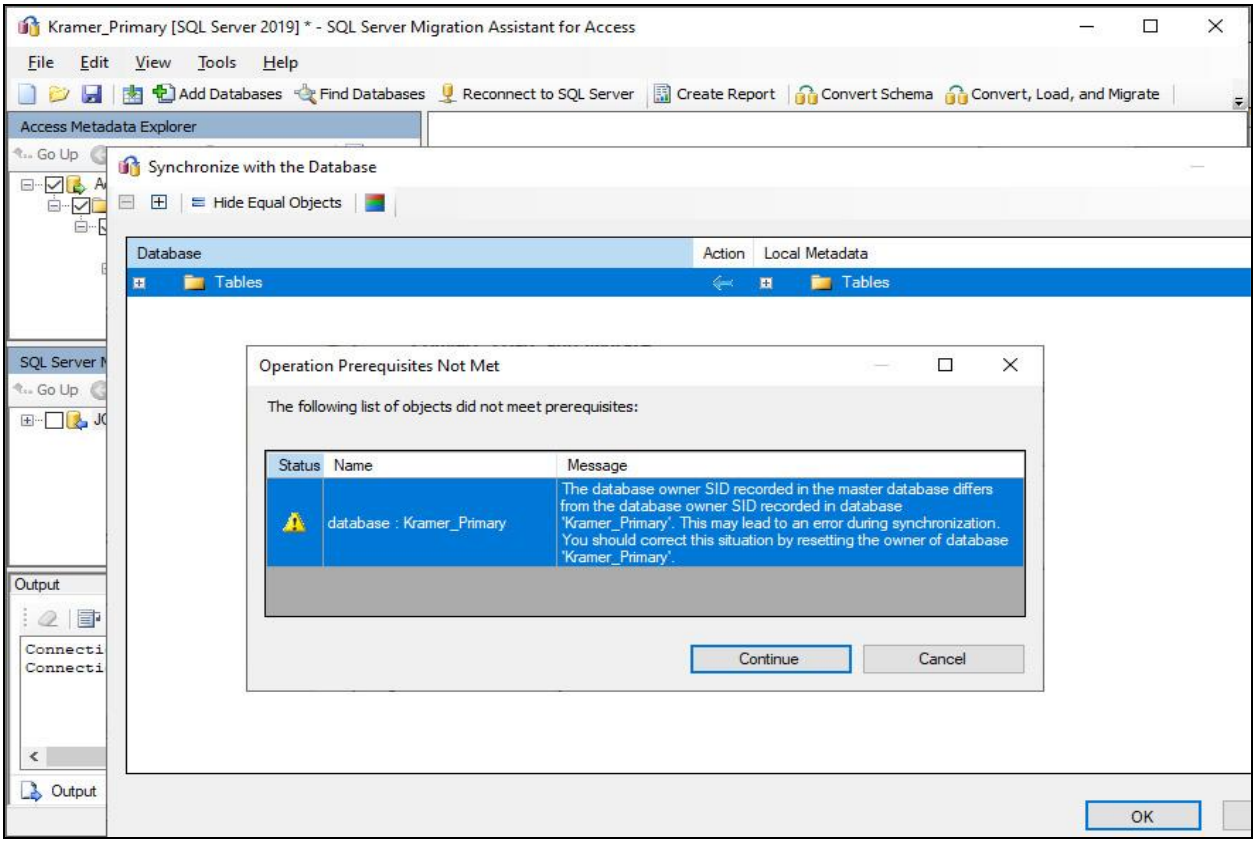
SQL Server Migration Assistant for Access (Created Database Displayed: Convert, Load…)



Right click on the Tables Icon and the drop-down Menu is displayed. Click on the Convert, Load, and Migrate selection and the following Window is displayed.

Note: This may take a minute or two to process.

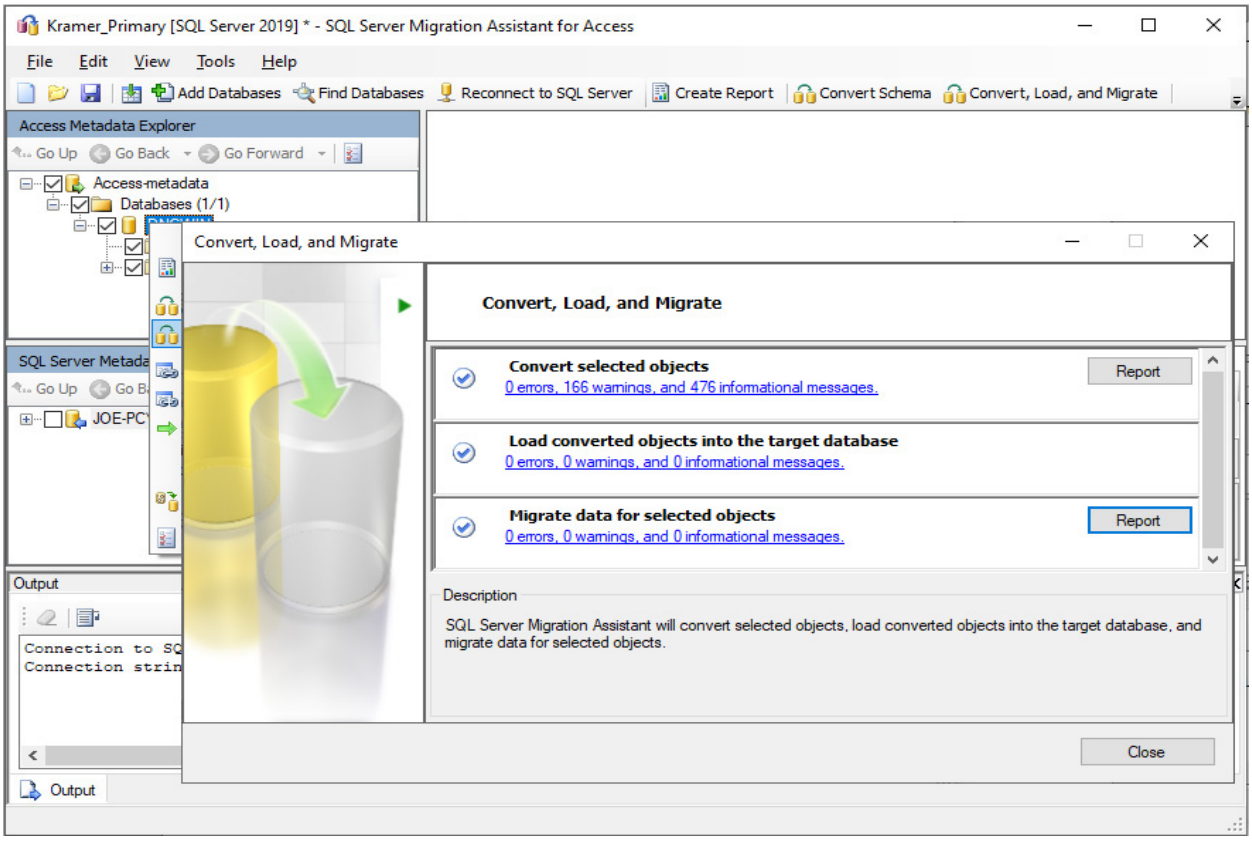
SQL Server Migration Assistant for Access (Created Database Displayed: Tables)



Don’t change anything just click on the OK button and the following Window is displayed. This may take a few seconds!

Note: If you see the Window “Operation Prerequisites Not Met” just click on the Continue Button!

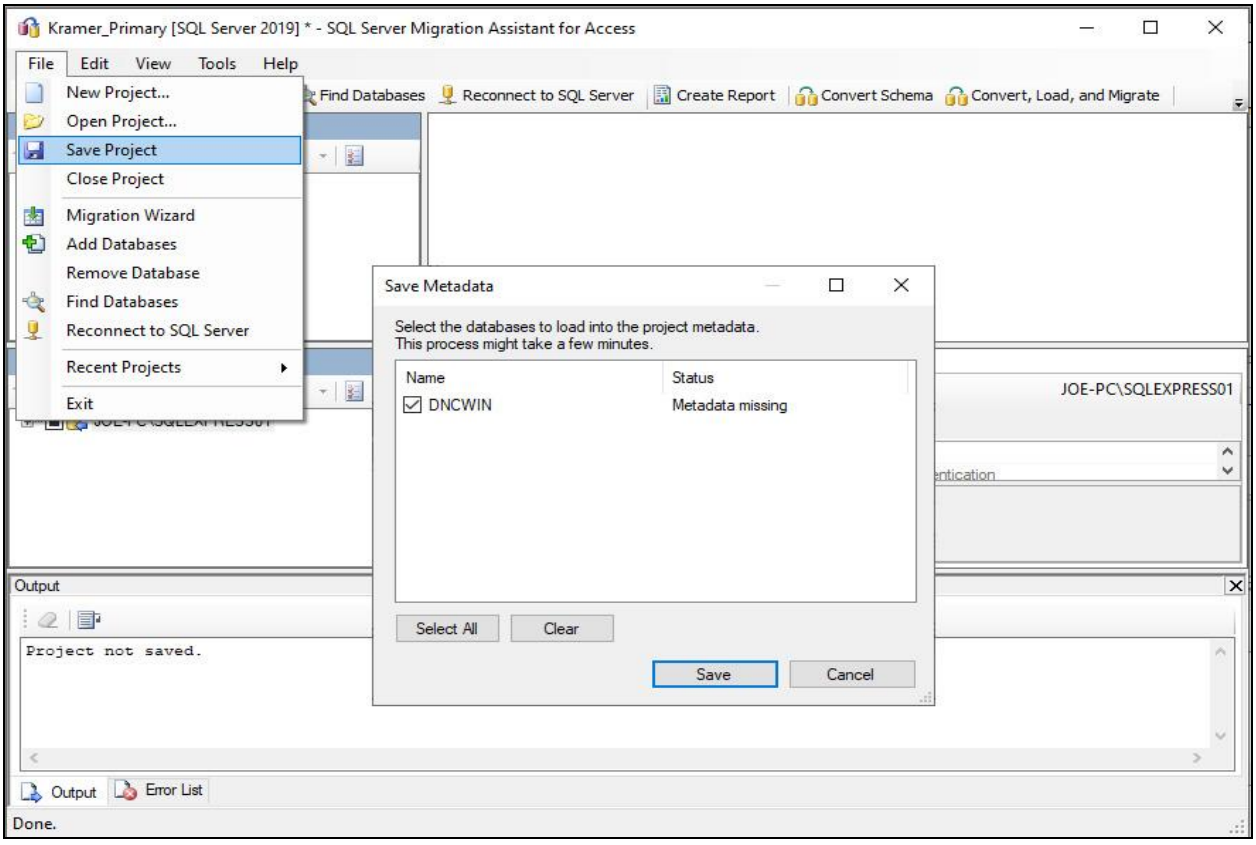
SQL Server Migration Assistant for Access (Created Database Displayed: Convert, Load, …)



When the process is complete, the above form is displayed. You will notice that there are no errors but many warning. As long as there are no errors everything is fine.

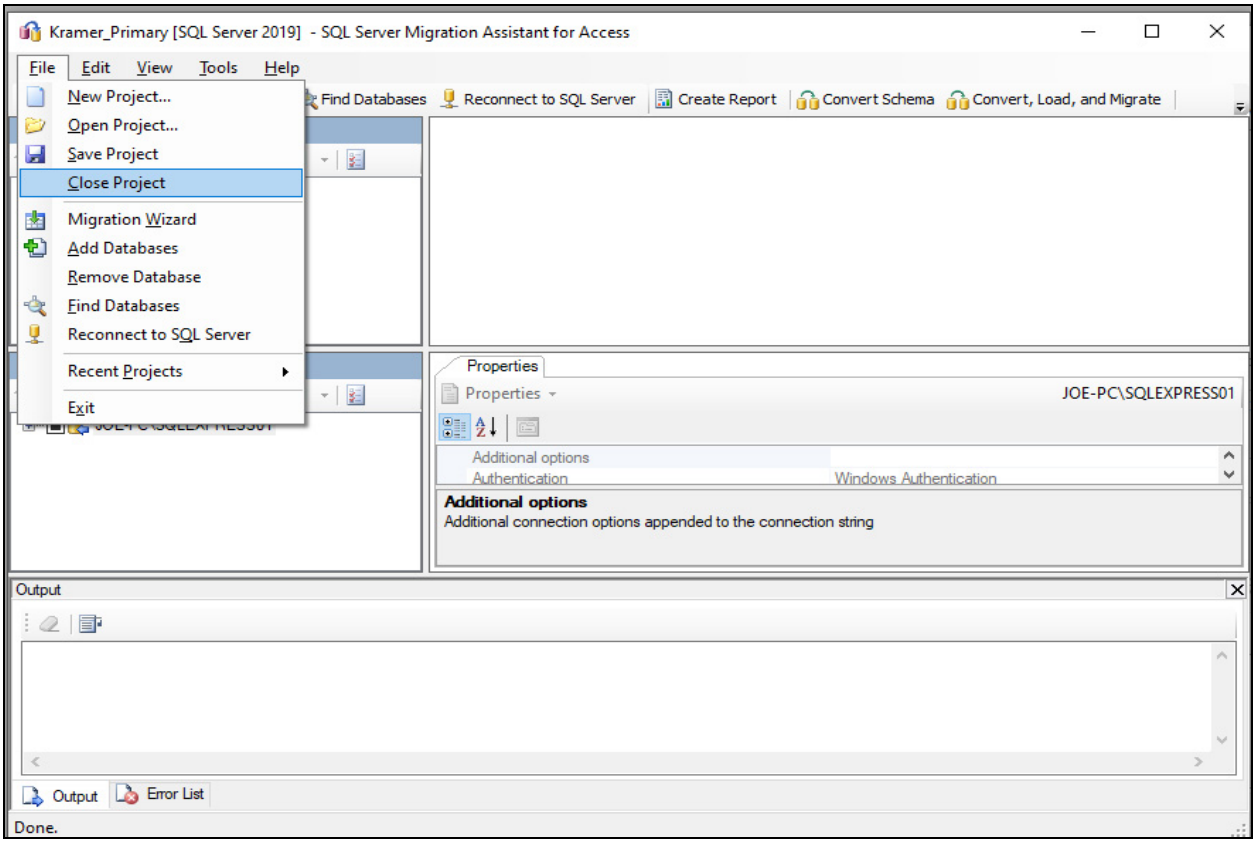
Click the Close button and the following Window is displayed.

SQL Server Migration Assistant for Access (File: Save Project)



Click on the File Menu, then select the Save Project Menu and check the box next to DNCWIN. Click the Save button and the following Window is displayed.

SQL Server Migration Assistant for Access (File: Save Project)



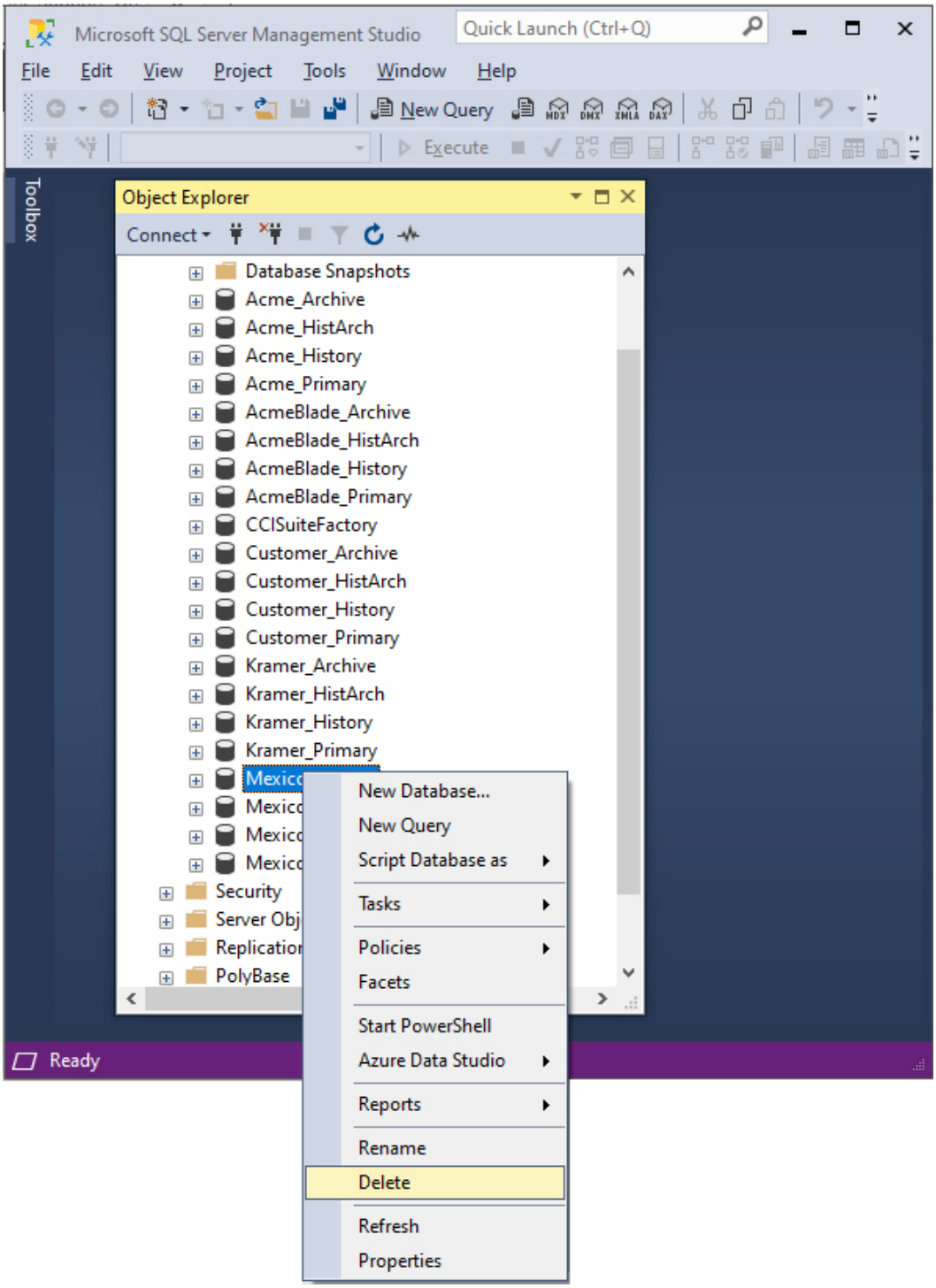
Click on the File Menu, then select the Close Project Menu and you have completed the upsizing for the first Access Database.

Repeat this procedure for each Access Database selecting & using the associated Naming Conventions as described at the beginning of this procedure.

After successfully creating the SQL Databases make sure you back up the Databases. See the User Manual section “Moving a SQL database from an old Server to new Server”.

The next Page describes how to delete a database from the ones you just created if you used the wrong naming convention.

MSSM Studio (Select database to be deleted)



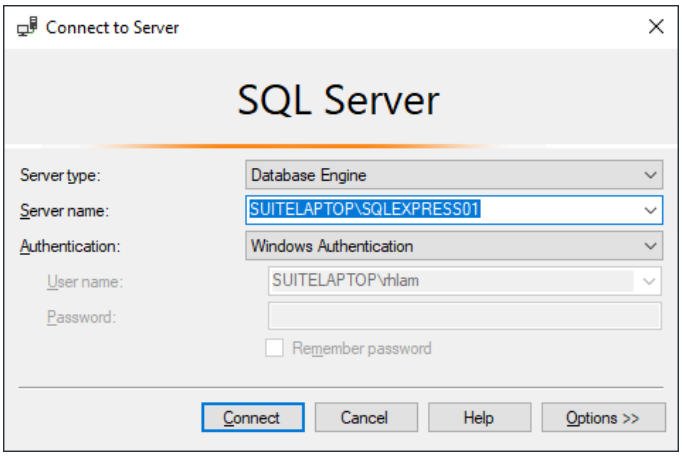
Highlight the Database you want to delete and Right click and select the Delete Menu. Start the Migration Procedure over for all deleted databases.

See the Section for connecting ShopFloorManager to these Databases.

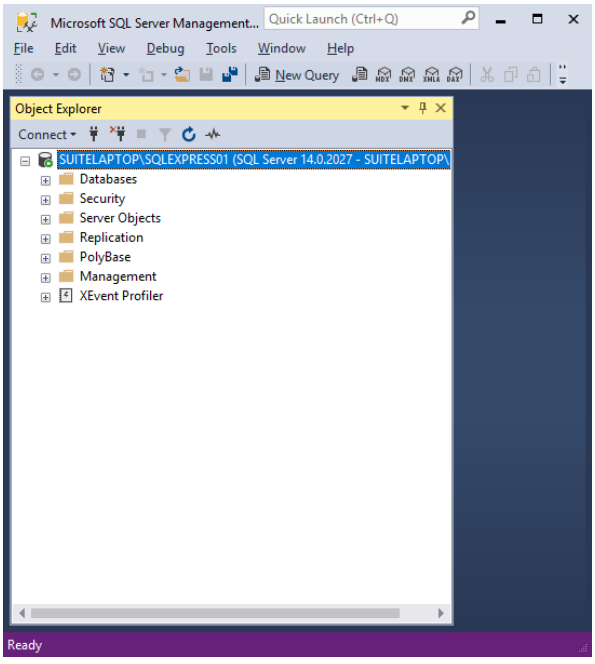
Complete SQL Server User Management

In section **Error! Reference source not found.** "**Error! Reference source not found.**", the SQL Server ad ministrator configured the set of Windows users who have rights to create a new SuiteFactory database in the SQL Server installation. Now that the databases have been created, the SQL Administrator must establish the rights for all other Windows users who need to use SuiteFactory. We suggest creating a Windows User Group. Give that user group Full Rights to the "SuiteFactory SQL Server Database Support Folder".

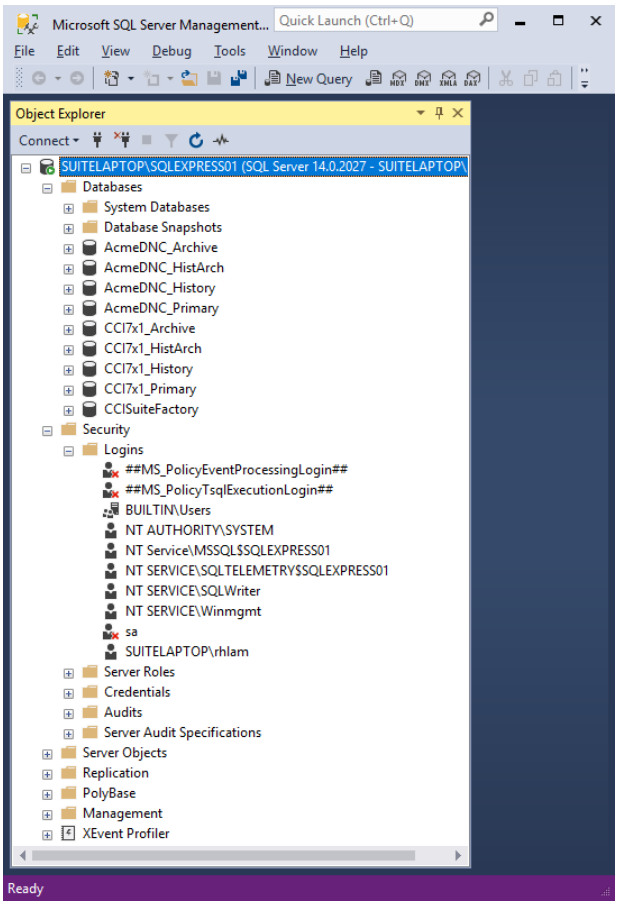
The next step is to give that user group read and write rights to the SuiteFactory SQL Server database. To do this start up Microsoft's SQL Server Management Studio. Connect to your SQL Server instance. The example below shows the server's name and a named instance of the SQL Server installation.



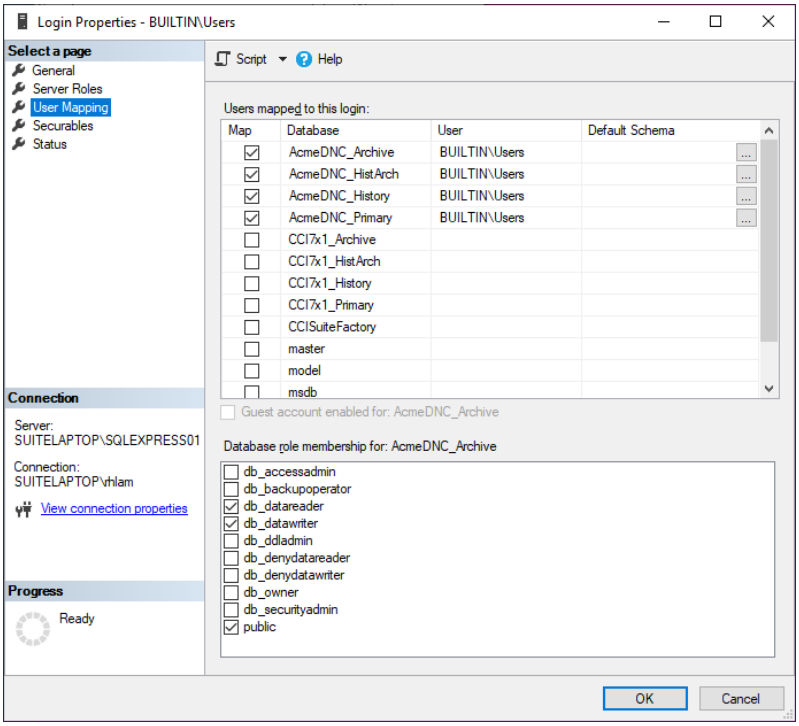
Click Connect.



Click on the + to the left of the Databases folder. See all the AcmeDNC databases appear.

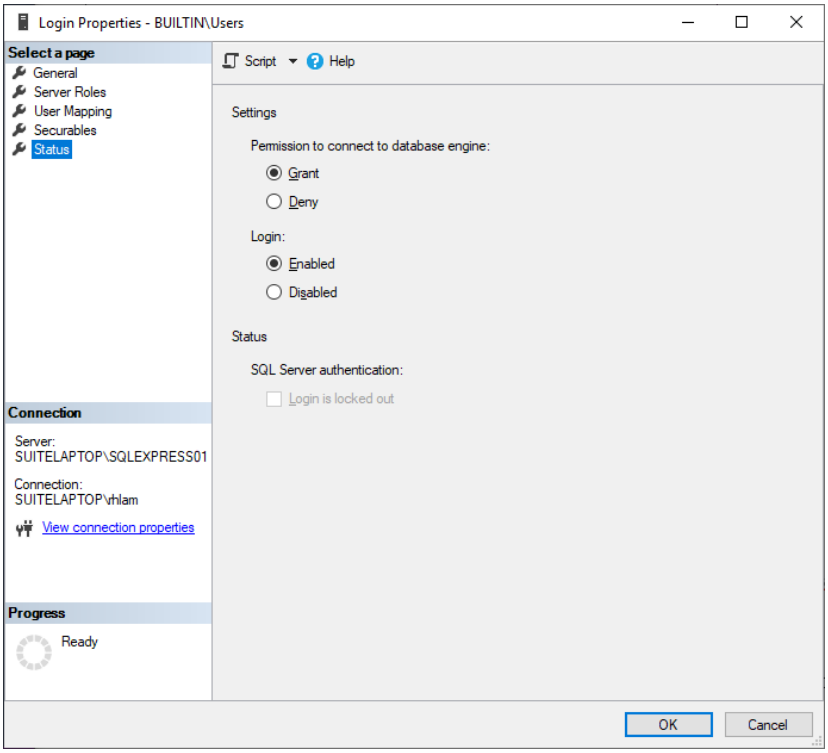


Navigate to the Logins sub-folder of the Security folder for the instance of Microsoft SQL Server where the SuiteFactory databases are located. Highlight the user or user group to be configured and double click to get to the Properties. Select User Mapping. An example is shown below using the group, 'BUILTIN\users.'



For each of the five CCI databases listed, select the roles db_datareader and db_datawriter. The role, public, is a default. After making these selections for all five, click OK.

Return to this properties screen and select Status. Make sure that permission to connect to the database engine is granted and that login is enabled. See below:



Repeat for each SuiteFactory user or group. That's it. You are ready to use the system now.

At every workstation running SuiteFactory and for each Windows user, repeat the instructions of Section 6, above, as required, to point each workstation/user to the SuiteFactory SQL Server database. It will not repeat the conversion process again when doing this.

Using OEE for Analysis (OEE Exposes All those Dirty Secretes of Manufacturing!)

The following article explains it best:

Link: [OEE - Learn How to Use It Right]

Using OEE for Analysis (Quick Overview: Taken from the above article)

The OEE calculation rolls the "6 big losses" of TPM into one number that represents the effective operating rate for a piece of equipment or synchronized line—in other words, the percent of time the equipment or line is operating effectively, or its *valuable operating time.* That translates to the percentage of product produced compared to what could have been produced in the scheduled time.

The 6 Big Losses

Availability (downtime)	1. Equipment failure (breakdowns)
	2. Setup and adjustment
Performance (speed)	3. Idling and minor stoppages
	4. Reduced speed of operation
Quality (defects)	5. Process defects (scrap, repairs)
	6. Reduced yield (from startup to stable production)

It's calculated like this:

OEE (%) = Availability rate × Performance rate × Quality rate

- **Availability rate** (percentage of time the machine is ready to produce, working properly, and not in the midst of changeovers or adjustments) **= *Available time (scheduled operating time – downtime) ÷ Scheduled operating time.***
    - **TIP:** Note that we normally use scheduled operating time (or "planned time"), not total time, because we might only plan to run a machine for half a shift to meet customer demand. This distinguishes efficiency from effectiveness. Effectiveness relates to customer demand. Focusing solely on the efficiency of individual pieces of equipment can lead to overproduction and excess inventory.
    - **TIP:** Scheduled operating time usually does not include time set aside for planned maintenance or breaks. Other downtime is considered loss, including setup, adjustment, and breakdowns.

Using OEE for Analysis (Quick Overview Cont.)

- **Performance rate** (ratio of output produced compared to a standard) ***= Actual output ÷ Standard output.***
    - **TIP:** The rule of thumb for standard output is to use the best output rate known to be produced on the machine, regardless of whether that is above or below design speed. If a machine consistently outperforms its design spec, your performance rate will exceed 100% and potentially mask availability problems. On the other hand, if the machine has never been able to achieve its design spec, it's usually not helpful to use that as the standard.
    - **TIP:** Any losses due to minor stoppages, idling, or slowdowns show up in the performance rate.
- **Quality rate** (ratio of good output compared to actual output)***= Right-first-time output ÷ Actual output.***
    - **TIP:** Any defective output, including output that needs rework or repair or is scrapped during adjustment, is not counted as quality output.

We have finished the section on OEE Analysis!

OEE – Why Should I Care? (Because You're a Nice Person?)

See this Article: OEE (Overall equipment effectiveness) Why Should I Care? (weighlabel.com)

OEE, OOE & TEEP (Relatives, Just What We Need!)

See Website: OEE, OOE, and TEEP - What's the difference? (machinemetrics.com)

1. **Total Effective Equipment Performance (TEEP)**
   Considers maximum time to be All Available Time – that is 24 hours, 365 days a year.
2. Therefore, TEEP = Performance x Quality x Availability (where Availability = Actual Production Time / All Time).
3. **Overall Operations Effectiveness (OOE)**
   Takes unscheduled time into account, looking at Total Operations Time as the maximum.
4. Performance x Quality x Availability (where Availability = Actual Production Time / Operating Time)
5. **Overall Equipment Effectiveness (OEE)**
   Only considers scheduled time. If a machine is down due to maintenance, and it's not scheduled for work, OEE ignores this time.

Credit: This section's information borrowed from the above Website!

Moving a SQL database from an old Server to new Server (Where's the Moving Van?)

You will need to have MSSM (Microsoft SQL Server Management Studio) installed on both Servers before starting the move. On the new Server make this a clean installation, not an "Image" copy so unknown or untraceable errors are minimized!

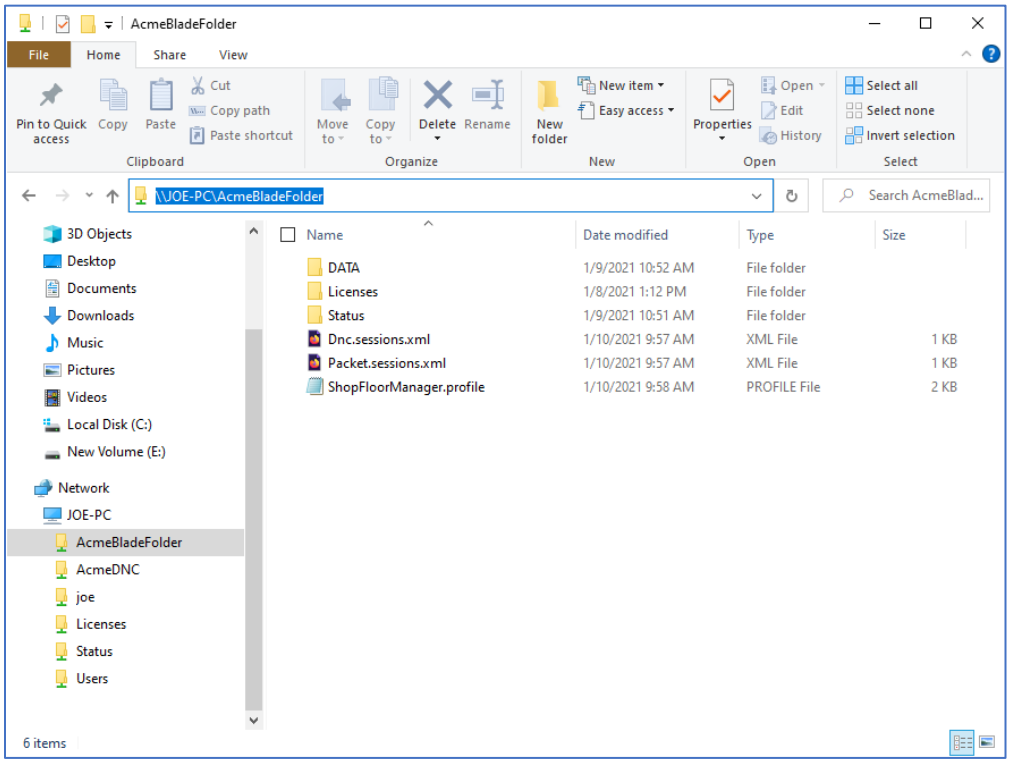
The MSSM on the new Server needs to be the same version or later than on the original Server.

Note: The new Server should be the same version or later than the old Server to avoid problems!

Tasks before moving SQL Database to new Server

1. Make sure you have a correct SuiteFactory or ShopFloorManager installation set matching the release on the old Server and the correct License & Key Files!
2. Create a Shared Data Folder on the new Server. **See the following page for an example**.
3. Copy the Data Folder contents from the original Server & paste to the new Server's Data Folder.
4. Create the SQL Users on the new Server to match the original Server as needed.
5. Set each SQL Users' Rights on the new Server to match the Users' Rights on original Server.
6. Uninstall all copies of SuiteFactory or ShopFloorManager from the new Server if needed.
7. Install the same version of SuiteFactory or ShopFloorManager on the new Server as on the original Server but don't create a Database at this time! Just install!
8. The new Server needs to be able to "see" any Hardware that the original Server was able to "see" such as: Comtrol Serial Devices, Access Points, Moxas, etc. May need help from IT!
9. If you are using Moxas/Equivalent Units and if some of the drivers are on the original Server, you will need to install the associated drivers on the new Server and setup all the associated Moxas Units assuming that you want to maintain the original "Structure"! If not see our User Manual! See the document: https://www.shopfloormanager.com/downloads/wirelessinstallation.pdf
10. **Warning**: Any Paths, (UNCs, Resource Collections & ShopFileCabinets), on the new Server will need to be updated. (Just a heads up! These need to be done after the final Installation.)
11. **Warning**: All Clients will have to re-register to the new Server! If the new Server is on a different network, you will have to "move" these Clients to the new network. If any Client has an active Comm Engine you will need to remap the Client and it's Comm ports. Don't change the Comm Port Numbers. I.E. Comm 23 on the original Server should stay as Comm 23 on the new Server! (Just a heads up! These need to be done after the final Installation.)

Example of Share Folder for SQL Data Folder with contents from old Server

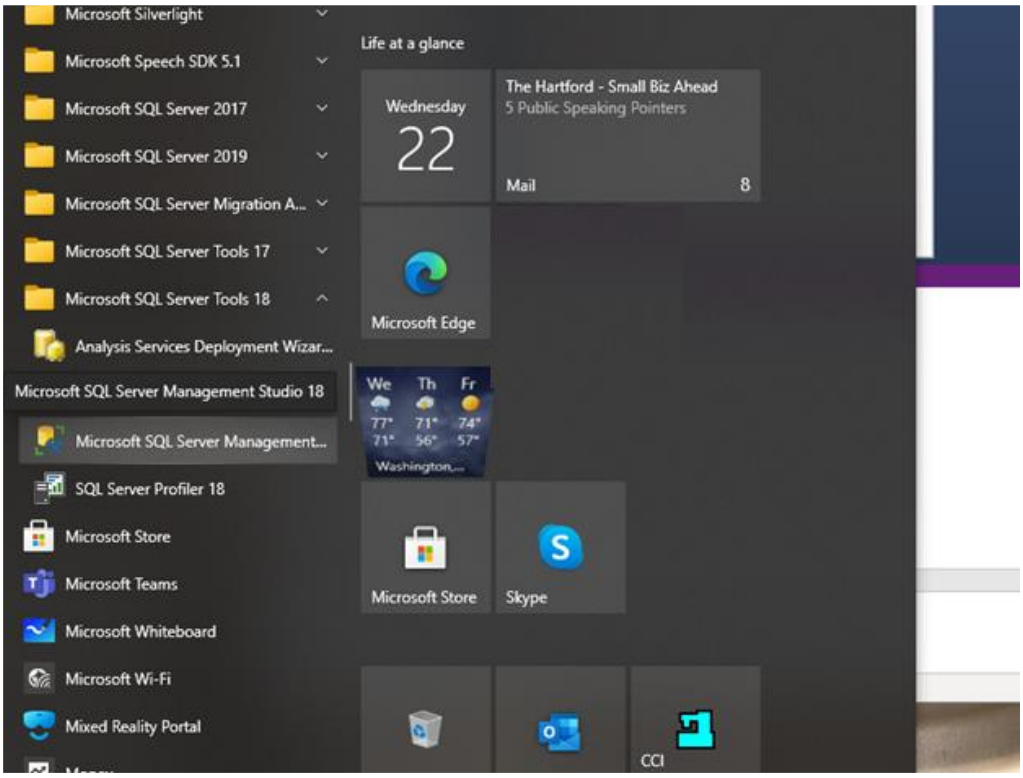


You will need to have “IT” create a Shared Folder on the new Server. See example above!

Copy the contents of the old Servers’ Data Folder to this Shared Folder as show above. The Window above includes a minimum of data. Your Data Folder may include more!

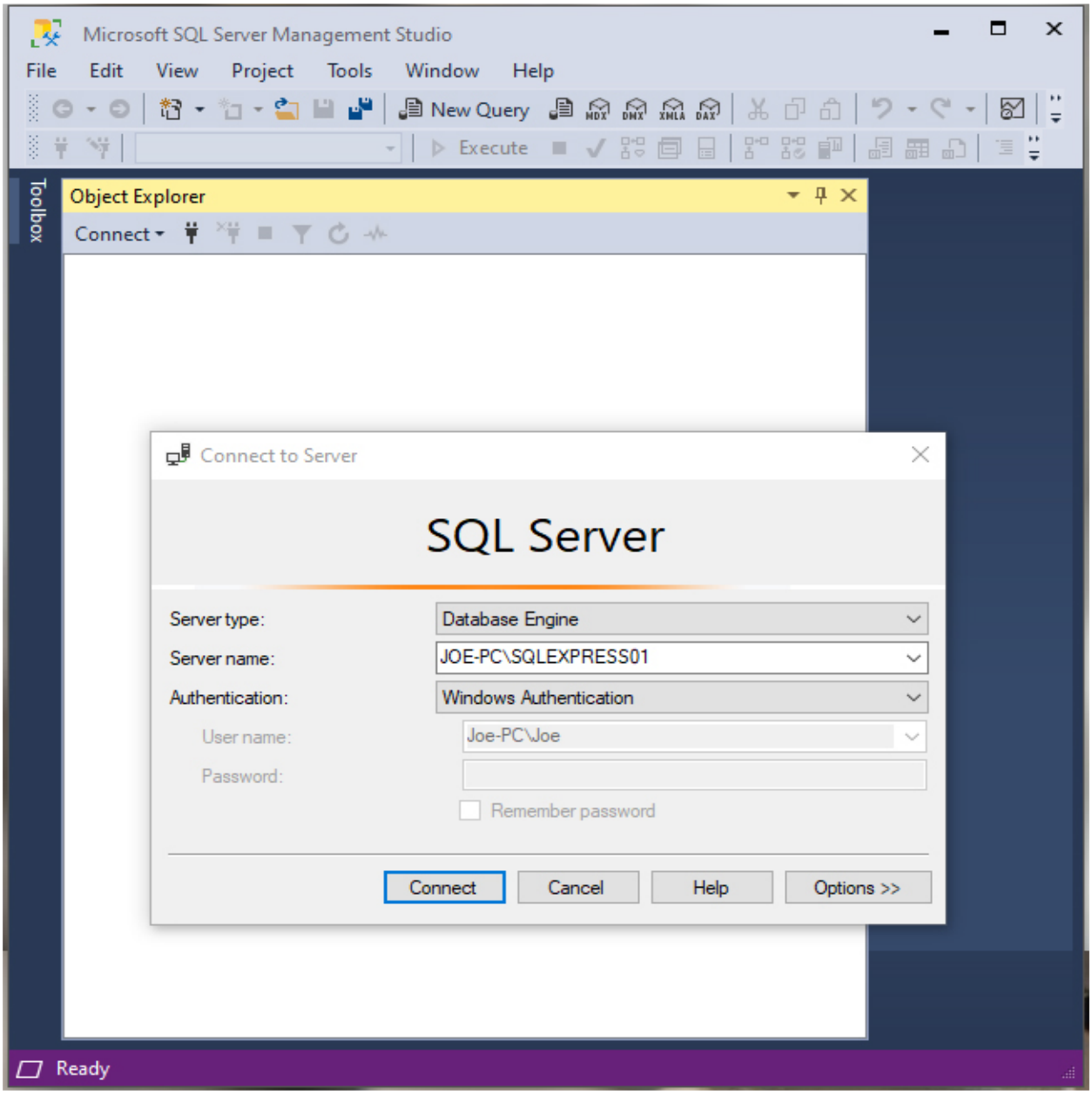
Note: From experience we don’t place the data folder in a root directory. We create a root directory named SFmanager, our standard, and then create a data folder in this directory. By maintaining this standard, we know immediately where the data folder is located. Of course, the naming convention is completely up to a particular customer but don’t create the data folder as a root folder!

Start MSSM on the original Server



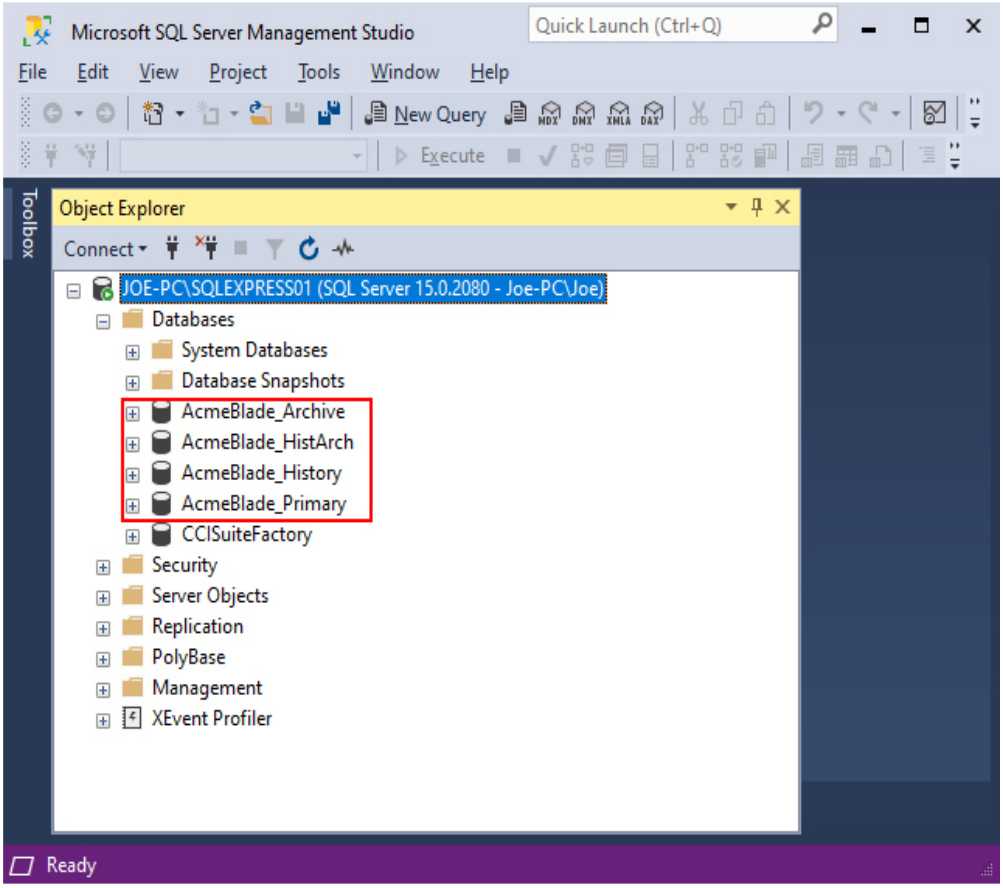
Select MSSM and the MSSM will be displayed in the following Page.

Select a SQL Server



Choose the original SQL Server and click on the Connect Button and the following Window is displayed.

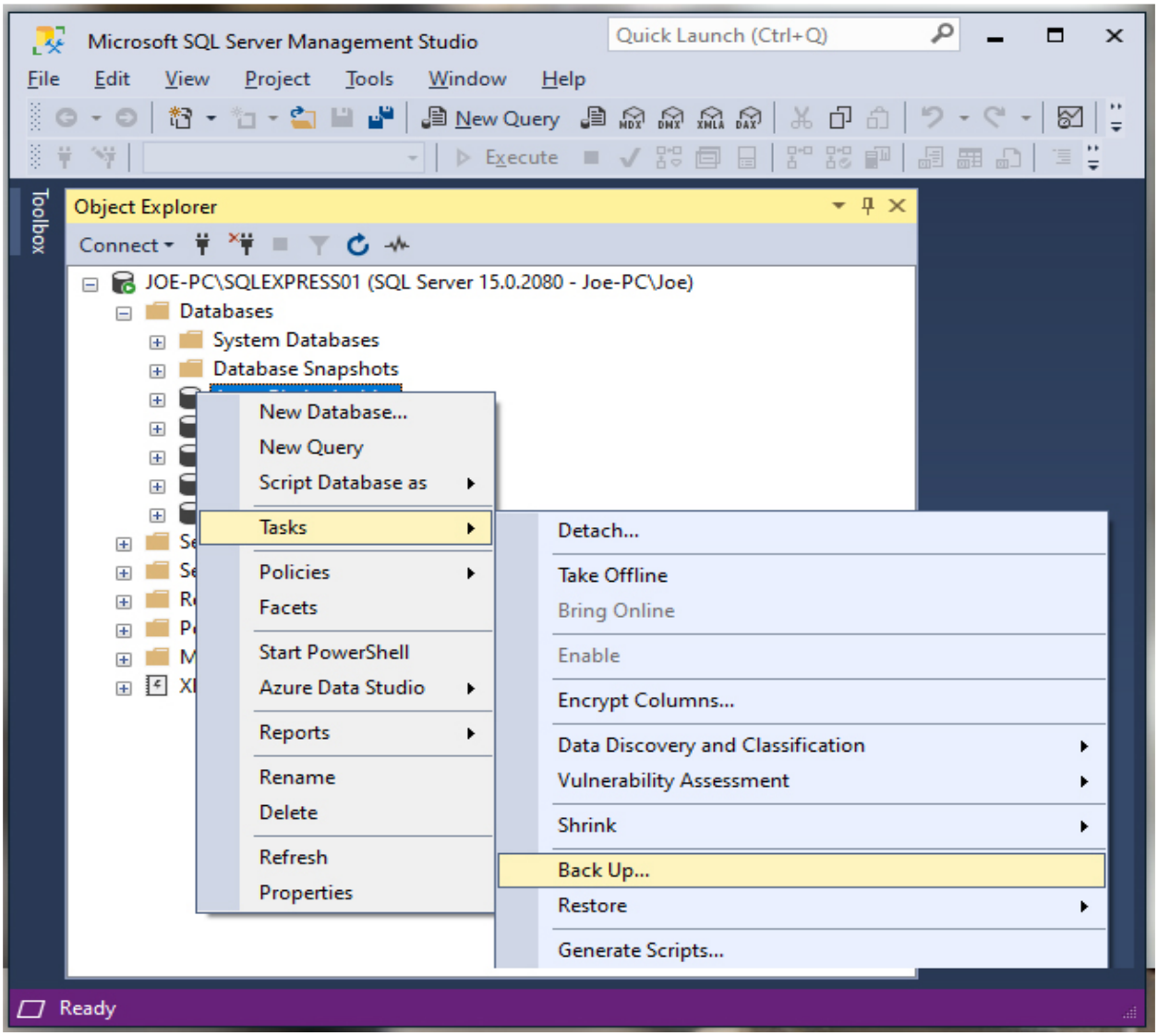
View of MSSM with Catalog Set to be moved



Note: The SQL Database Catalog Sets displayed are more likely to be named differently and there may be more Catalog Sets than shown in this document!

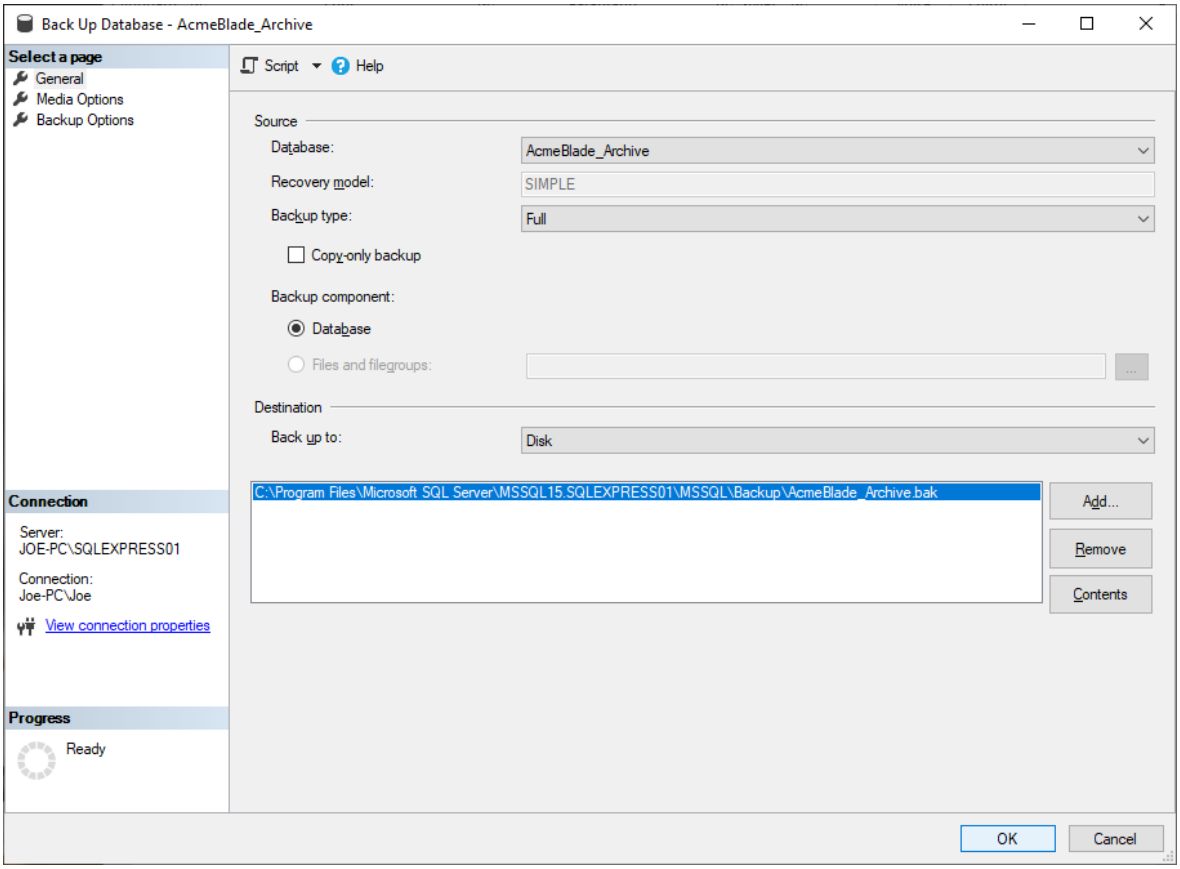
We first need to Backup all Catalog Set Items. Right click the Database **AcmeBlade_Archive** and the following Window is displayed.

Backing up the above Databases



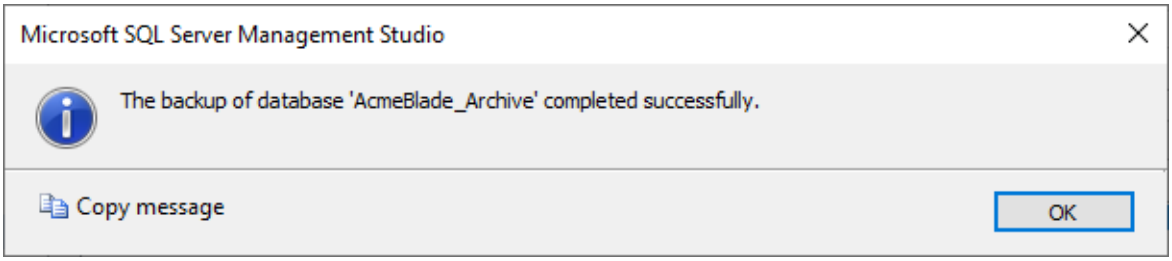
Click on the Backup Menu and the following Window is displayed.

Backup the Catalog Database AcmeBlade_Archive



Click the OK Button and the following Window is displayed.

