L5 Connect User Manual

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System Setup

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Creating the L5 Connect™ Database

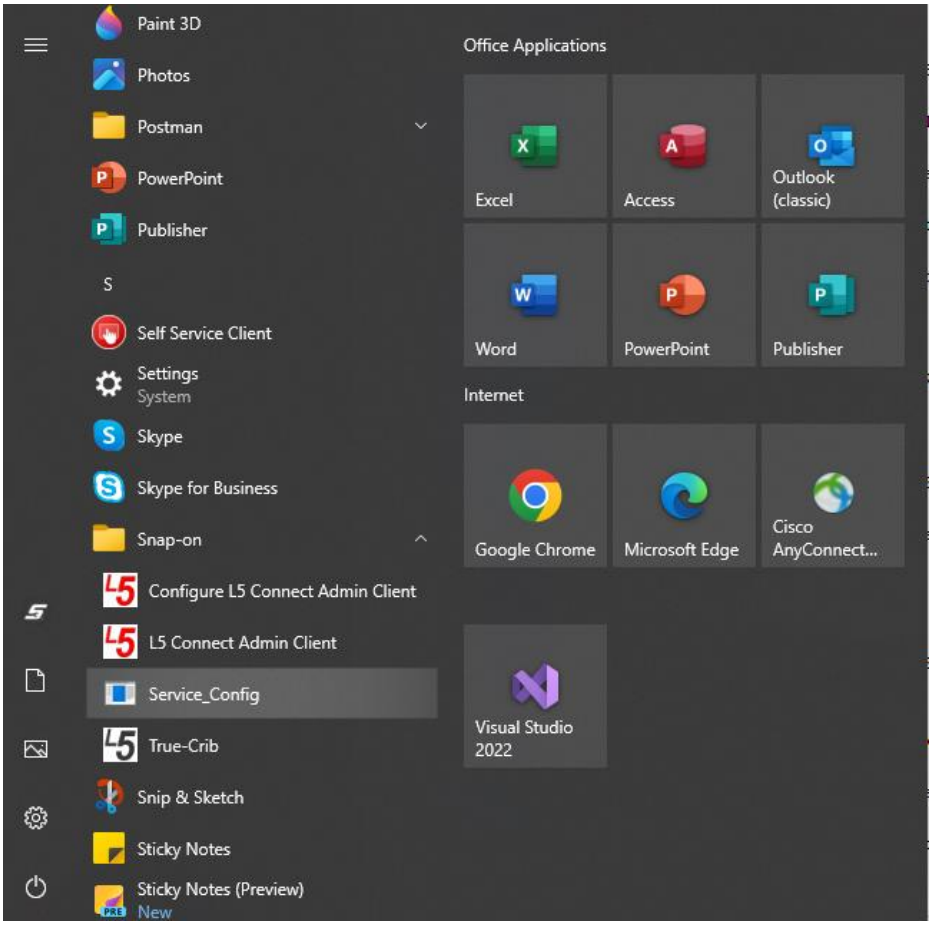
After you have installed the L5 Connect™ service, you need to create the default database that the system will use. This document will cover the process of creating and configuring this database.

Database Server

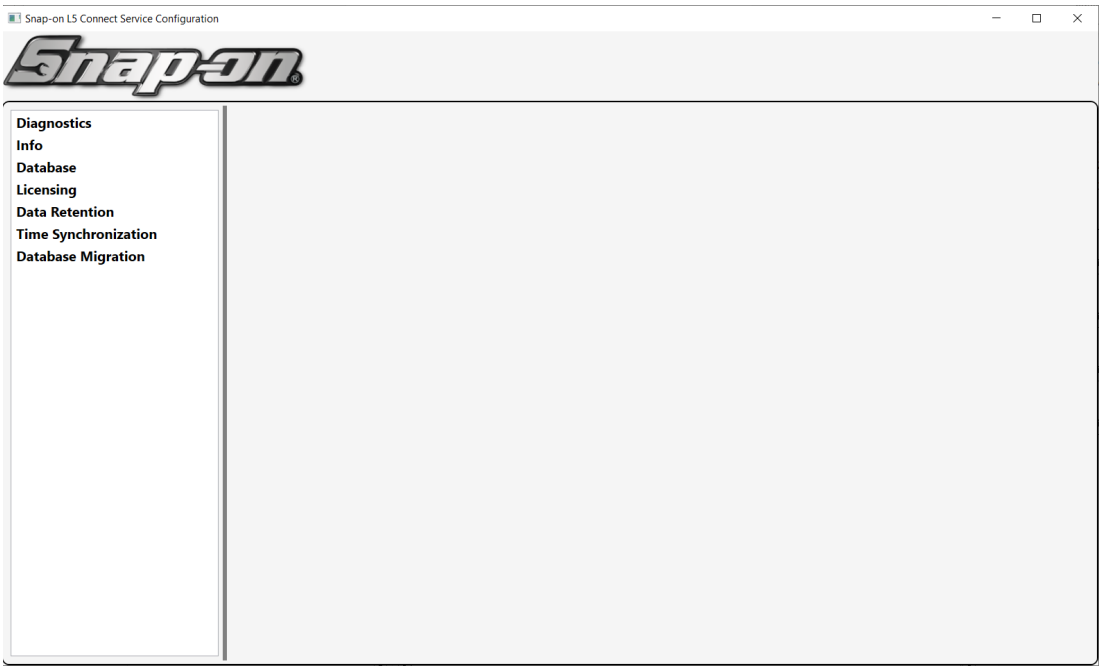
The L5 Connect™ Service requires an instance of a SQL Server or SQL Server Express available to host the system database. This can be located on the same computer hosting the L5 Connect™ Service or it can be located on another computer such as a dedicated SQL server. For most installations, SQL Server Express works well for systems that don't have pre-existing database servers available. This document assumes that you have a database server available to host your L5 Connect™ database. The L5 Connect™ Bundle installer does provide SQL Server Express.

Creating the Database

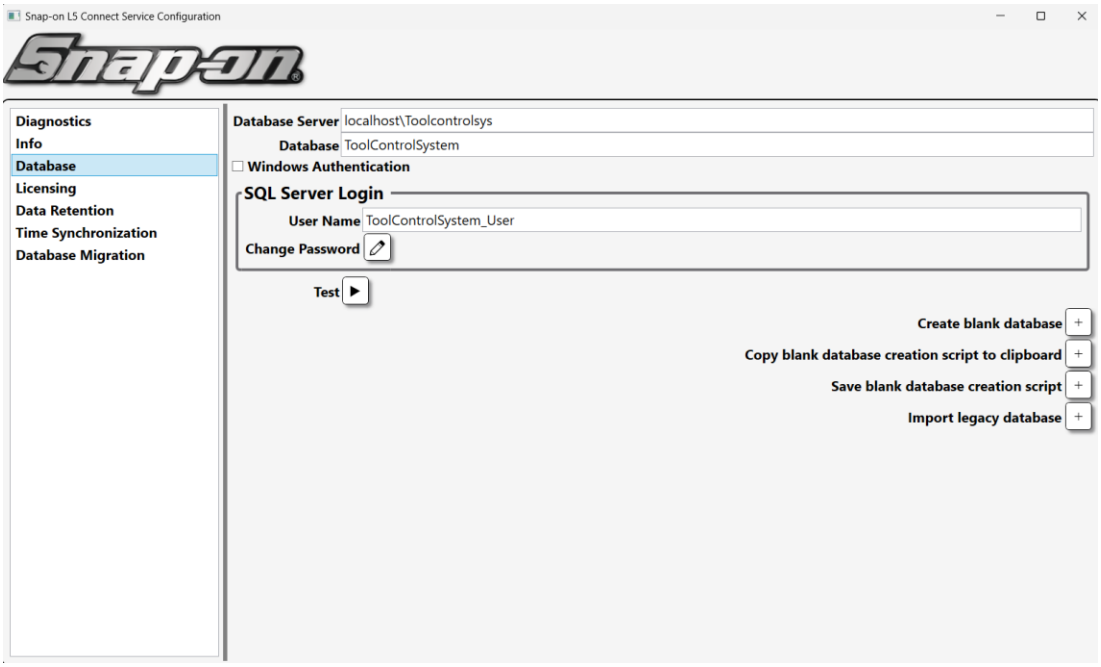
To begin, go to the Windows start menu, open the Snap-on folder, and launch the **Service_Config** application.



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Select the **Database** list item on the left-hand side of the screen.



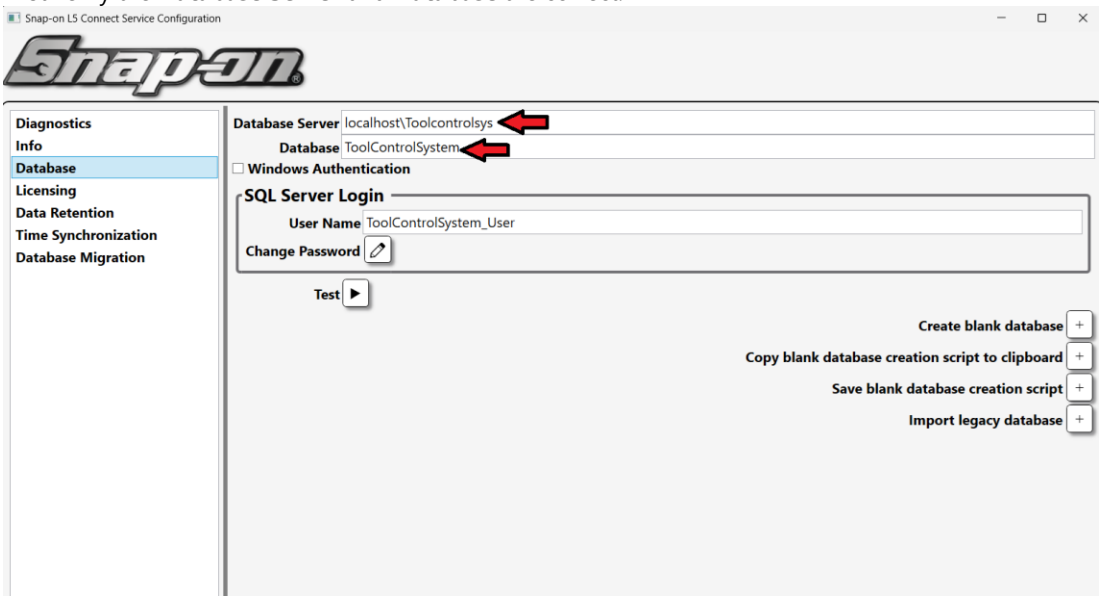
The database info screen will display the default database values.

- **Database Server** - This is the URL of the database server that will be hosting the L5 Connect database
- **Database** - This is the name of the L5 Connect database that will be created

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- **Windows Authentication** - Check this to use Windows authentication instead of SQL Server login credentials. The Windows user the service is running as must have the proper permissions for the SQL database.
- **User Name** - This is the name of the database user that will be created for use by the L5 Connect service when performing database tasks
  NOTE: The User Name is only used when you are using SQL Server Authentication instead of Windows Authentication.

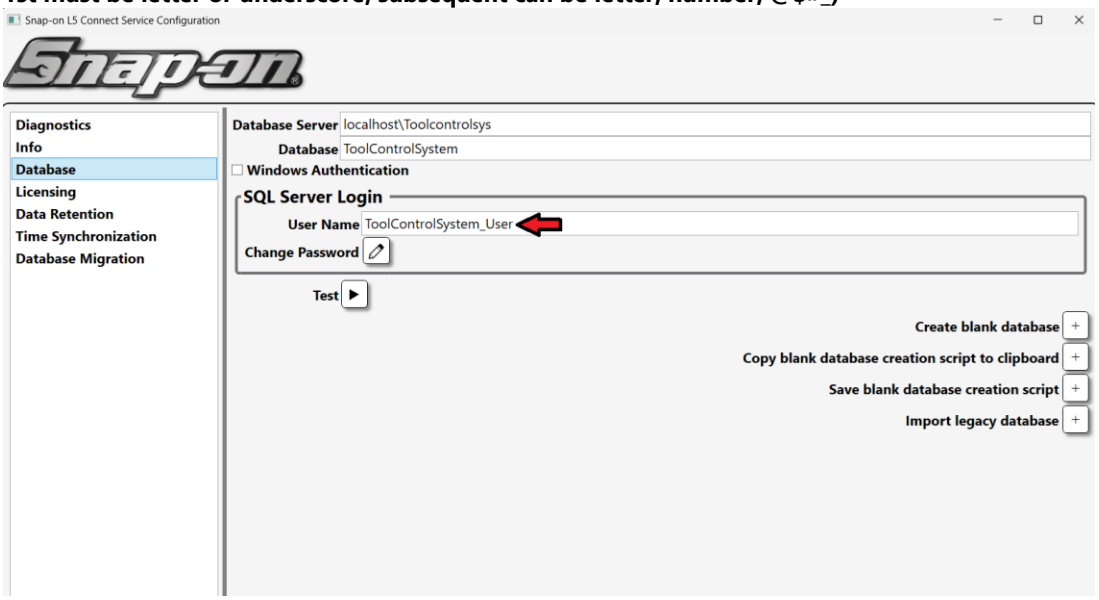
First verify the **Database Server** and **Database** are correct.



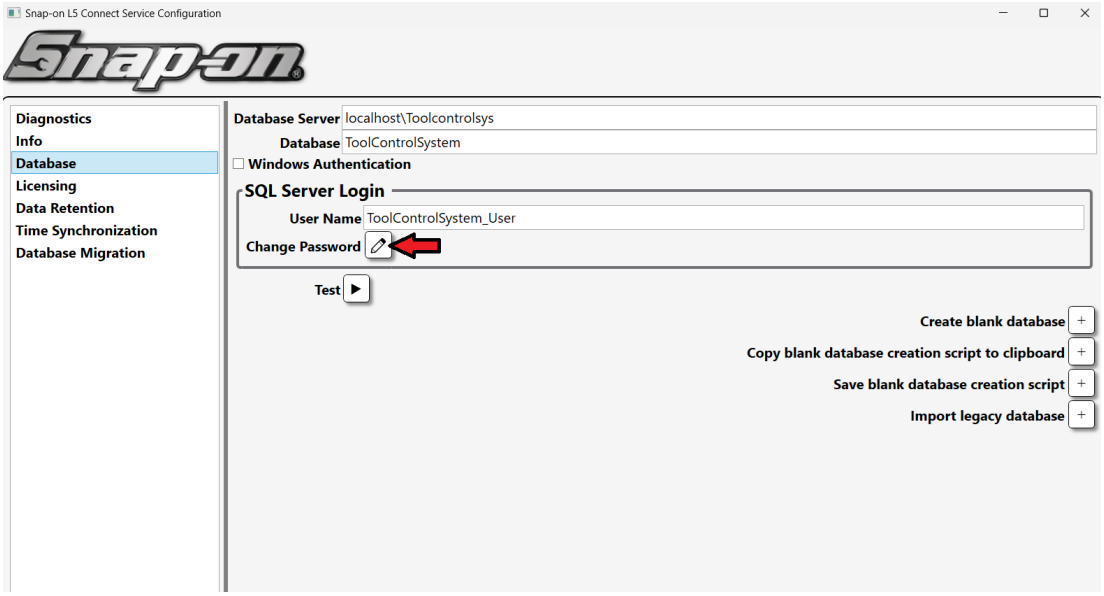
Then you will need to decide whether to use Windows or SQL database authentication. For this example, you will use SQL authentication so leave the **Windows Authentication** checkbox unchecked. You will then need to provide the database **User Name** and **Password** for SQL Server Authentication.

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NOTE: The following SQL naming rules apply to the Database name and the User Name values. (1 - 128 chars, 1st must be letter or underscore, subsequent can be letter, number, @$#_)



Then click the **Change** button, that looks like a pencil, next to **Change Password** to set the password the SQL user account will use to access the L5 Connect™ database (example: F0urth@ndInch3$). **NOTE: This is only used when you are using SQL Authentication.**

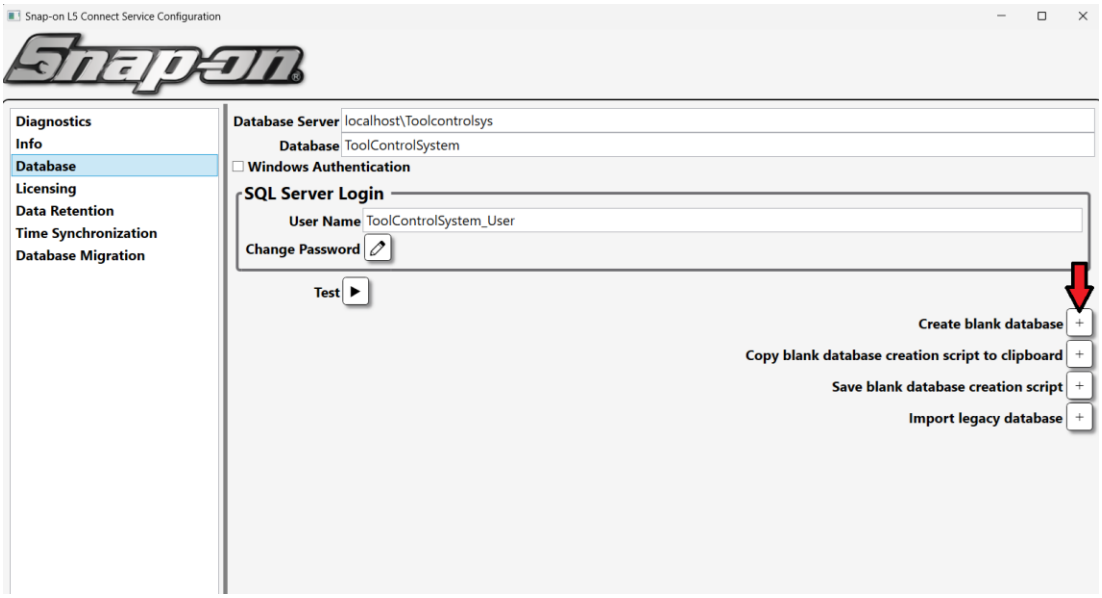


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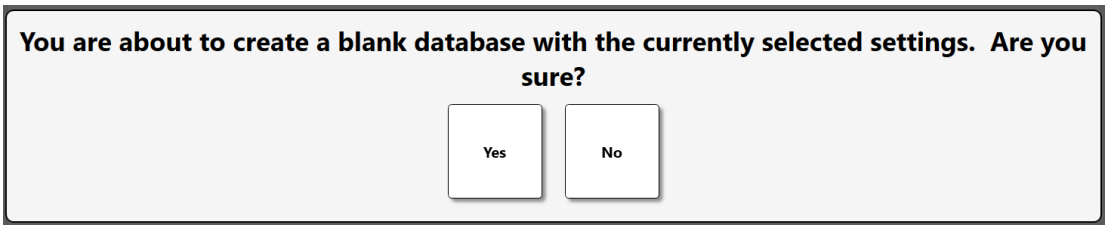


Click the **OK** button. Then click the Blue **Save** button at the top right of the screen.

Next you will click on the + button next to **Create blank database**.

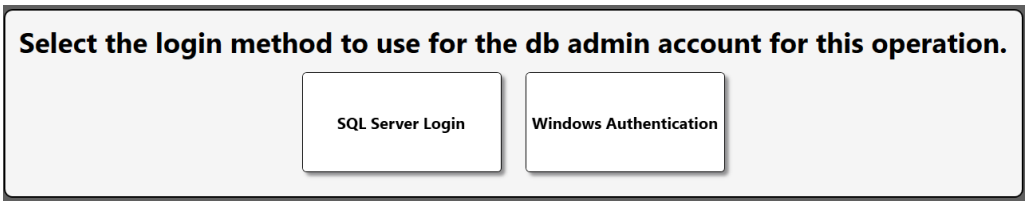


Click **Yes** to continue.

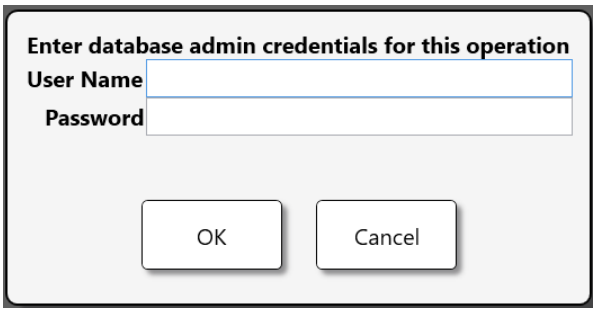


Click the **SQL Server Login** button. You could instead click the **Windows Authentication** button if you prefer to use Windows based authentication.

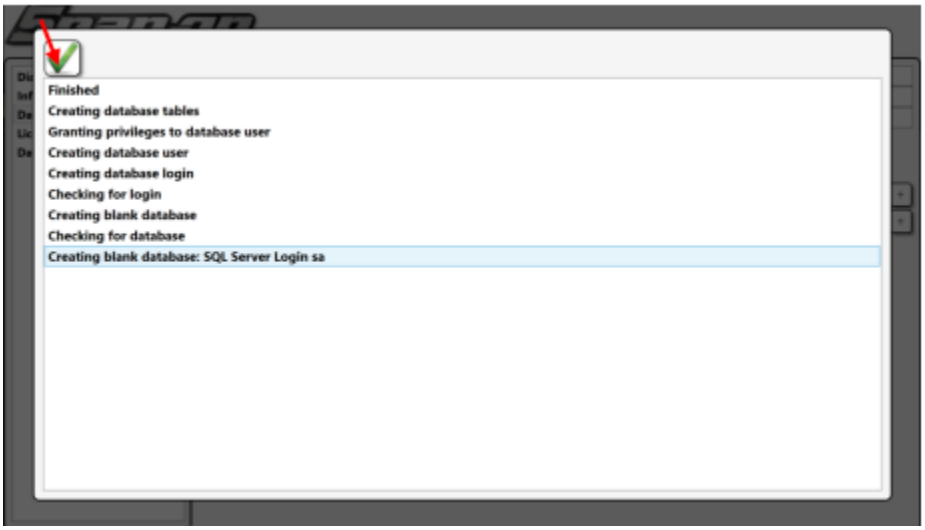
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Input the SQL **sa** account information for SQL Server to authenticate your request. For example:
User Name – sa
Password – F0urth@ndInch3$



Then click the **OK** button. The system will then create the database, tables, and SQL user for the L5 Connect™ Service to use to communicate and store data. When completed click the ✓ button in the top left of the screen.



You can test the database connections by clicking on the ► button by Test.

(0-41) Success means everything is good to go.

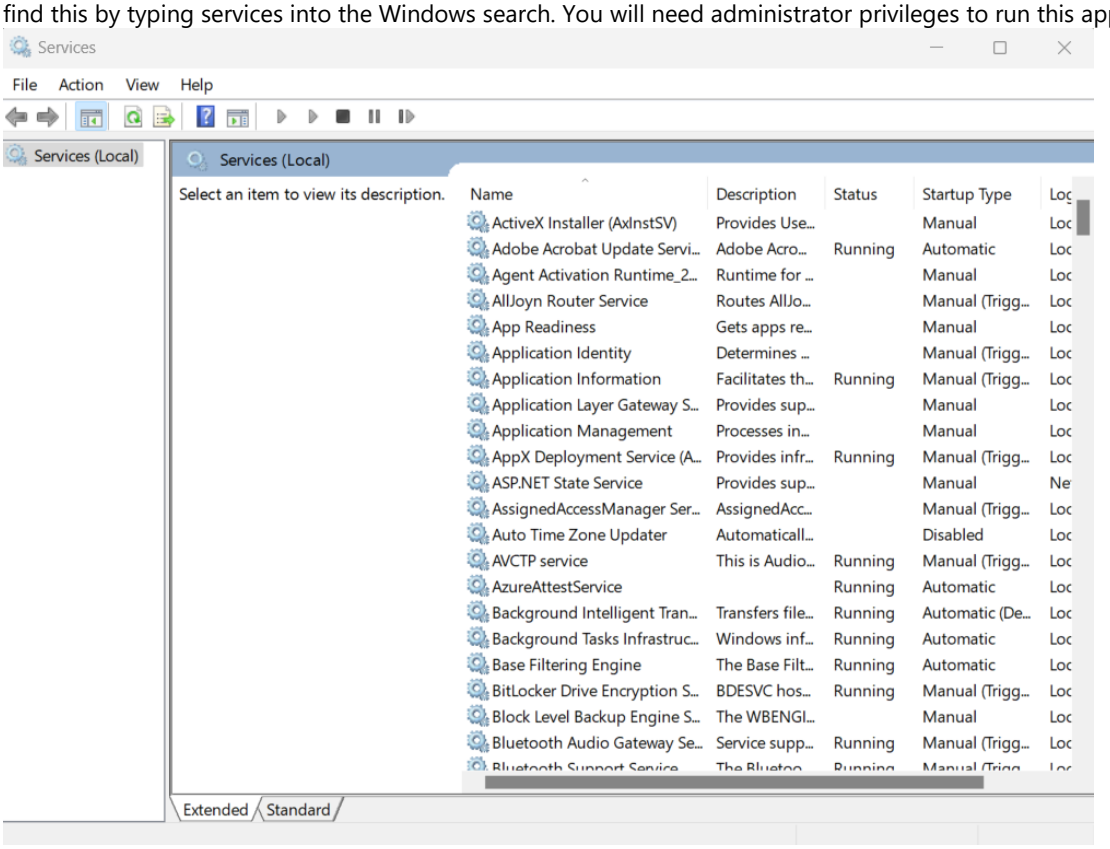


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Windows Authentication Mode

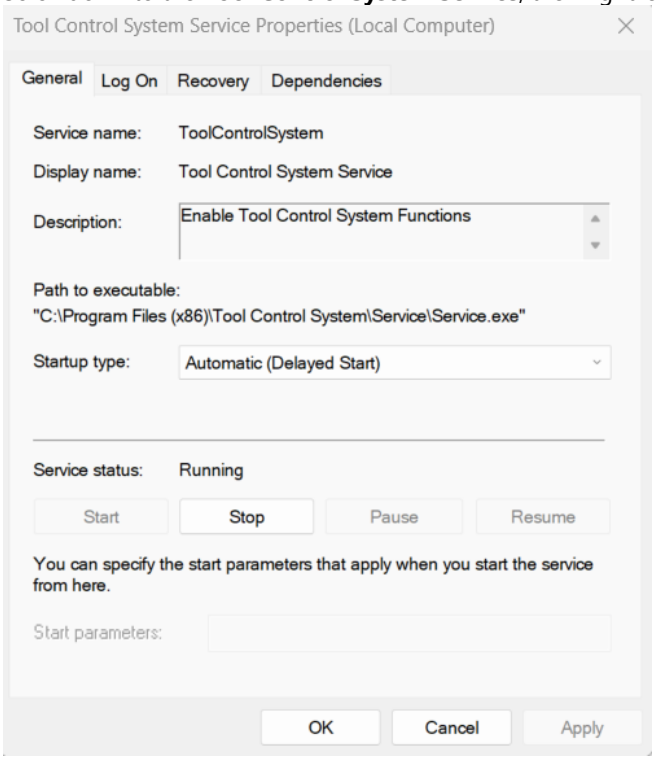
The L5 Connect system supports using Windows Authentication, however, it will require some manual configuration. The system will create the ToolControlSystem database automatically with the **Create blank database** button, but you will need to manually make sure that the desired Windows user the service is running under has been properly assigned to the database and given the proper permissions.

To determine what Windows user the service is running under, open the **Services** application in Windows. You can find this by typing services into the Windows search. You will need administrator privileges to run this application.

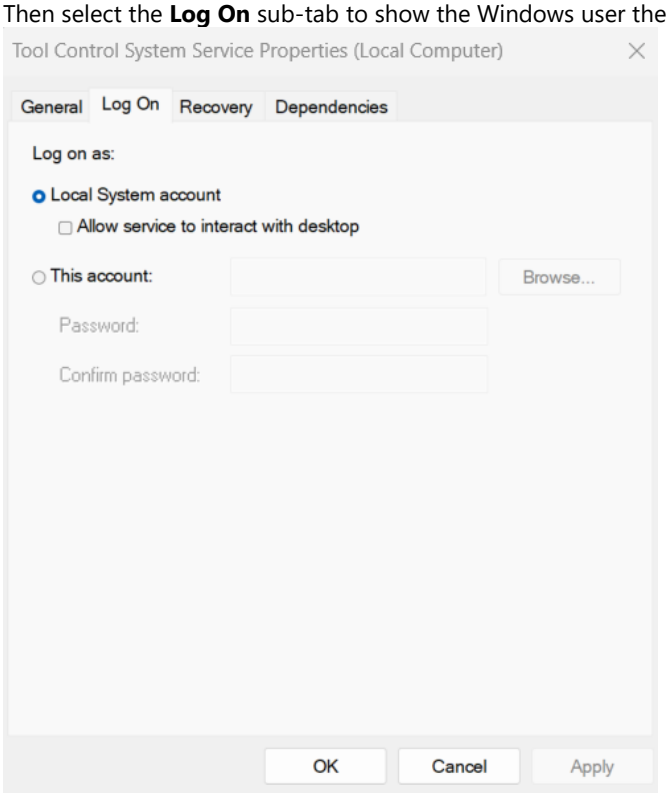


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Scroll down to the **Tool Control System Service**, then right-click it and select **Properties**.

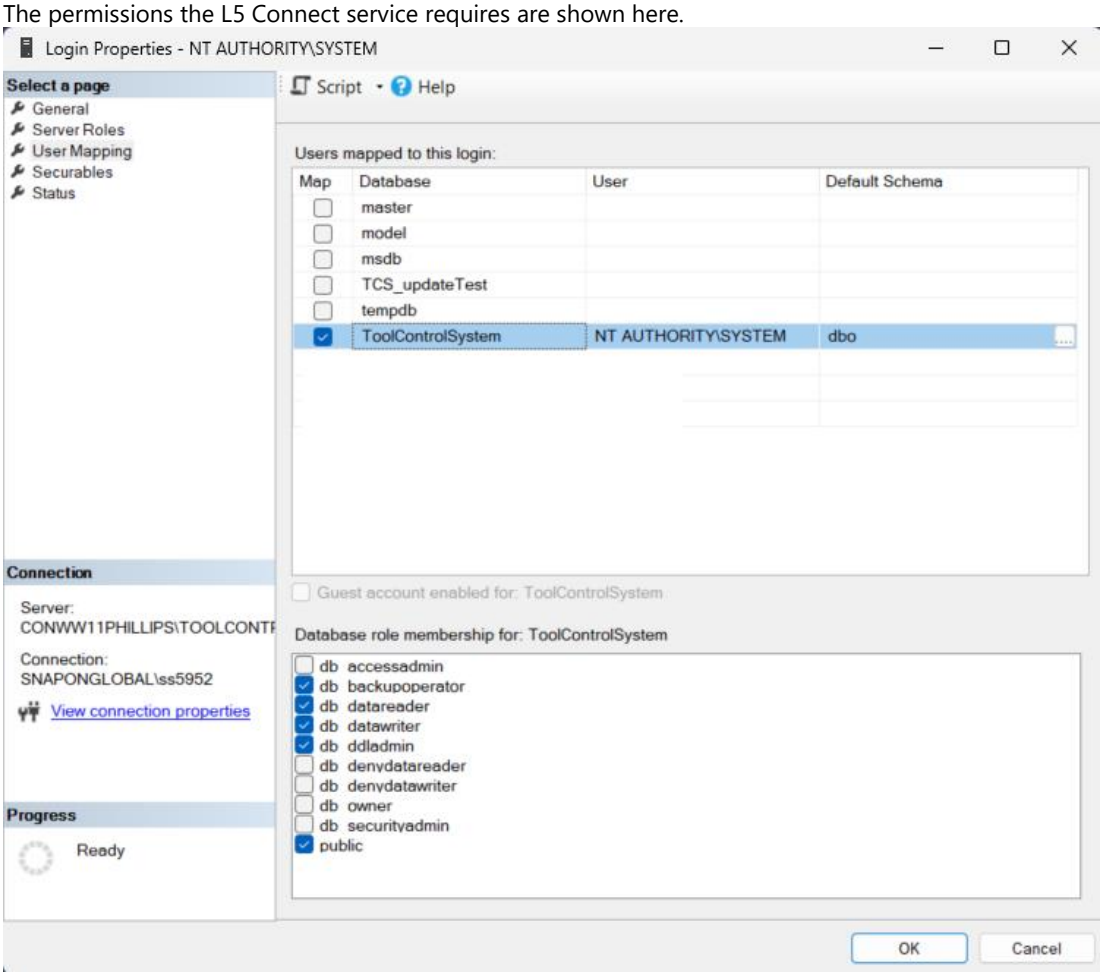


Then select the **Log On** sub-tab to show the Windows user the service is running as.



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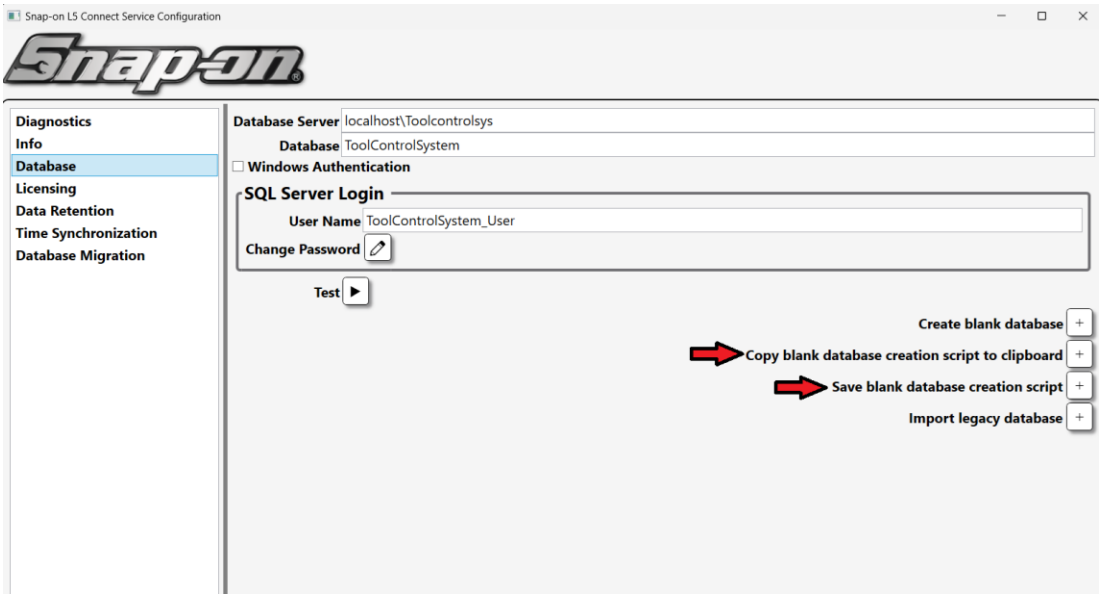
The permissions the L5 Connect service requires are shown here.



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Inspecting the Database Creation Script

In some uncommon cases, you might wish to view the default database creation script that the L5 Connect system uses to create the database and database user or execute it manually. This is very uncommon and should only be done by experienced database administrators. The system provides a way to get this database script so that it can be viewed or manually executed. With the **Database** list item selected on the left hand of the screen you will see a **Copy blank database creation script to clipboard** button. This button will copy the SQL code of the database creation script to the clipboard so that it can be pasted into SSMS. Alternatively, there is also a **Save blank database creation script** button, which will prompt the user to provide a filename and location where the database script will be saved.



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System Date and Time Settings

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L5 Connect System Time Server Configuration

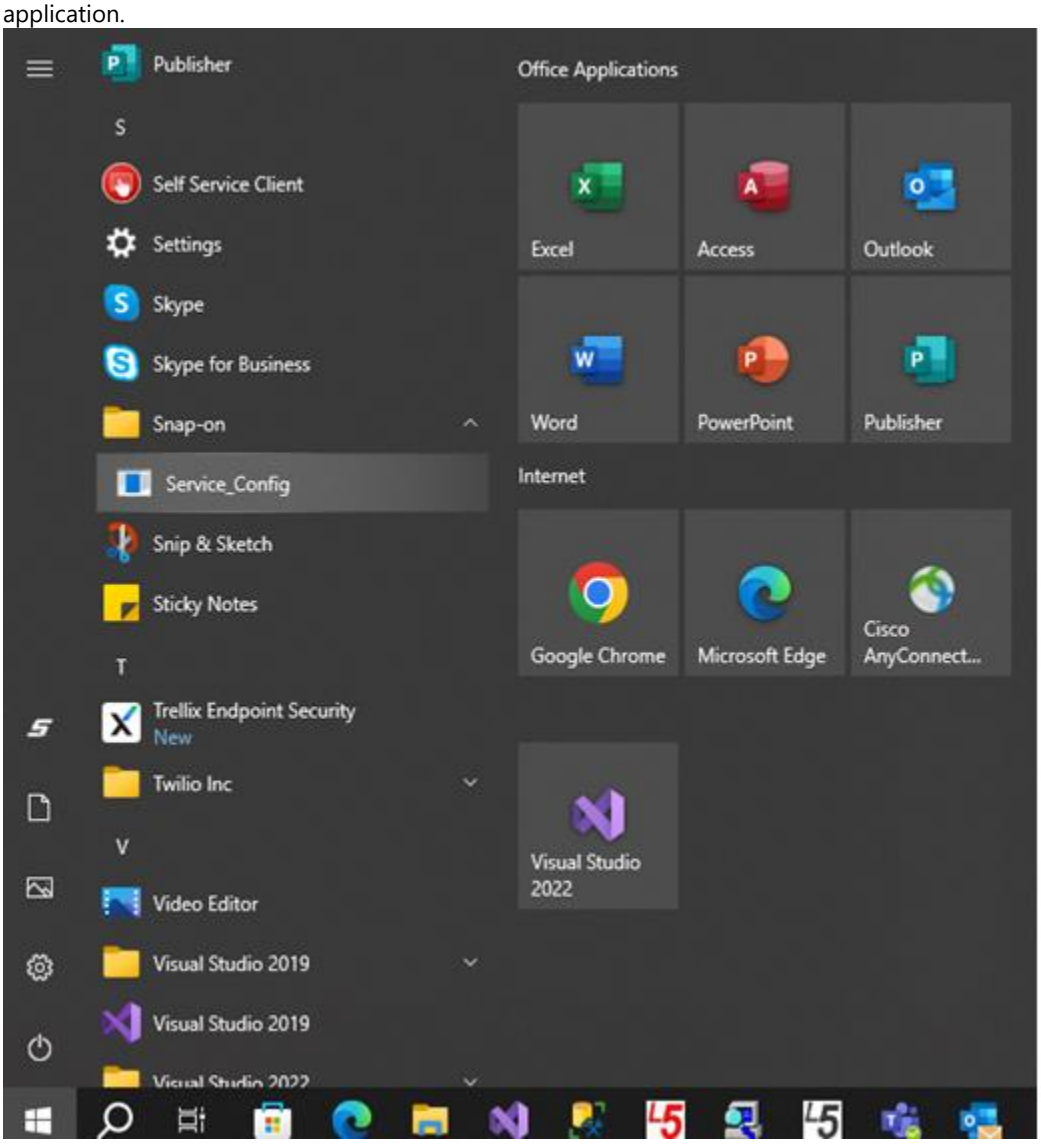
This section will explain the process of setting up the L5 Connect system service as a time server. This will allow all the devices in the L5 system to keep their time synchronized with the L5 service machine. It is critical for the devices in the L5 system to maintain close time synchronization with the L5 service so that they can properly communicate with each other. For L5 systems where the devices are configured to be on a domain, the domain controller will typically provide time synchronization, and this process would not be used. In situations where the devices are not on a local domain and there is not an option for Windows based time server configuration, the L5 system can be configured as a time server using this document.

This document will walk the user through the steps of configuring the L5 system as a time server. The first step is configuring the L5 service to be a time server. The second step is configuring the devices in the system so that they can properly respond to requests from the L5 service to adjust their system time.

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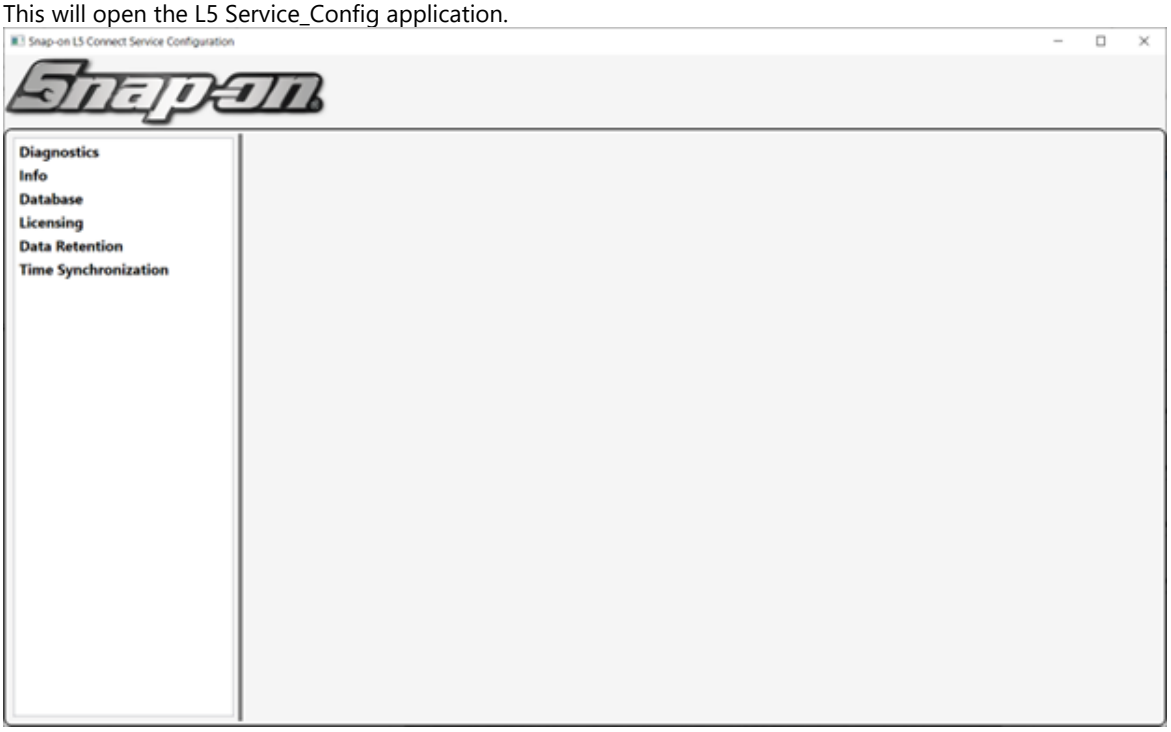
Configuration of the L5 Service

1. Go to the computer on which the L5 Connect service is installed. Open the start menu and scroll down to the Snap-on folder and click it. Then click the Service_Config shortcut to open the L5 Service configuration application.

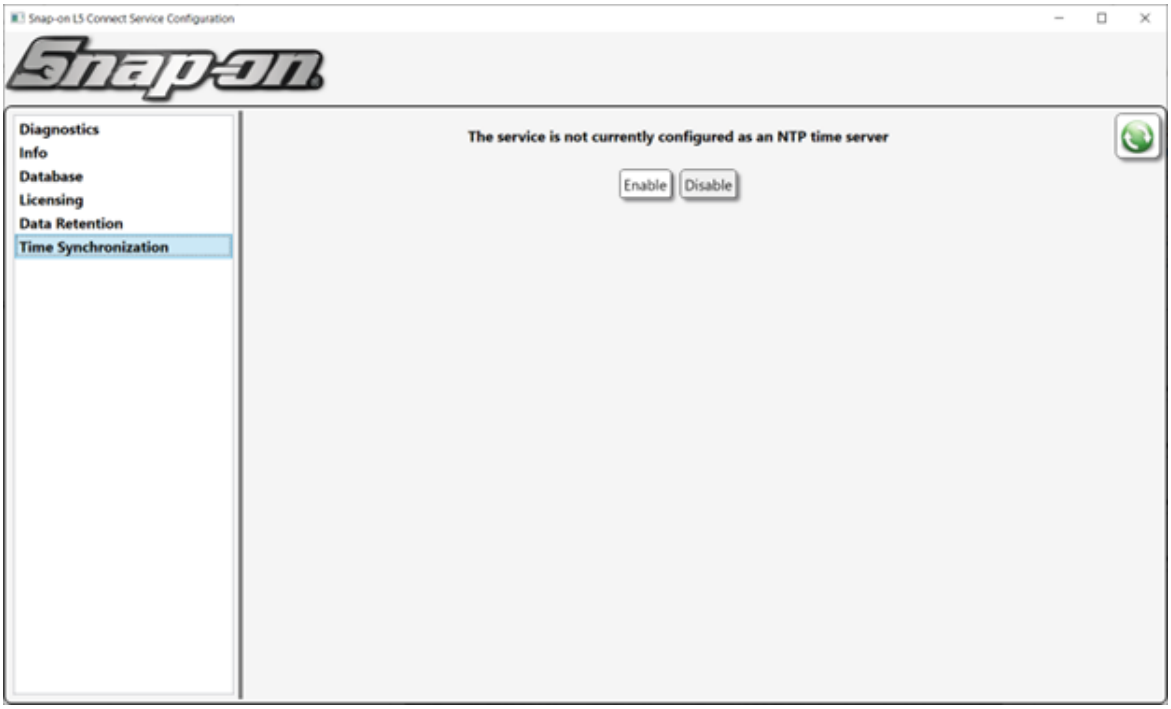


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2. This will open the L5 Service_Config application.

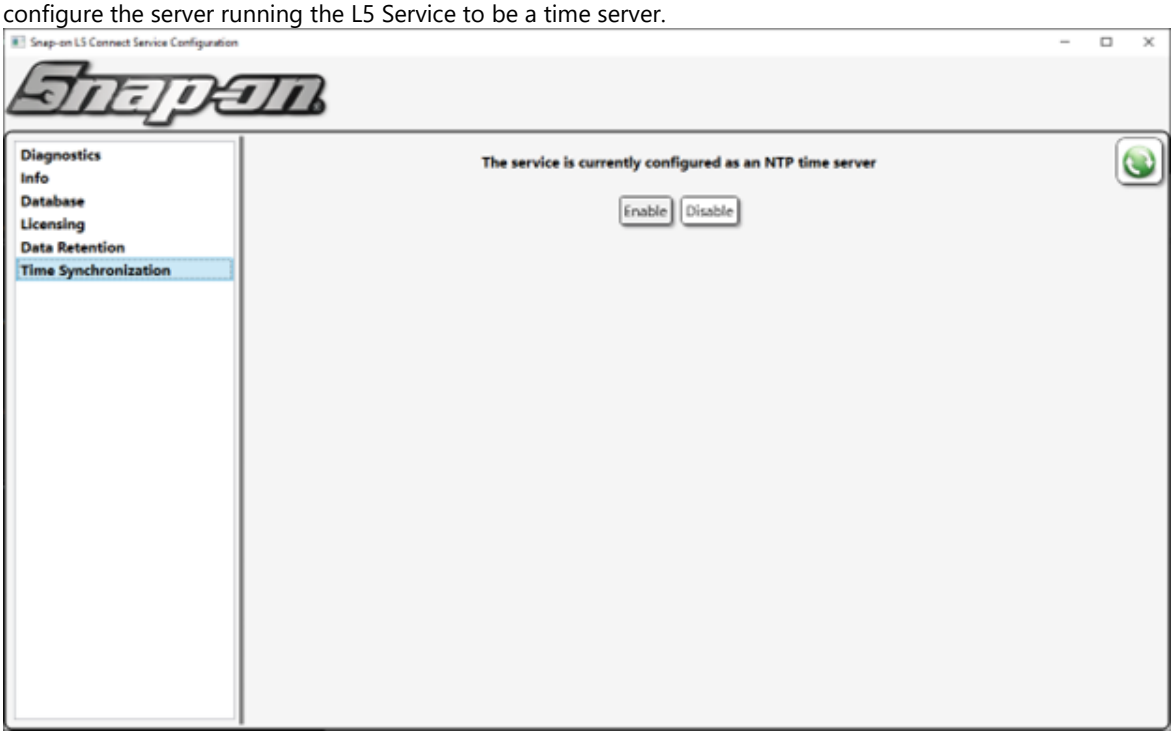


3. Click the "Time Synchronization" item in the list on the left-hand side to open the time sync configuration screen as shown below.



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4. If the app shows that the service is not currently configured as a time server, click the Enable button. This will configure the server running the L5 Service to be a time server.

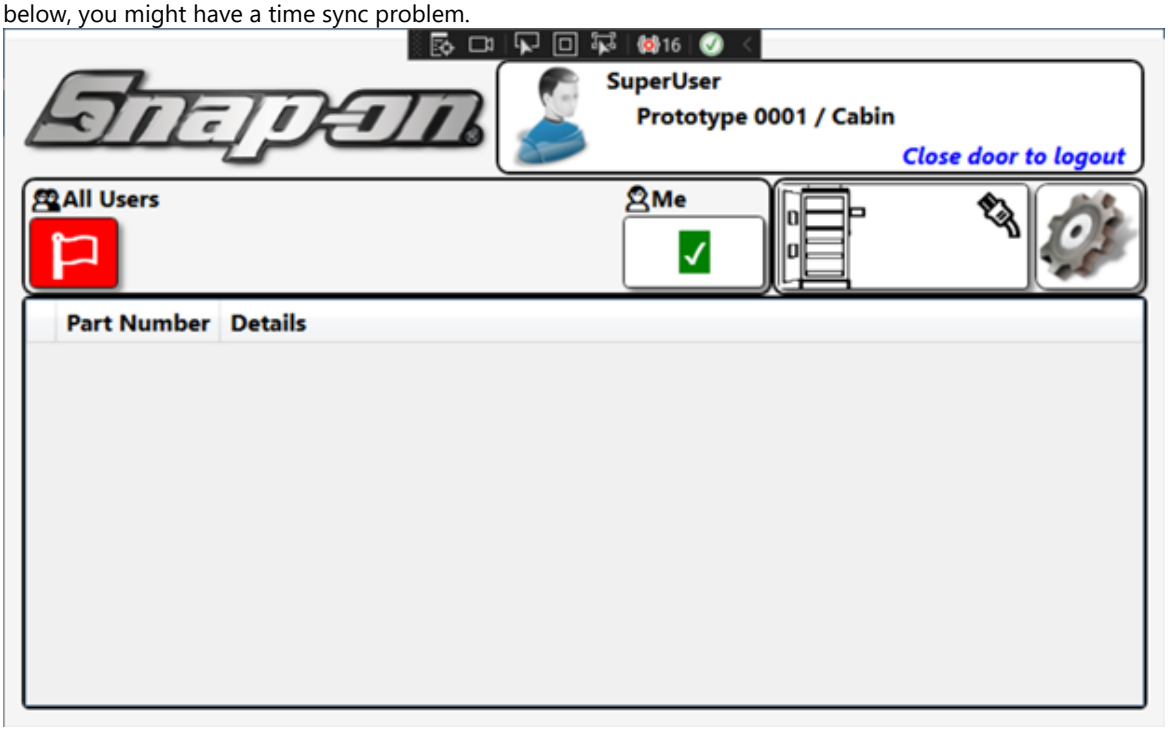


5. Once this has been done, devices in the L5 system that are connected to this L5 Service and configured for time synchronization will use this machine as a time server.