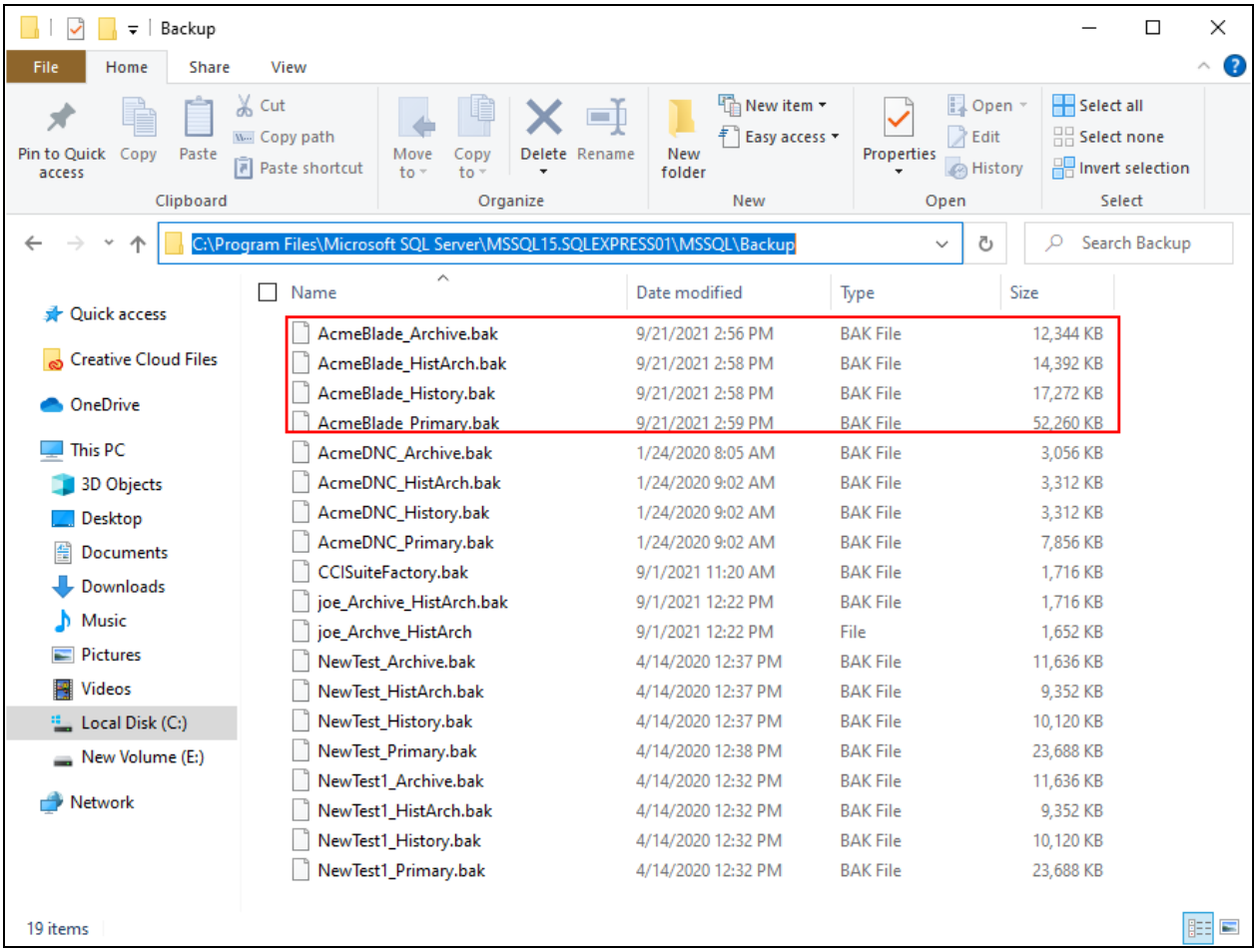
Confirmation Window of Successfully backing up Catalog Set Item



Click the OK Button and the following Window is displayed.

Note: Repeat for the rest of the Catalog Set Items.

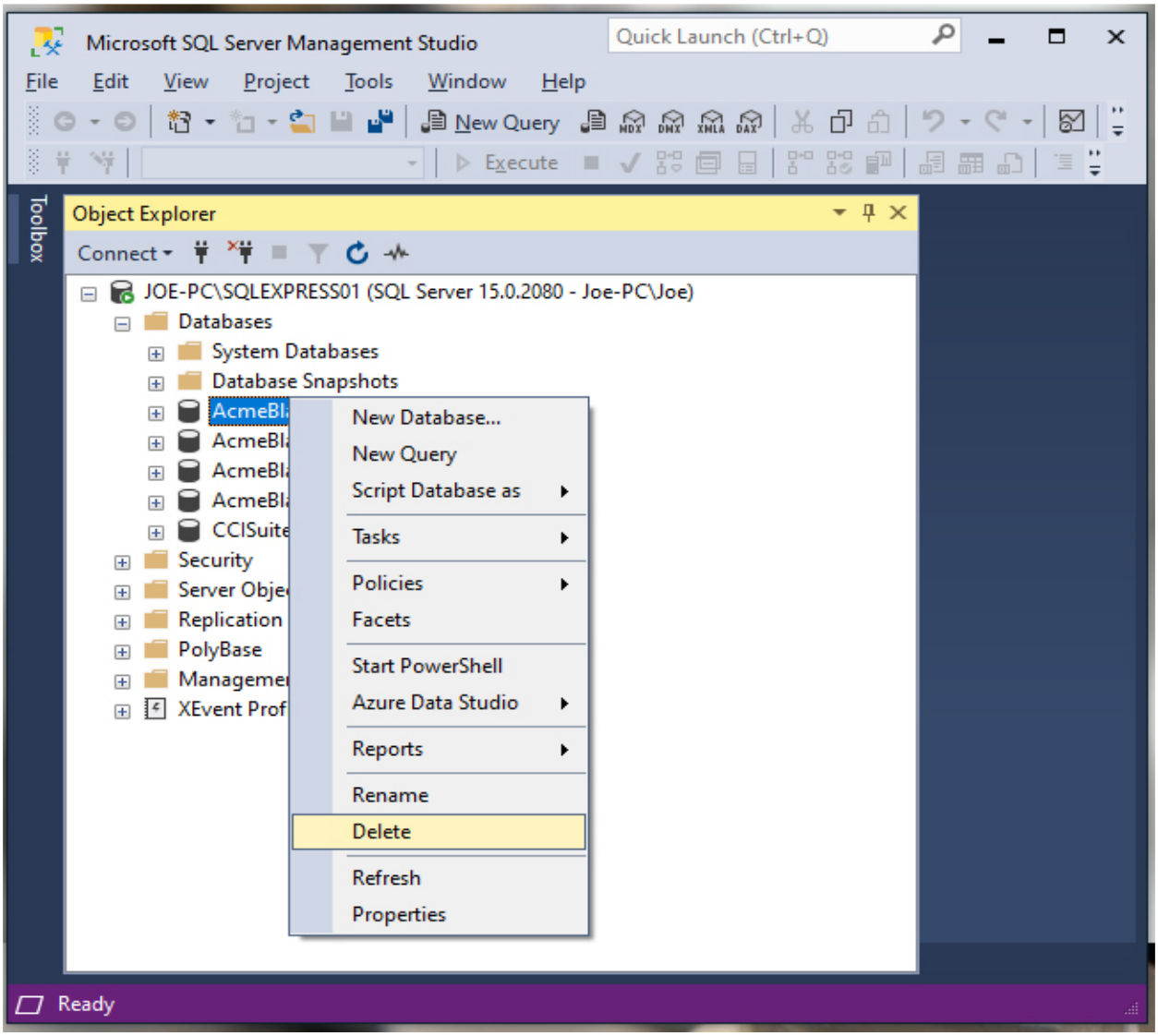
Locate the backup Catalog Set on this Server



Locate the Path where the Catalog Set was Backup. Make sure to select the most recent Catalog Set Backup. Copy this Catalog Set to new Server's Backup Path.

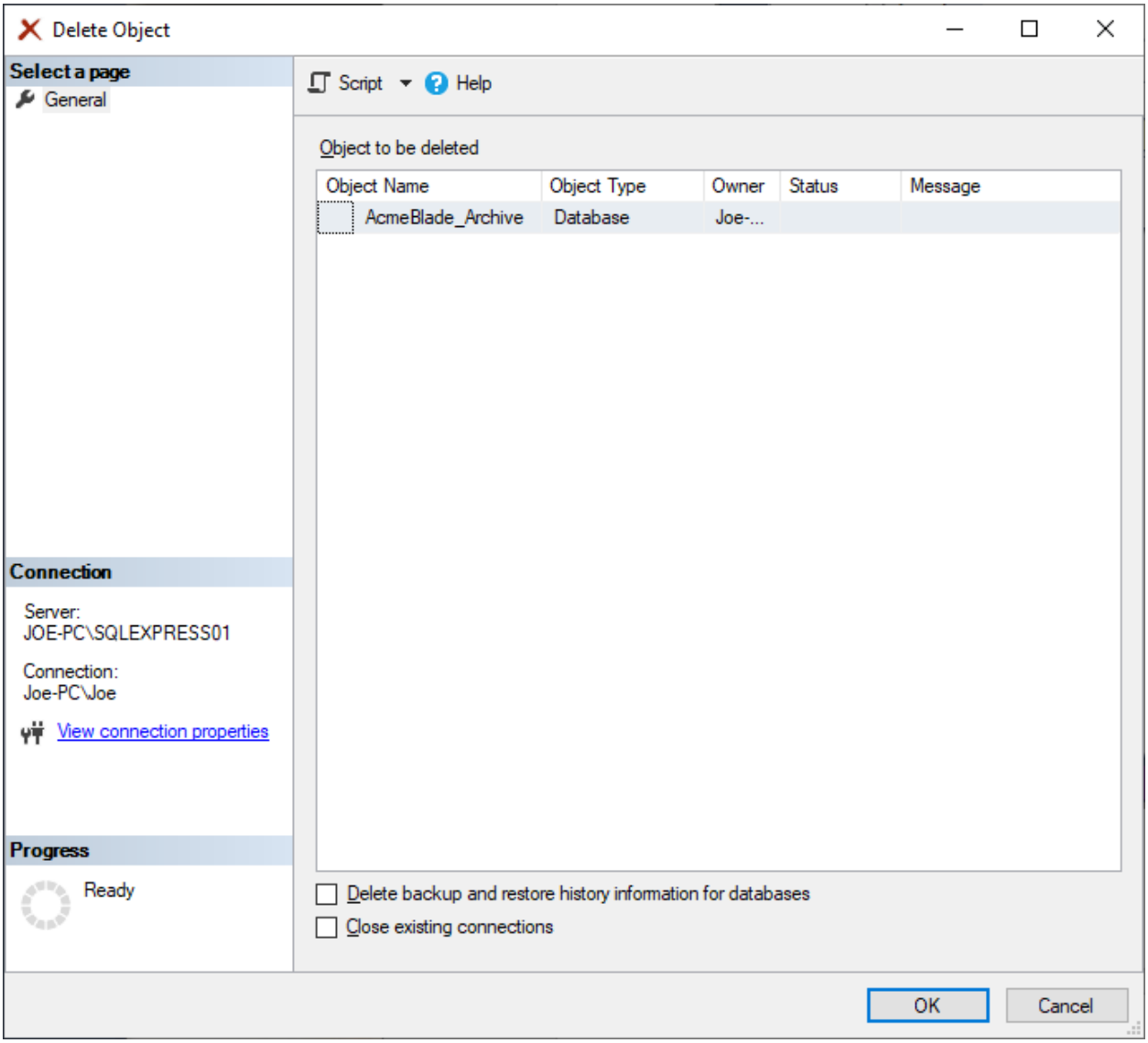
We will now Restore the Catalog Set on the new Server but first let's remove the Catalog Set we are going to be Restoring from the new Server if it exists. Most likely it will not but let's go through the exercise!

Delete old Catalog Set from new Server before Restoring new Catalog Set



On the new Server right click on the Catalog Set Item you want to delete and select the Delete Menu and the following Window is displayed.

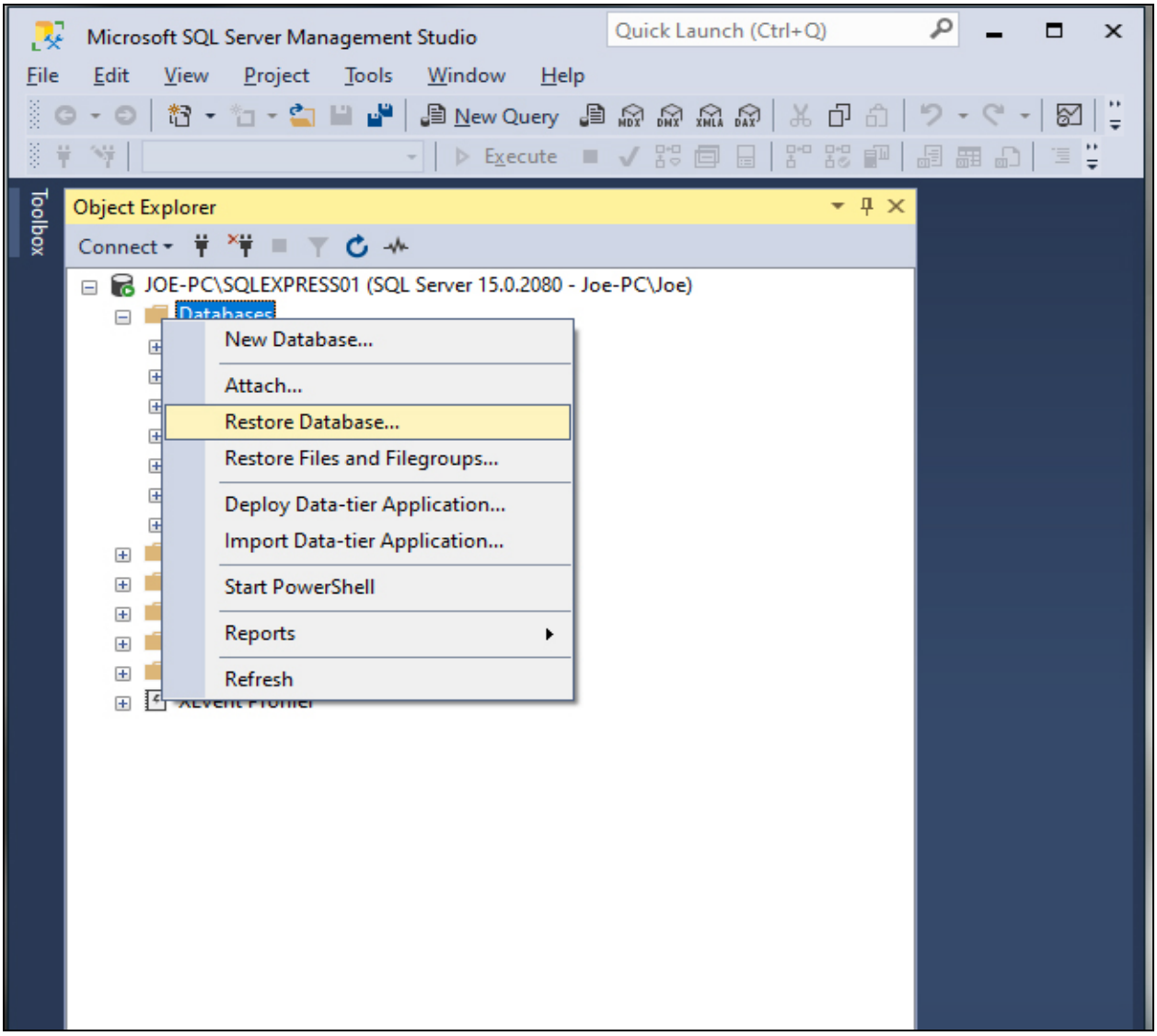
Delete old Catalog Set if Present



Uncheck all options and click the OK Button. Repeat for all the old Catalog Set Items displayed on the new Server.

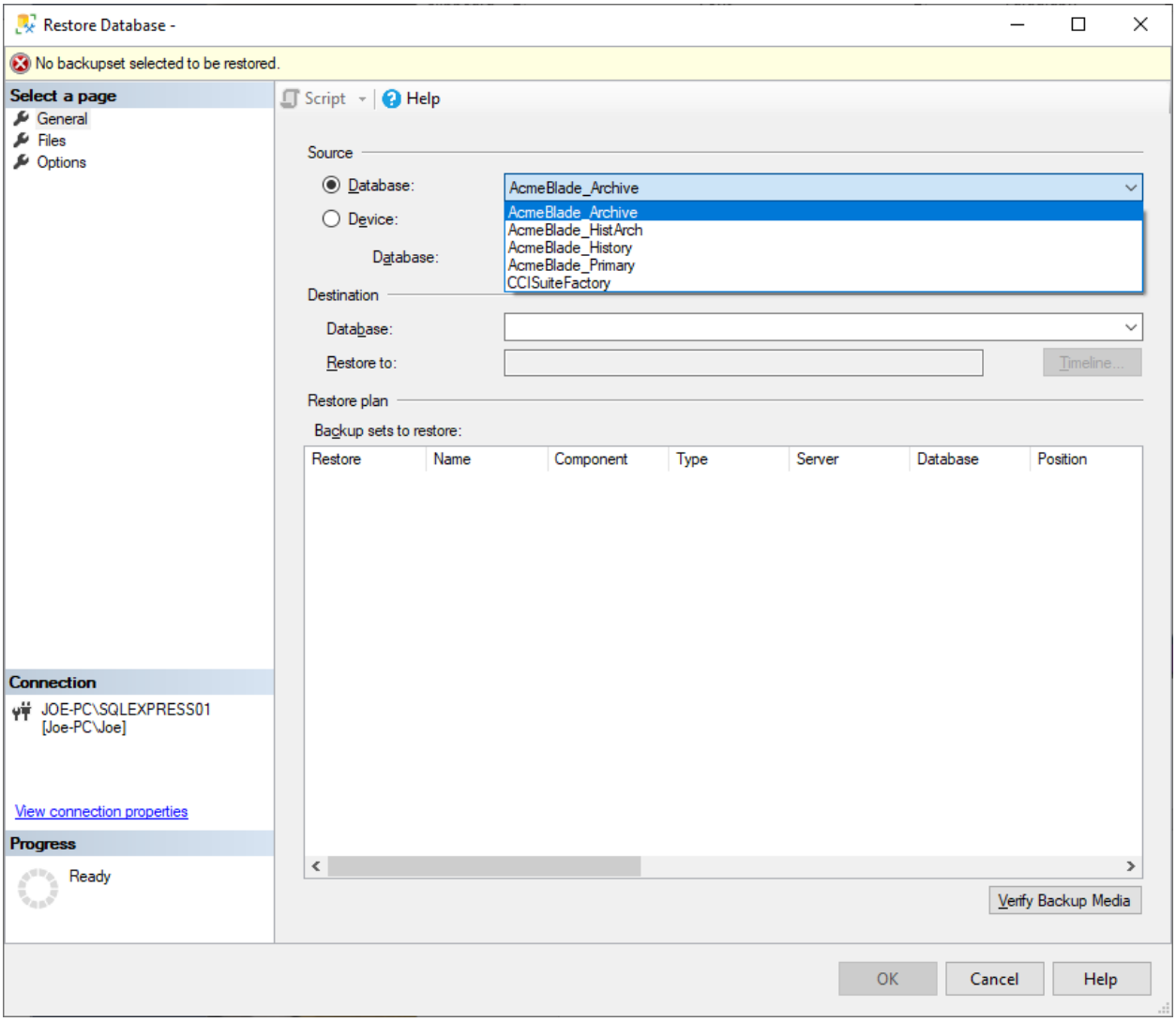
Next, we will Restore the Backup Catalog Set Items onto the new Server.

Restore Backup Copy to the New Server



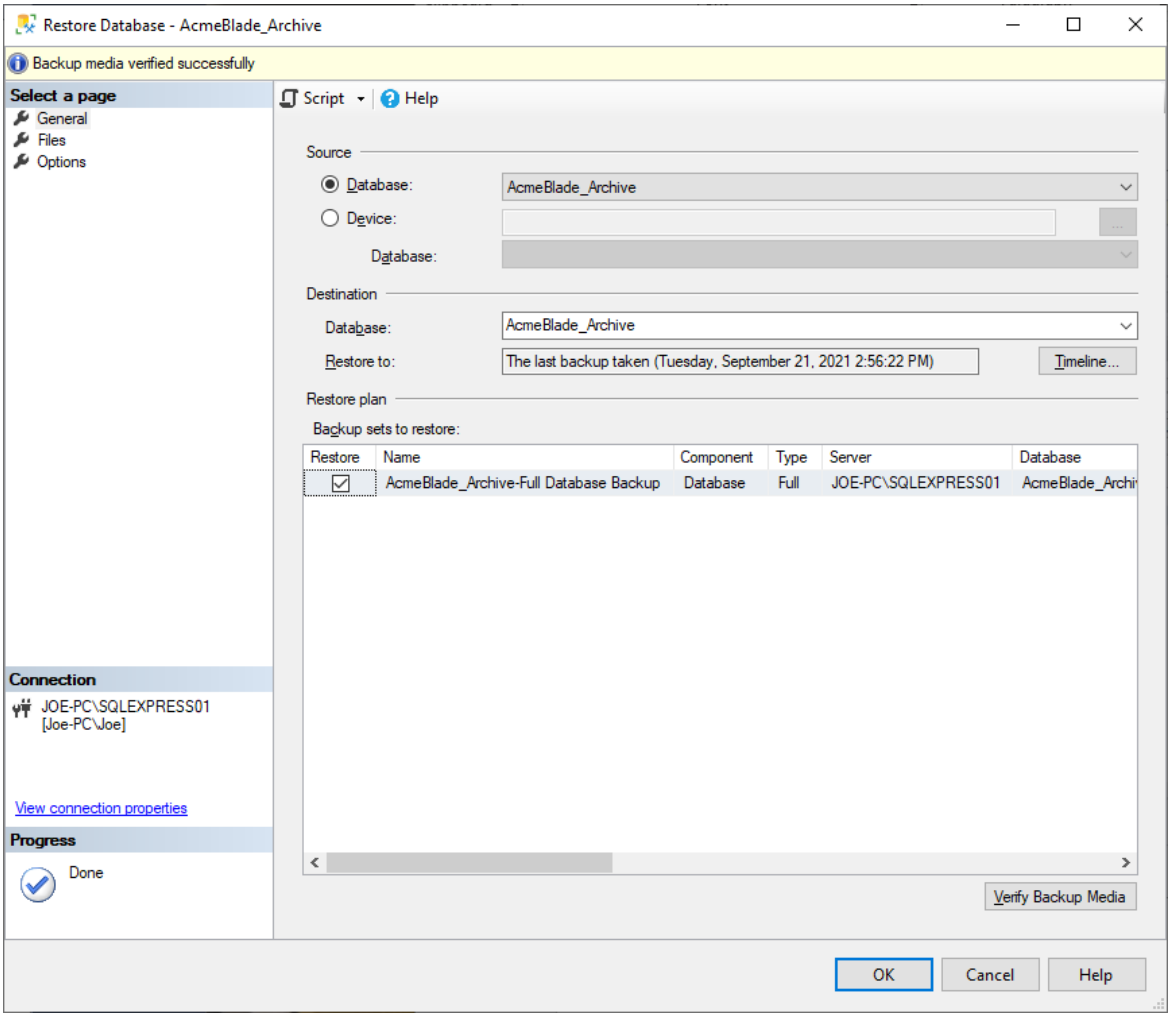
Right click on the Databases Icon and select the Restore Database… Menu and the following Window is displayed.

Restore Database Window (Verify Backup Media)



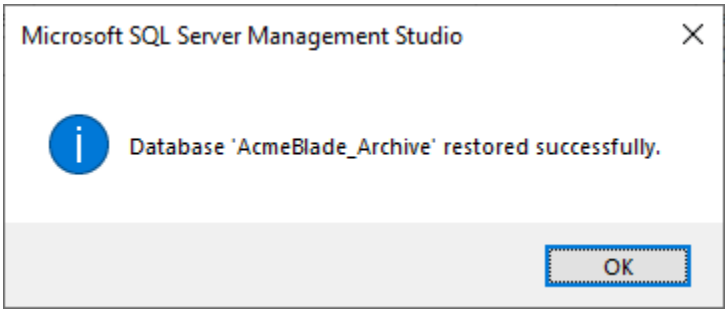
Select the Catalog Set Item you want to Restore and click on the Verify Backup Media Button and the following Window is displayed.

Restore Database Window (Verified)



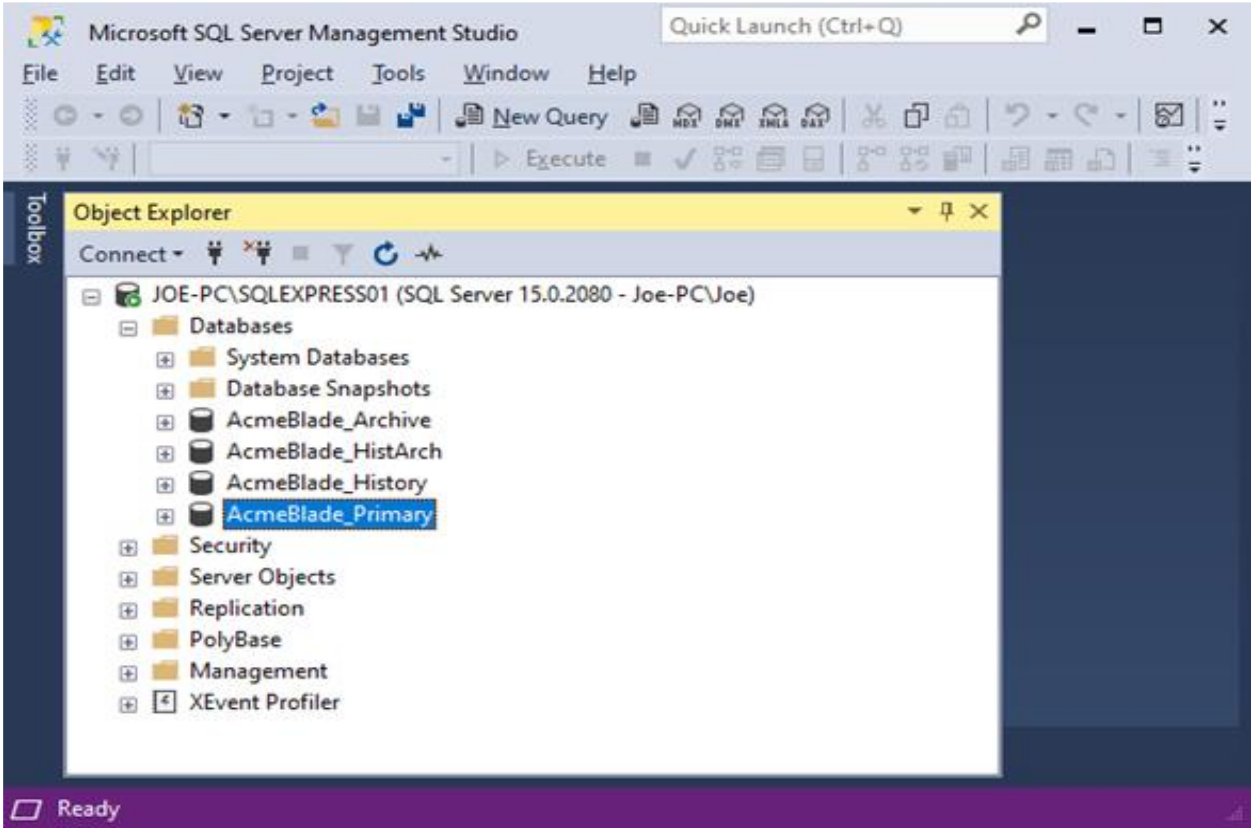
Click the OK Button to Restore Catalog Set. After a short time the following Window is displayed.

Confirmation Window Restoring the Catalog Set Item



Click the OK Button and repeat for all of the Catalog Set Items. See the following MSSM updated Window!

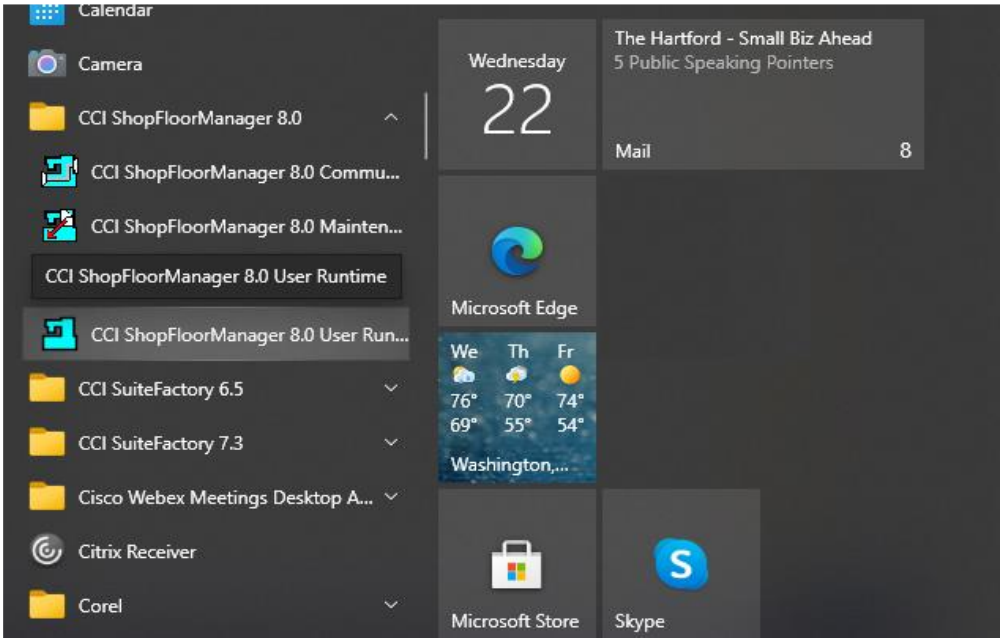
MSSM updated after Restoring the Catalog Set



We are now ready to install either the SuiteFactory or ShopFloorManager Installation Set of the same Version that was installed on the old Server! It is important to use the same Version that matches the Restored Catalog Set!

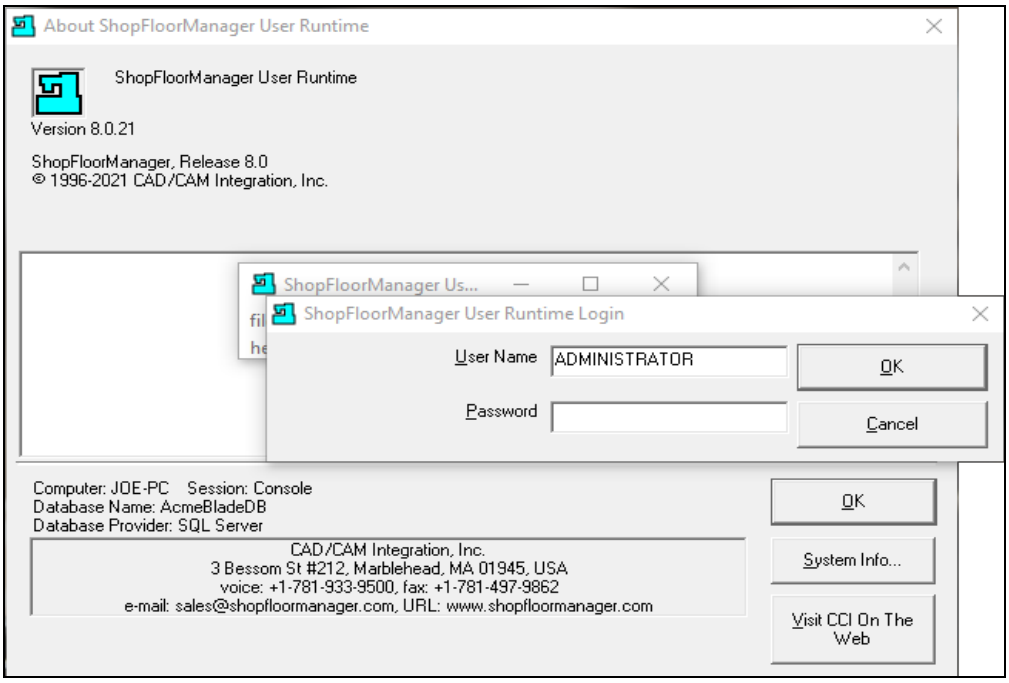
For this Demo we have installed the current version of ShopFloorManager on the new Server which was installed on the old Server when the Backup of the Catalog Set was created.

Start Menu (CCI ShopFloorManager Runtime)



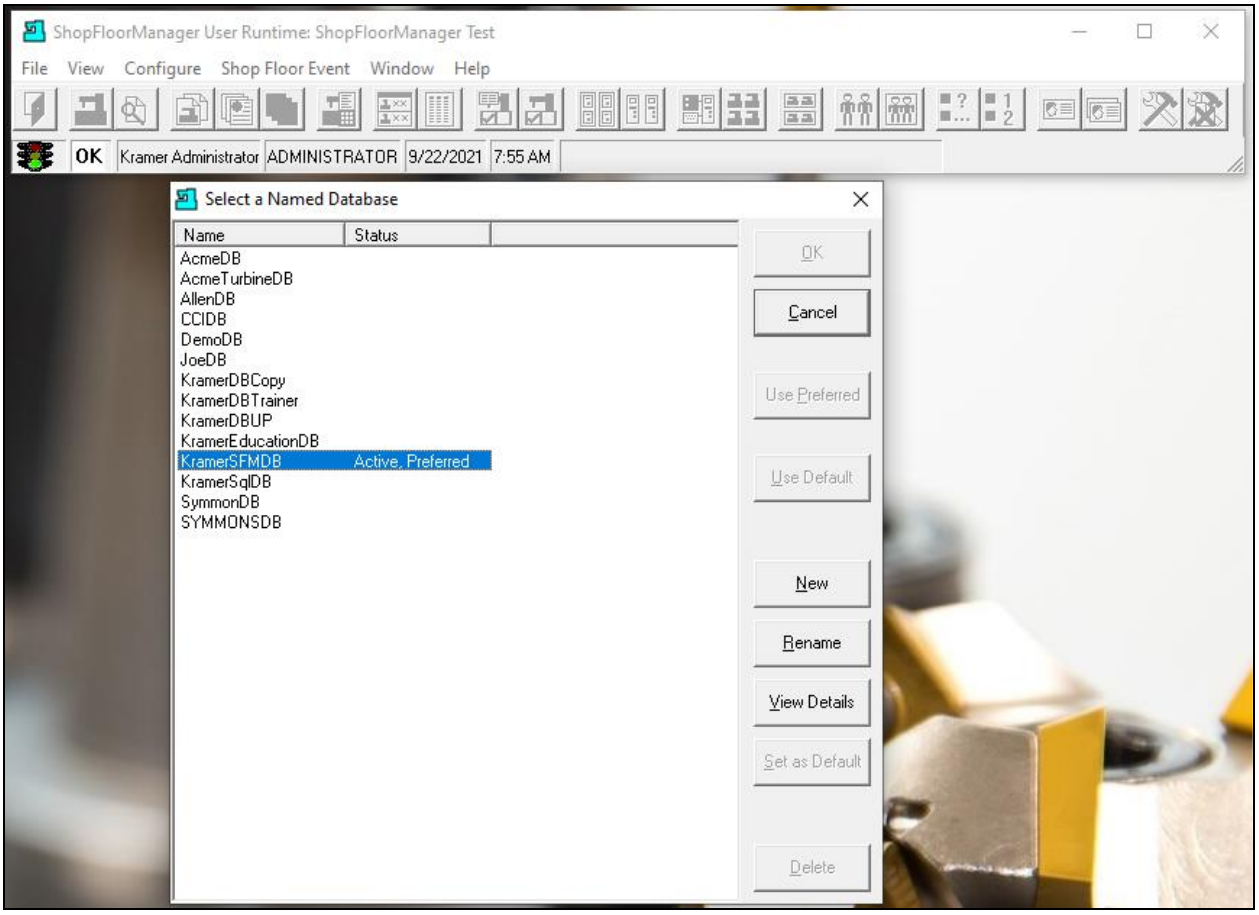
Click on the CCI ShopFloorManager 8.0. or SuiteFactory SF73… depending on the version installed on the new Server. The following Window is displayed.

ShopFloorManager Login Screen



Add a password if needed and click the OK Button and the following Window is displayed.

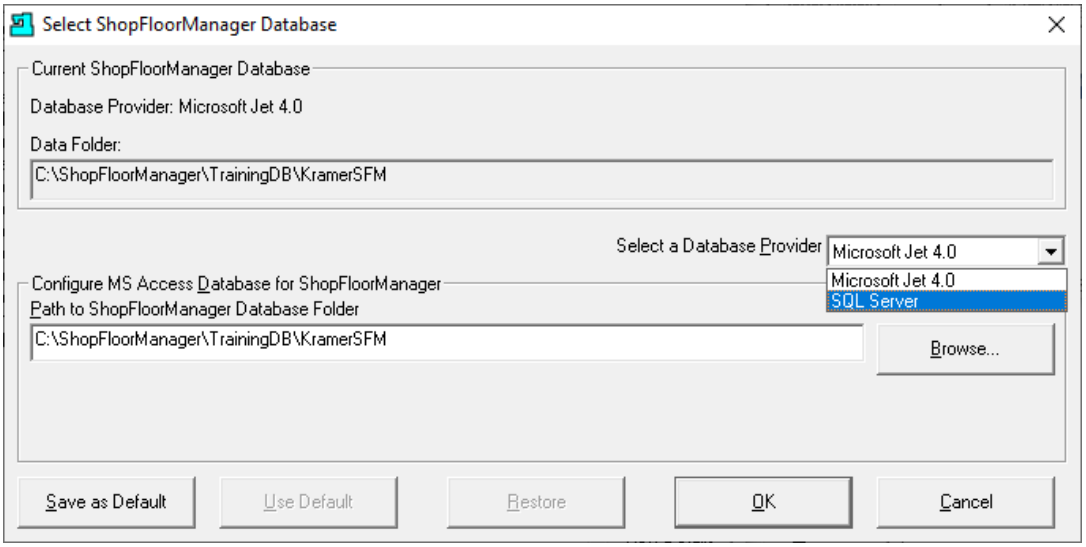
ShopFloorManager Runtime



Click on the Configure Menu on ShopFloorManager Runtime and the above Window is displayed. You may see a blank Window!

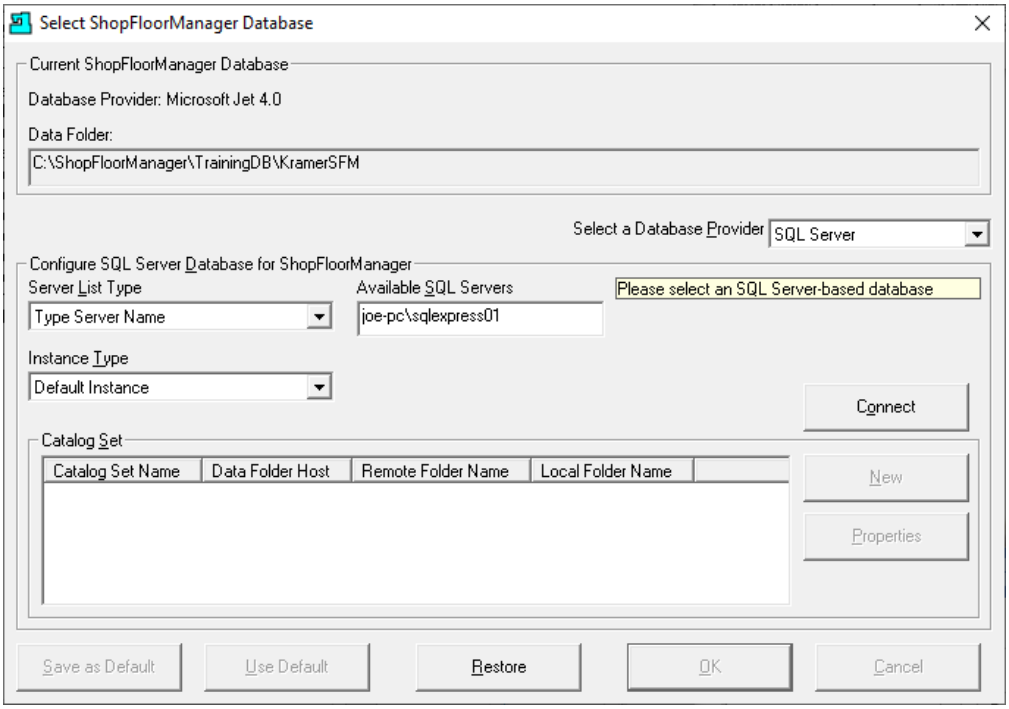
Click on the New Button and the following Window is displayed.

Select ShopFloorManager Database Window



Click on the “Select a Database Provider” drop-down list and select SQL Server and the following Window is Displayed.

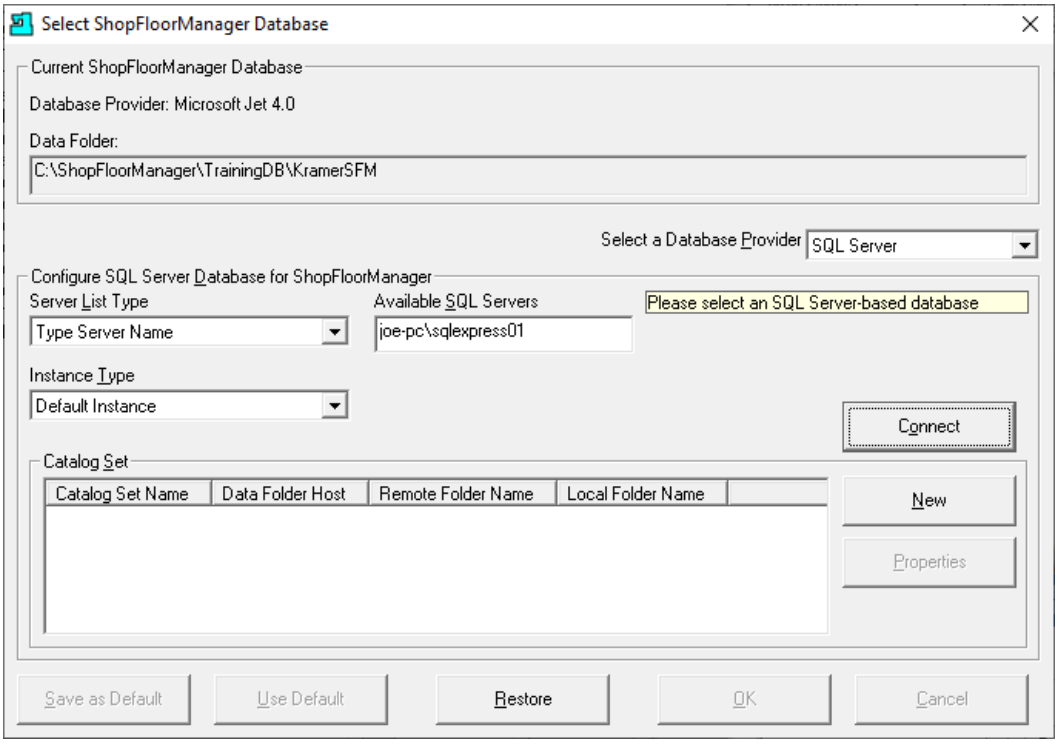
Available SQL Servers



Select the appropriate SQL Server from the “Available SQL Servers” drop-down list if available. If not enter the SQL Server name in the “Available SQL Server” Text Box! This name can be found on the MSSM Application!

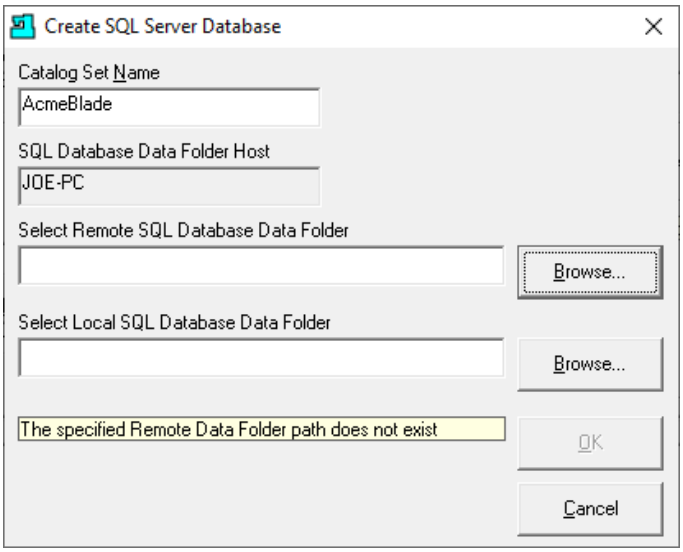
Click the Connect Button and the following Window is displayed.

Select ShopFloorManager Database (New Button)



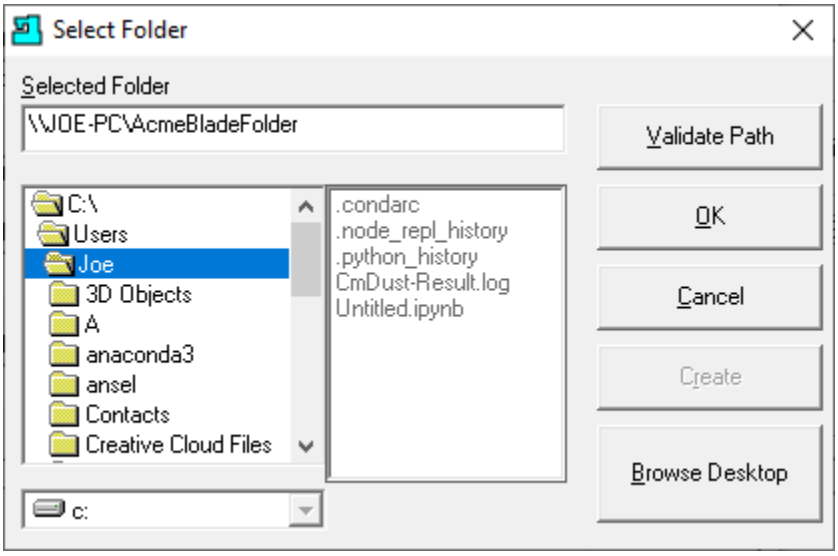
Click the New Button and the following Window is displayed.

Create SQL Server Database



Important. Type in the Catalog Set Name just as on the old Server. Click on the “Select Remote SQL Database Data Folder” Browse Button!

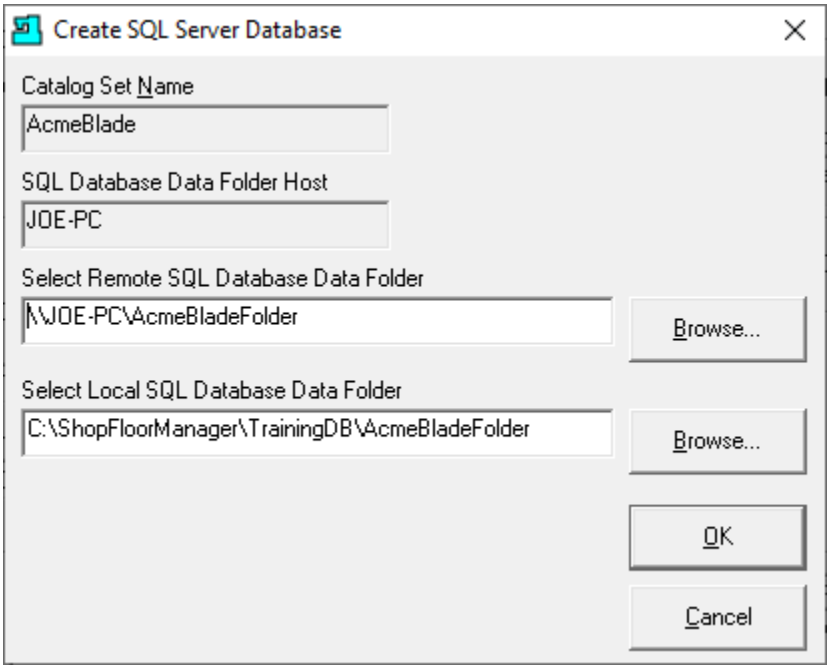
Select the Shared Data Folder



You will need to copy the Shared Folder name into the "Selected Folder" Text Box and click the Validate Path Button then click the OK Button.

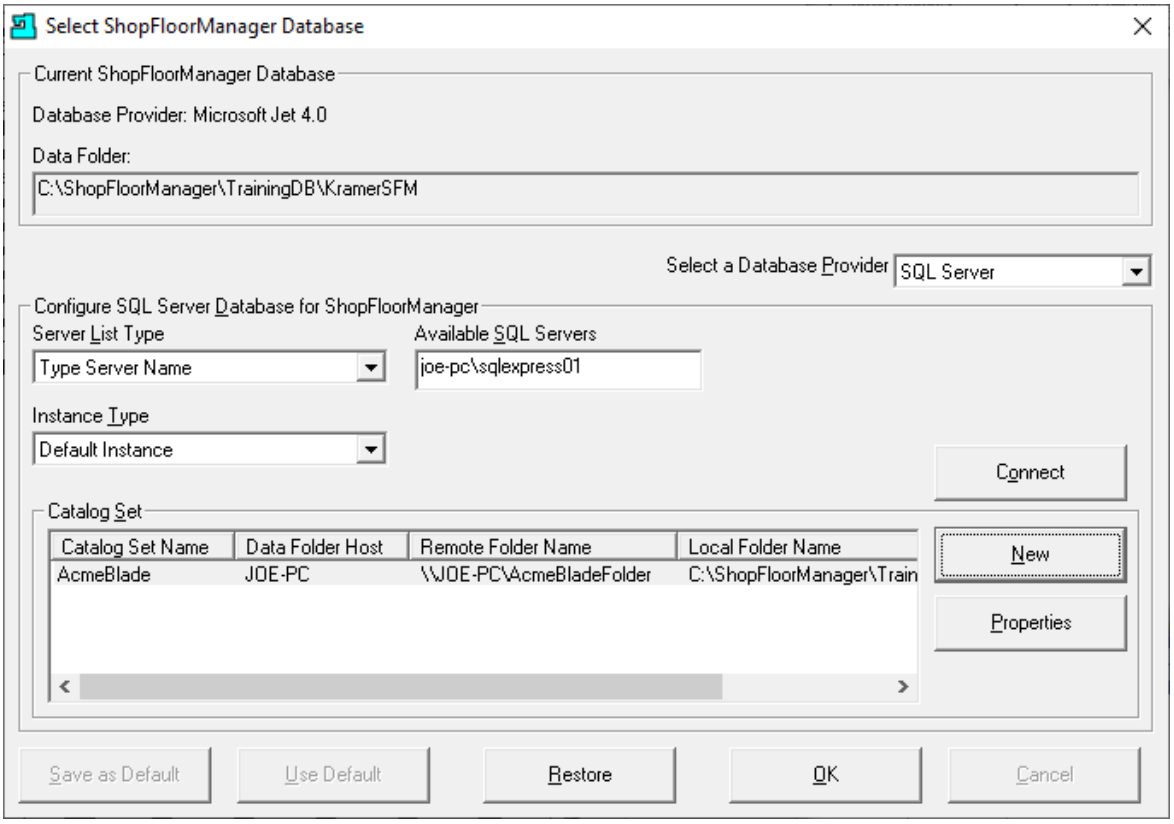
Next click on the "Select Local SQL Database Data Folder" Browse Button and locate the Data Folder. Click on the OK Button and the following Window is displayed.

Browse for the local folder



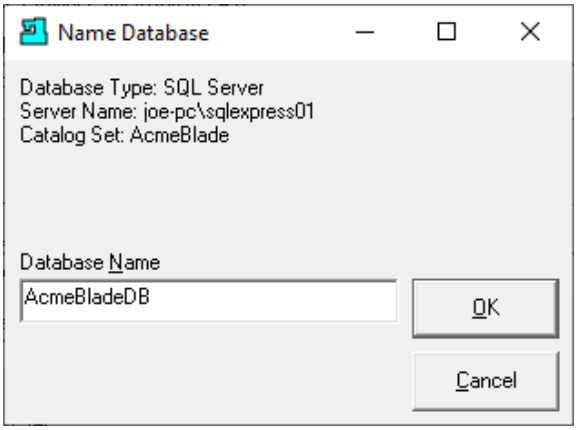
Click OK Button and the following Window is displayed.

Select ShopFloorManager Database Window (OK)



Assuming there are no problems the Window above is displayed. Click the OK Button and the following Window is displayed.

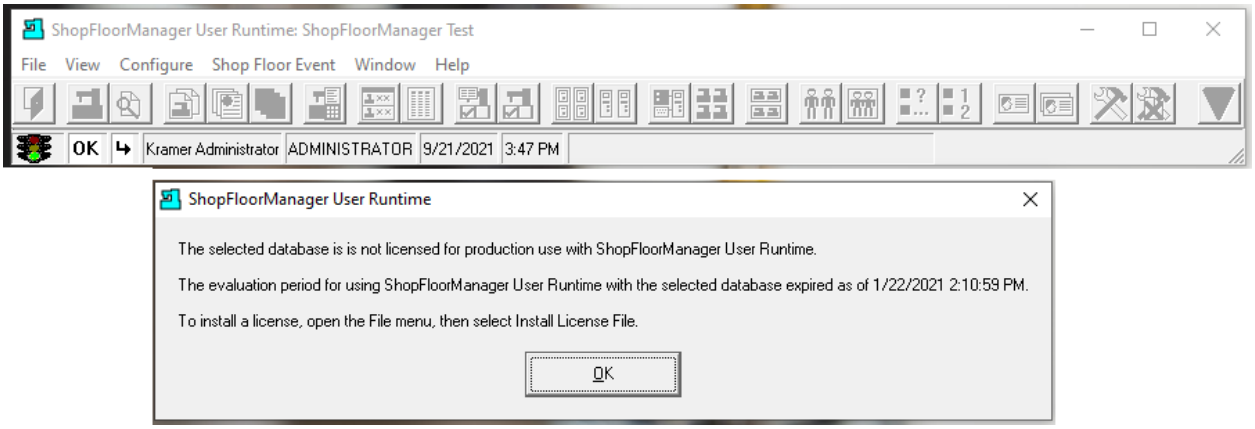
Name Database Form



Enter a local name for the database. The choice has no effect as it is just informational!

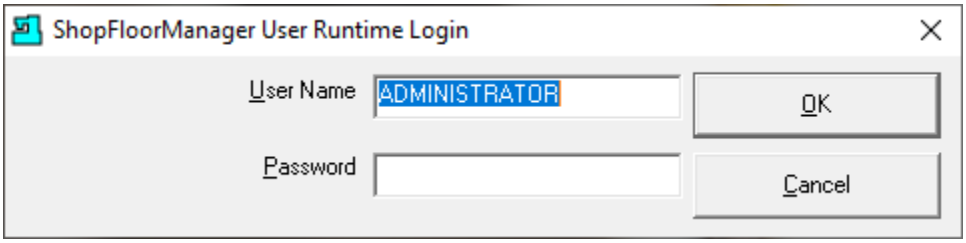
Click the OK Button and the following Window is displayed.

ShopFloorManager Runtime



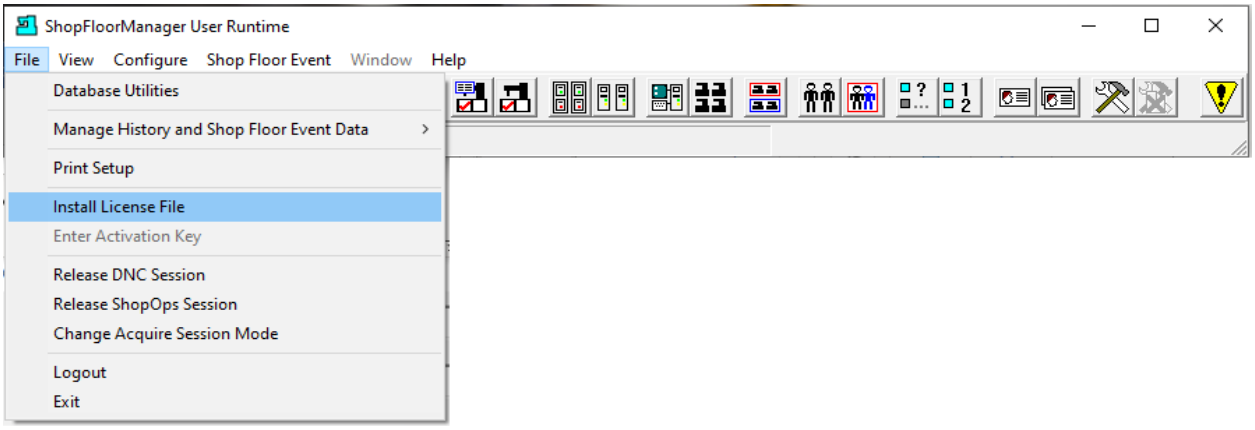
Click the OK Button and the following Window is displayed.

ShopFloorManager Login Window



If the new Server is on the same network as the old Server, you will need to shut down the old Server to avoid conflicts! Enter a password if required, it will be the same as the old Server, and click the OK Button and the following Window will be displayed.

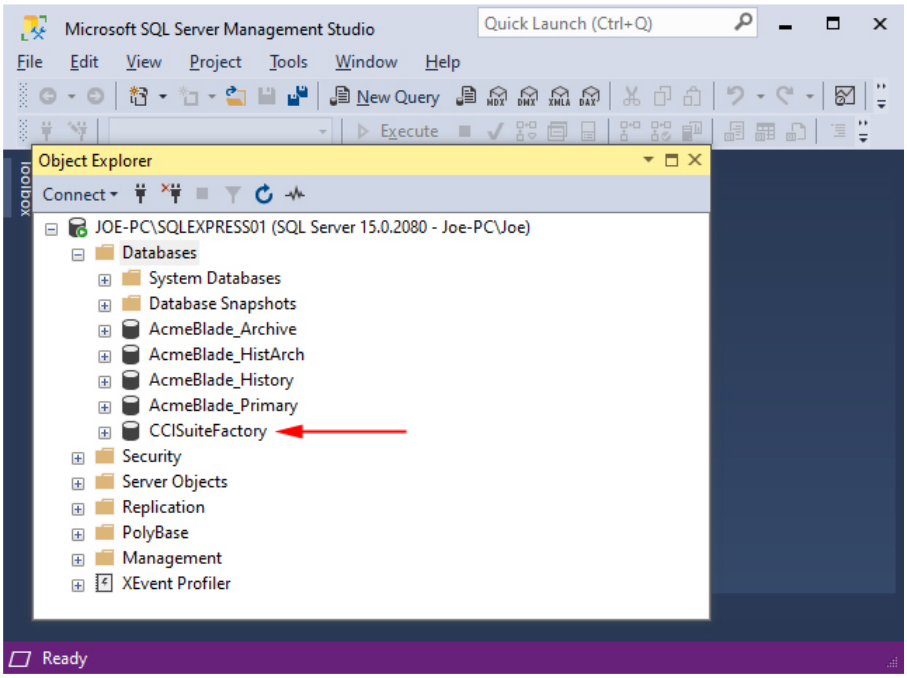
ShopFloorManager Runtime ready to Run



The new Server is updated. Complete the Tasks mentioned at the beginning of this document. See the next page for an updated MSSM Application!

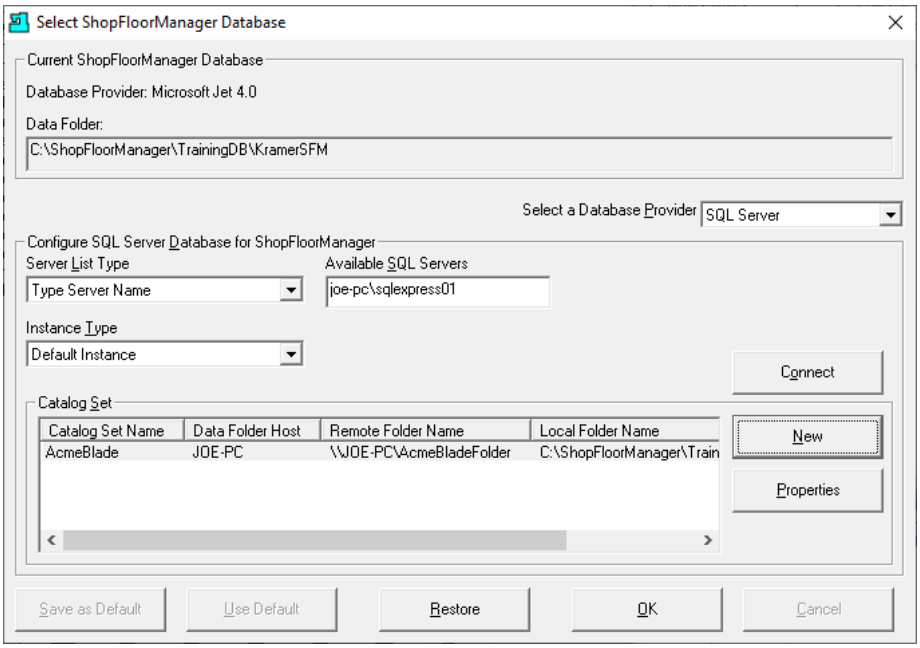
Once the system is up and running you can update the software version as needed and install the new License & Key Files.

View of the updated MSSM Application



Notice that an additional Database, CCISuiteFactory, has been added. This is used by ShopFloorManager to Record all ShopFloorManager SQL Databases on this Server and to retrieve this information to display all existing Catalog Sets whenever the following Form is viewed!

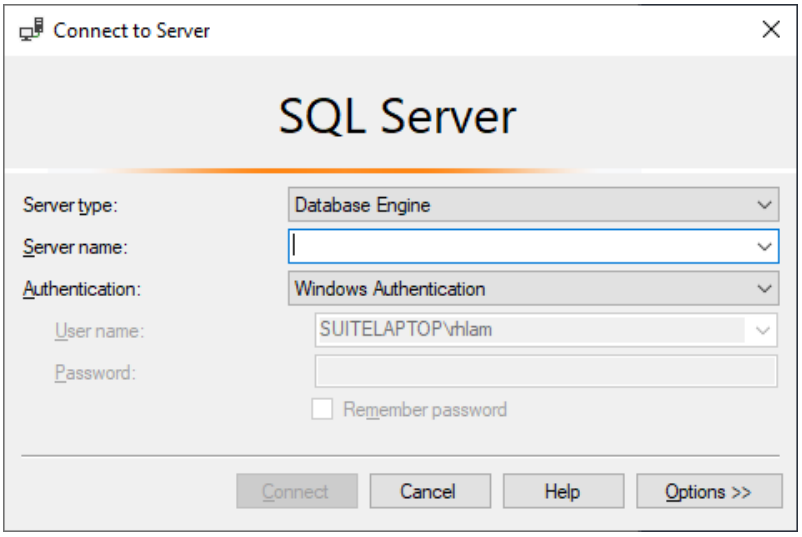
Select ShopFloorManager Database Window



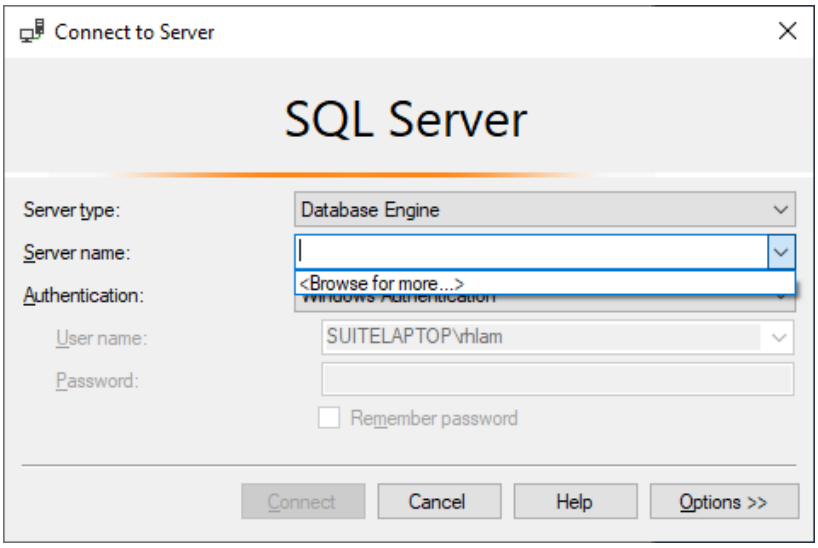
This section is complete

Making a user a SQL Server System Administrator (A Promotion for Me?)

Startup Microsoft's SQL Server Management Studio.

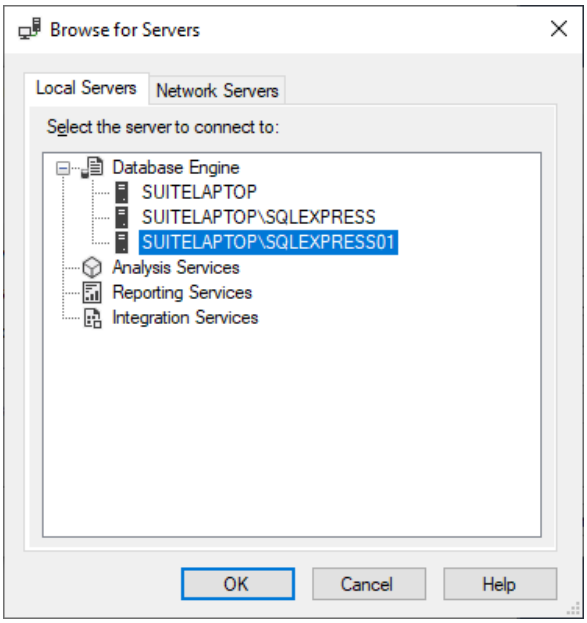


Enter the Server name. Click on the down arrow. If your server name shows up then select it.

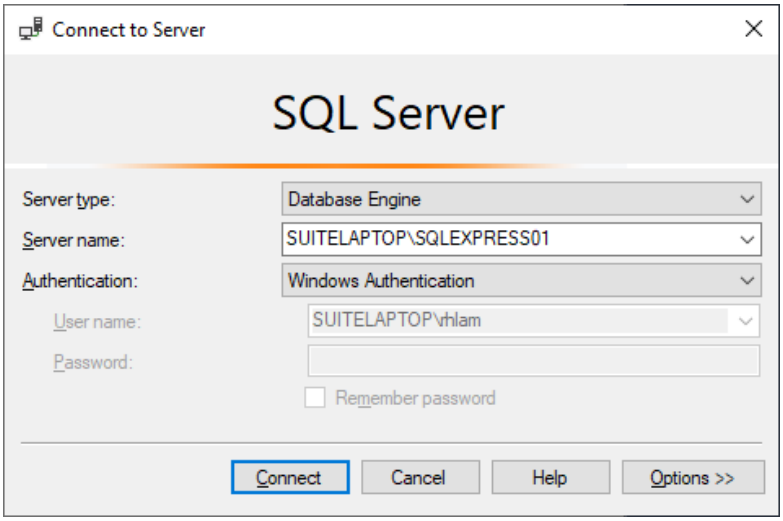


If not, click 'Browse for more'.

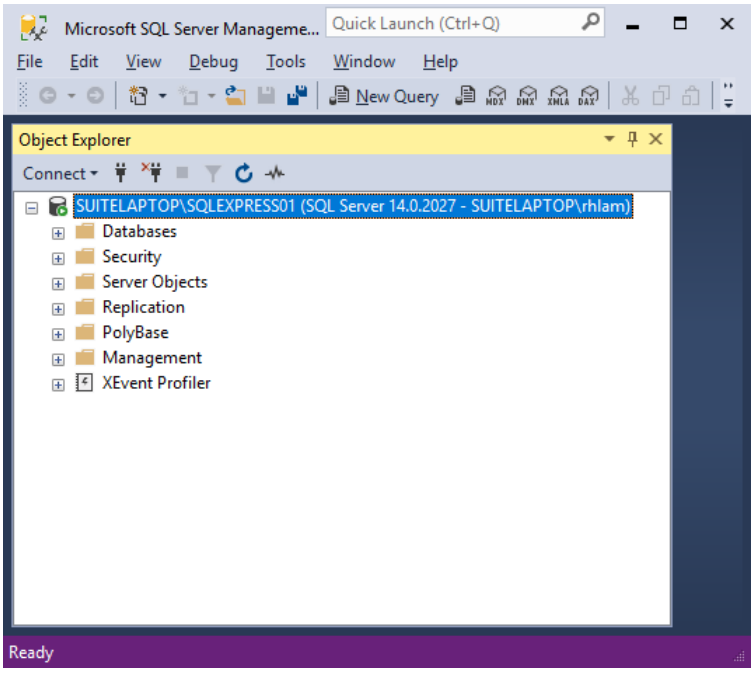
Expand ‘Database Engine’ to view a list of available instances of SQL Server. You will probably have only one.



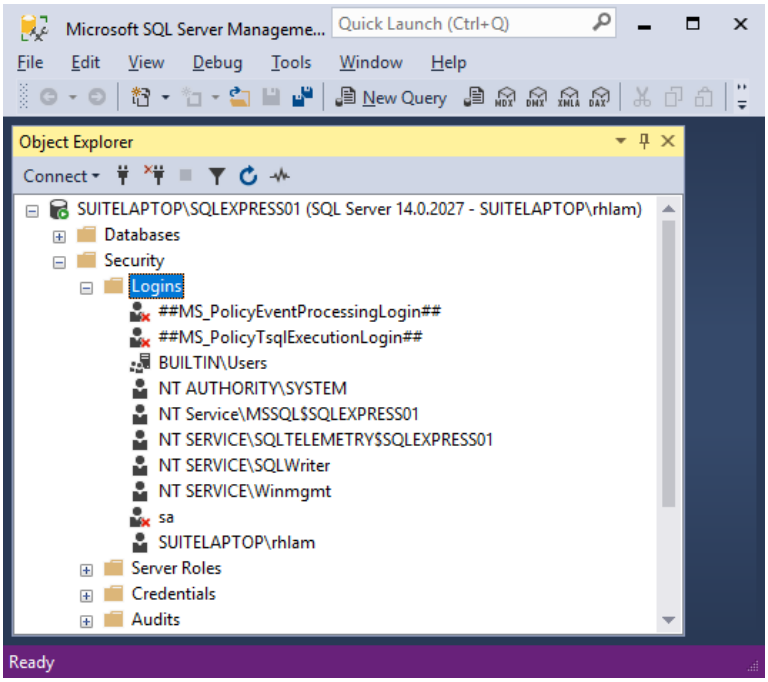
Select the one you require and click OK.



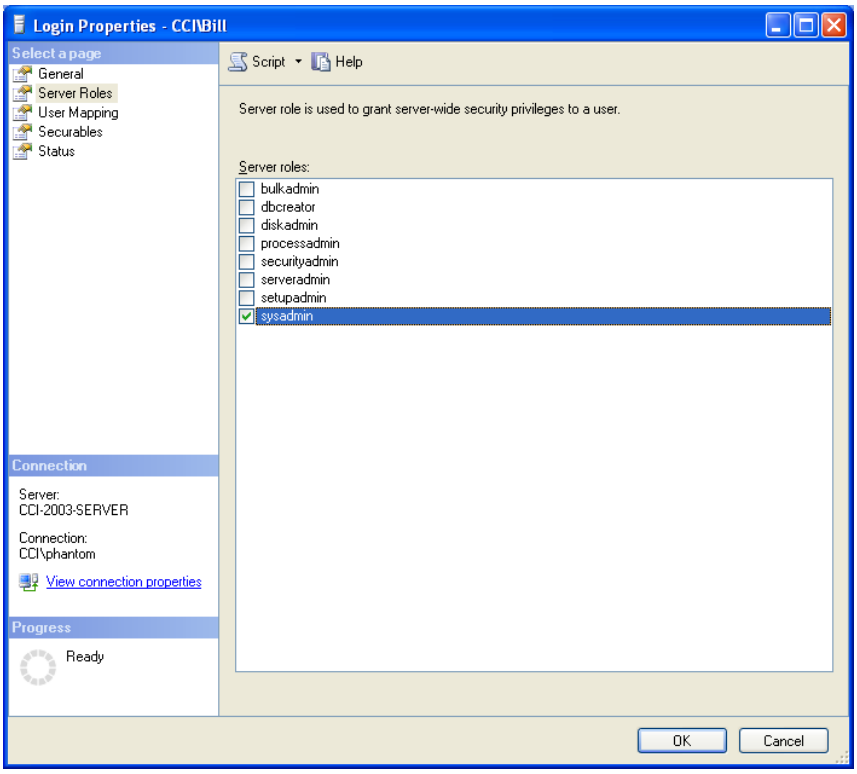
Select Window Authentication and click Connect.



Navigate to the Logins object of the Security folder for the instance of Microsoft SQL Server where the SuiteFactory databases are located.



Select the user you wish to make SQL Server System Administrator. Double click on that user, “SUITELAPTOP\rhlam”, in this example, to get to its Properties. Select the Server Roles tab.



Checkmark “sysadmin”. Click OK.

Repeat for any other users or groups you wish.

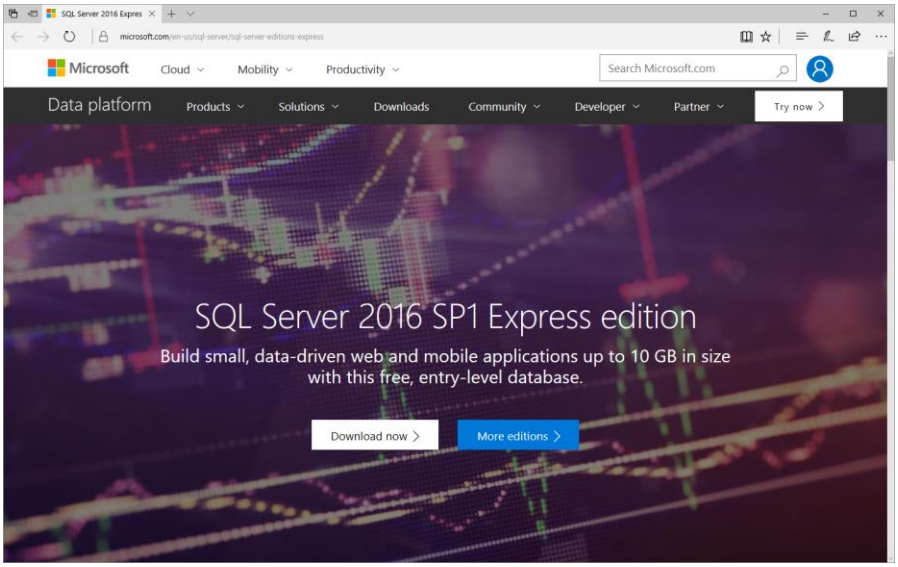
END Appendix A

Install SQL Server 20xx Express, SSMS & ShopFloorManager (You can ask in a Nicer Way!)

Click on the following Link: (**Graphic may display older Version!**)

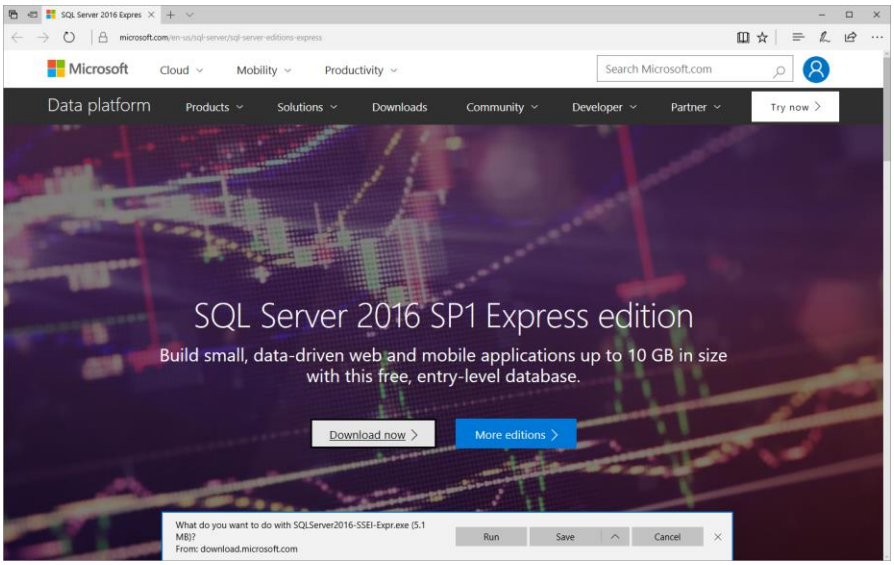
[Download Microsoft® SQL Server® 2019 Express from Official Microsoft Download Center]

Install SQL Server 2019, SSMS & ShopFloorManager



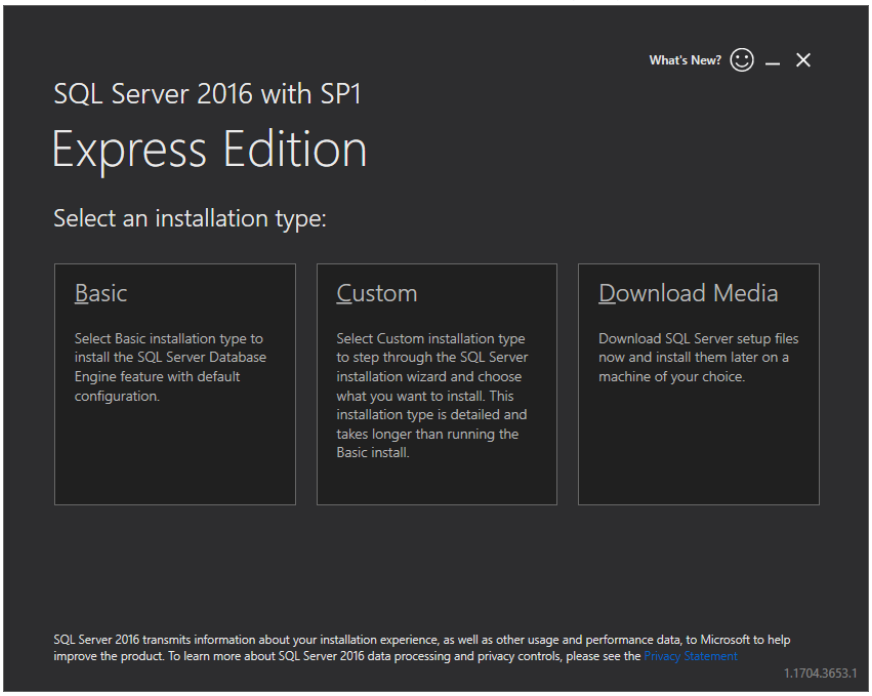
Click on the Download now Button and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (Run)



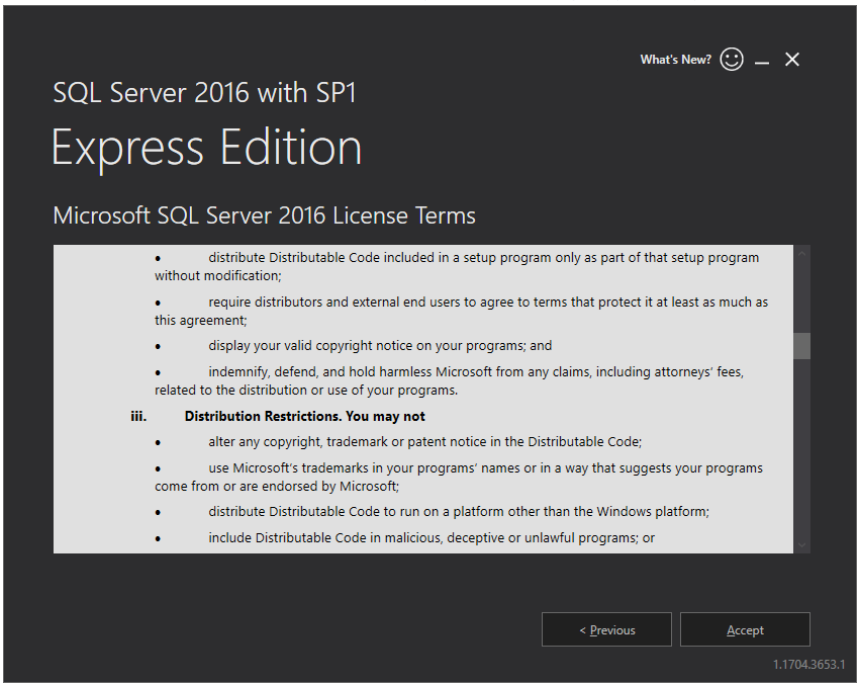
Click the Run Option and the following Window is displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (Installation Type)

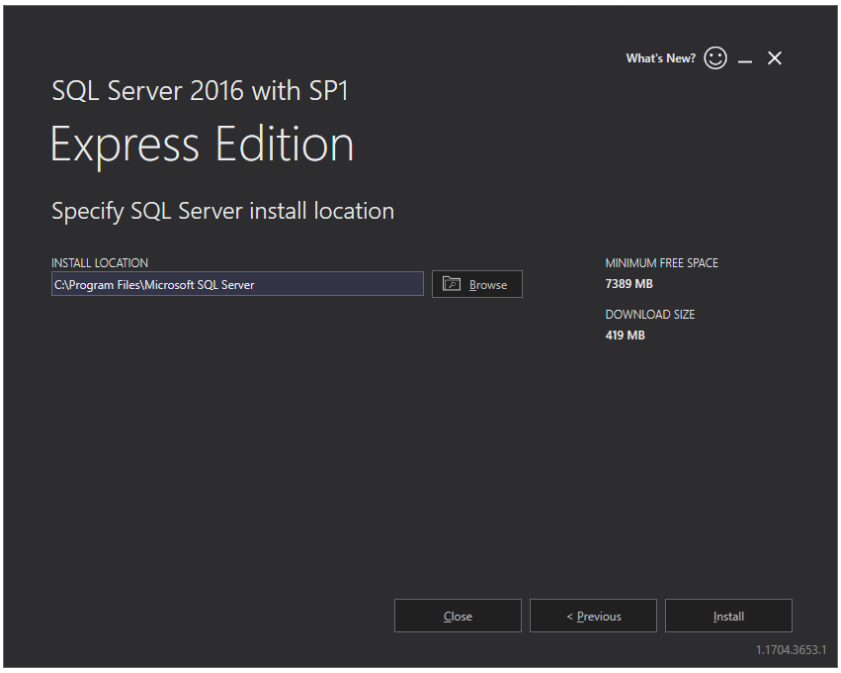


Click the Basic Option and the following Window is displayed.

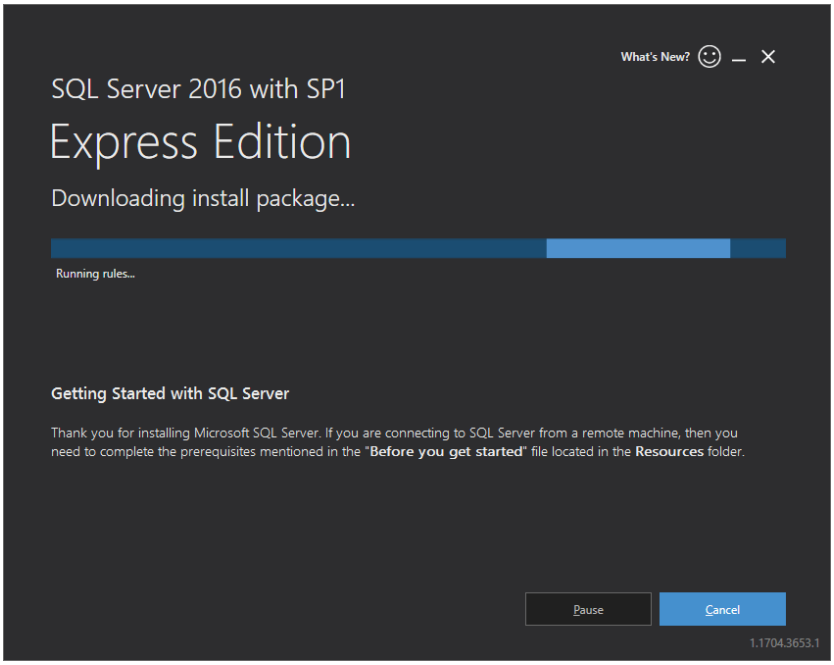
Install SQL Server 2016, SSMS & ShopFloorManager (Accept)



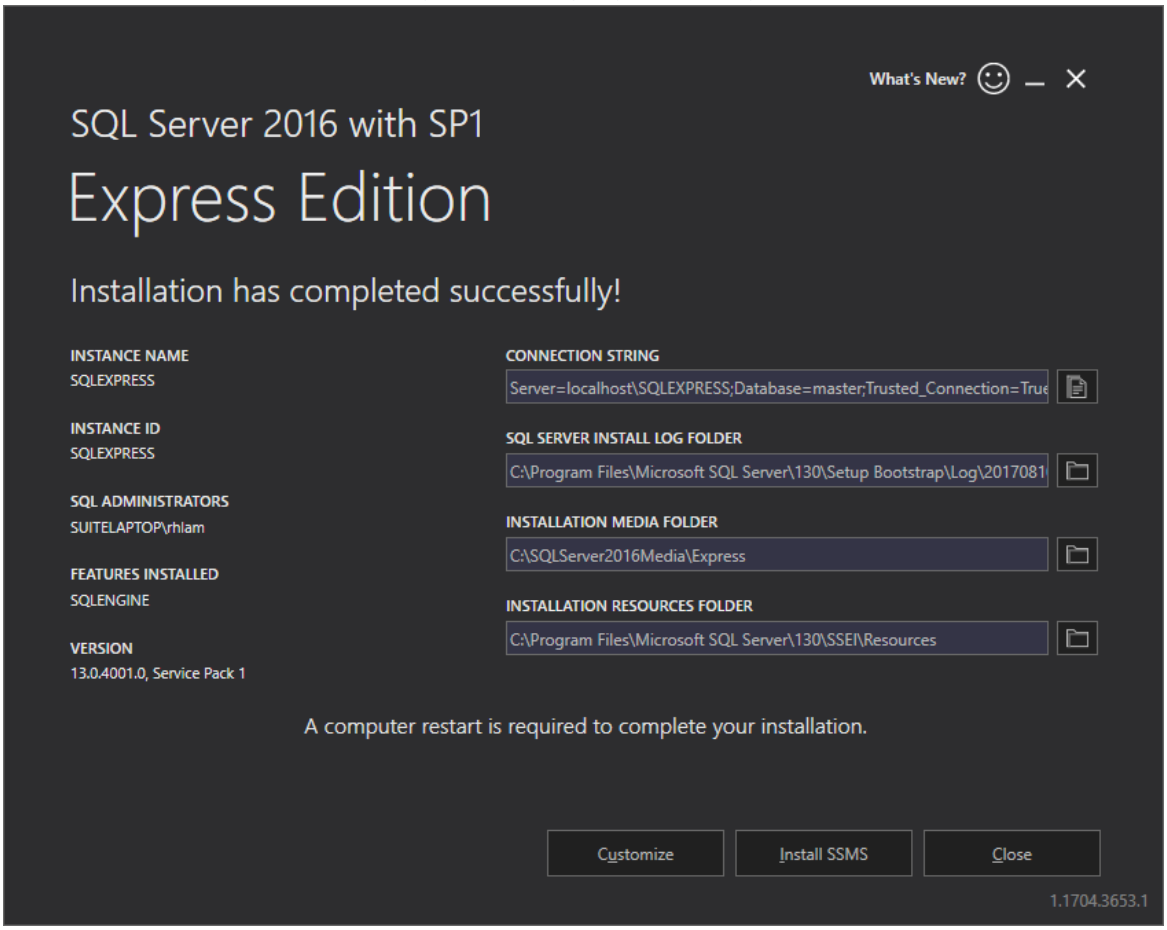
Click on the Accept Button and the following Window is displayed.



Click the Install Button and the following Window will be displayed.



Let the Installation continue until the next Window is displayed.

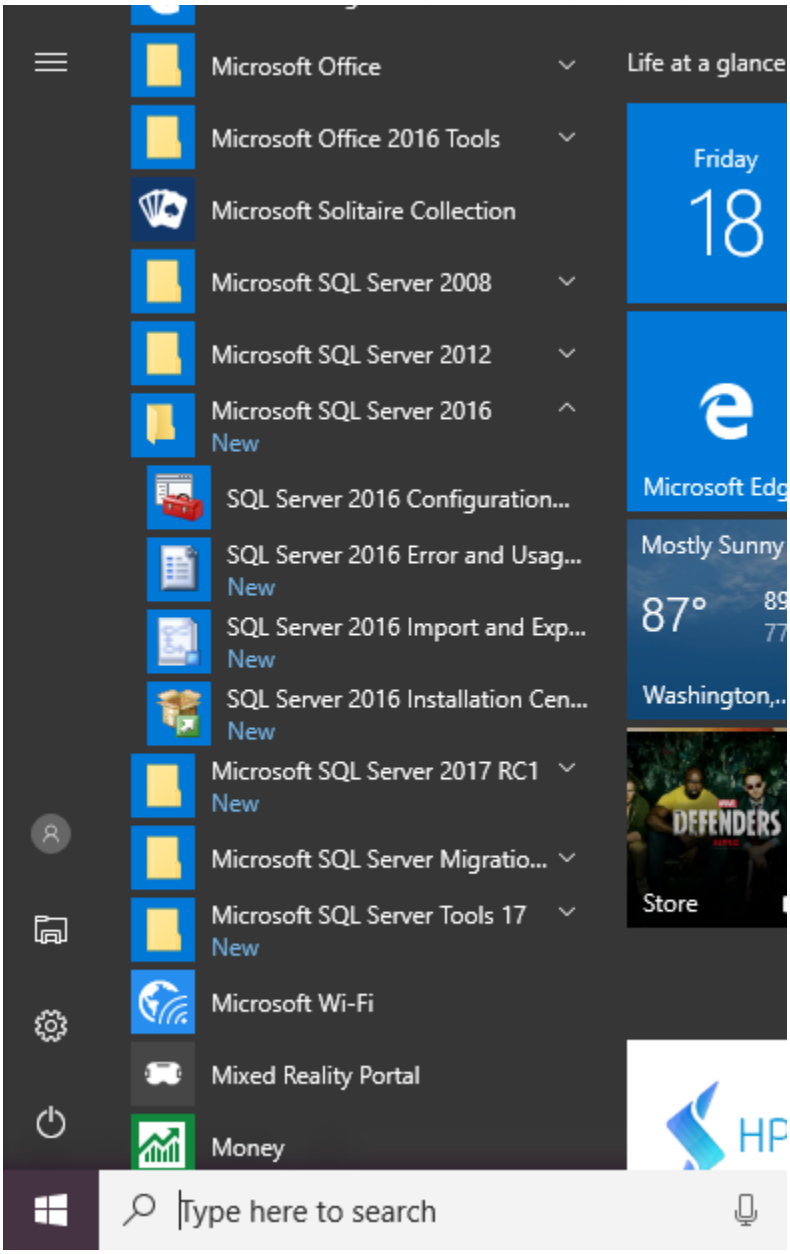


Click on the “Install SSMS” (**SQL Server Management Studio**) Button and the following Window is displayed.

Note: You will need this for setting up and managing the ShopFloorManager databases.

After the installation is complete reboot the computer to complete the installation.

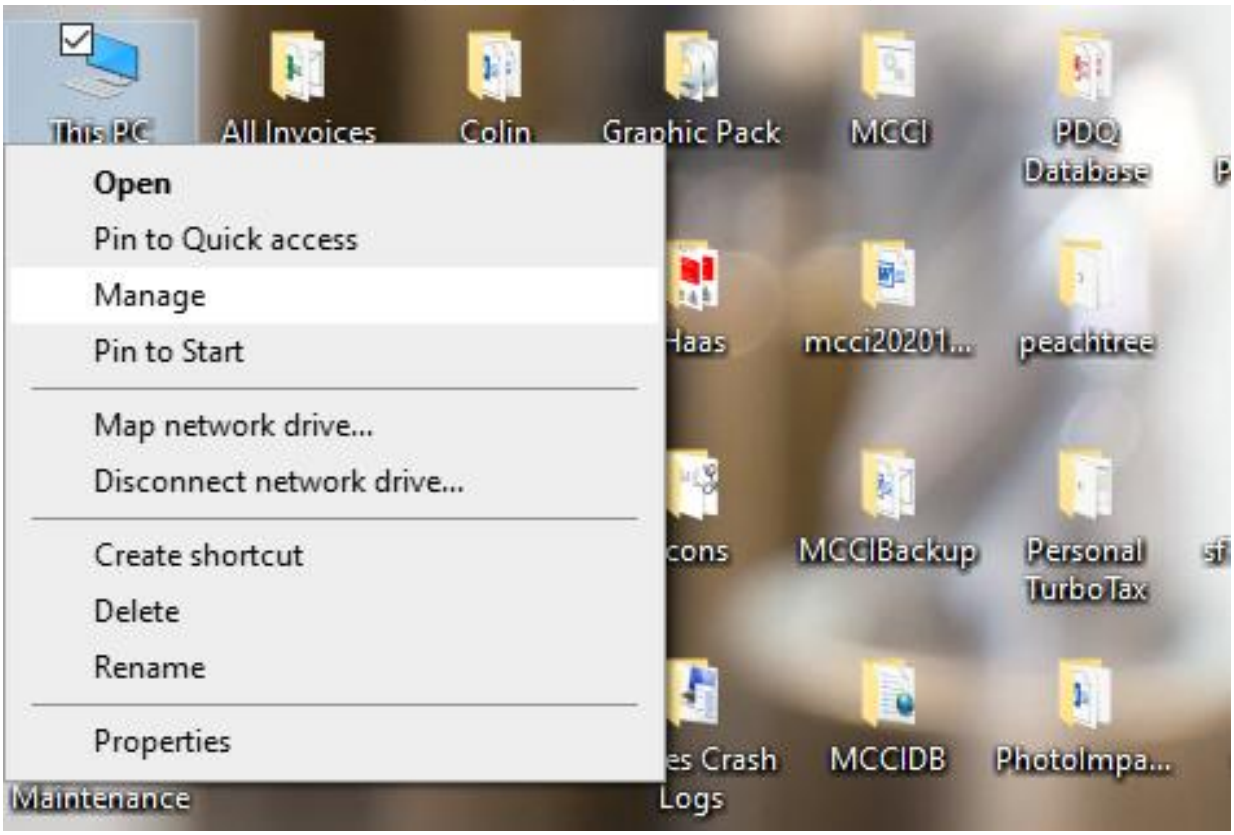
Install SQL Server 2019, SSMS & ShopFloorManager (View from the Run Icon)



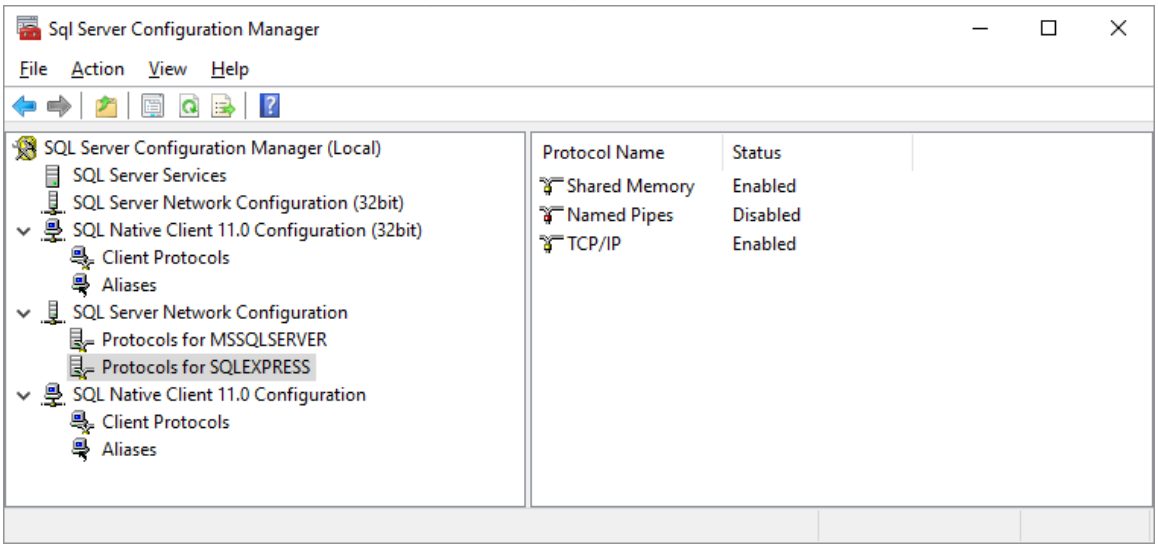
Go to the Desktop and click “Start” Icon! Your view may differ a bit depending on the Server Version you have downloaded!

We need to set some properties for the “Microsoft SQL Server”. See the Desktop View as follows.

Install SQL Server 2019, SSMS & ShopFloorManager (Desktop View "This PC")



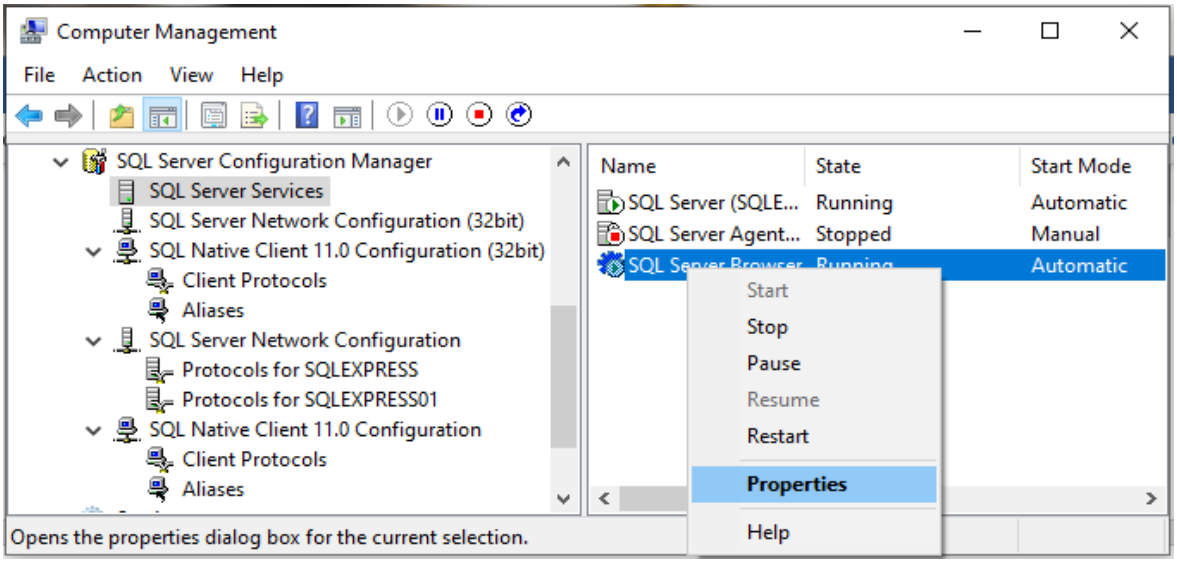
On the Desktop Right Click on the "This PC" Icon and click the Manage Menu and the following Window will be displayed!



Note: **The Following is very important to ensure client computers will attach to SQL Server.**

Make sure TCP/IP is enabled in Client Protocols for all instances of SQL Server. Check all three configurations.

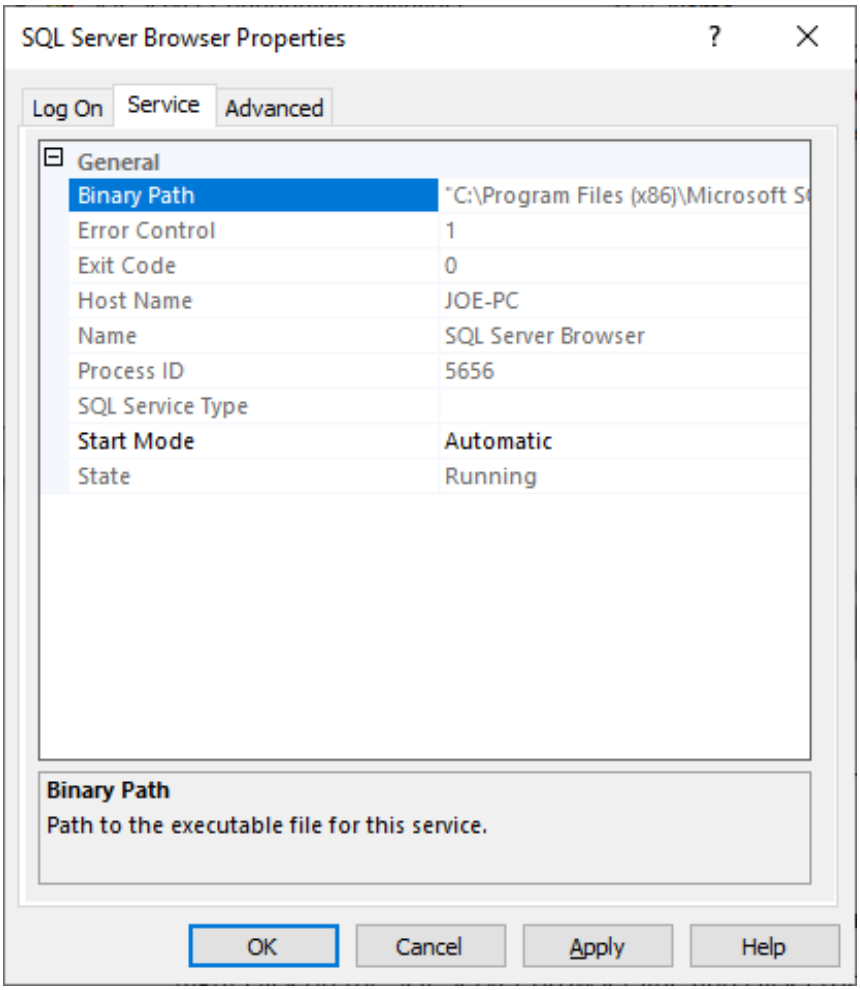
Install SQL Server 2019, SSMS & ShopFloorManager (SQL Server Configuration Manager-SQL Server Services)



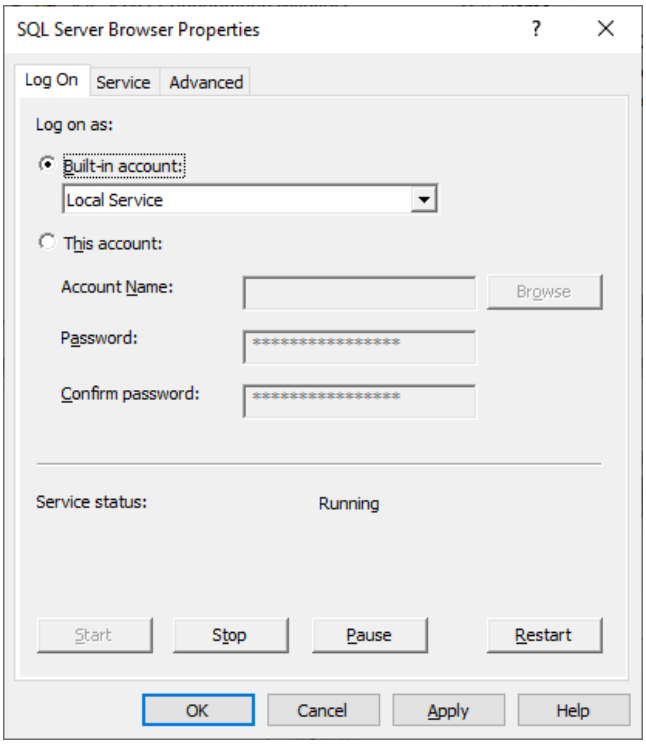
Make sure that the SQL Server main service is Running with Start Mode Automatic. (The screen shot, above, shows that there are 2 instances of SQL Server running on my computer. Yours will probably have only one.

Make sure that the SQL Server Browser is Running and set to Automatic.

Right click on the SQL Server Browser line and click Properties and the following Window will be displayed.



Set “Start Mode” to Automatic. Click on the “Log On Tab” and the following Window will be displayed.

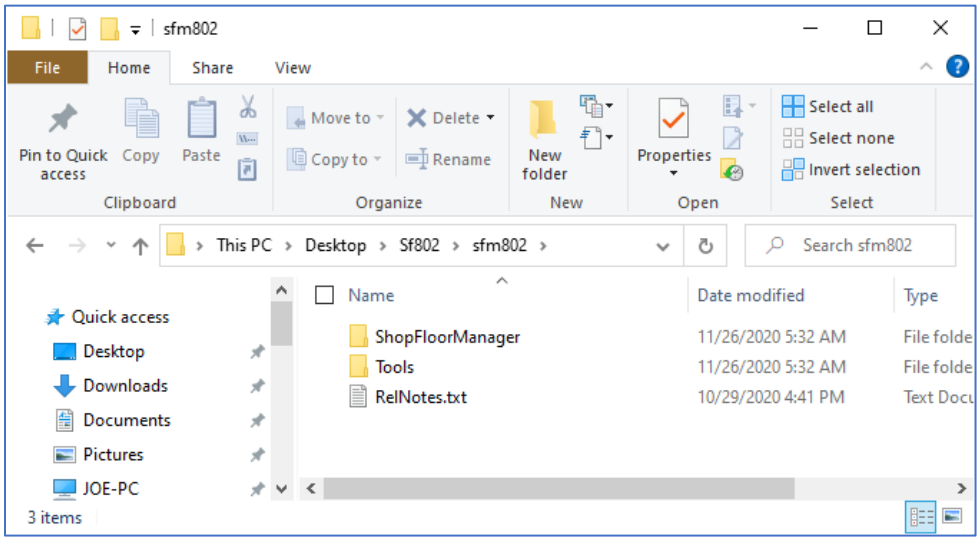


Click Start. The main screen should now show that the SQL Serve Browser is Running and Automatic.

Note: Make sure that the SQL Server Agent is set to Start Mode Manual. It will say Stopped and that's ok in a previous page!

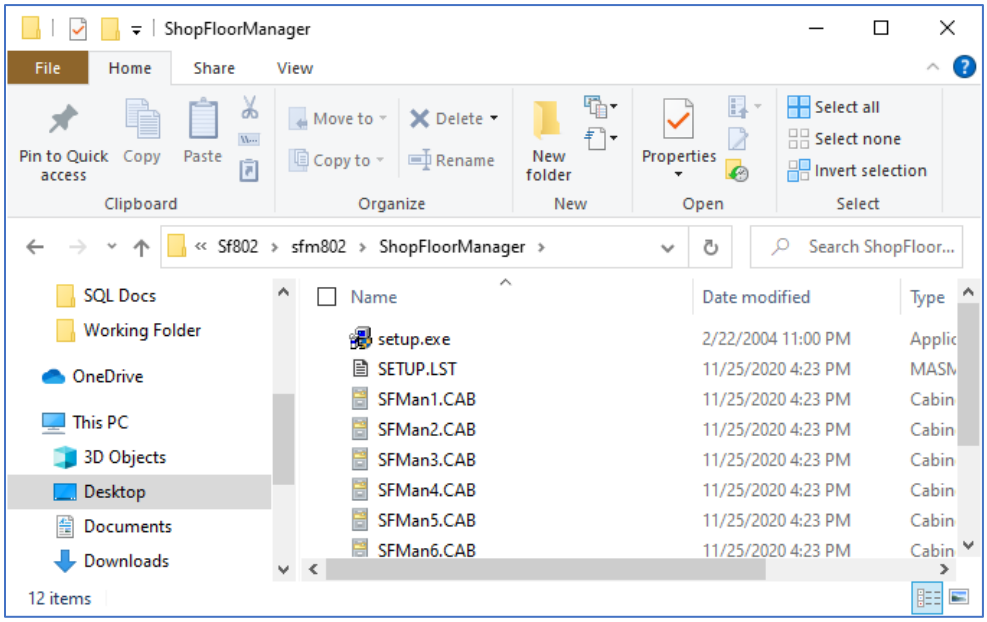
Note: Read the section on Making a user a SQL Server System Administrator!