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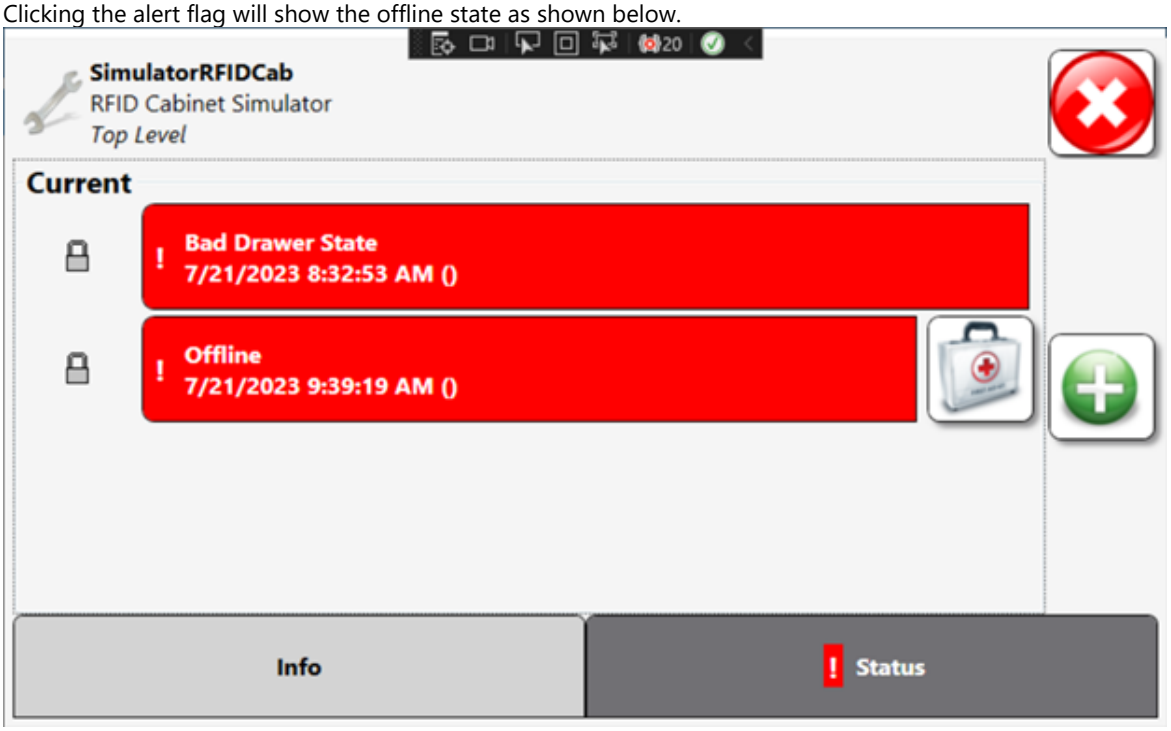
Configuration of an Existing L5 Device

1. There are two scenarios for configuring an L5 device for using a time server. The first is for a device that is already part of the L5 system, i.e., the device has already been connected to the L5 Service. If your device does not show a satellite dish on the main screen then it is in an offline state and has an alert flag as shown below, you might have a time sync problem.

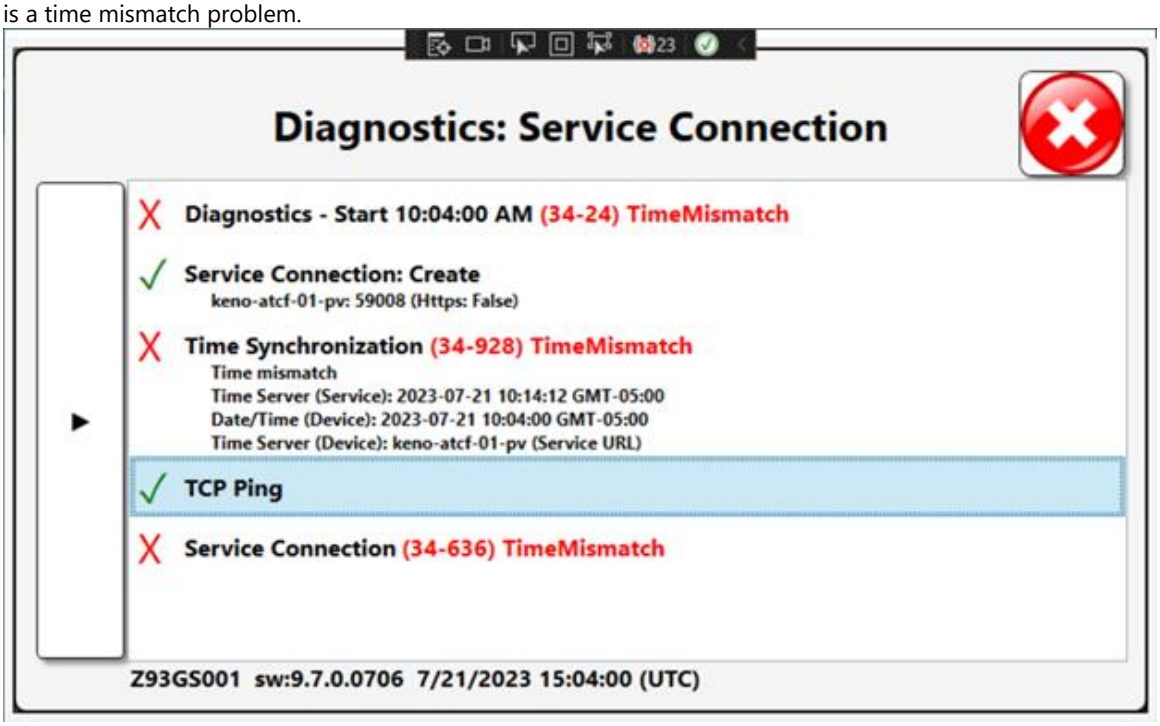


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2. Clicking the alert flag will show the offline state as shown below.

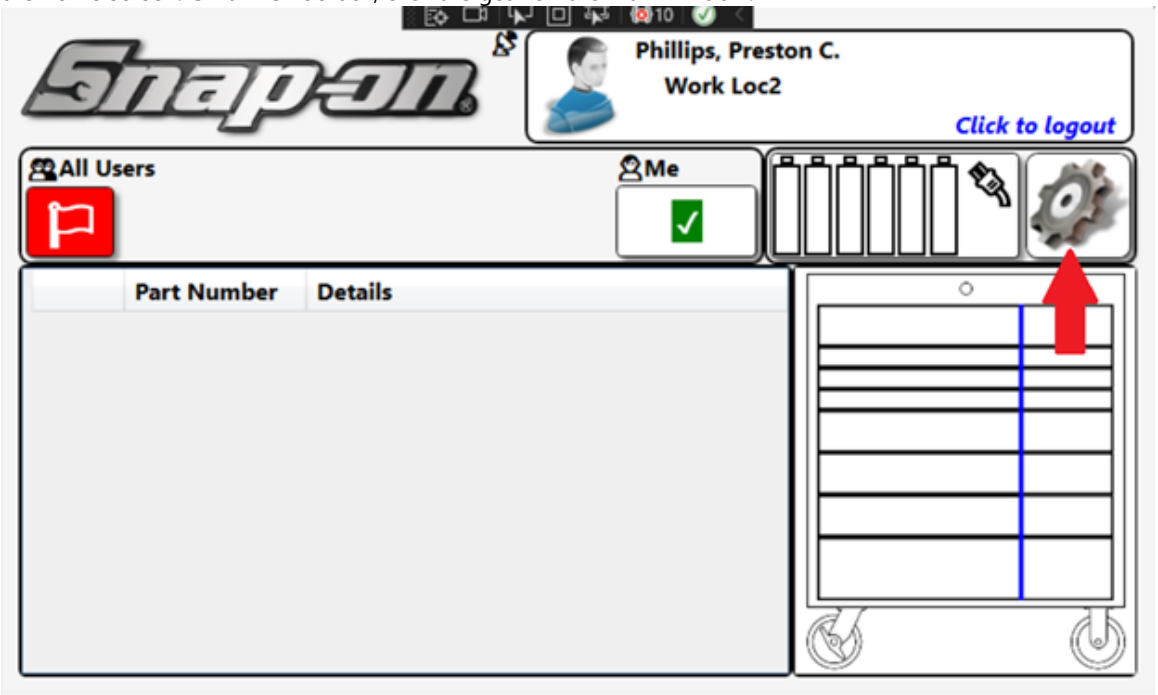


3. Clicking the diagnostic suitcase button will show details about this error. As shown below it is clear that there is a time mismatch problem.

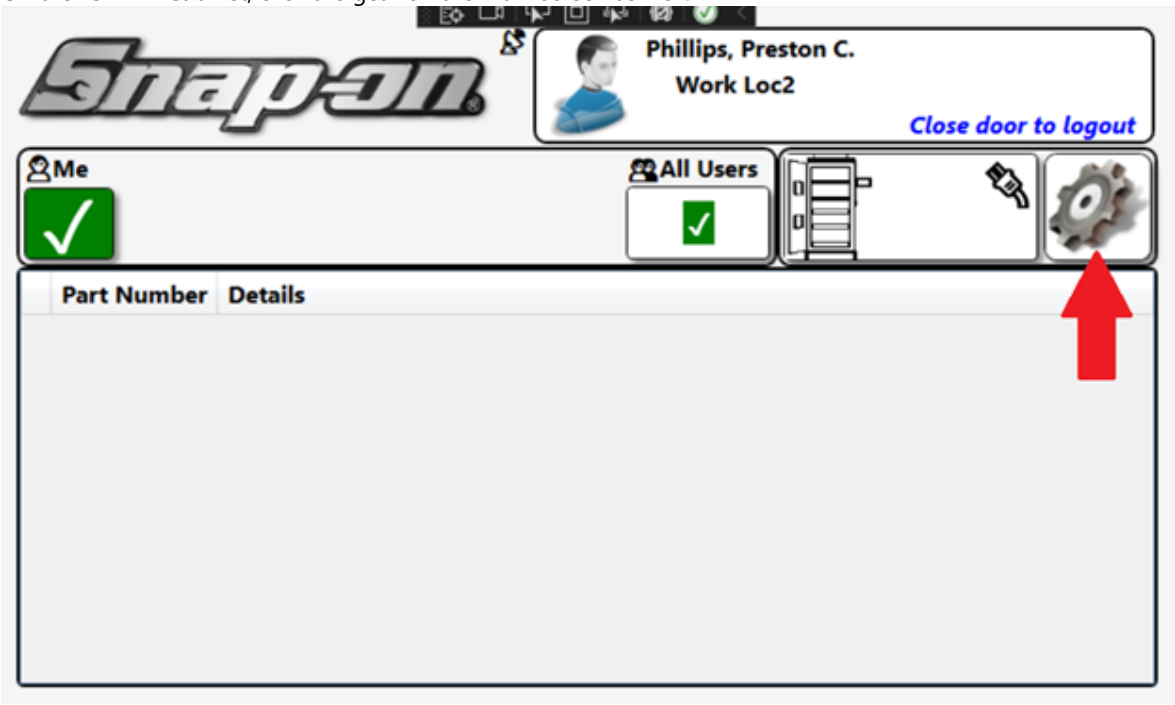


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4. To configure this device to use the L5 Service as a time server you would navigate to the main menu from the home screen. On an L5 Toolbox, click the gear on the main window.

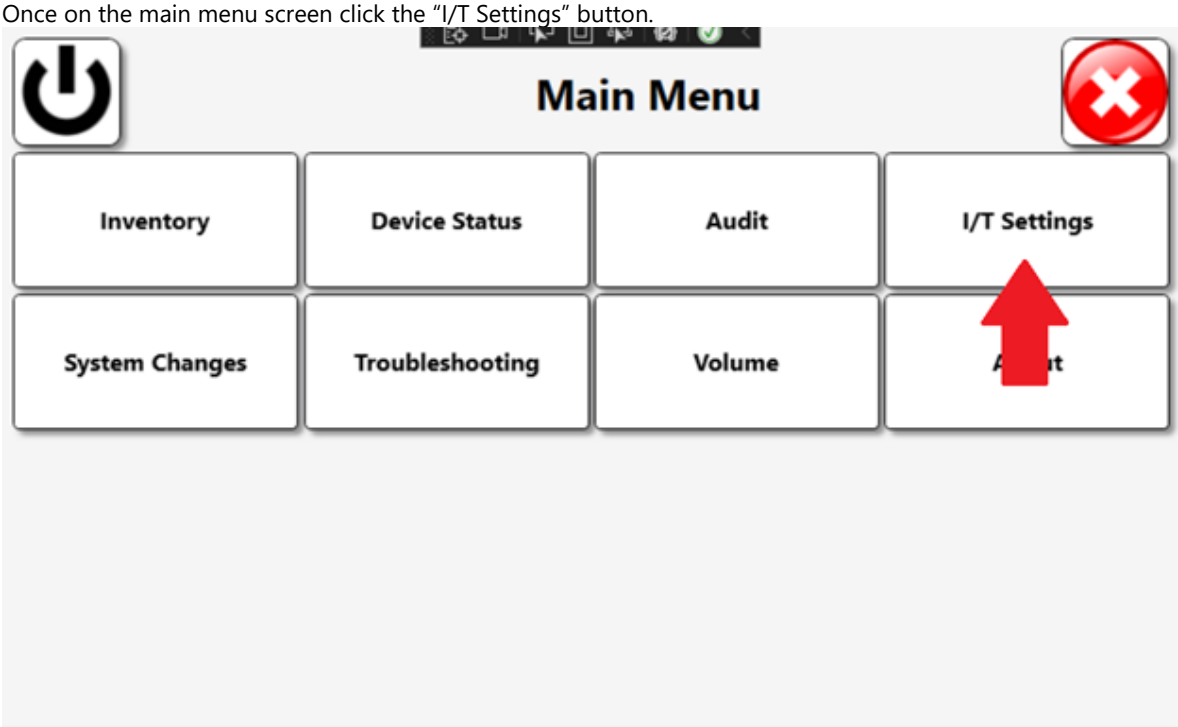


5. On the L5 RFID Cabinet, click the gear on the main screen as well.

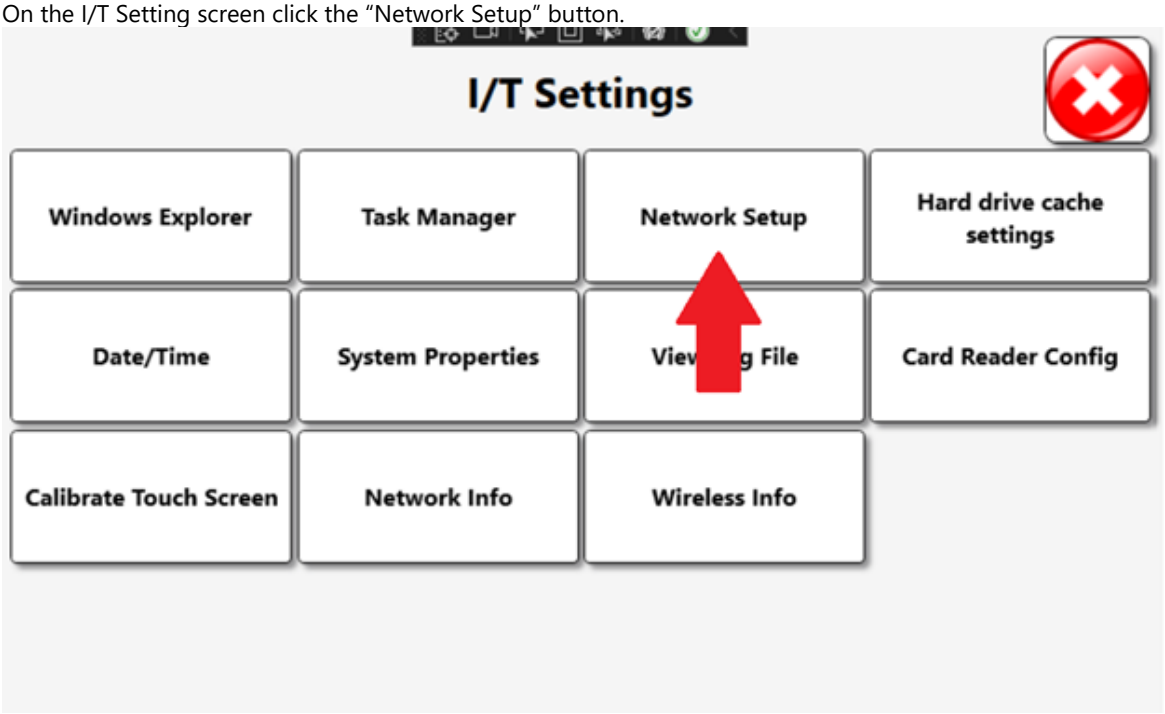


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6. Once on the main menu screen click the “I/T Settings” button.

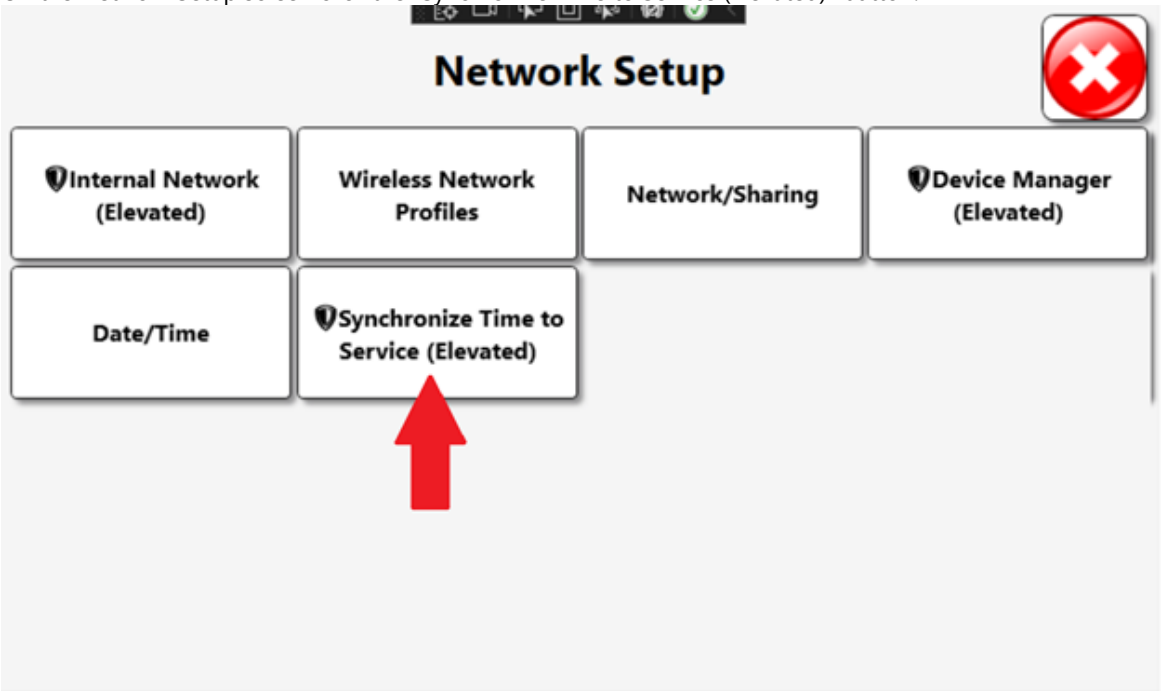


7. On the I/T Setting screen click the “Network Setup” button.



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8. On the Network Setup screen click the “Synchronize Time to Service (Elevated)” button.



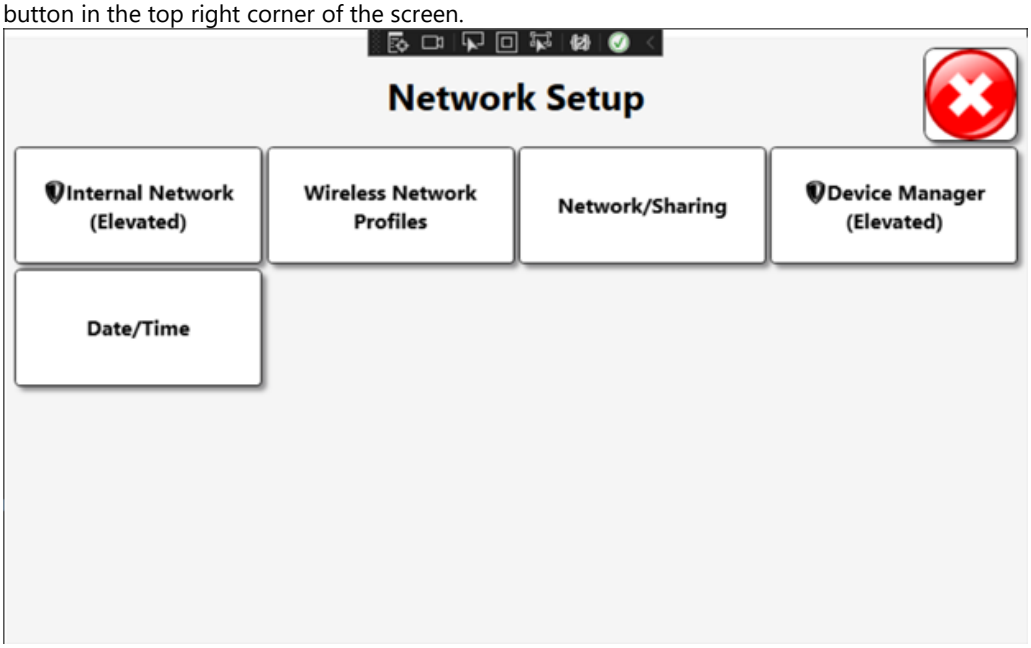
9. You will then see a window prompting you to enter administrator credentials to continue. The default credentials are:
   User Name: user1
   Password: F0urth@ndInch3$

After entering the credentials, the device will then configure itself to be able to properly adjust its operating system time when the L5 Service requests it.

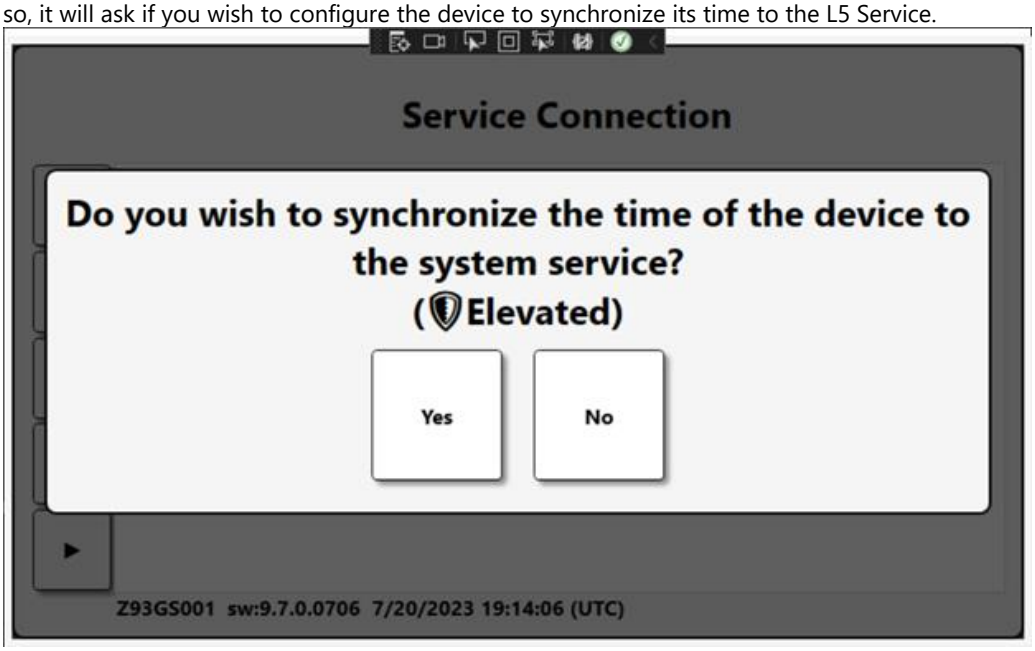
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Configuration of a new L5 Device

1. When adding a new device to an existing L5 system that has been configured to operate as a time server, you will be initially put in a Network Setup screen. Once you have properly configured any network parameters and are ready to continue with the process to connect to the L5 Service, click the red close button in the top right corner of the screen.



2. You can then follow the process to connect to an L5 Service as described in the L5 Connect ATC Operation Guide. Look for the table of contents header "Connecting to a L5 Connect Service". Once you have provided all the required information, the system will detect if the L5 Service has been configured as a time server. If so, it will ask if you wish to configure the device to synchronize its time to the L5 Service.



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3. Select Yes to configure your device to synchronize its time to the L5 Service. You will then see a window prompting you to enter administrator credentials to continue. The default credentials are:
   User Name: user1
   Password: F0urth@ndInch3$
   After entering the credentials, the device will then configure itself to be able to properly adjust its operating system time when the L5 Service requests it. The device will then continue with the process to join itself to the L5 Service.



4. Now your new device should be added to the L5 System and set up to keep its local time synchronized with the L5 Service machine, ensuring their ability to properly communicate.

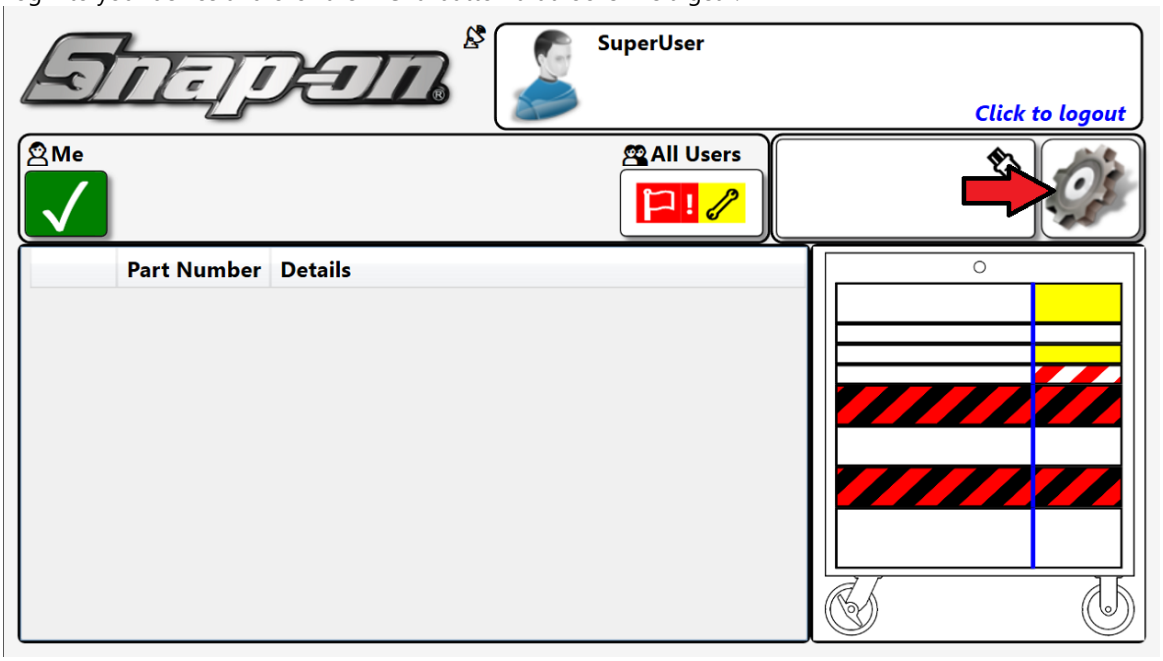
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Device Time Zone Configuration

Some features in the L5 Connect system use the local time on the device. Currently, all devices are shipped with the default time zone of Central Standard Time (CST). To modify the time zone on your device, use the following procedure.

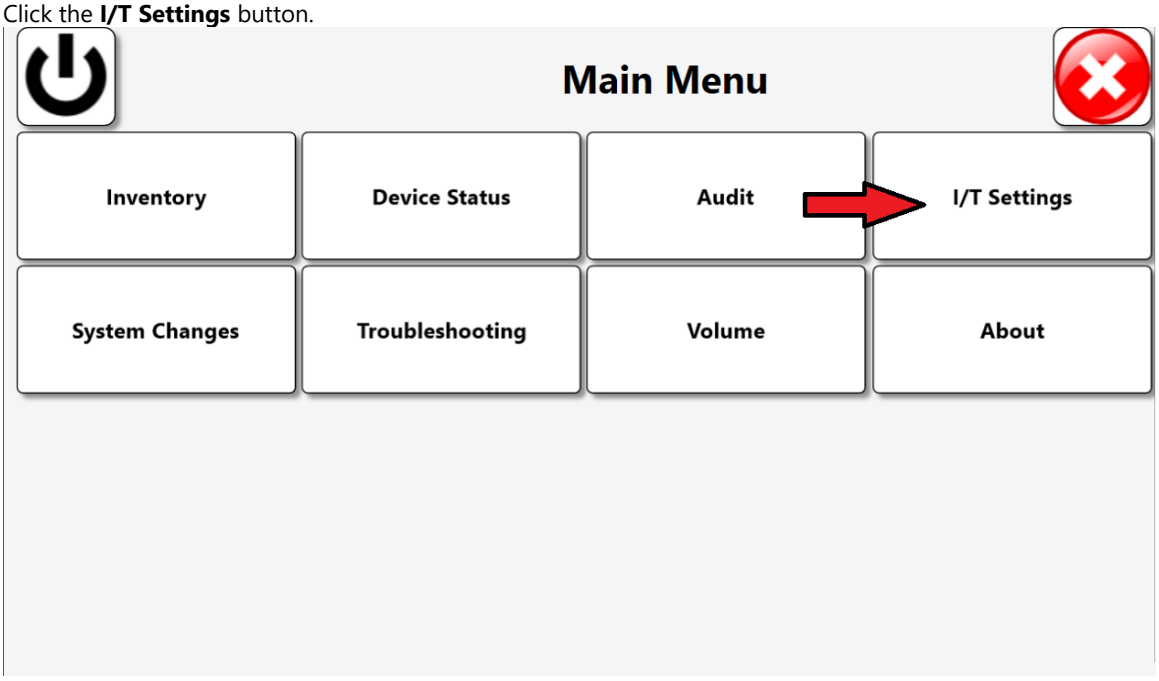
NOTE: The employee performing this procedure will need the **Date Time** and **IT Function Access** permissions in their profile.

1. Log into your device and click the **Menu** button that looks like a gear.

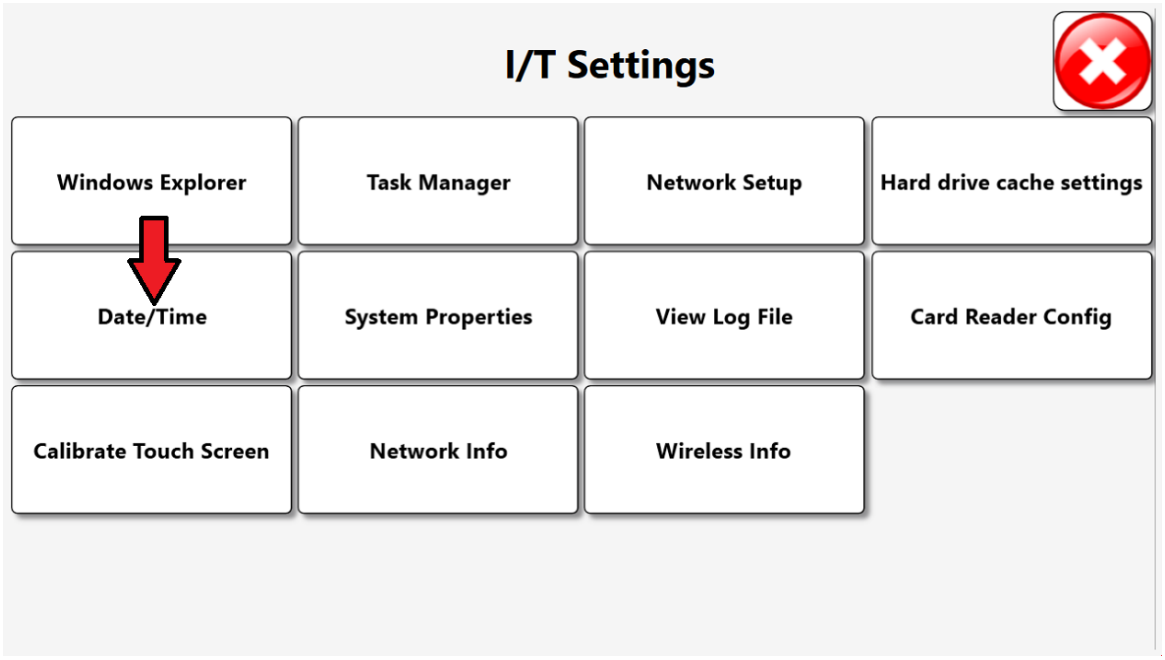


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2. Click the **I/T Settings** button.

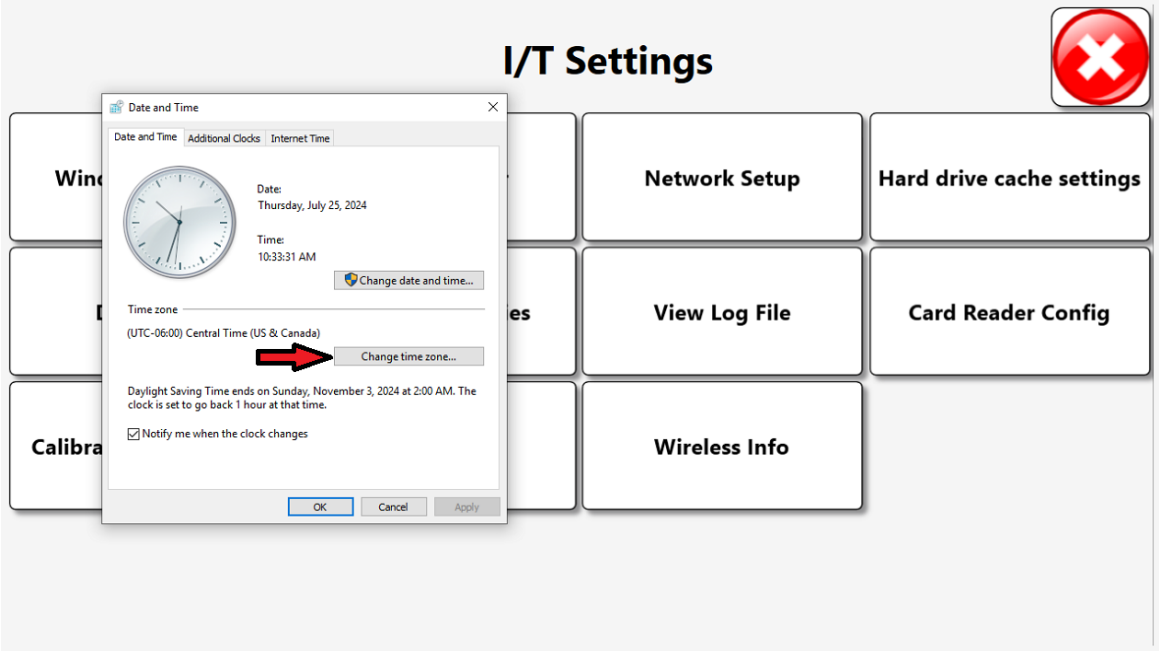


3. Click the **Date/Time** button.

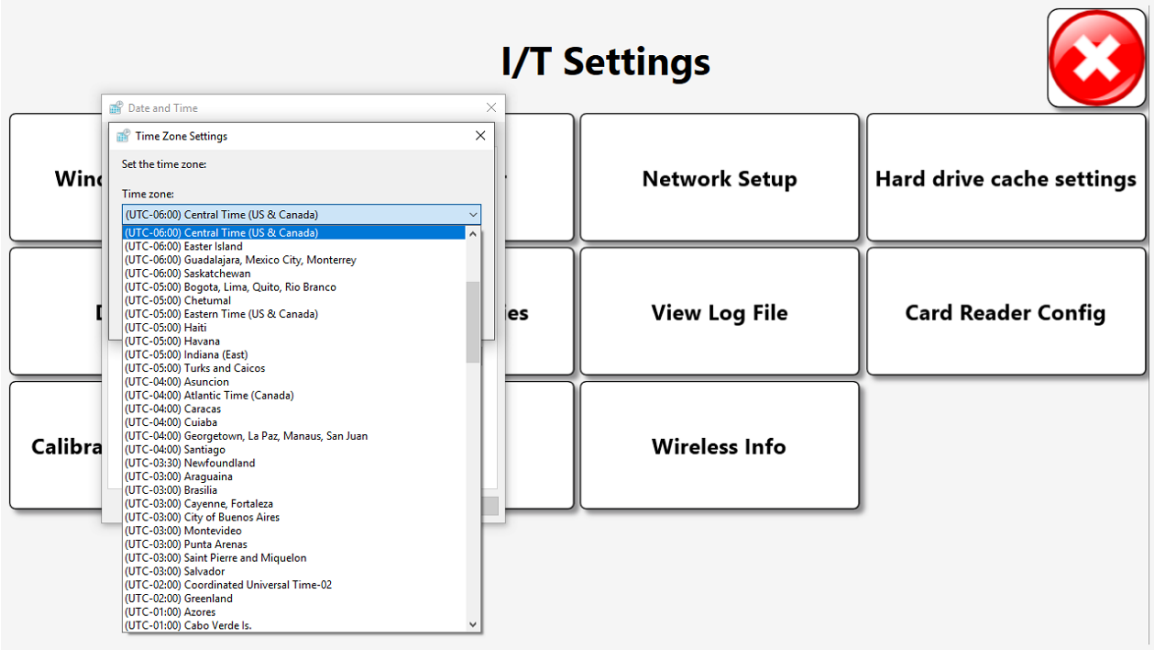


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4. Click the **Change time zone...** button.



5. Use the **Time zone:** combo box to select the proper time zone.



6. Click the **OK** button and then click the **OK** button to close the windows and save the change.

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Connecting to a L5 Connect™ Service

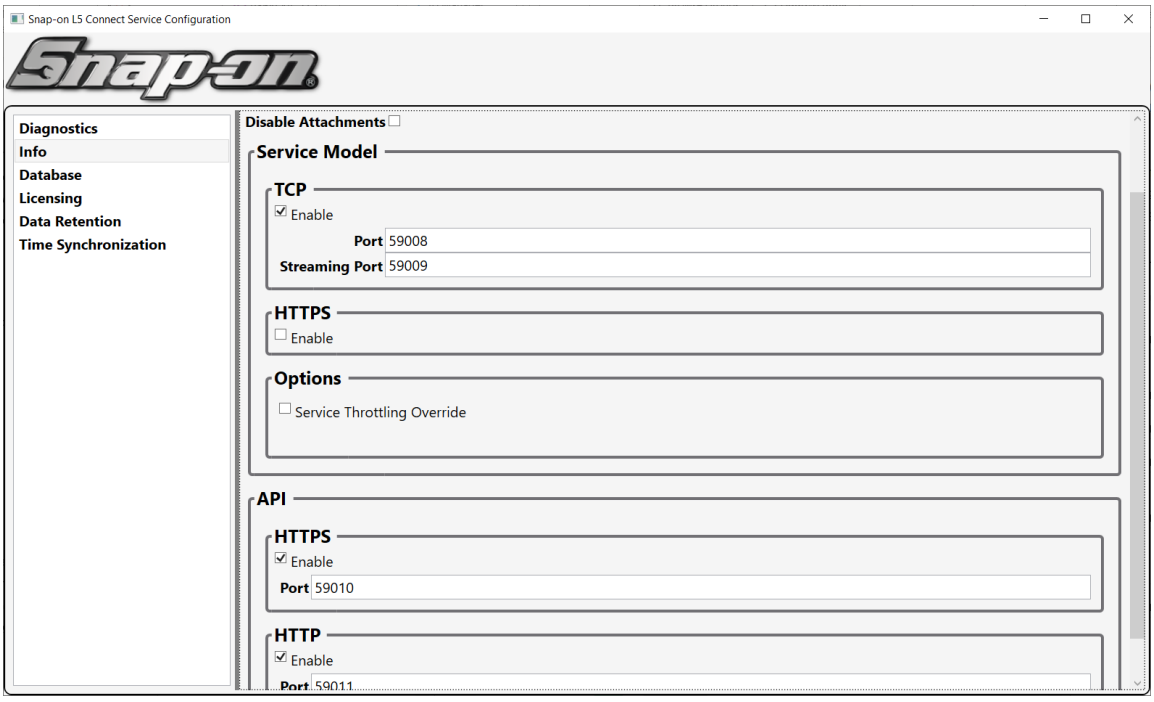
You must connect your new Device to a licensed L5 Connect™ service. This requires the Device to be connected to a network in which it can communicate with the service. ATC devices need to be connected to the Service to function. However, it can run if the Service or network goes down for a short time. The system is designed to be connected 24/7 to the Service to receive changes and new users and push backups and updates.

Configuring the Service

The first step is to make sure that you have your L5 Connect™ Service configured properly for the type of communication you wish to use.

Sevice_Config Application Setup

1. On the computer where your L5 Connect™ service is installed, open the **Windows Start Menu**, expand the **Snap-on** item, and then open the **Service_Config** application.
2. Select the **Info** tab on the left-hand side.



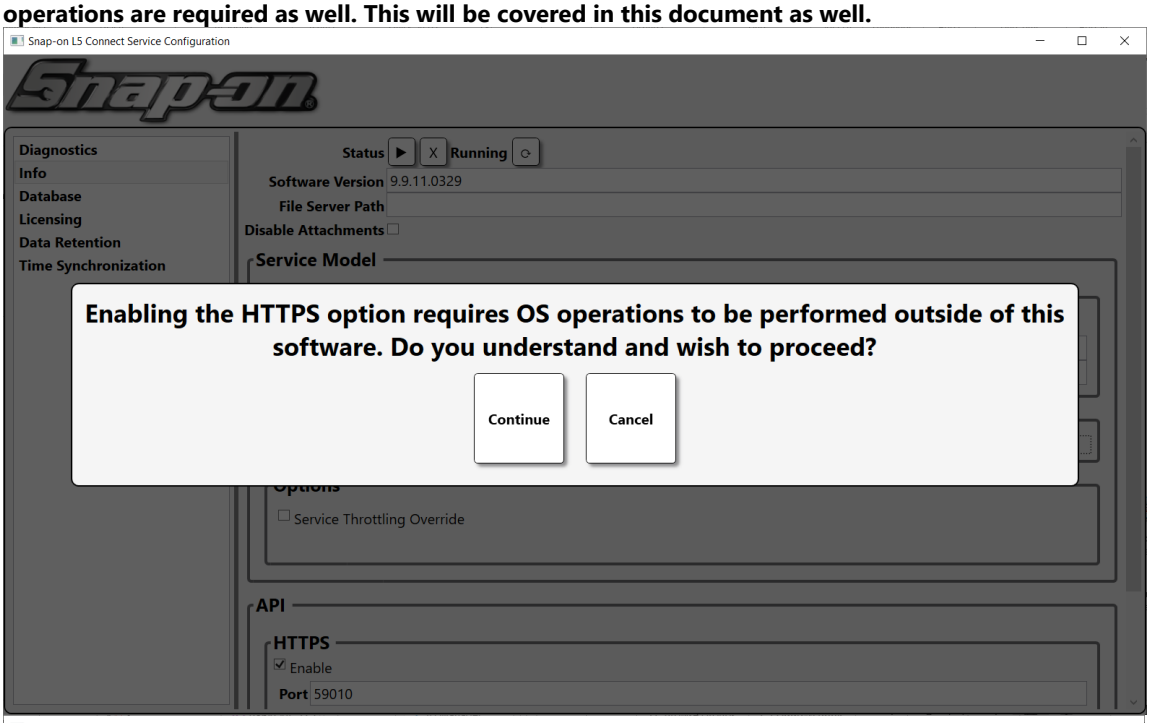
3. By default, the service will be configured for TCP communication on ports 59008 and 59009 for streaming.

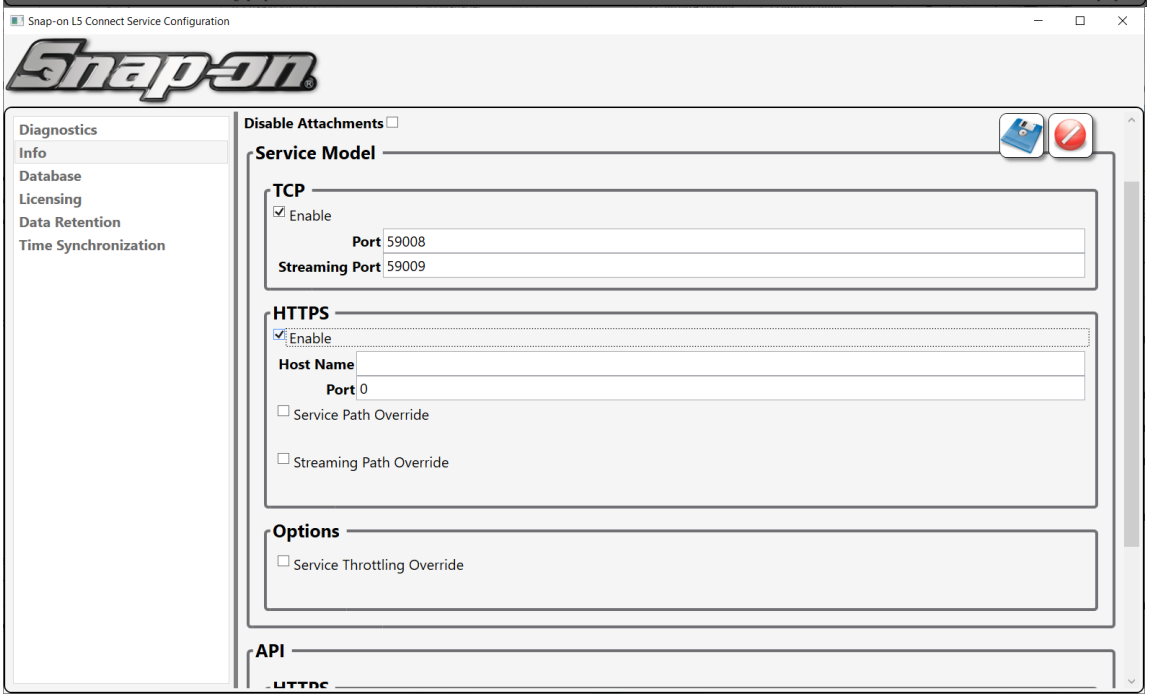
Configuring HTTPS

1. L5 Connect Supports both TCP and HTTPS connections. You may want to use HTTPS if you are connecting to the service over a WAN connection or the internet to further secure the connection. To use HTTPS, check the **enable** checkbox under the **HTTPS** service model. **NOTE: When you save, you will see a warning that OS**

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operations are required as well. This will be covered in this document as well.

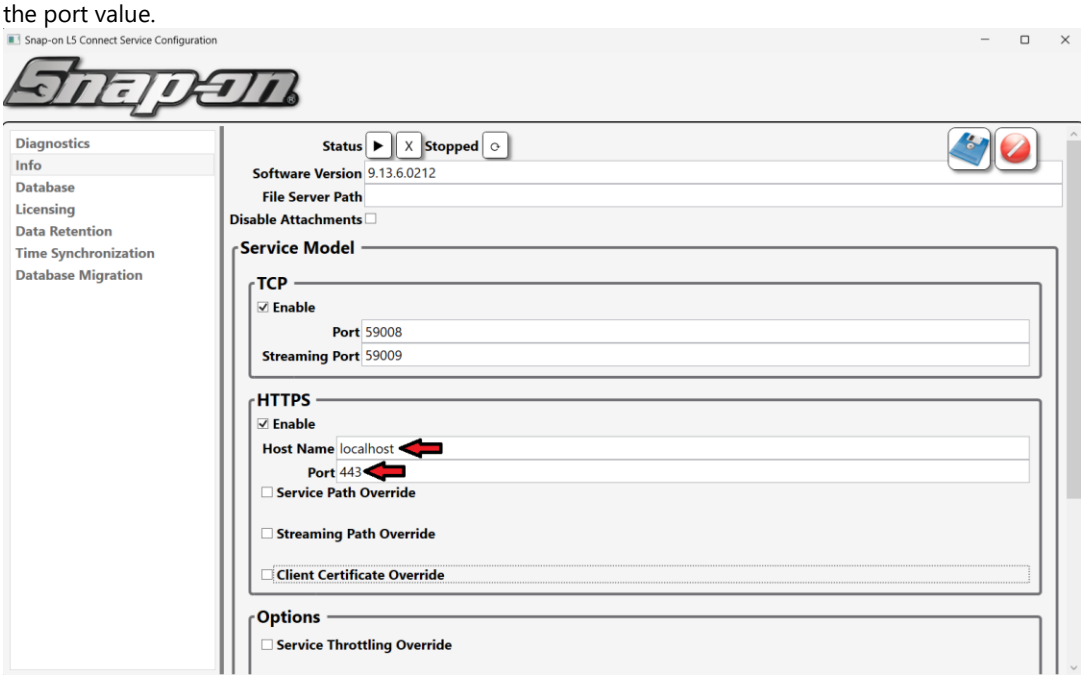




2. Set the **Host Name** to name of your service's server. This will be the host name that must be used by devices and admin clients to connect.

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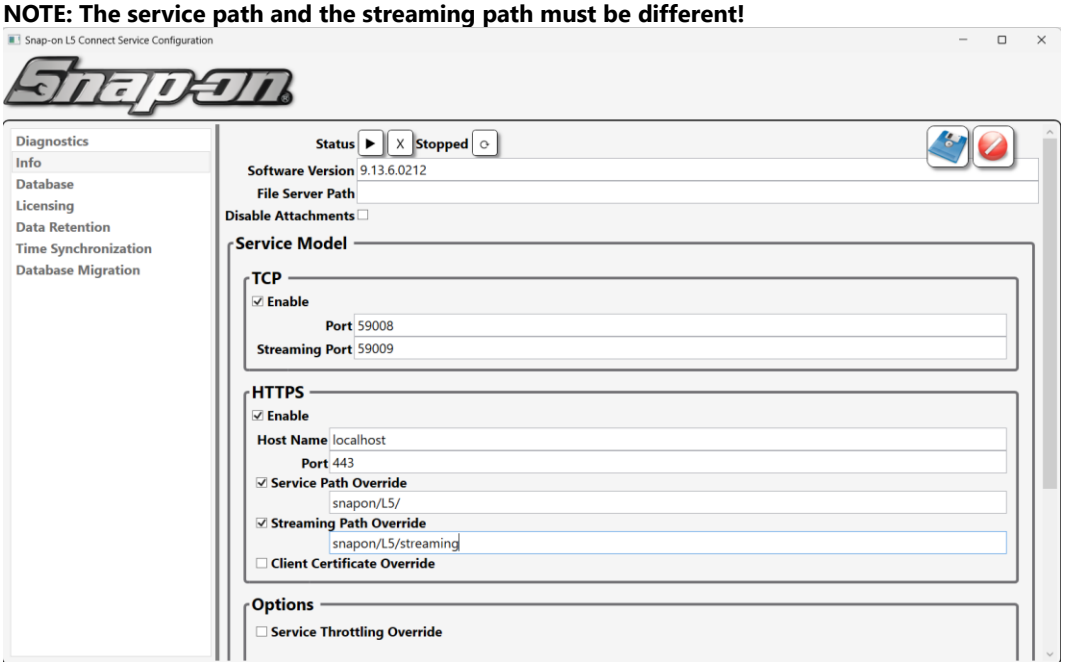
3. Set the **Port** to the HTTPS port over which you want to communicate. Snap-on recommends using 443 for the port value.