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager - Installation set)



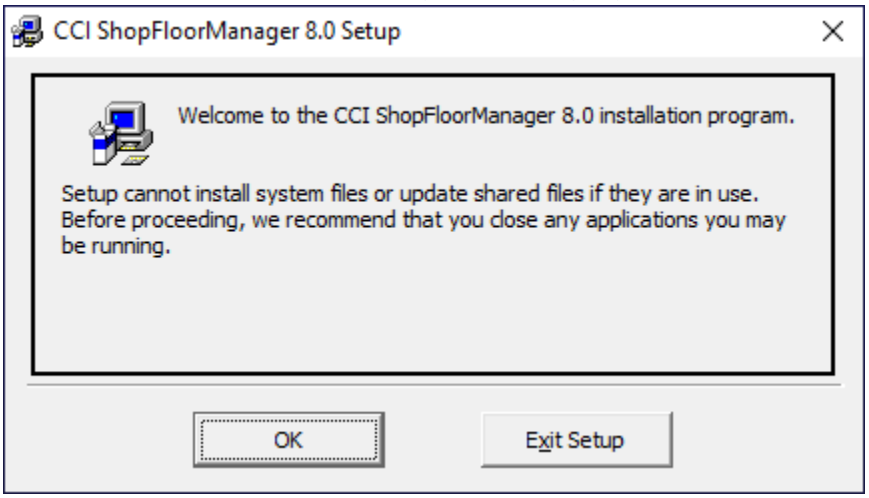
Go to where the Installation sets are located and click on the ShopFloorManager folder, and the following Window is displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager – setup.exe)



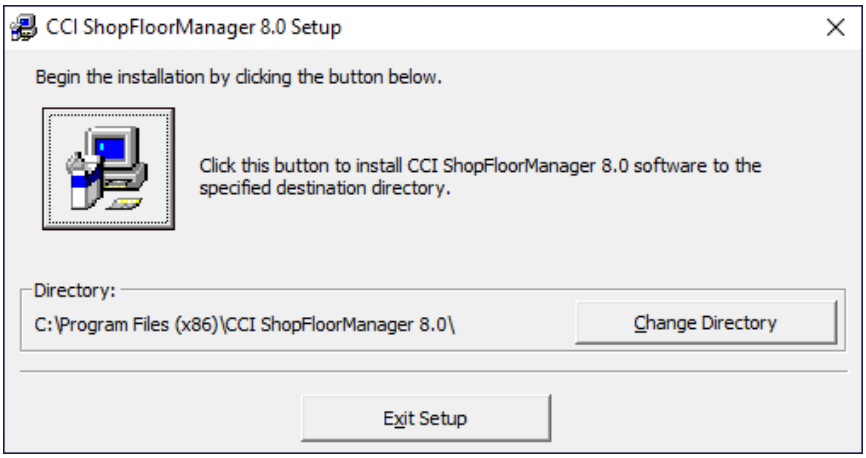
Click on the setup.exe and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager – Informational)



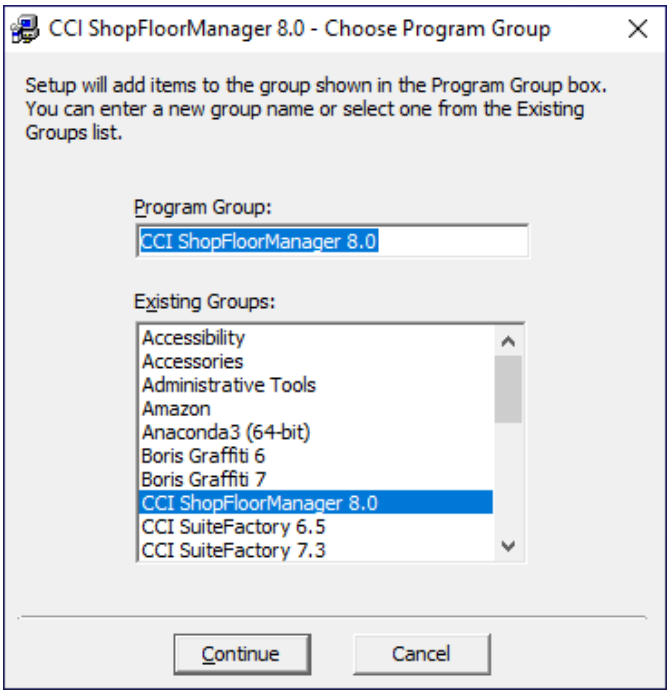
Click the OK Button and the following Window is displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager 8.0 Setup)



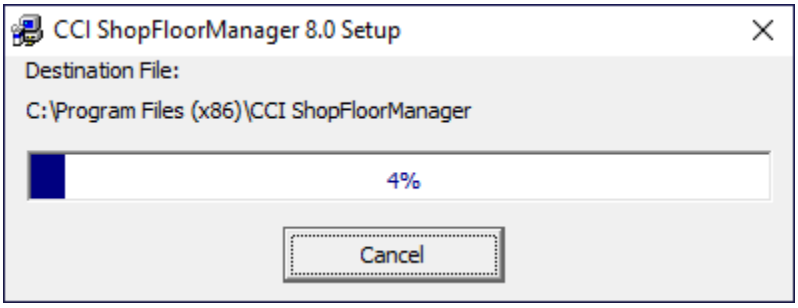
Click the Install Button and the following Window is displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager 8.0 Setup Name Window)

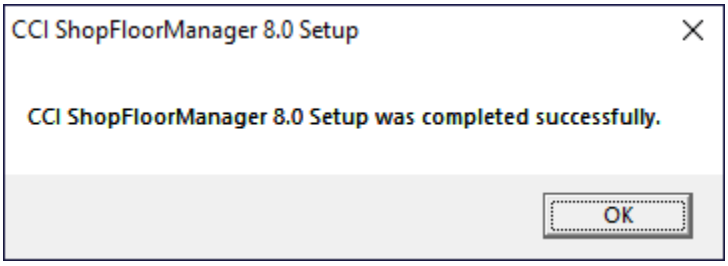


Click the continue Button and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager 8.0 Setup Installation Information)

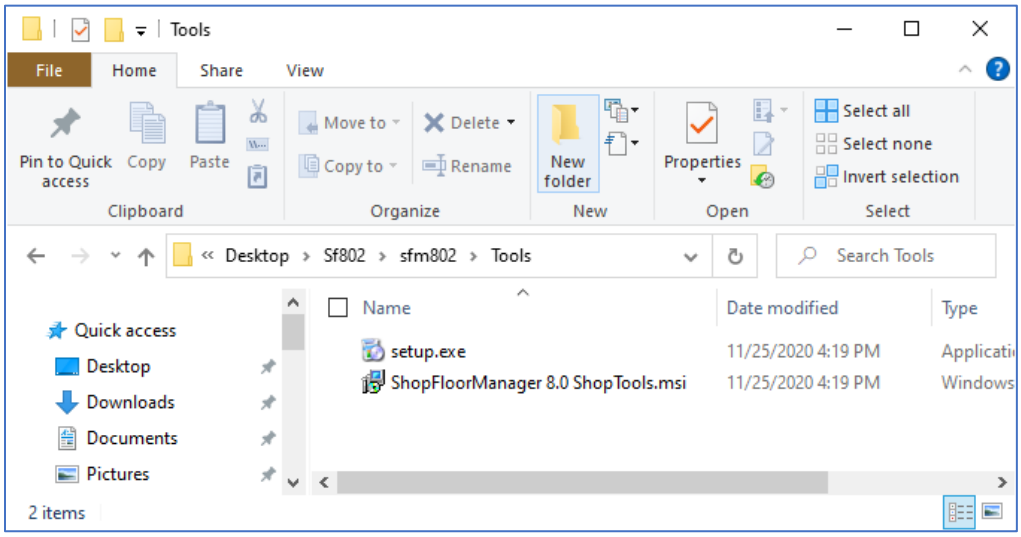


Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager 8.0 Setup Installation OK)



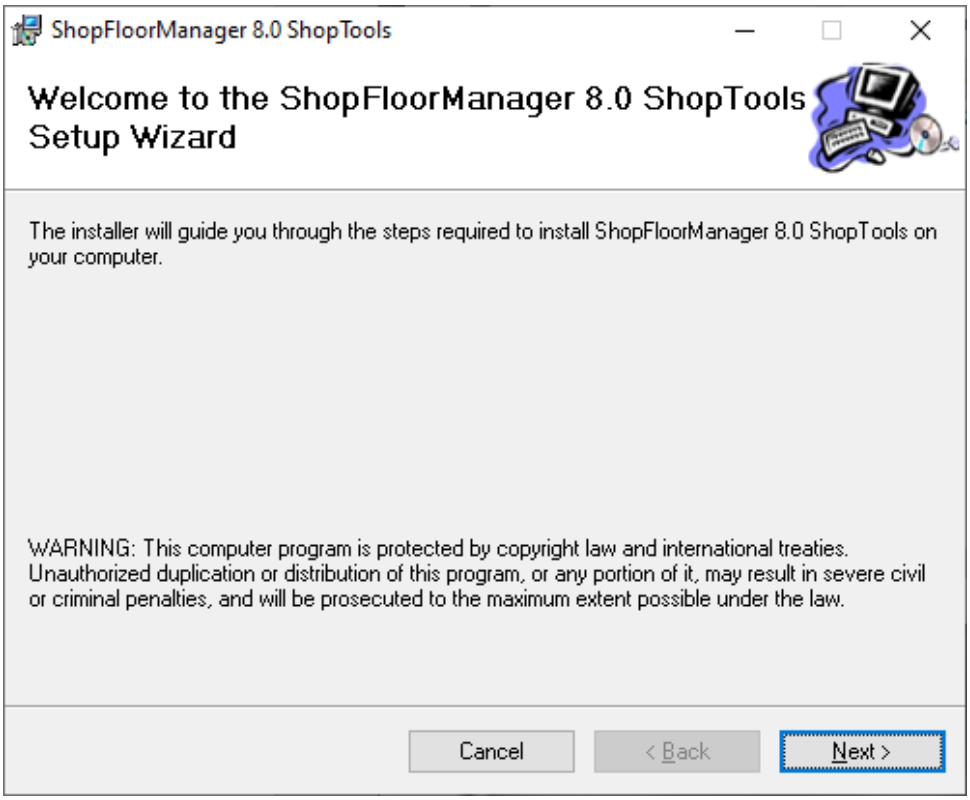
Click the OK Button and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager 8.0 Tools Installation set)



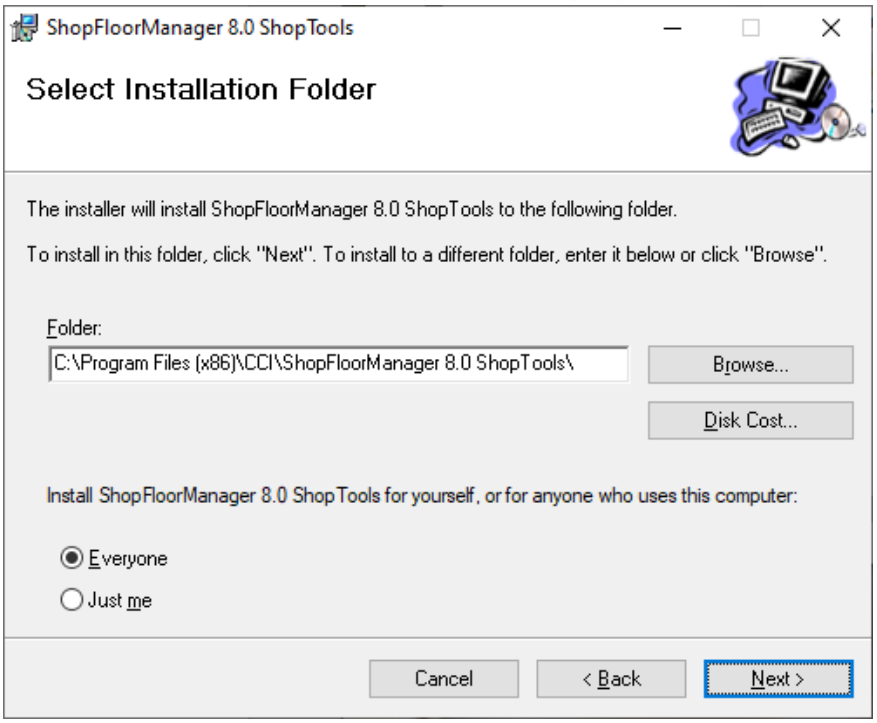
In the Tools installation folder click the setup.exe and the following Window is displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager 8.0 Tools Setup Window)



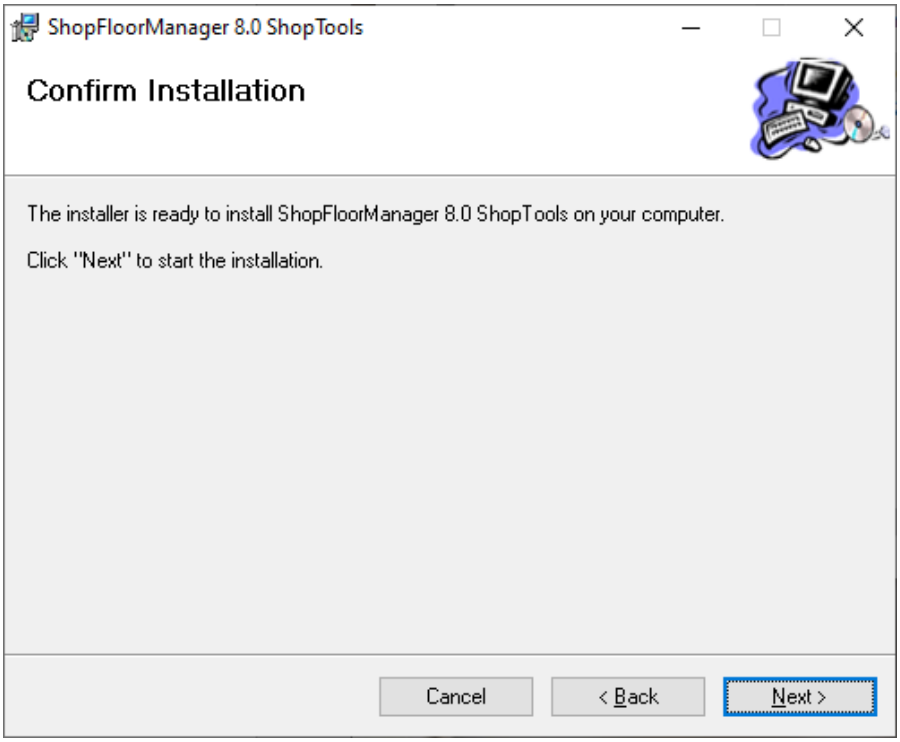
Click the Next Button and the following Window is displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager 8.0 Tools Installation Folder Location)

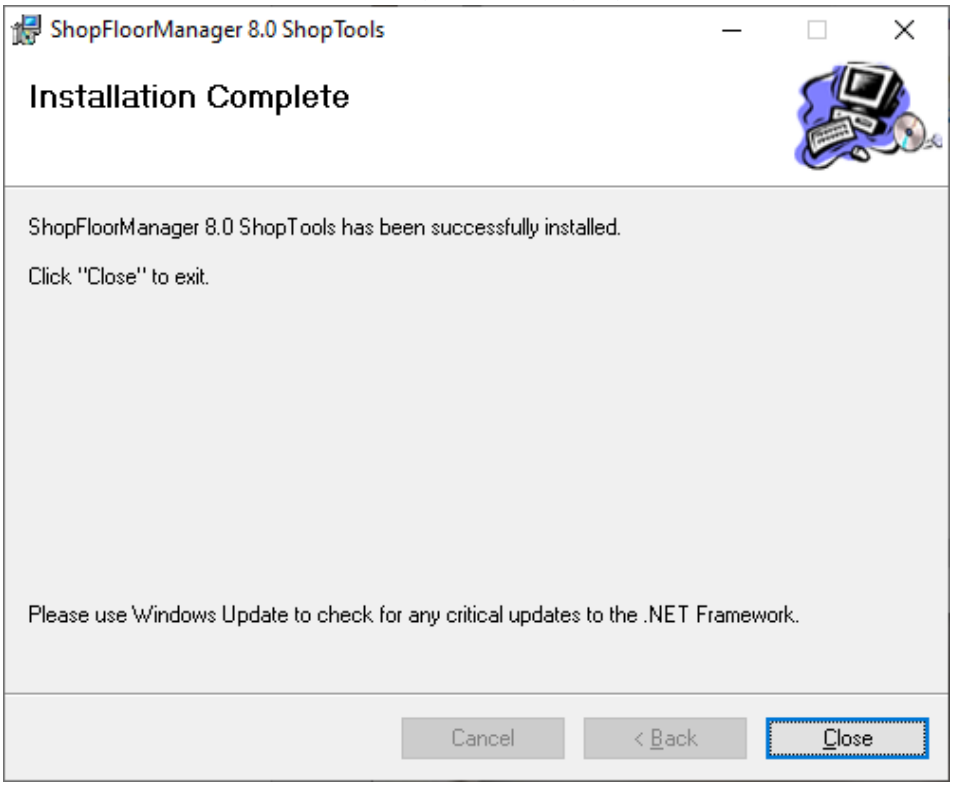


Click the Next Button and the following Window is displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager 8.0 Tools Installation Next)

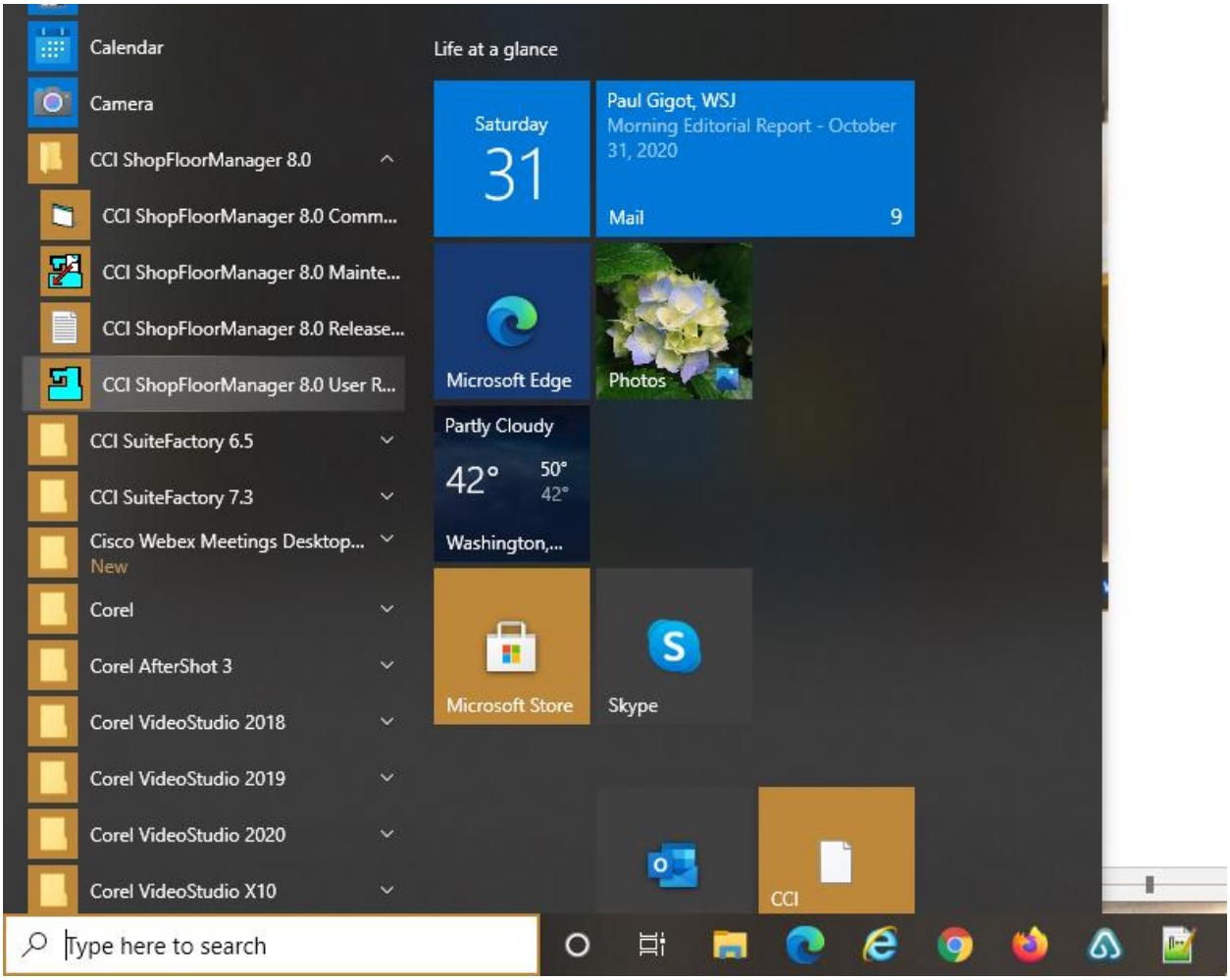


Click the Next Button and the following Window is displayed.



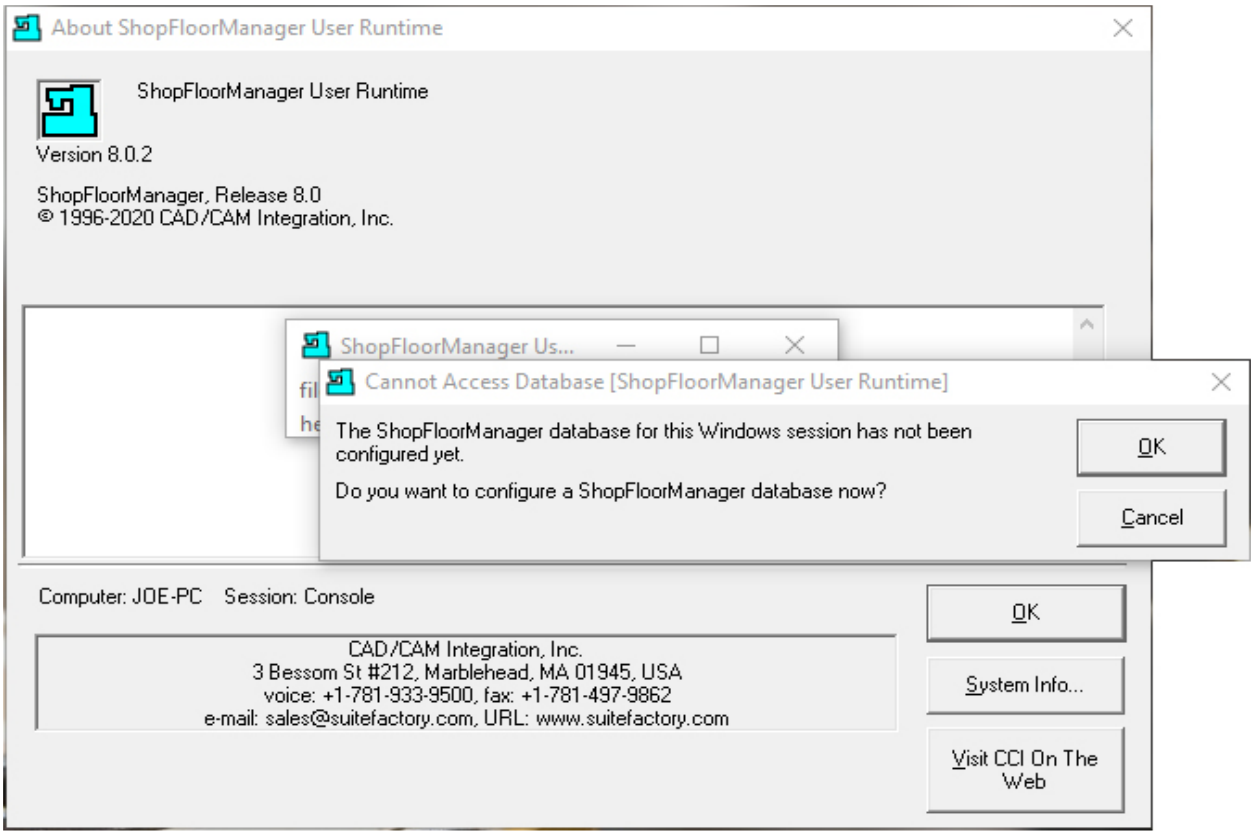
Click the Close Button and see the next Window.

Install SQL Server 2019, SSMS & ShopFloorManager (Start Menu -> CCI ShopFloorManager 8.0 R…)



Click on the CCI ShopFloorManager 8.0 User R… and the following Window will be displayed.

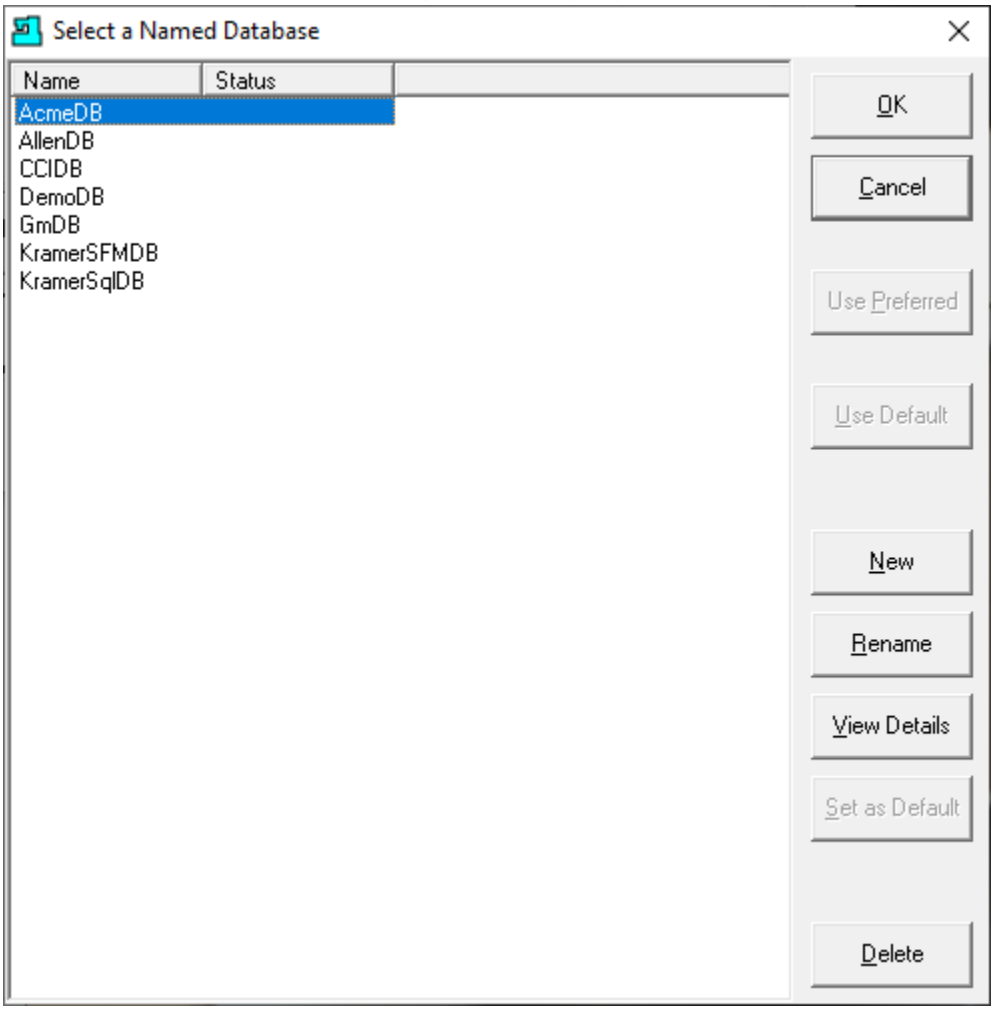
Install SQL Server 2019, SSMS & ShopFloorManager (Setting up a SQL Database)



If you are updating from an earlier version, you will see activity updating the database and ShopFloorManager will be displayed with a login screen!

If this is a new installation you will need to create a SQL database!

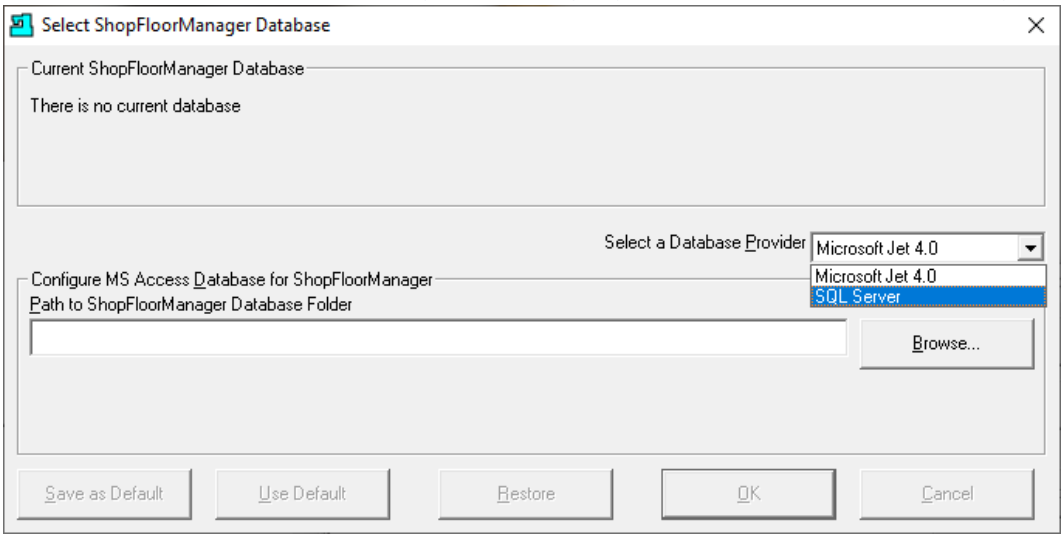
Click the OK Button.



Click the New Button and the following Window will be displayed.

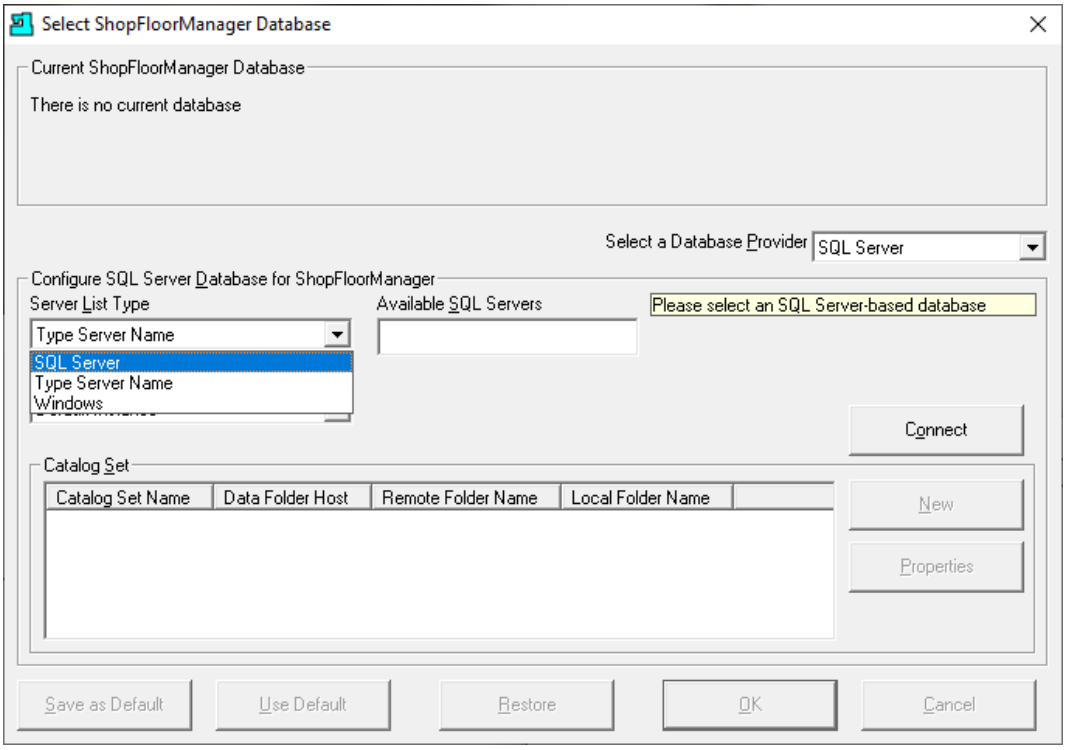
Note: If this is a new system the above list will be empty!

Install SQL Server 2019, SSMS & ShopFloorManager (Select ShopFloorManager Database)



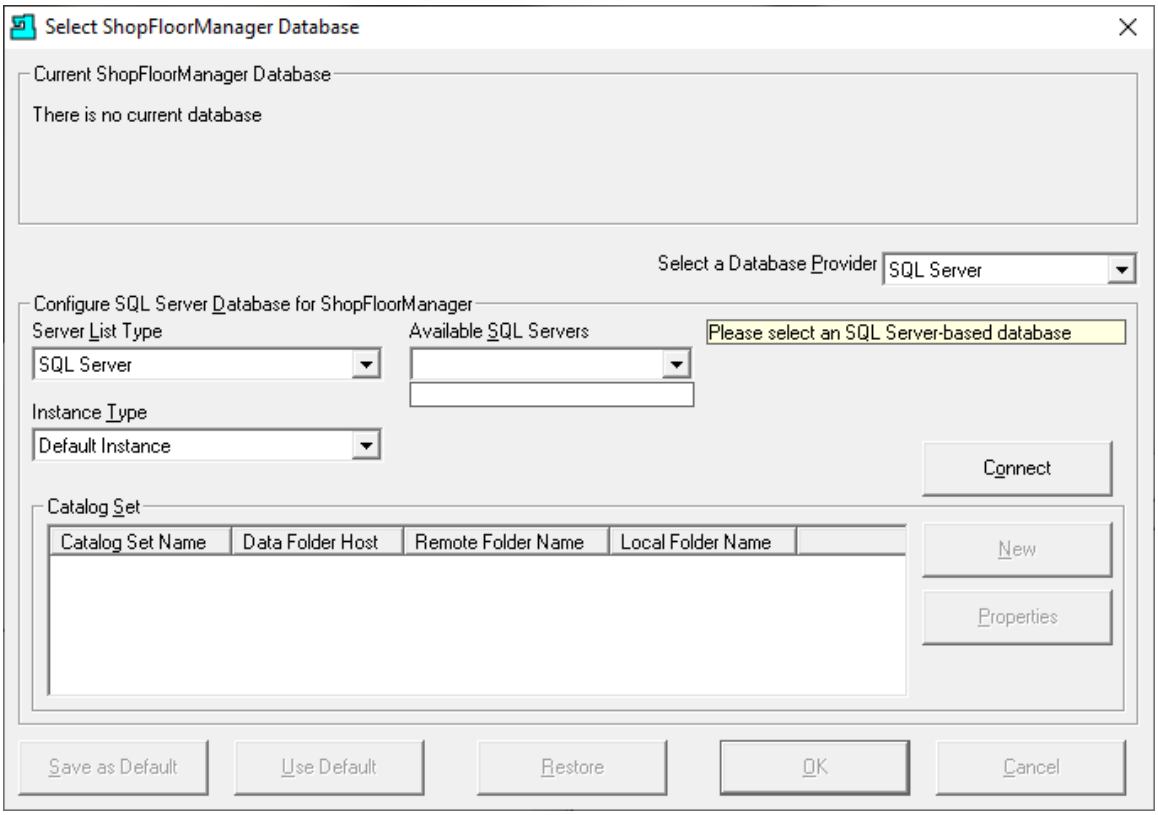
Click on the "Select a Database Provider" and select SQL Server and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (Select SQL Server)



Click on the "Server List Type" and select "SQL Server". Click on the Connect Button and the following Window will be displayed.

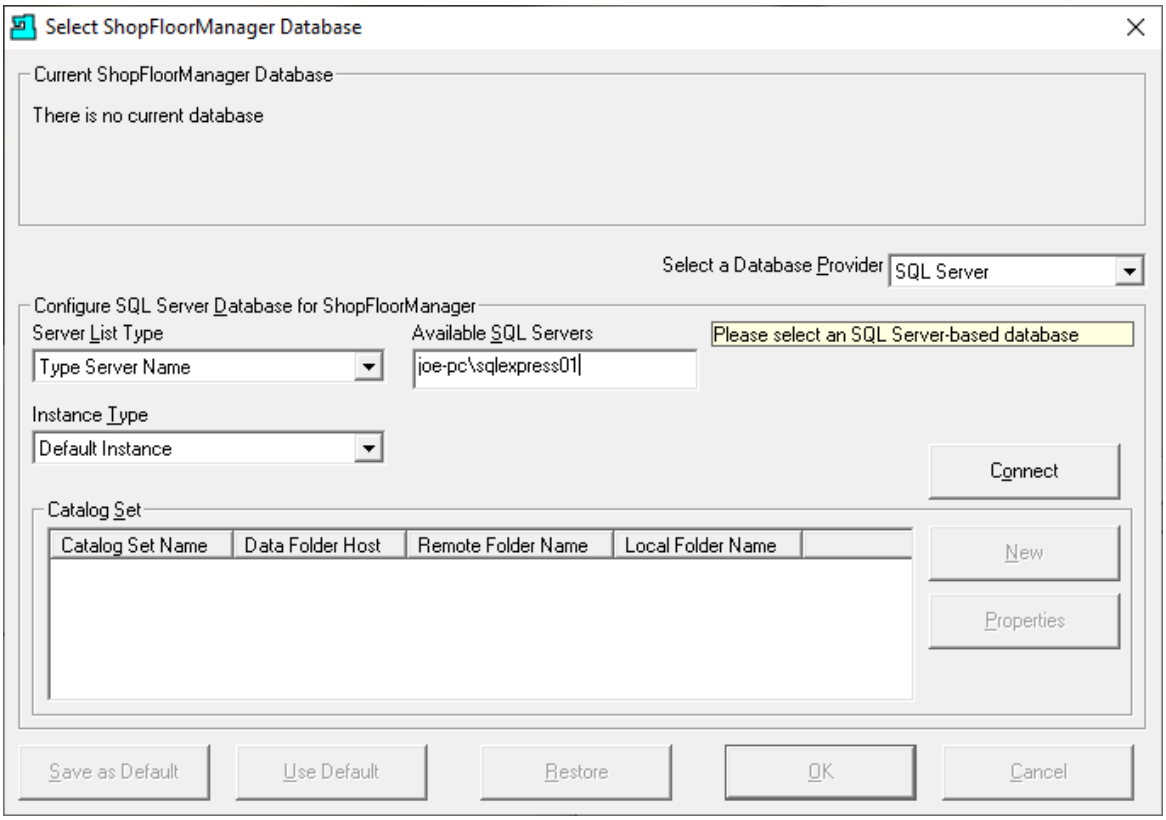
Install SQL Server 2019, SSMS & ShopFloorManager (SQL Server None Displayed)



If you don't see the SQL Database in the drop-down "Available SQL Servers" listed, click on the "Server List Type" and select "Type Server Name" and then type in "Joe-pc\sqlexpress01" in "Available SQL Servers" and the follow Window is displayed! You may need to talk to "IT" for the name!

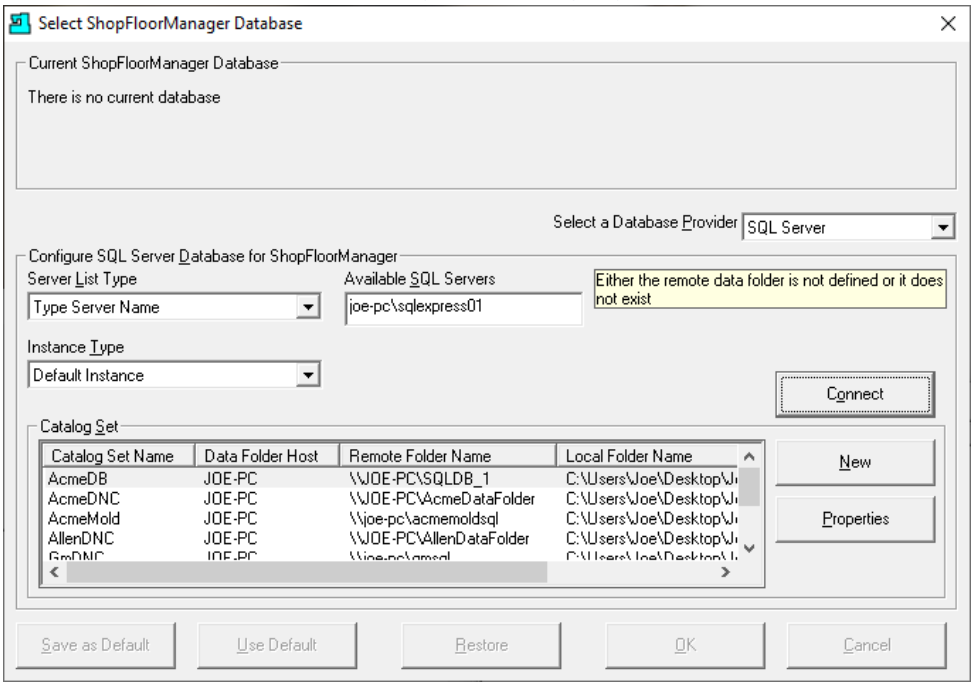
Note: Your entry in the "Available SQL Servers" box would be different!

Install SQL Server 2019, SSMS & ShopFloorManager (Available SQL Servers-joe-pc\sqlexpress01)



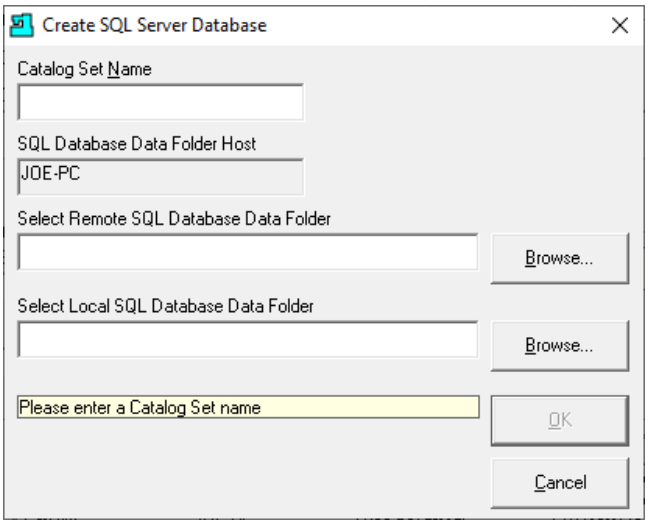
Click the Connect Button and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (Available SQL Servers-joe-pc\sqlexpress01 New)



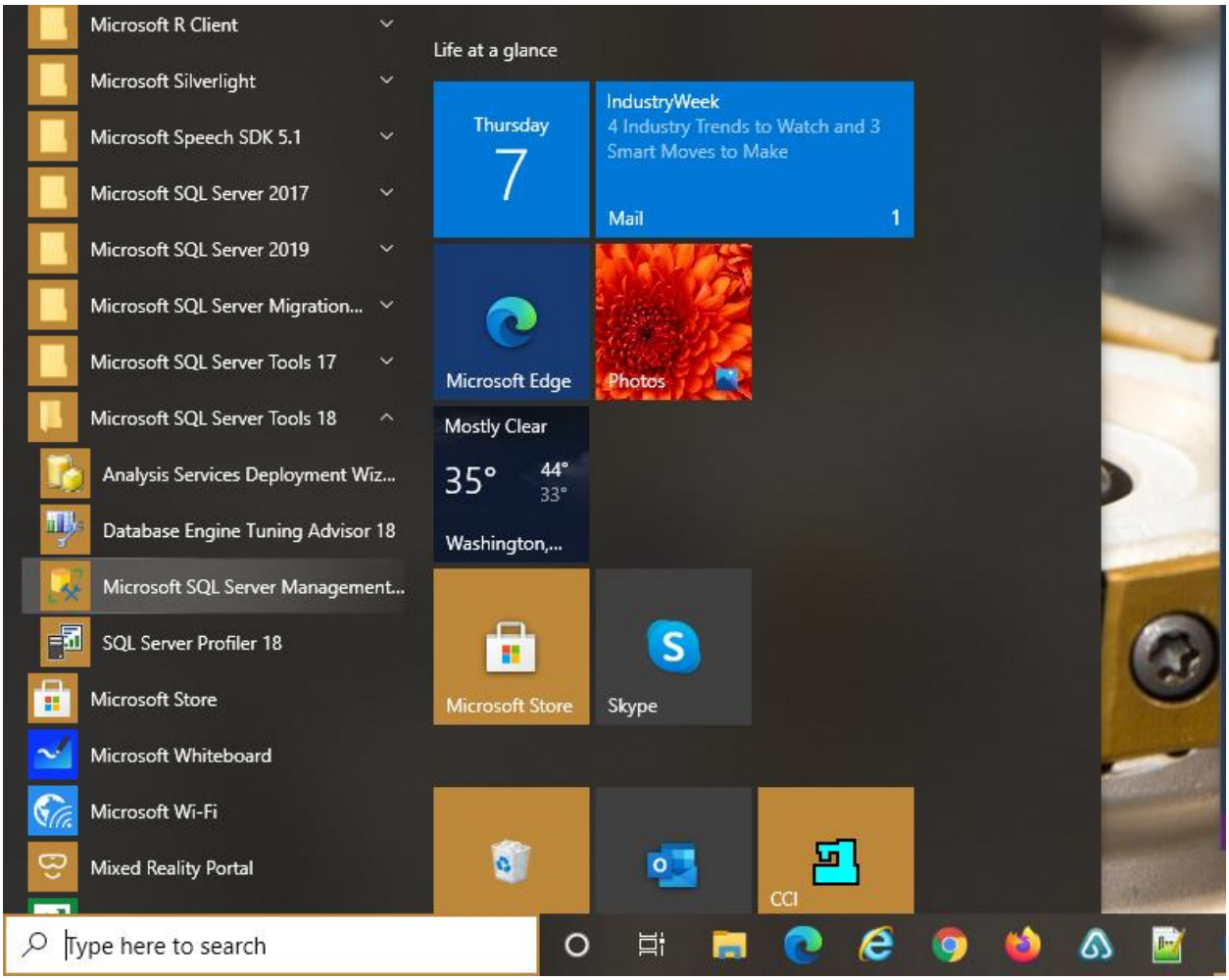
Click the New Button and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (Available SQL Servers-Create SQL Server Database)



Before we add anything to this Form let's start up the Microsoft SQL Management Studio and take a look at its present list of Databases!

Install SQL Server 2019, SSMS & ShopFloorManager (Desktop Start Menu)

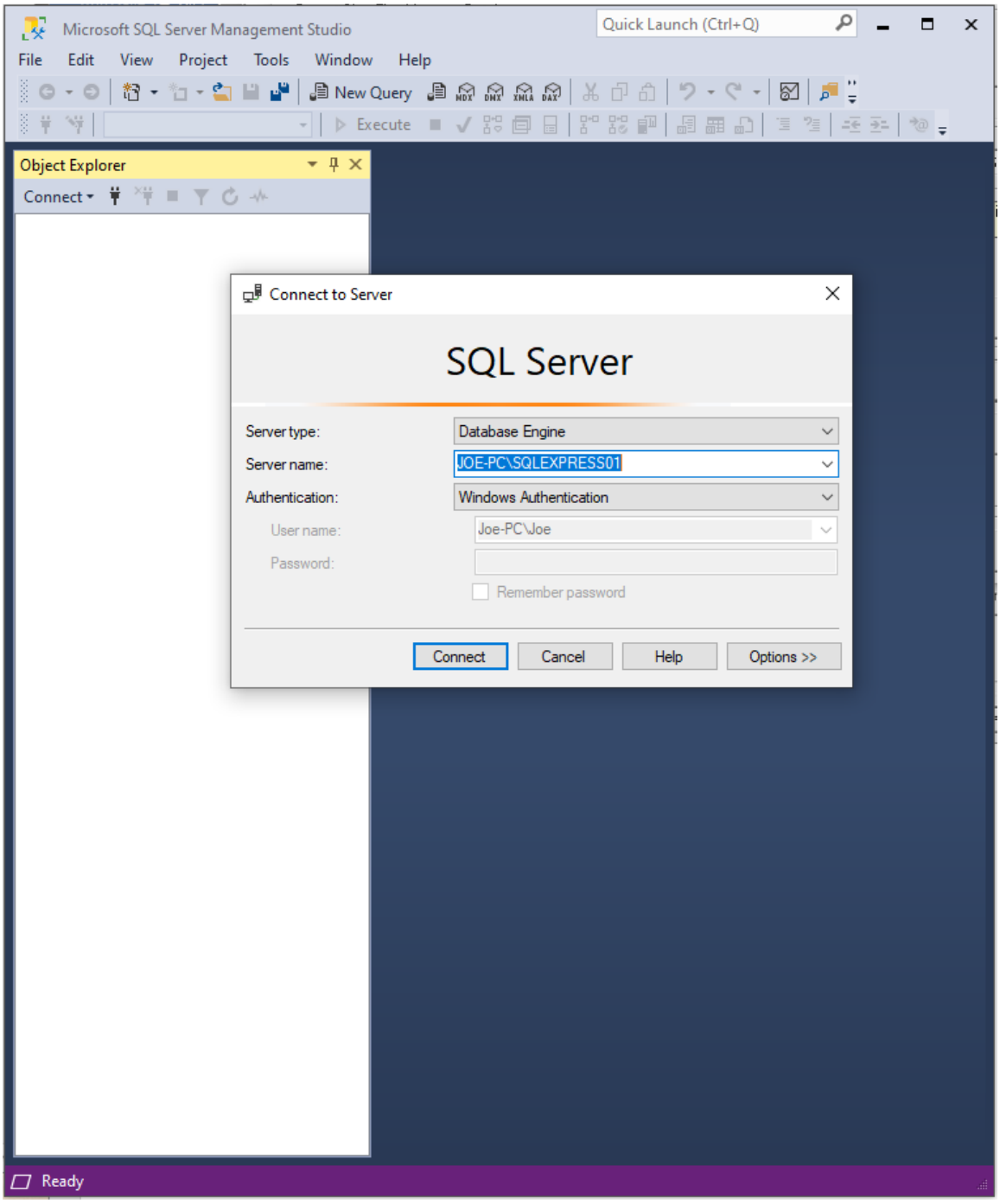


From the Start menu look for Microsoft SQL Server Tools 18 (may be different if you have installed a different version).

Click on the “Microsoft SQL Server Management Studio” and the following Application will be displayed.

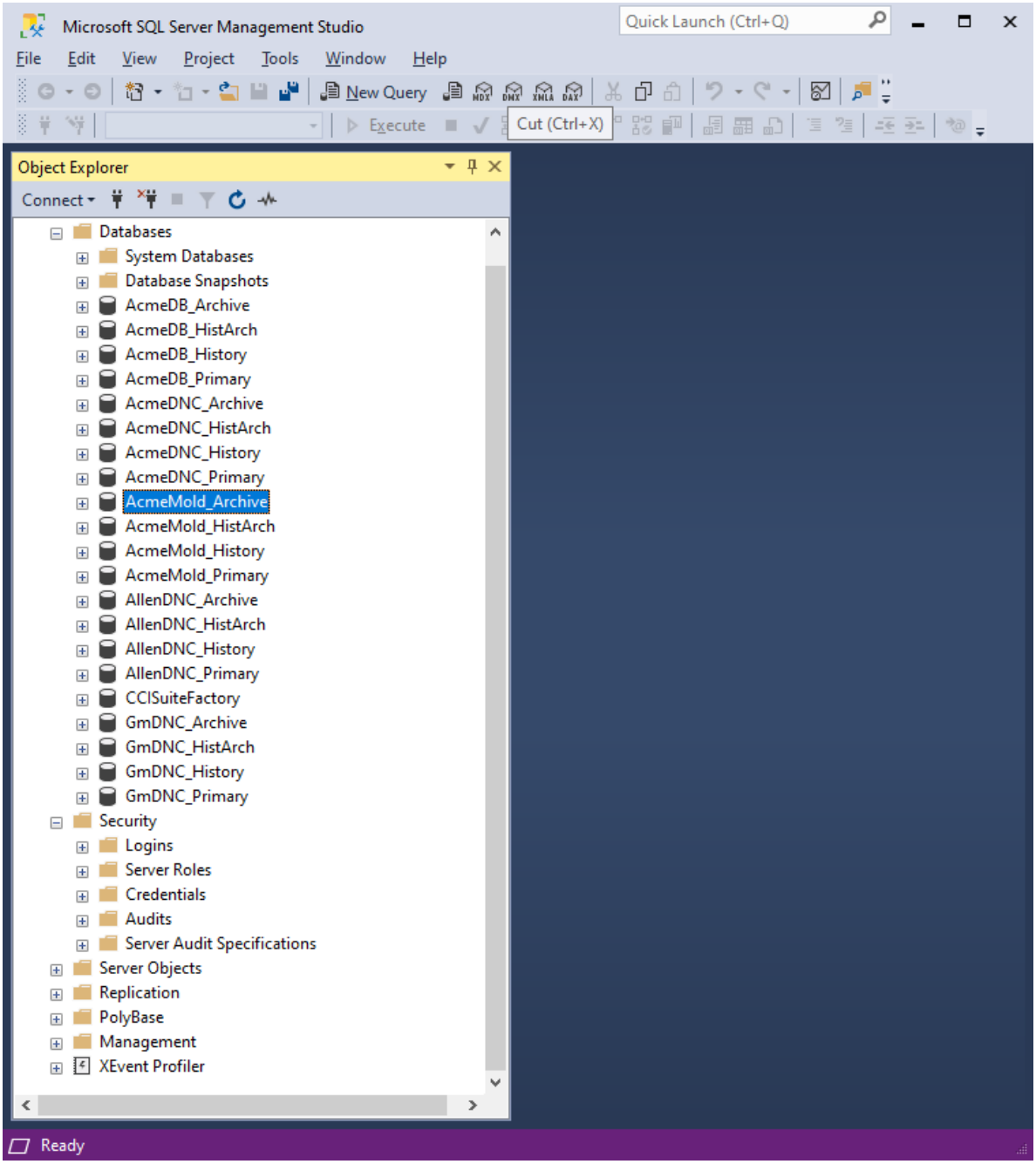
Note: This may take a bit of time to display!

Install SQL Server 2019, SSMS & ShopFloorManager (SSMS - JOE-PC\SQLEXPRESS01- Connect)



Chose the Server name which in this case is “JOE-PC\SQLEXPRESS01”. Your selection will be different! See “IT” if needed! Click the Connect Button and the following Window will be displayed.

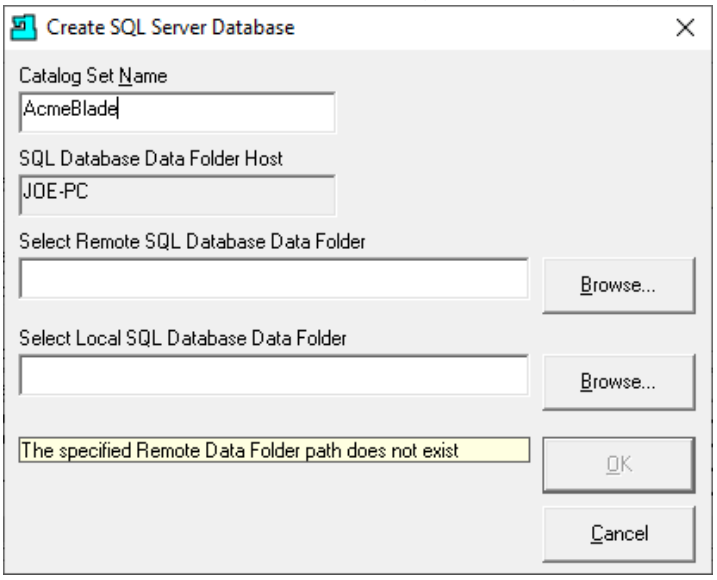
Install SQL Server 2019, SSMS & ShopFloorManager (SSMS - JOE-PC\SQLEXPRESS01)



Look at the list of Databases! We will return to this Application shortly after we have created a new set of databases!

Now back to Create SQL Server Database Form!

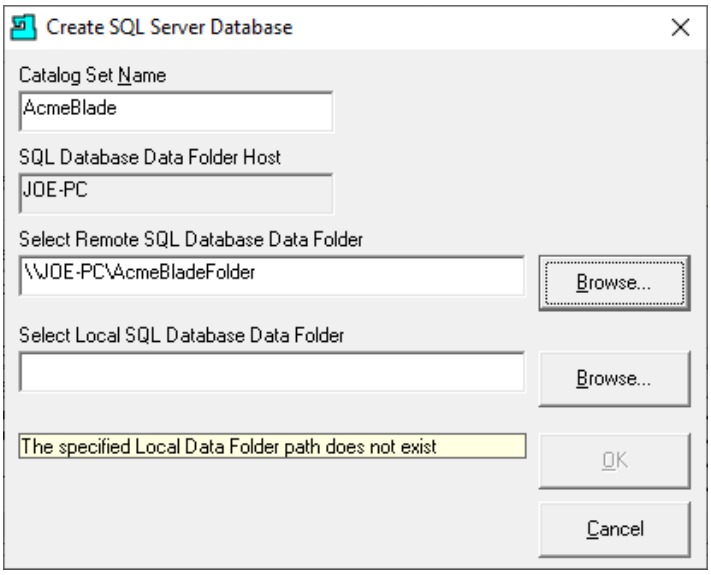
Install SQL Server 2019, SSMS & ShopFloorManager (Create SQL Server Database - AcmeDNC)



We will be typing AcmeBlade in the "Catalog Set Name" text box!

Click on the Browse Button "Select Remote SQL Database Data Folder" and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (Create SQL Server Database – Select Remote….)

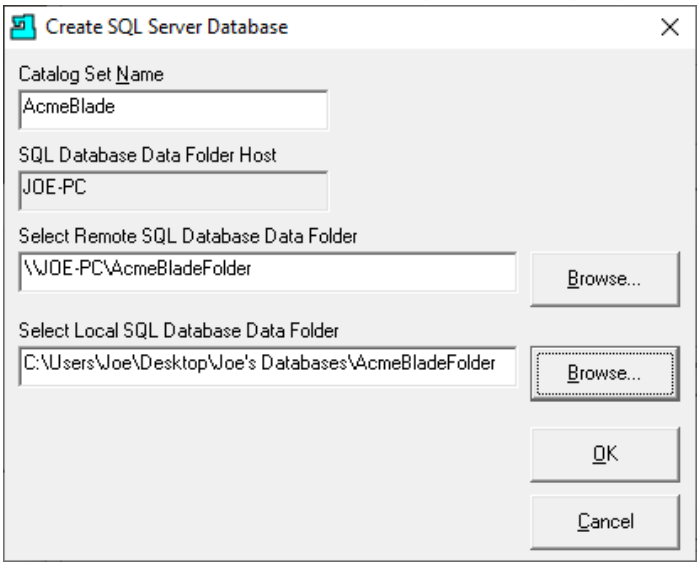


Browse to "\\JOE-PC\AcmeBladeFolder" network Data Folder. This has to be a Network Drive name!