4. If you need to add a path to the server name, you can select the **Service Path Override** checkbox and/or the **Streaming Path Override**. The default service path is **IDeviceService** and the default streaming path is **IFileStreamService**.

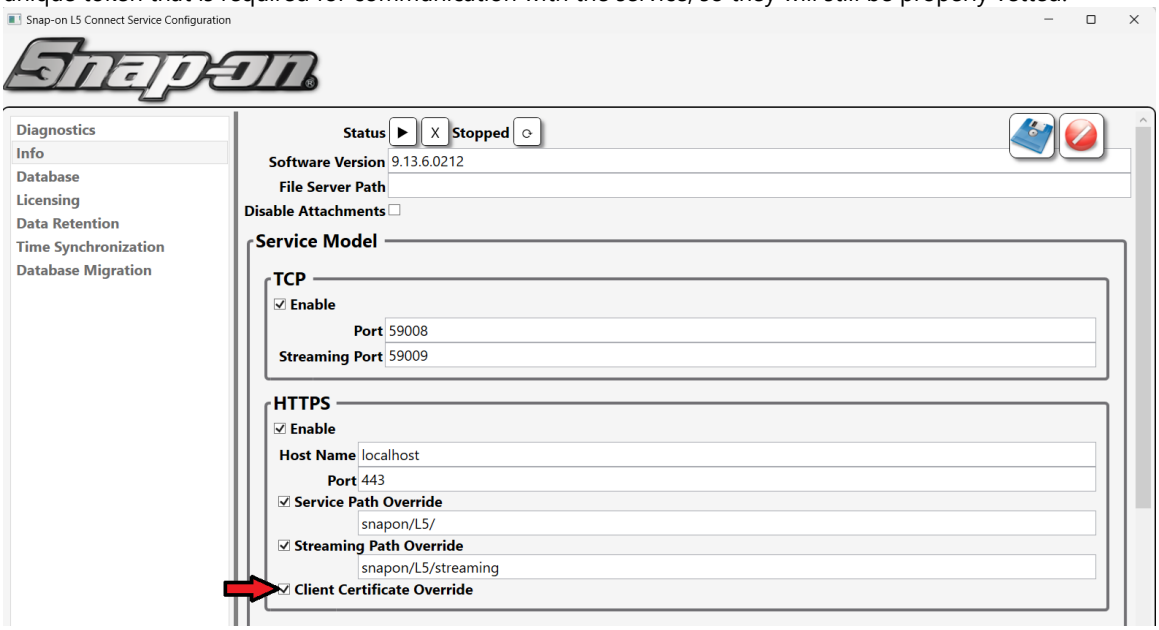
5. Then input the desired path to replace the default value, making sure that the combination of that path and the rest of the pieces still make a valid URL. The proper format for the host name URL is **https://{HOST_NAME}:{PORT}/{PATH}**.

6. **NOTE: The service path and the streaming path must be different!**



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7. Whenever a device communicates with the L5 Connect service, that communication normally includes a certificate that is used to verify the device is a valid L5 Connect device. If the L5 Connect system is deployed in certain environments, IT security software may strip the certificate from these communications. This will cause communication errors with the system. Selecting the **Client Certificate Override** option allows the service to ignore the lack of certificate to prevent these communications errors. The devices also have a unique token that is required for communication with the service, so they will still be properly vetted.



Service Throttling

The L5 Connect™ Service is a Windows WCF based service and has a default value of maximum concurrent sessions that is 100 times the number of processor cores. Based on this formula, it is recommended that the service machine have one core per 50 devices and admin applications in your L5 Connect™ system. Otherwise, you will likely experience service instability. Some customers with large L5 Connect™ installations may wish to manually configure the maximum concurrent sessions to allow a larger number without actually increasing the cores of the server running the L5 Connect™ service. This can be done using the procedure detailed below. If you do decide to manually configure the maximum concurrent sessions, you should monitor your service process to make sure it has sufficient resources.

1. Check the **Service Throttling Override** checkbox.
2. Change the default value of 200 to the desired maximum number of simultaneous connections.
    - This value needs to be greater than two times the sum of devices and admin clients.

Service_Config Finalization

1. Click the save button to save your changes.
2. Finally, restart the service by clicking the **X** button to stop it and then the ▶ button to restart it and make the changes take effect.

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Setting Up HTTPS Certificate

If you have configured your L5 Connect™ service to use HTTPS, you will need to follow this procedure:

SSL Certificate

1. Obtain a public SSL certificate and move it to the L5 Connect Service PC. **NOTE: This can be obtained from several 3rd party providers or your own Certificate Authority server. Check with your IT Department on how to obtain an SSL certificate.**
2. **Also, be sure to set the common name of the certificate to the Host Name specified in the Service_Config HTTPS setup.**
3. Required Cert Format: PKCS#12 with private key included in cert.
4. Install the cert into the LocalMachine/Personal cert store of the L5 Connect Service PC.
5. Make sure to get the thumbprint of cert, it will be used in the following commands. The thumbprint can be found in the cert properties-> Details Tab (Scroll to bottom)
6. Highlight and Copy/Paste the thumbprint to a notepad, make sure to remove all the spaces.

Map-Server Certificate to Port (on the server)

1. **From elevated Command Prompt or PowerShell:**
   Issue this command to bind the cert to all interfaces on the system.

```
netsh http add sslcert ipport=0.0.0.0:PORT_TO_BIND appid={d5bf2edf-23fd-
44cf-a984-ccd2095bdd0c} certhash=CERTIFICATE THUMBPRINT
```

OR issue this command to bind the cert to a specific IP address.

```
netsh http add sslcert ipport=IP_OF_INTERFACE:PORT TO BIND
appid={d5bf2edf-23fd-44cf-a984-ccd2095bdd0c} certhash=CERTIFICATE
THUMBPRINT
```

Configuring Windows Firewall

Sometimes, for the different pieces of an L5 Connect System to communicate to the Service, changes may need to be made to the Windows firewall on the service machine. Whether this needs to be done, and exactly how it needs to be done, depends on the configuration of the specific L5 Connect system. This section will cover the common scenarios and how to configure the Windows firewall for them.

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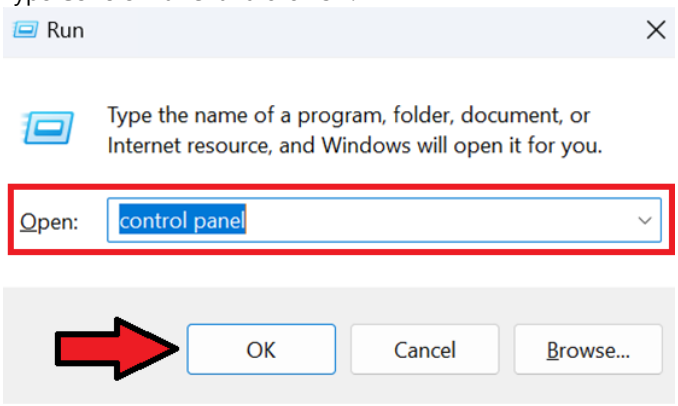
Everything on One PC

For cases where all of the components of the L5 Connect system are on the same PC no firewall configuration needs to be done. For instance, If the system is a single tool crib with the service running on the same PC as the tool crib application, no firewall configuration needs to be done. All the pieces can talk to each other without crossing the firewall boundary. This is probably the least likely but the simplest setup.

Distributed System on Corporate Network

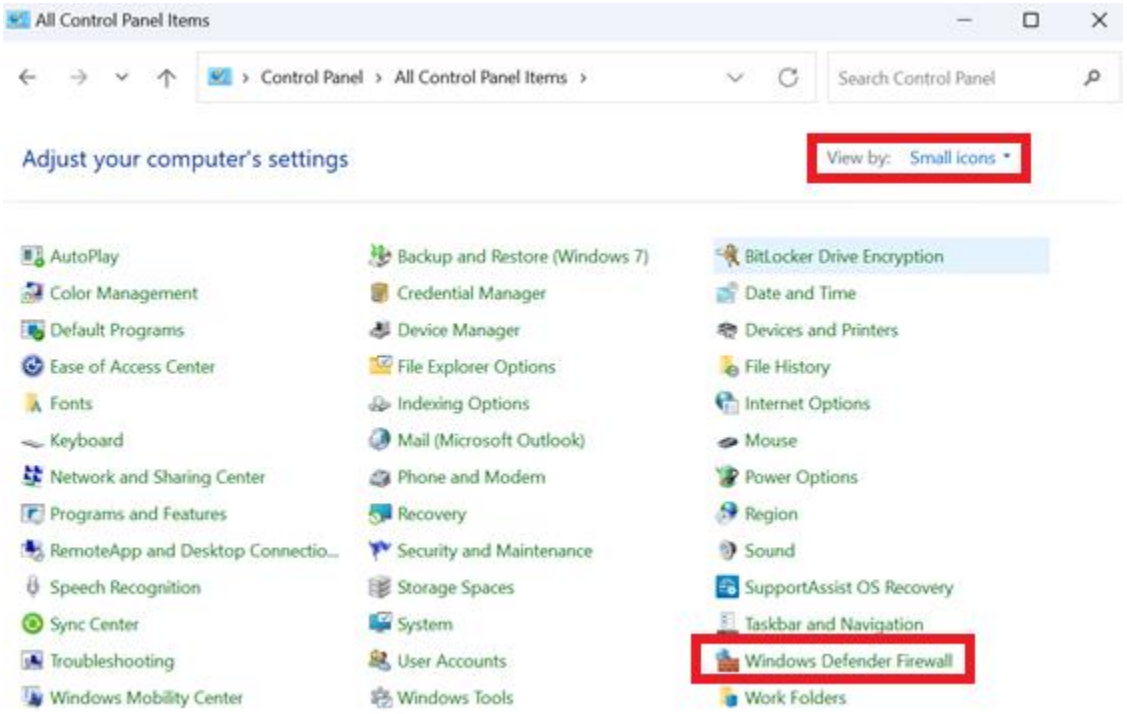
When L5 Connect system pieces must communicate across PC boundaries the service PC will need firewall configuration to open ports for that communication. Here is the process used to open ports for the service to communicate. Sometimes you might also need to enable file and printer sharing rules as part of the configuration. But in the case where the system is on a corporate network, there is almost certainly a DNS provider, and this is not necessary and shouldn't be done. It will be discussed more in the next section.

1. Press the **Windows** and **R** keys to open the Run window.
2. Type **Control Panel** and click **OK**.

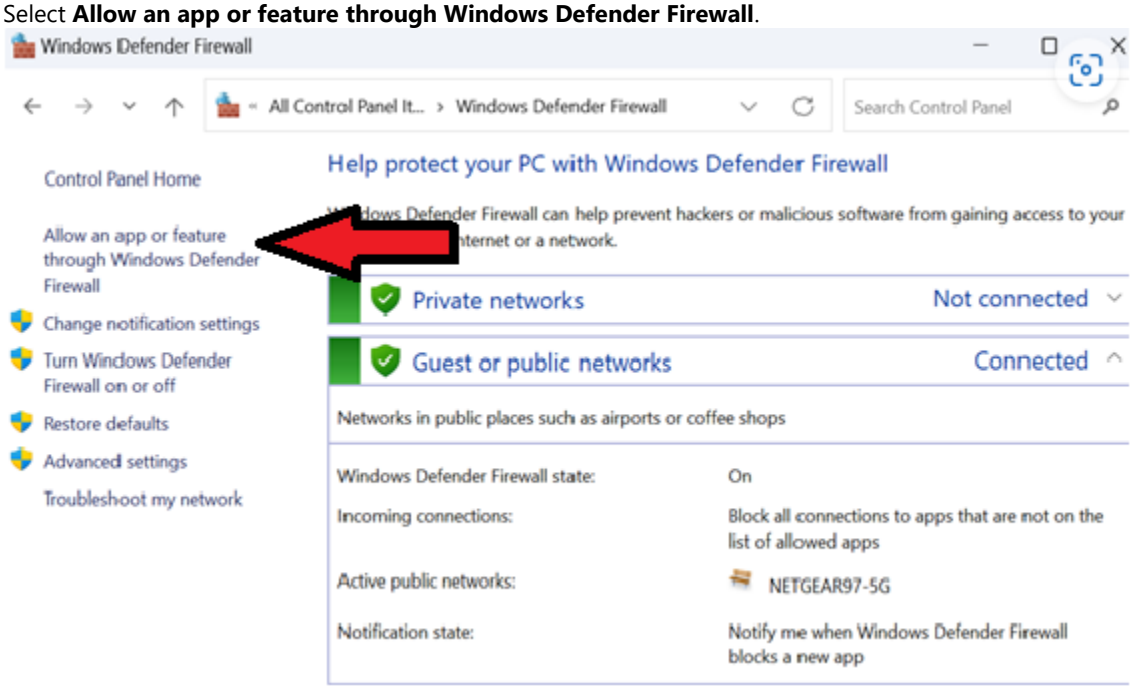


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3. Select **Small Icons** and click on **Windows Defender Firewall**.

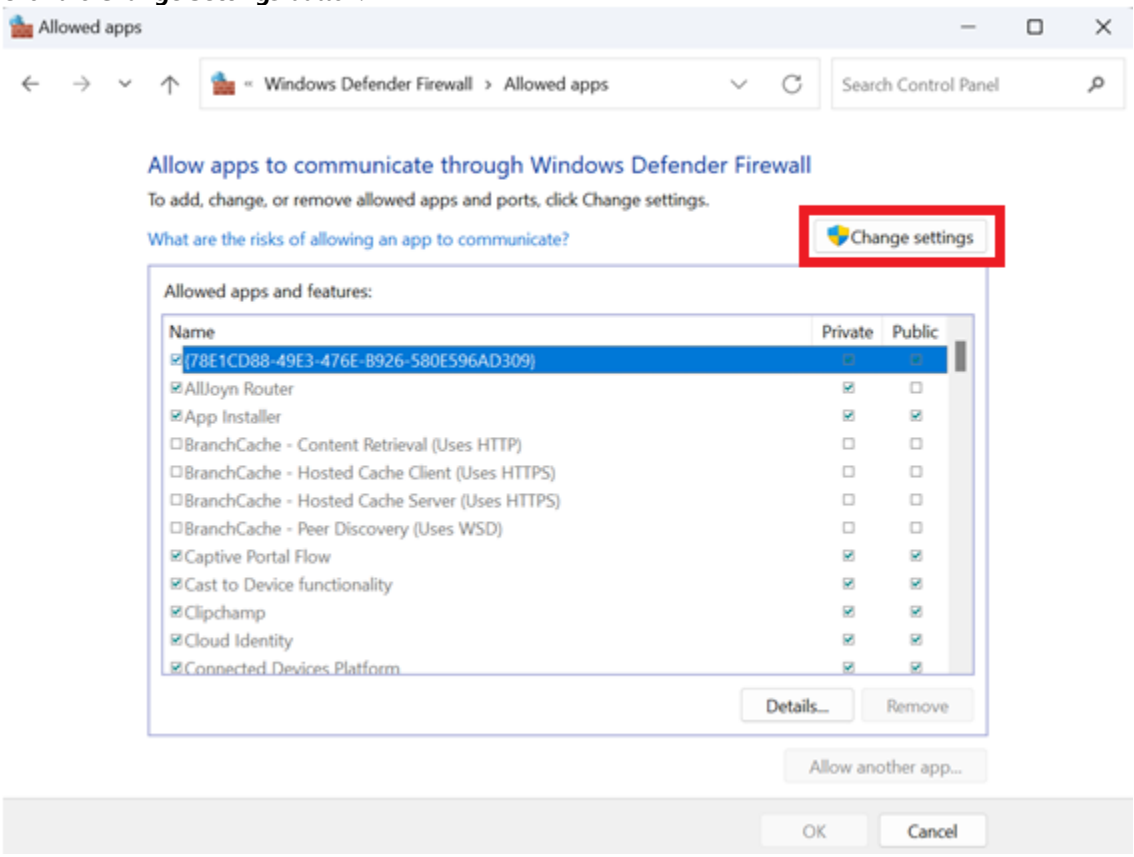


4. Select **Allow an app or feature through Windows Defender Firewall**.

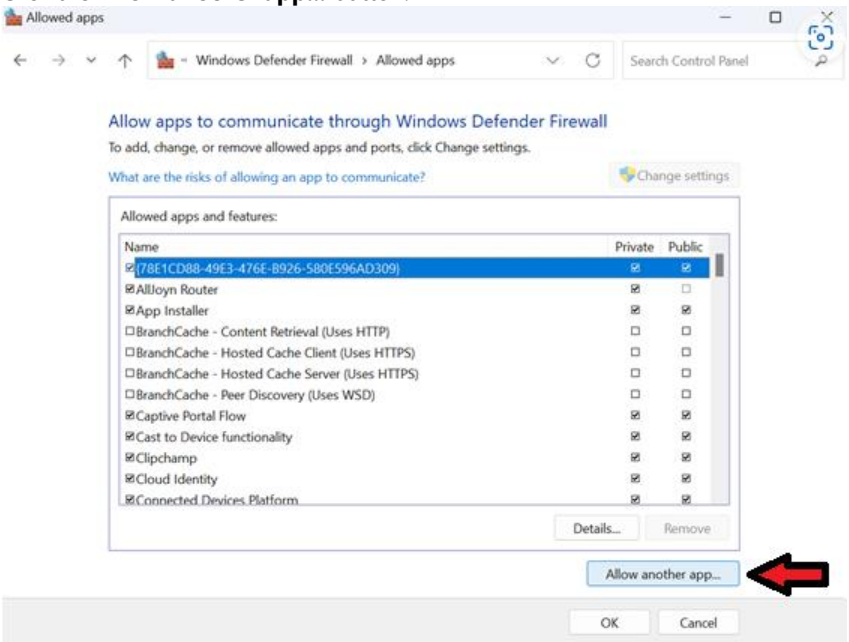


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5. Click the **Change Settings** button.

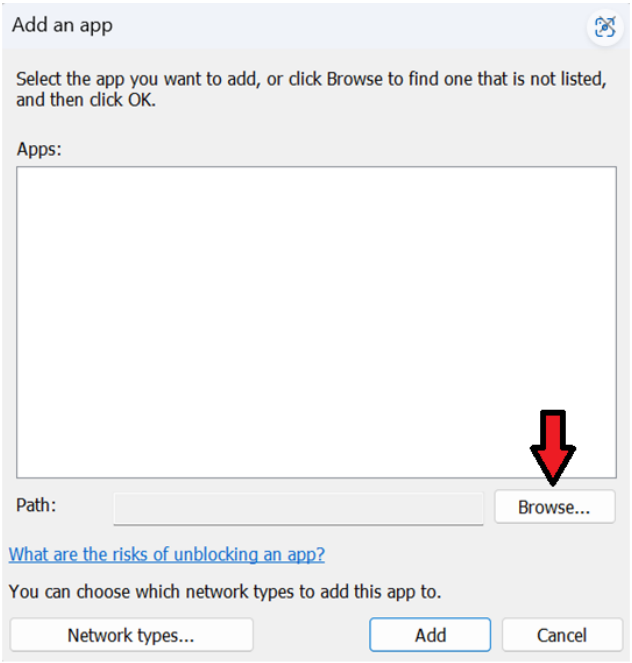


6. Click the **Allow another app...** button.

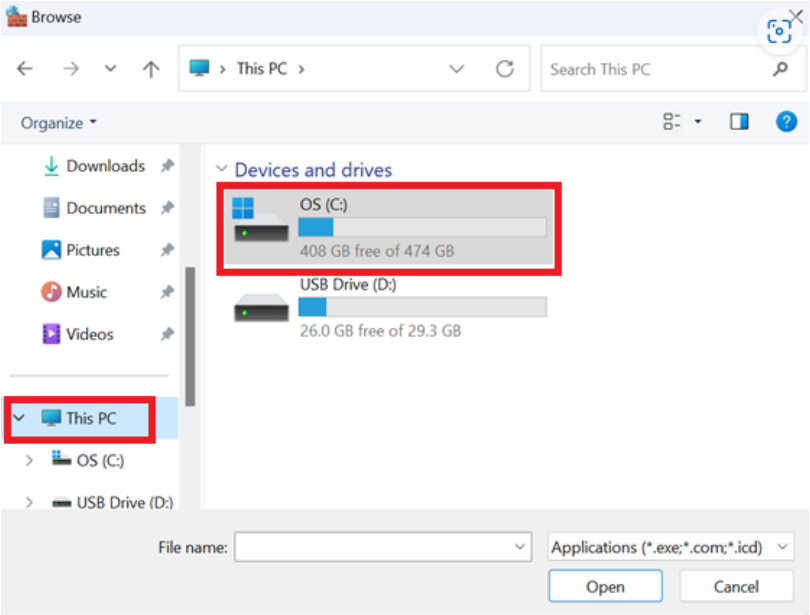


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7. Click the **Browse** button.

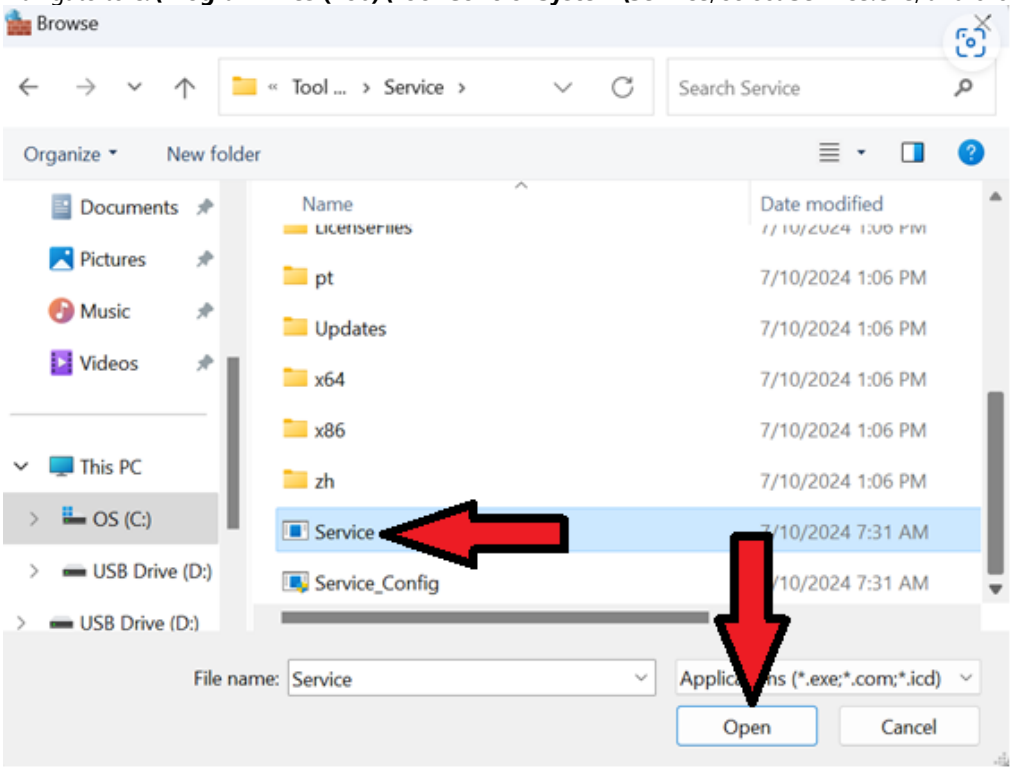


8. Select This PC and double-click on the C: drive.

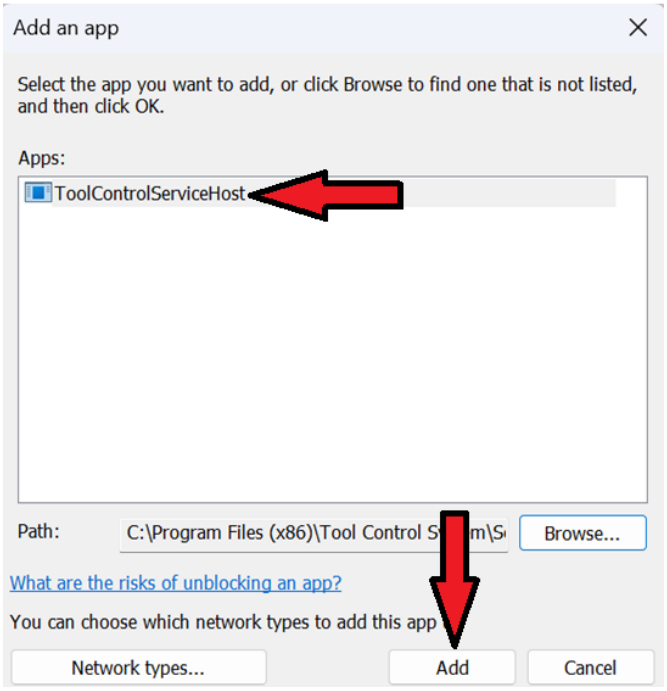


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9. Navigate to **c:\Program Files (x86)\Tool Control System\Service**, select **Service.exe**, and click **Open**.



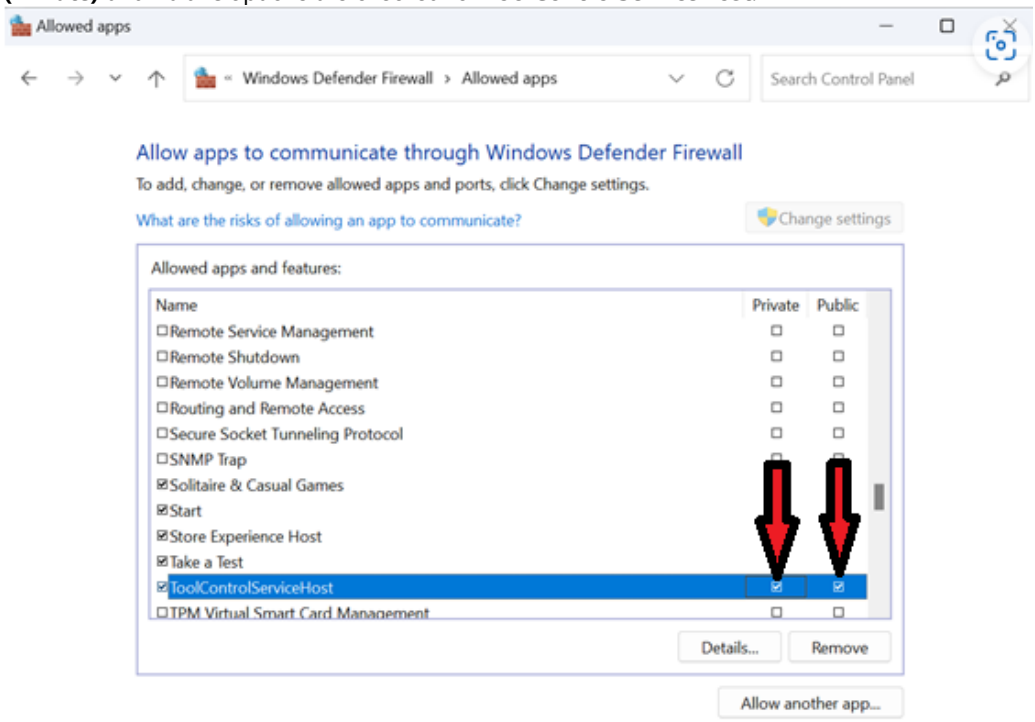
10. Make sure **ToolControlServiceHost** is selected and click the **Add** button.



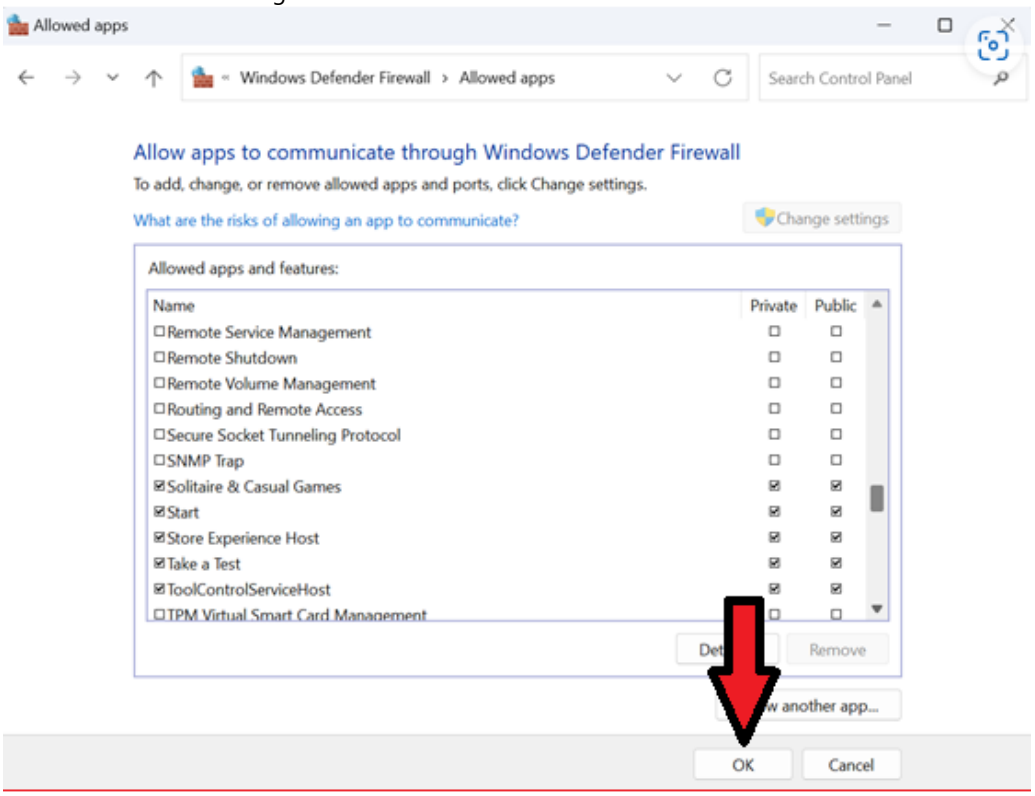
11. Make sure the appropriate network type(s) for your network environment are checked for **ToolControlServiceHost**. For simple closed networks (see below) make sure both the **Home/Work**

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(Private) and **Public** options are checked for **ToolControlServiceHost**.



12. Click **OK** to save the changes.



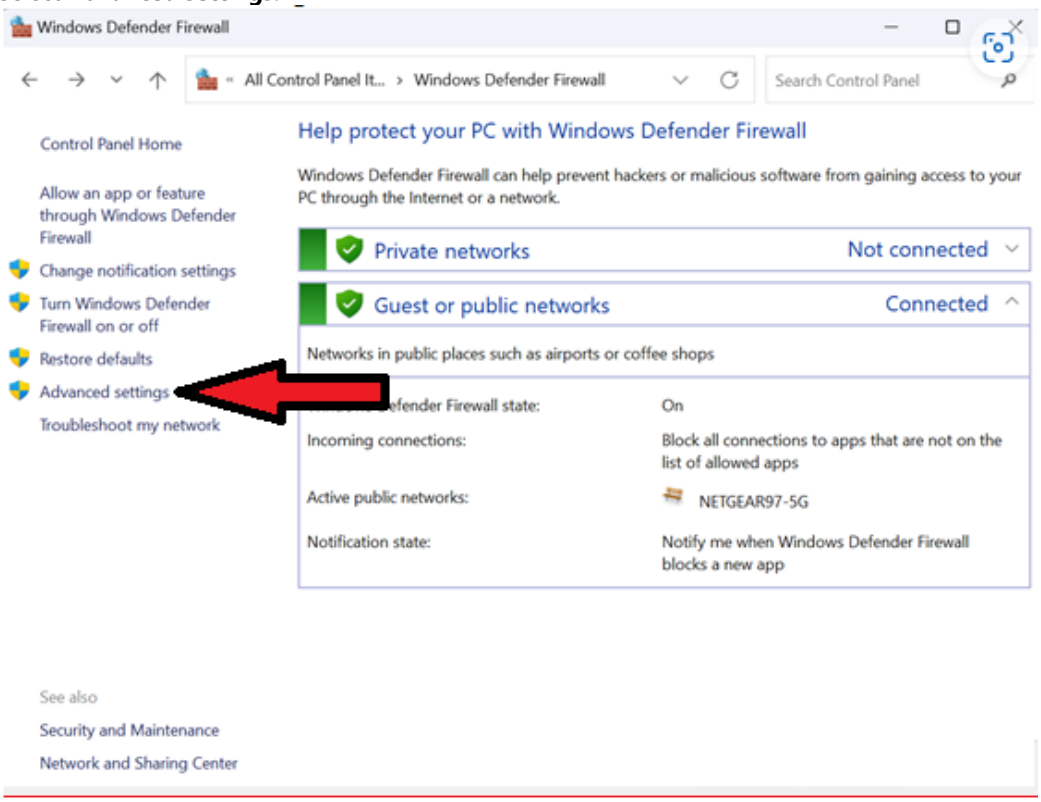
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13. Close all open windows.

Distributed System Using a Simple Closed Network

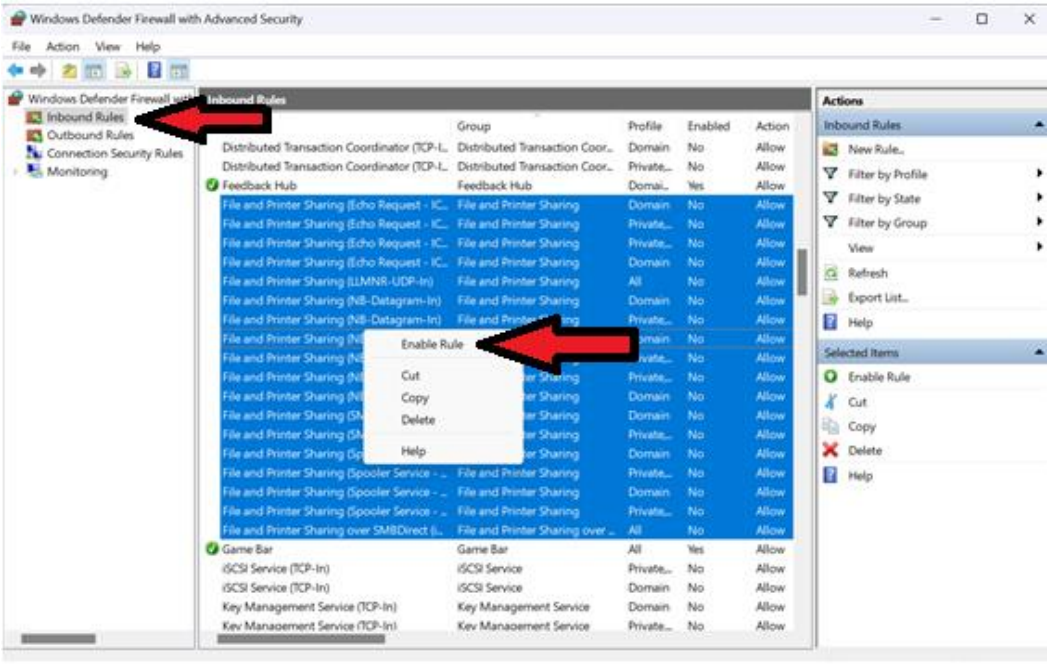
Some L5 Connect systems will be installed in a location where there is not already a network to which all the devices can be connected so that they may communicate with each other. In cases like this a simple network may be set up with a router to allow all the devices to connect to the L5 Connect Service application. For this case you will need to configure the firewall to allow the service to accept communication from the devices as described in the previous section. Because the network may not have a DNS service running on, you should also use the following process to enable file and printer sharing. Doing this will allow Net Bios on the service PC to resolve requests across the network that would normally be handled by a DNS server.

1. Perform the process in the previous section until you get to the last step. Instead of closing all open windows proceed to the next step here.
2. Select **Advanced settings**.



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3. Click **Inbound Rules** and select all **File and Printer Sharing** rules. Right-click on the selection and left-click **Enable Rule**.



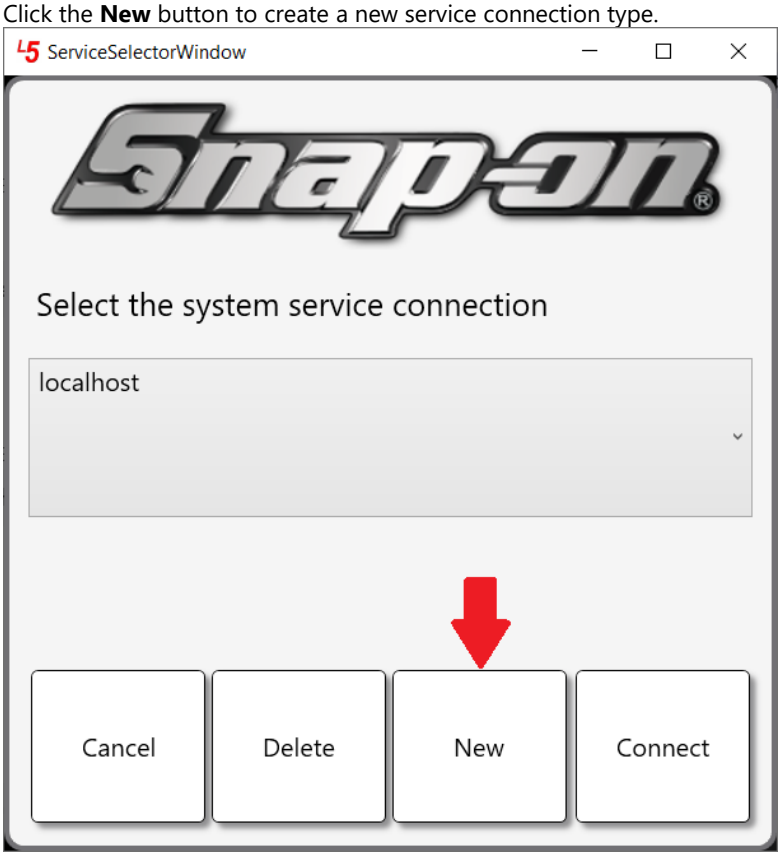
4. Close all open windows.

How to Connect the L5 Administrator Application to an L5 Connect™ Service

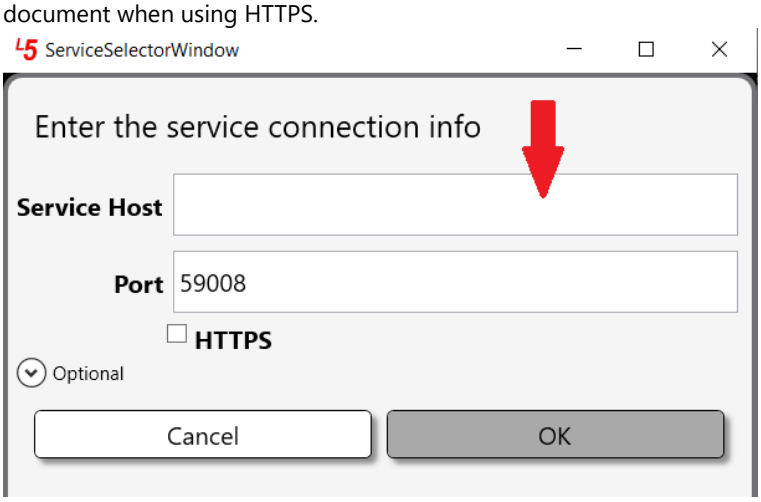
1. Start the admin application.

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2. Click the **New** button to create a new service connection type.



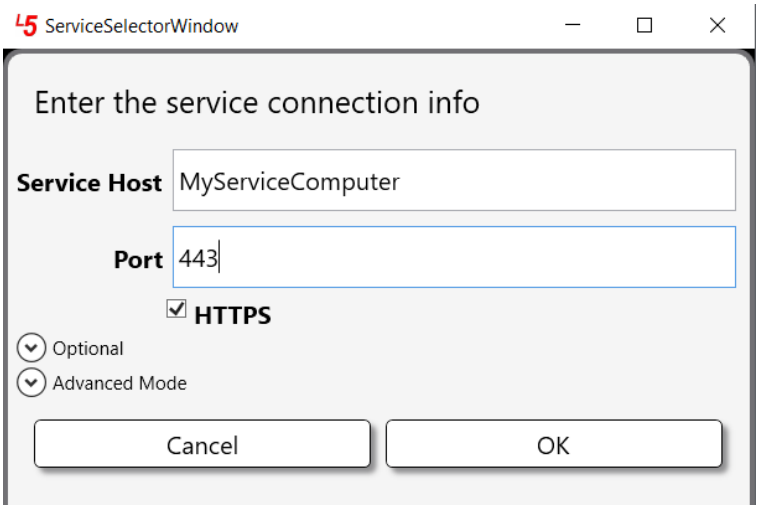
3. Enter the computer name, domain, or static IP address of the server hosting the L5 Connect™ Service in the **Service Host** field. This must match the **Host Name** field configured in the Service_Config portion of the document when using HTTPS.



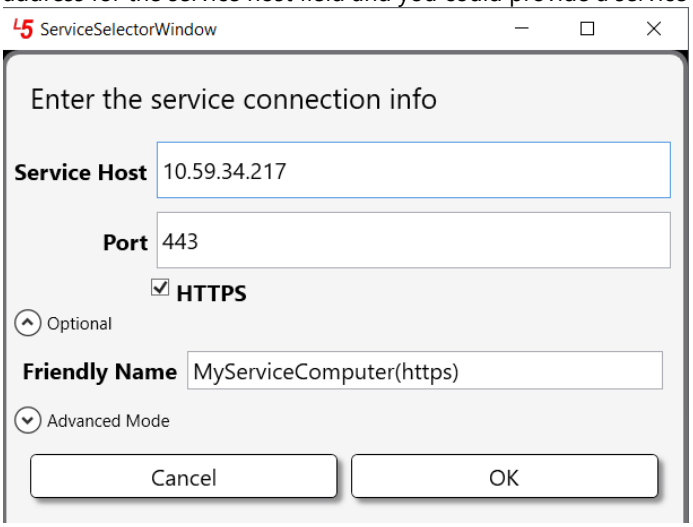
4. If you changed the default port value in your service configuration you will need to set the **Port** value to match that value.

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5. By default, the L5 Connect™ Service communicates over TCP. If you have configured the service to communicate via HTTPS select the **HTTPS** checkbox.



6. Expanding the **Optional** section will reveal the **Friendly Name** field. This field can be used to give the service connection a different name than the **Service Host** field. This could be useful if you were using an IP address for the service host field and you could provide a service connection field that is easier to remember.



7. Expanding the **Advanced Mode** section will reveal the **Service Path Override** and **Streaming Path Override** checkboxes. If you added paths to your service configuration you will need to match those paths here.

8. Finally, click the **OK** button to save this service connection to the list of service connections that will be available to choose from when you start the admin application.

9. Click the **Connect** button to connect to your selected service.

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How to Connect L5 Devices to an L5 Connect™ Service

Required Permissions:

- Add/Remove from Service

When to Use:

- Initial Device Setup
- Network service connection has changed

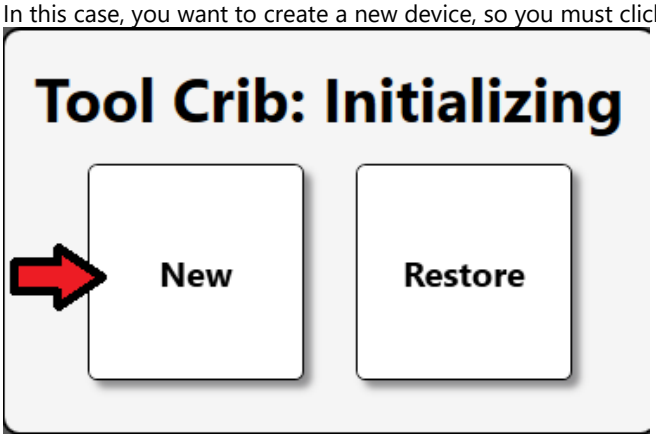
Procedure

Tool Crib

The service join process will automatically begin on the first start after installation. You will be prompted to start a new device or restore one backed up on the Service.

New Device

1. In this case, you want to create a new device, so you must click the **New** button.

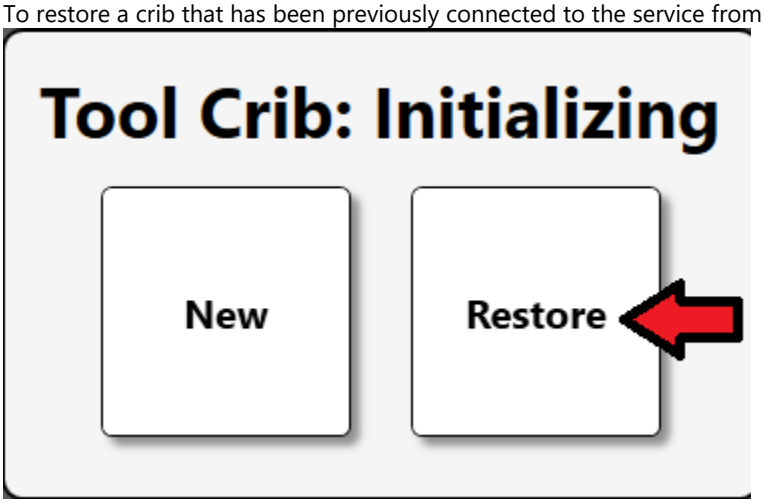


2. Proceed to step 4 on the section below, **All other devices** to continue.

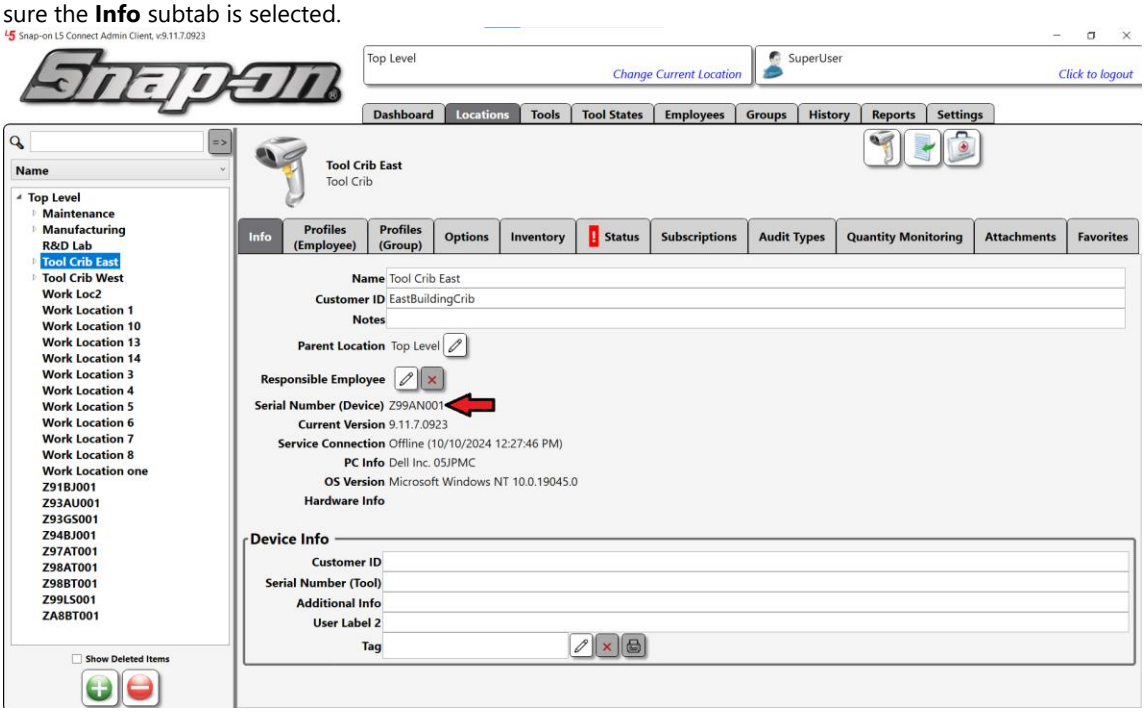
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Restore Device

1. To restore a crib that has been previously connected to the service from a backup click the **Restore** button.

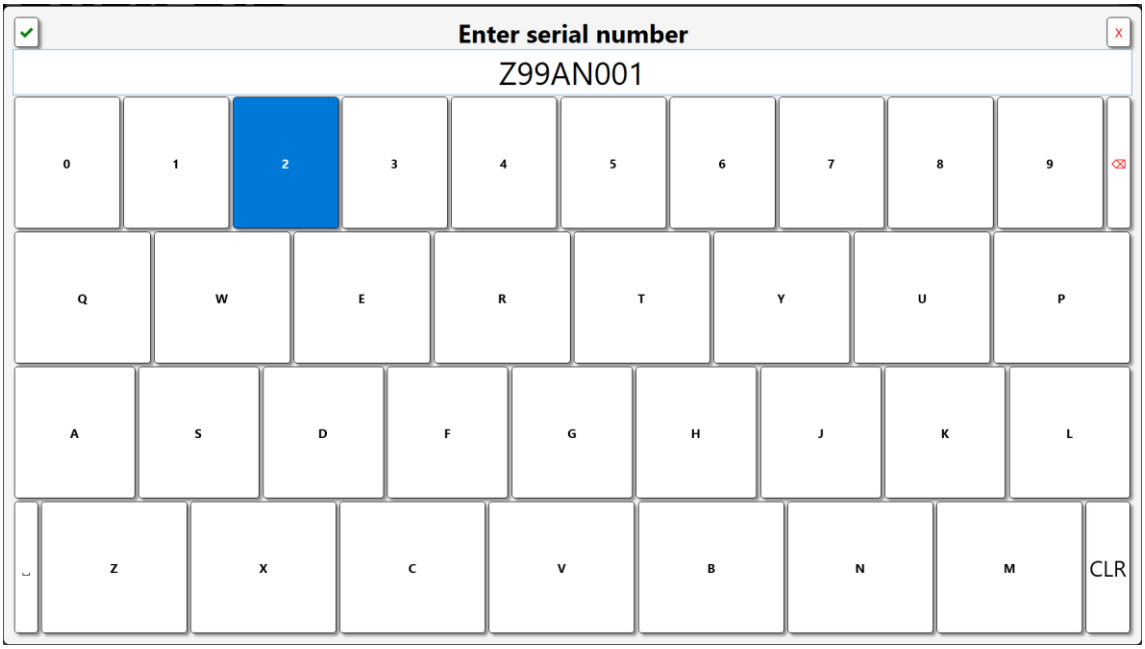


2. You will then need to enter the serial number of the crib you wish to restore to the system. You can get this from the **Locations** tab of the Admin application. Select the crib from the list of locations and then make sure the **Info** subtab is selected.

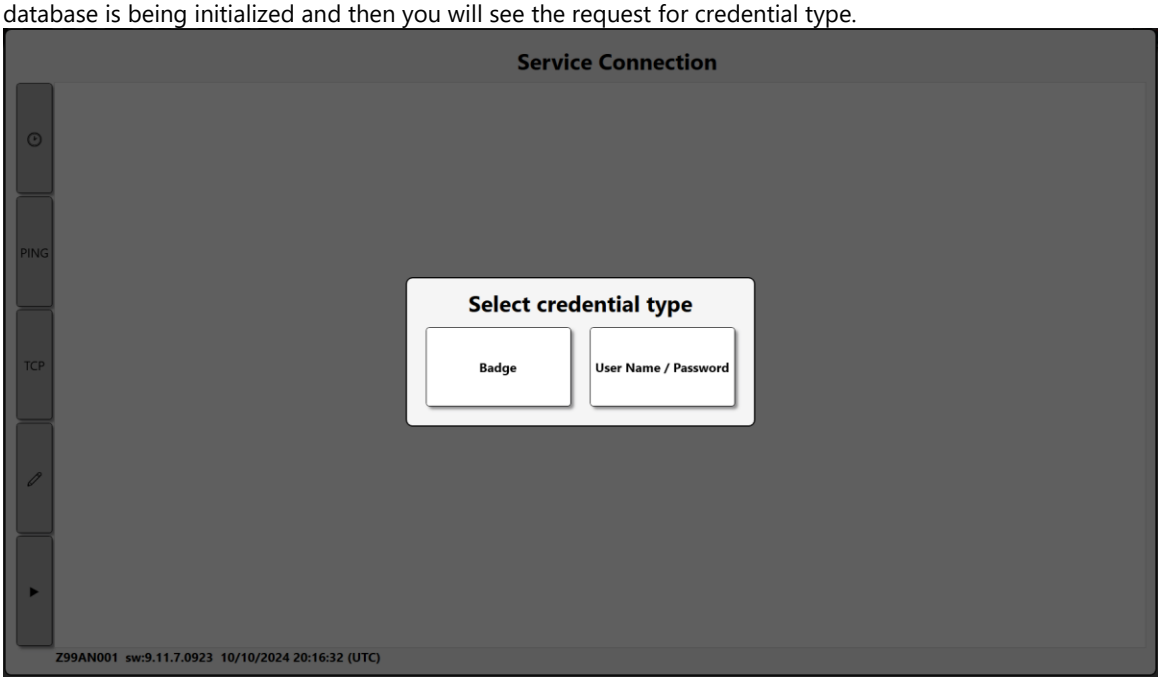


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3. Now enter the serial number.



4. Then click the green checkmark button in the top left corner. You will briefly see a window showing that the database is being initialized and then you will see the request for credential type.



5. Proceed to step 4 on the section below, **All other devices** to continue.

All other devices

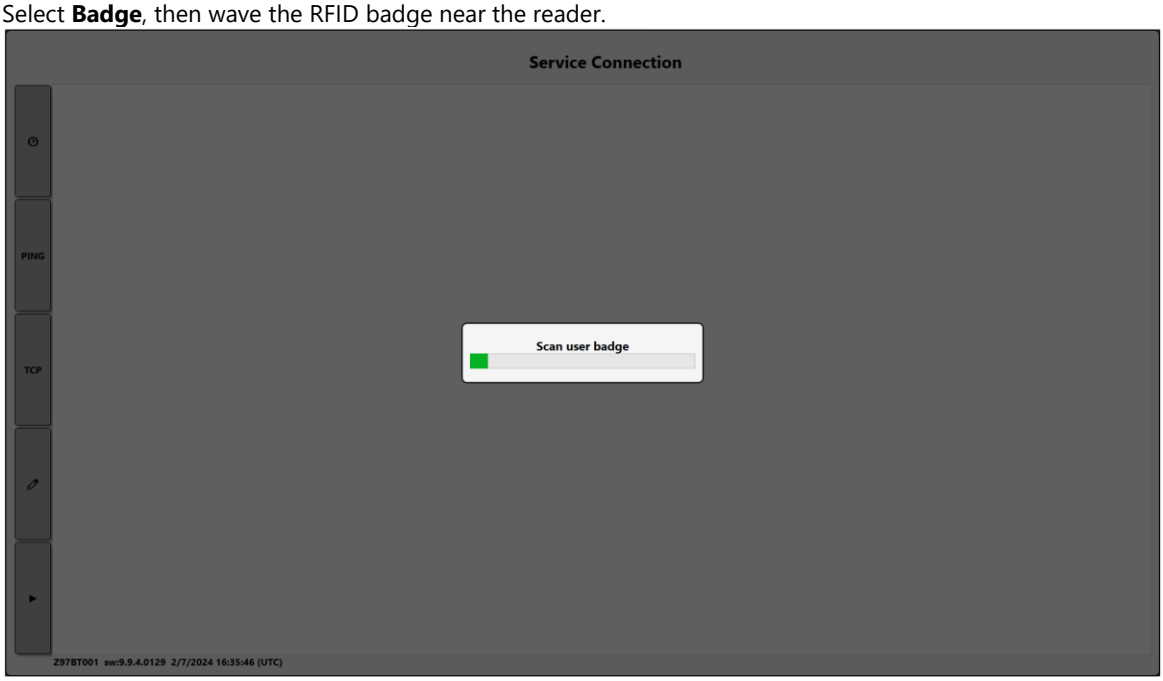
1. When you start an ATC device for the first time, it may restart to finalize its initial setup.
2. Afterwards you will be presented with a network setup window. Use this screen to set up your network connection and then click on the red X in the top right corner to proceed.

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3. This will bring you to the Service Connection window, which can also be reached through **Main Menu/System Changes/Change Service Connection**
4. Next, you will be asked what authentication you want to use to connect to the Service. A user attempting to add a device to a service requires the correct connection permissions. You can join either by badge scan or username and password. We are going to use the badge method.



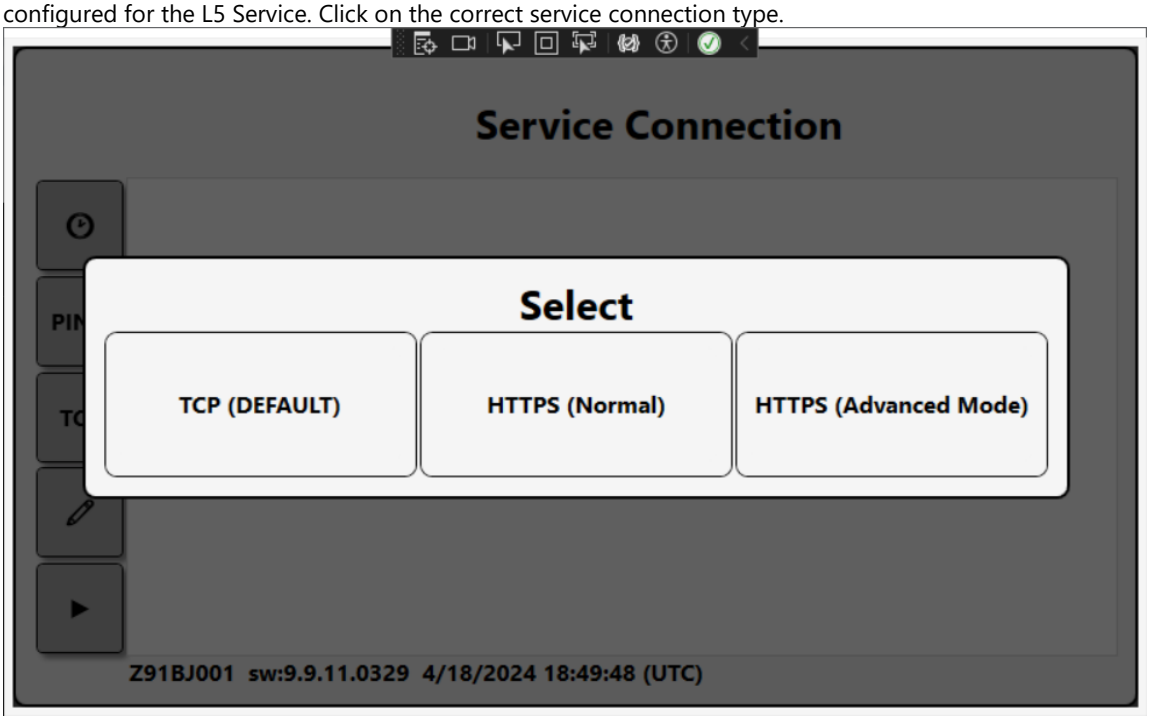
5. Select **Badge**, then wave the RFID badge near the reader.



6. Next, you will be prompted to select the connection type for the Service. By default, the connection type is TCP. However, HTTPS is an advanced connection type that provides additional security and requires additional setup on the Service to implement. The HTTPS (Advanced Mode) provides the ability to override the default path to the service URL and service streaming URL. These values must match the values

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configured for the L5 Service. Click on the correct service connection type.



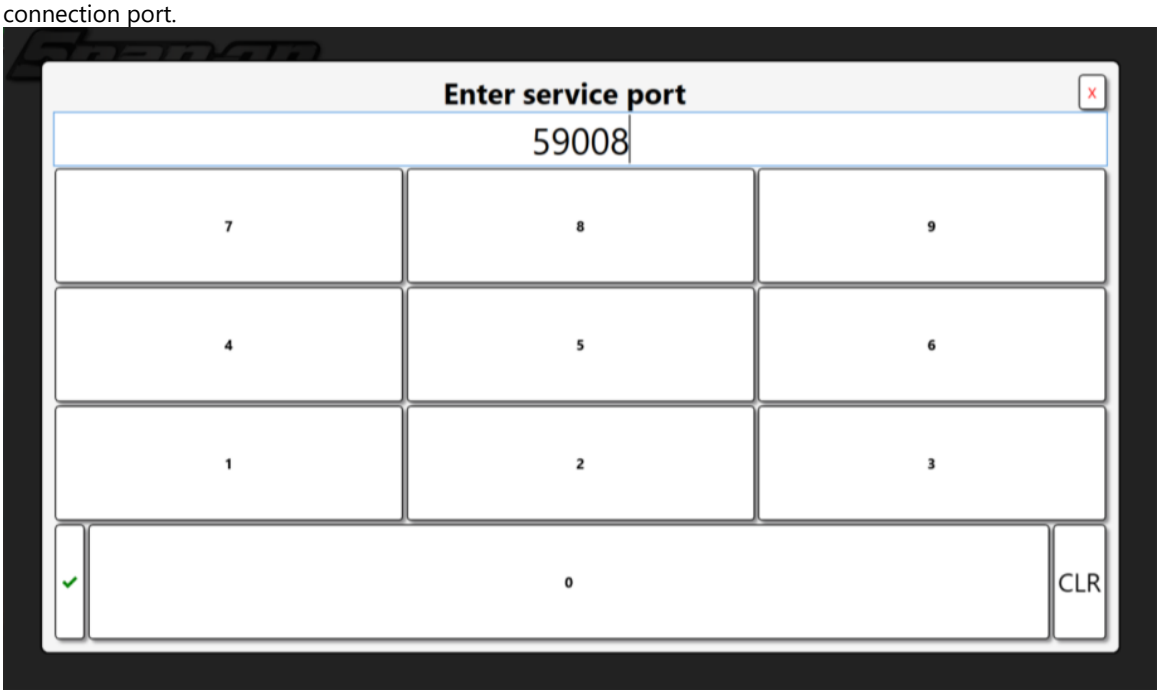
7. Next, you will be asked to type in the Host Name of the computer running the L5 Connect Service. In this example, we will use the hostname LOCALHOST but this will need to be the name of **YOUR SERVICE** when you are installing this in your environment. Type in localhost and press Enter.
NOTE: The Server name shown here may not match the one in your environment. Please verify your server's hostname or IP and input it here instead of what is displayed.



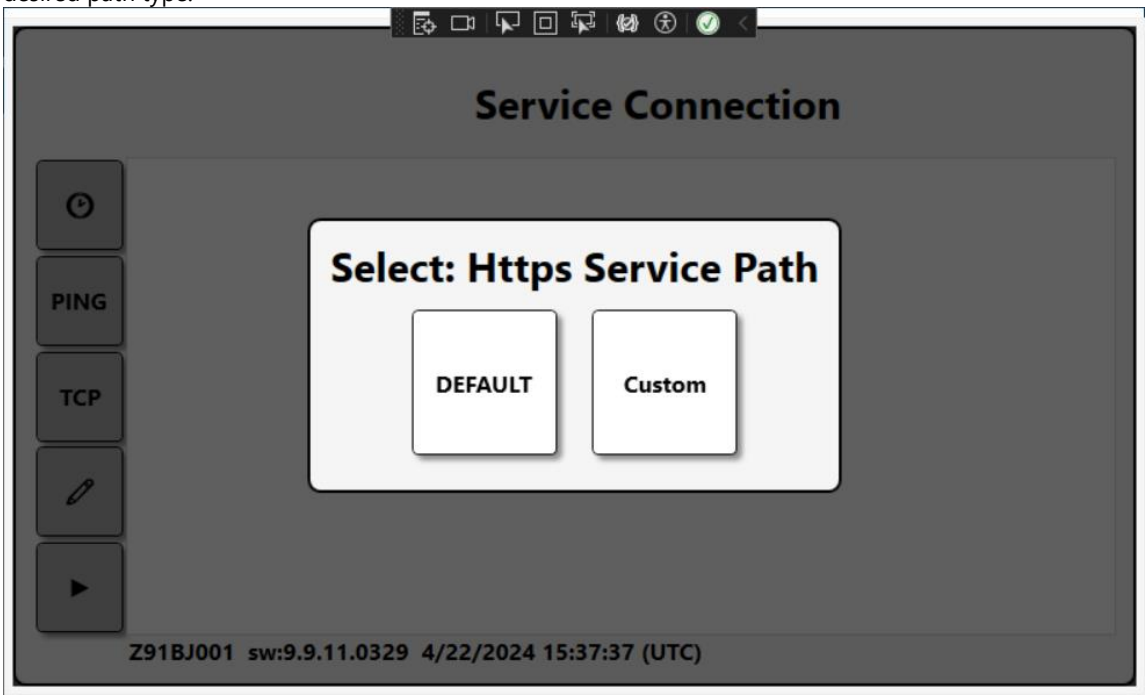
8. Following that, you will be asked to define the port the Service is listing to for incoming connections. The default is 59008, but this can be defined in the configuration settings of the Service. Enter the correct service

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connection port.

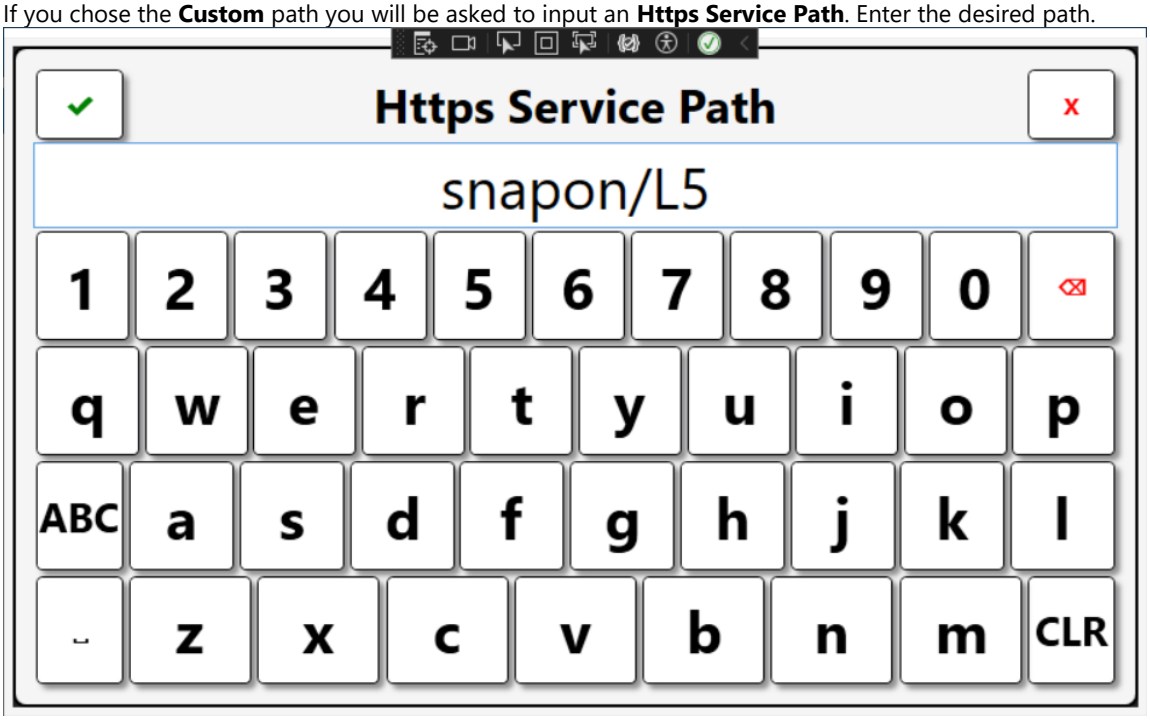


9. If you previously selected **HTTPS (Advanced Mode)** you will be prompted to **Select: Https Service Path**. This will give you the choice of selecting to use the **DEFAULT** path or creating **Custom** path. Choose the desired path type.

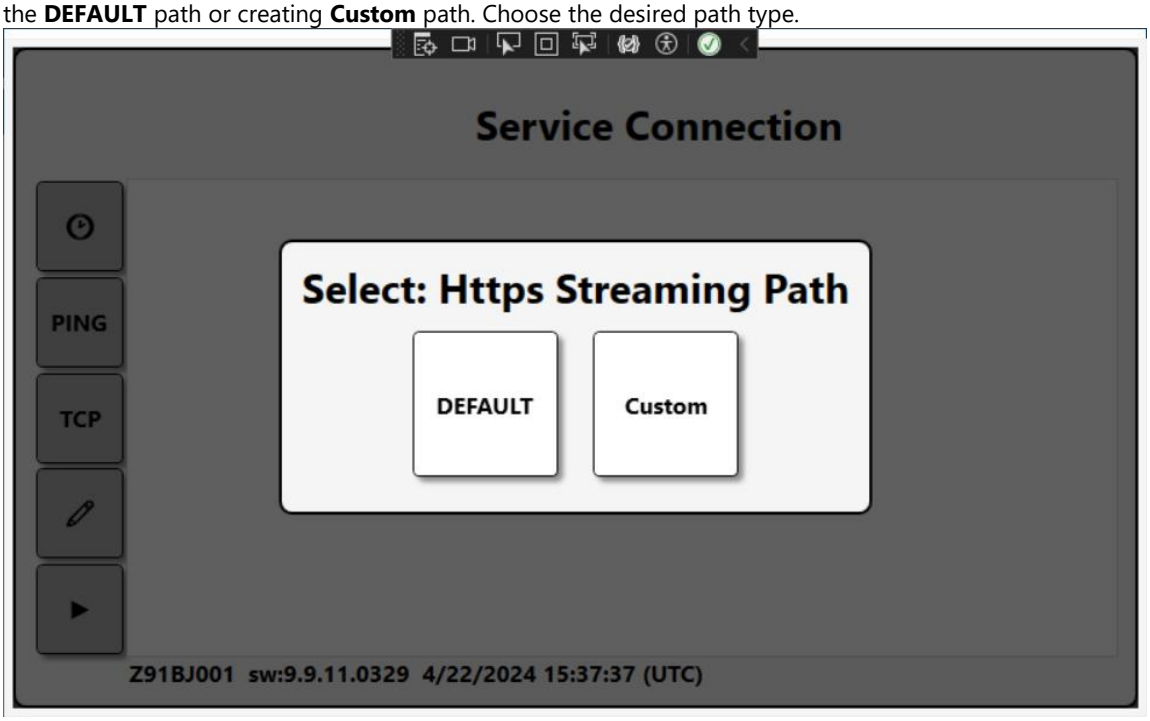


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10. If you chose the **Custom** path you will be asked to input an **Https Service Path**. Enter the desired path.

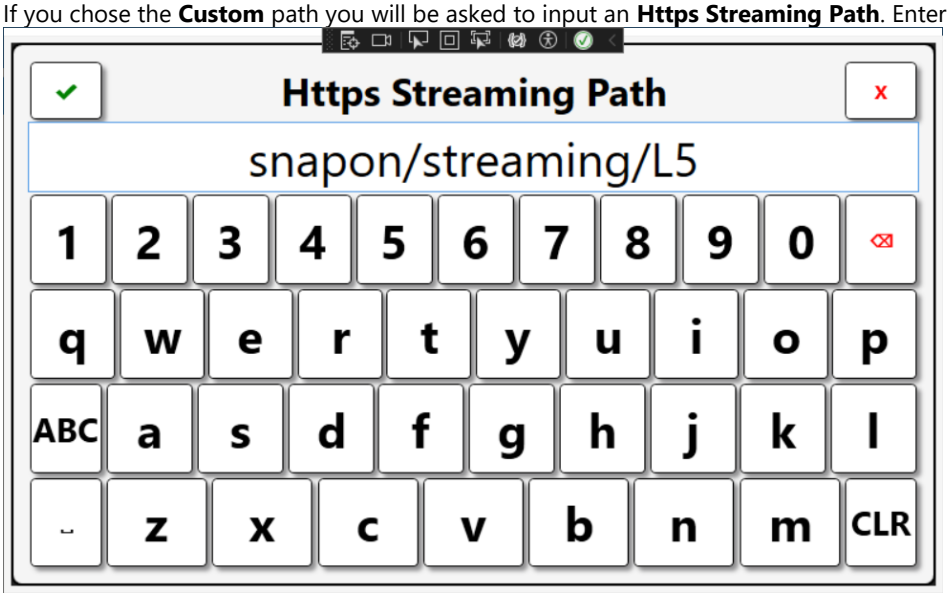


11. You will then be prompted to **Select: Https Streaming Path**. This will give you the choice of selecting to use the **DEFAULT** path or creating **Custom** path. Choose the desired path type.

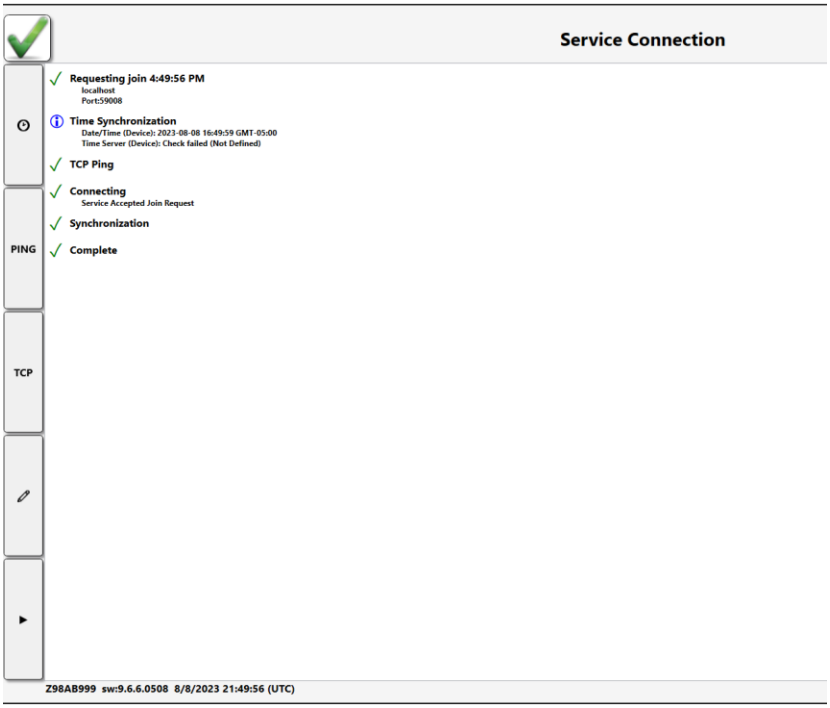


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12. If you chose the **Custom** path you will be asked to input an **Https Streaming Path**. Enter the desired path.



13. The system will then go through some validation checks. You may be prompted to update the software as the software version must match the software version running on the Service. If that happens, just follow the update prompts. When you are done, the software will restart and ask if you want to continue the process of connecting to the Service.
NOTE: During this process you may be prompted to set the Time Sync to the L5Connect service if it has been configured as a Time Server. This will allow the ATC device to keep within the same time as the service.
Once the connection has been established, and all the validations are complete, click on the ✓ button.



14. You will now be connected to the service and ready to begin setting up your devices

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Admin Application Basics

The L5 Connect™ Administration Client is the tool you will use to manage L5 Connect™. It can generate reports, create, and manage users & groups, and set e-mail and text alerts if there are any issues. In addition, you can create and manage your tools, set maintenance and quantity monitors, and much more. The Admin Client is your control and management dashboard to L5 Connect™.

Local User Install vs. Admin User Install

There are two different installers for the admin application. When installing the admin client on a computer, it's important to run the proper installer for how the application will be used. Here is the link for the latest admin application installers. Software Installers

L5 Connect™ AdminClient Installer

This installer requires Windows administrator privileges to install and update the application. This installation will install the application so that any user of the computer will have access to the application.

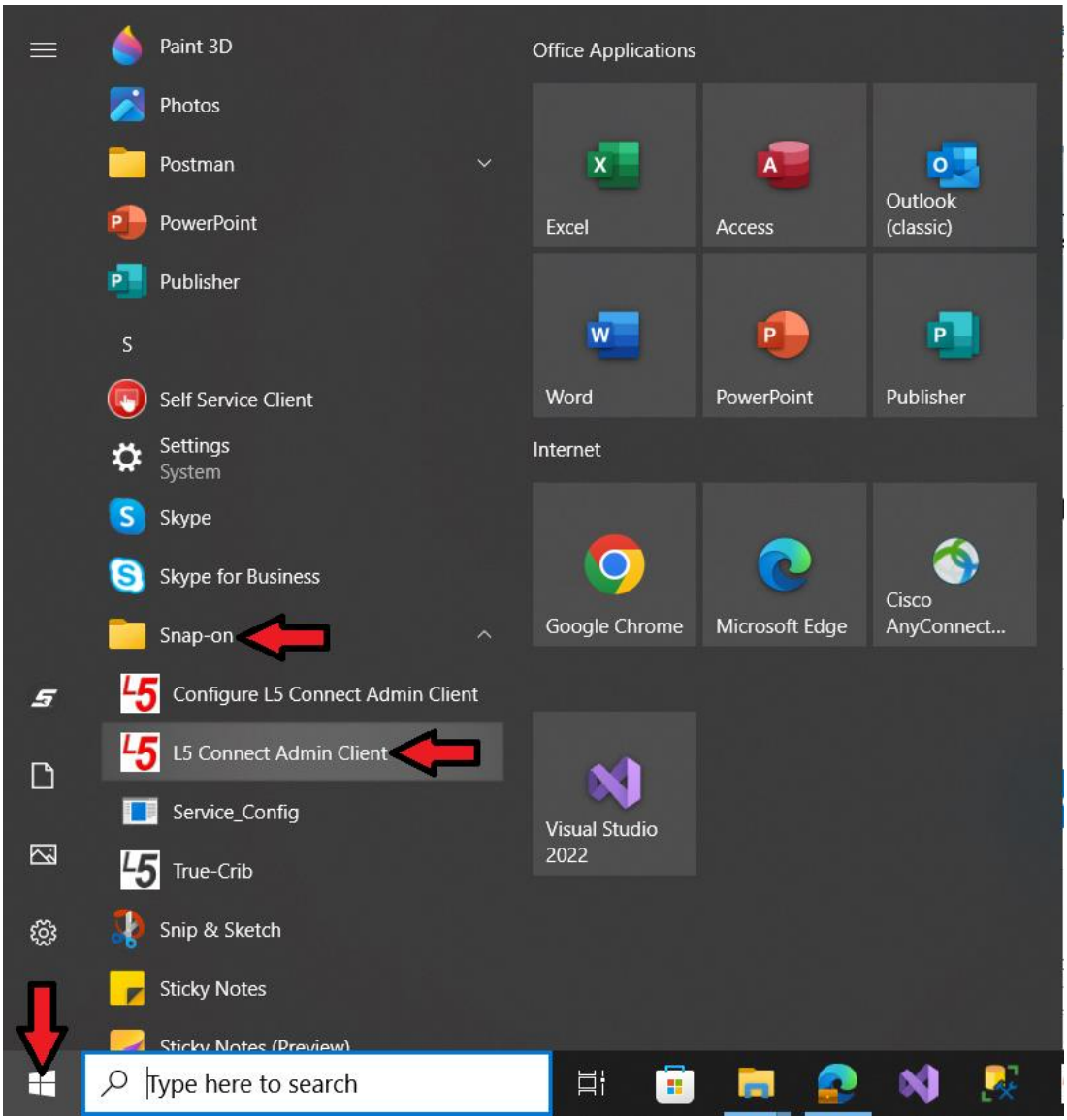
L5 Connect™ AdminClient Installer(Local User)

This installer does not require Windows administrator privileges to install or update. It will install the application only for the individual Windows user who runs the installer. Before installing this version of the admin client, however, you need to first install some prerequisites. This prerequisite installer has a name of PreReqs_Admin_LocalUser_X_X_X_XXXX, where the Xs represent the software version. This installer will install .NET Framework 4.8, Visual C++ Redistributable, and Zebra Core Scanner Driver. This prerequisite installer does require Windows administrator privileges. You can contact the Pro Services team for a copy of this installer or download it from the Software Installers website.

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Logging In Locally

Once you have installed the admin application, you can start it by going to the Windows Menu, scrolling down to the **Snap-on** menu, and then clicking the **L5 Connect Admin Client** item.



You will now see the service select screen for the admin application. For more information on how to configure the service selection screen to set up your service connection see the Connecting to a L5 Connect™ Service document.

For this article we will assume that the service has been configured and ready to go. To connect to the service, click the **Connect** button.

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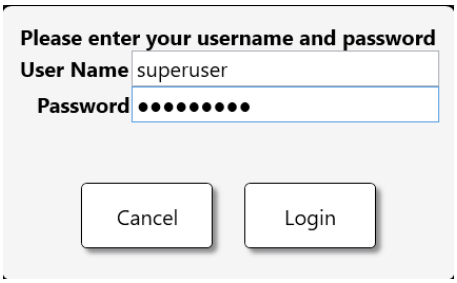


Once you have successfully connected to the service you will be prompted to log into the admin application. Use the credentials provided by your L5 System administrator. If this is the first time any user has logged into this L5 Connect system use the following default credentials.

User Name: superuser
Password: superuser

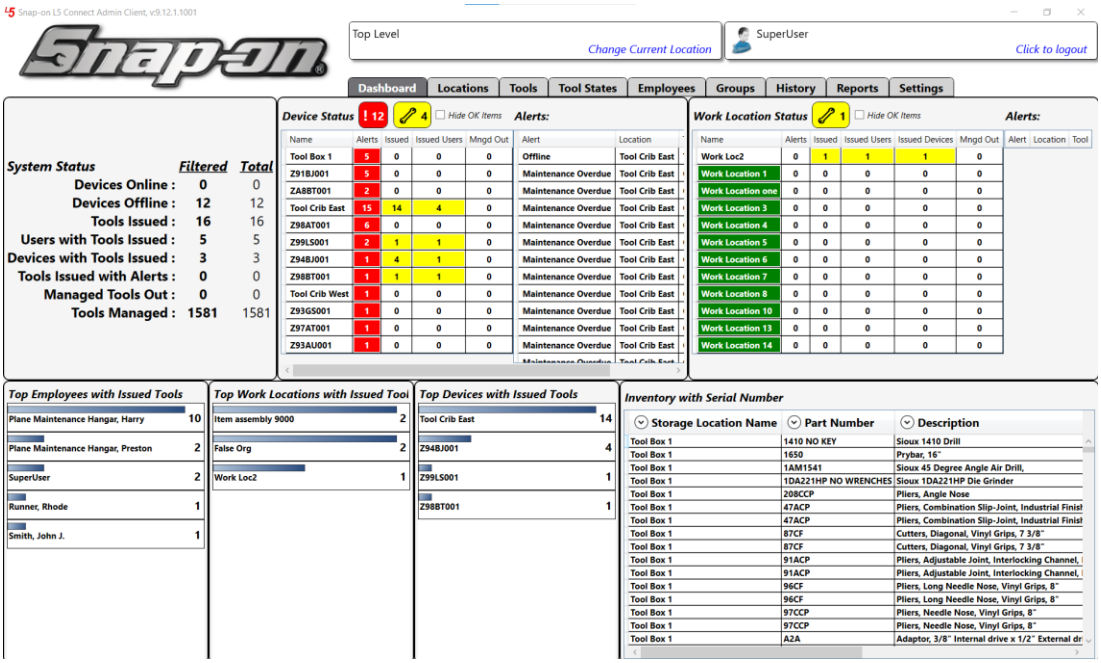
This user has the **Superuser** permission profile, which allows him to do anything in the system. You always need to have at least one user with this permission profile. For security, it is recommended that you change the username and password of the default superuser account as soon as possible. Be sure to store the new account credentials in a secure and known location to be used for emergency access to the system.

Enter the above credentials to log into the admin application. Then click the **Login** button.



Once you have completed the login, you will see the admin application dashboard, which provides a view of what is happening in your L5 Connect system.

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NOTE: The admin client supports several modes of user authentication for logging in. It can be configured for the current Windows user, in which case you would be logged into the app without entering a username and password if your employee information matches the currently logged in Windows user. It can also be configured to use a unique username and password specific to the admin client, and lastly it can be configured to use domain based Active Directory authentication. For more information on how to configure the admin client authentication see the L5 Connect™ Authentication Configuration document.

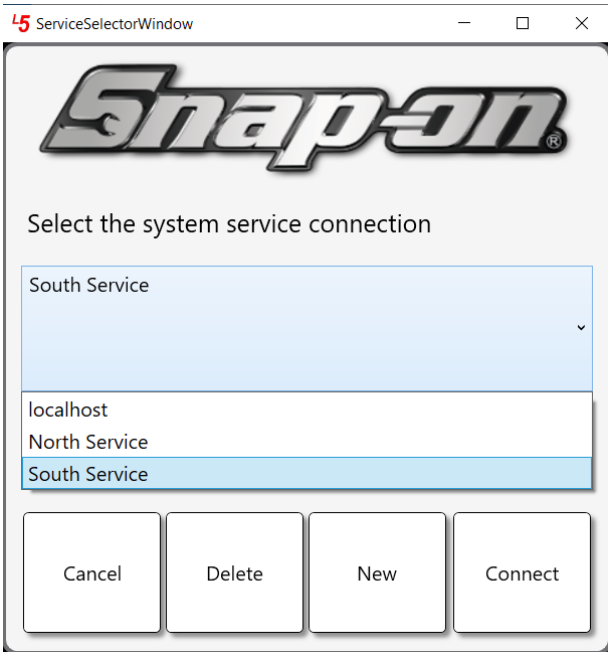
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Logging In with Multiple Services

If your organization has many L5 Connect devices located over a large area you might decide to split them into multiple systems with a separate service for each. You might then need to connect to multiple services from your admin application. This can be done easily by adding additional service connections to your service selection window.

Once you get to the service selection window, click the pull-down menu that shows the name of the currently selected service. We can see that we have three services from which we can choose to connect.

Now when starting the admin application, you would simply click the pull-down menu to select the desired service and then click the **Connect** button.



New User Password Change Process

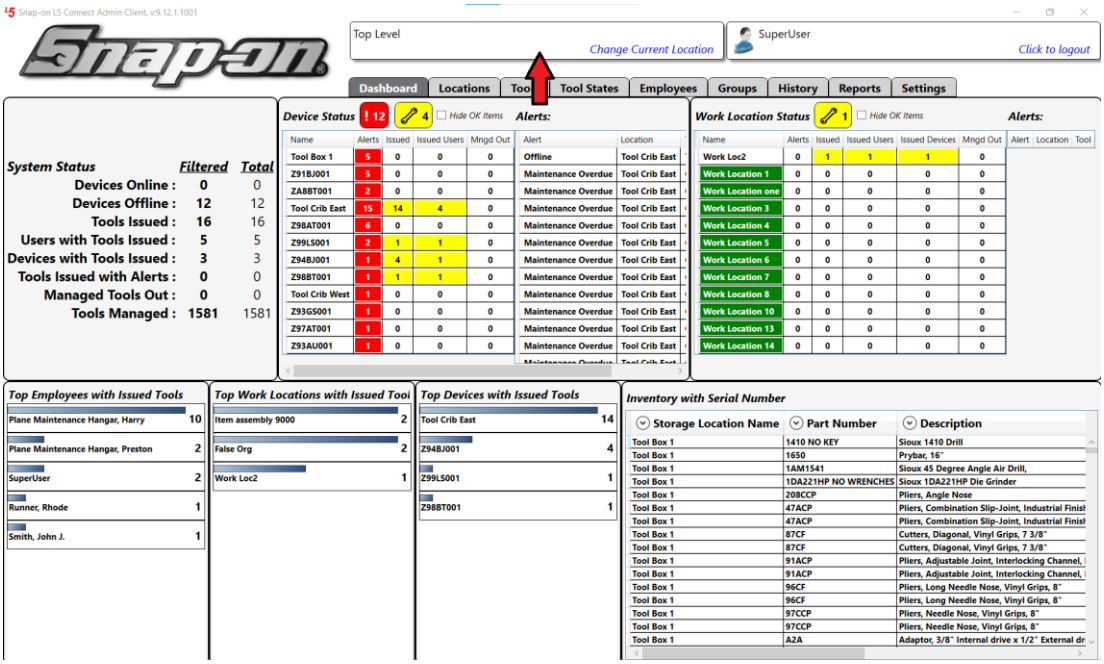
When a new user is added to the system who needs access to the admin application, a system administrator will add a username and temporary password to his employee data. He will then pass that information on to the new user. When that user logs into the system for the first time with that username and password, he will be required to change the password to something else, for security purposes.

Location Filtering

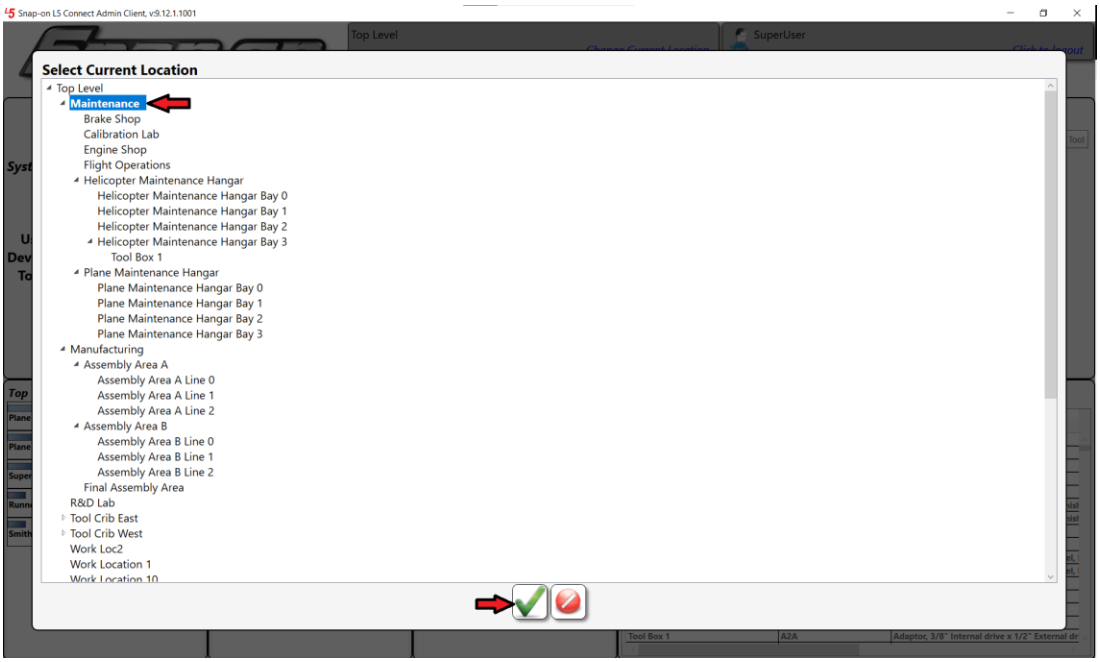
Once you have completed logging into the admin application the dashboard tab is displayed. This shows you the state of the system in real time. At the top of the applications, you can see the **Change Current Location** button,

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which shows the current location for which the data in the system will be filtered. This location will default to the home location of the employee who has logged into the application.



Because the Superuser account is logged in, the current location is the **Top Level** location, so there is no filtering of data. Suppose he was currently interested in seeing the state of things in the **Maintenance** part of the system. He would click the **Change Current Location** button. This will open the **Select Current Location** window allowing him to choose a new current location. He can then select the **Maintenance** location and then the **OK** button to confirm his selection.



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Notice the change in the dashboard display after this new current location is selected compared to when he first logged in and it was set to **Top Level**. Also, it should be pointed out that data is not only filtered by the current location but also by the system profile of the currently logged in user. For more information on how to configure user profiles see the Configuring User Profiles document.

Search Box Text Filtering

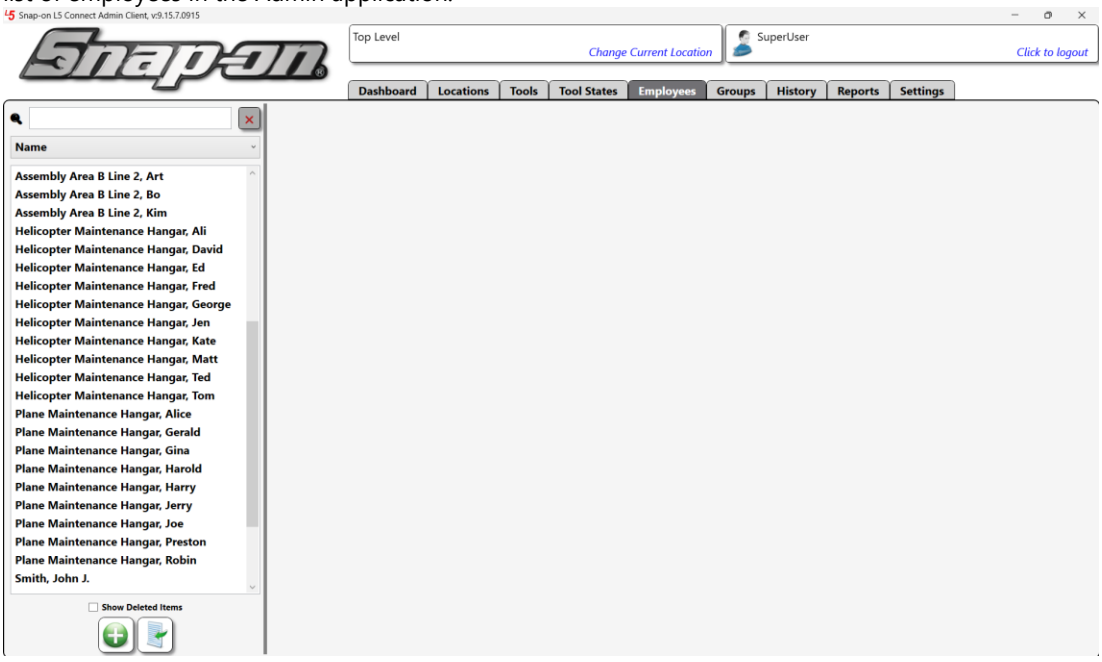
The L5 Connect system provides powerful text filtering tools to help you search through large lists or grids of data. This could be anything from searching the list of employees in the system to searching a list of inventory on the tool states tab or a report.

Multi-Keyword Text Filtering

The system provides the ability to apply more complex text filtering than just looking for a single string. This document will explain how these text filtering features work in the L5 Connect system.

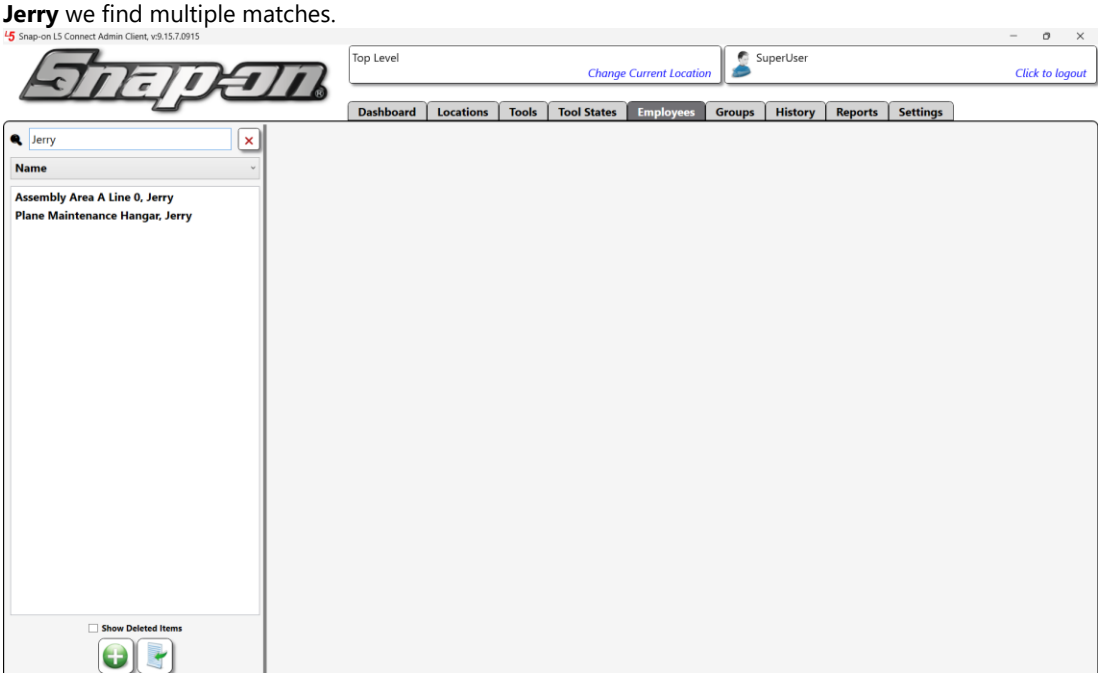
The AND Operator

The AND operator will allow you to search for items that contain two separate strings. For instance, let's look at this list of employees in the Admin application.

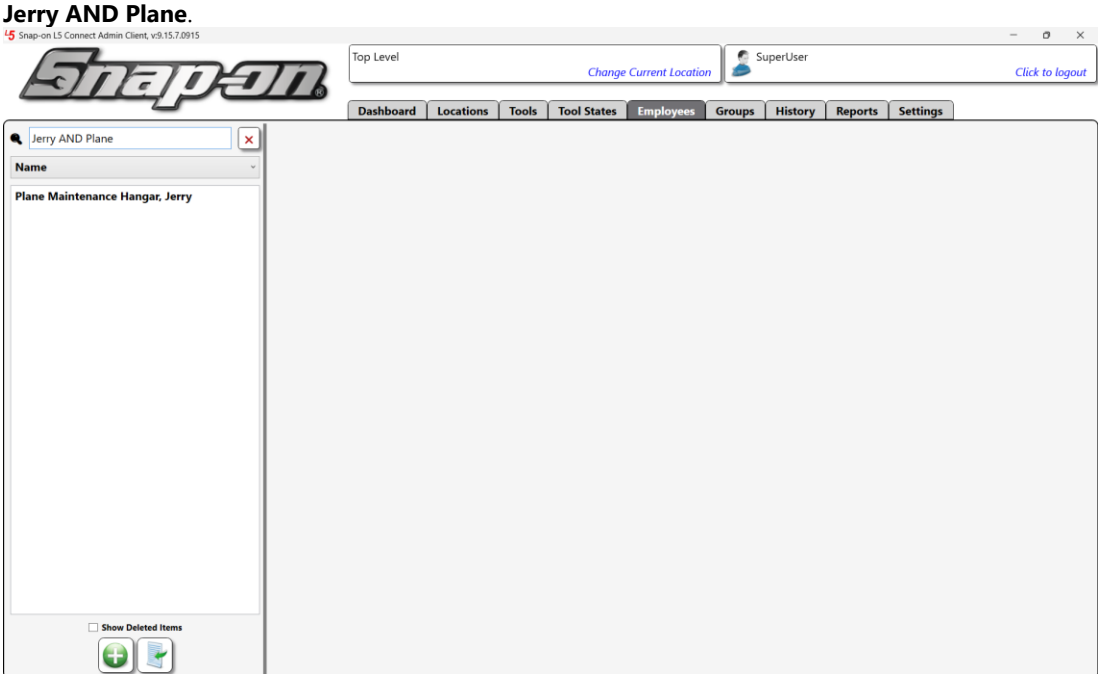


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Suppose we wanted to find an employee named Jerry who works in the plane maintenance hangar. If we search for **Jerry** we find multiple matches.



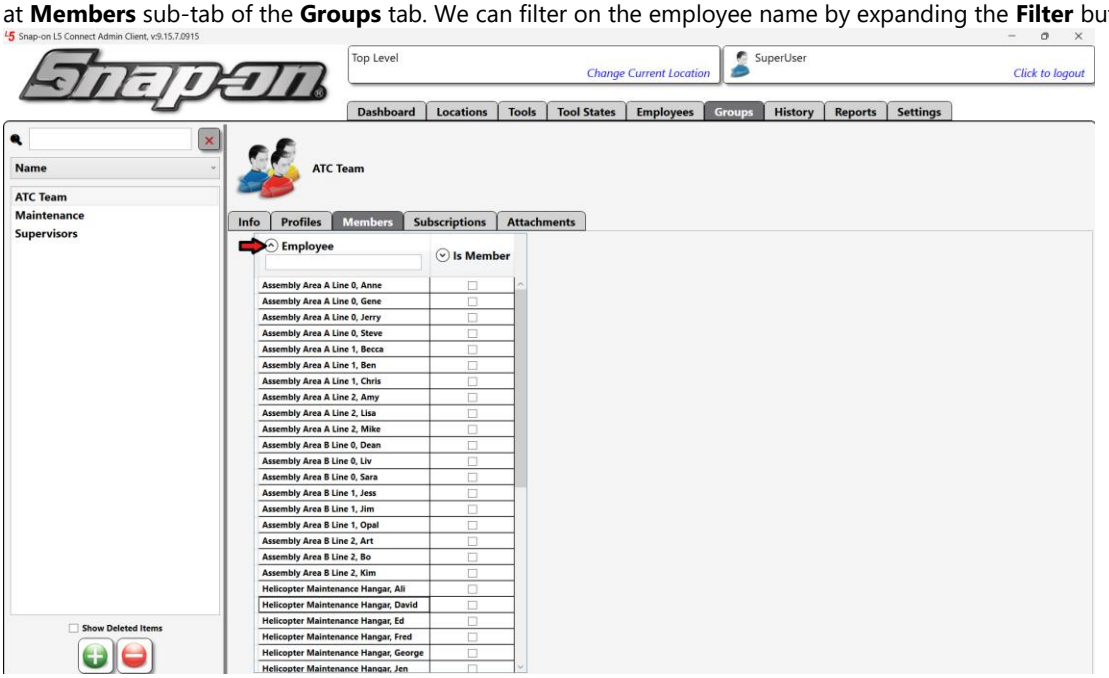
If there were a lot of employees in the system, there could be a lot of potential matches to still look through for the right person. Since we know he works in the plane maintenance hangar we can more accurately filter the search term **Jerry AND Plane**.