Click on the Browse Button "Select Local SQL Database Data Folder" and the following Window will be displayed.

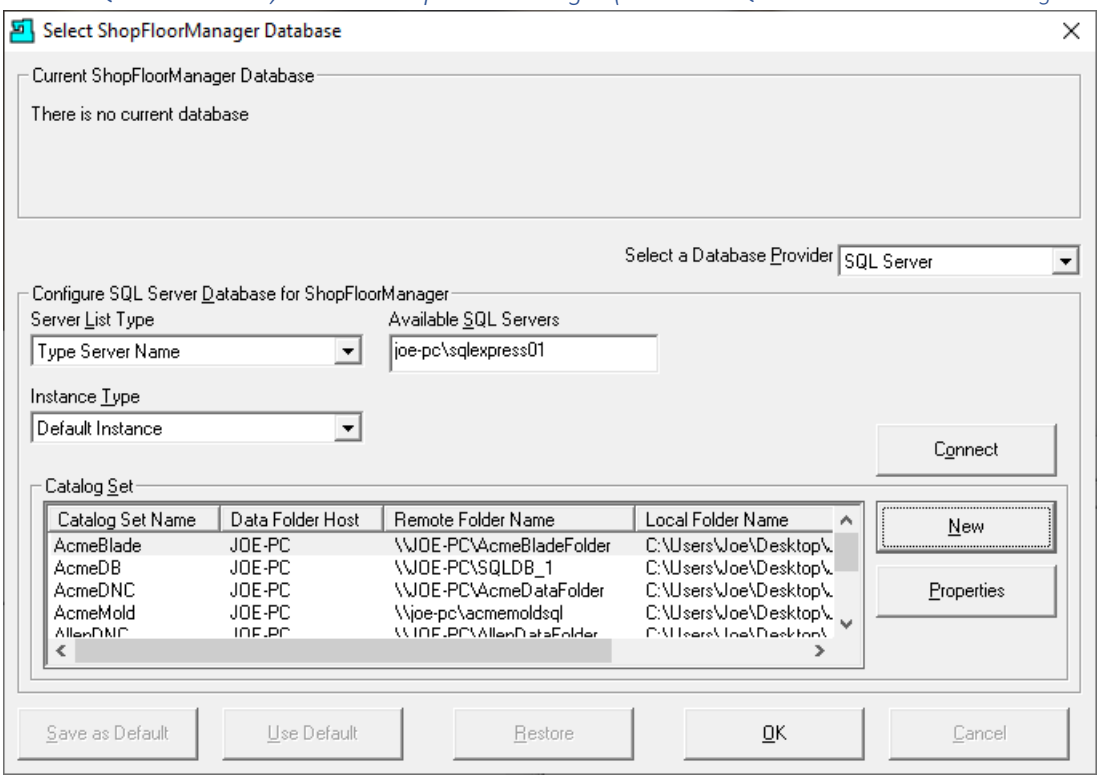
Important! The Data Folder needs Advance Permissions: Full Control; Change; Read!

Install SQL Server 2019, SSMS & ShopFloorManager (Create SQL Server Database – Select Local….)



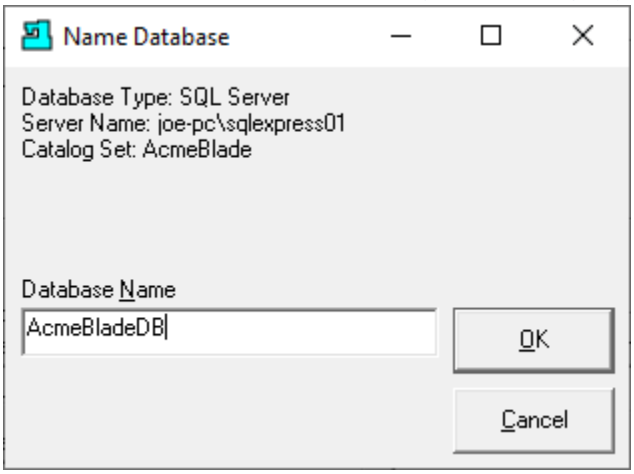
Click the OK Button and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (Available SQL Servers-AcmeDNC Catalog Set Name)



Click the OK Button and the following Window will be displayed.

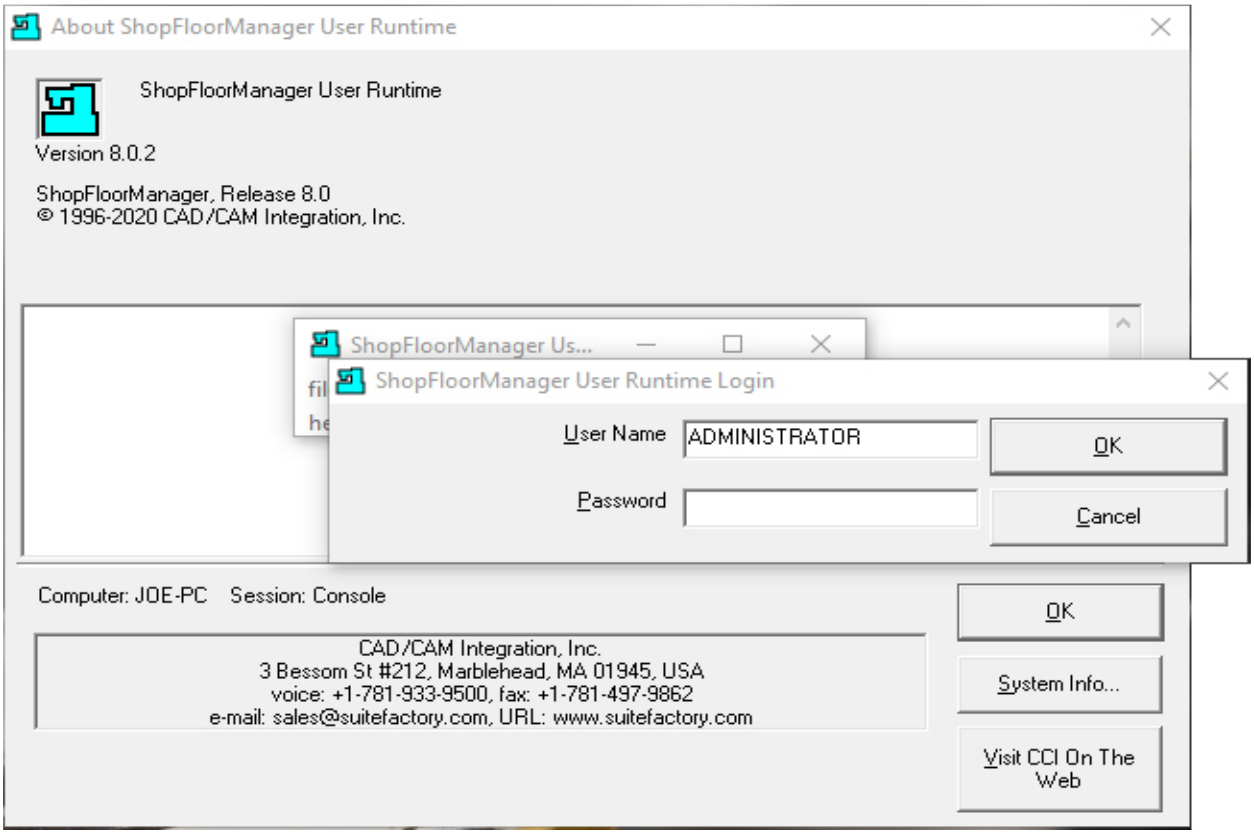
Install SQL Server 2019, SSMS & ShopFloorManager (Name Database - AcmeDB)



We need to create a Local Name (Arbitrary) for the database! Enter AcmeBladeDB, yours will be different, and click the OK Button and the following Window will be displayed. This may take a few minutes.

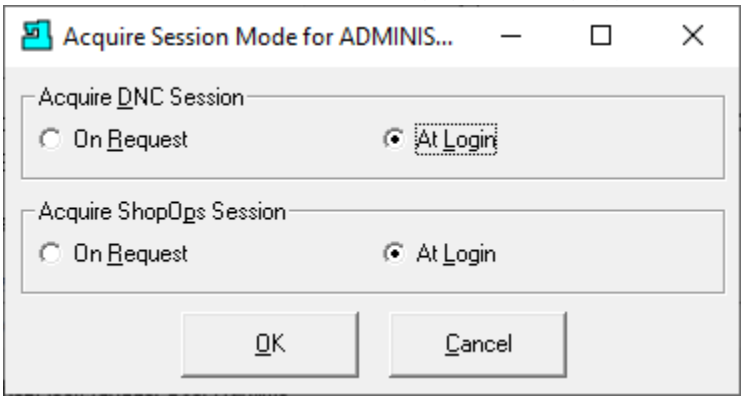
Note: The Database Name is a local name and changeable at any time!

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager Login Window)



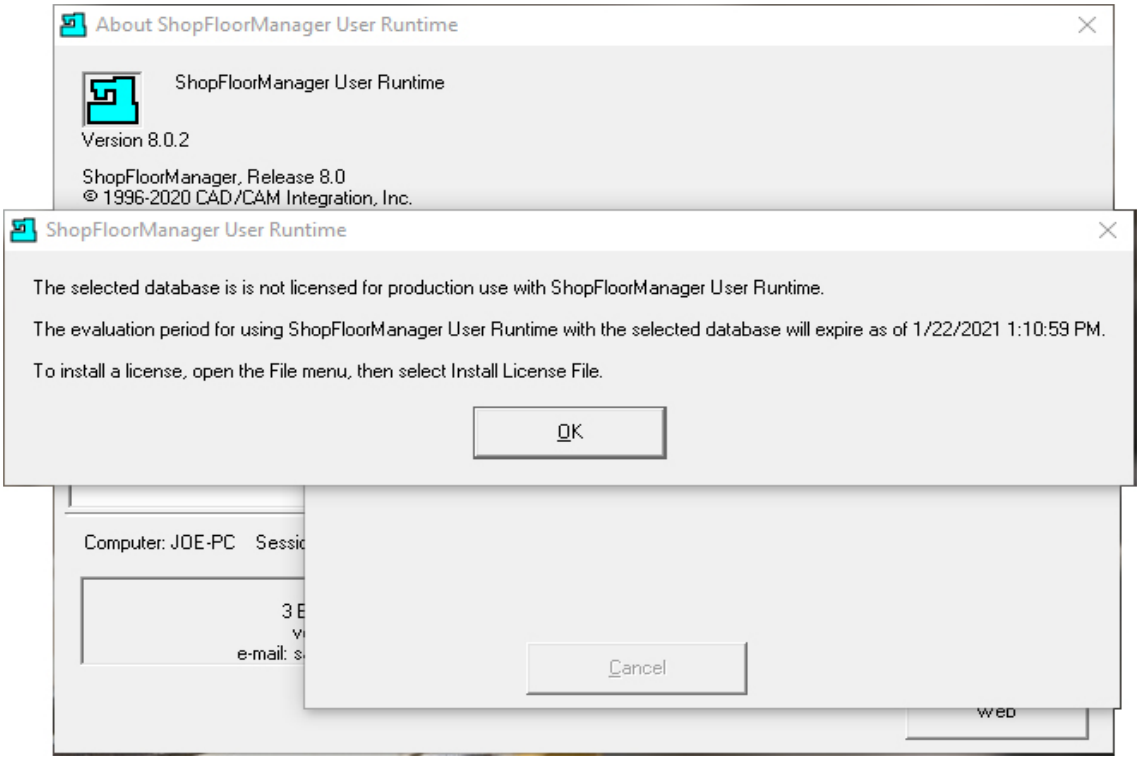
Click the OK Button and the following Window is displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager Acquire Session Mode…)



Set the options as displayed above for now and click the OK Button and the following Window is displayed.

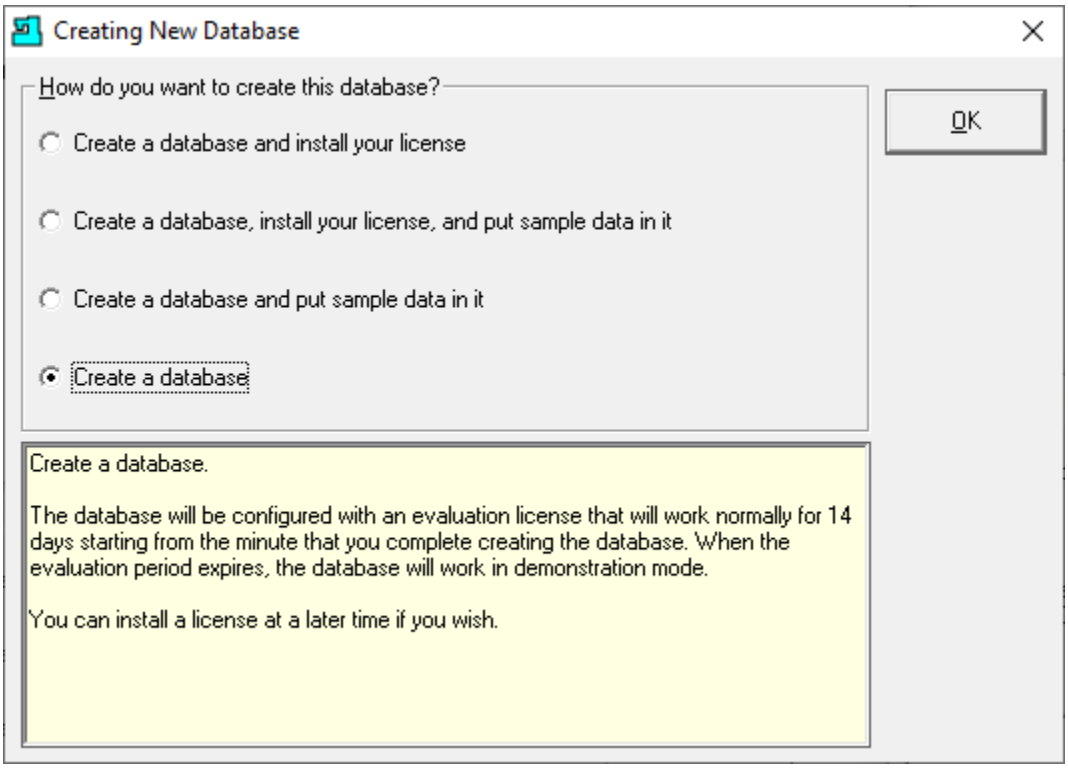
Install SQL Server 2019, SSMS & ShopFloorManager (Name Database – AcmeDB Informational)



This Window is informational letting you know you will need to add a License & Key.

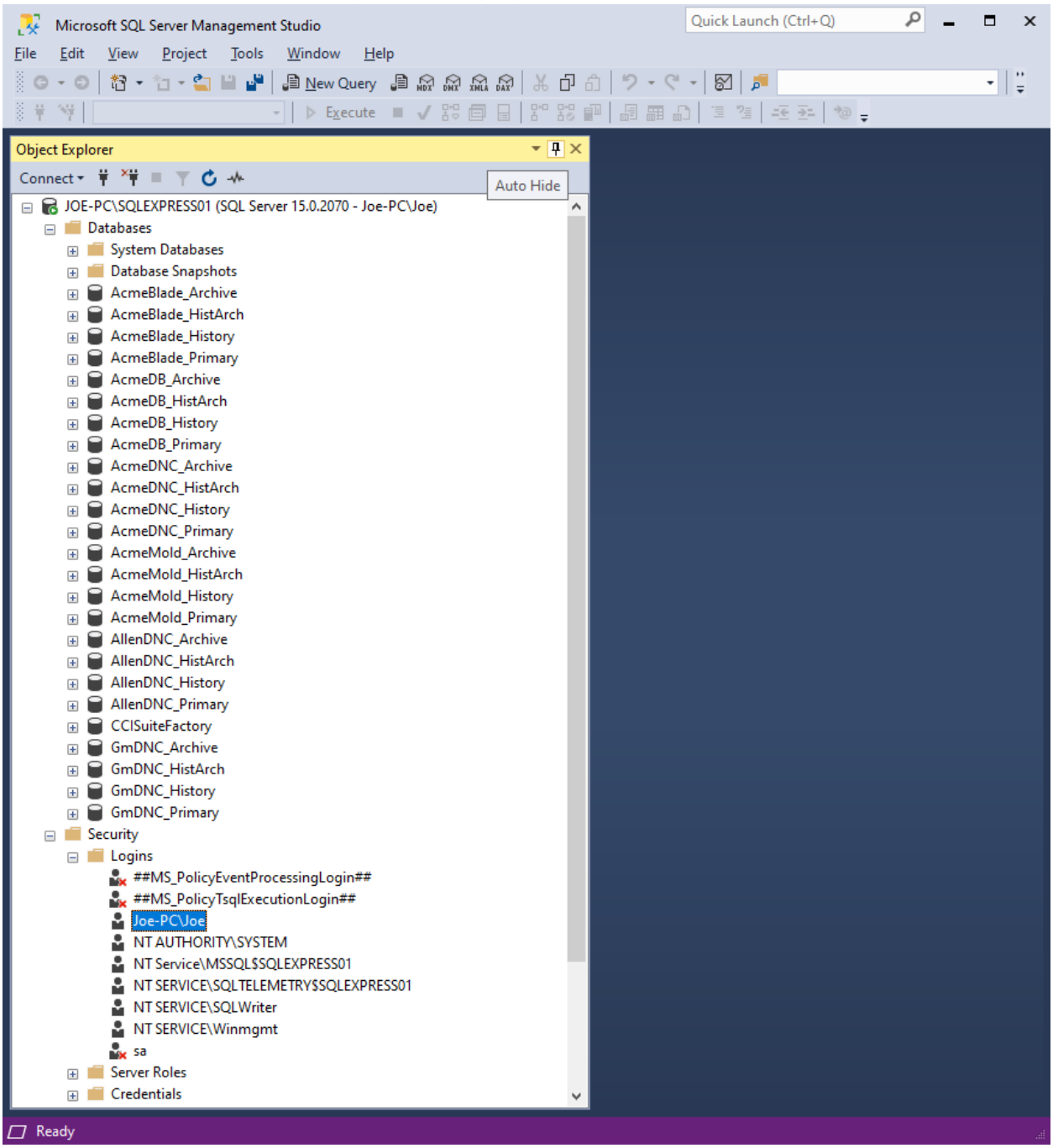
Click the OK Button and the following Window is displayed.

Note: Before this Window is displayed you may see multiple Informational Windows being displayed as ShopFloorManager finishes creating a new SQL Database Structure!



Select the “Create a database” Option and click the OK Button!

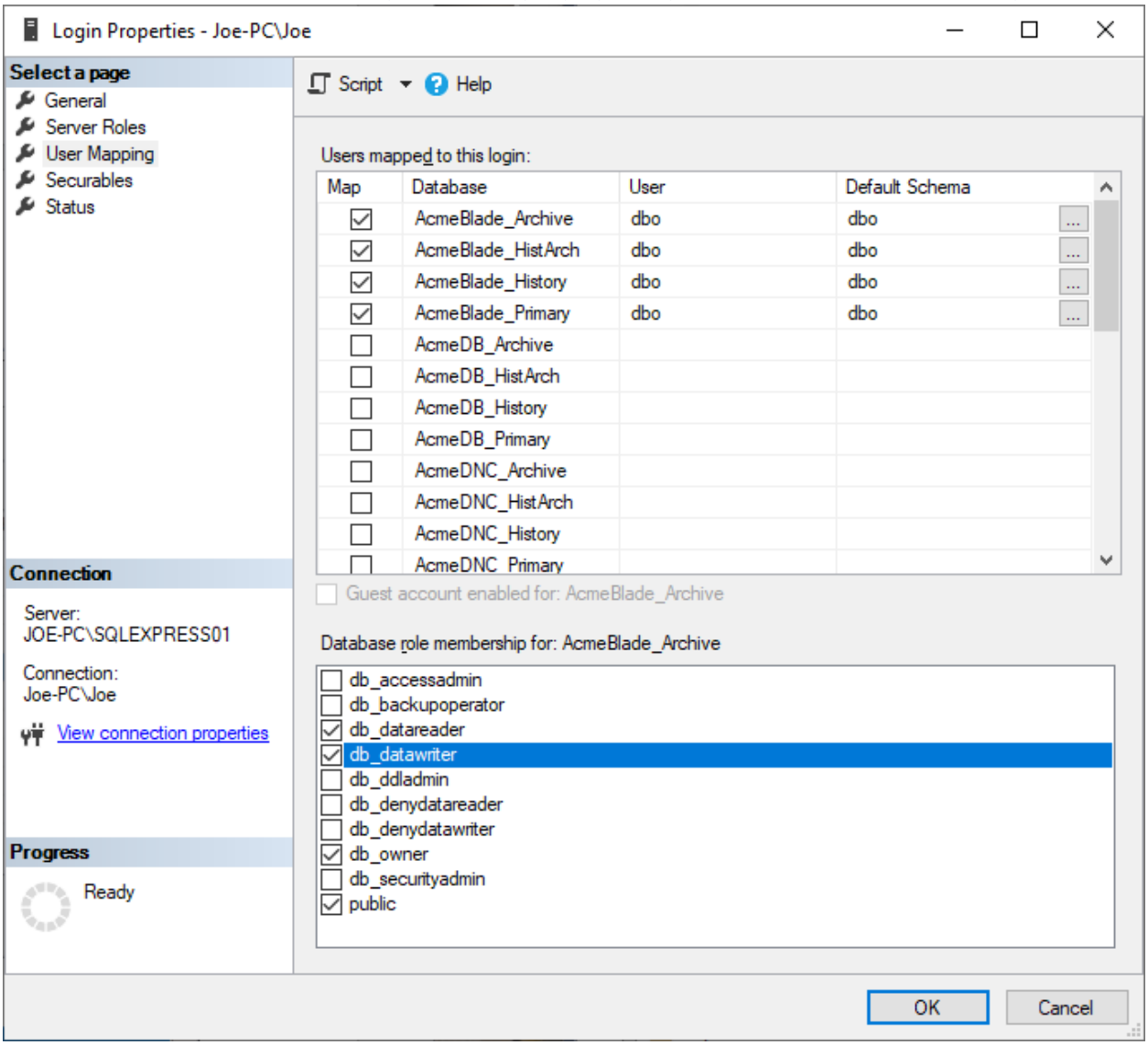
When complete this is a good time to finish setting parameters in the Microsoft SQL Management Studio. See the following Window!



Refresh the Databases folder! You can see the AcmeBlade Databases have been added!

There are some settings that need to be set before you can use this Database. “IT” should create a SQL Server **User Group**, “Joe-PC\Joe” above, yours will be different, and set the following Rights! Double click on the **User Group** “Joe-PC\Joe” and the following Window is displayed!

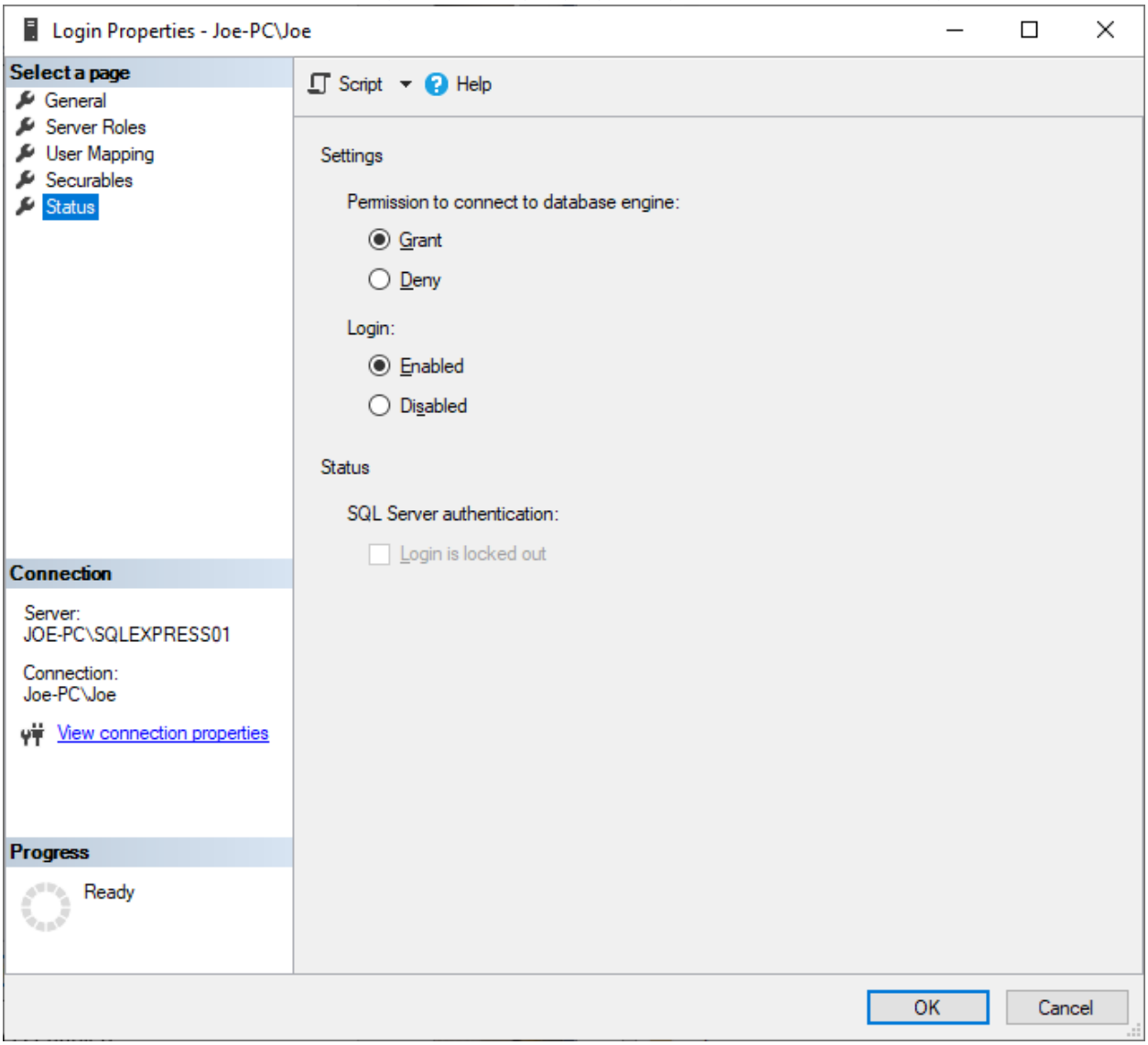
Install SQL Server 2019, SSMS & ShopFloorManager (Login Properties - JOE-PC\Joe User Mapping)



Select the Menu “User Mapping” and set all 4 databases as shown above. When done with the settings click on OK Button!

Next click on the Status Menu and the following Window is displayed.

Note: You can set all of the parameters for each of the databases first and then click on OK Button or do them individually!



Make sure that permission to connect to the database engine is granted and that login is enabled.

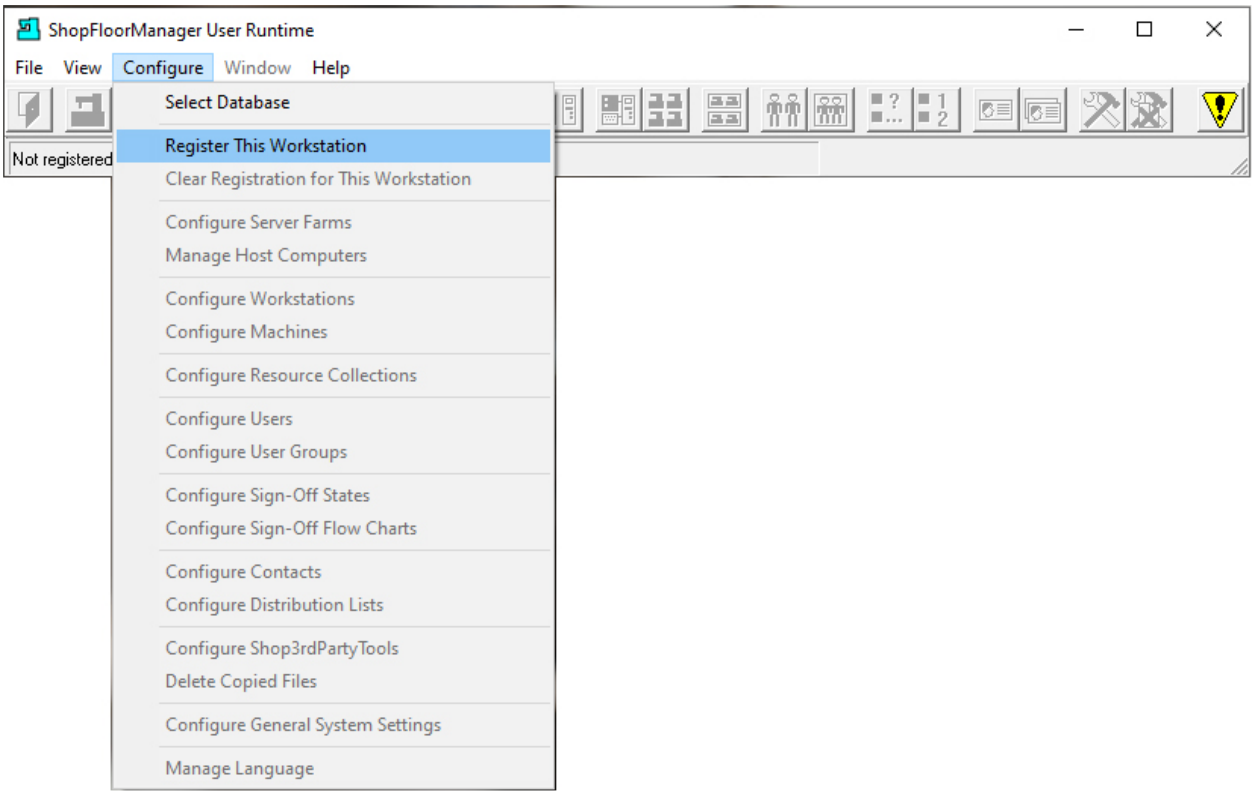
Now let's login to ShopFloorManager!

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager Runtime Grayed Out)

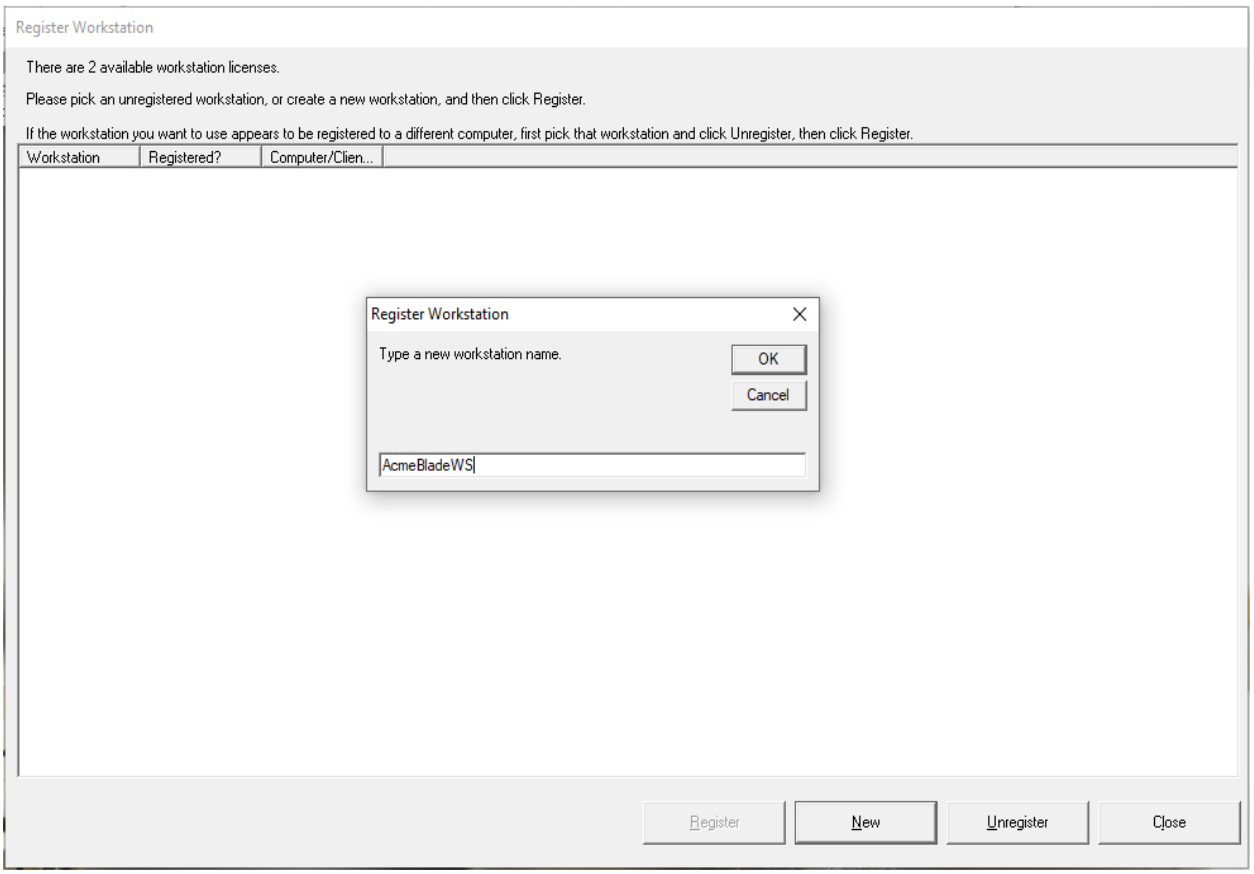
After installing ShopFloorManager start ShopFloorManager Runtime. If this is a new installation most of Runtime's Features will be Grayed Out!

Click on the Configure Menu and the following Window is displayed!

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager Runtime Grayed Out)

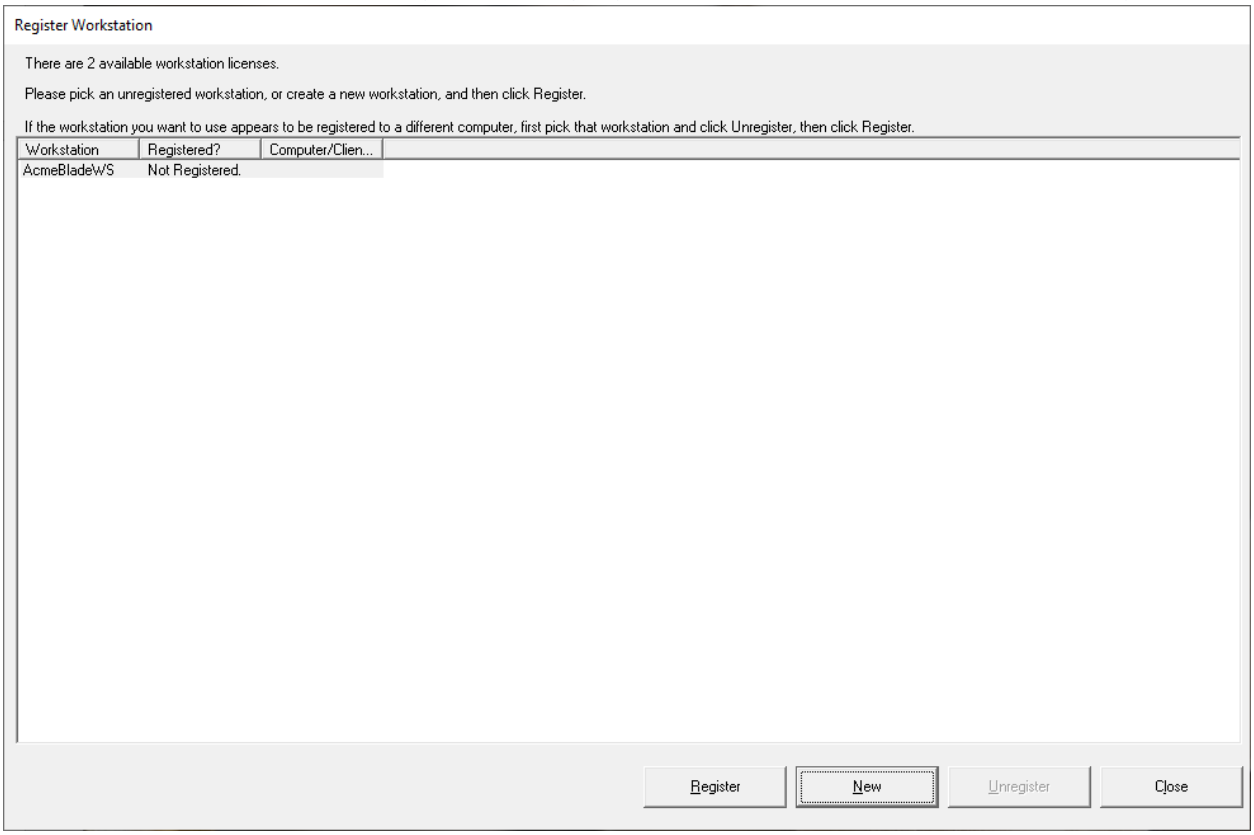


Click the "Register This Workstation" and the following Window is displayed.



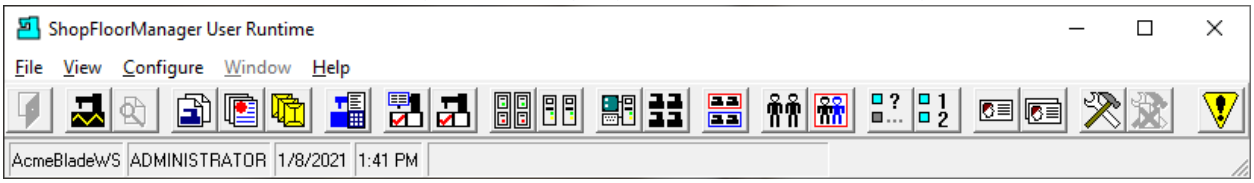
After the above Form is displayed click the New Button and enter the name of the Workstation you want registered to this Physical PC! Use a name that indicates its use such as a particular User!

Click the OK Button and the following Window is displayed.



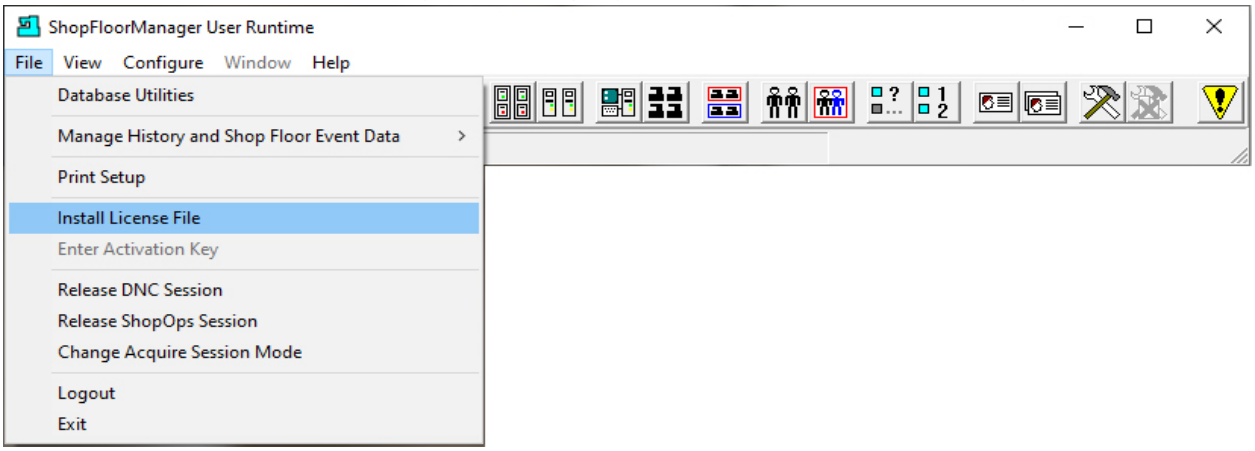
Highlight this Workstation and click the Register Button and the following Window will be displayed.

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager Runtime)



You are ready to enter the License and Activation!

Install SQL Server 2019, SSMS & ShopFloorManager (ShopFloorManager Install License File)



If you need a license call CCI 1-781-933-9500.

FileZilla Installation & Setup (Is that Animal Domesticated?)

On your Host Computer, download the free FileZilla FTP Service software (this is the link as of the day this document was written. It might be different when you need it.) https://filezilla-project.org/download.php?show_all=1&type=server

Install the FileZilla FTP Service using all the default values (unless you know what you are doing and wish to change any.)

On your Host Computer, configure the folders that are to be used to communicate to and from the CNC's on the shop floor. CCI suggests the following: The names shown are for illustration and can be any names you want.

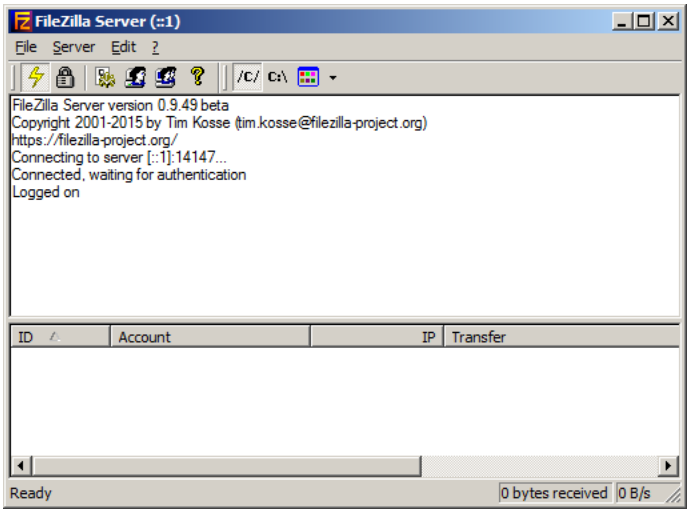
Create a folder C:\suitefactory\enet

Inside the enet folder create a sub-folder for each machine type – that is each type of machine that will be using the same part programs.

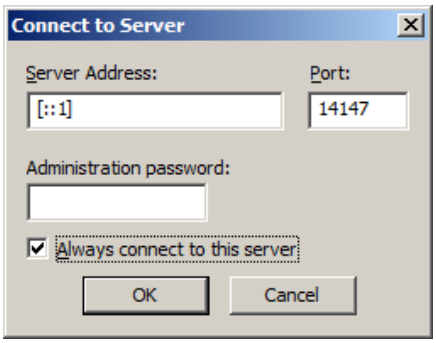
Inside each of those folders create a sub-folder called SAVE. We will use these SAVE folders for getting part program files from the CNC to the SuiteFactory database. For the sake of illustration, the folders created inside the enet folder are called 380T1 38T1\SAVE, E160A and E160A\SAVE.

Start the FileZilla Server Interface

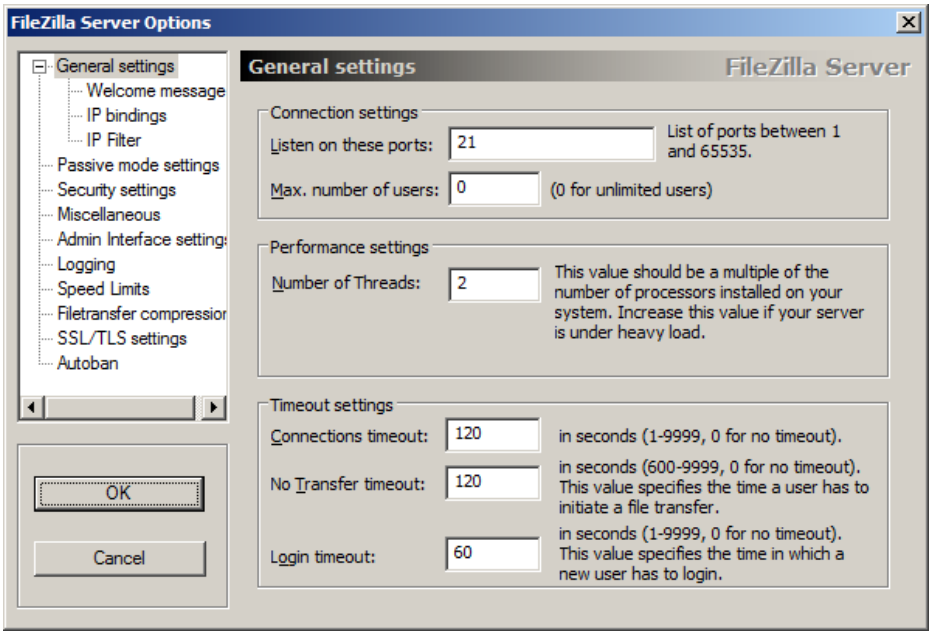
A screen similar to this should appear.



If this dialog box appears, click OK without changing anything.

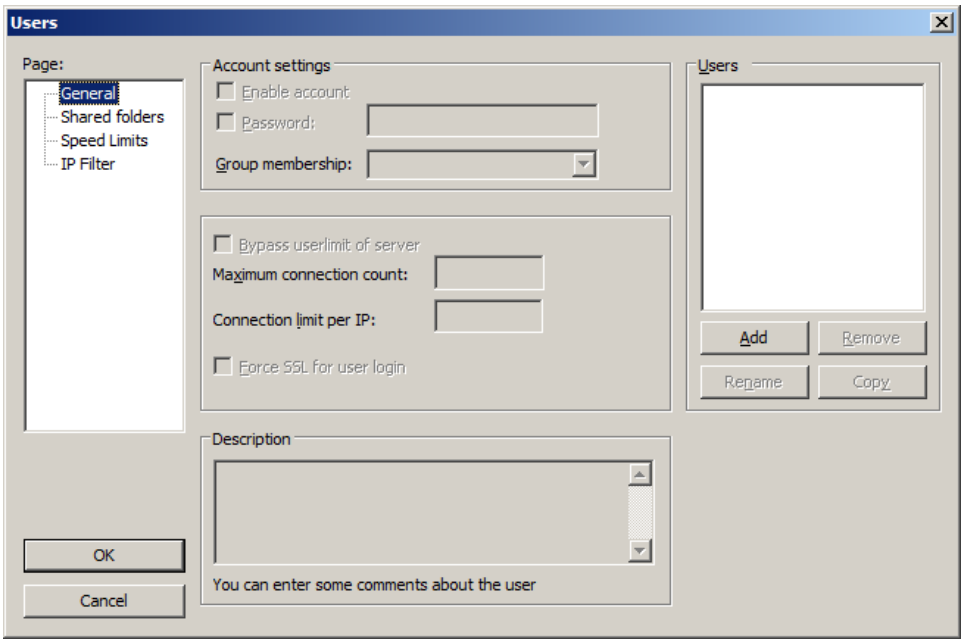


Click on the Settings icon or Edit/Settings



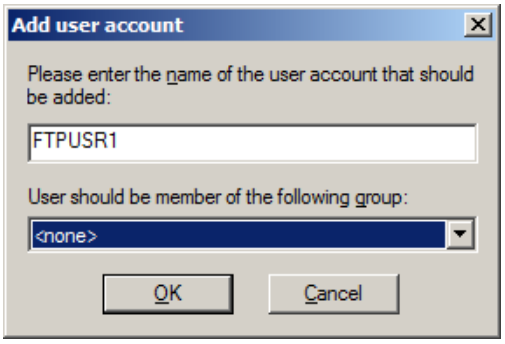
In the General settings screen the “Listen on these ports:” should be 21. Click OK or Cancel if no changes were made.

Click on the Users icon or Edit/Users



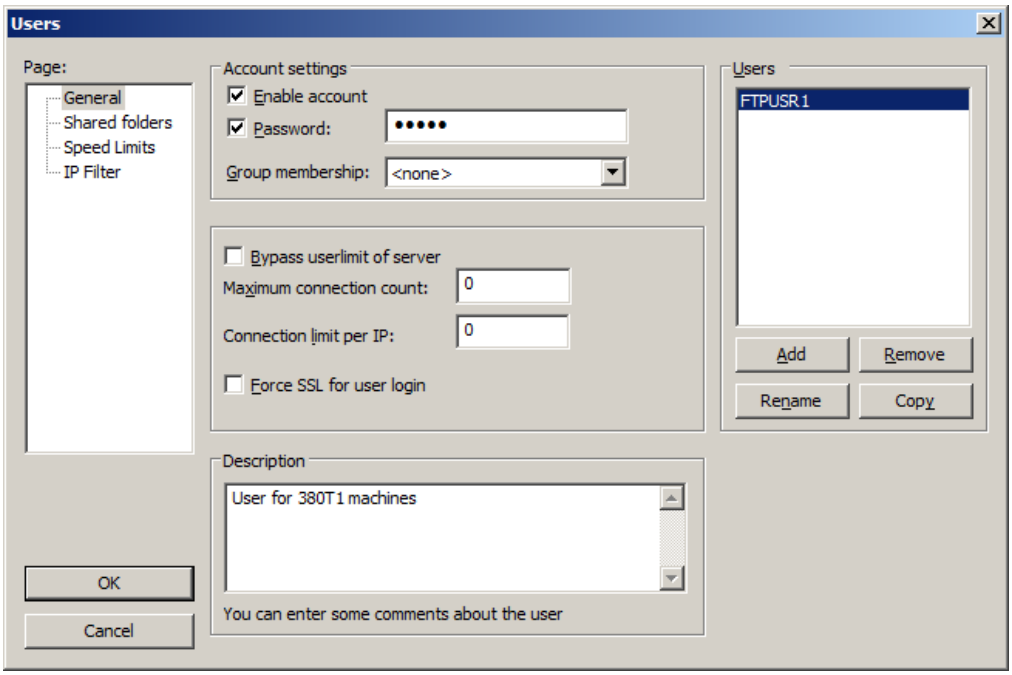
Click Add and create a user.

For example FTPUSR1.



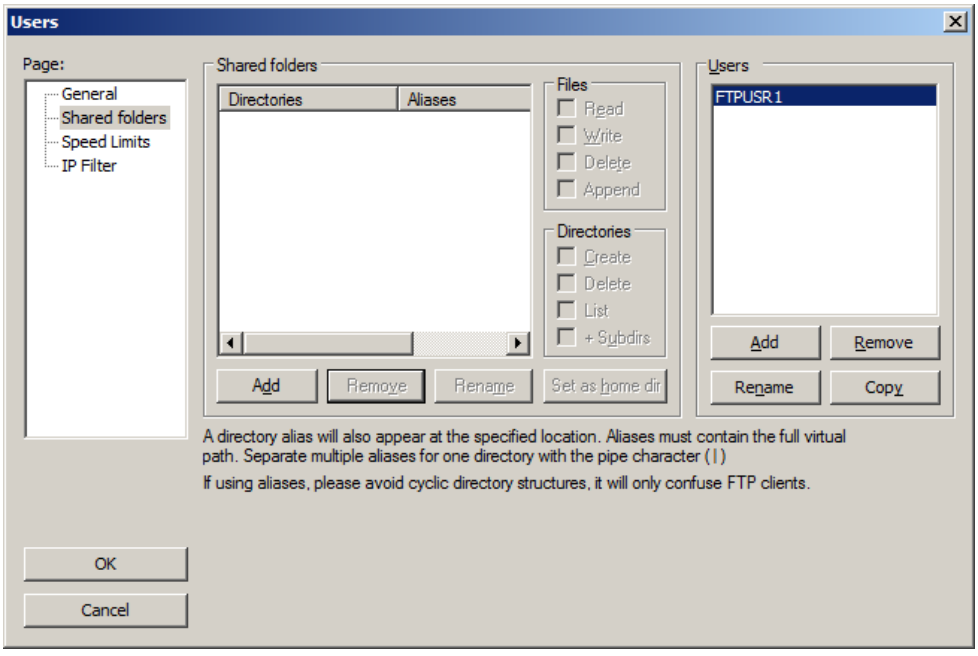
Click OK.

Checkmark Enable account and Password. Create a password for FTPUSR1. If you wish enter a description.

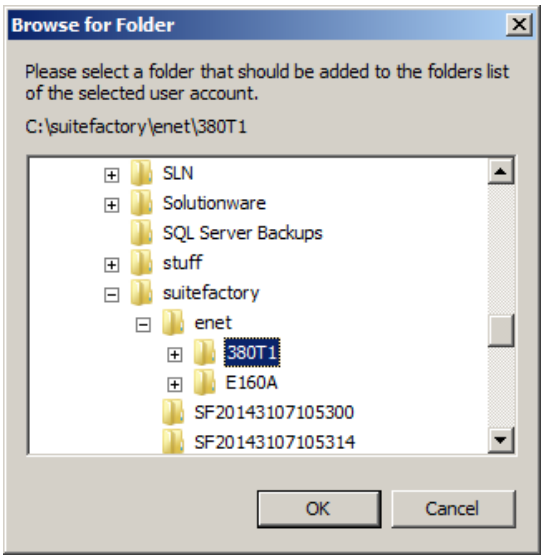


Highlight Shared folders.

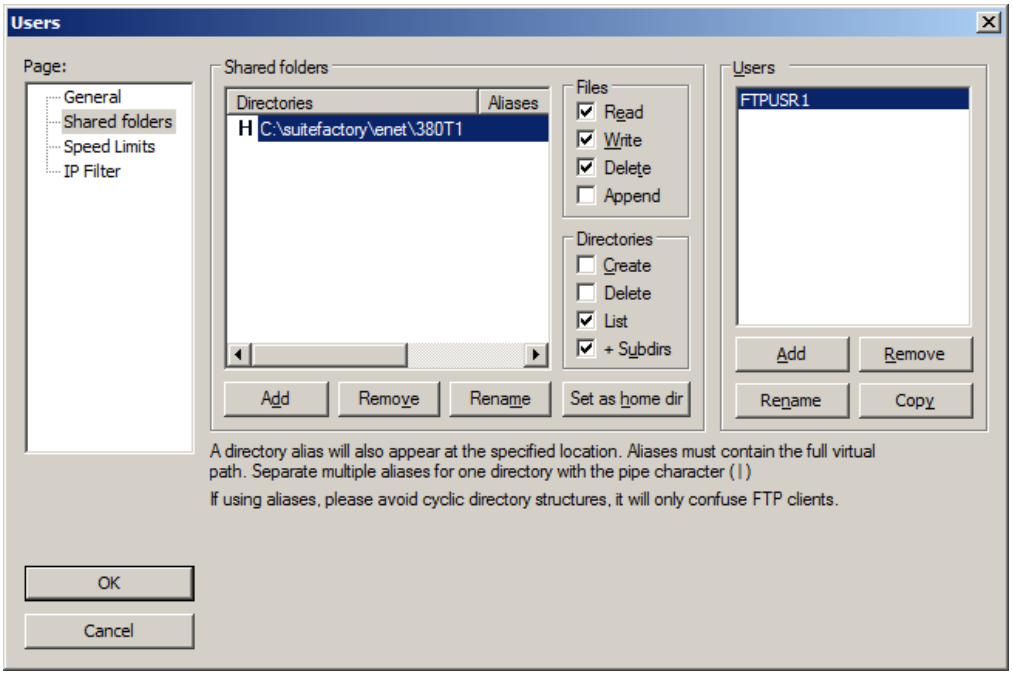
Click on the Add button under the Shared folders box.