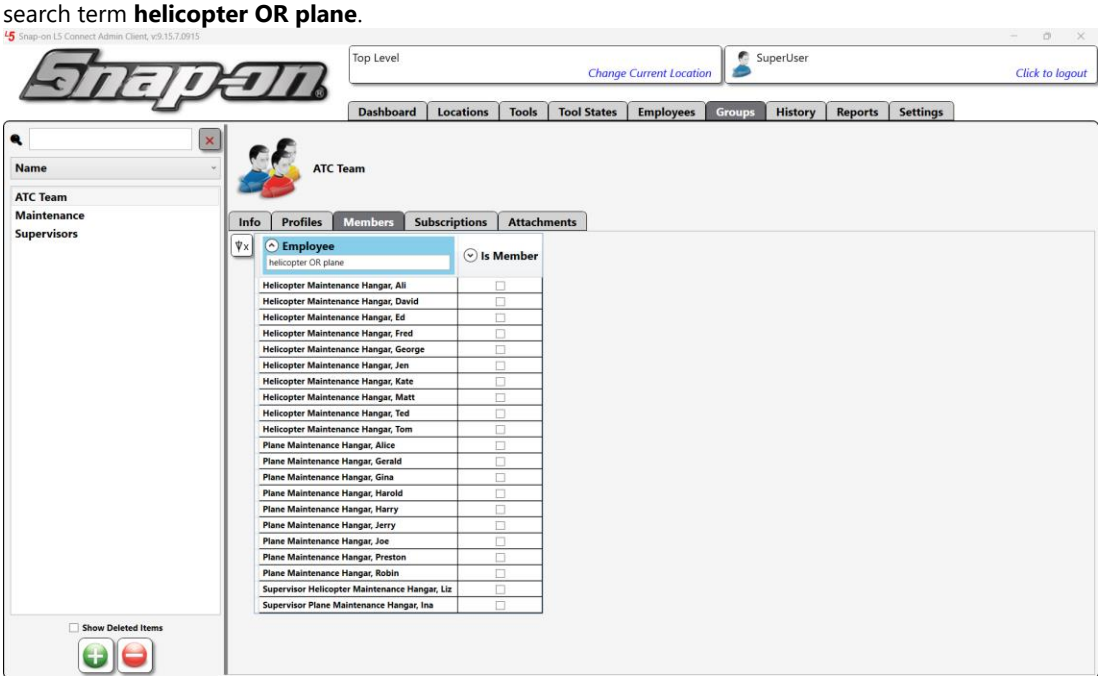
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The OR Operator

The OR operator will let you search for items that contain one string or another different string. This time we will look at **Members** sub-tab of the **Groups** tab. We can filter on the employee name by expanding the **Filter** button.



Suppose we wanted to filter the list to only show the Helicopter and Plane maintenance employees. We could use the search term **helicopter OR plane**.



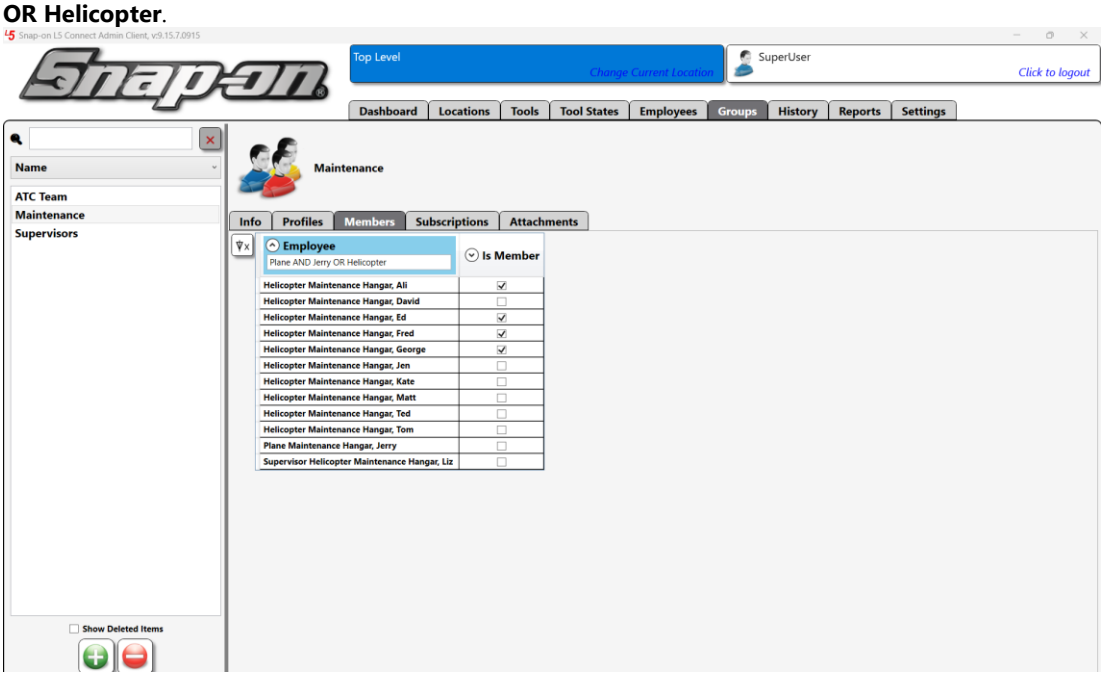
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Notice that we did not capitalize helicopter or plane. The strings that you search for are not case sensitive. **NOTE: The Boolean operators AND and OR must be all upper case.**

Complex/Compound Searches

You can also combine the **AND** and the **OR** keywords into a single search term. The **AND** operator will take precedence over the **OR** operator.

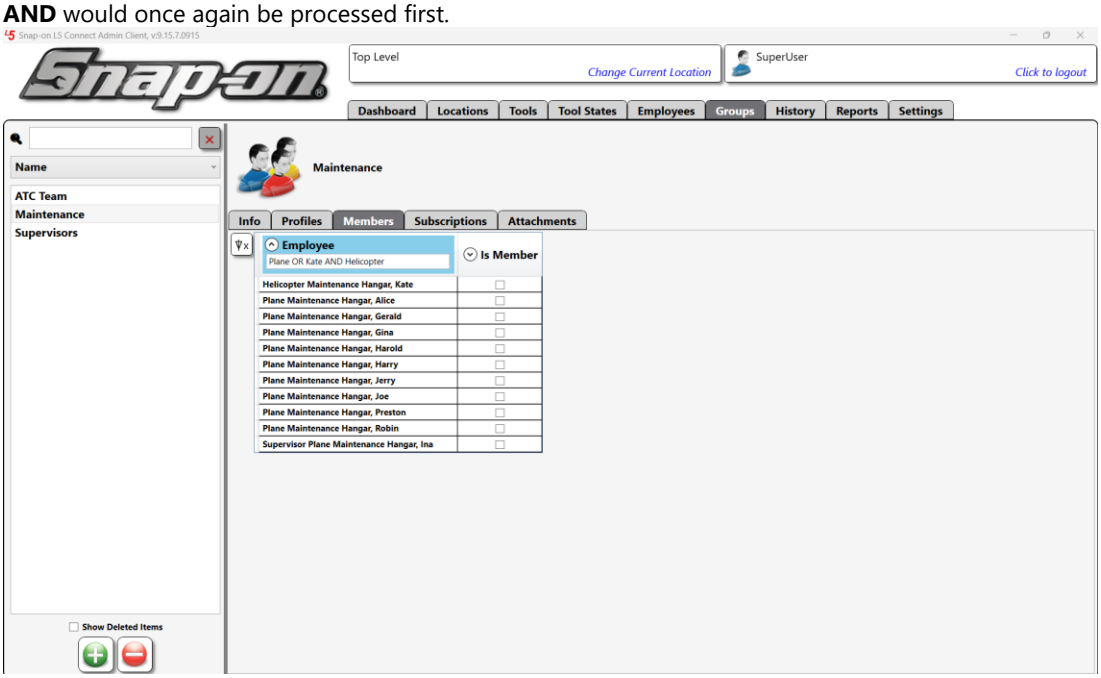
For example, continuing with the **Members** sub-tab of the **Groups** tab we will try the search term **Plane AND Jerry OR Helicopter**.



You can see that the **AND** was processed first to get all the items that had Plane and Jerry in them. Then the **Or** provided all the items with Helicopter in them. If we were to try the search term **Plane OR Kate AND Helicopter** the

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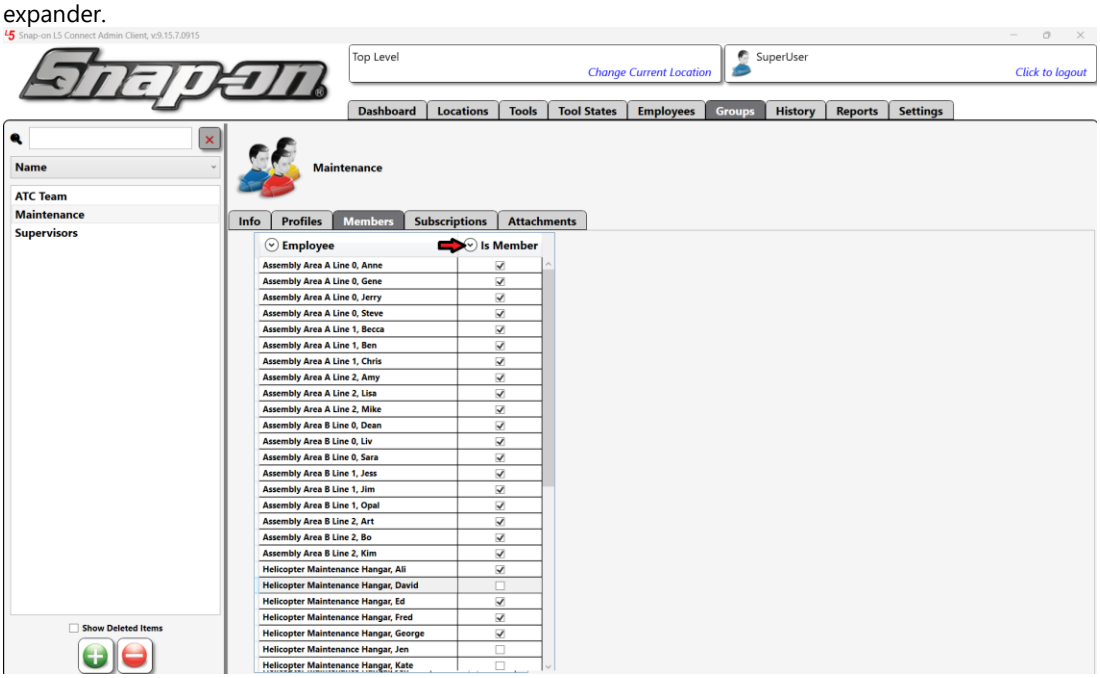
AND would once again be processed first.



This time we get Kate from the helicopter maintenance team and all items with plane in the name.

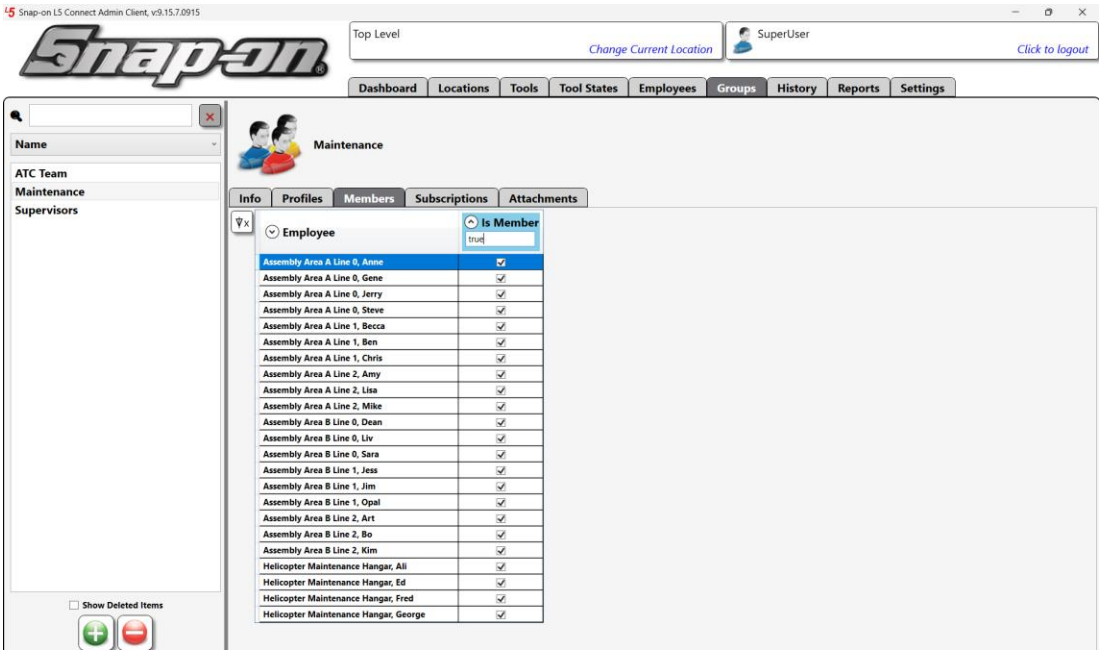
Boolean Data Filtering

Boolean values are usually visually depicted as checkboxes in the L5 Connect system. We will continue with the **Members** sub-tab of the **Groups** tab example. To filter by the **Is Member** boolean column, you would click the **Filter** expander.

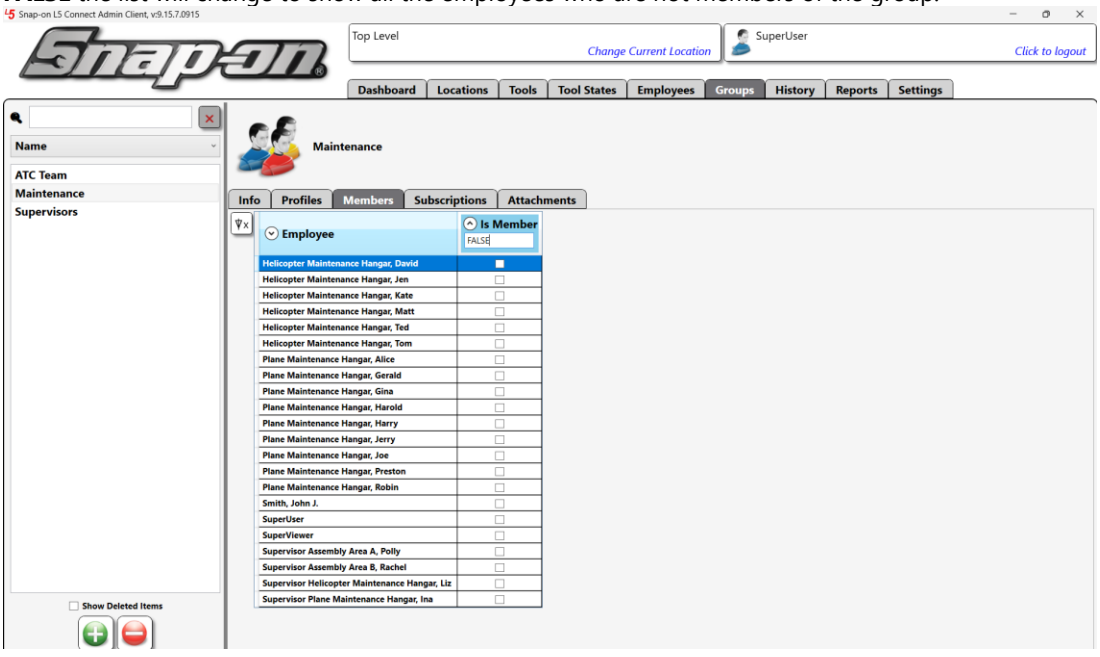


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This will show the filter text box. To filter out any employees who are not members of this group you would type **true** in the filter box.



Now the list only includes all the employees who had the **Is Member** field checked. If we change the filter text to **FALSE** the list will change to show all the employees who are not members of the group.



**NOTE: The true and false filter text is not case sensitive.

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Numeric Data Filtering

Numeric fields are treated as text for filtering purposes in the L5 Connect system.

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Logging Out

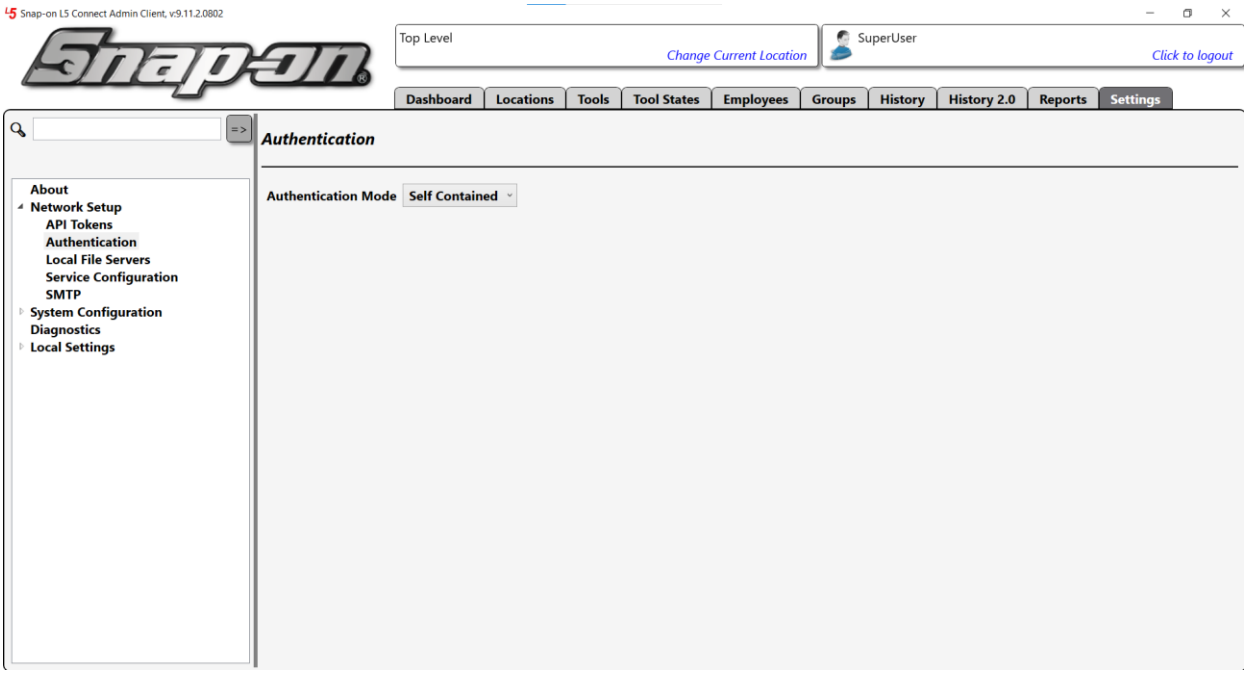
Once you have completed your work in the admin client, it's time to log out. In the top right corner of the application there is a **Click to logout** button that shows the name of the currently logged in user. All you need to do to log out of the application is click that button and you will be returned to the login prompt.



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Authentication Configuration

This document will explain the different types of authentications that can be used in the L5 Connect™ system and how each is configured. Three authentication methods are available within L5 Connect™ to access the Administration functions. You can change the type of authentication by going to **Settings -> Network Setup -> Authentication** in the L5 Connect™ Admin Client.



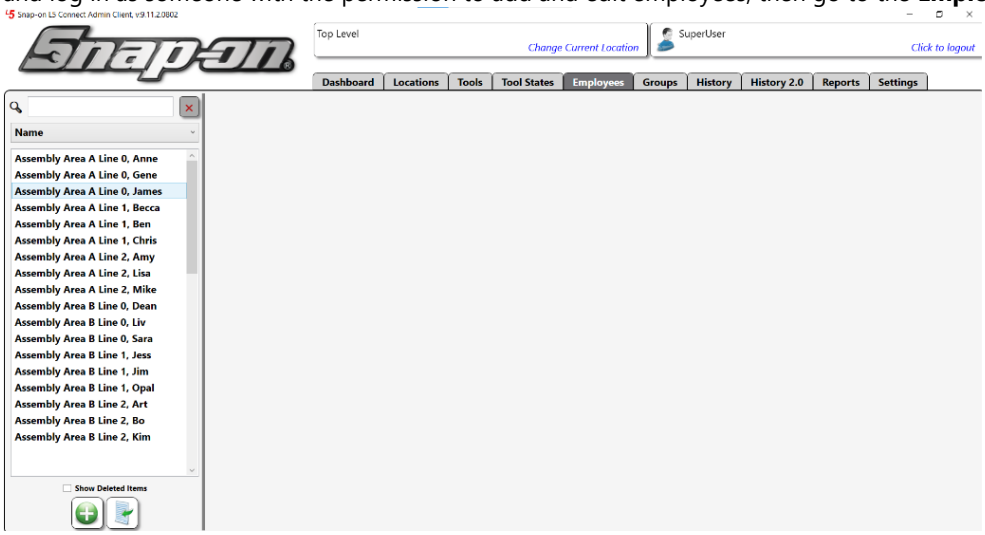
NOTE: These Authentication Methods are primarily used to access the Admin Client but are used in other parts of the system such as for access to admin mode in the True-Crib or for joining a device to the service.

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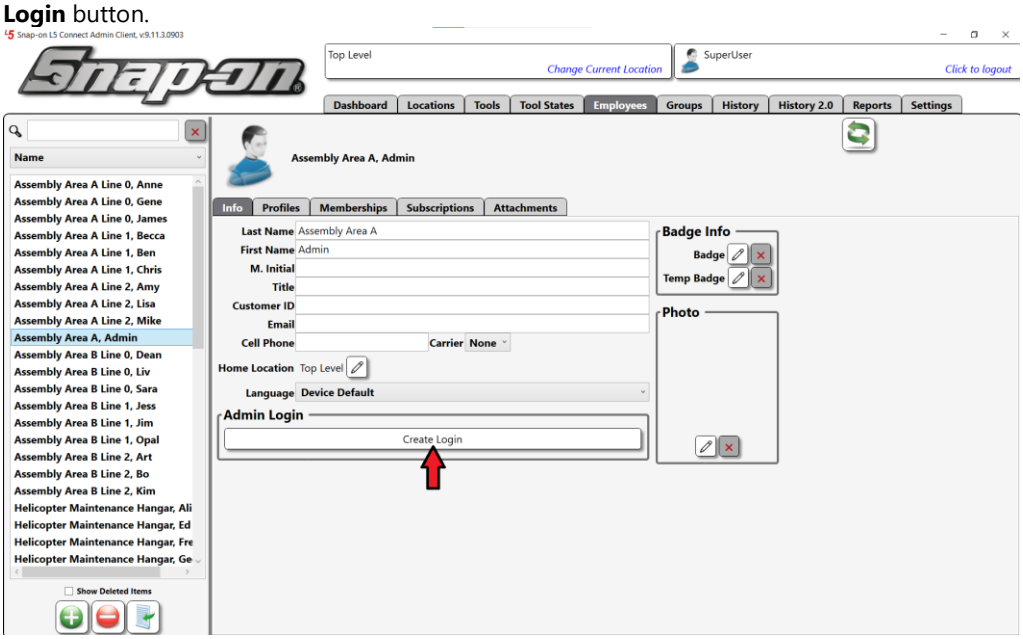
Self-Contained

This is the default method of authentication. It uses the L5 Connect™ Database to store employee data. Admins will need to type in an admin username and password to access the administrative functions. When an Admin attempts to log in this way, the database checks for the credentials of that Admin.

1. To configure a user to have admin access with the self-contained configuration start the admin application and log in as someone with the permission to add and edit employees, then go to the **Employees** tab.

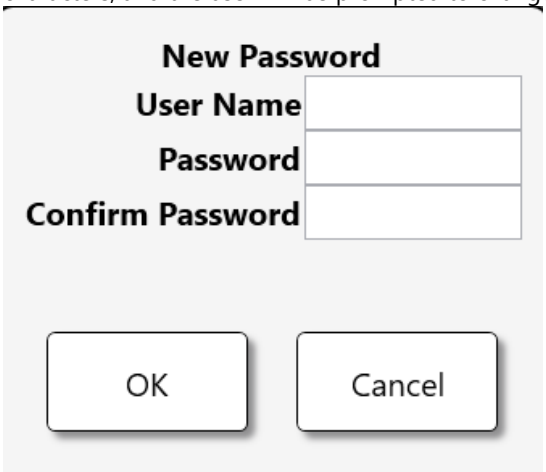


2. Either create a new user or select the user to whom you wish to give admin access and click the **Create Login** button.



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3. Enter a **User Name** and **Password** and then confirm the password. The password must be at least 6 characters, and the user will be prompted to change it upon their first login.

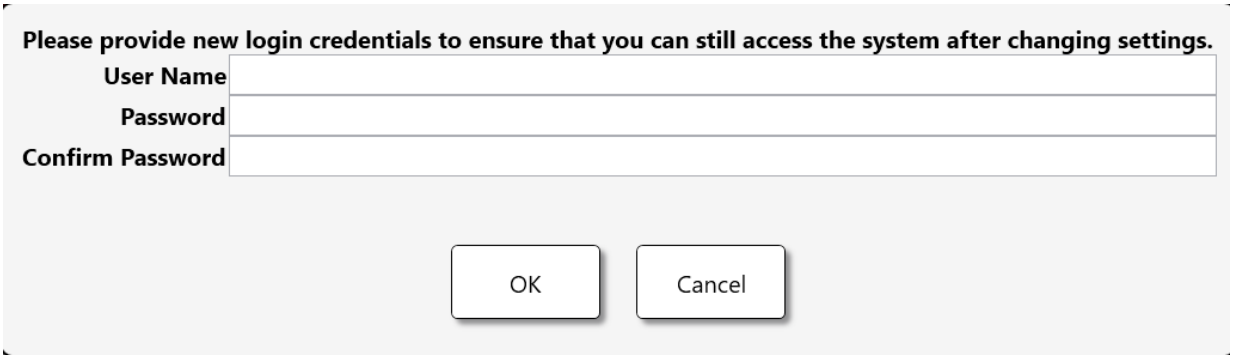


4. Click the blue **Save** button to save the change and your user will be set up to log into the admin application.

Domain Based

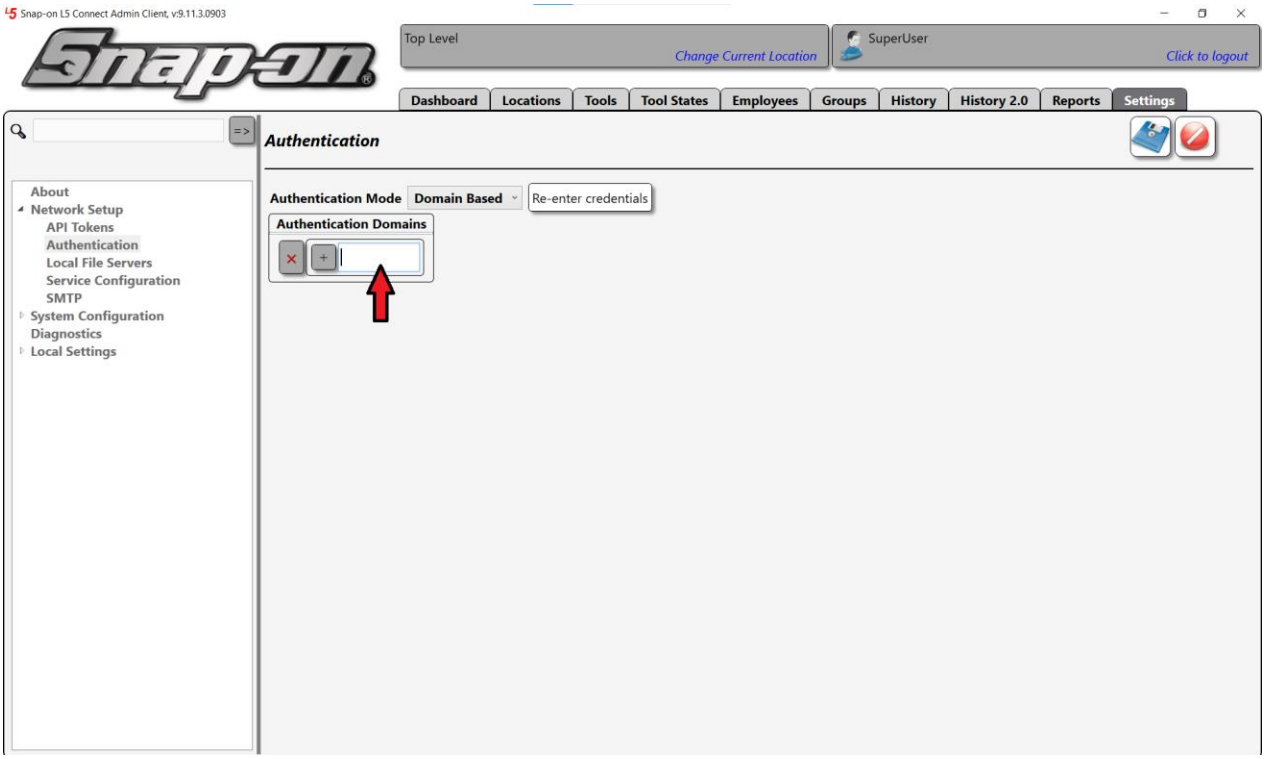
This method utilizes an Active Directory domain to handle user authorization. An L5 Connect employee's username must be set to their domain username. When they log into the L5 Connect system they will put in this username and their domain password. These will be passed on to Active Directory by the L5 Connect system to verify that access should be granted. **NOTE: The L5 Connect system does not store Active Directory passwords. It merely forwards that information to Active Directory for a yes or no response on whether the user is authenticated.** If Active Directory says the credentials are valid, the employee who's **User Name** matches the domain username of the credentials will be granted access to the L5 Connect system.

When you attempt to configure the system to use Domain Based Authentication, you will be prompted to provide a valid username and password on that domain so that the L5 Connect system can make sure you will have at least one account that can access the system. This username and password will be used to verify that you can successfully log into the Active Directory for the domain upon saving, so be sure to set the domain as well before attempting to save your changes. The username will be saved as the L5 Connect **User Name** for the employee who configures the system for domain-based authentication.

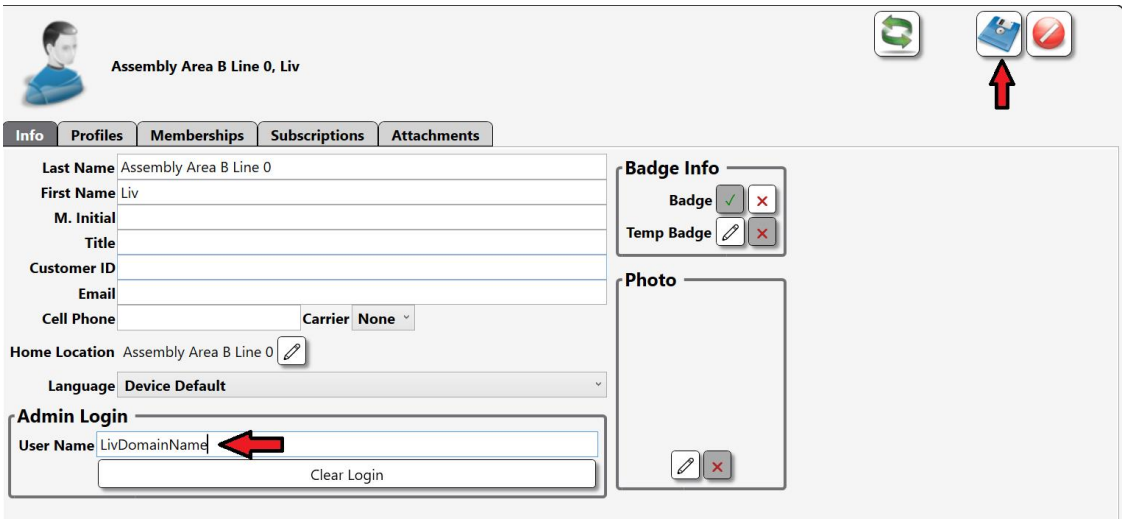


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Then, type in the domain name and click the + button to add it. To remove a domain, select the name in the list and click the ❌ button to remove a domain. Click the blue **Save** button once your domain has been set.



Other users requiring admin access will then need their L5 Connect **User Name** set to their domain-based username. At that point they will be able to log into the L5 Connect admin application with their domain credentials or authenticate other tasks.



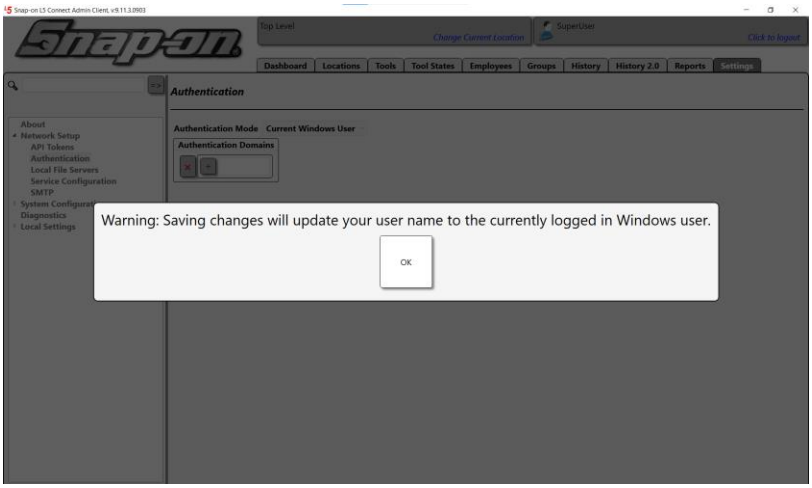
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Current Windows User

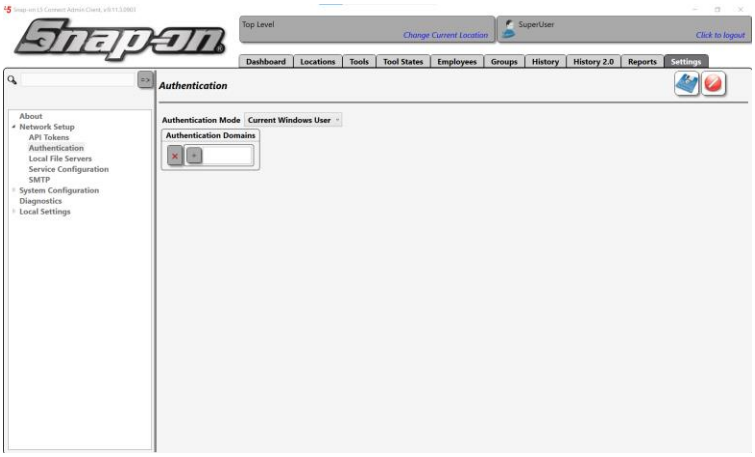
This method will allow users to authenticate without typing in a username or password (Single-Sign on). It utilizes the current windows session to log the user in.

NOTE: The Current Windows User auto-login feature only applies to the L5 Connect Admin Client. When interfacing with connected devices (ATC Toolbox, True-Crib, etc.) the user must authenticate with their domain username and password to gain access to administration functionality.

When you select this authentication mode, you will be prompted that your username will be changed to the currently logged in Windows username.

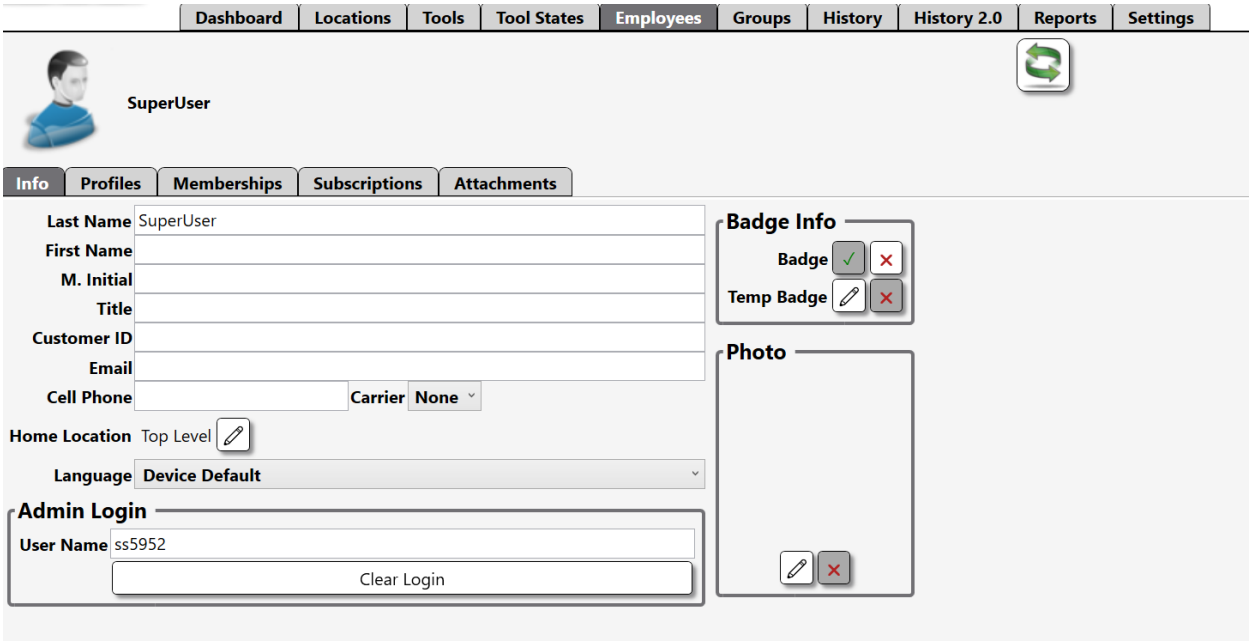


After clicking the **OK** button, you will need to add a domain to the domain list. Type in the domain name and click the + button to add it. To remove a domain, select the name in the list and click the ❌ button to remove a domain. Click the blue **Save** button once your domain has been set.

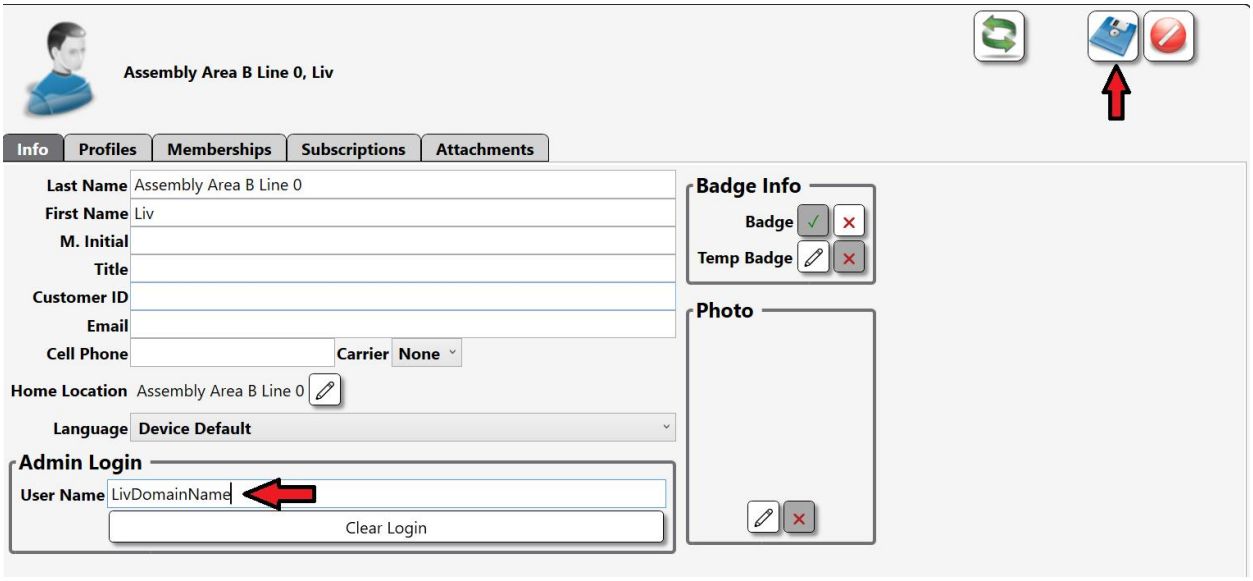


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At this point if you go to the **Employees** tab and look at the info for the employee who just changed the authentication mode, you will see that their **User Name** has automatically changed to their domain username and that they no longer have a password associated with it.



Any other users who will need to authenticate will need to have their L5 Connect **User Name** changed to their domain username as well.



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SMTP Configuration

The purpose of this document is to define the process of setting up the L5 Connect system to send emails through an SMTP server. This will allow the system to be able to send subscriptions such as notifications, scheduled reports, etcetera. The process will require access to an SMTP server and configuration of the L5 Connect system.

SMTP Server Access

For the L5 Connect system to be able to successfully send emails, it must have access to an SMTP server. The L5 Connect system supports using no encryption (only recommended on an internal network), or encryption (checking the **Use SSL** checkbox) with an email server that supports the STARTTLS command. The L5 Connect system supports the SMTP Service Extension for Secure SMTP over Transport Layer Security as defined in RFC 3207. Typically supported ports are 25, 2525, 8025, 587 or 80.

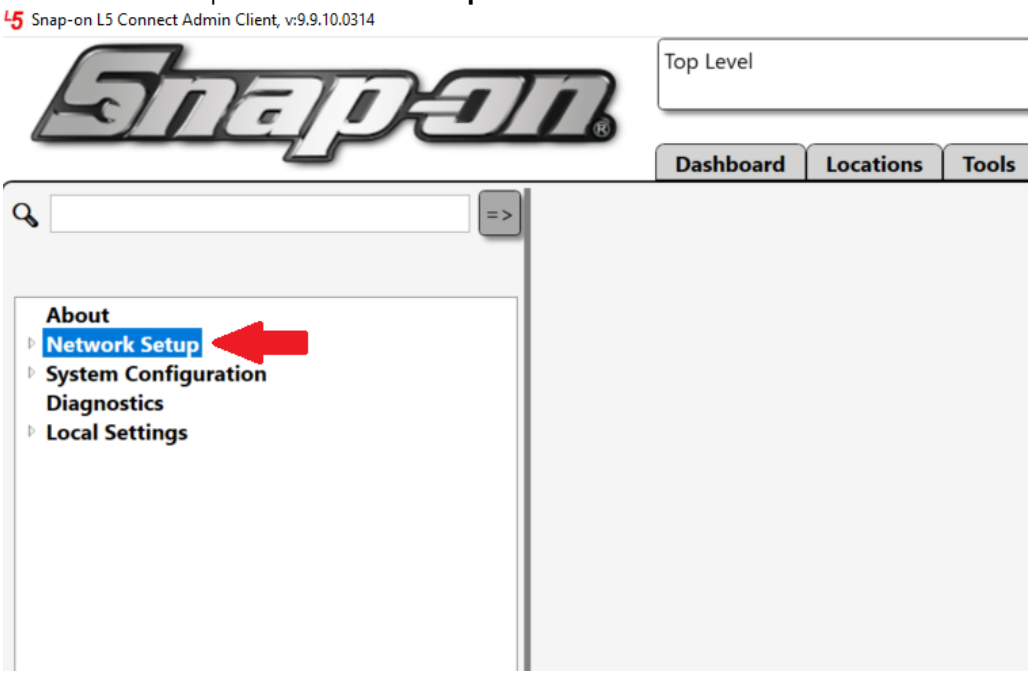
An alternate connection method is where an SSL session is established up front before any protocol commands are sent. This connection method is sometimes called SMTP/SSL, SMTP over SSL, or SMTPS and by default uses port 465. This alternate connection method using SSL is not currently supported.

If your organization has access to an internal SMTP server, you can use that. If not you will need to set that up first. There are several free options for setting up an SMTP server such as SMTP2GO That service has been verified to work with the L5 Connect system using port 587.

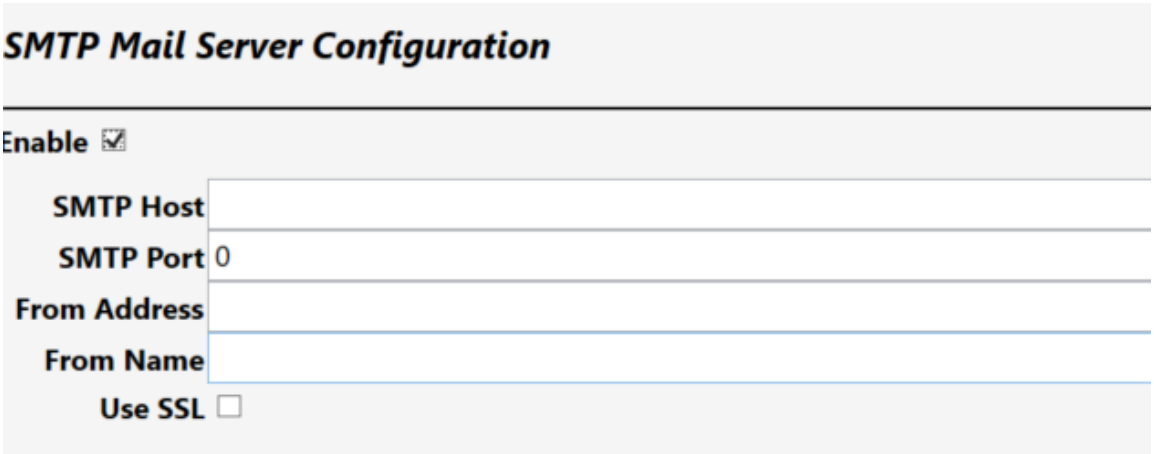
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L5 Connect Configuration

1. Start the L5 Connect Administrator app and log in. You will need the System Configuration -> System Configuration permission to make the required changes.
2. Click the **Employees** tab and select your employee information.
3. Make sure you have an email address defined. This is required for testing. If editing the employee email is required you will need the **Employee -> Contact Info Edit** permission.
4. Click the **Settings** tab.
5. Click the carat to expand the **Network Setup** item.

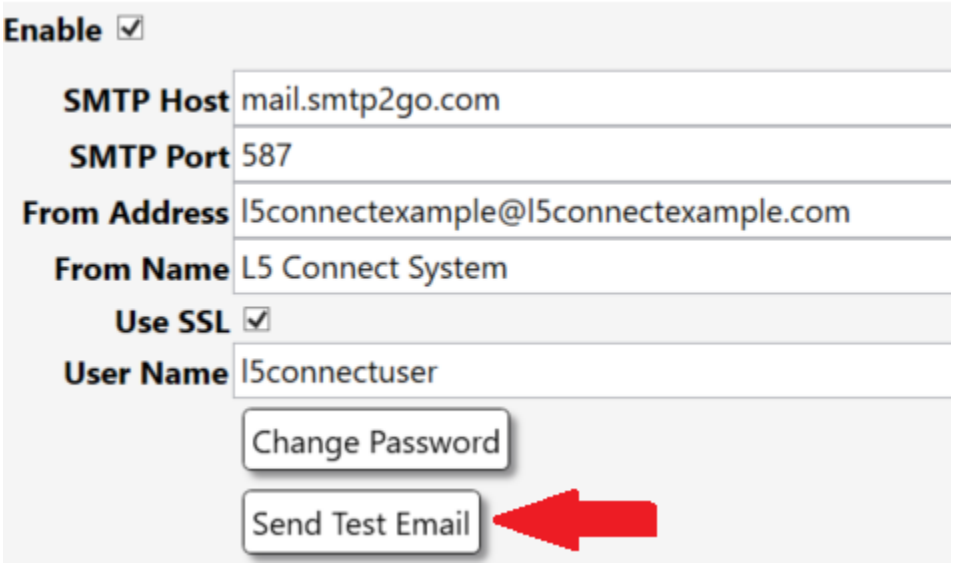


6. Click the **SMTP** sub-item.
7. Check the **Enable** checkbox.



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8. For **SMTP Host** you should put the URL of the SMTP server you are using.
9. For **SMTP Port** you should put the port number of the SMTP server you are using.
10. For the **From Address,** you should put the email address that will be sending the notification email. This will be the address that will appear in the **From** field of the emails sent to employees.
11. For the **From Name** put a name that makes it clear who is sending the email.
12. If your SMTP requires authentication information check the **Use SSL** checkbox to enable authentication and encryption.
13. For the **User Name** field you will need to enter the username required by the SMTP server for authentication.
14. Click the **Change Password** button.
15. For the **Password** and **Confirm Password** boxes enter the password associated with your SMTP server credentials.
    Click the **OK** button.
16. Click the blue disk button to save the SMTP changes.
17. Click the **Send Test Email** button to have a test email sent the email address associated with the employee currently logged into the admin application. You should shortly receive an email at the email address you set for your employee verifying that everything is set up and working.



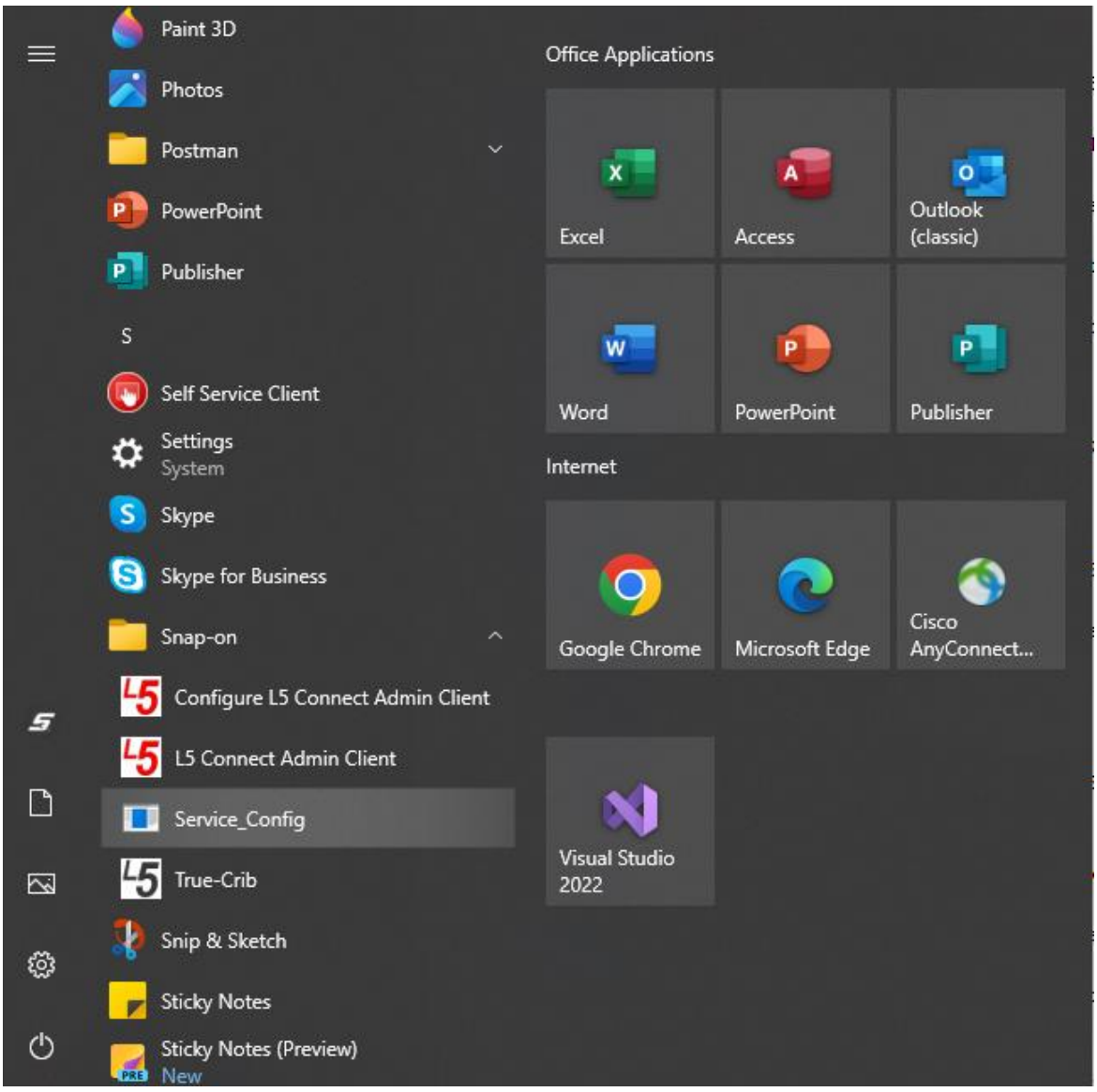
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Data Retention

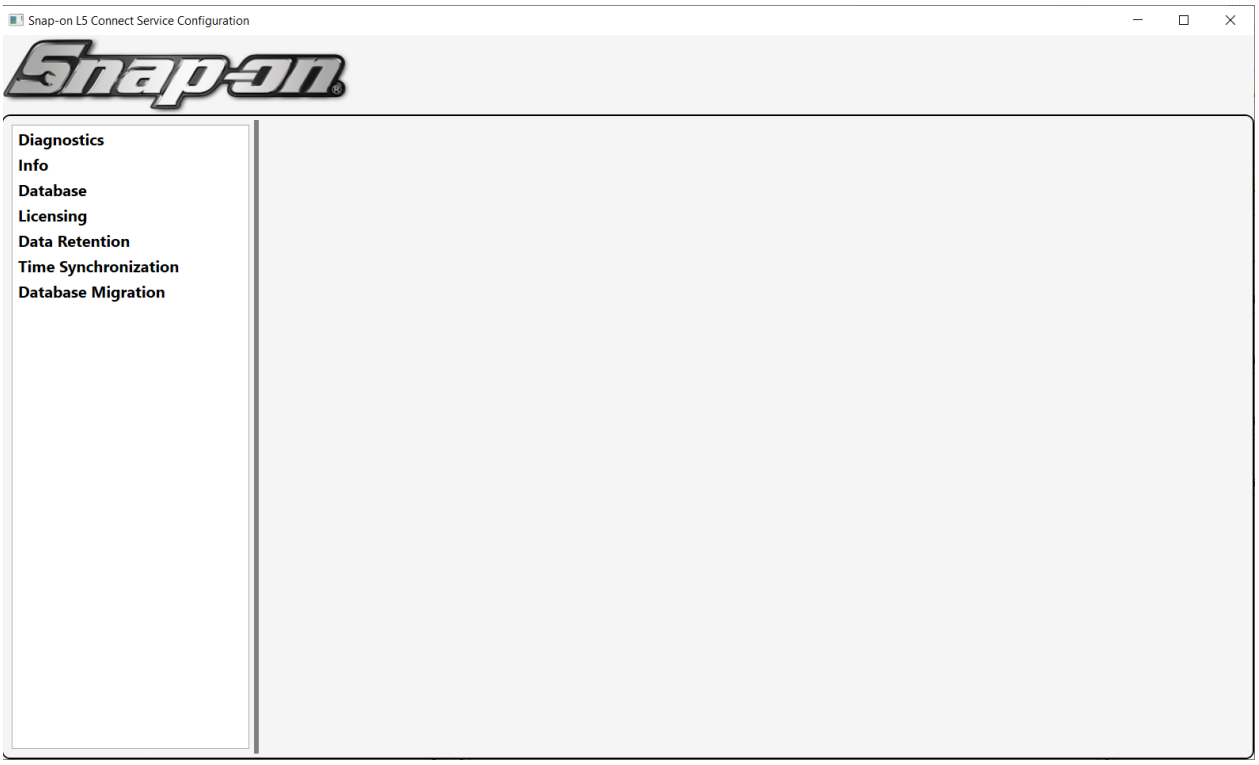
The L5 Connect system can permanently delete event history and archive image data. This may be desired to comply with maximum data retention requirements, reduce used file storage space, etc. This document contains the procedures to remove past data either automatically or manually.

WARNING - All data deleted during the processes described below are permanently removed from the L5 Connect System. Any desired data archiving must be done before following these procedures.

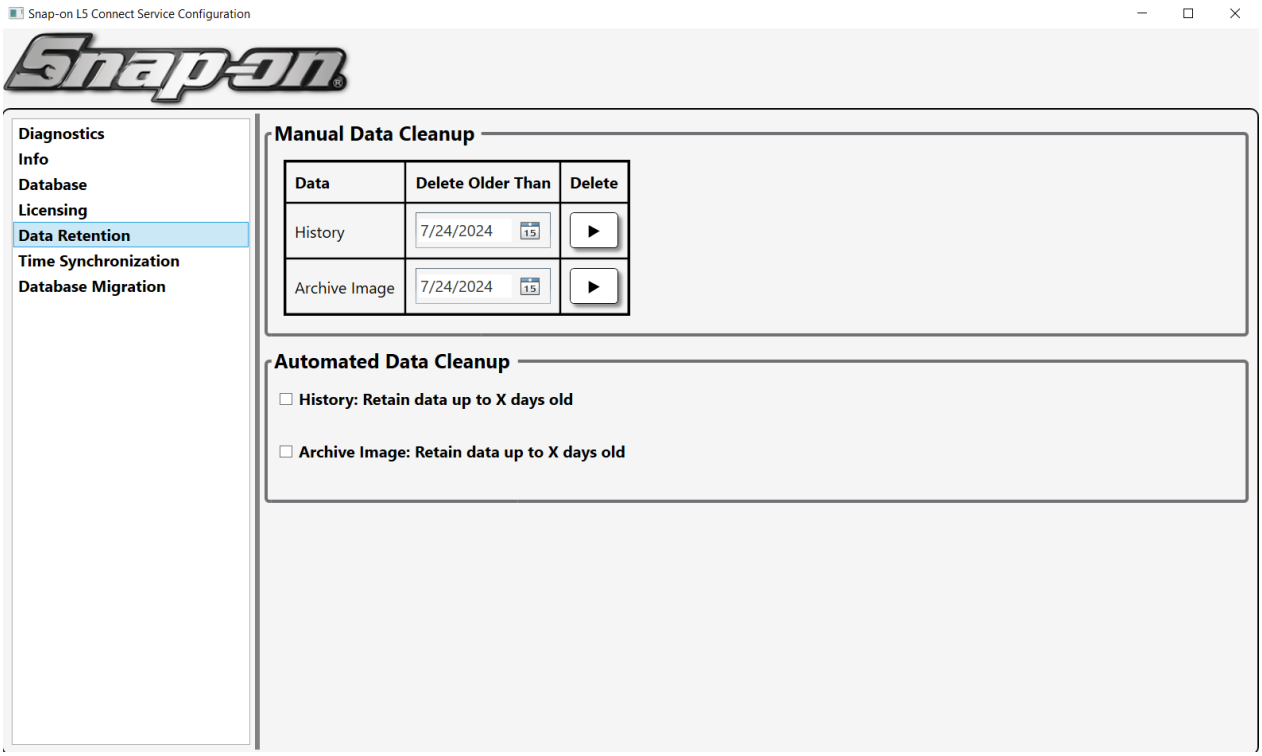
To begin, go to the Windows start menu on the service PC, open the Snap-on folder, and launch the **Service_Config** application.



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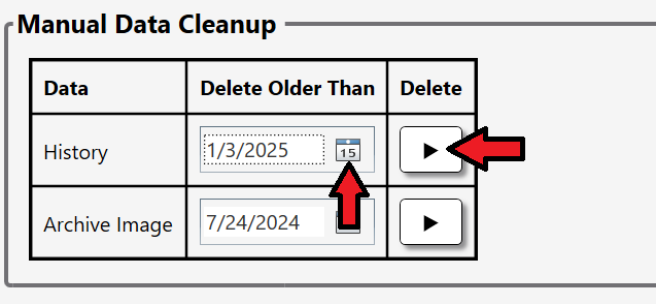
Then select the **Data Retention** tab.



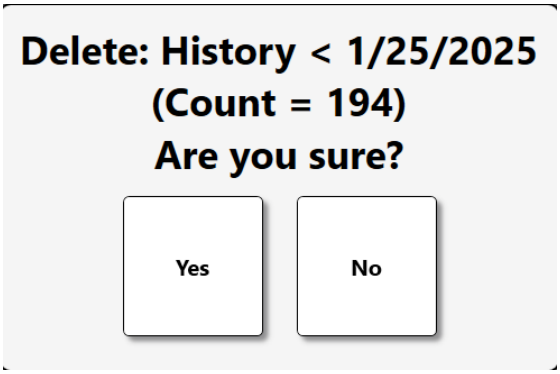
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Manual Cleanup

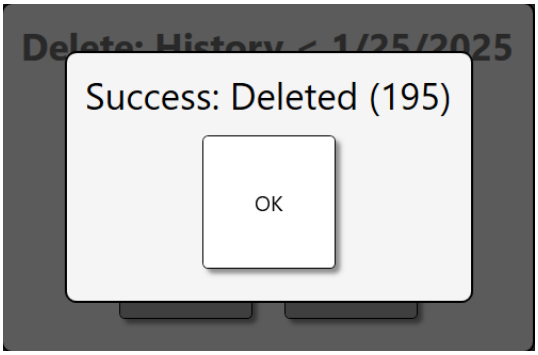
To perform manual cleanup of event history data, use the date picker for the **History** row in the **Manual Data Cleanup** section to set the date the oldest date of data that should be kept. Then click the **Start: Delete** button to initiate the cleanup.



Then you will be prompted with the number of events that will be deleted, asking if you are sure. Click the **Yes** button to delete these events.



You have successfully cleaned up your event history.



To perform a manual cleanup of archive images, you use the same procedure with the date picker for the **Archive Image** row.

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Automated Cleanup

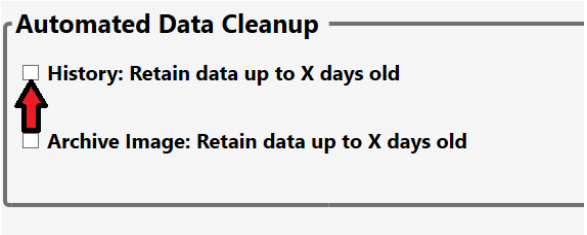
The L5 Connect system can be configured to automatically delete data older than a defined number of days. This automated process occurs every night at midnight (local time on the service PC) and when the service is restarted.

WARNING - The data retention time range is based on the current date/time settings of the L5 Connect service PC. Changing the date of that machine to an incorrect future date will result in the deletion of an incorrect data retention range.

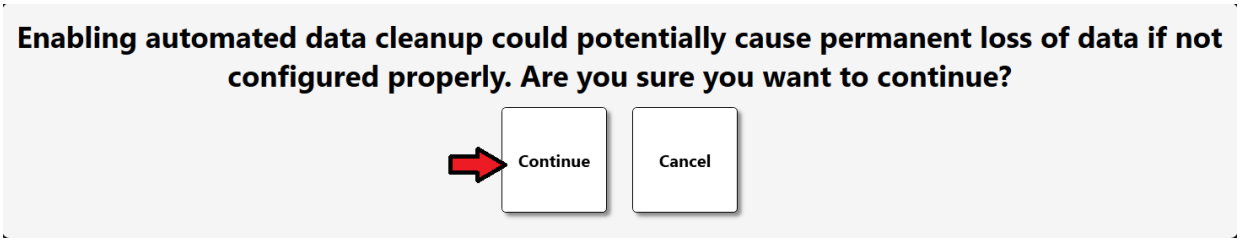
NOTE: Before enabling automated cleanup, follow the manual cleanup procedure above. This will avoid possible long duration deletion of multiple days of data during the first automated cleanup process.

Configuration

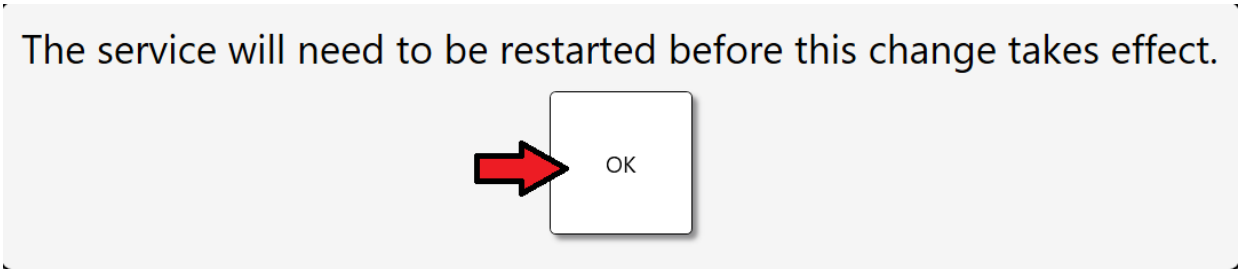
To enable automated data cleanup for event history, click the **History: Retain data up to X days old** checkbox.



You will then see a warning that enabling automated data cleanup could potentially cause loss of data if not done properly. Click the continue button.

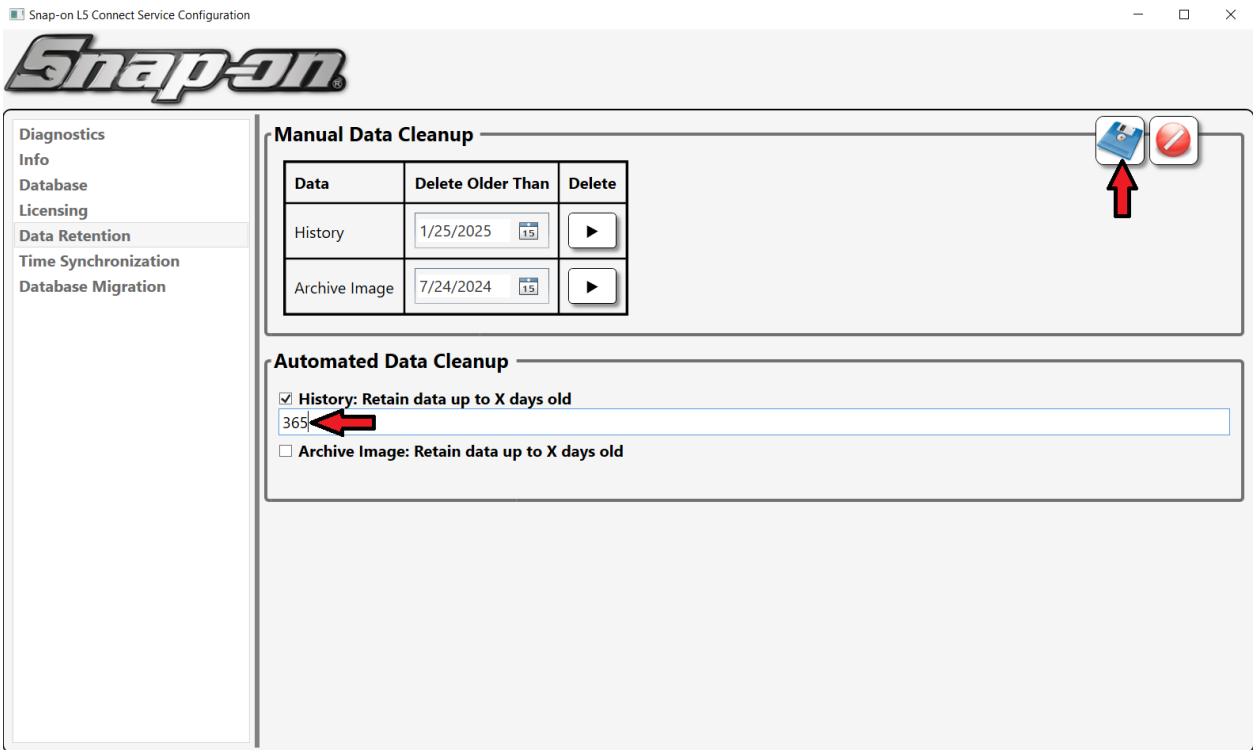


This will be followed by a message that tells you the service will need to be restarted before changes take effect. Click the **OK** button to continue.



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You will now see a field that contains the maximum number of days data will be retained. The default value is 365 days. Set this number to the desired value and then click the save button.



You can repeat this process to configure the archive image automated data retention as well.

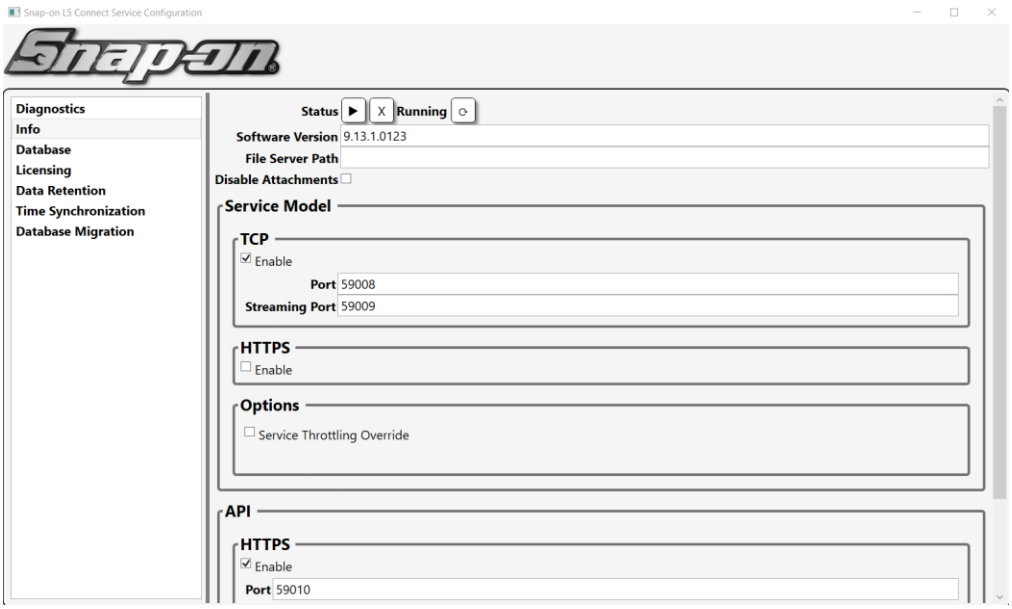
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Restarting the Service

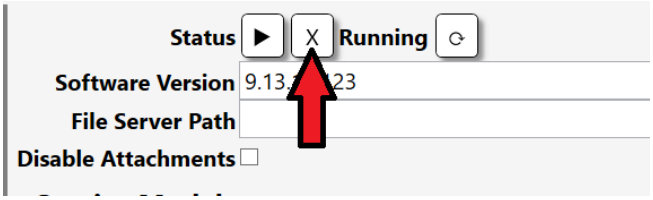
After you make changes to the automated data cleanup section you will need to restart the service.

NOTE: The service will begin purging data outside of the configured retention range immediately after restart. Verify your retention settings before restarting the service.

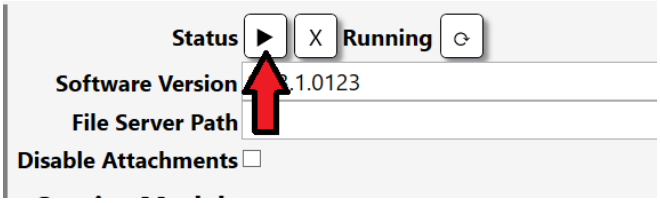
Switch to the **Info** tab of the service config application.



Click the X to stop the service.



Then click the **Start** button to restart the service.



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API Configuration

This document will detail the process for configuring the L5 Connect API. This allows customers to programmatically monitor and update their L5 Connect system through the API interface. This will require the customer to develop a custom middleware application to interface between their system and the L5 Connect system.

Licensing

You will need a license to use the API. Here is how to determine if your service license currently supports using the API. This check will need to be performed on the machine hosting the L5 Connect Service.

1. Click the **Windows Start** button, then select the **Snap-on** folder, then select the **Service_Config** application.
2. Select the **Licensing** tab.
3. Make sure the **AllowCustomerApi** checkbox is checked for your license.
4. If your license does not currently support using the API contact Pro-Services for help getting and installing the proper license.
   Email: INDPROSERVICES@snapon.com

Service Configuration

You will need to configure the PC hosting the L5 Connect Service to turn on the API.

1. Click the **Windows Start** button, then select the **Snap-on** folder, then select the **Service_Config** application.
2. Make sure the **Info** tab is selected.
3. In the API groupbox click the **Enable** checkbox of either the HTTP or HTTPS communication type to enable the desired communication type.
4. Set the port to the desired value. Snap-on recommends using port 443 if using HTTPS communication. This port is typically open and should cause less firewall issues. You will need to ensure whatever port you select has appropriate firewall configurations as well.
5. Click the **Save** button to save your changes.
6. Click the **X** button to stop the service, then click the **Start** button to restart the service.

Setting up HTTPS Certificate

To ensure a secure connection between the API and your system you will need to configure the communication port with an HTTPS certificate. See the document in the following link for the process on how to do this. This only needs to be done if the port on which you configured the API was not already bound to the certificate in that process.
Connecting to a L5 Connect™ Service (Binding an HTTPS Certificate to the Port)

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Bearer Token Generation

When attempting to access the API, any requests will need to have a valid bearer token embedded in them. These tokens are attached to employees in the system. You can either add a token to an existing employee or create an employee specifically for API requests. Given that the permissions and logged in employee of all API requests will use the employee info and profile of the employee attached to the token, you may want to create an "API Employee". Here is how to create a valid token for an employee.

1. On a PC that has the L5 Connect Admin application installed, click the **Windows Start** button, then select the **Snap-on** folder, then select the **L5 Connect Admin Client** application.
2. Select the **Settings** tab.
3. Expand the **Network Setup** item.
4. Select the **API Tokens** item.
5. Click the **Plus Icon** to add a token to a new employee.
6. Hover over the input box and then select the API employee
    - The "API Employee" can be either an existing employee or you can create a new employee dedicated for API access.
    - The API calls will use the selected employee for event logging and action permissions. Make sure the selected employee has the proper permission profile for your desired API functionality.
    - Reference the L5 Connect Employees document for Employee creation/editing instructions.
7. Set the dates for which the token will be valid, then click the **Green Checkmark** button to save.
8. Select the API user you just added and then click the *Eye Icon* to view the token. You can copy this token and paste it into where you need it for use in making requests from the API.

NOTE: You can delete/revoke the token by clicking the **Red X** button next to the employee to which the token is assigned.

How to Use the API

At this point the L5 Connect system API should be ready for use. For more information about how to use the actual API itself, see the links below.

L5 Connect API Demo Website
Introduction to the L5 Connect API

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Software Features

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Locations

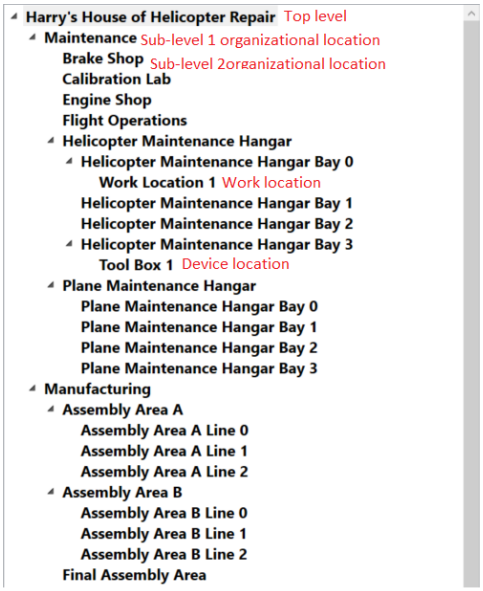
The goal of this article is to document the purpose of, configuration, and use of locations in the L5 Connect™ system.

One of the most critical concepts in the L5 Connect™ system is **Locations**. Everything within L5 Connect™ (**Employees**, **Devices**, **Work Locations**, etc.) are placed and managed in a **Location**. Without locations, it would be challenging to manage all these elements.

So, what is a **Location** regarding L5 Connect™? A **Location** is a logical representation of a physical space or organizational Unit within a building or organization. These locations can be nested within other locations to create a hierarchy known as the **Location Tree**.

To help understand this concept, please look at the figure below. The figure is an example of the **Locations Tree** on the **Locations** tab of the admin application. The top level is the highest **Location** in the tree. This **Location** represents the customer's organization.

NOTE: You can only have one top level location in an organization.



You have two sub-levels under the top level: **Maintenance** and **Manufacturing**. These sub-levels are nested within the Top Level. They are called organizational locations and can represent either a department or a physical location.

As you can see, there can be multiple levels of nested sub-levels. All these sub-levels inherit the properties and permissions from their "parent" **Location**. Therefore, with a setting defined at the top level, all sub-levels will automatically have that setting.

You can use the **Location Tree** to organize your employees and devices based on where they perform their duties or reside. For example, if Employee A works on assembling new parts in **Assembly Area A Line 0** you could assign their

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home location to that location. If they also sometimes worked on Line 1 or Line 2 you might want to assign their home location to **Assembly Area A** so they would have access to all three lines in that area.

NOTE: When someone is assigned to a Location, (If given permission), they gain access to any resources within that location or any Child-Locations under it.

Employee B is currently training two new employees on **Assembly Area A Line 1** and **Line 2**. To give them access to resources in both locations, you must assign them to the Parent Location, the **Assembly Area A** location. At this Location, Employee B will gain access to resources in both **Line 1** and **Line 2**. Suppose your organization is large with several employees. In that case, you can delegate management tasks of specific sub-locations to managers of those locations. For more information about setting up an employee as an admin, please see the **Employees** section of this guide.

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Admin Setup

The **Location Tree** for your L5 Connect™ is managed and configured through the Admin application. This section will cover how to use the admin app to configure your **Location Tree** to suit your organization's needs.

Creating a Location

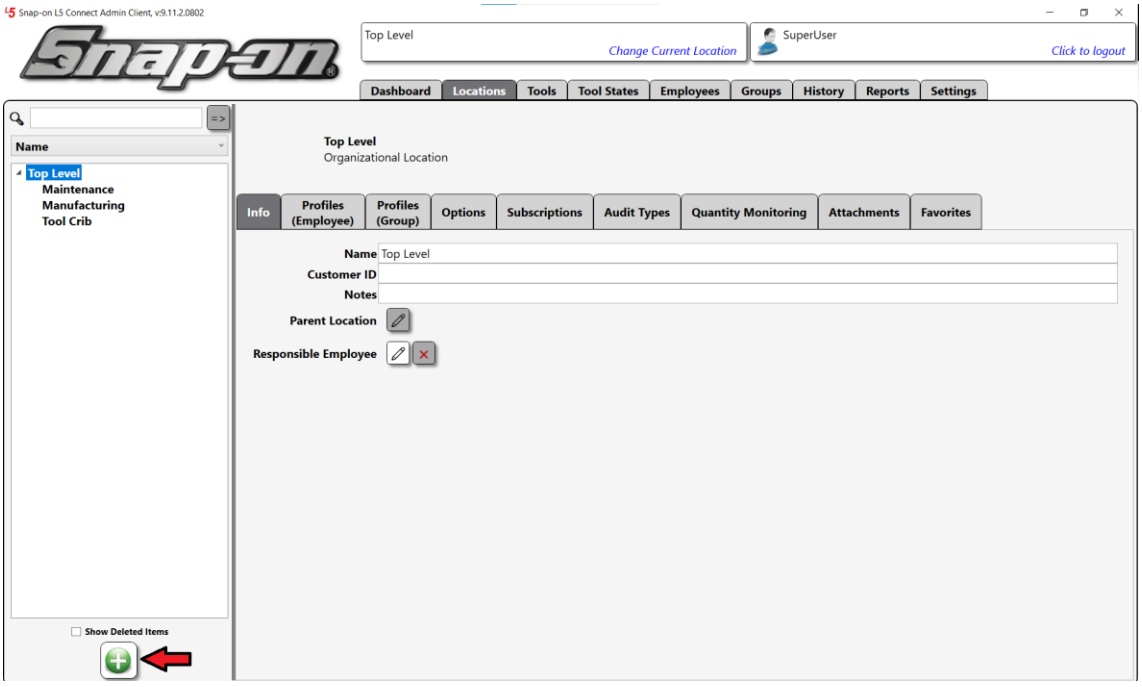
To build your organization structure in L5 Connect™, you must create location objects. These can be either:

Organizational Location – This type of Location represents a logical place to organize your company. It could be a building or a department, or a team.

Work Location – This type represents where work occurs and where the tool is. It can be a bay or a specific object. See L5 Connect Work Locations and Work Orders for more information.

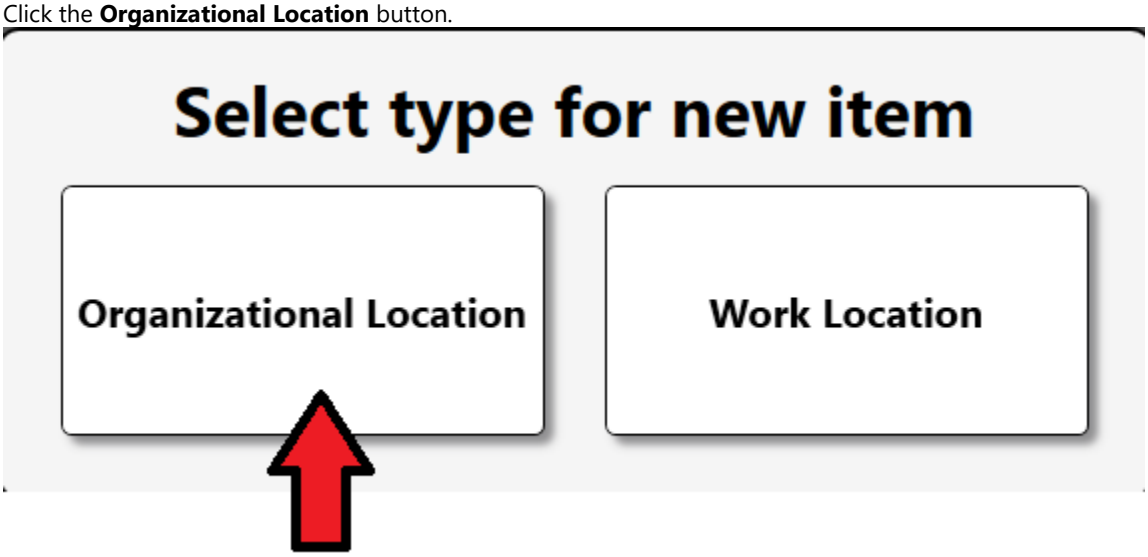
Create a new Organizational Location to represent an R&D Lab. Place a Work Location within it to describe a prototype part called Prototype 0001.

1. To create either of these objects, click on the **Green NEW icon** button at the bottom left of the Locations Tab.



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2. Click the **Organizational Location** button.



NOTE: When you create a new location object, the parent location of that object will default to your current selection. In this case, Top Level is selected, so any new Location Objects will be created with it as the default Parent Location.

After clicking on the **Organizational Location,** you are presented with the location properties of this new location object:

Name – The name of the Location.

Customer ID – A unique identifier that can be any combination of numbers and letters. Locations cannot share the same Customer ID.

Notes – A custom note that describes the Location.

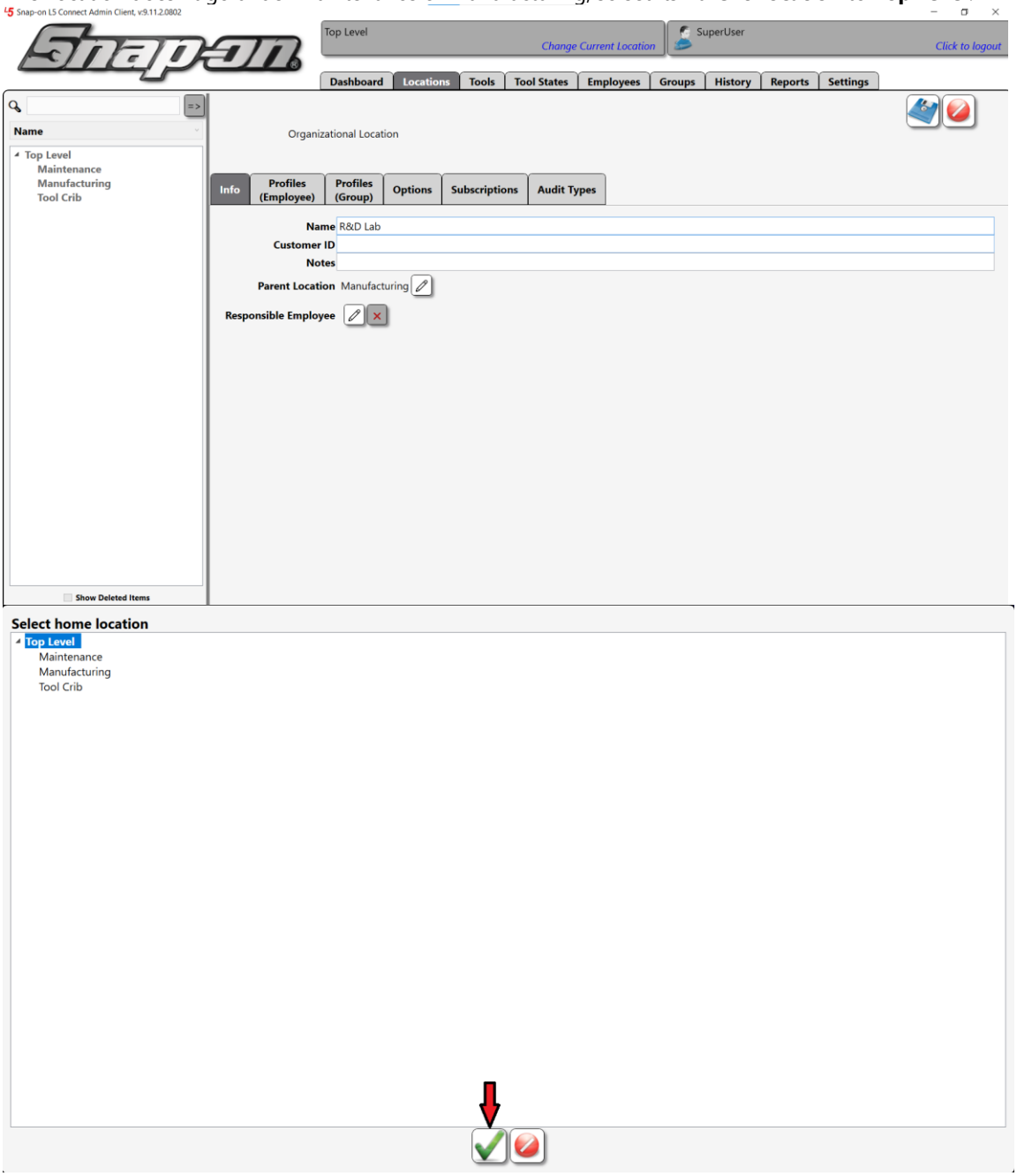
Parent Location – Designates which Location Object is the Parent of this Location.

Responsible Employee – Designates which Employee account is the primary contact for the Location. This Employee will receive alerts for all devices within this Location.

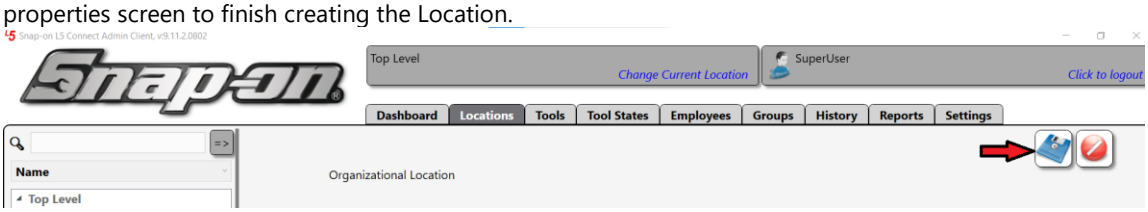
3. Set the **Name** to **R&D Lab**.

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4. This Location doesn't go under Maintenance or Manufacturing, so set its **Parent Location** to **Top Level**.

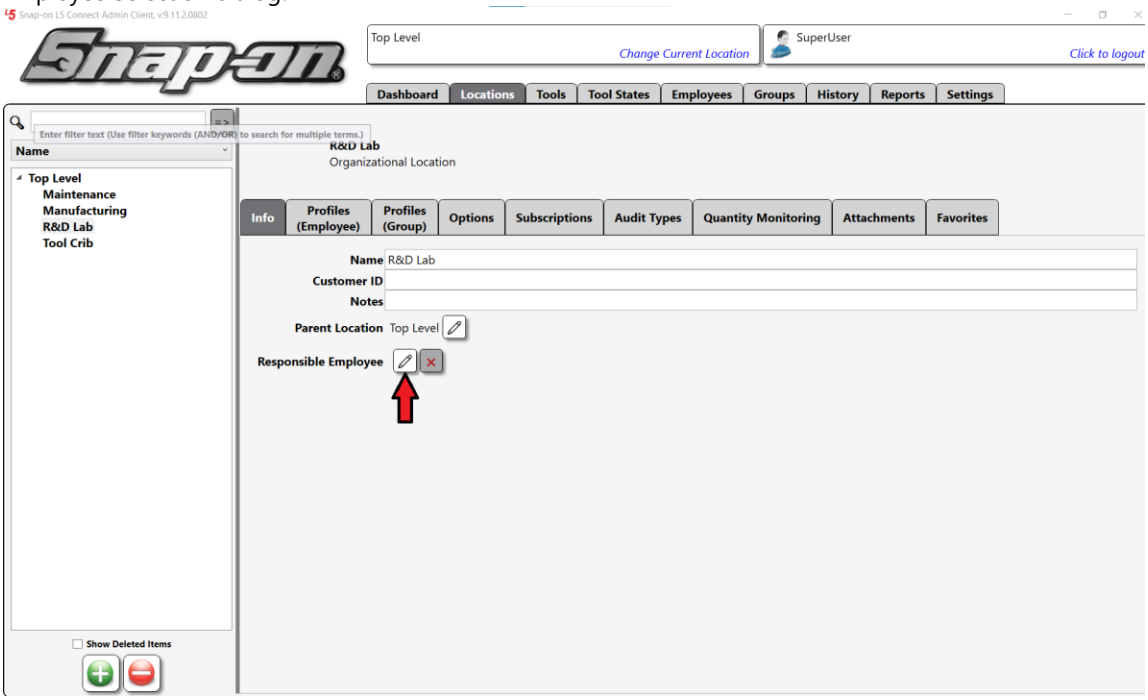


5. Once you have set the **Name** and **Parent Location**, click the blue Save icon at the top of the location properties screen to finish creating the Location.

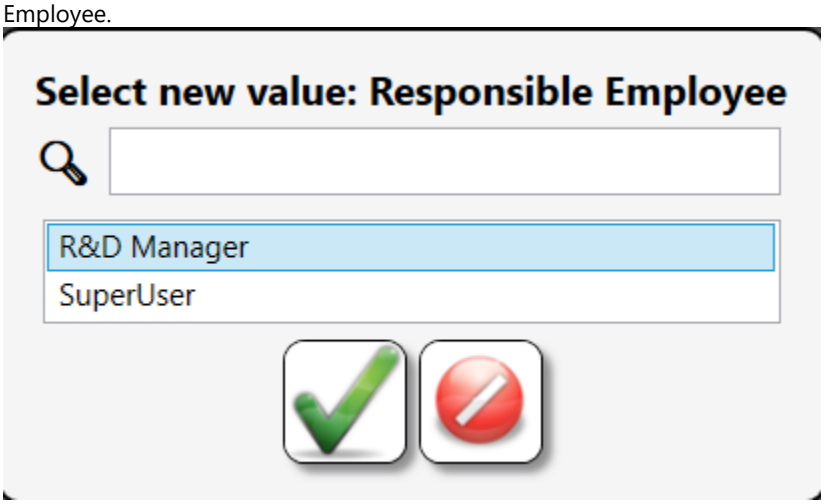


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6. Now that you have created the location object set the **Responsible Employee** to **R&D Manager**. If the user doesn't exist, you will need to make it on the **Employees** tab. Click on the **pencil** icon to bring up the Employee Selection dialog.



7. Click on **R&D Manager** to select it, and then click on the ✓ check button to set it as the responsible Employee.



NOTE: You will only see employees who have a profile assigned to the location or its parent. More information on how to assign a profile to an employee can be found in the Default and Custom Profiles and Permissions document.

8. Once again, click on the **blue Save** button in the upper right-hand corner of the screen to apply your changes.
9. With the new Organizational Location added, it is time to add the prototype Work Location. Use the L5 Connect™ Work Locations and Work Orders article to create and learn more about Work Locations.

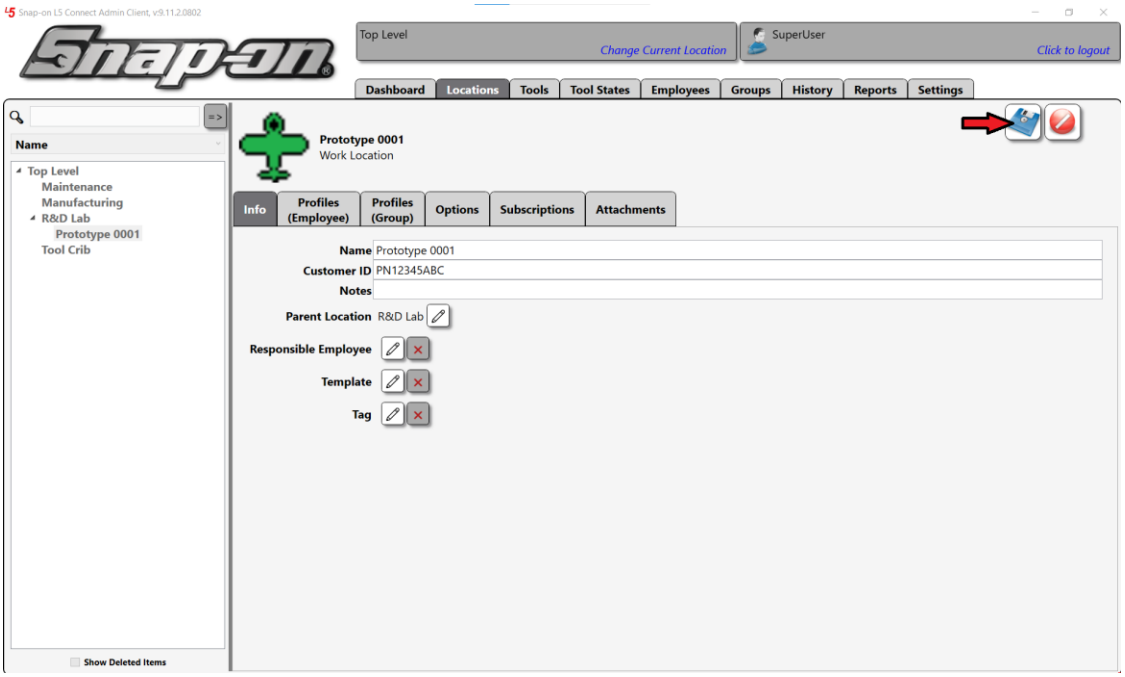
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Editing a Location

Sometimes you need to make a change to a Location. This can be done simply by selecting that object in the Location Tree on the left side of the Locations tab. Once you select the object, you will see its current attributes. Next, change an attribute, and then save.

NOTE: Until a change is made, the Save and Cancel buttons will not be visible.

1. Select the **Prototype 0001** location and then set the **Customer ID** to **PN12345ABC**.
2. Click the **blue Save** button.



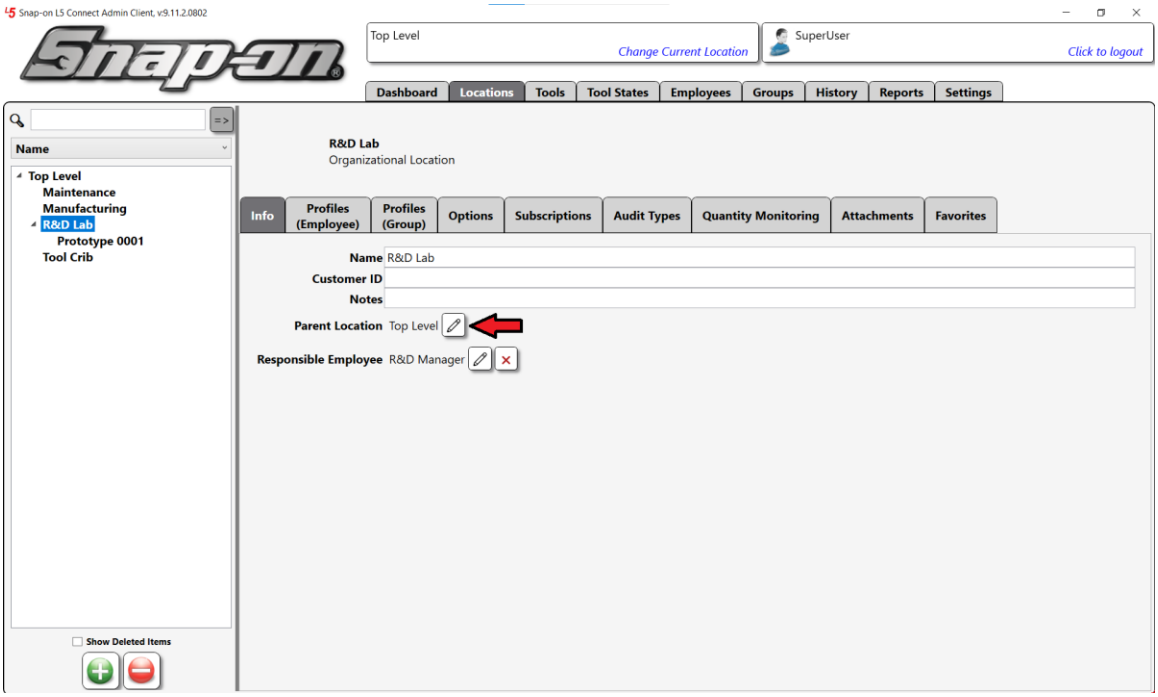
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Moving a Location

Sometimes the layout of your company may change. L5 Connect™ allows you to modify your Location Tree when these changes are needed. For example, a company needs to reclaim some space for another project and decides to move their R&D Lab to Maintenance Bay. For this example, you would move the **R&D Lab** under the **Maintenance** location.

NOTE: When moving a Location Object, all Child objects will be moved along with the Parent. Also, if the inheritance option is enabled, the Location Object will assume all the settings of its new Parent. See inheritance and permissions later in the guide for more information.

1. Click the **Pencil** button to edit home location of the R&D Lab and change its parent location from **Top Level** to **Maintenance**.

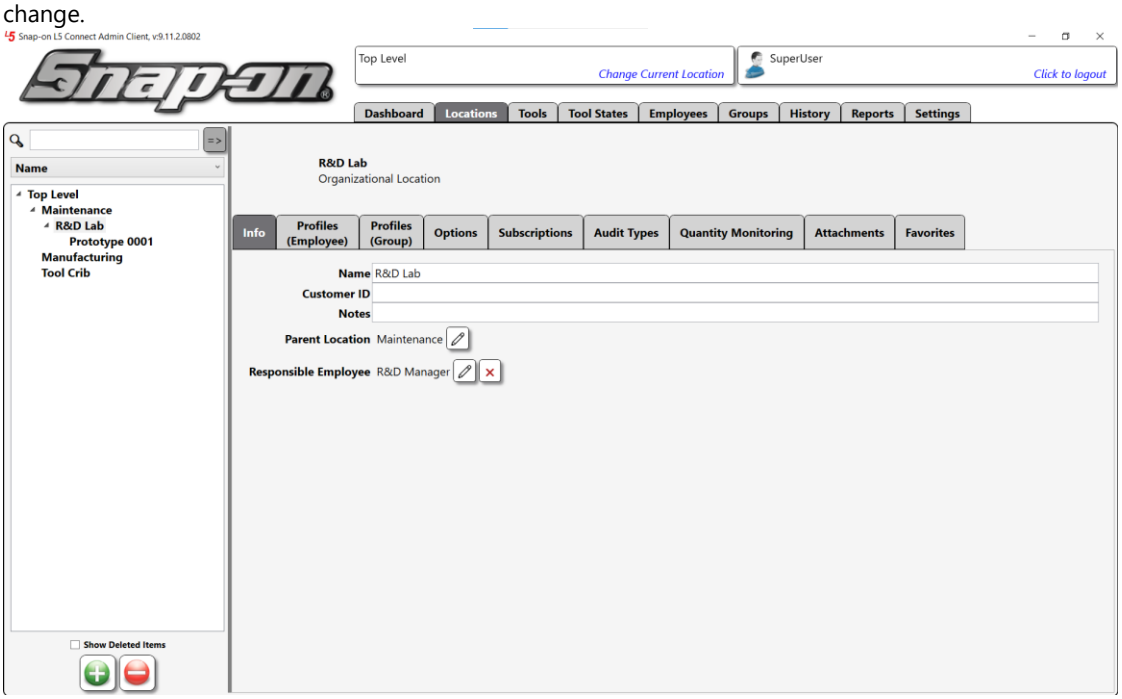


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2. Select the **Maintenance** location and then click the **Green Checkmark** button.