Browse to the 380T1 folder.



Click OK.

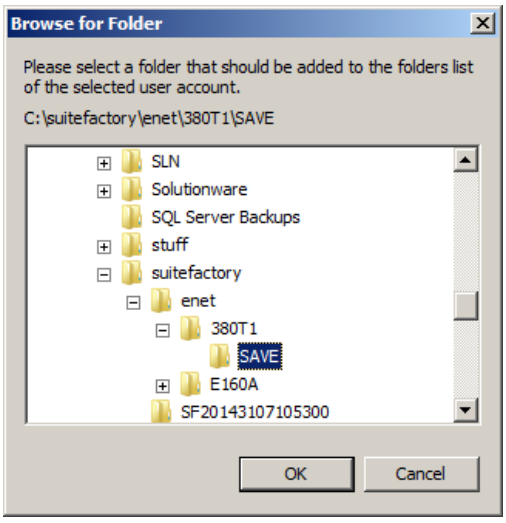


Make sure that under Files that Read, Write and Delete are checked.

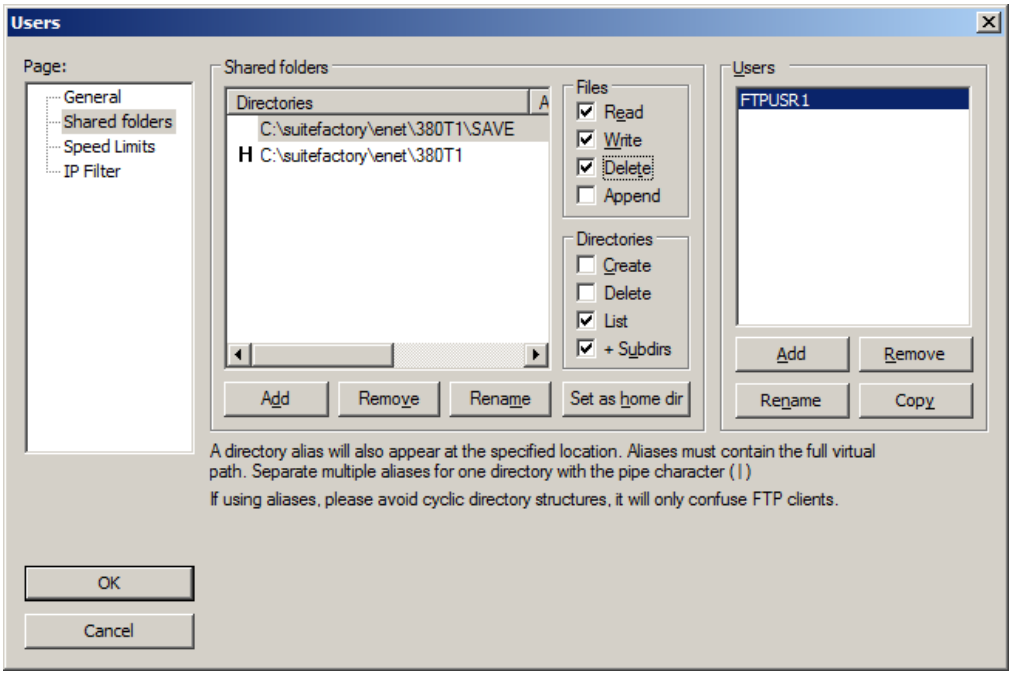
Click OK. Note the letter H to the left of the path. That indicates the users Home Directory.

Return to the Shared folders screen (as shown above) and click on the Add button again.

Browse to the SAVE folder for machine 380T1



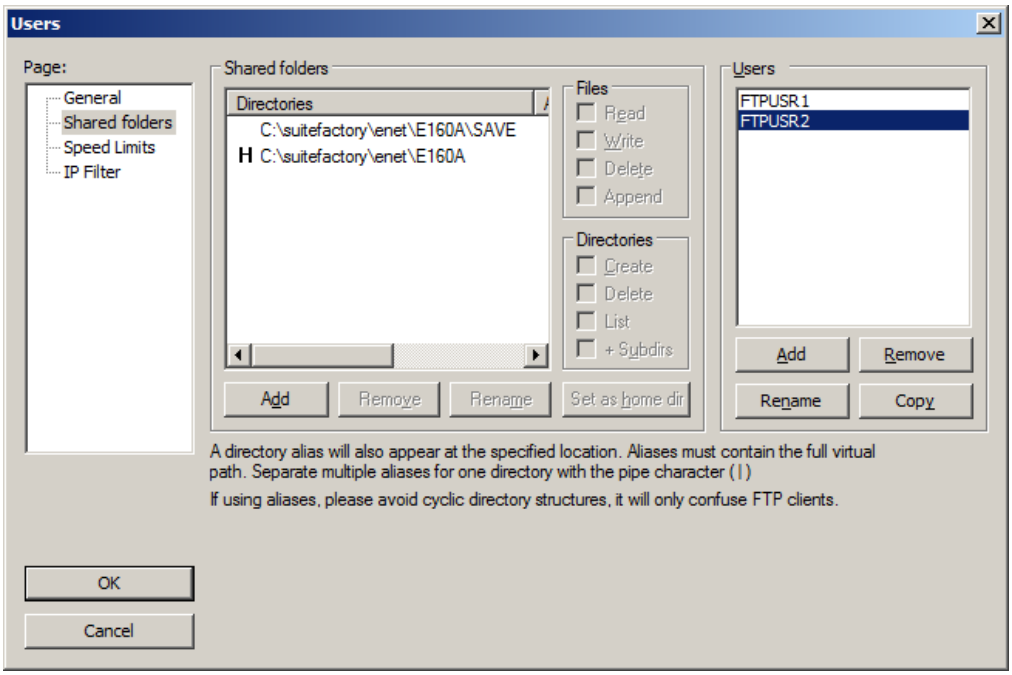
Click OK.



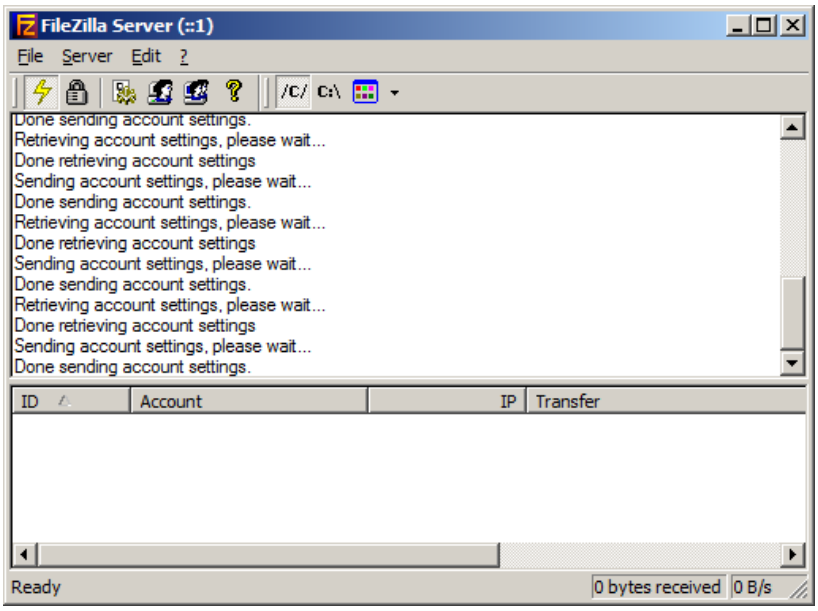
Check Read, Write, and Delete and click OK.

Repeat the process for as many users you require for the different kinds of machines you have.

Go back to General and create another user such as FTPUSR2 in this example.



Click OK.



Repeat for as many machine types you have and then you can exit from this application.

Comtrol Devices, Portvision & Other (Sorry, I don't have a Kindle!)

Comtrol Main Site:
https://comtrol.com/

Drivers:
https://downloads.comtrol.com/

Portvision:
https://comtrol.com/resources/product-resources-white-papers/additional-resources/portvision-dx

Downloads:
https://downloads.comtrol.com/

DeviceMaster:
https://downloads.comtrol.com/devicemaster-platform/

Moxa (No Thanks, that doesn't taste as good as Coke!)

Moxa Main Site:
https://www.moxa.com/en/

Nport:
https://www.moxa.com/en/products/industrial-edge-connectivity/serial-device-servers/wireless-device-servers/nport-w2150a-w2250a-series

AP/bridge/client:
https://www.moxa.com/en/products/industrial-network-infrastructure/wireless-ap-bridge-client/wlan-ap-bridge-client/awk-4131a-series

Import Search Criteria for Existing Keys (I love Imports! What Brand is it?)

ShopFloorManager has added the ability to import Search Criteria values for ShopNCFiles being Imported using the Maintenance Engine based on Embedded text within N/C Programs.

An embedded Search Criteria Value data block must start within the first 5000 characters of an NC program, and it must be shorter than 5000 characters in total length.

Data block format with example values for different field types:

The following is technical and should be read carefully. A real example is presented a bit later using an actual ShopNCFile with the Search Criteria embedded! There are also details on how this relates to the Search Criteria Creation in the System Configuration to give the User Context.

Details:

Each line of the data block may be wrapped in parentheses; this is optional.

The data block starts with a line containing only "(Begin Search Data)".

The data block ends with a line containing only "(End Search Data)".

Each entry starts with a line formatted as "(<column_name>: <column_value>)".

If the named column has the type "Keyword", then the value is a comma-separated list of values:

(Keyword: value1, value2, ..., valueN)

If the named column has the type "Note", and if the note contains more than one line of text, then the additional lines of text are specified in a "note text block", formatted as:

(Start Note)

(Line: <line 1>)

(Line: <line 2>)

...

(Line: <line N>)

(End Note)

Details (Cont.):

(Begin Search Data)

(Test: abcdefghijklmnopqrstuvwxyz)

(TestPL: ZYXWVUTSRQPONMLKJIHGFEDCBA)

(Integer: 32109)

(IntegerPL: -32109)

(Long: 98765)

(LongPL: -8765432)

(Single: -5.432E10)

(SinglePL: 5.432E-10)

(Double: -9.87654321E100)

(DoublePL: 9.87654321E-100)

(NoteOneLine: One line of text)

(BoolZero: 0)

(BoolNonZero: 25)

(BoolNo: no)

(BoolYes: YES)

(BoolFalse: false)

(BoolTrue: TRUE)

(Keyword: value1, value2, ..., valueN)

(DateLocal: 12/8/16)

(DateInter: 2016/12/08)

(TimeLocalAM: 1:23:45AM)

(TimeLocalPM: 1:23:45PM)

(Time24AM: 1:23:45)

(Time24PM: 13:23:45)

Details (Cont.):

(NoteMultipleLine:)

(Start Note)

(Line: This is note line 1)

(Line: This is note line 2)

(End Note)

(DateTimeLocalAM: 12/8/16 1:23:45AM)

(DateTimeLocalPM: 12/8/16 1:23:45PM)

(DateTimeLocal24AM: 12/8/16 1:23:45)

(DateTimeLocal24PM: 12/8/16 13:23:45)

(DateTimeInter24AM: 2016/12/8 1:23:45)

(DateTimeInter24PM: 2016/12/8 13:23:45)

(DateTimeLocalPL: 12/8/16 13:23:45)

(DateTimeInterPL: 2016/12/8 13:23:45)

(End Search Data)

Notes on specifying values for each Search Column data type:

Type Boolean:

The words "True" or "Yes" and numeric values that are not equal to 0 evaluate to "True".

The words "False" or "No" and numeric values that are equal to 0 evaluate to "False".

Letter case is not significant.

Type Integer:

The value must be a valid text representation for an integer value in the range -32768 to 32767.

Type Long:

The value must be a valid text representation for an integer value in the range -2,147,483,648 to 2,147,483,647.

Details (Cont.):

Notes on specifying values for each Search Column data type (Cont.):

Type Single:

Valid values are 0.

-3.402823E38 to -1.401298E-45 for negative values.

1.401298E-45 to 3.402823E38 for positive values.

Type Double:

Valid values are 0.

-1.79769313486231E308 to -4.94065645841247E-324 for negative values.

4.94065645841247E-324 to 1.79769313486232E308 for positive values.

Dates and Time:

Valid formats are either the "international format" or a valid format for the current language-and-culture

for the Windows user account in which the SuiteFactory program is running.

The "international format" is:

yyyy/mm/dd hh:nn:ss

yyyy = 4-digit year

mm = 1- or 2-digit month, leading zeros are valid

dd = 1- or 2-digit day, leading zeros are valid

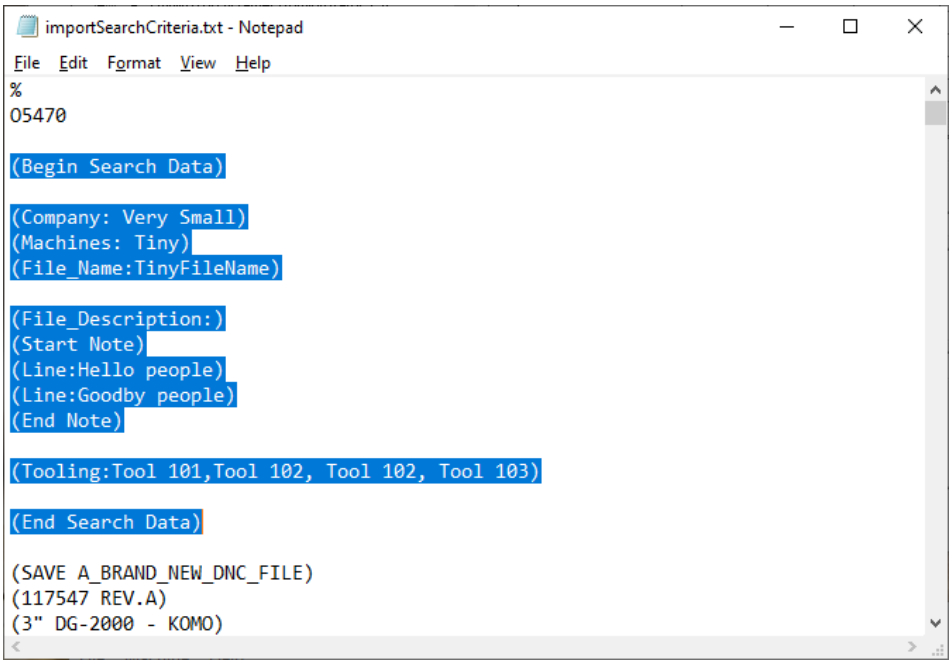
hh = 1- or 2-digit hour, in the range 00-23

nn = 1- or 2-digit minute, in the range 00-59

ss = 1- or 2-digit second, in the range 00-59

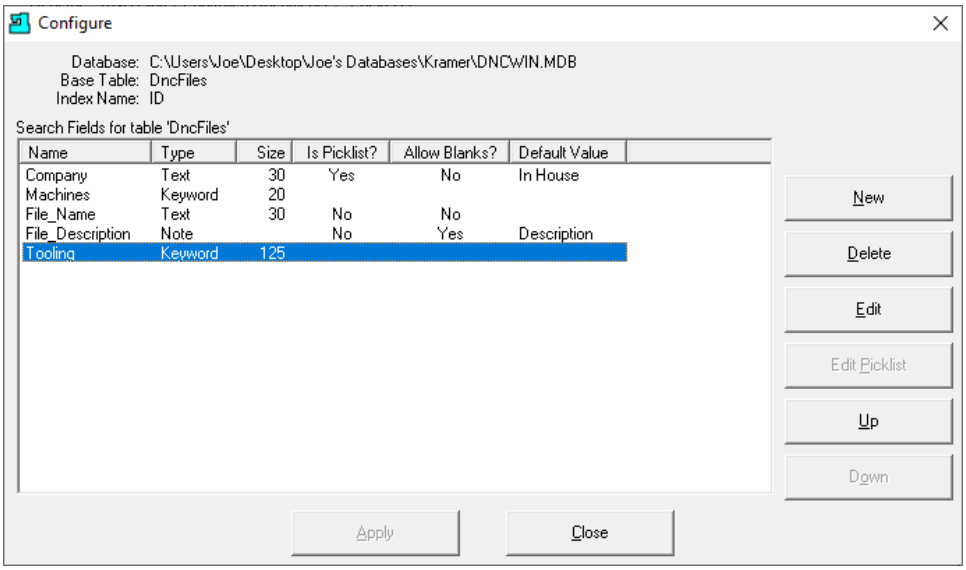
Real Example:

ShopNCFile with Search Criteria embedded

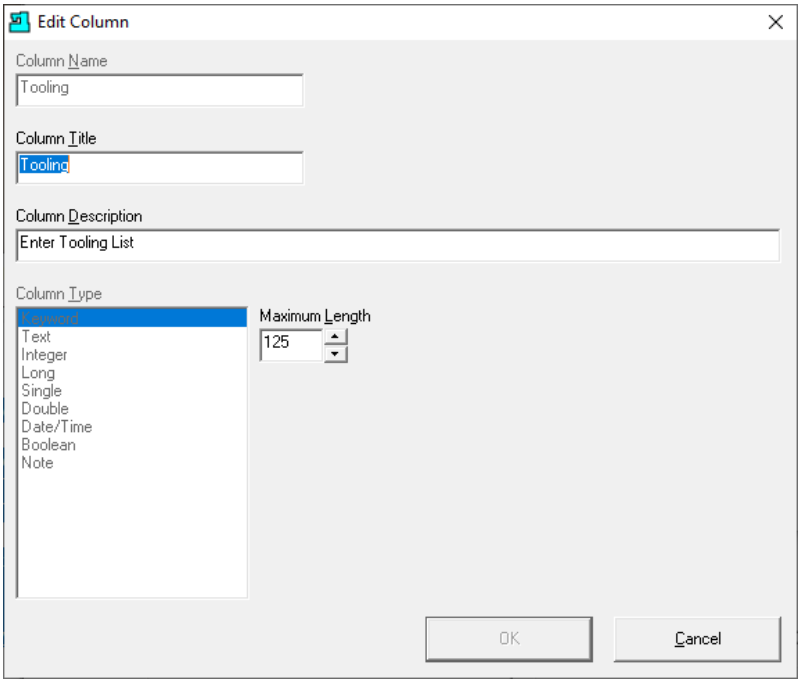


You will note the each of the Search Criteria Data begins with the name of the “Column Name”! The names that follow are the “Column Title” which are named exactly the same as the “Column Name” for clarity’s sake. We suggest you follow the same strategy. You need to use the “Column Name” in the embedded Search Criteria in the ShopNCFile in order for this to work! See the Window after the following Window for details for one Key!

Existing Search Criteria Keys

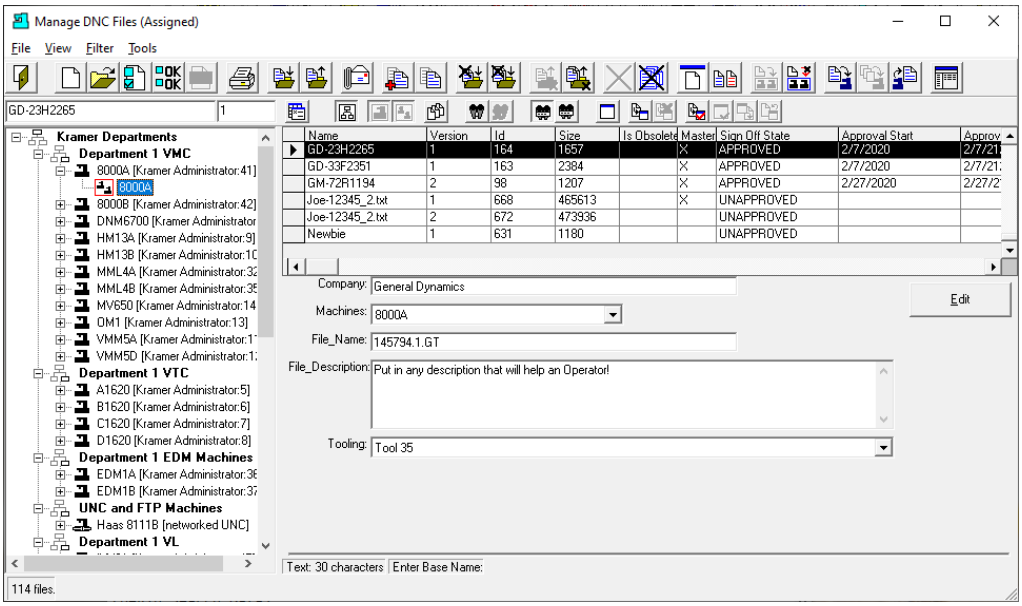


Existing Search Criteria Creation Form (Tooling Keyword Type)



Notice we have named the Column Name & Column Title the same. The reason is when looking at the Search Criteria Key when displayed in Manage ShopNCFiles the Column Title is displayed not the Column Name. By naming them the same there will be no confusion between the two.

Manage ShopNCFile Search Criteria View:

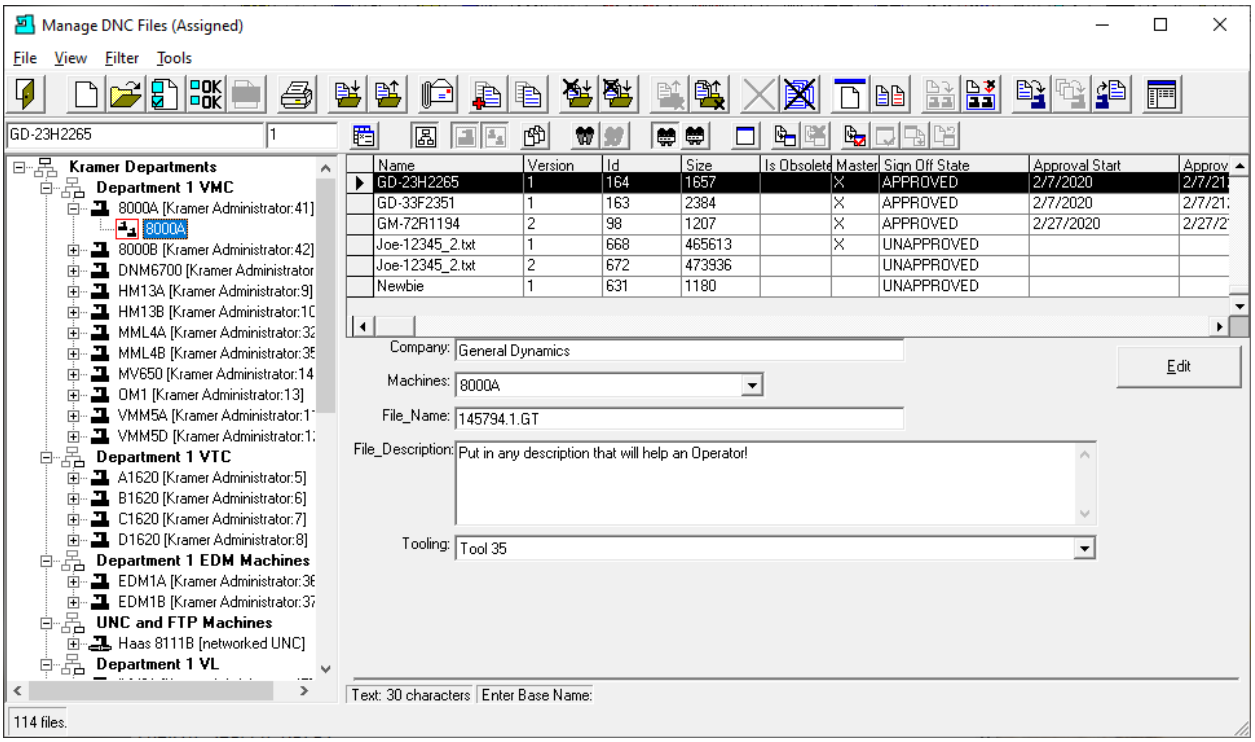


The Labels displayed are “Column Title” not “Column Name”. If they are named the same there will be no confusion!

Example of Import an ShopNCFile with Search Criteria Data

We will be importing the file “importSearchCriteria.txt” into Resource Collection 8000A to demonstrate how Search Criteria Key Data is imported Automatically.

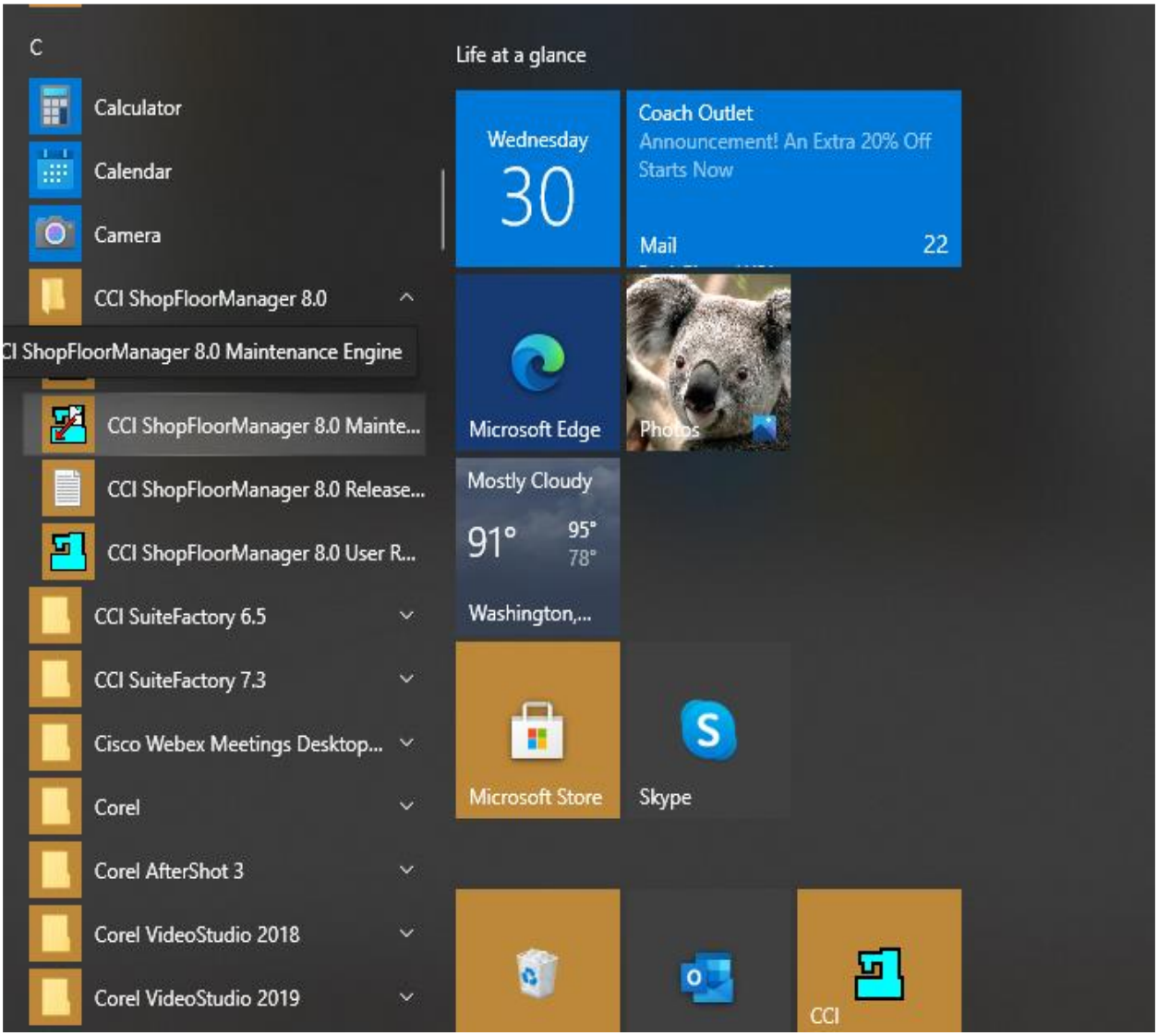
Manage ShopNCFile Search Criteria View Resource Collection 8000A



At present you can see that the only files assigned to Resource Collection 8000A are the 6 files displayed above.

First let’s start the Maintenance Engine so we will be able to import the file “importSearchCriteria.txt”!

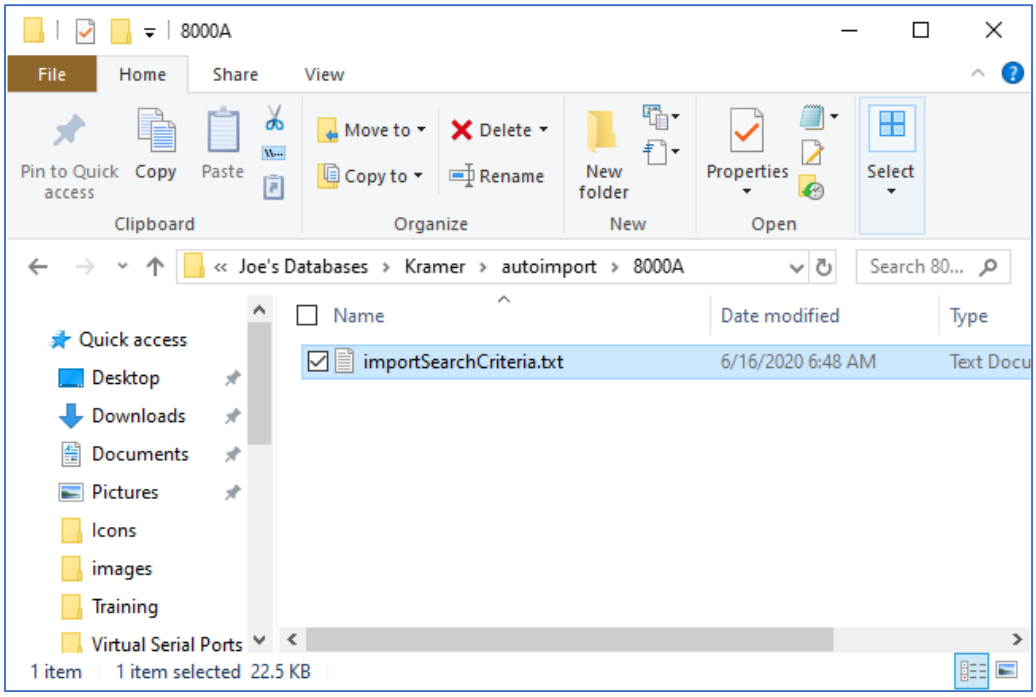
Import Search Criteria for Existing Keys (Maintenance Engine)



If the Maintenance Engine is not running, click on the Menu “CCI ShopFloorManager 8.0 Maintenance Engine”.

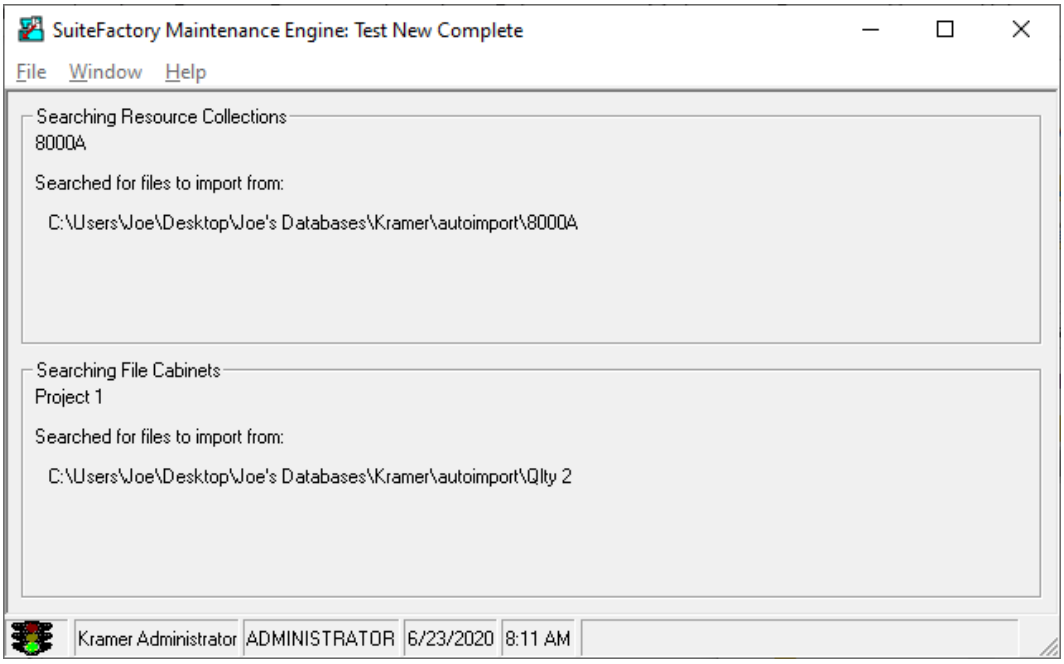
See the next page for additional information!

Auto Import Folder 8000A



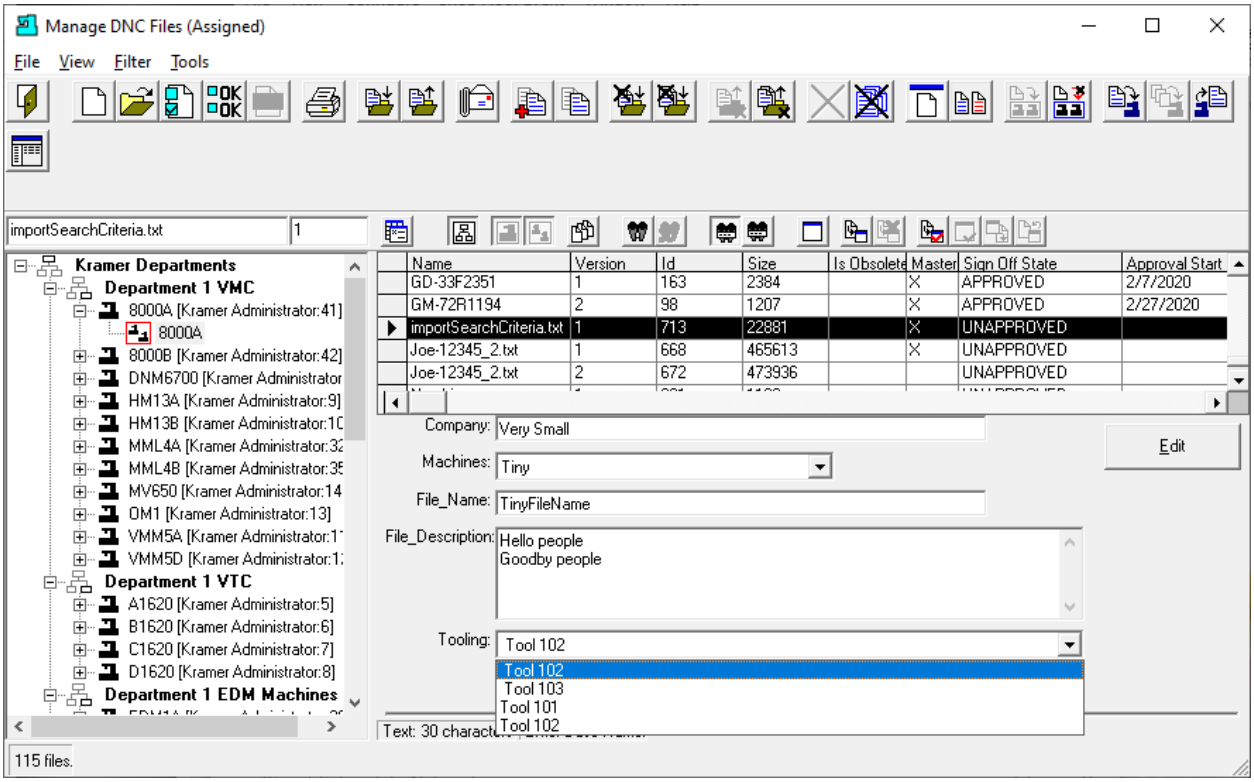
With the Maintenance Engine running we will drop in the File “importSearchCriteria.txt” into the import folder 8000A to start the import process.

Maintenance Engine



As you can see the Maintenance Engine checks the Folder 8000A for any files that need to be imported!

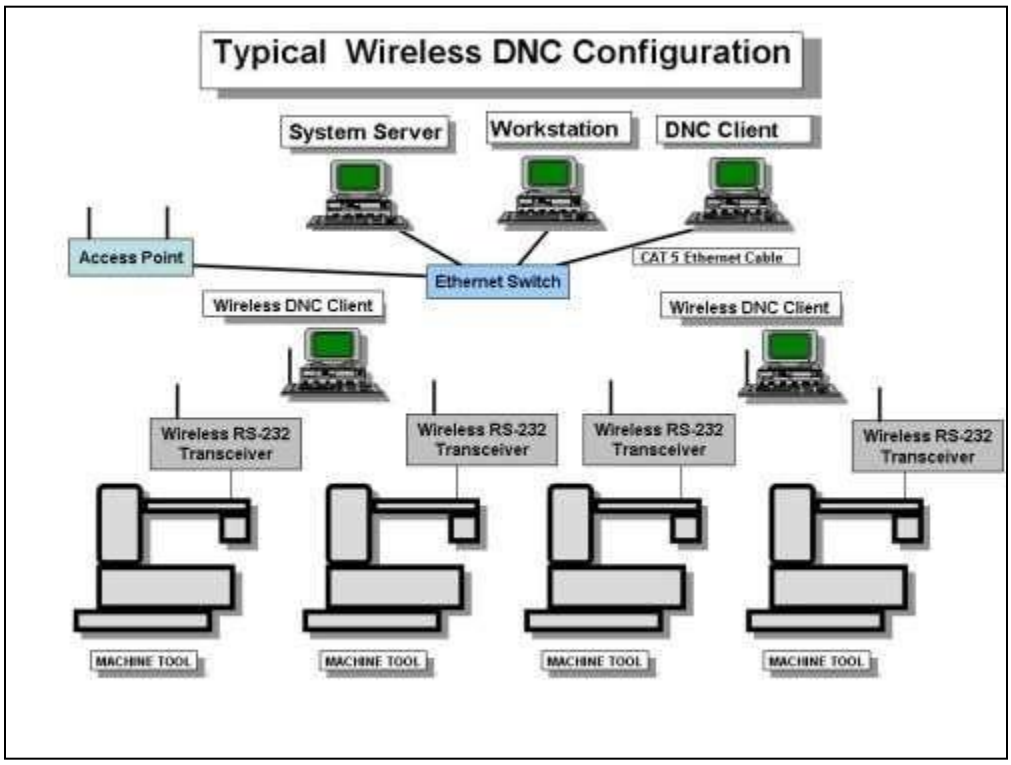
Manage ShopNCFile Resource Collection 8000A with importSearchCriteria.txt with Search Criteria Data



If you compare this with the original View you can see that the File “importSearchCriteria.txt” has been imported and the Search Criteria Data imported into the Search Keys.

Installing a Wireless DNC System (Sorry, I'm into Wires!)

(Other Technotes are available describing how to configure SuiteFactory and specific brands of CNC's. Contact CCI)



1 Typical Wireless DNC Configuration

The diagram, above, shows the most typical way a wireless DNC system is configured. A better way, to isolate the DNC traffic from the rest of the network, is to install a second Network Interface Card (NIC) into the computer that will be hosting the drivers for the wireless RS-232 modules and connecting the Access Point for the shop floor directly to that NIC, bypassing the LAN's Ethernet switch. In a large installation where several Access Points are required you can connect a dedicated Ethernet switch to the second NIC and connect the shop Access points to that switch. Those Access points would be given different SSID's and encryption keys than any other Access Points that might be in the area.

Not shown in the above diagram are machines that communicate via Ethernet instead of RS-232. Those machines can either be hard-wired to the network switch or part of the wireless network by configuring the wireless transceivers to be Ethernet to wireless bridges instead of RS-232 servers.

We use Moxa Nport W2150A modules. These can be configured for both RS-232 and Ethernet communications to your CNC's.

Setting up a wireless network

The steps involved in setting up the wireless network are:

1. Install the network hardware: Computers, NIC's and Ethernet switch. Your LAN's IP addressing scheme should use 10.0.0.0 - 10.255.255.255, 172.16.0.0 - 172.31.255.255 or 192.168.0.0 - 192.168.255.255. By international agreement, those addresses will never be used on the internet. By using this scheme internally your network computers cannot be directly accessed by the outside world. You have full control via your internal fire-walled router and/or proxy server.

2. Configure the Access Point(s) before putting it (them) in place. Follow the manufacturer's instructions. Select infrastructure mode. Create a unique SSID name - never leave it as default. We recommend enabling WPA-PSK2 authentication for security. Select AES-CCMP encryption.

3. Install the Access Point(s) in a safe location where 115vac power is available, within 300 feet of and where possible in direct line of sight to the wireless RS-232 modules. If you need a longer range or have walls in the way, more powerful antennas are available to extend the range. Alternatively, you can use multiple Access Points. Keep the Access Points away from sources of interference such as AC busses, welders, plasma machines, motors, and portable telephones.

If supplying 115vac is a problem, you can get Access Points that support POE (Power Over Ethernet) and an adapter that will supply the necessary power over the Ethernet cable from where it plugs into your switch or computer so long as that cable does not exceed 100 feet.

4. Install the driver for the wireless RS-232 modules on the computer(s) that will be running the ShopDNC communications engine.

5. Configure each wireless RS-232/Ethernet Bridge module following the instructions below.

Use the SSID and security settings that you configured in your Access Point. For RS-232 assign a unique COM port value for each unit. We recommend starting at COM5 so that there will be little chance of overlapping existing ports on the computer(s).

6. Put the wireless RS-232/Ethernet Bridge modules in place. Power them on. The signal strength bars indicator on the Moxa will show you whether you have an adequate signal. If the signal is weak then try moving either the module to another location, move the Access Point or get a more powerful antenna on your Access Point or module.

7. Attach the supplied RS-232 or Ethernet cables from the modules to the CNC communications port.

8. Install and configure SuiteFactory.

2 Setting up a MOXA Wireless Device Server

This applies to MOXA NPort device W2150A.

2.1 First time setup

This can be done in advance on any PC or laptop with an Ethernet port.

1. Download the latest driver manager, Device Search Utility (DSU) software and firmware, if necessary, from https://www.moxa.com/en/support/product-support/software-and-documentation/search?psid=50591.

Go to Support and Service/Download Center. Select the Moxa product from the pull-down list (NPort W2150A). Click Go. Download the latest firmware, driver manager and search utility.

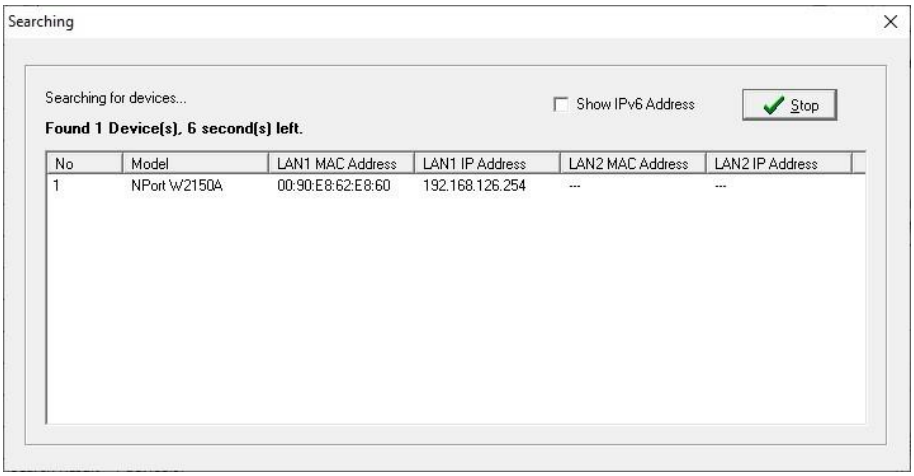
2. Unzip the firmware .rom file and save it in an easily accessible folder.
3. Unzip and install the Moxa DSU – the Moxa Nport Search Utility.
4. Save the Moxa Nport Windows Driver Manager zip file for later.
5. Set up your PC's Network Configuration

Temporarily configure your PC's Ethernet TCP/IP settings to conform to the MOXA's default Ethernet IP which is 192.168.126.254. You will have to set the IP settings for static and make the IP 192.168.126.10 for example. If you already have a static IP on your PC, you can permanently add the example IP 192.168.126.10 as an alternate in the Windows network configuration IP4 advance properties menu.

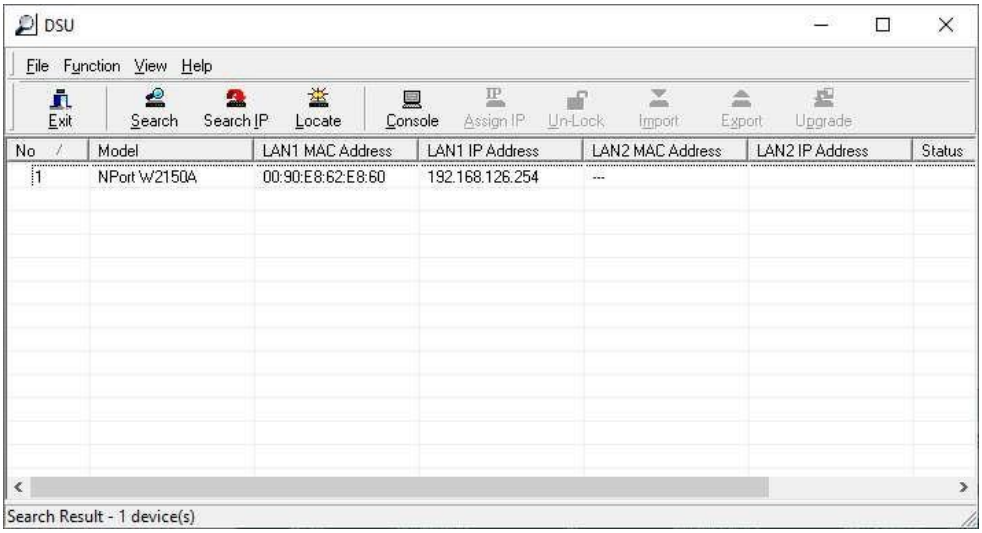
6. Attach Moxa device

Connect your NPort device directly to your PC's Ethernet port using the supplied CAT5 crossover cable. Plug the power module in and turn on power. Wait for the Ready LED to turn from red to green. You will also hear the Moxa ready "beep, beep" signal.

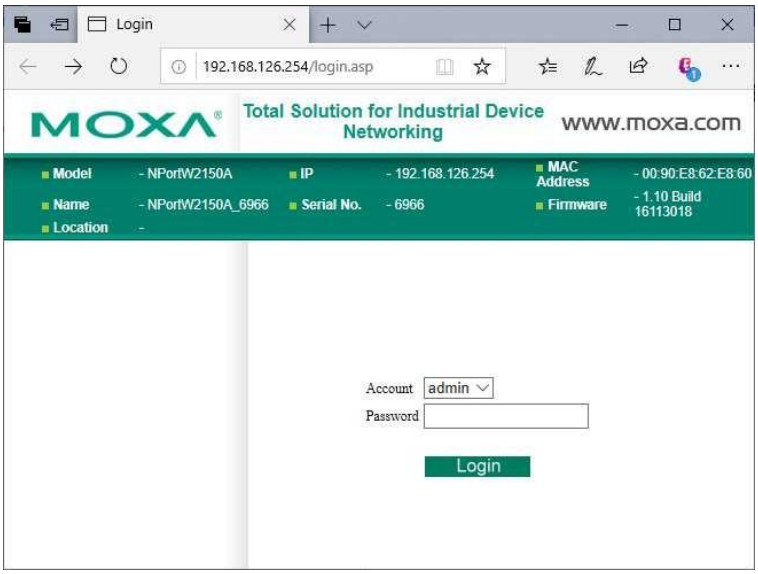
Startup DSU, the Moxa Nport Search Utility. Click on Search and you will get the following.



When the search process stops, the following appears.

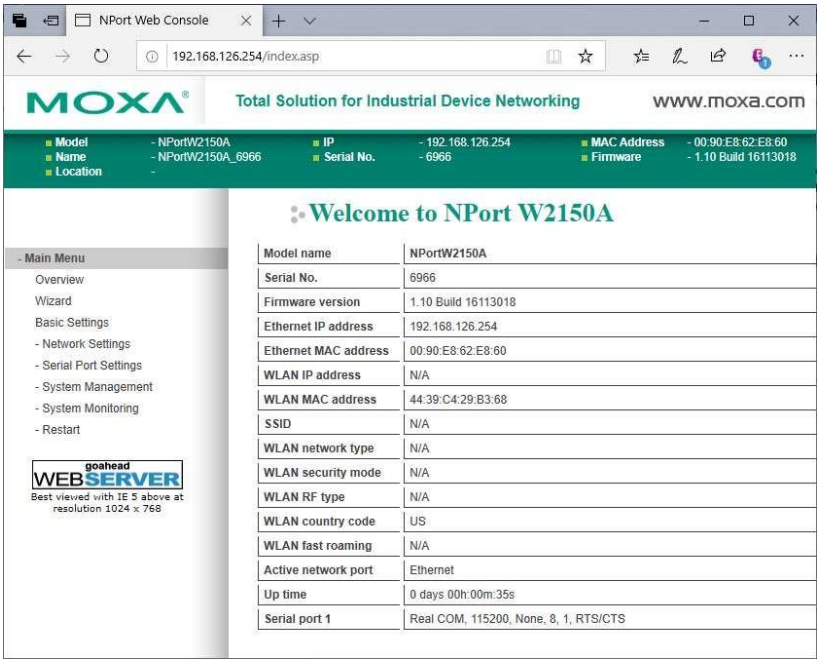


Highlight the NPort unit listed and click Console. The login screen showing user admin appears.



Older Moxa units had no default password. Newer ones have the password, "moxa". If that doesn't work, check the Quick Installation Guide that comes with the Moxa.

Click Login. The following "Overview" screen opens:



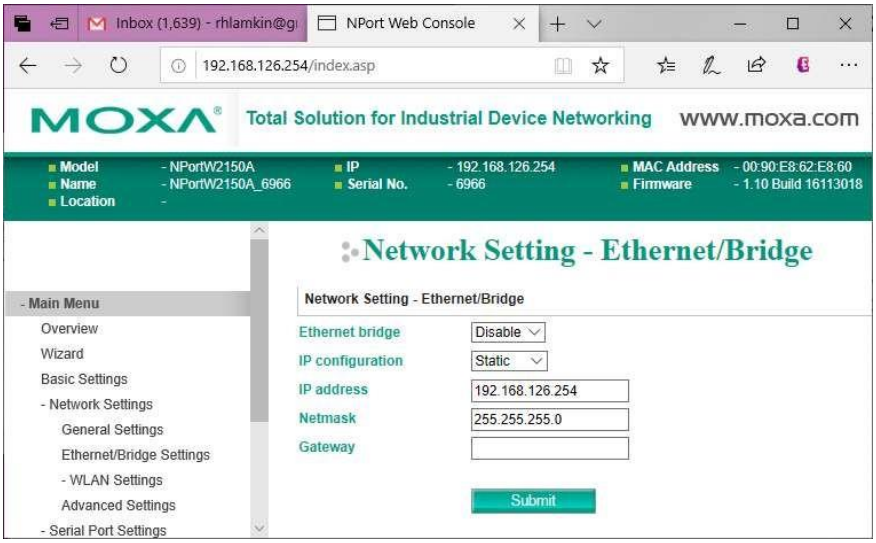
7. Firmware Upgrade

Check that the firmware version as show on the Overview screen is up to date. If not, select System Management/Maintenance/Firmware Upgrade. Carefully follow the instructions using the .rom file downloaded from Moxa's website.

For Ethernet/Bridge settings, jump to 2.4.

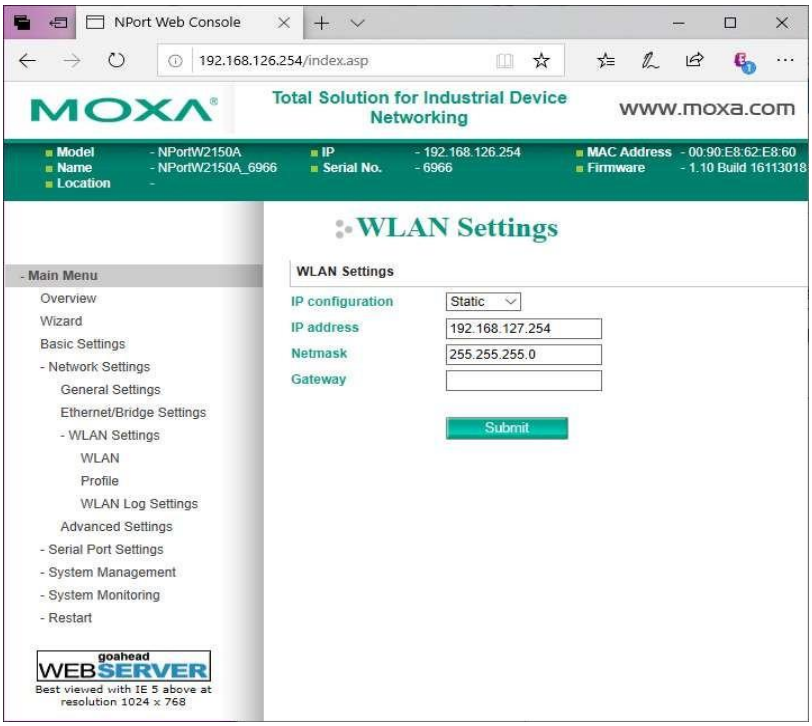
2.2 Settings for RS-232 Connections

Select Ethernet/Bridge Settings from the Main Menu.



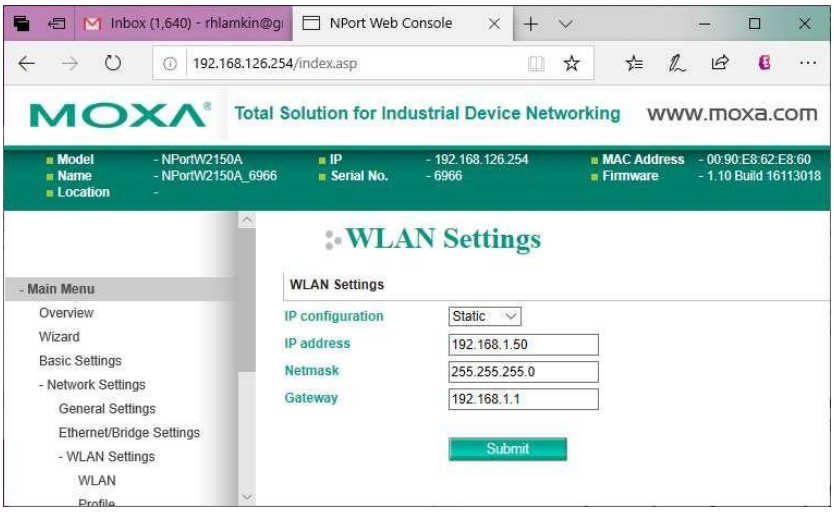
The factory default settings are shown above with Ethernet Bridge disabled. Make no changes.