3. Click the **Blue Save** button. Once you save the change you will see the Location Tree update to reflect the change.

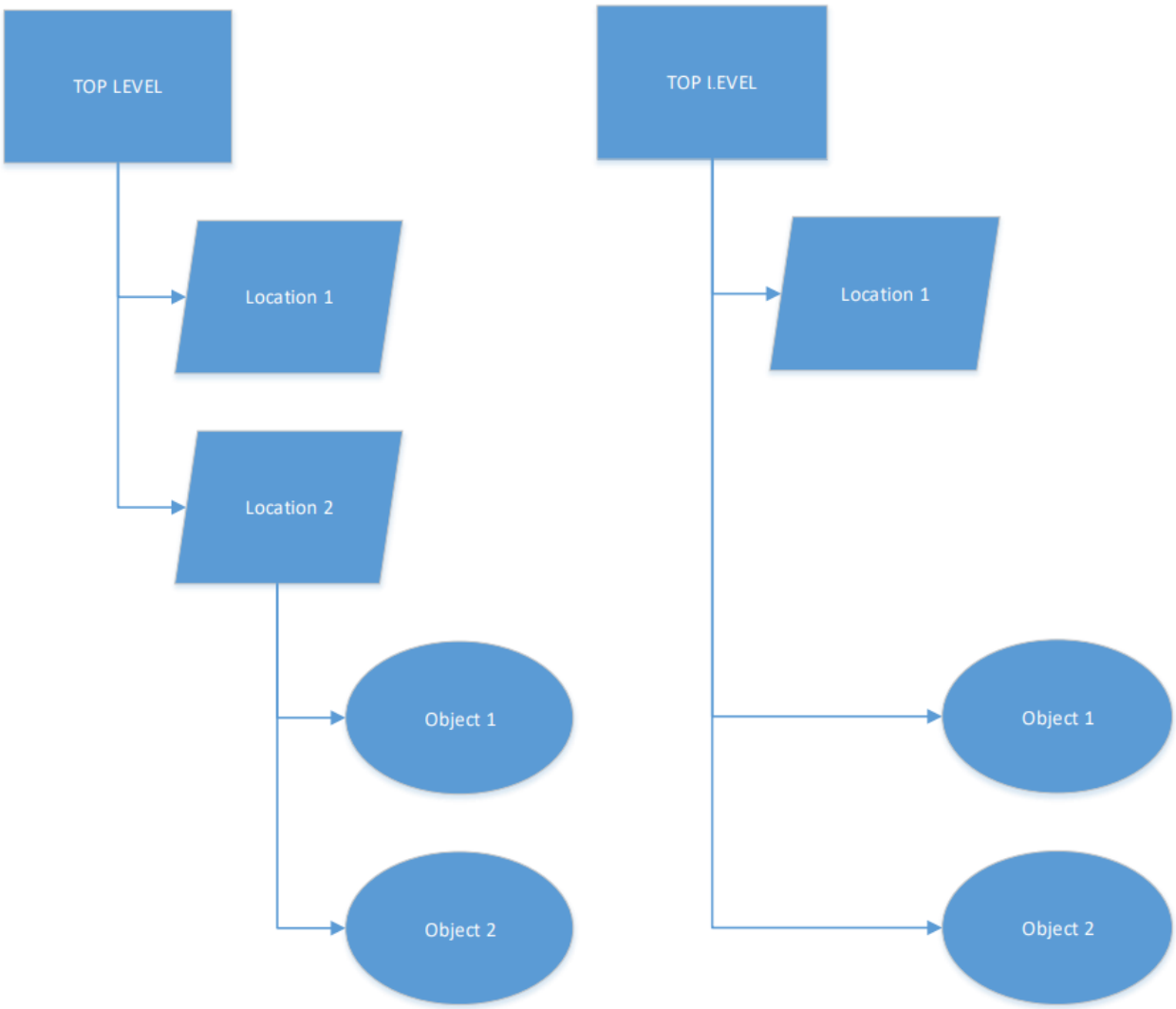


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Deleting a Location

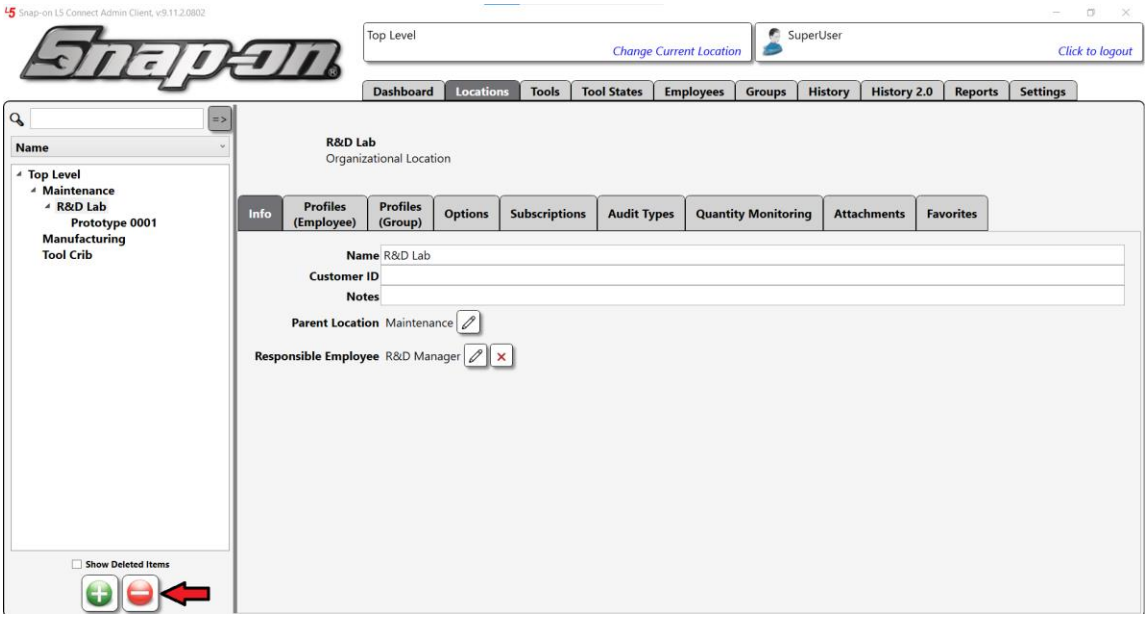
If you have a location object that is no longer needed, you can delete that object.

When deleting a Location Object, all child objects will be moved up one level and become child objects of deleted object's parent. For example, in the figure below, when deleting Location 2. Object 1 and Object 2 become child objects of TOP LEVEL.

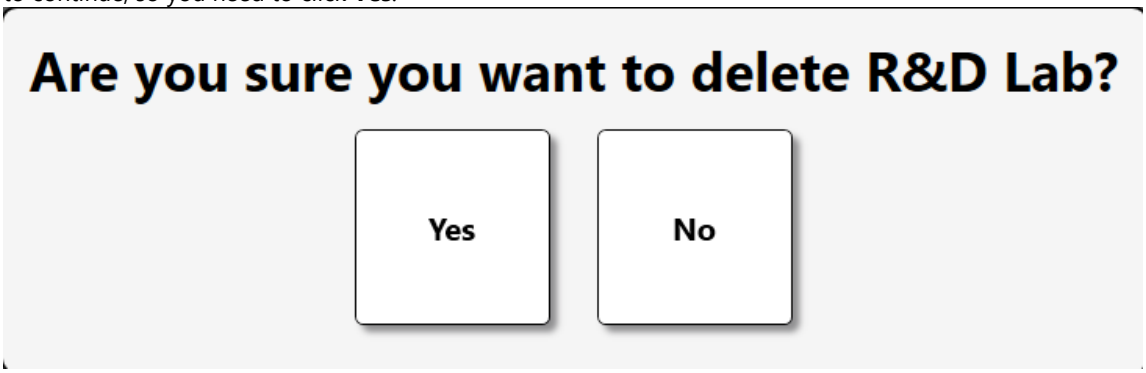


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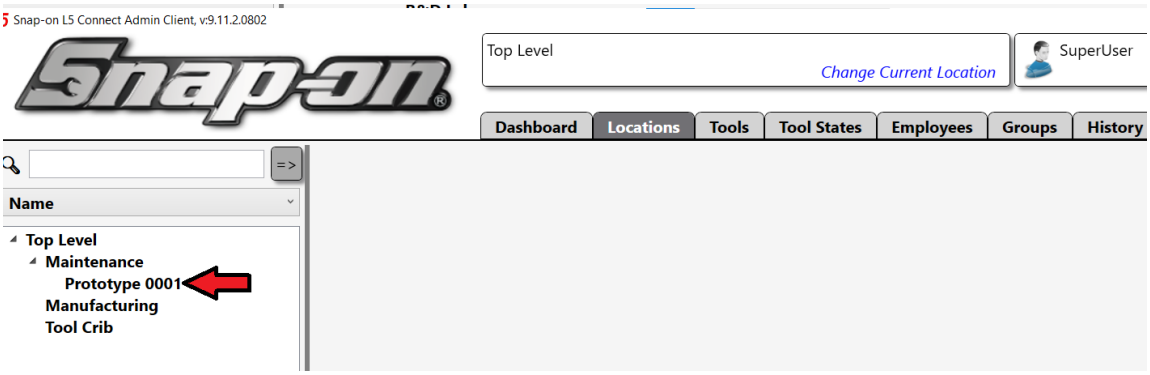
1. Select the **R&D Lab** location from the location tree. Then click on the Red Delete button on the lower-left corner in the locations tab.



2. You are presented with a verification dialog box. Click **Yes** to proceed or **No** to cancel. In this case, you want to continue, so you need to click **Yes**.



3. Once you click **Yes**, the Location **R&D Lab** will be removed, and **Prototype 0001** will be moved up one level in the **Location Tree** and become a child of **Maintenance**.

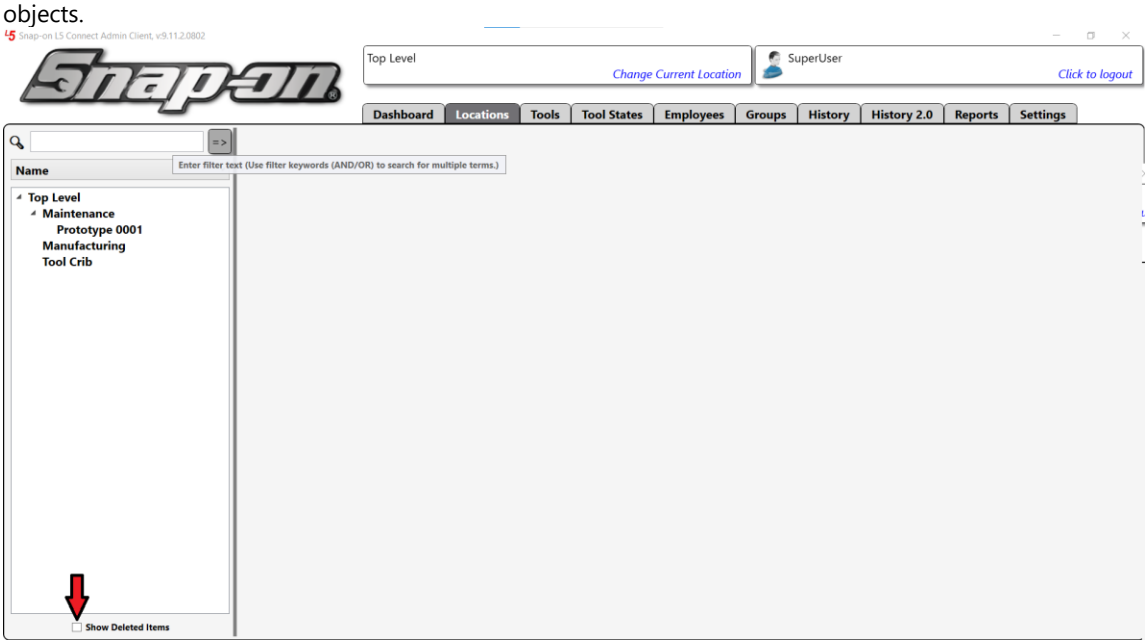


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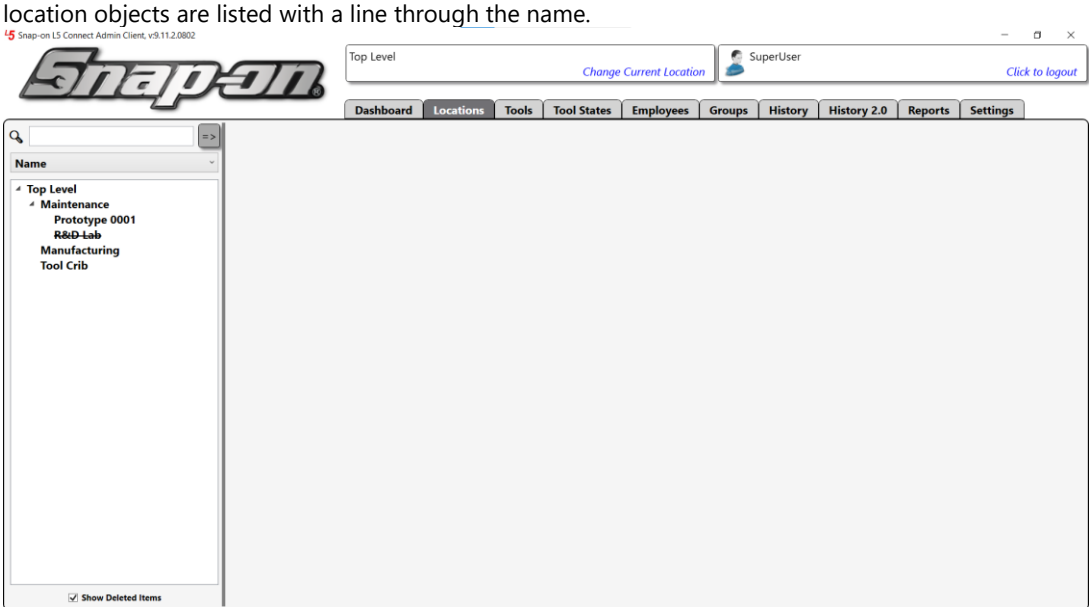
Restoring a Location

You can **Restore** a deleted location if you find it was deleted in error or if the Location is to be reinstated due to process changes or restructuring.

1. Select the **Show Deleted Items** checkbox at the bottom of the **Location Tree** to display all deleted location objects.

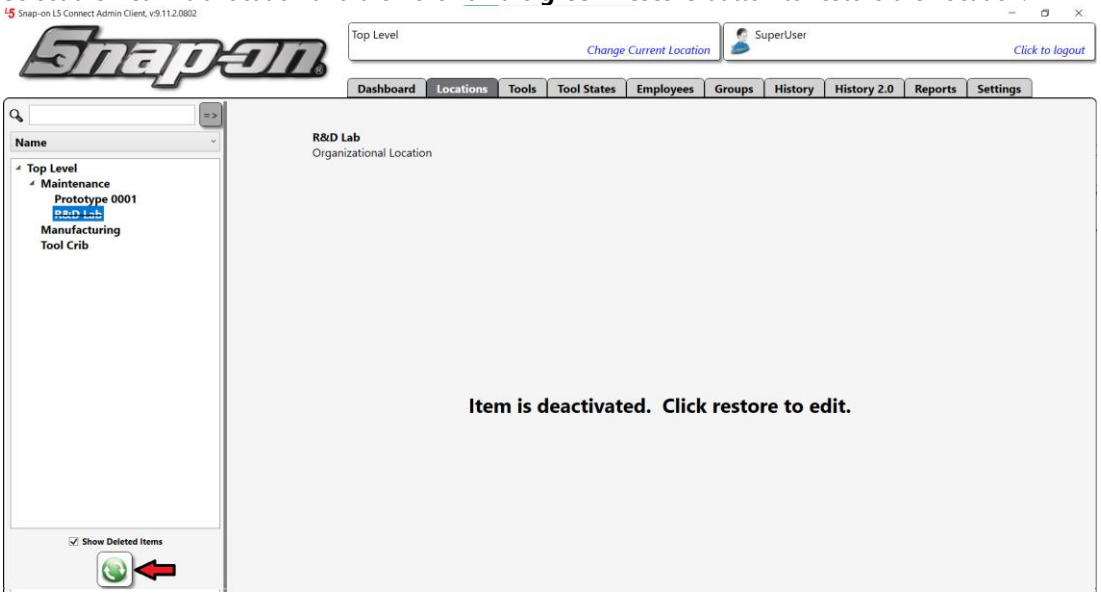


2. Now you can see the deleted **R&D LAB** and its position in the **Location Tree** when deleted. All deleted location objects are listed with a line through the name.

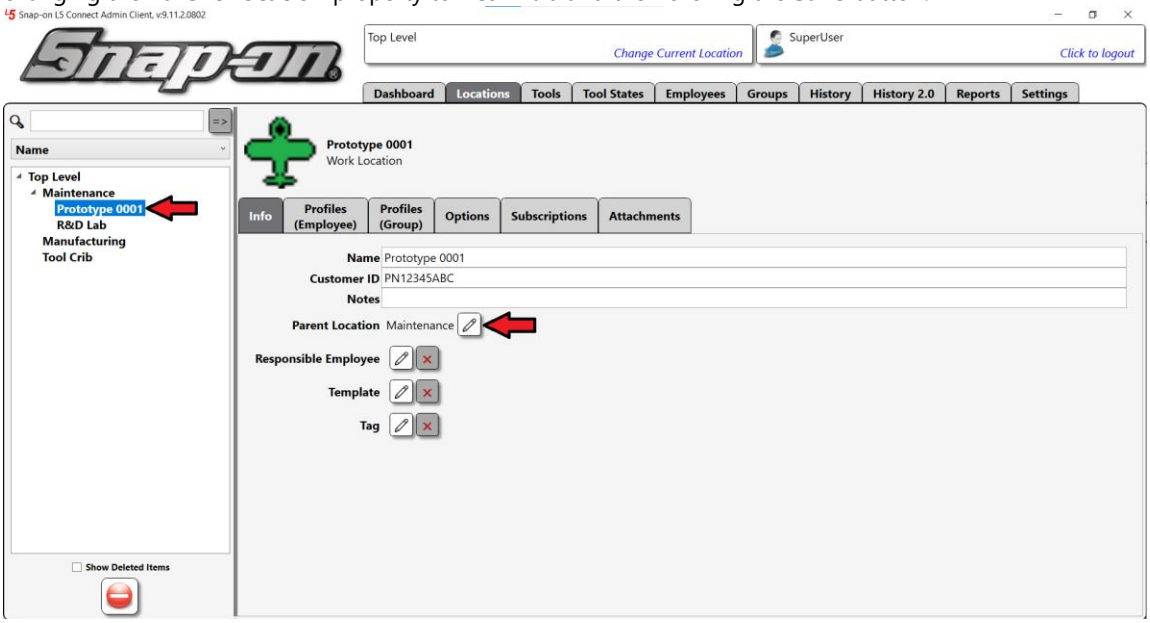


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3. Select the **R&D Lab** location and then click on the **green Restore** button to restore the Location.

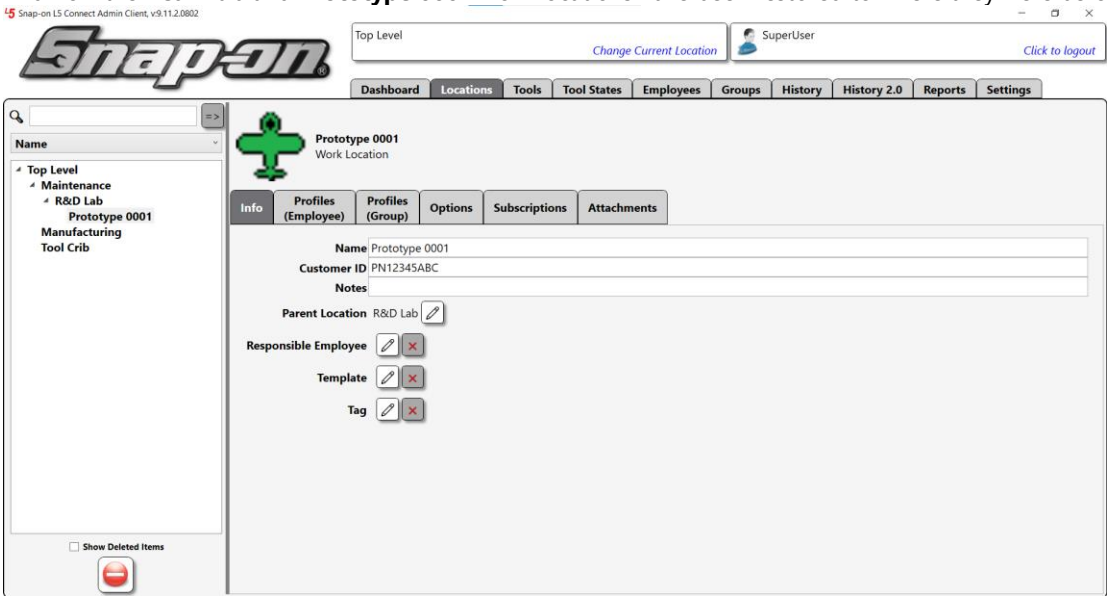


4. Next, uncheck the **Show Deleted Items** checkbox.
5. The Location is restored, but as you can see, **Prototype 0001** is still a child of **Maintenance** and not the **R&D Lab** because it was moved when **R&D Lab** was deleted. So, all you need to do is move it back by changing the **Parent Location** property to **R&D Lab** and then clicking the **Save** button.



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6. And now the **R&D Lab** and **Prototype 0001** work locations have been restored to where they were before.

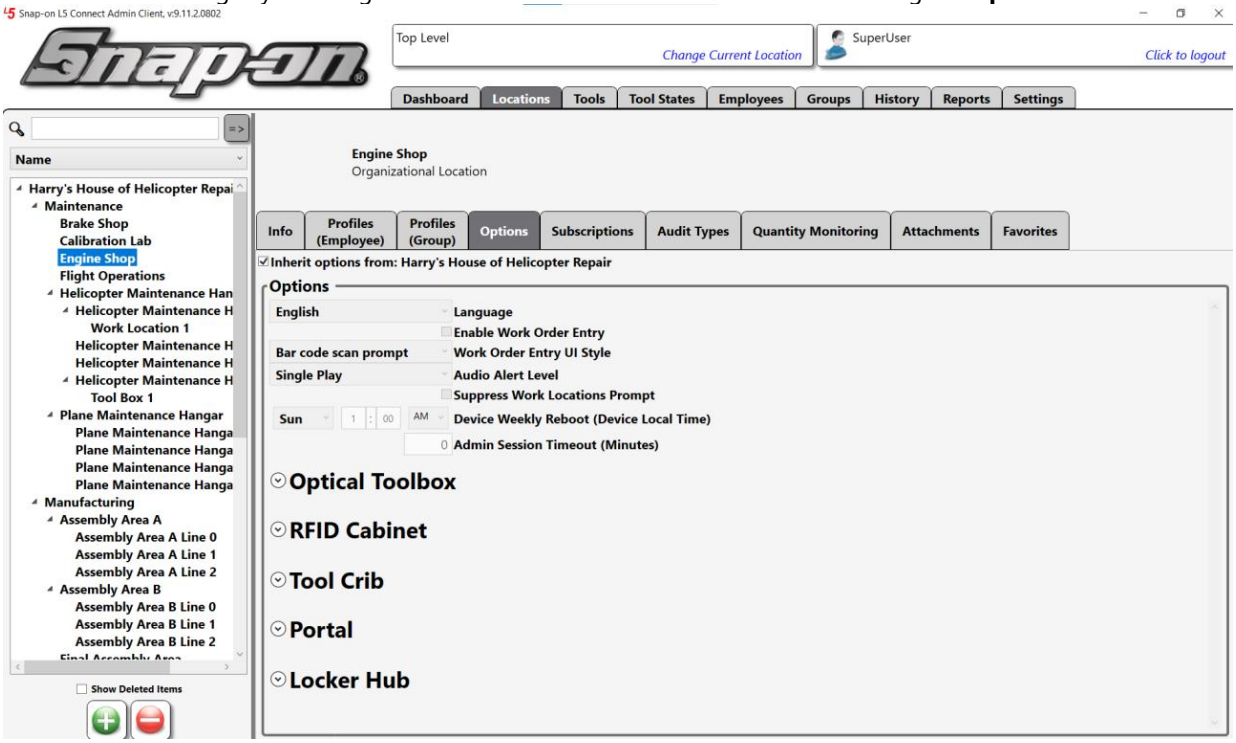


NOTE: When restoring a location, all Profiles and Permissions were cleared when it was deleted and must be reset.

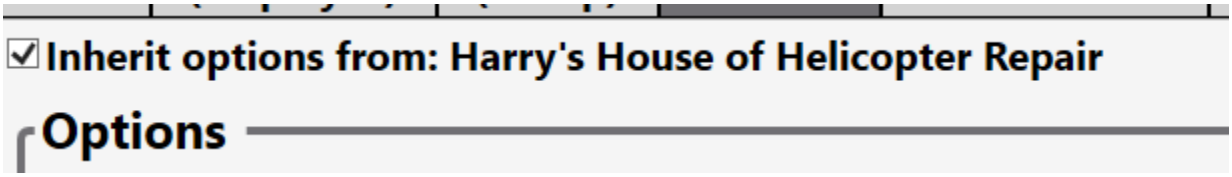
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Options

Every location object has a set of options used to customize the behavior of ATC Devices within that Location. You can find these settings by selecting a **Location** in the **Location Tree** and then selecting the **Options** sub-tab.



By default, all child objects inherit their settings from their parent. So initially, all locations would inherit their options from the top level. But you can change these settings if you need to. To disable inheritance for a sub-set of **Locations**, uncheck the box at the top of the Options List.



Universal Options

- **Language** - This drop down determines what language, from the list of supported languages, will be used for display of text and playing of sounds for the device.
- **Enable Work Order Entry** - This check box determines if a user will be required to provide a work order while logging into the device. See L5 Connect™ Work Locations and Work Orders for more information.
- **Work Order Entry UI Style** - This drop down determines the type of work order. See L5 Connect™ Work Locations and Work Orders for more information.

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  - **Bar code scan prompt** - Scan or input by keyboard any text string work order
  - **Touch screen 10 key** - On screen keyboard to input a numeric work order on a whitelist of approved work orders
  - **Touch screen full keyboard** - On screen keyboard to input an alpha-numeric work order on a whitelist of approved work orders
- **Audio Alert Level** - This drop-down sets how often devices will verbally alert users of important events such as a door/drawer left open
- **Suppress Work Locations Prompt** - This check box determines whether the device will require a work location to be selected during login. See L5 Connect™ Work Locations and Work Orders for more information.
- **Device Weekly Reboot (Device Local Time)** - This sets the time and day of the week that the device will be rebooted
- **Admin Session Timeout (Minutes)** - This sets time before an admin session will be ended (0 for off)

Optical Toolbox Options

- **Drawer Open Timeout (Seconds)** - How long a drawer can be open before a verbal alert is played
- **Require drawers opened completely** - Determines if the drawers must be opened completely to be considered a good drawer scan
- **Archive Image Quality** - A percentage between 0 and 100 with 100 being maximum quality but at a cost of larger file size
- **Save drawer open archive images** - Determines whether open drawer images should be recorded and saved
- **Save drawer closed archive images** - Determines whether closed drawer images should be recorded and saved
- **Block access when tools issued from another toolbox** - Normal - allow access when offline, High - block access when offline, Off - don't block access
- **Inactivity Timeout (Seconds)** - The time before a device session will be ended
- **Prompt to check in another user's tools** - This determines whether a user will be prompted to make sure they really intend to return another user's tools
- **Logout alert warning** - This determines whether a user will be warned that he's logging out with unresolved alerts from his session such as a bad drawer scan

RFID Cabinet Options

- **Drawer Open Timeout (Seconds)** - This is managed by the same value in the optical toolbox options
- **Inactivity Timeout (Seconds)** - This is managed by the same value in the optical toolbox options

Tool Crib Options

- **Require Employee Signature** - Determines if the employee will need to use the optional signature pad when completing a session

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- **Require Kit Location Inspection** - Determines if kit inspections are required at issue/return
- **Tool Crib Session Timeout (Seconds)** - Sets the time before an employee session will be automatically ended (0 for off)
- **Logout and start a new tool crib session with badge scan** - Determines if a different employee's badge scan will automatically log off the current session and start a new one for the badge just scanned
- **Tool Crib No Attendant Required** - Determines if a tool crib attendant is required for a session
- **Auto-prompt to Transfer Tool on Tag Scan** - If active and a tool from another device is scanned, the process to transfer the home location of that tool to the crib will be prompted

Portal Options

- **Portal Session Timeout (Seconds)** - Sets the time before an employee will be logged out of the portal due to inactivity (0 for off)
- **Prompt to check in another user's tools** - This is managed by the same value in the optical toolbox options
- **Require Kit Location Inspection** - This is managed by the same value in the tool crib options

Locker Hub Options

- **Locker Hub Allow Multi-Select Return** - Determines whether tools must be returned one at a time or not
- **Auto-prompt to Transfer Tool on Tag Scan** - If active and a tool from another device is scanned, the process to transfer the home location of that tool to the crib will be prompted
- **Auto-start Tool Return Process on Tag Scan** - If active and a tool issued from this device is scanned, the tool return process will be initiated automatically
- **Auto-start Tool Issue Process on Tag Scan** - If active and a tool compartment tag from this device that contains a tool is scanned, the tool issue process will be initiated automatically
- **Require Tag Scan on Tool Return** - Determines if the tool tag must be scanned during the tool return process
- **Require Tag Scan on Tool Issue** - Determines if the tool tag must be scanned during the tool issue process

NOTE: More information on the other tabs of the location object can be found in the different articles based on the topics in their sub-item title.

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Work Locations and Work Orders

The goal of this article is to document the purpose of, configuration, and use of work locations and work orders in the L5 Connect™ system.

Work Locations

NOTE: Review the L5 Connect™ Locations article for pre-requisite knowledge before proceeding.

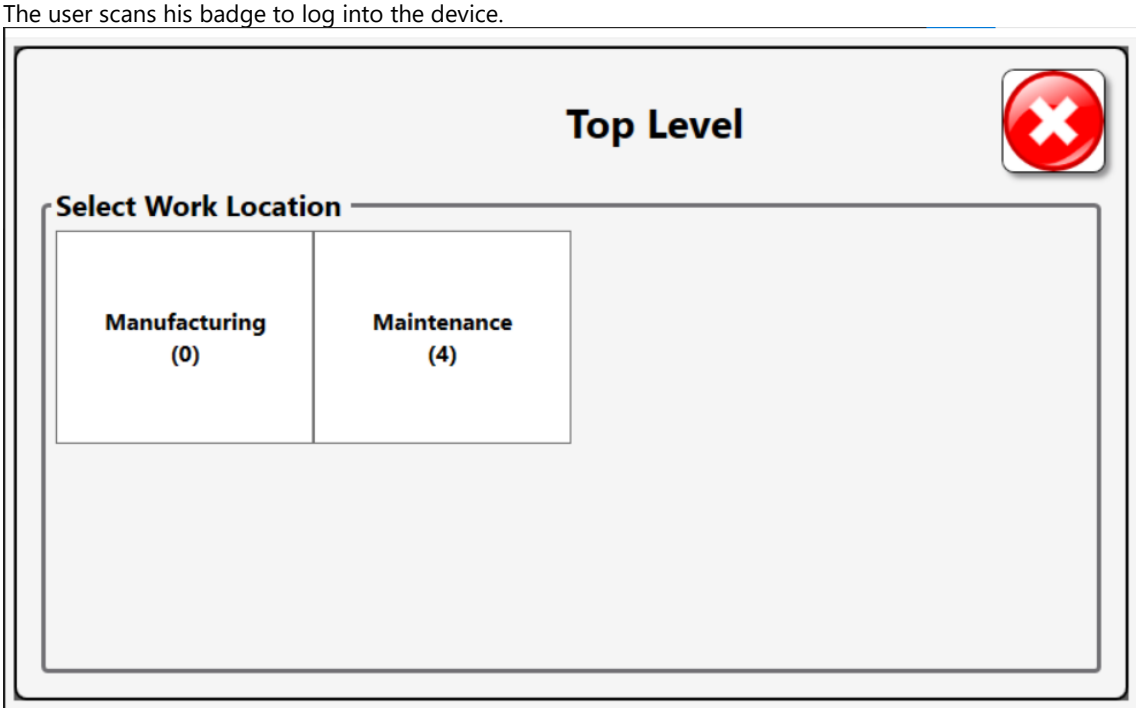
Device Usage

When Work locations are turned on for the location which hosts a device, a user will be required to select a work location to successfully log into the device. This work location will be assigned to any tools he issues from the box during this session. This can be helpful, if a tool is lost, to know where to start looking for the tool.

When the user is presented with the work location selection screen all of the organizational nodes will be represented, and he will have to navigate through the organizational tree. Work locations must always be under an organizational node, but an organizational node does not have to have work locations under it.

Here is an example of what it might look like logging into an L5 Connect device with work locations turned on.

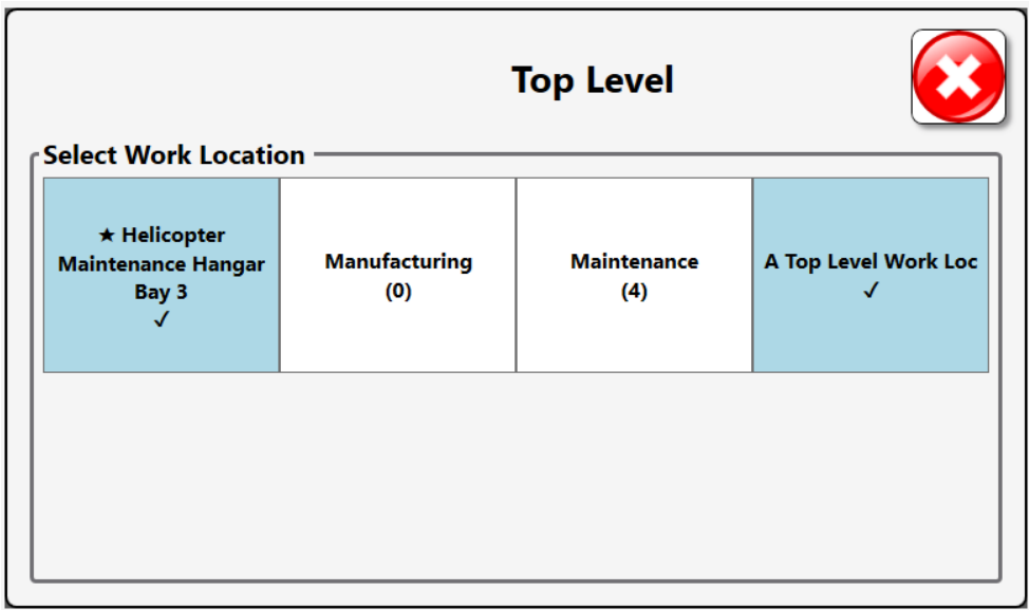
1. The user scans his badge to log into the device.



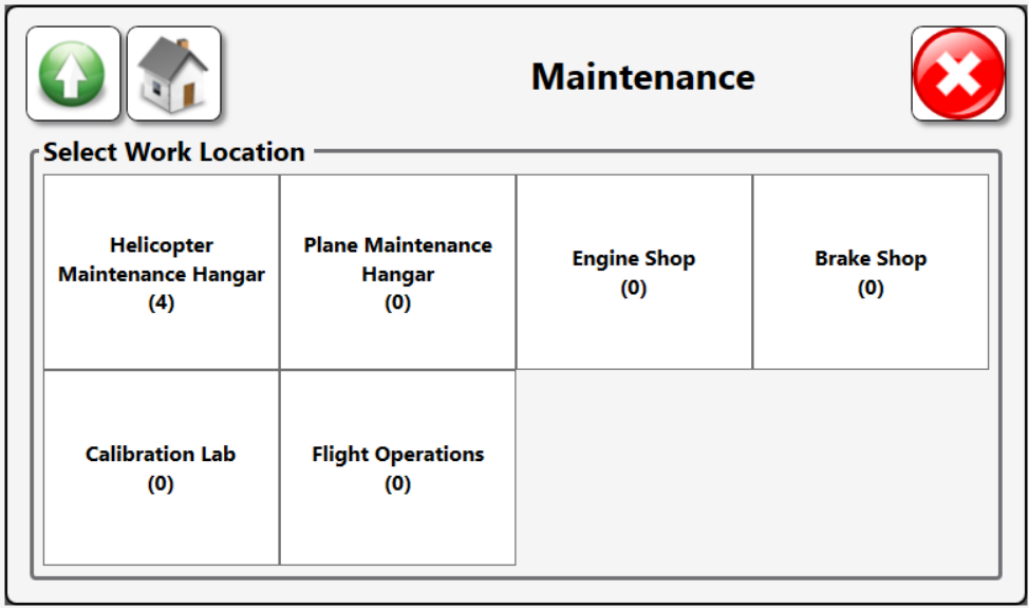
2. He is prompted with the initial screen from which to select a work location. The screen contains **three types of locations**. The first type listed is all the work locations that have been marked as **favorites**. The star at the

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beginning denotes that it is a favorite and the blue color and the check under the text show that it is a work location. The second type of location is the **organizational locations** directly under the top level. Notice that there is a number in parentheses on these buttons. That is the number of work locations that exist under that organizational location. The third type of location listed is any **work locations at the top level of the tree that are not favorites**.



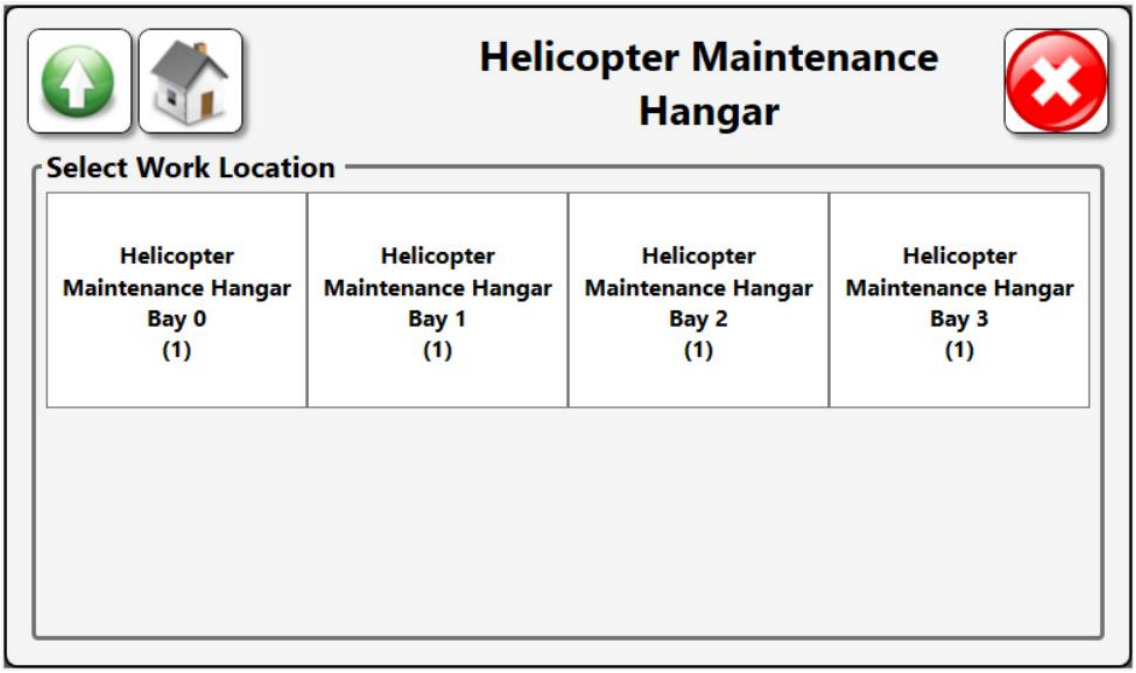
3. Let's say that the goal is to select the **Helicopter Maintenance Hanger Bay 3** work location. Because that work location has been marked as a favorite the user could easily click that button and with one click, he would have chosen a work location and logged into the box. For purposes of illustration, we will show the alternate path to select this work location if it has not been marked as a favorite. The next step would be to select the **Maintenance** button. This screen shows all the organizational locations below the **Maintenance** location and then any work locations assigned to the **Maintenance** location.



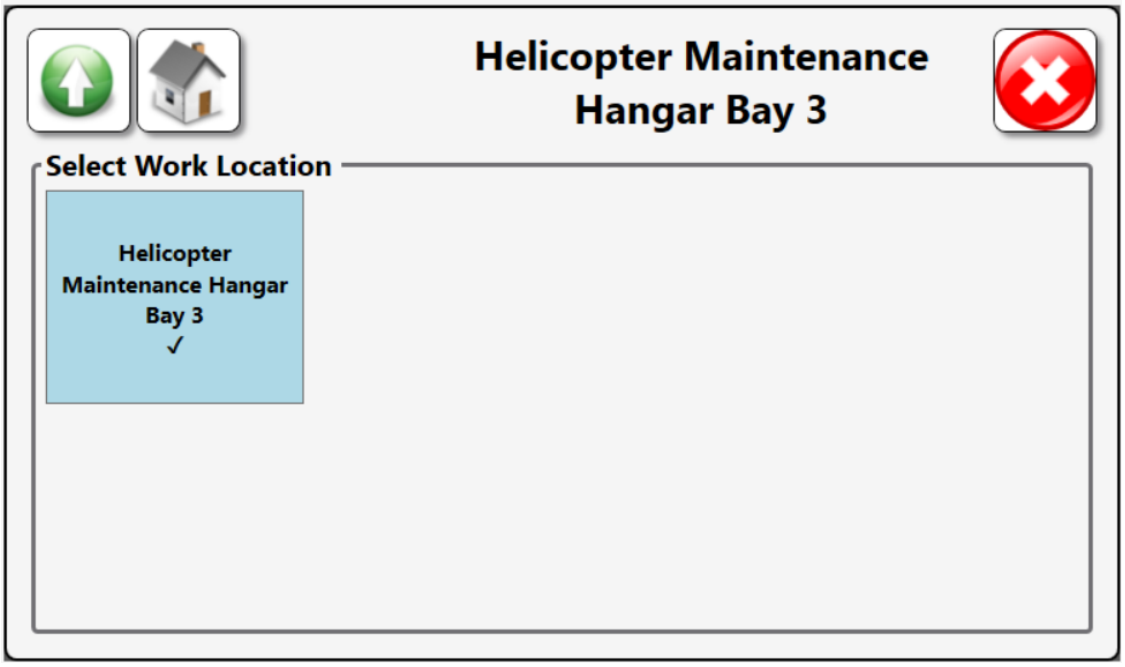
4. Now the user would select the **Helicopter Maintenance Hangar** button. This screen once again shows all organizational locations followed by any work locations assigned to the **Helicopter Maintenance Hangar**

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location.

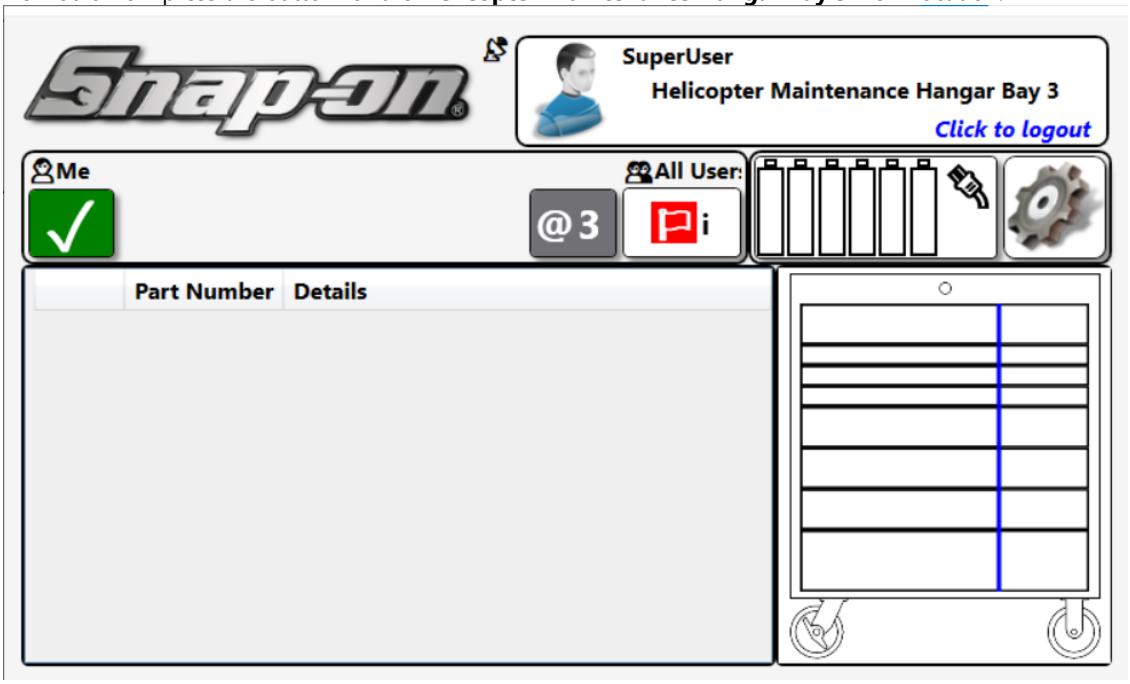


5. Next the user would select the **Helicopter Maintenance Hangar Bay 3** button. Finally, he has worked his way through the Location Tree to the work location he wishes to select. **Notice the two buttons in the top left corner. The back button will take the user back to the previous screen. The home button will take the user back to the first screen.**



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6. He would now press the button for the **Helicopter Maintenance Hangar Bay 3** work location.



7. The user has now successfully selected a work location and completed logging into the device. You can see the work location listed under his name.

NOTE: Barcode or RFID tags can be assigned to work locations and scanned at the device to shortcut the button selection process. See the Tags on Locations section of this document for more information.

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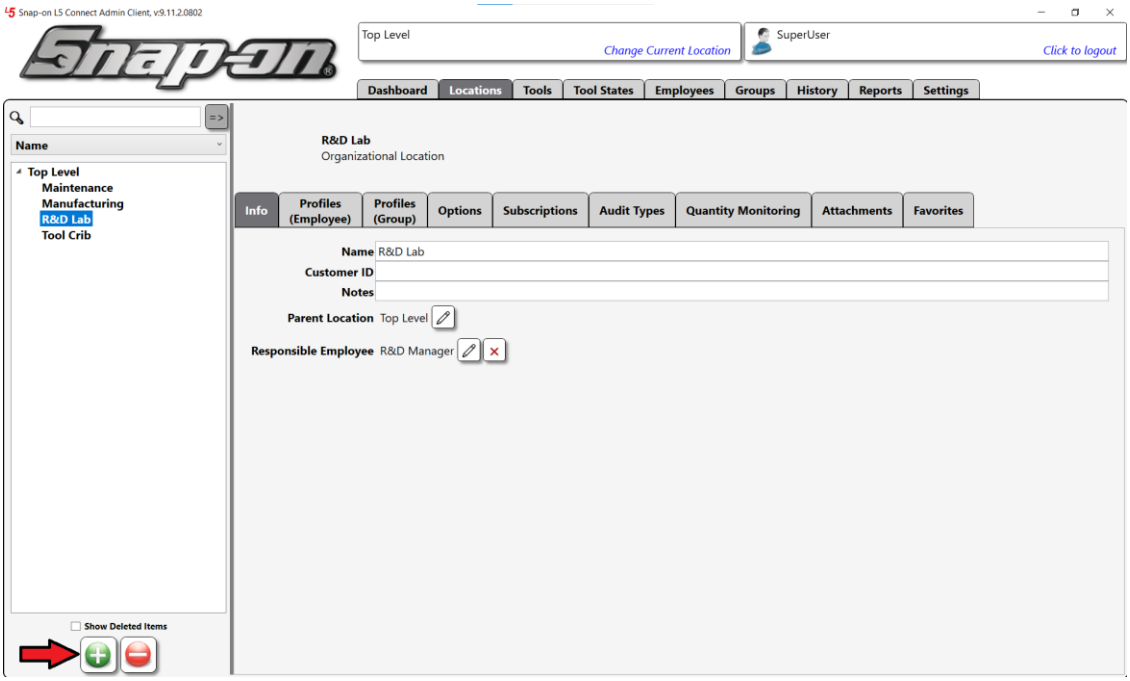
Admin Setup

L5 Connect™ **Work Locations** are managed and configured through the Admin application. This section will cover how to use the admin app to configure your **Work Locations** to suit your organization's needs.

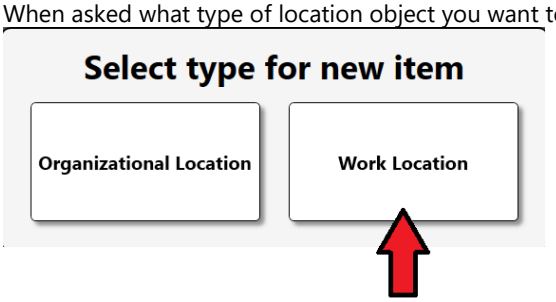
Creating a Work Location

This process will create a new Work Location that is placed within the R&D Organizational Location created in the L5 Connect™ Locations article.

1. Begin by selecting the **R&D Lab** location and then clicking on the **Green NEW icon** button at the bottom left of the Locations Tab.



2. When asked what type of location object you want to create, click the **Work Location** button.

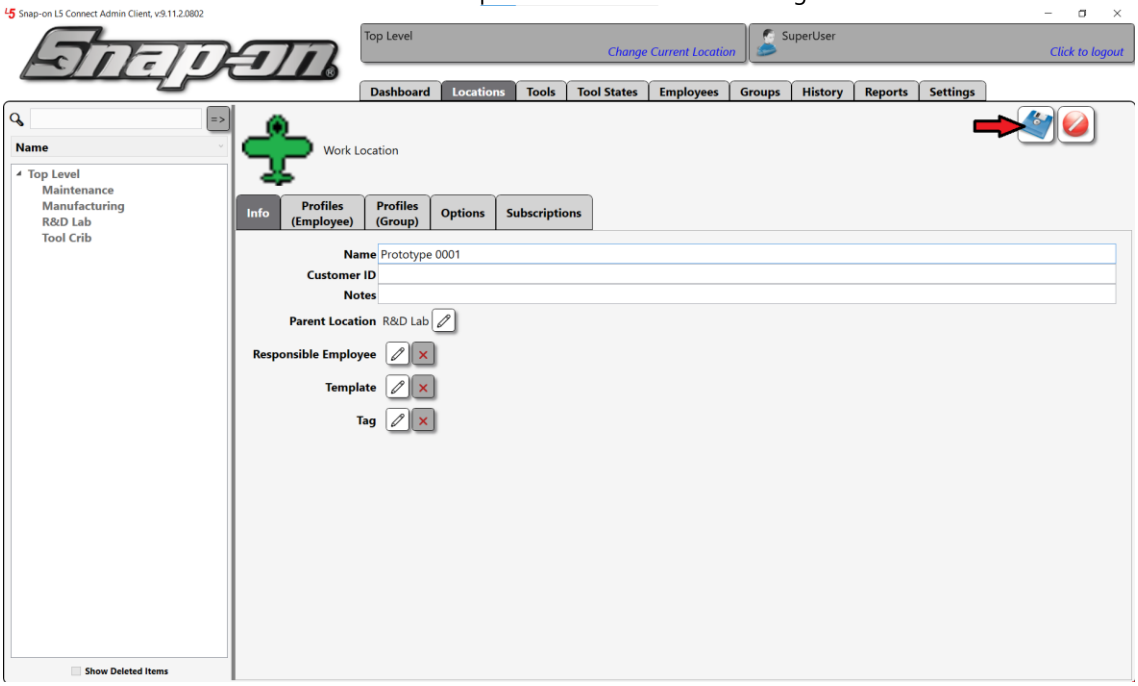


3. Set the **Name** to **Prototype 0001**.
4. Configure the other desired attributes. A Work Location object has the same properties as an Organizational Location object with two additional properties.

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- **Template** – A set of sub-divisions for the **Work Location**. Templates break up a large work location into sub-locations. You can create a single template and then apply them to as many Work Locations as you want. (see more information below)
- **Tag** – A RFID or Barcode tag used to identify the Work Location. **NOTE: You will need a badge or barcode scanner to set the TAG attribute.**

5. Once all the desired attributes are set, click on the Blue save icon in the upper right. The work location is now created. You will then see the Work Location placed under the R&D Lab Org location.



Editing/Moving/Restoring Work Locations

A Work Location can be edited, moved, and restored just like any other Location. See the L5 Connect™ Locations article for more information.

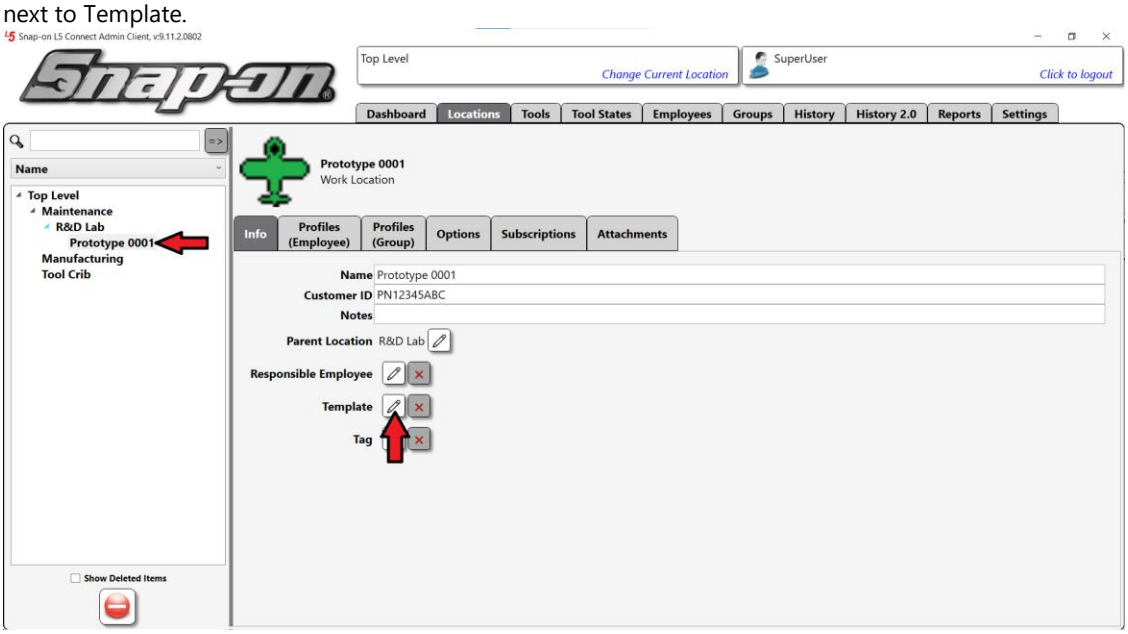
Work Location Templates

Templates are used to divide large **Work Locations** into sub-locations. For example, you have a large vehicle as a Work Location. Just assigning a tool to the **Work Location** doesn't help if you need to know where the tool was used on that vehicle. By using templates, you can set a sub-location to help you narrow down the exact Location that tool was used.