Click on Network Settings/WLAN Settings/WLAN to get the following:



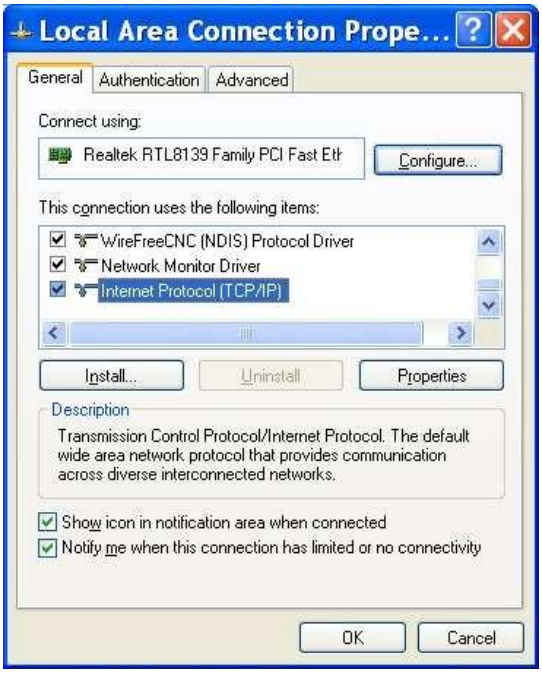
NOTE! The IP configuration should be set to "Static" because the COM port assignment is mapped to the IP address of the MOXA unit in the Windows Registry of the computer where the MOXA drivers are installed. If you use DHCP and the IP lease ends and the unit is re-assigned a different IP address, the results will not be good. Either MOXA units will not be found with the assigned COM port, or worse, the COM ports will be assigned to different units on different machines. If you must use DHCP you will have to make sure the lease never runs out or is a very long time, like 99 years.

Change the IP address to match your Local Area Network's scheme. Our network uses 192.168.1.x. Make sure the Netmask is correct. Enter your Gateway address.



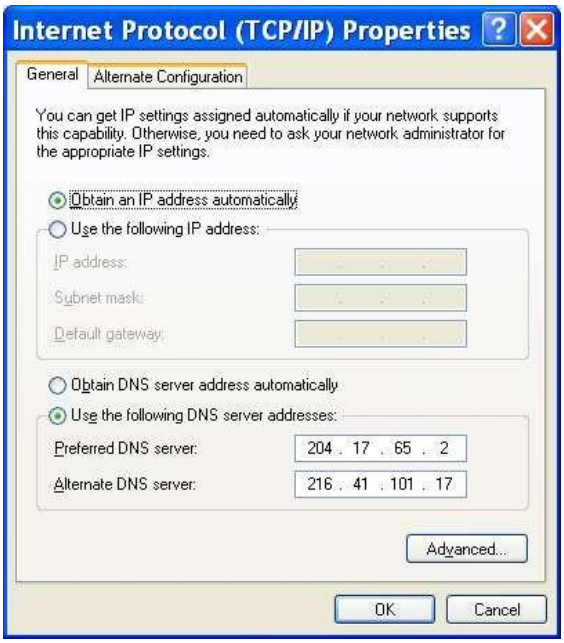
Click Submit. Wait unit the WLAN Settings screen reappears after a few seconds.

Hint! If you do not want to assign IP addresses from your company's available addresses, you can assign an alias IP address to the server(s) that will be hosting the COM ports and use a new unique scheme for your wireless devices. In Windows aliases are assigned via the "Alternate Configuration" tab of Internet Protocol (TCP/IP) Local Area Connection Properties:

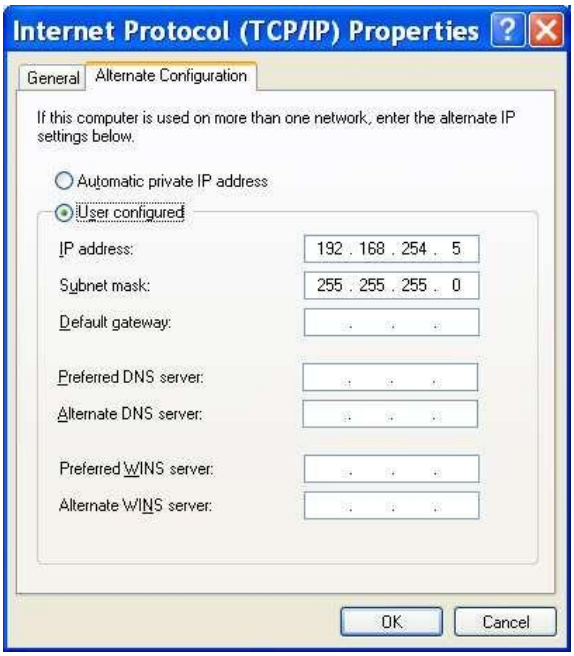


Click Properties

The General tab shows that in this LAN IP addresses are assigned automatically via DHCP.

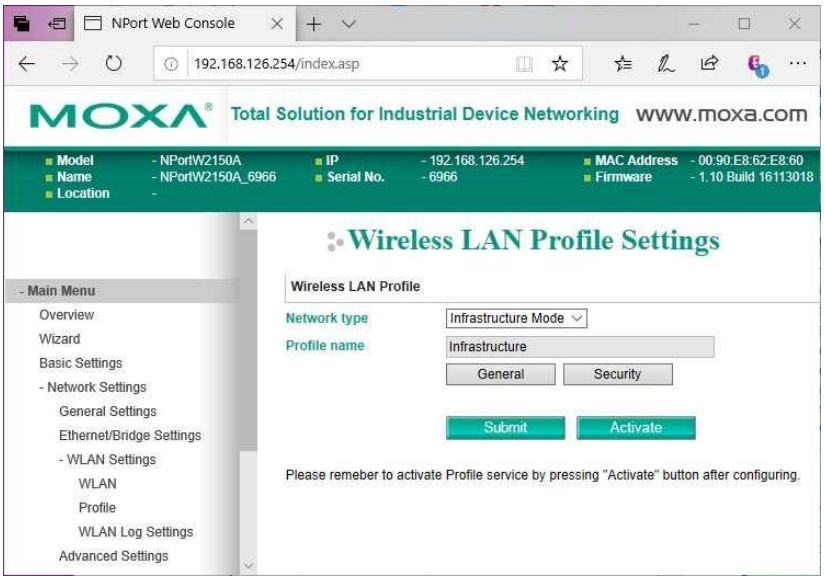


To set an alias click on the Alternate Configuration tab.

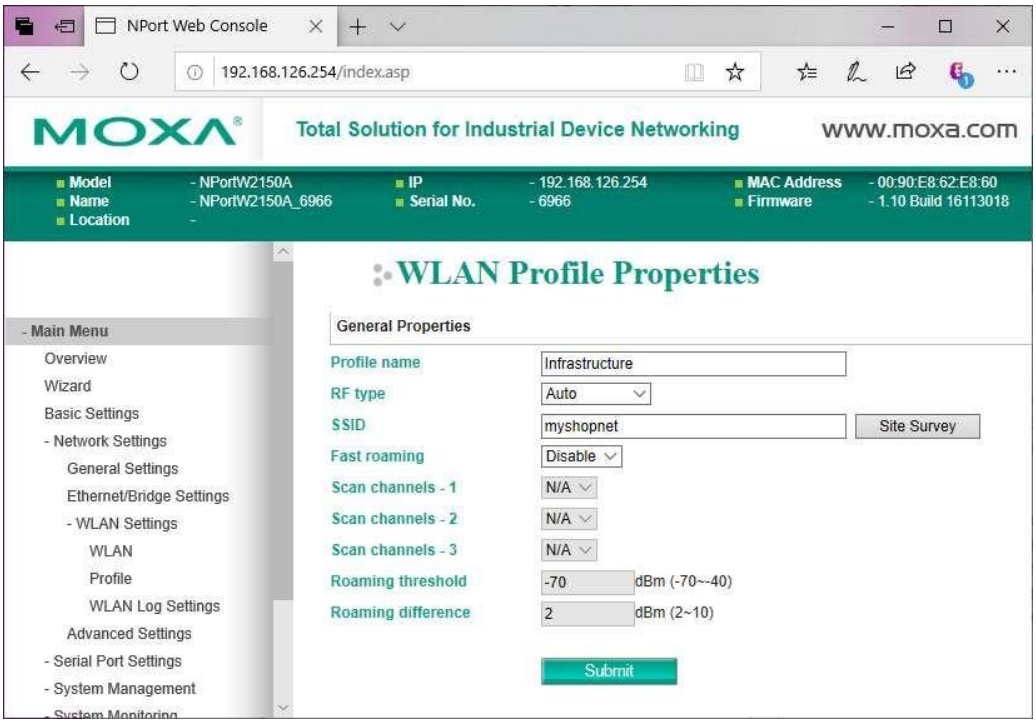


This screen shot shows an example of an alias IP address. END OF HINT!

Now select Network Settings/WLAN Settings/Profile from the Main Menu.

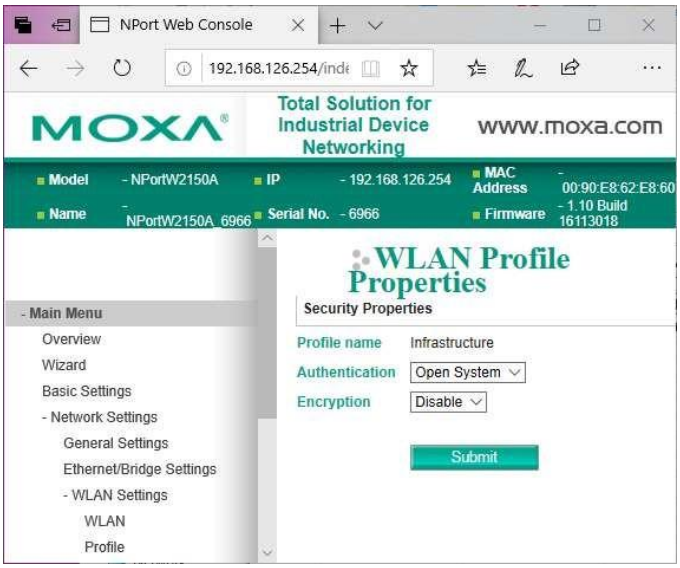


Set up as above with Network Type = Infrastructure Mode. You can change the Profile name if you wish. Click Submit if you made any change. Click on General.

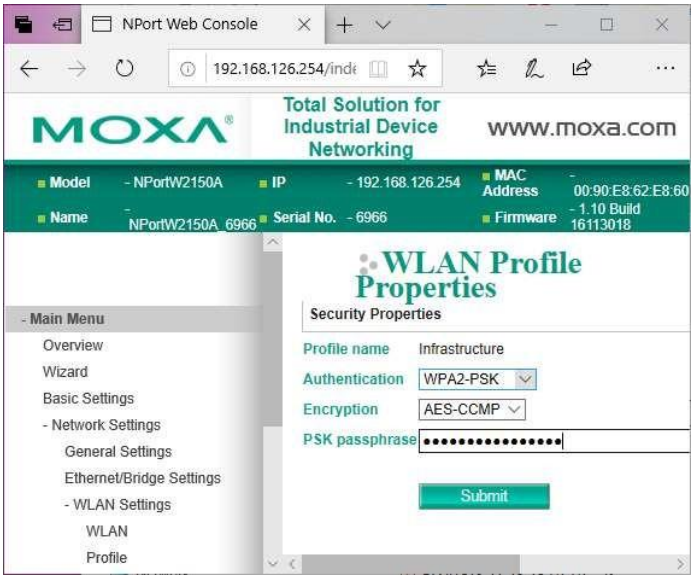


Set up as above, entering the SSID of your wireless network. You can click on Site Survey to find your SSID if you are in range, or you can manually enter it.

Click Submit. After a few seconds, the previous screen (WLAN Profile Settings) will appear. Click on Security and get this screen:

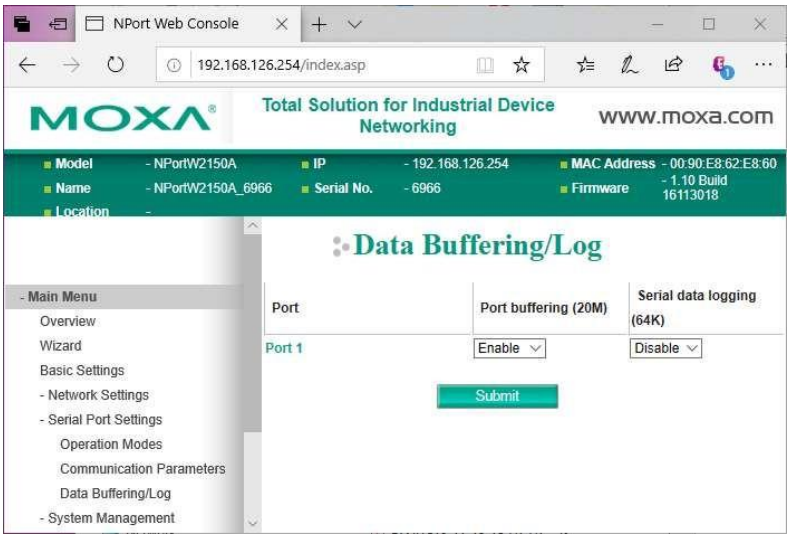


There are several choices on how to configure wireless security. You must set the MOXA units to match the method used by your Access Point. The following depicts the most secure type, WPA2- PSK.



Configure security to match your wireless network's Access Point's settings. Click Submit and after a few seconds the previous screen (WLAN Profile Settings) will reappear.

Next from the Main Menu, select Serial Port Settings/Data Buffering/Log.



Enable Port buffering (20M). Click Submit. Wait a few seconds until the above screen reappears.

Unplug the power supply and the CAT5 crossover cable. Reapply the power. Notice that the WLAN LED light starts to blink slowly on and off for perhaps 30 seconds. If you properly configured the SSID and other settings and are within range of your wireless Access Point/Router, then you will see the signal strength bars appear on the left of the Moxa box and the WLAN LED will remain on.

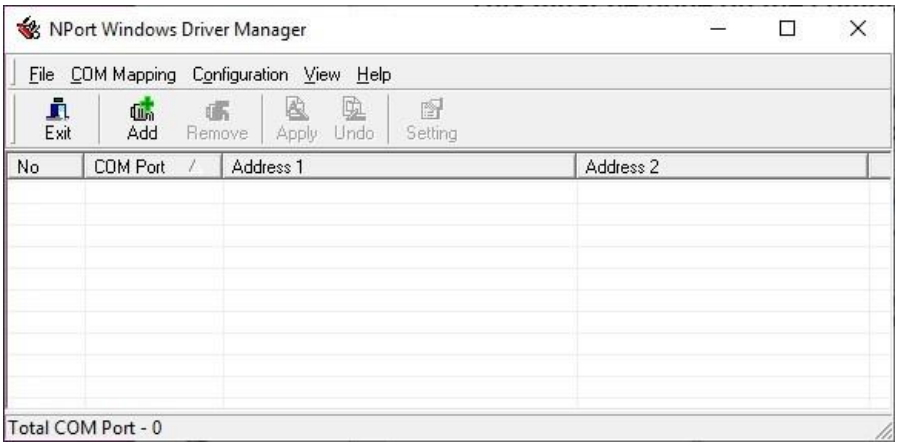
Note – If you want to start over again from factory settings or change the unit to an Ethernet/Bridge connection, use a paper clip to push the reset button located next to the antenna connector. Hold until the Ready LED turns RED.

You are new ready to assign COM ports and deploy this unit.

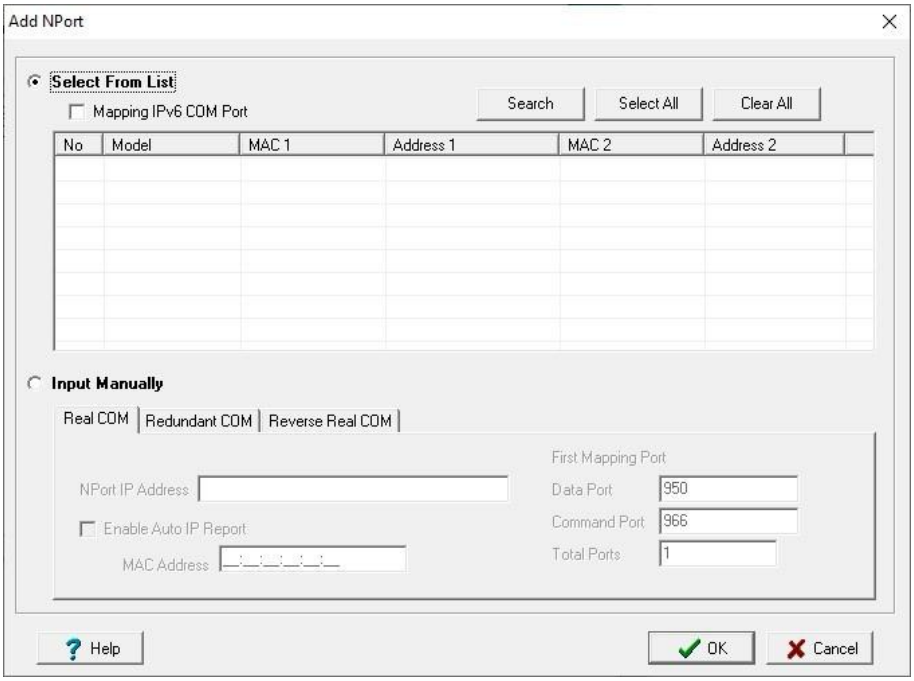
2.3 Configuring COM Ports

This must be done on the computer(s) where SuiteFactory's Communications Engine will be running and in range of the Wireless Access Point to which it will attach.

Unzip and install Moxa's Nport Windows Driver Manager and start it. You get the following screen. If there were Moxa COM ports previously configured, they will show up here too.

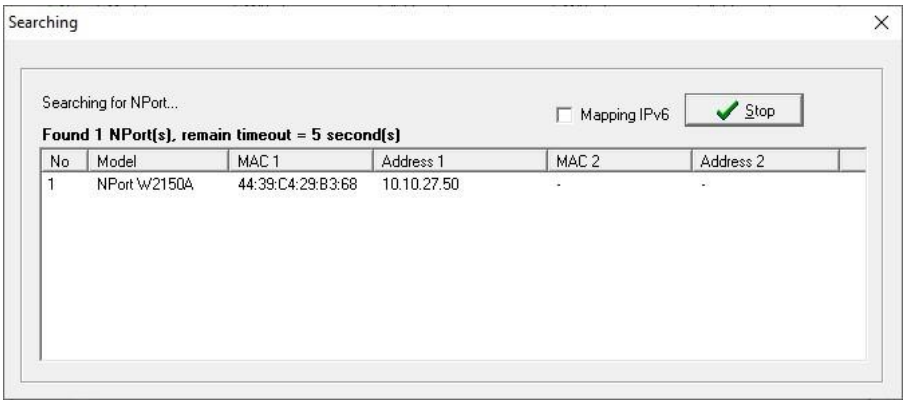


Click on Add. The Add Nport screen appears:

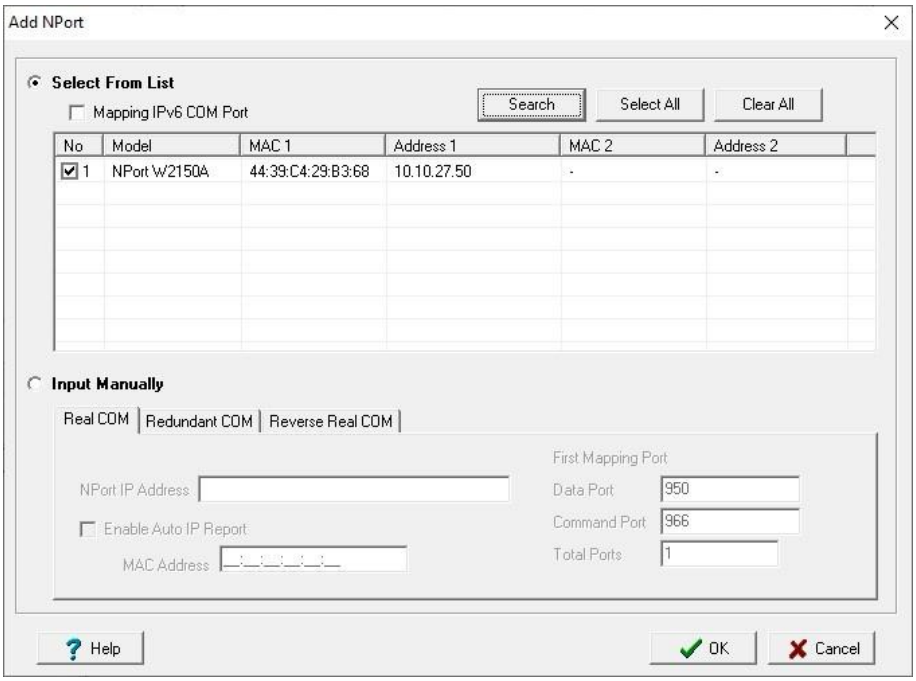


Click on Search.

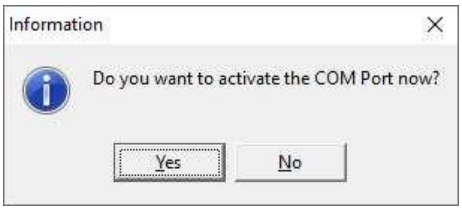
A "Searching" box will appear looking for all Moxa units on line:



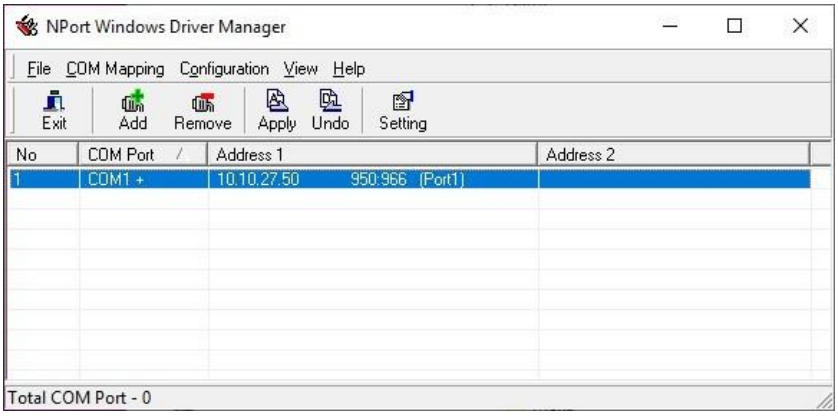
The screen will automatically disappear placing the information about the found Moxa's in the Add screen:



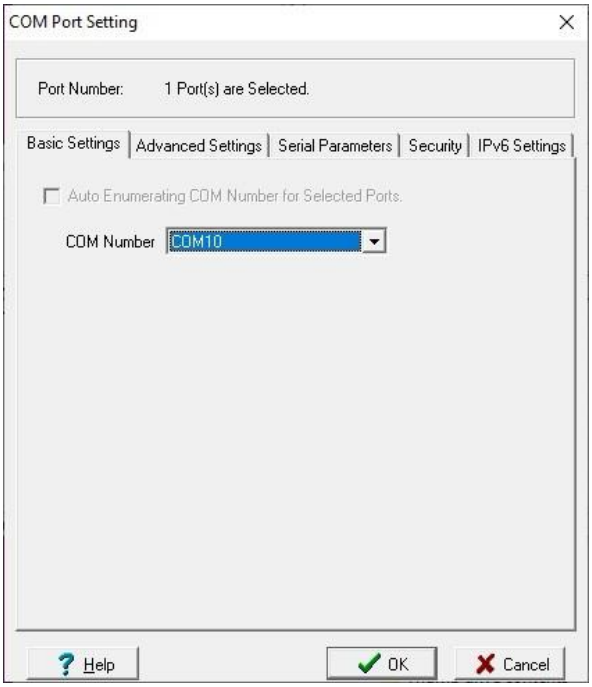
Click OK. You will get a screen like the following with the "Information" dialog asking whether to activate the COM Port now.



Answer No. The COM port values that appear are the next available ones on your computer but not necessarily the ones you wish to assign. Note! Blue text and the + sign(s) next to the COM port(s) means that those ports have not been permanently assigned yet.

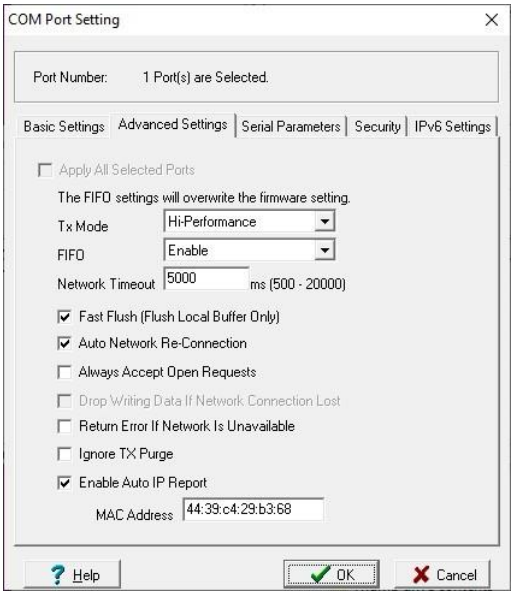


Highlight the port or ports you wish to configure. Then click on Setting.

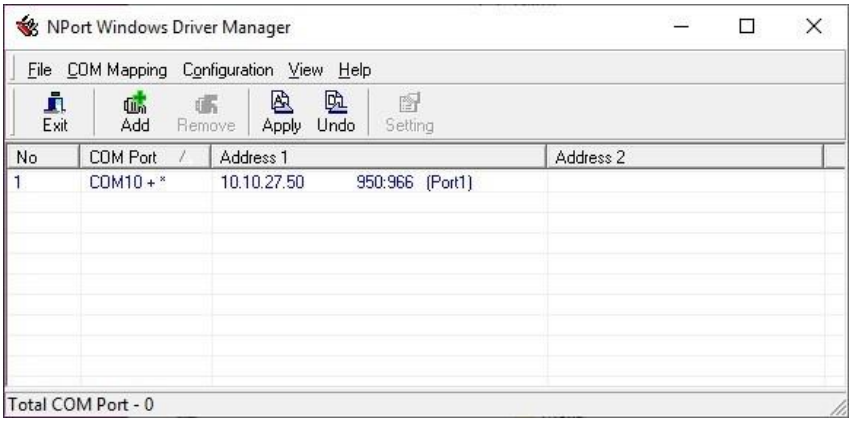


Choose the COM number you wish to assign to the RS-232 port of your Moxa unit using the pull- down list. With the Auto Enumerating box checked the rest of the ports (if any) of your device will be assigned sequentially. Click OK.

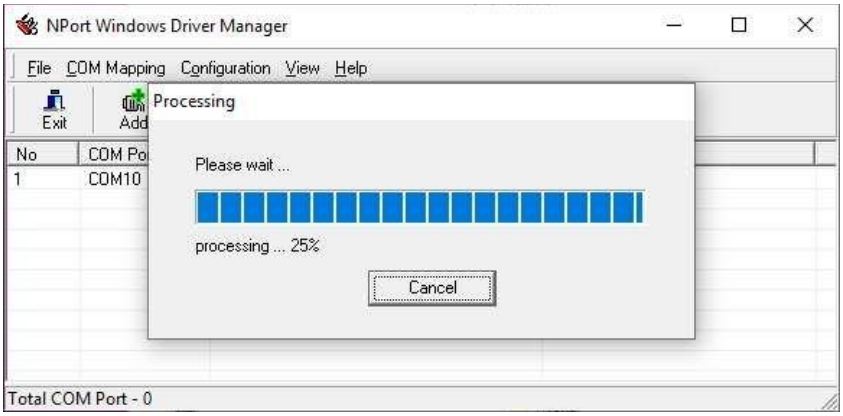
Look at the Advance Settings. The following shows the default settings that should work ok. If when drip feeding, overrun or other errors occur at you CNC change the Hi-Performance setting to Classical.



Click OK.

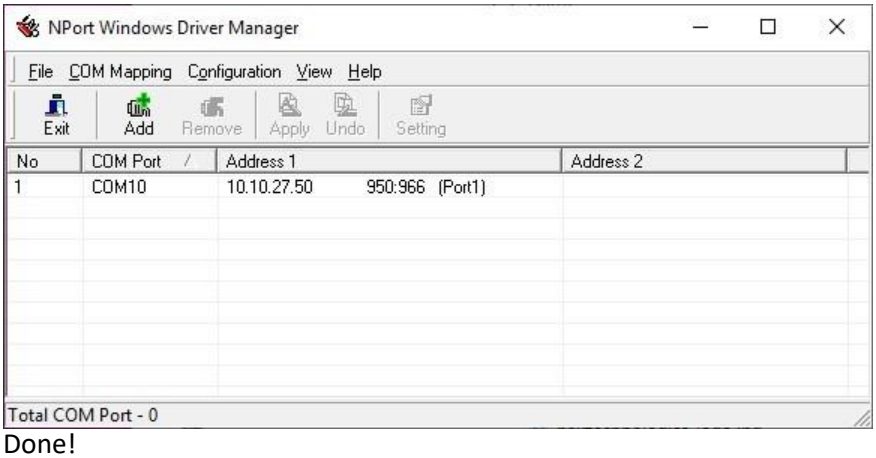


Note that the blue text and the + sign next to the COM# means that the changes have not yet been made permanently. Click Apply. Answer Yes to the dialog box regarding closing the ports.



Click OK on the dialog box stating that the COM Port Configuration is applied successfully…

After Processing completes you are ready to use the COM ports. This could take several minutes to finish.



Done!

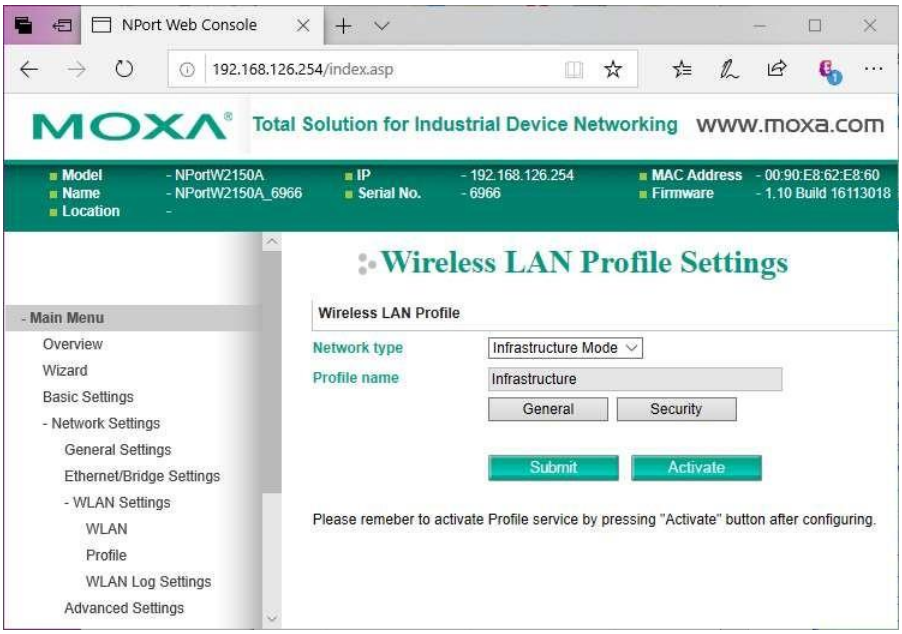
2.4 Setting up a Moxa Wireless Device Server as an Ethernet Bridge

For use with Ethernet connected CNC's

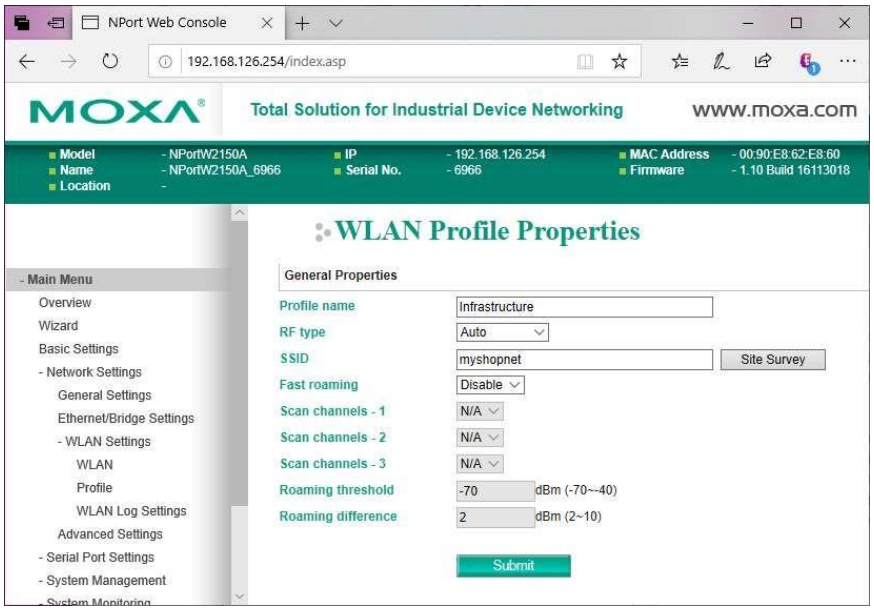
If this is a new box, continue below. If you are repurposing one that was previously set up for RS-232 communications, reset the box back to factory defaults by using a paperclip to push in the reset button located under the small hole next to the antenna connector. Hold until the Ready LED turns RED.

Perform the steps, as necessary, in paragraph 2.1, above. Login to the Console screen.

Select Network Settings/WLAN Settings/Profile

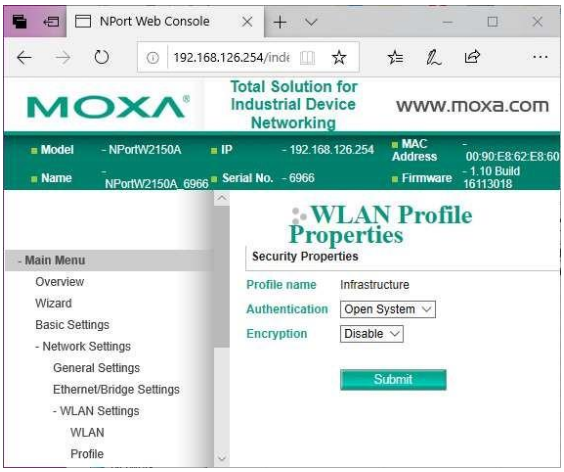


Select General

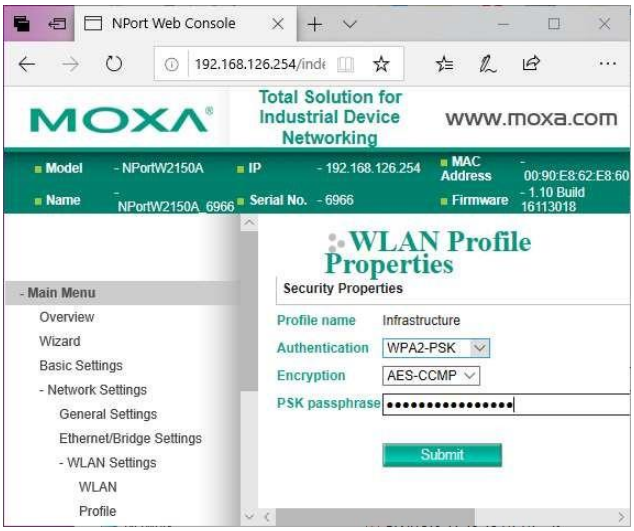


Configure as above, entering the SSID of your wireless network. You can click on Site Survey to find your SSID if you are in range or you can manually enter it.

Click Submit. After a few seconds, the previous screen (WLAN Profile Settings) will appear. Click on Security and get this screen:

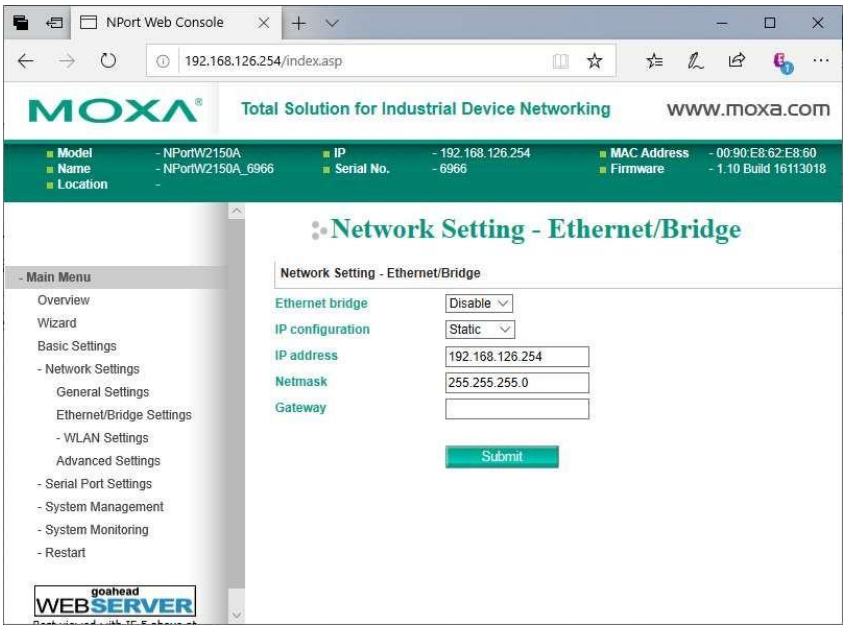


There are several methods for wireless security. You must set the MOXA units to match the method used by your Access Point. The following depicts the most secure type, WPA2-PSK.



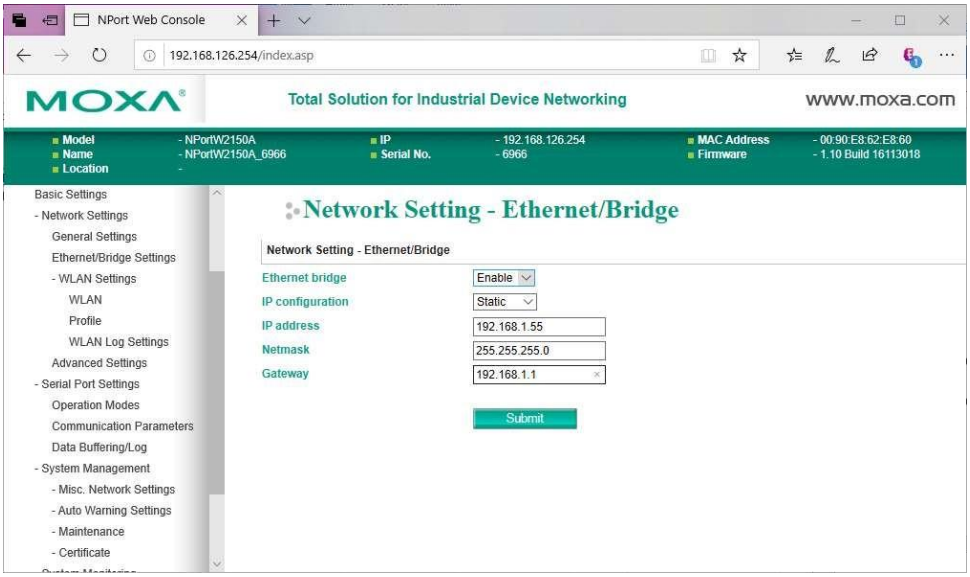
Configure security to match your wireless network's Access Point's settings. Click Submit and after a few seconds the previous screen (WLAN Profile Settings) will reappear.

Select Network Settings/Ethernet/Bridge Settings from the Main menu.



Change the Ethernet bridge setting to Enable.

Change the IP address to match your Local Area Network's scheme. Our network uses 192.168.1.x. Make sure the Netmask is correct. Enter your Gateway address, if any.



Click Submit. Click OK to do a System Reboot. When the Moxa box restarts the notice that the WLAN LED light starts to blink slowly on and off for perhaps 30 seconds. If you properly configured the SSID and other settings and are within range of your wireless Access Point/Router, then you will see the signal strength bars appear on the left of the Moxa box and the WLAN LED will remain on.

This box is now ready to be deployed on the shop floor for an Ethernet communicating CNC
Note – If you want to start over again from factory settings or change the unit to an Ethernet/Bridge connection, use a paper clip to push the reset button located next to the antenna connector. Hold until the Ready LED turns RED.

Hardware Installation with the Wireless External Kit

Installing a wireless RS-232 device server externally is pretty straightforward. Decide where you are going to mount it. It must be within 5 feet of the RS-232 port on the side of the CNC cabinet. Clean the surface of the cabinet where the device server is to be mounted with alcohol or other non- oily degreaser, attach the dual lock fasteners to the device server and press onto the side of the cabinet. Attach the antenna, the RS-232 cable, the power supply, make it neat and that's it.

The External Kit consists of the following items:

1. 1 - 5' cat5e shielded patch cable.
2. 1 – 9 pin modular adapter (plugs into the wireless RS-232 device server)
3. 1 – 25 or 9 pin modular adapter (plugs into the CNC's RS-232 port)
4. 8 – 7/8" Dual Lock fasteners (no. 7 in the picture below) for attaching the device server to the CNC cabinet.
5. 3 – Self-adhesive tie mounts
6. Cable ties for use with the tie mounts.

1. Attach the antenna that was supplied with the wireless device server.

2. Attach 4 pairs of the dual lock discs to the back of the RS-232 wireless device server to stick it to the side of the CNC cabinet within 5 feet of the RS-232 port. (Note! The picture below shows a 2-port device server. Yours is most likely a single port version.)

3. Attach the cat5e shielded cable with the adapters designated for the particular CNC to the device servers 9 pin

Dsub plug to the CNC's RS-232 connector.

4. Plug the power supply module into a clean source of 115 vac power and plug the cord end into the wireless device server. (Alternatively, you can supply anywhere between 12 and 48 vdc via the green auxiliary connector on top of the device server. Take care to observe the polarity)

5. Use the tie mounts and cable ties to make the installation neat.

Hardware Installation with the Wireless Internal Kit

The purpose of the wireless internal kit is to provide the means to install a wireless RS-232 device server inside a CNC cabinet with the added benefit of not losing the ability to use the CNC's RS-232 port with a laptop or other RS-232 device.

It consists of the following items:

1. Internal Adapter PC board with standoffs and self-locking nuts

2. External Antenna with magnetic base and 4' cable

3. 6' DB9F – DB9F cable assembly to connect the wireless RS-232 device server to the Internal Adapter PC board

4. 1 DB25F IDC connector *

5. 1 DB25M IDC connector (Attached to item 6) *

6. 1' 25 conductor flat ribbon cable *

7. Dual Lock fasteners for mounting the wireless RS-232 device server to the CNC cabinet

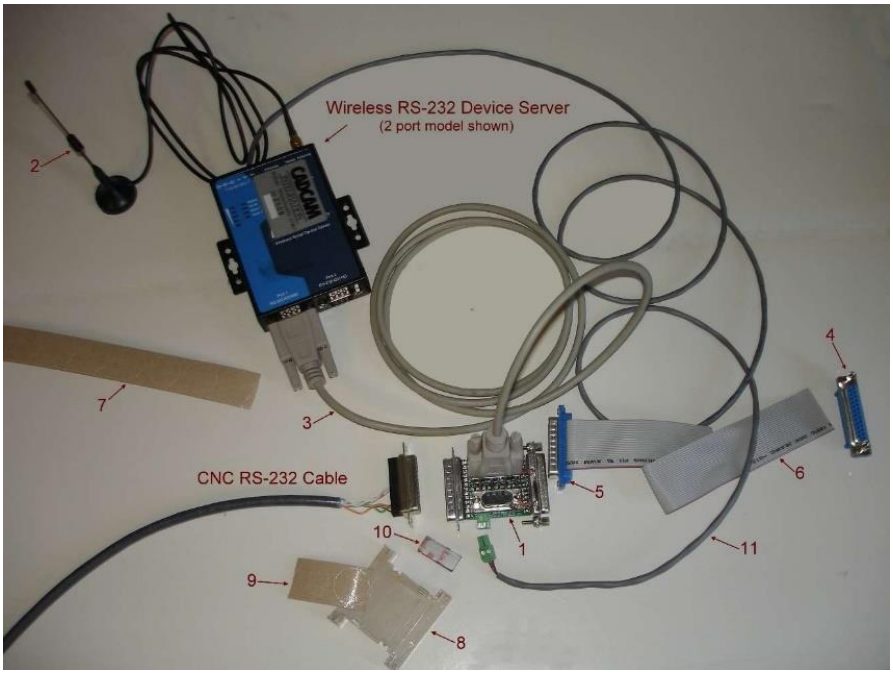
8. Plastic Cover *

9. Dual Lock fasteners for mounting the Plastic cover to the CNC cabinet *

10. Dual Lock fastener for mounting the Internal Adapter PC board to the Plastic Cover *

11. Power Cable assembly for supplying 24volts from FANUC CNC's to the wireless RS-232 device server.

* Not needed if the internal adapter PC board can be attached directly to the CNC cabinet

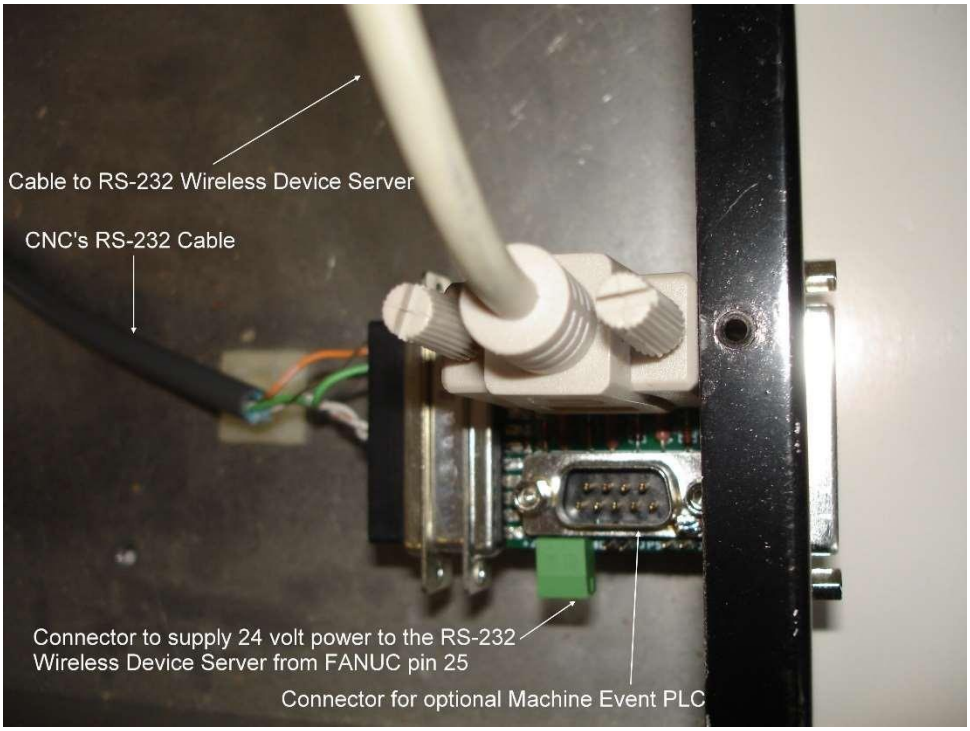


4.1 Installation Instructions

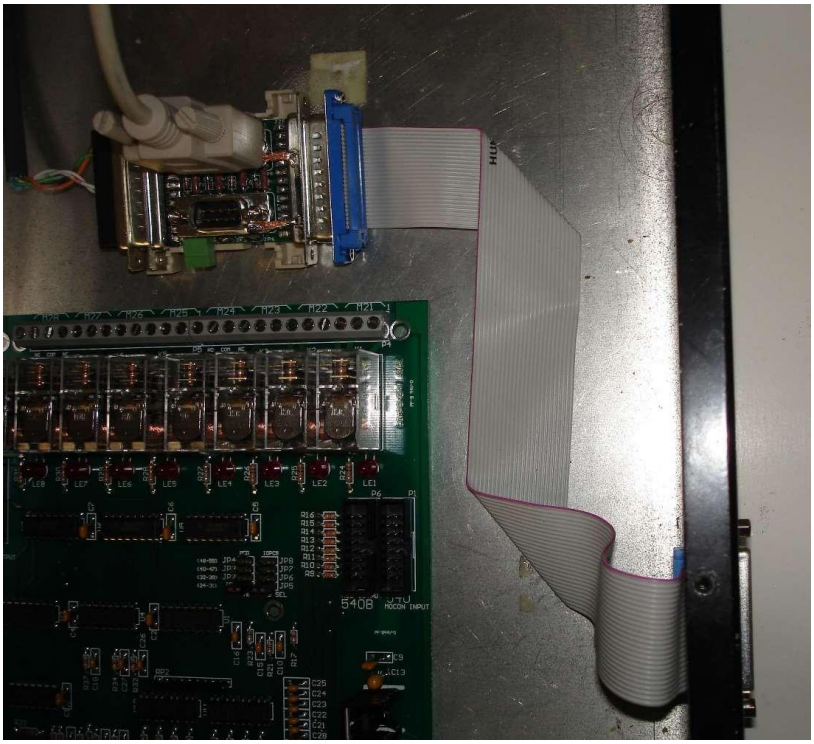
1. Shut down CNC power and the machine main power.

2. Carefully remove the CNC's RS-232 DB25 connector from the side of the cabinet and bring it inside. This might take some effort if the wide part of the connector is outside the cabinet.

3. If there is room, using the hex standoffs and self-locking nuts supplied, attach the internal adapter PC board (1) directly to the side of the CNC cabinet where you removed the CNC's RS-232 cable. There must be enough space to accommodate the cable to the RS-232 wireless device server. It must be oriented with the 25 pin DSUB socket side out. If the CNC's connector is a plug (FADAL'S and some older Okuma's, for example) DO NOT TURN THE MODULE AROUND. USE A PAIR OF GENDER CHANGERS INSTEAD.

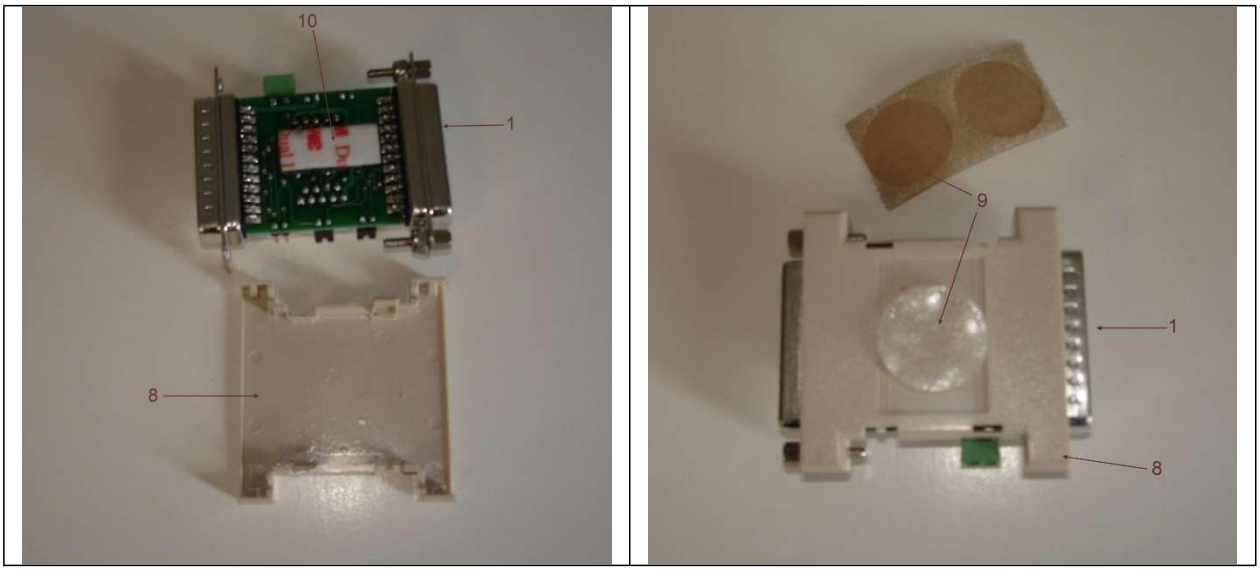


4. If there is no room, then use the ribbon cable and 25 PIN IDC connectors that are supplied (items 4, 5, 6, 8, 9 and 10) as shown below, for example.

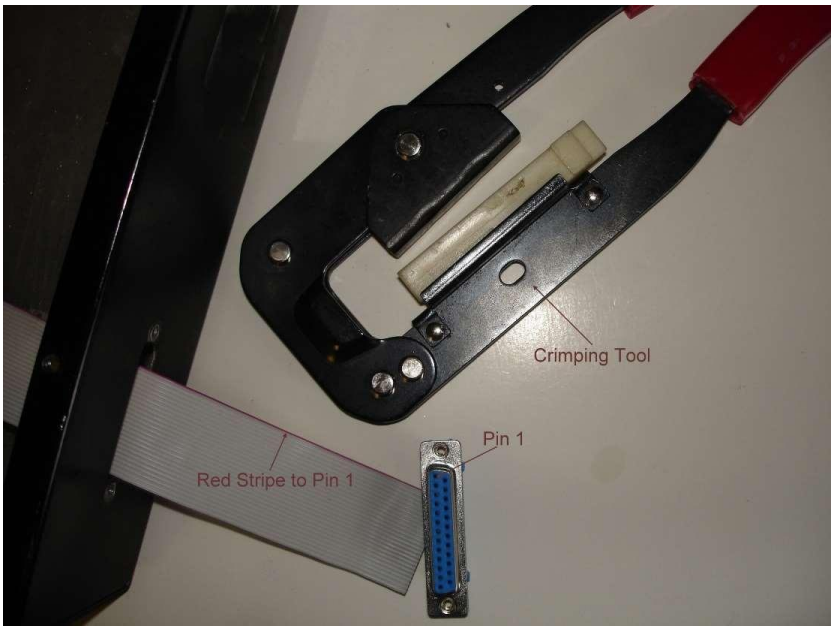


Details:

5. Using the small piece of dual lock fastener (10), attach the Internal Adapter PC board (1) to the plastic cover (8). On the back side of the cover attach a pair of the dual lock discs to stick it to the back of the CNC cabinet. Note! Make sure the surface on the CNC cabinet is clean. Alcohol works well for removing oil.

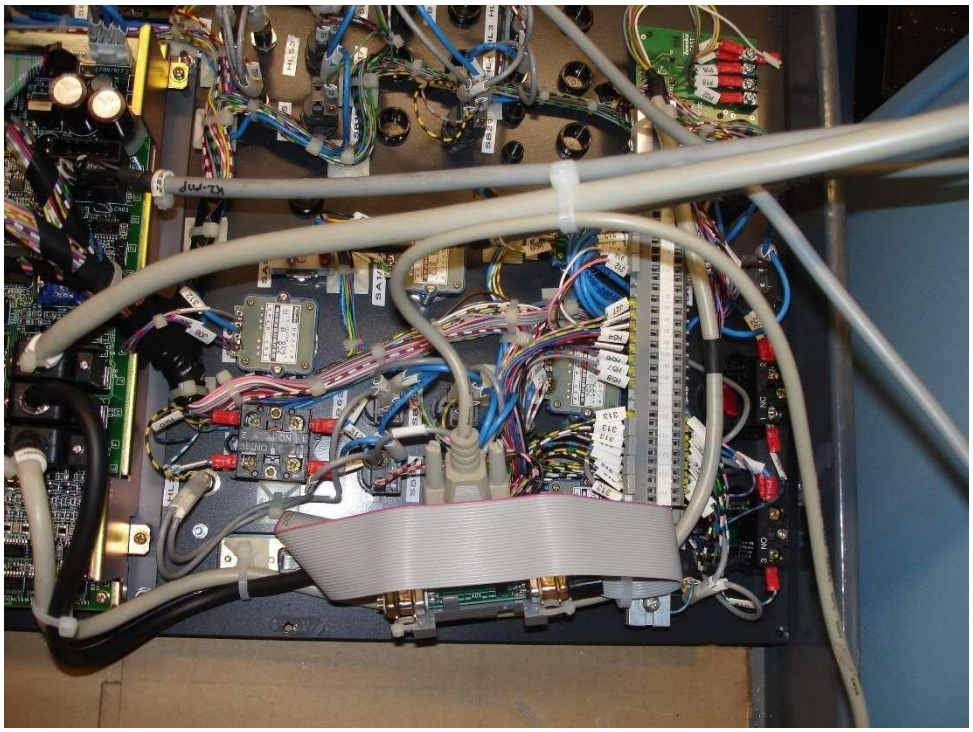


6. The 1-foot ribbon cable is supplied with only the 25 pin DSUB plug attached. This leaves the other end free to feed through the connector hole on the cabinet if the 25 pin DSUB socket connector must be attached from the outside. You could crimp on the connector using a small vise or better use a crimping tool which can be ordered.



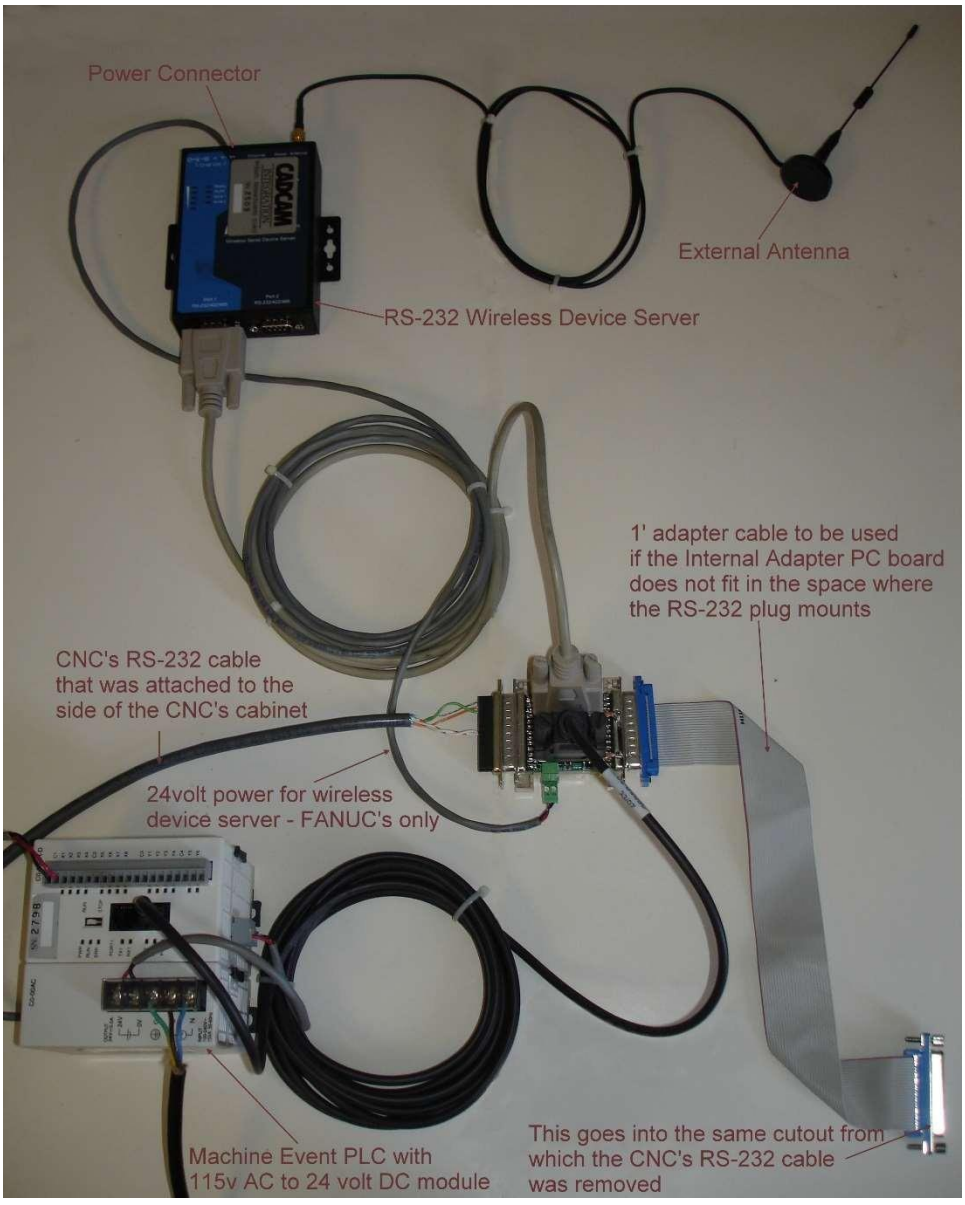
7. Attach 4 pairs of the dual lock discs to the back of the RS-232 wireless device server to stick it to the back of the CNC cabinet. Note! Make sure the surface on the CNC cabinet is clean. Alcohol works well for removing oil.

There will be situations where there is just no free cabinet space to stick the modules to. You will have to improvise as shown in the photo below where the adapter module is wire tied to the back of the CNC's control panel.



8. Feed the cable from the magnetic mount antenna from outside of the cabinet through a 3/8-inch hole which can be sealed with silicone caulk. Attach to the wireless RS-232 device server. NOTE! If the CNC's control panel is plastic and the wireless signal from the access point is strong, then it might not be necessary to put the antenna outside. You can try mounting it upside down on the inside of the cabinet at the top.

The photo below shows a complete internal setup for a FANUC CNC where 24volt power is supplied on pin 25 of the CNC's RS-232 connector. For other CNC's the power must be supplied via the AC power module that comes with the wireless device server or you can supply anywhere between 12 and 48 volts from the CNC. The photo also shows an optional Machine Event PLC attached to the bottom 9 pin DSUB plug on the Internal Adapter Module.



Citrix Server Farm Support (I get Acid Indigestion from that Drink!)

Introduction

Starting with release V7.3.54, SuiteFactory has built-in support for Citrix Presentation Server/XenApp™ and similar server farm virtualization software platforms. These platforms run on top of Microsoft Terminal Services and give you the ability to load software applications on only a small number of server farm host computers (often only one or two) but deploy these applications to many, many clients. These applications run only on the farm's servers but appear to run on the end users' PC's or thin client terminals. The end users access these applications either through a client-side plug-in program using remote login or via a web browser. **Note! If you allow internet access to your server farm via a secure gateway, then applications loaded onto the farm servers can be accessed anywhere on the web by users with proper credentials.**

1 Setting up SuiteFactory for a Server Farm

1.1 Register each server to SuiteFactory

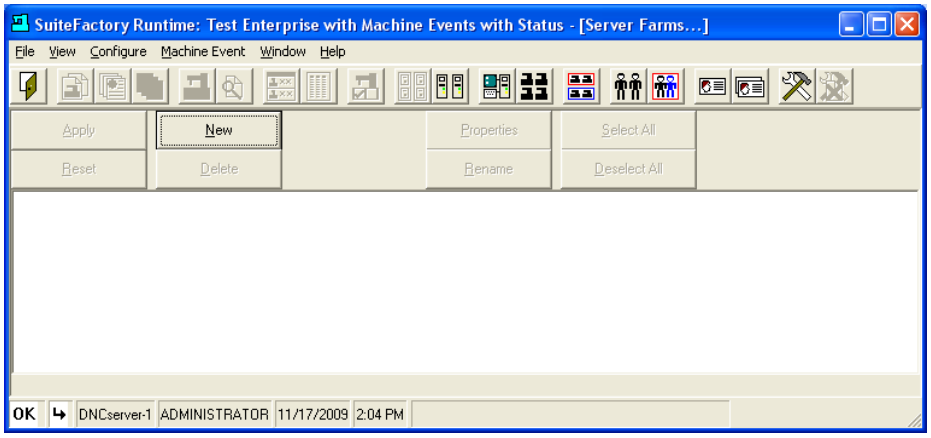
Install SuiteFactory on all of the host computers in the server farm. On the main console of each host, in turn, start SuiteFactory Runtime, login as administrator, point to the database, (or create a new one if this is a brand-new installation) and register each host as a SuiteFactory workstation.

Note! The database does not normally reside on a server farm host computer, but it could, though we do not recommend it.

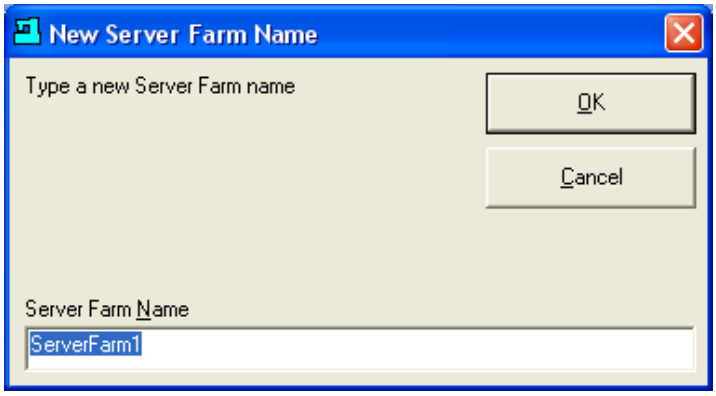
1.2 Configure the Server Farm

On the SuiteFactory Runtime main toolbar, click on the Server Farms… icon or click Configure/Server Farms…

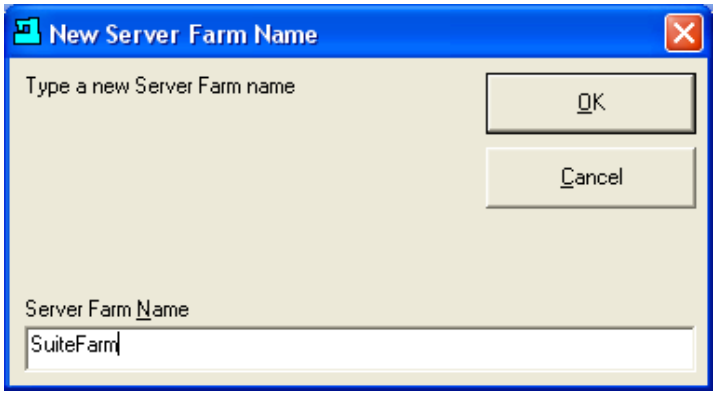
A dialog box opens similar to this:



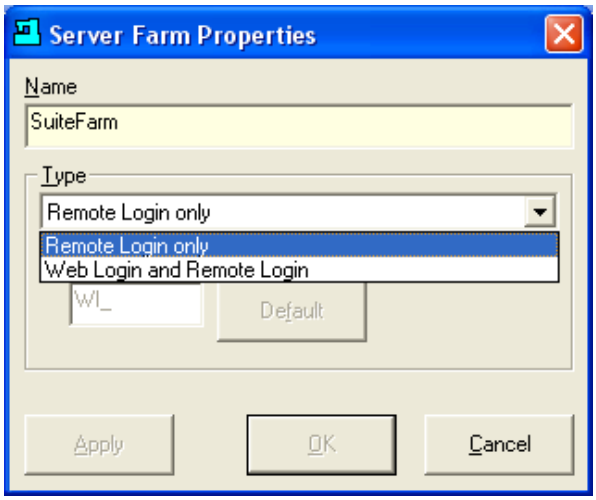
Click New and you will get the following:



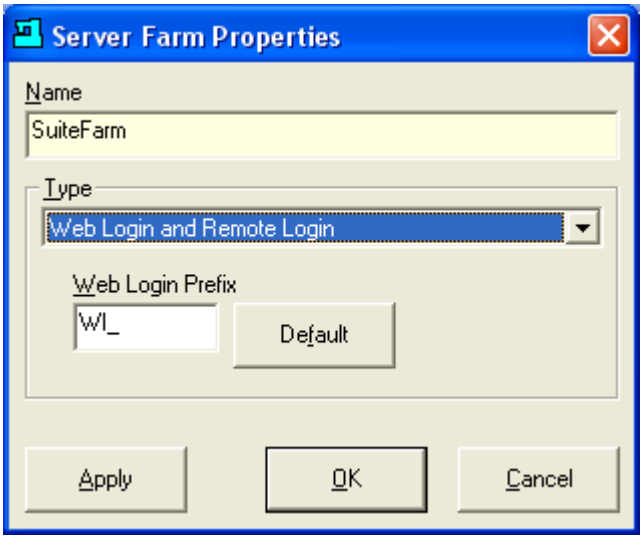
You can change the name to something more meaningful if you wish. It does not have to be the same name as the actual server farm (but it can be).



Click OK. Click on the down arrow selection box.

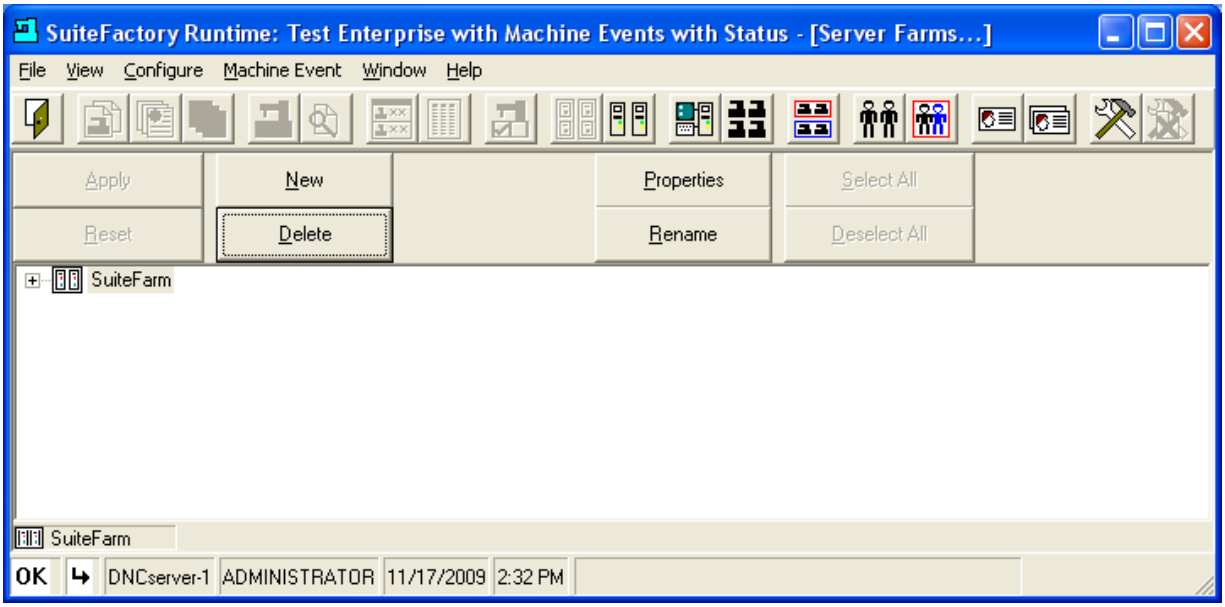


You can choose to allow only Remote Logins via the Client Plug-in or allow Web Login's also.



If necessary, change the default Web Login Prefix. The default WI_ is prefix (along with a long string of seemingly random characters) sent by the Citrix Web application to identify the client session. SuiteFactory needs this information in order to enforce licensing requirements.

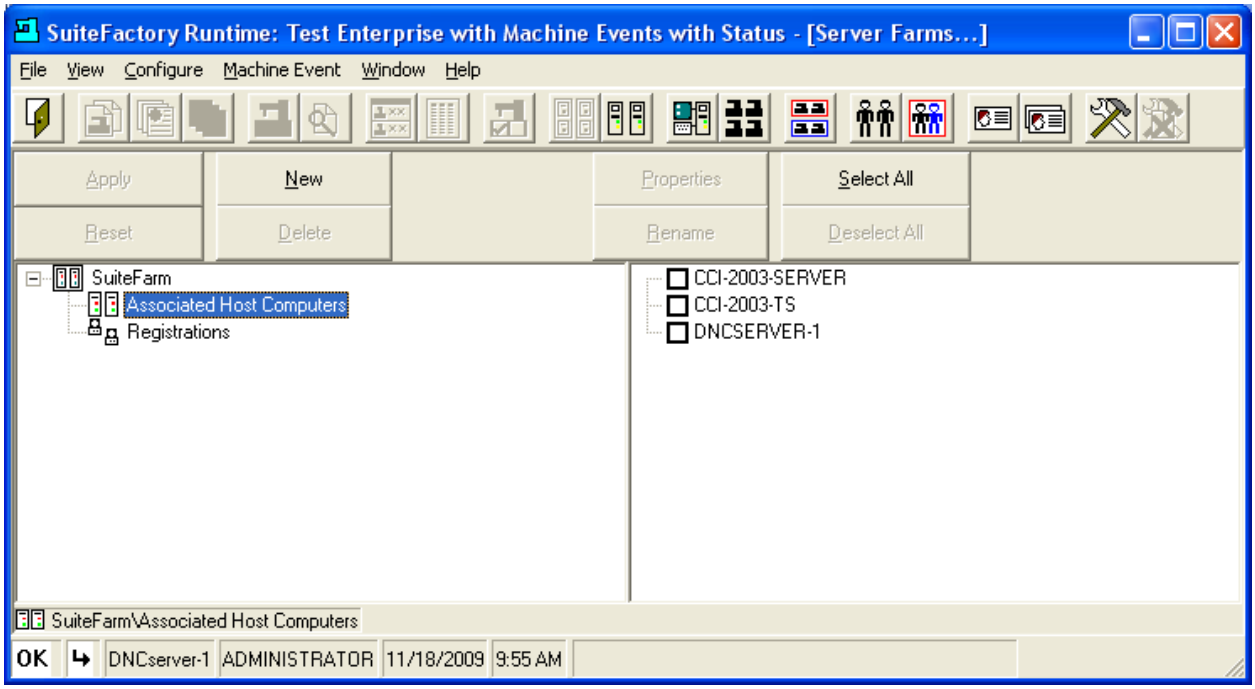
Click OK to return to Runtime.



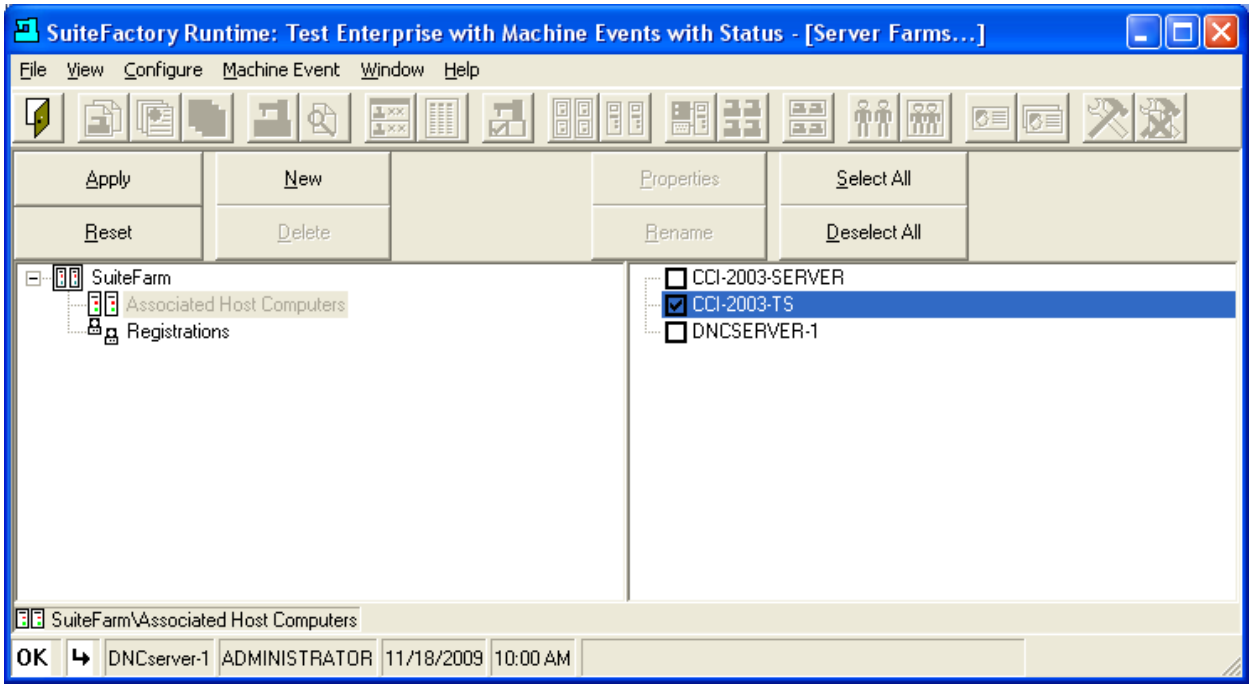
2 Defining the Server Farm Host Computers

Click on the + to expand the SuiteFarm tree. Highlight Associated Host Computers.

The list on the right is a list of all registered computers showing their Windows names.

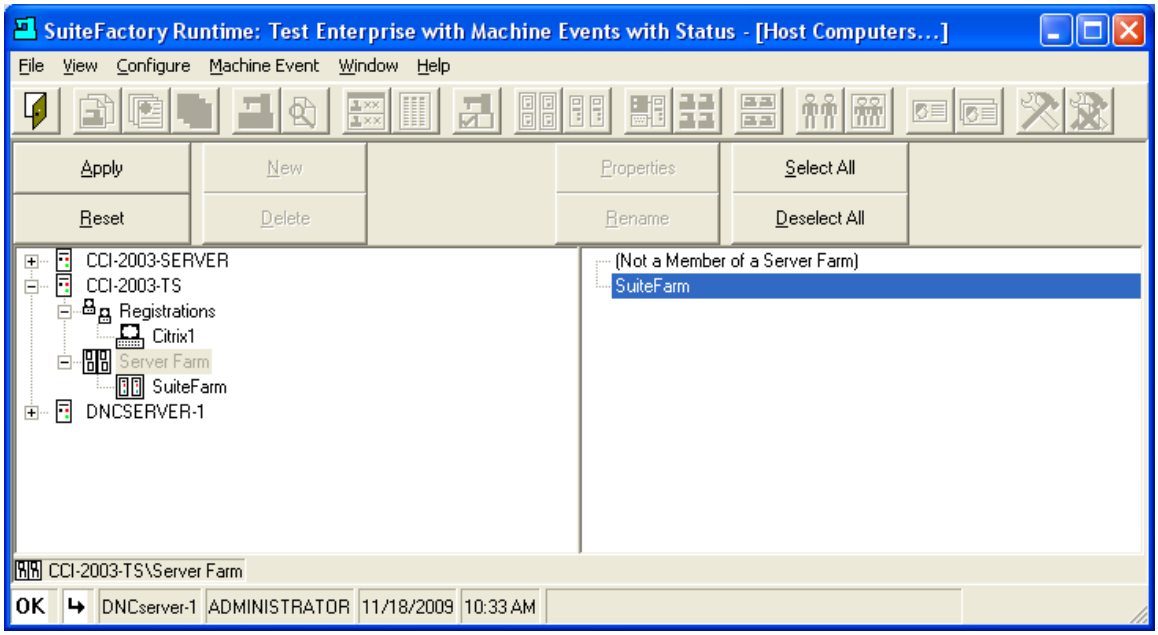


From that list select the ones that are the server farm hosts.



In this example, CCI-2003-TS is the only server farm host. Click Apply.

Alternatively, you could have selected the Host Computers… dialog and assigned the server farm, SuiteFarm to the host computer CCI-2003-TS whose SuiteFactory registration name is Citrix1.



3 Registering Clients

Note! If you already have Citrix clients registered to your Citrix hosts using SuiteFactory versions earlier than V7.3.54, those registrations will have to be cleared and each Citrix Client must re-registered to the Server Farm rather than to each host individually. This does not affect registrations of non-Citrix clients. See Appendix A for how to clear registrations.

3.1 Remote Login Clients

Note! Each Remote Login Client must have a unique Windows user name. SuiteFactory creates a profile for each Windows user, therefore, in order that users do not interfere with each other, each person must login with their own user names.

3.1.1 Disable Running on all but one Host Server

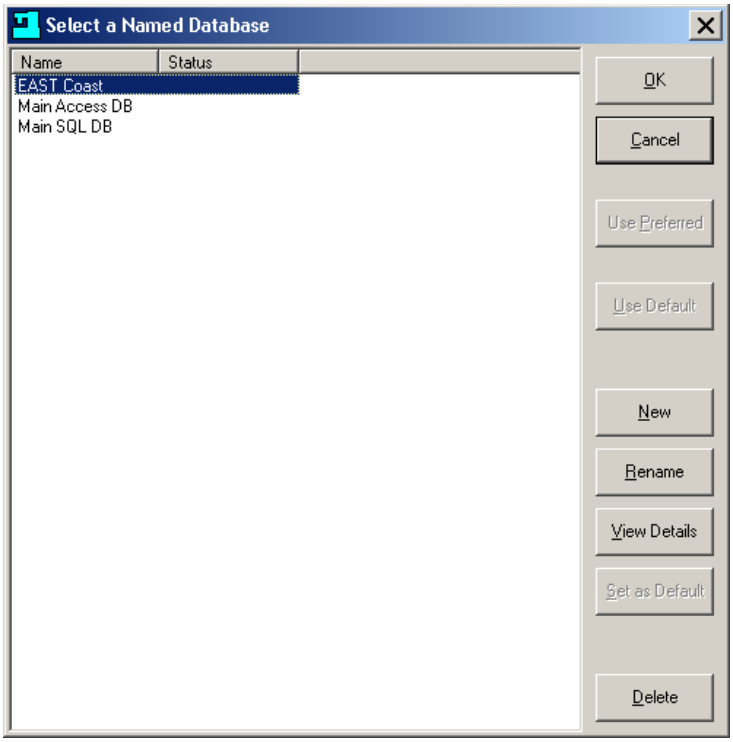
THIS IS IMPORTANT FOR SERVER FARMS WITH MORE THAN ONE HOST SERVER! Using the Citrix Management Console temporarily disable the SuiteFactory application on all but one host server.

3.1.2 Start SuiteFactory Runtime

On each Citrix client, startup SuiteFactory Runtime via Program Neighborhood or the SuiteFactory icon provided for Citrix startup. Login as administrator.

3.1.3 First time start up

If this is the first time this user started SuiteFactory, a screen similar to the following will appear. If not, skip to paragraph 3.1.4.

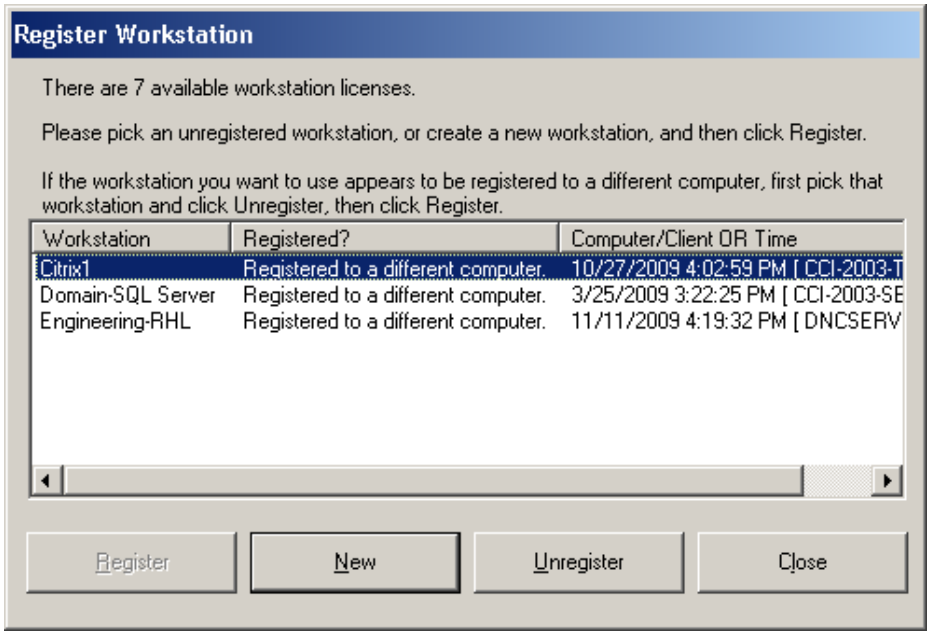


Select your preferred database and click OK. If no databases are listed, click New and select and name your preferred database. You will get a screen similar to the next screen shot.

3.1.4 Registering

Note that it says “Not registered” on the bottom left.

Click Configure/Register, **Red Arrow**, this Workstation to get a screen similar to this:

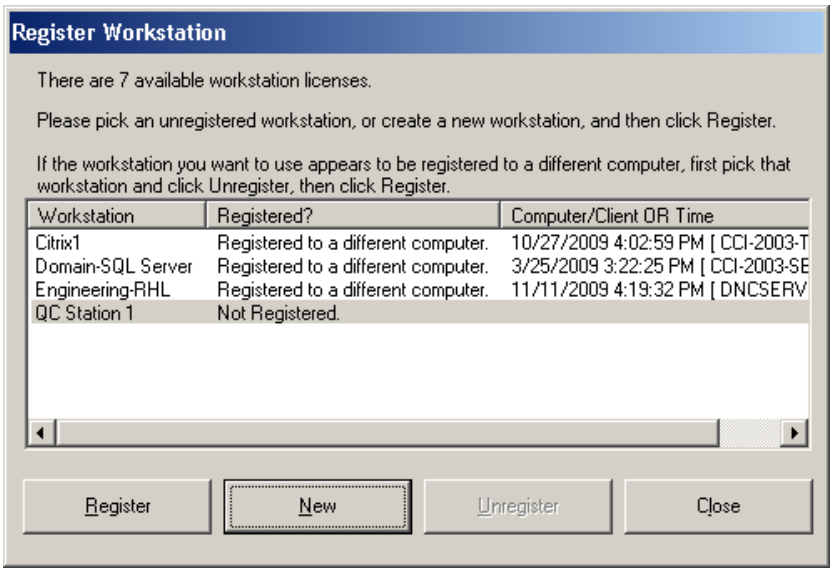


The “Workstations” listed show the SuiteFactory given registration names and consists of the Citrix farm host servers, non-Citrix clients and any Citrix clients already registered. In this example, Citrix1 is a farm server [CCI-2003-TS], Domain-SQL Server is a non-farm server [CCI-2003-server], and Engineering-RHL is a non-Citrix client computer [DNCSERVER-1].

Click on New.

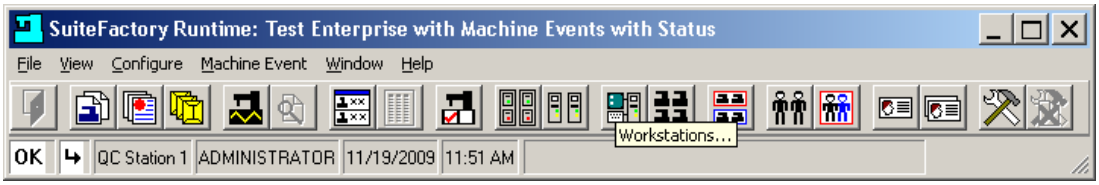
Change the name to something meaningful.

Click OK.

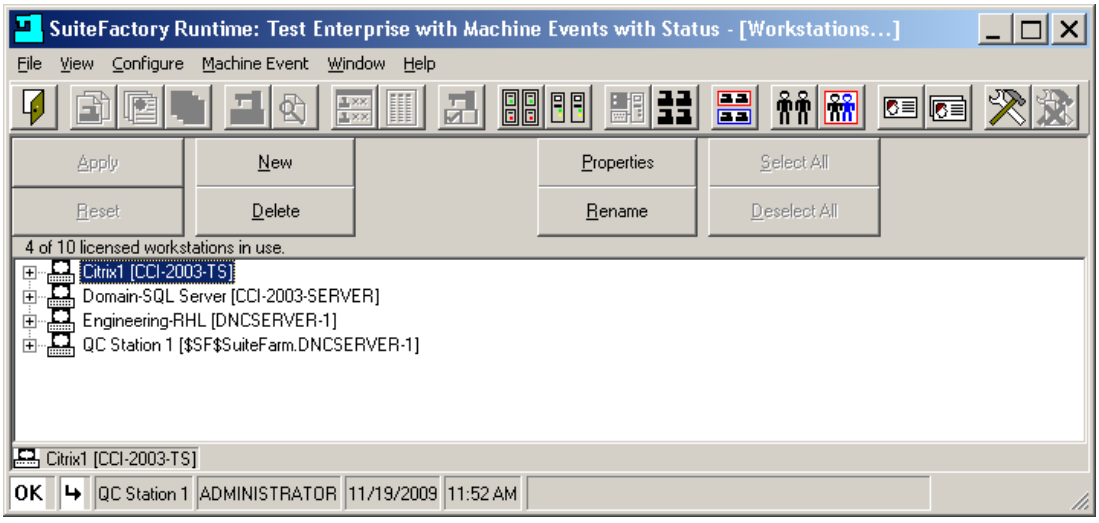


Click Register.

Now this session is registered as workstation QC Station 1.



Now click on the Workstations… icon or Configure/Workstations…

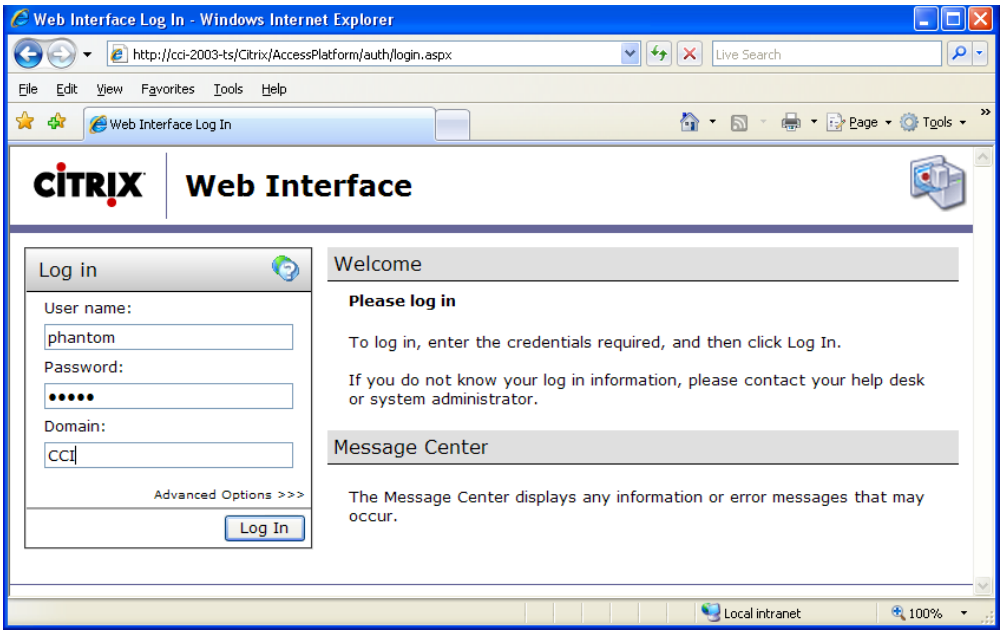


Note the new listing for QC Station 1. The information inside the brackets shows that QC Station 1 is registered to SuiteFarm from physical computer DNCSERVER-1. The SF is a unique prefix to indicate a Citrix remote connection.

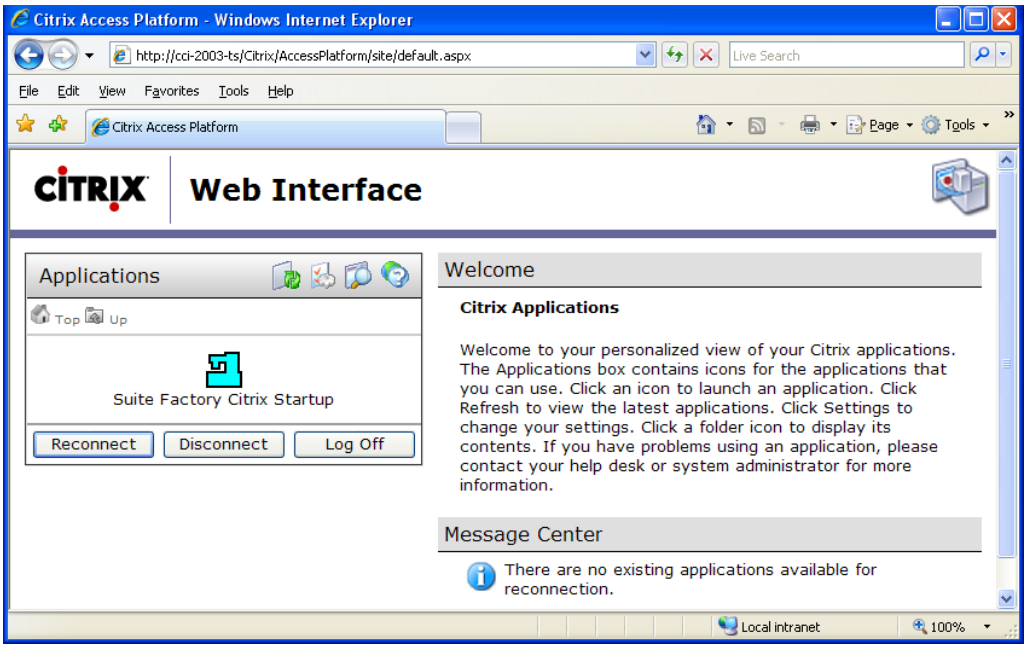
Repeat this for all Citrix clients.

3.2 Web Login Registration

Start the Citrix Web Interface via your internet browser.



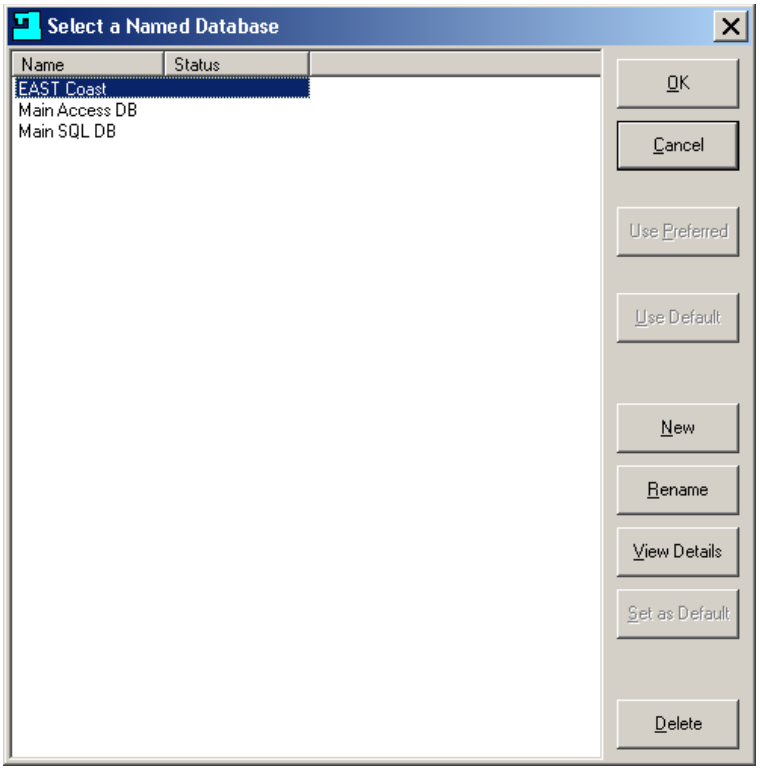
Login with your own unique Window login name.



Double Click on the SuiteFactory icon.

3.2.1 First time start up

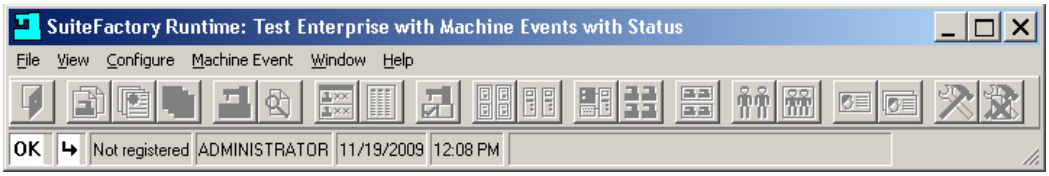
If this is the first time this user started SuiteFactory, a screen similar to the following will appear. If not, skip to paragraph 3.2.2.



Select your preferred database and click OK. If no databases are listed, click New and select and name your preferred database.

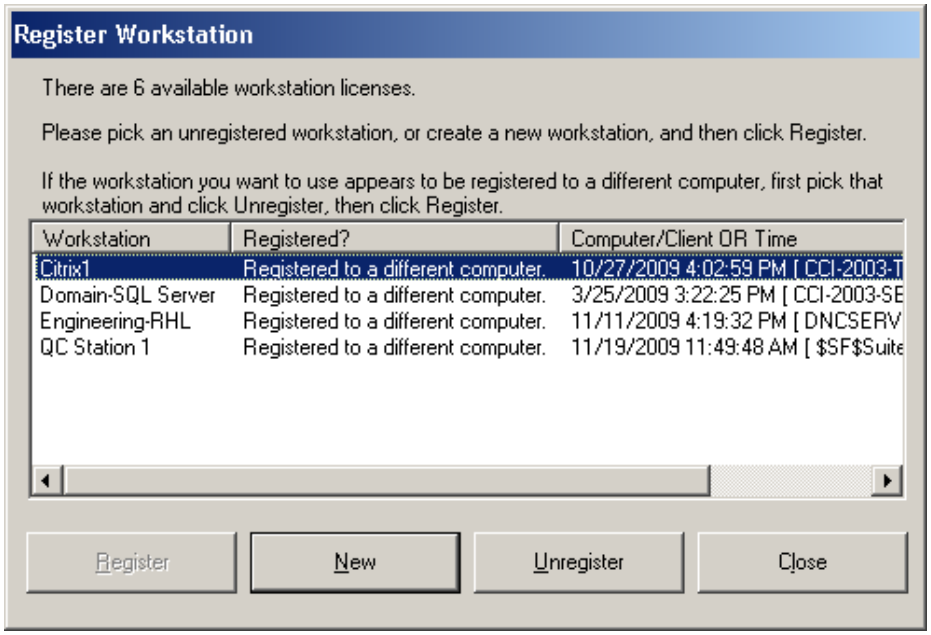
3.2.2 Registering

This must be done once from any client workstation for each potential web user and for each database. Login to SuiteFactory as administrator.

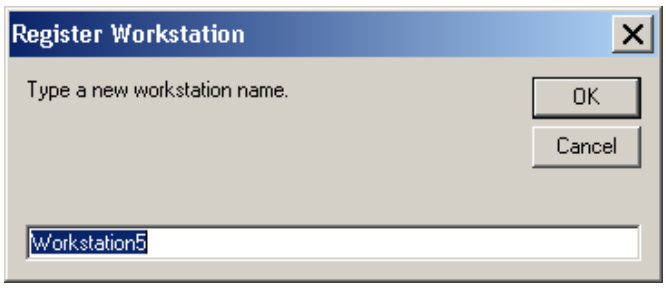


Note that is says “Not registered” on the lower left.

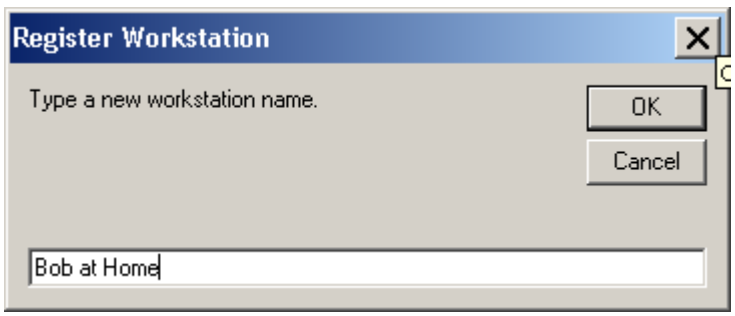
Click Configure/Register This Workstation to get the following:



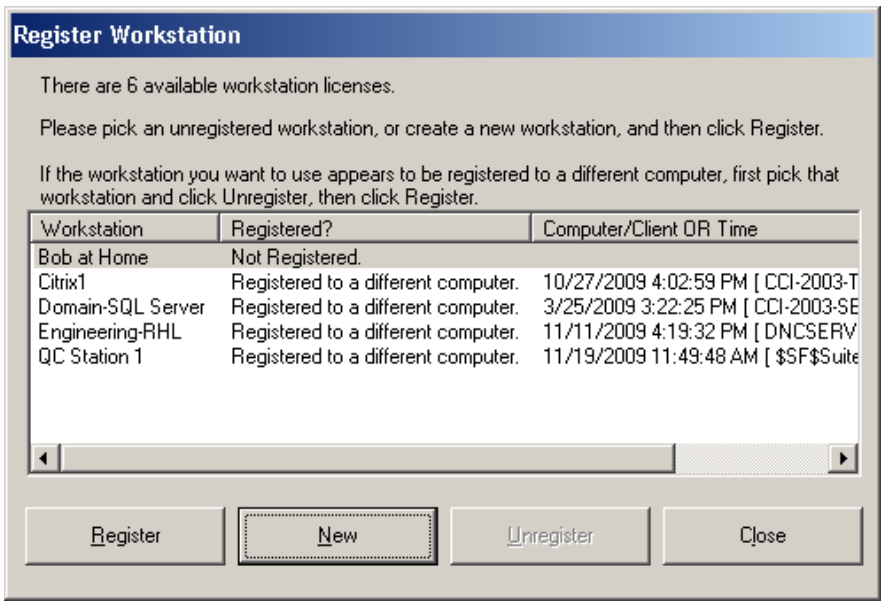
Click New.



Rename it something meaningful.

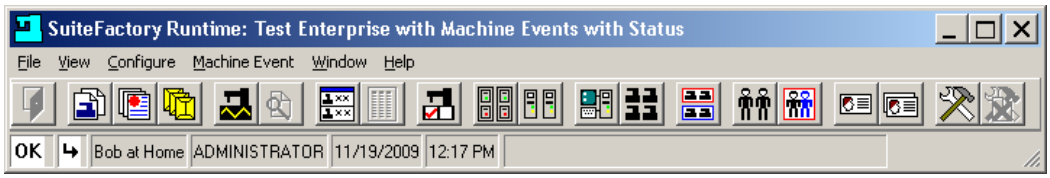


Click OK to get the following screen:

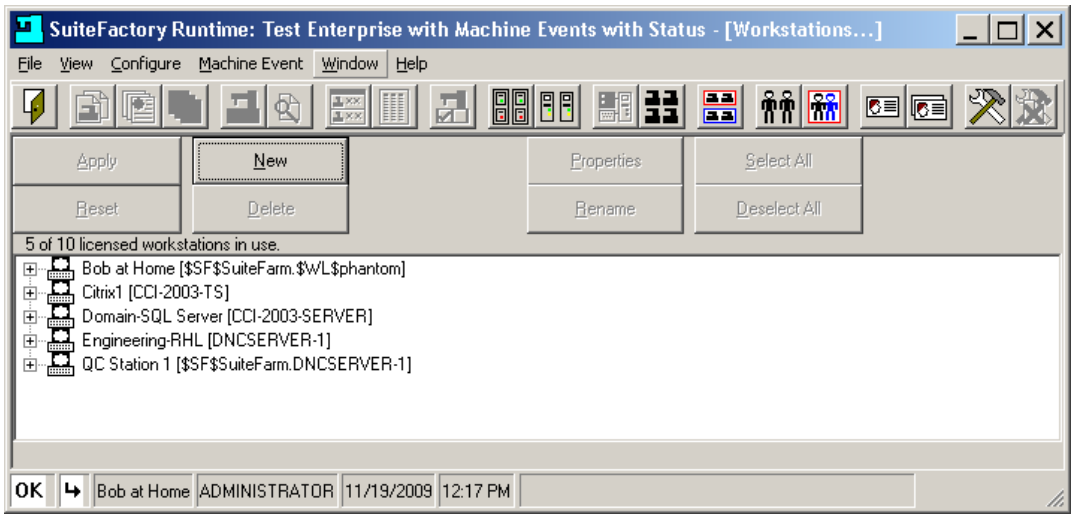


Click Register.

Now it says “Bob at Home” on the lower left.



Click on Workstations… or Configure/Workstations… to get the following:



The explanation of the workstation name “Bob at Home” is that Bob at Home is registered to a Citrix farm, called SuiteFarm by the SuiteFactory application, via a remote web login as Windows user phantom. The SF is a unique prefix to indicate a Citrix remote connection. The WL is a unique prefix to indicate that this is by a remote Web Login.

Each remote web user must perform the same procedure.

3.3 Copy configuration files to the other Host Servers

If you have more than one server farm host server and you followed the instructions in paragraph 3.1.1, above, you will have to copy the configuration files from the enabled host to the others. It you do not do this, when a client happens to start SuiteFactory on one of those servers, it will not know what database to attach to and will go through the select database procedure again.

Copy:

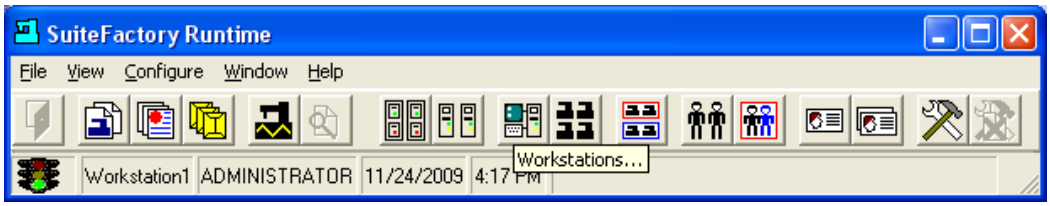
"C:\documents and settings\All Users\Application Data\CAD-CAM Integration\SF\7_3\Config"

to the same path on the other host servers. This path should already exist on them if you started and registered each host in SuiteFactory as required in paragraph 1.1, above.

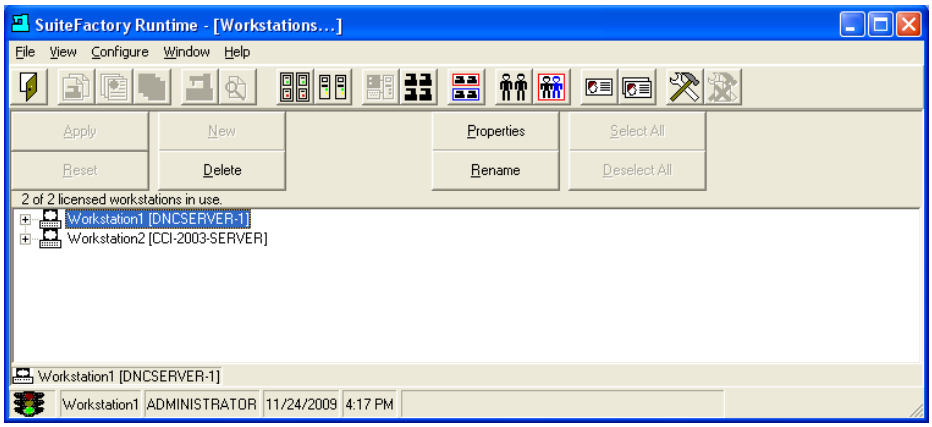
3.4 Enable SuiteFactory on all Host Servers

Using the Citrix Access Management Console enable SuiteFactory on the rest of the host servers.

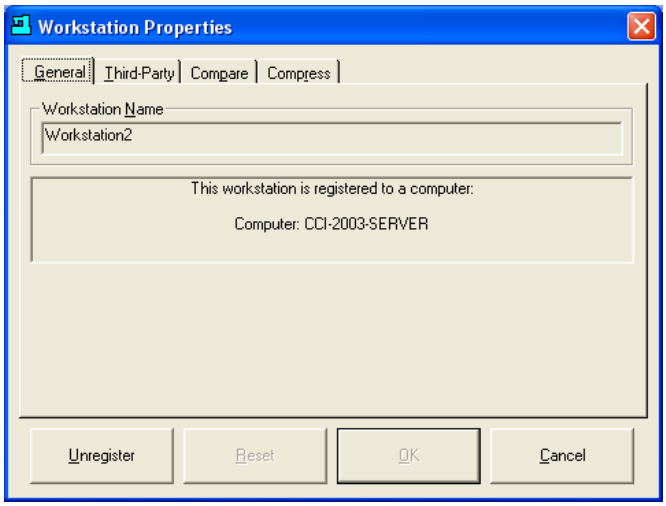
Appendix A – Clearing Registrations



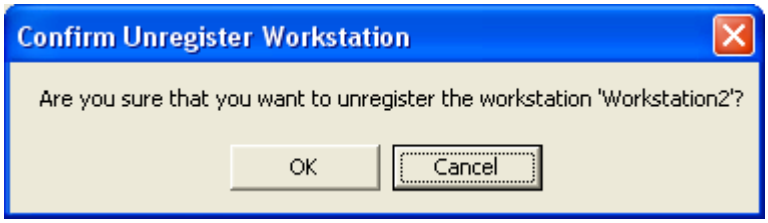
Click on the Workstations… icon or Configure/Workstations… to get the following:



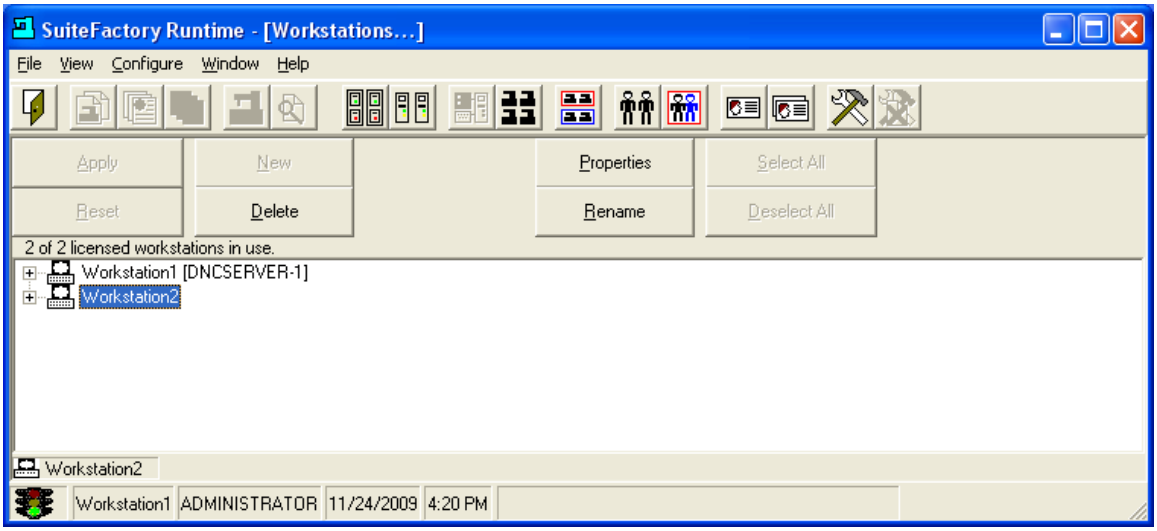
This shows that physical computer, “DNCSERVER-1” is registered to the name Workstation1 and that physical computer, “CCI-2003-SERVER” is registered to the name Workstation2. To un-register Workstation2, for example, select it and then click Properties to get the following:



Click Unregister.



Click OK



The name “Workstation2” is now not assigned to any computer, Citrix terminal session or anything else. You can delete this name if you wish or leave it to re-use.