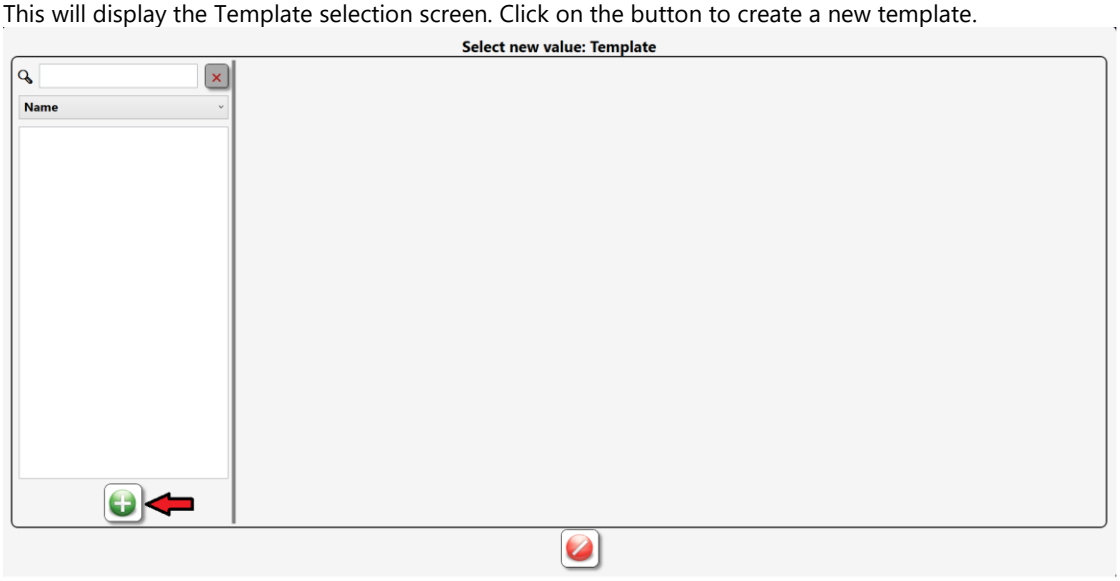
All **Templates** are global and, once created, can be used with any **Work Location** in the system. You can view all **Work Location Templates** from the Settings tab -> System Configuration Menu.

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1. To create a **Work Location Template**, select a **Work Location**. From the properties, click on the **Pencil** icon next to Template.

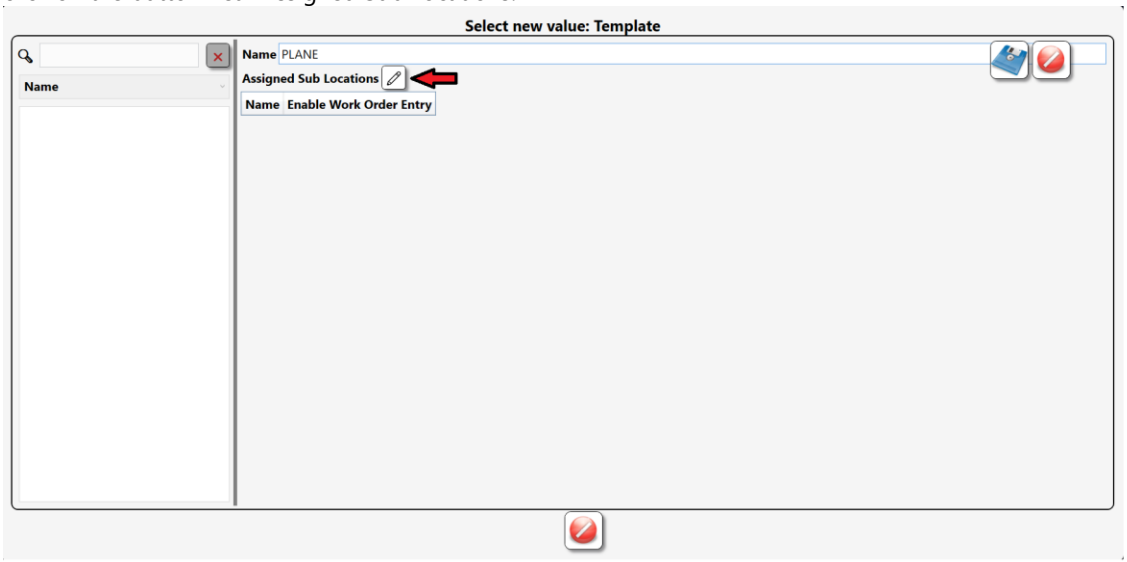


2. This will display the Template selection screen. Click on the button to create a new template.

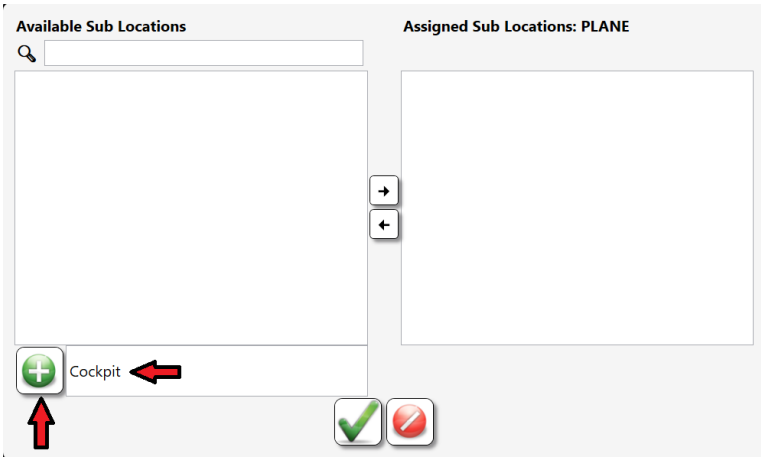


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3. You will then need to name the Template and assign Sub-Locations to it. Type PLANE in the name field, then click on the button near Assigned Sub Locations.



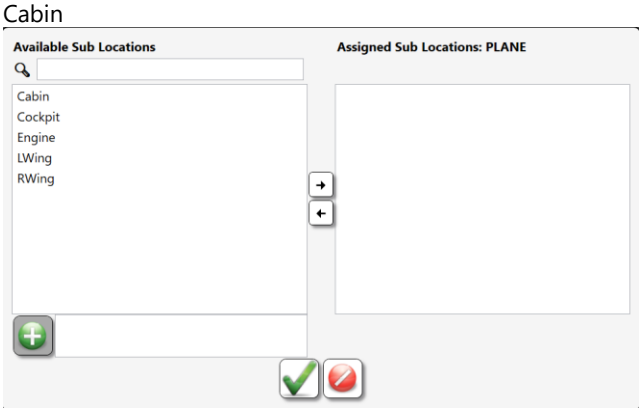
4. When you click on this button, you will see the sub-locations screen. If you do not have any sub-locations, you will need to create them. Like Templates, Sub-Locations are global and can be used in multiple templates. To create a sub-location, Type the name of the Sub-Location and press the **green Plus New** button.



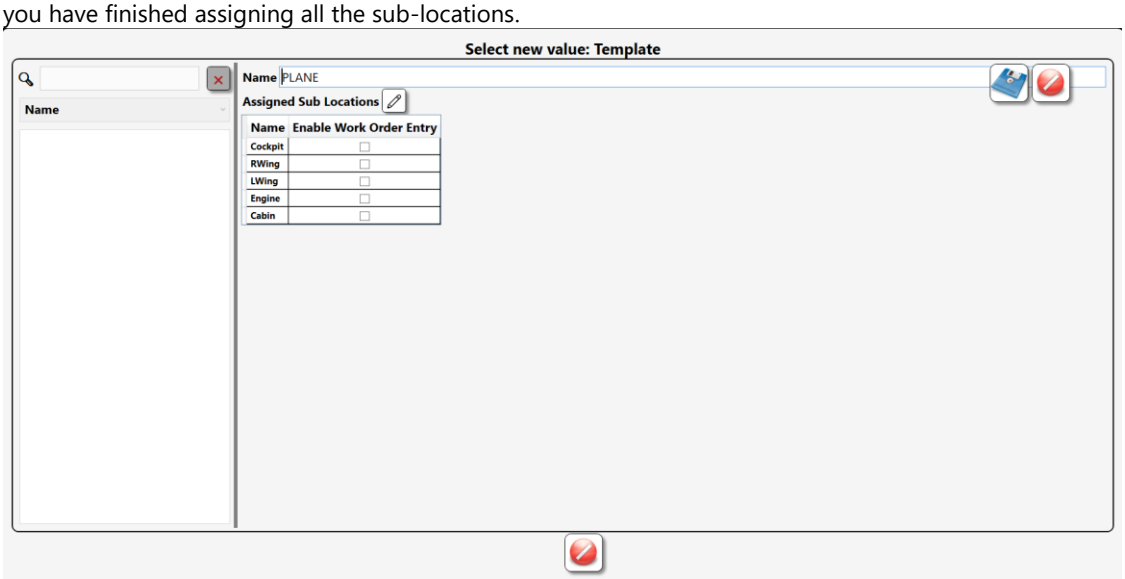
5. For the PLANE Template, you will add the following sub-locations:
    - Cockpit
    - RWing
    - LWing
    - Engine

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- Cabin



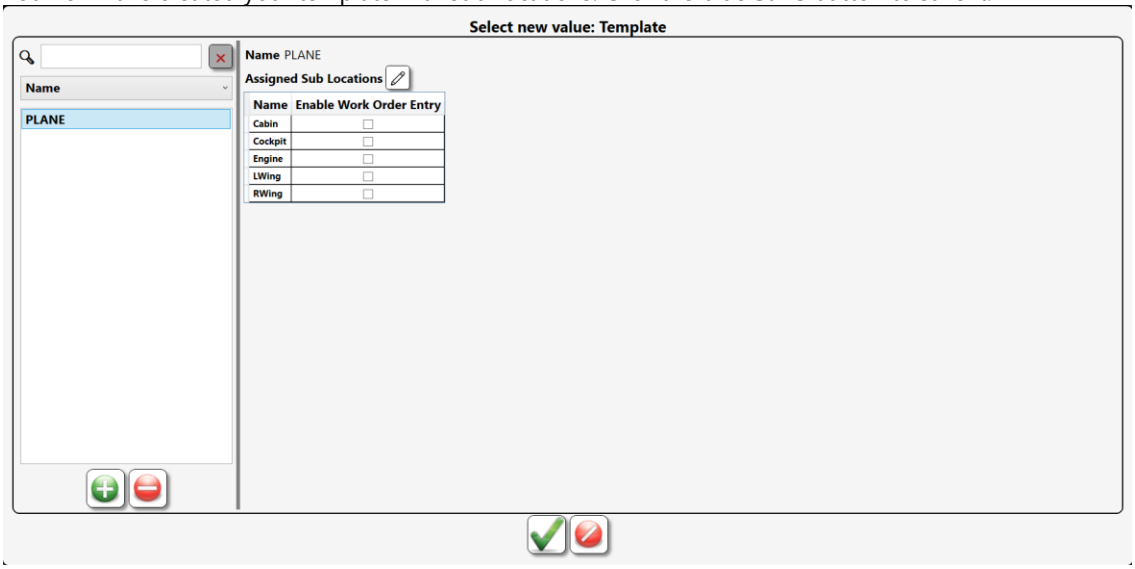
6. Once you have added all the sub-locations, you will see them in the list of Available Sub Locations. To assign a Sub-Location to the **Template**, select it from the list, then click the **->** button. Again, all Sub-Locations are available for assignment throughout the system. You can also assign it to several different Templates simultaneously. Set all the Sub-Locations to the template PLANE. Remember, when assigning sub-locations, you do not need to assign all of them to a Template. Only assign what you need. Click the ✓ button when you have finished assigning all the sub-locations.



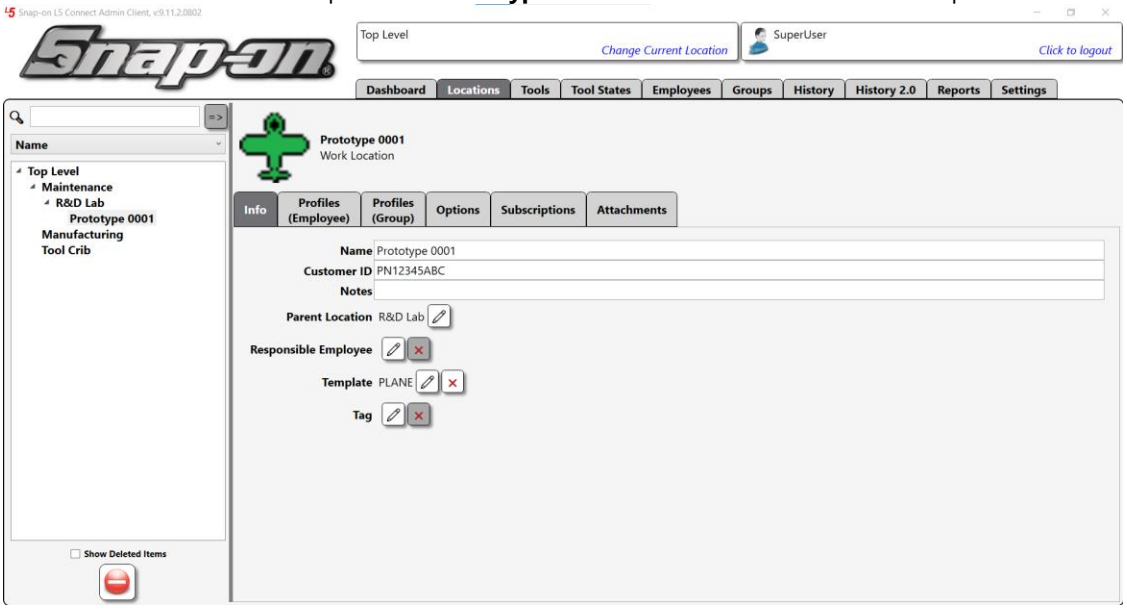
7. Notice that there is a checkbox on each sub location to enable work order entry. If this is checked and that sub-location is selected the user will also be forced to input a work order as well. See the section below on work orders for more information about how they work.

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8. You now have created your template with sub-locations. Click the blue **Save** button to save it.



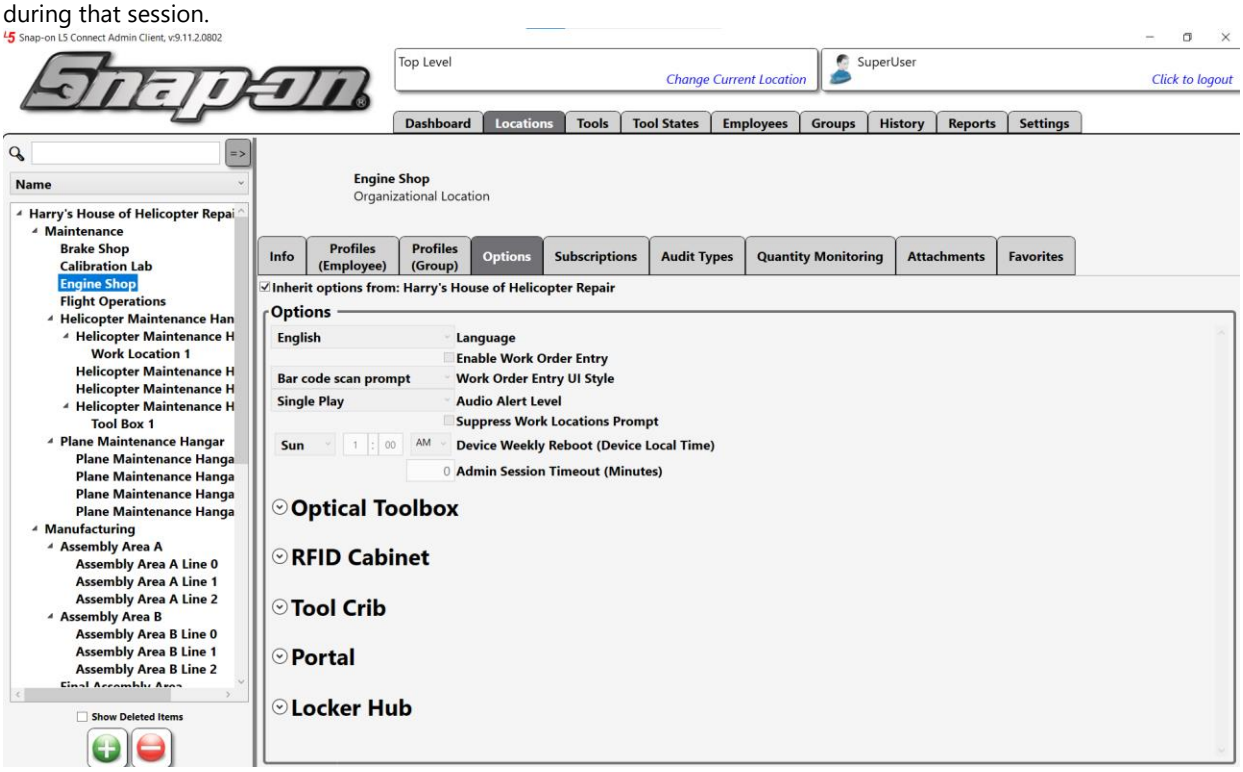
9. Click the green **Checkmark** button to assign the template to the **Prototype 0001** work location and then click the blue **Save** button to update the **Prototype 0001** work location with the new template.



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Suppress Work Locations Prompt Options

This checkbox on the Location Options tab can be enabled to "skip" the devices' Work Location prompt. This will allow the user to log into the device without selecting an associated work location for any tool transactions made during that session.



NOTE: As of the current software version, 9.11.2.x, the Suppress Work Locations Prompt option must be disabled to use work orders. In future releases these two features will be able to be separated so that work orders can be turned on independently of work locations.

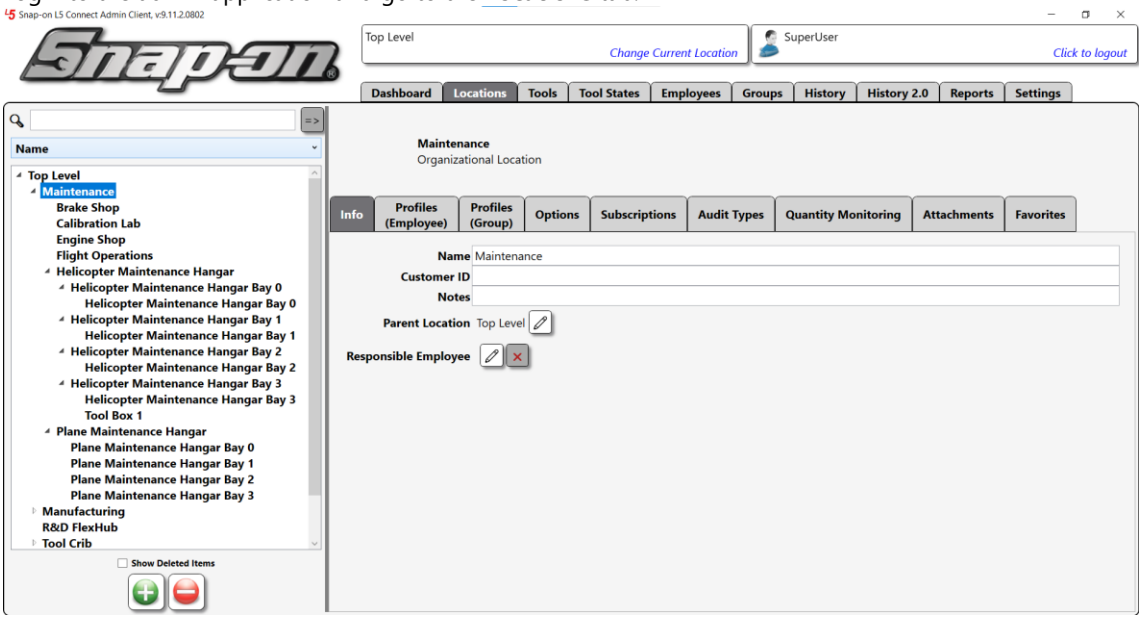
NOTE: More information on Location options can be found in the L5 Connect™ Locations article.

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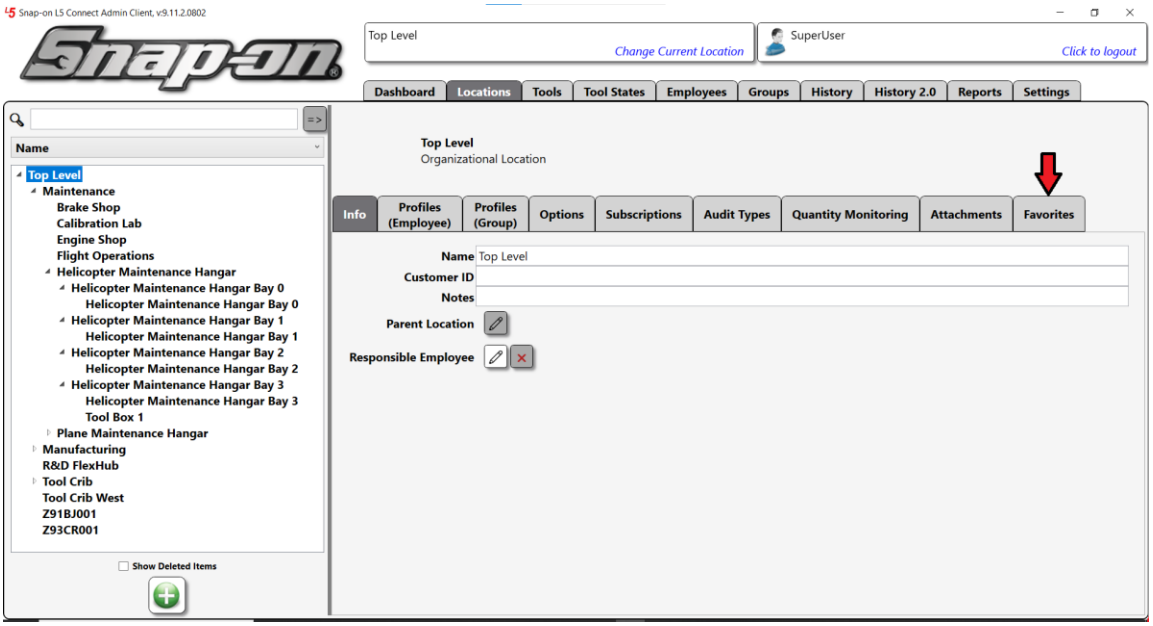
Favorites

Sometimes in large L5 Connect systems, there can be many layers of organizational locations to navigate or so many work locations that the devices can't display them all on one screen. This can take multiple touches or scrolling to find a work location. Frequently used work locations can be designated as favorites and will always appear at the top of the list. Here is how to configure a work location as a favorite.

1. Log into the admin application and go to the **Locations** tab.

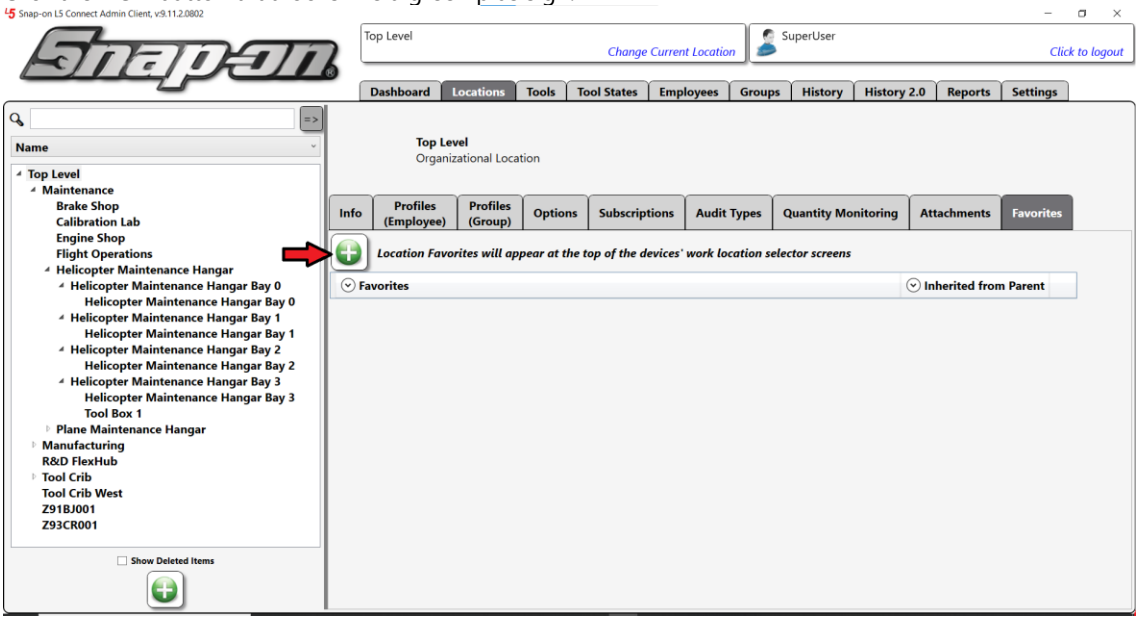


2. Select the organizational location that contains the device for which you would like to make a favorite and then click the **Favorites** sub-tab.

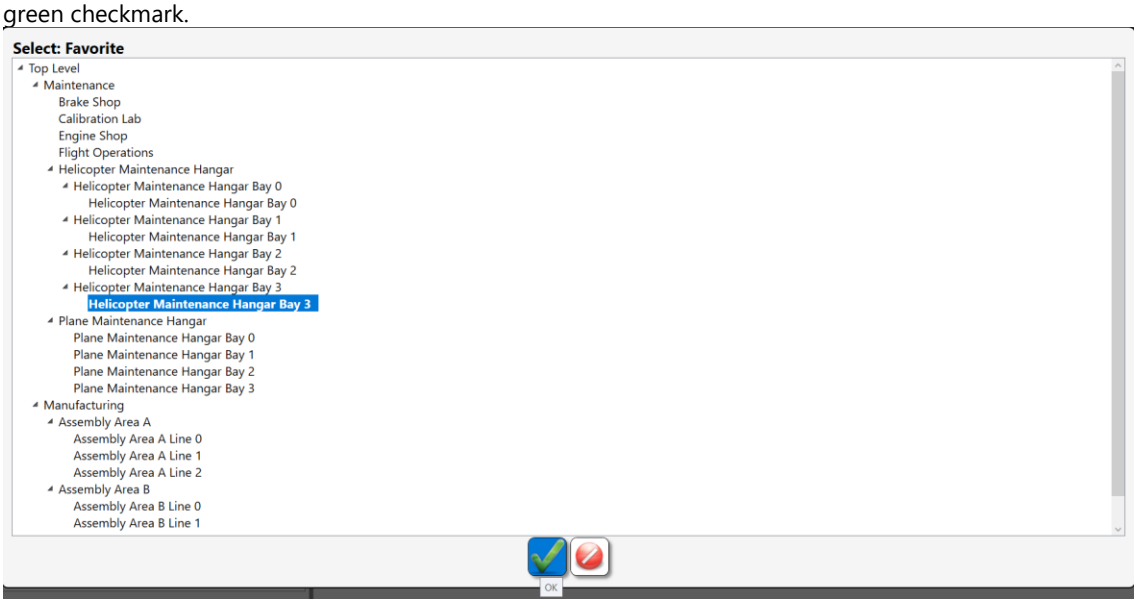


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3. Click the **New** button that looks like a green plus sign.

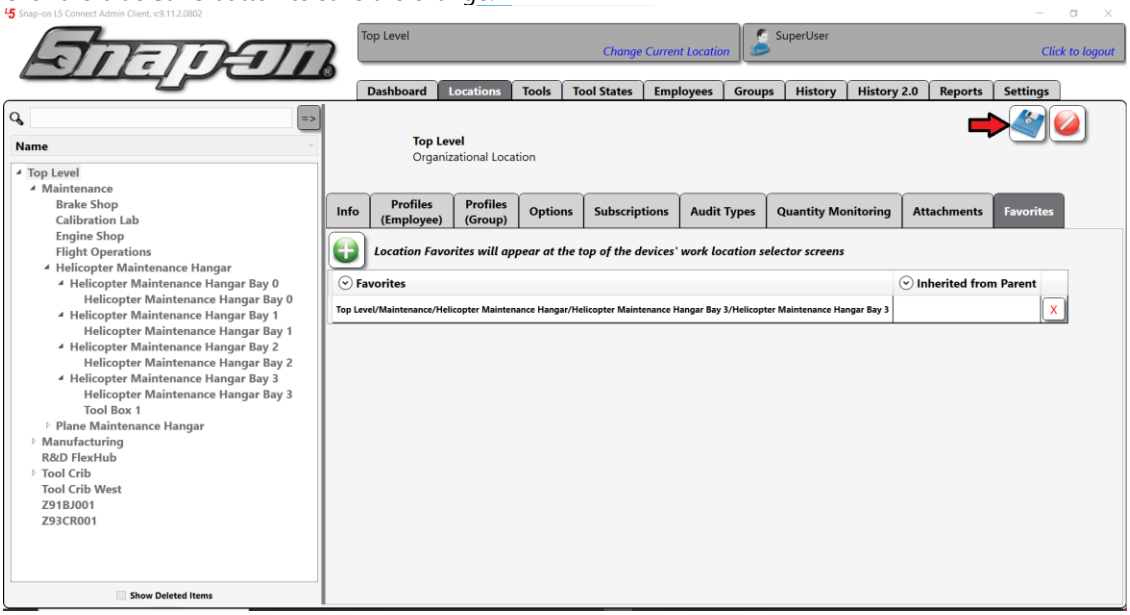


4. Select the work location that you would like to make a favorite, and then click the **OK** button that looks like a green checkmark.



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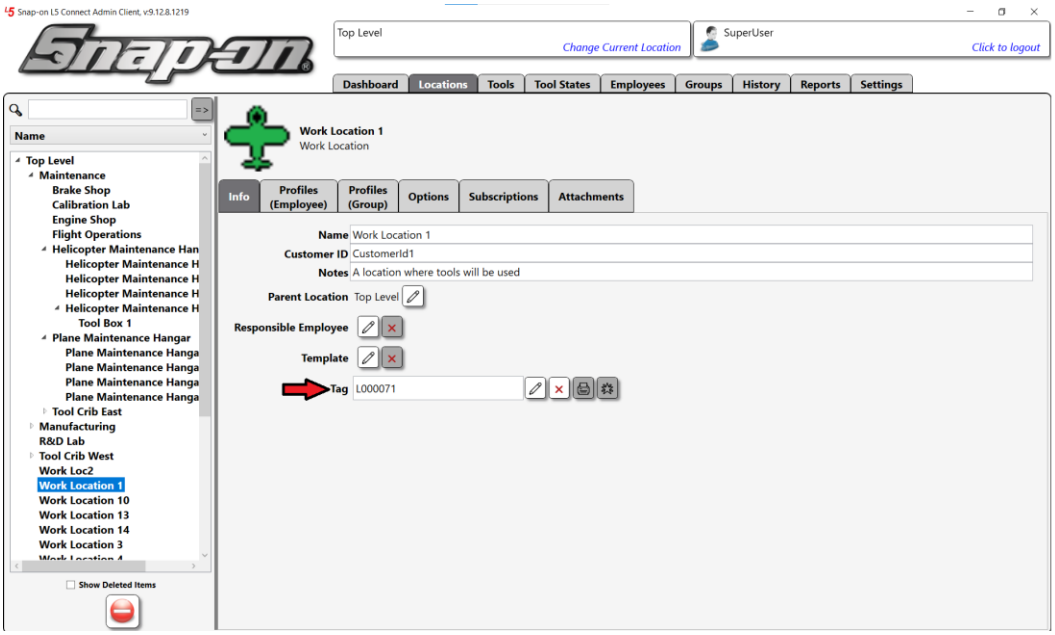
5. Click the blue **Save** button to save the change.



6. You have now created a favorite work location that will show up on the first work location screen when a user attempts to log into one of the devices whose home location is the **Top Level**.

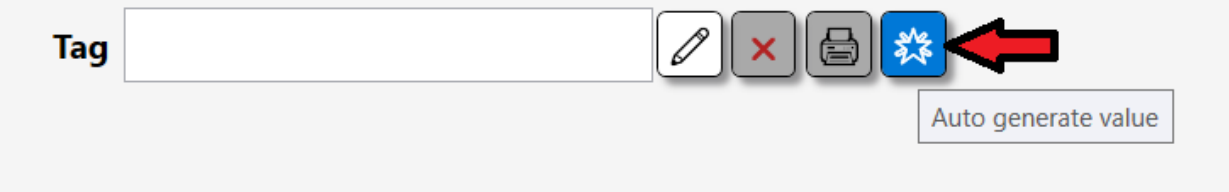
Tags on Locations

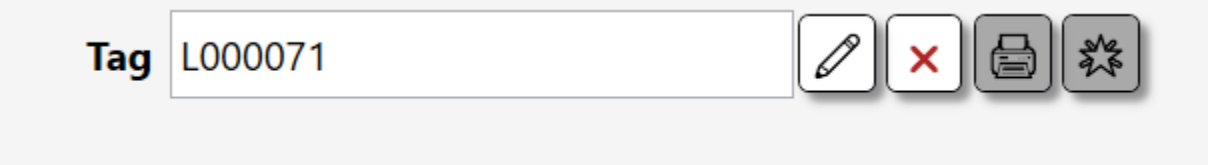
Work locations can have tags assigned to them. The tag is either a 1D or 2D barcode, or it can also be an RFID tag. This can be helpful when logging into an L5 Connect device that has a supported tag scanner attached. Instead of clicking the work location button on the screen, you can simply scan a tag of the work location instead.



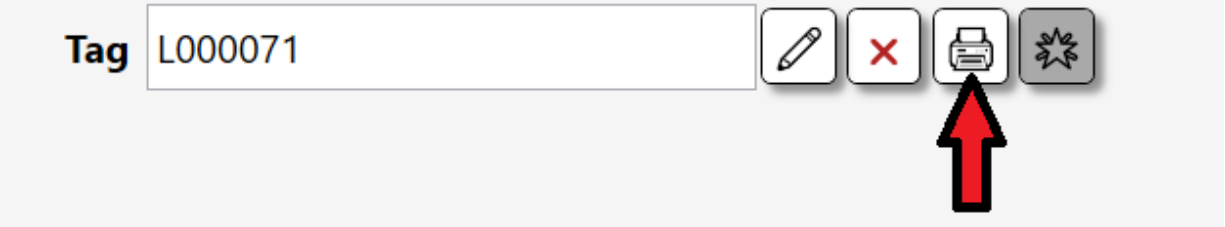
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You can manually enter a tag value by typing it into the text box. This value must be unique in the system. You could also click the **Pencil** button and then scan the tag, using a supported tag scanner to import the tag value. Alternatively, you can click the **Auto generate value** button to have the system assign a generated tag value. Then you will need to click the blue **Save** button to save the change.





Once you have a valid tag created, you can then use the print button to print that tag. This requires that you have previously installed and configured an L5 approved barcode printer for your system. Otherwise, the print button will not be enabled.



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Work Orders

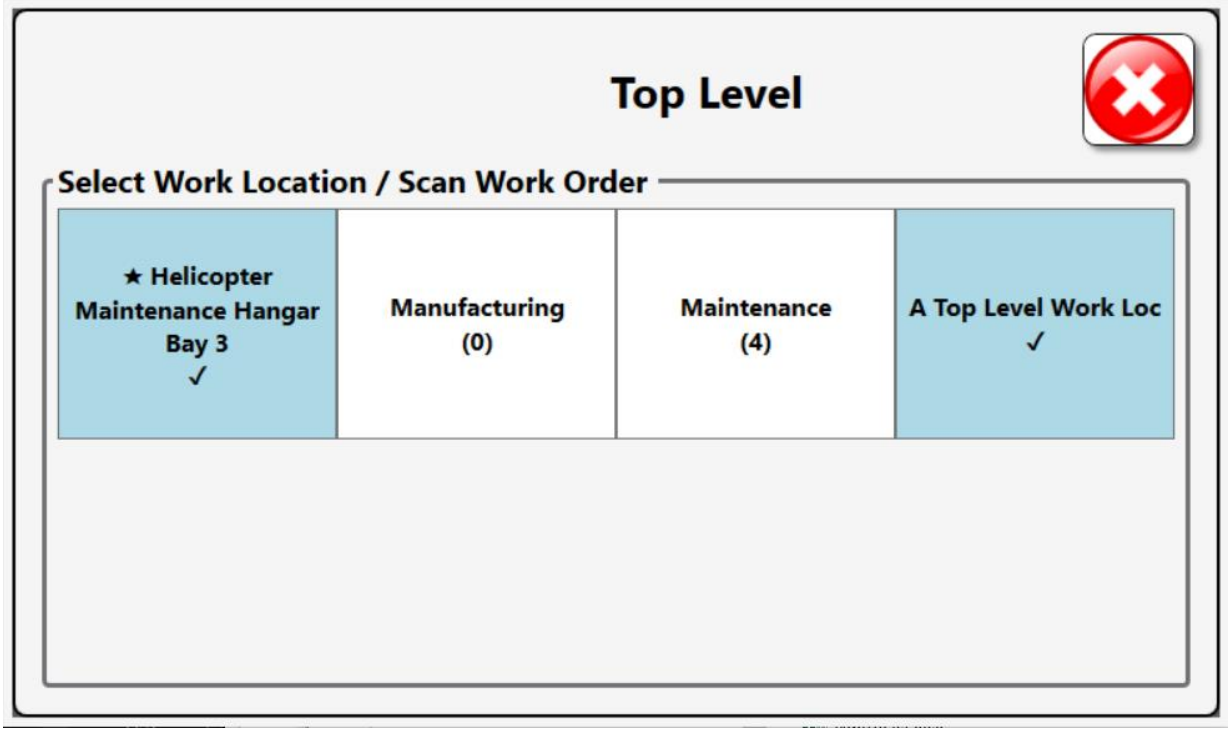
Enabling work orders will require a user to either scan or manually input a text string that corresponds to a work order when logging into an L5 Connect device. This can be in addition to or in place of selecting a work location. There is also an option to create a specific "whitelist" of acceptable work order entries that the system will accept.

Device Usage

In this section we will show some examples of work order entry for the different **Work Order Entry UI Style** option values.

Bar Code Scan Prompt

This is the original version of work order support in the system. In this instance the user will be prompted to either select a work location or scan a work order. The work order can be of an alphanumeric format. Either selecting the work location or scanning a work order will satisfy the requirement and allow the user to complete the login process.

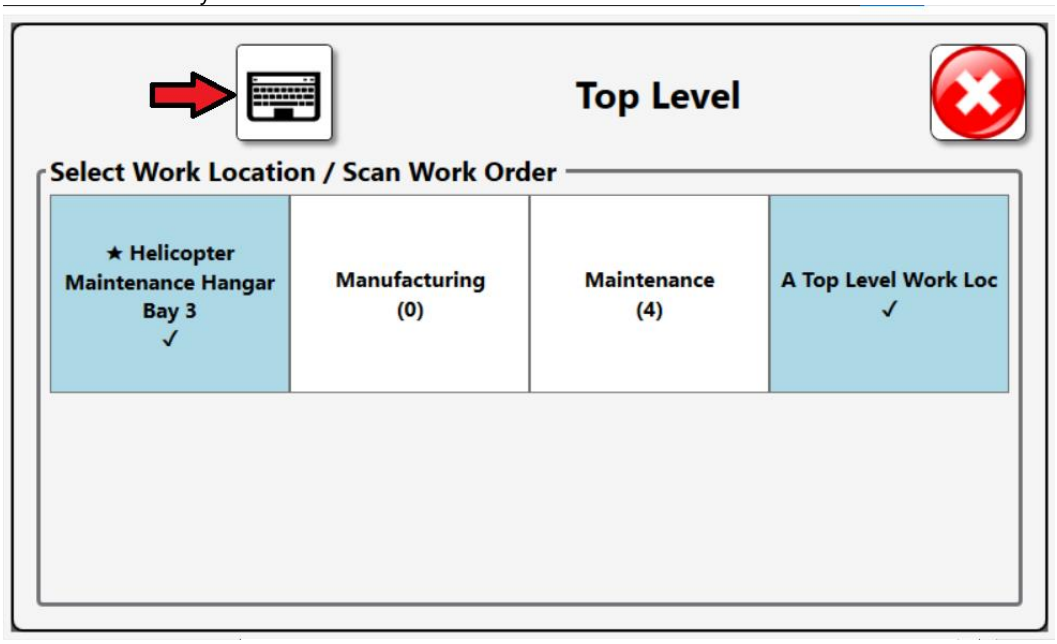


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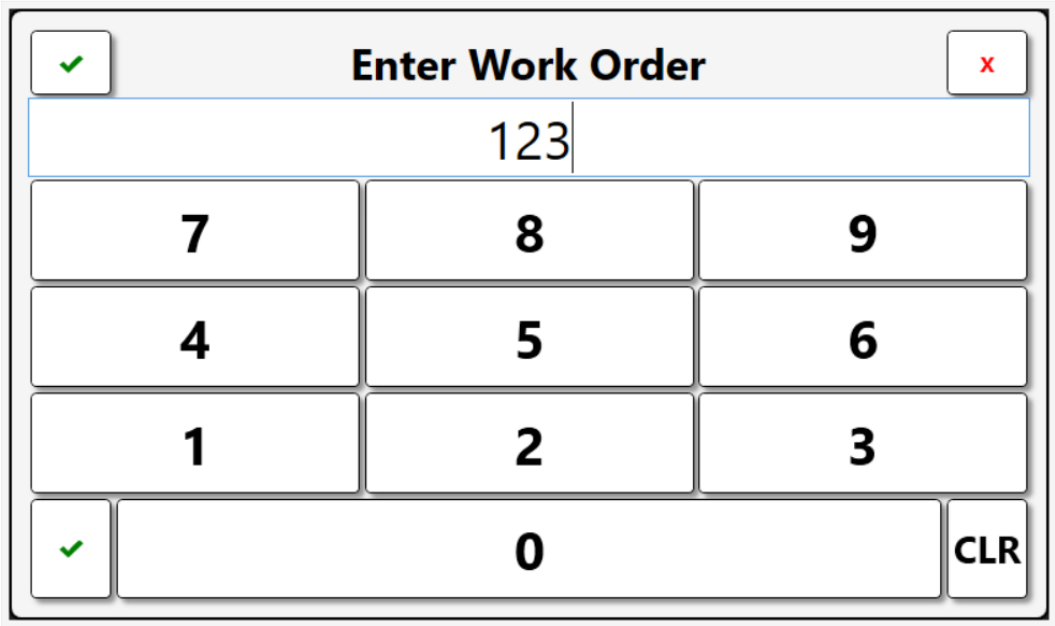
Touch Screen 10 Key

This version of work order entry will provide an on screen 10 key numeric keyboard and require that all work order values are numeric.

1. When prompted to enter a work location or work order, you can open the keyboard by pressing the button that looks like a keyboard.

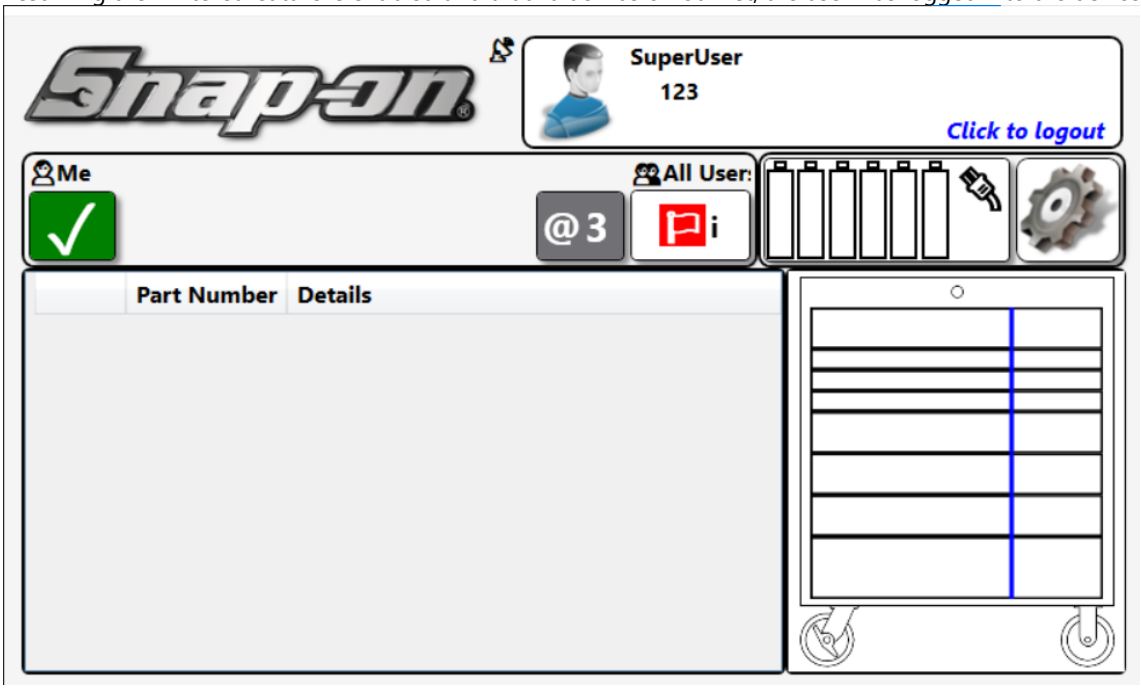


2. They would then enter work order value with the keyboard and press the **OK** button that looks like a green checkmark.



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3. Assuming the whitelist feature is enabled and that value was on our list, the user was logged into the device.



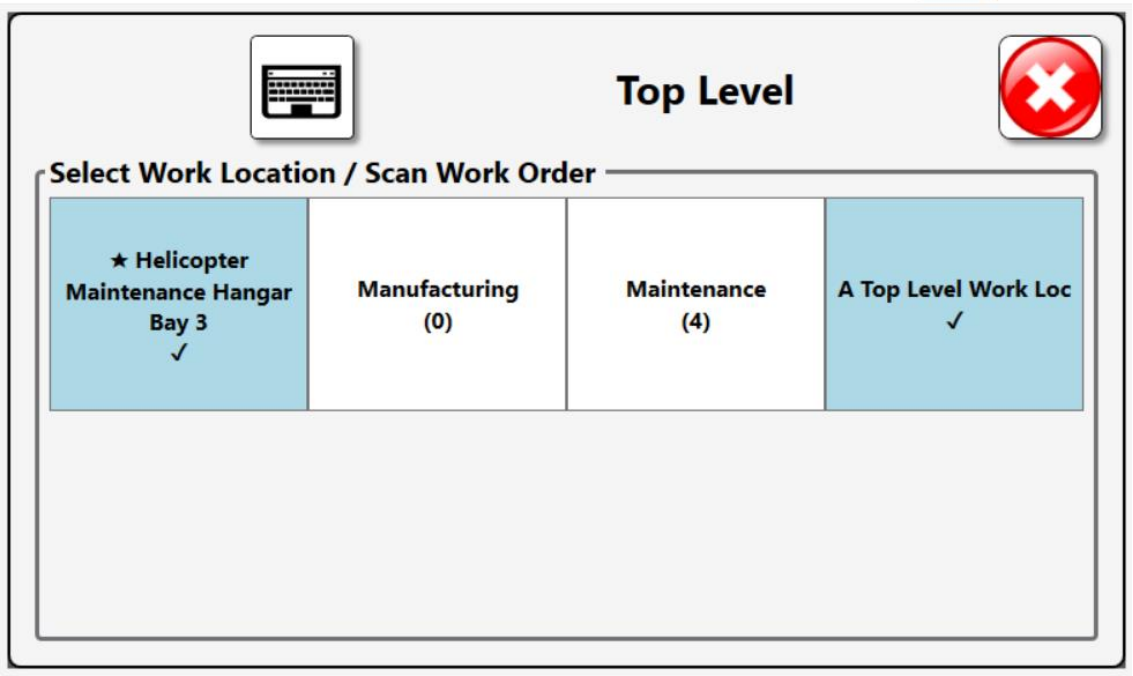
4. If the whitelist feature was enabled and a value was entered that was not on the whitelist, the user will be warned of the invalid work order.

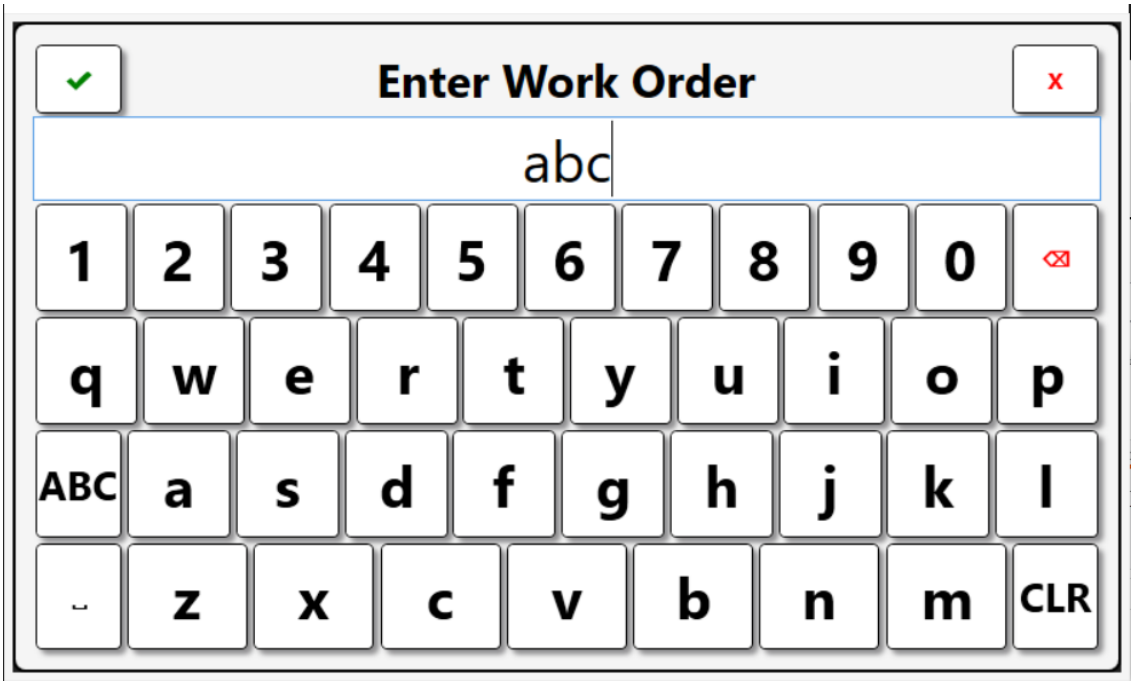


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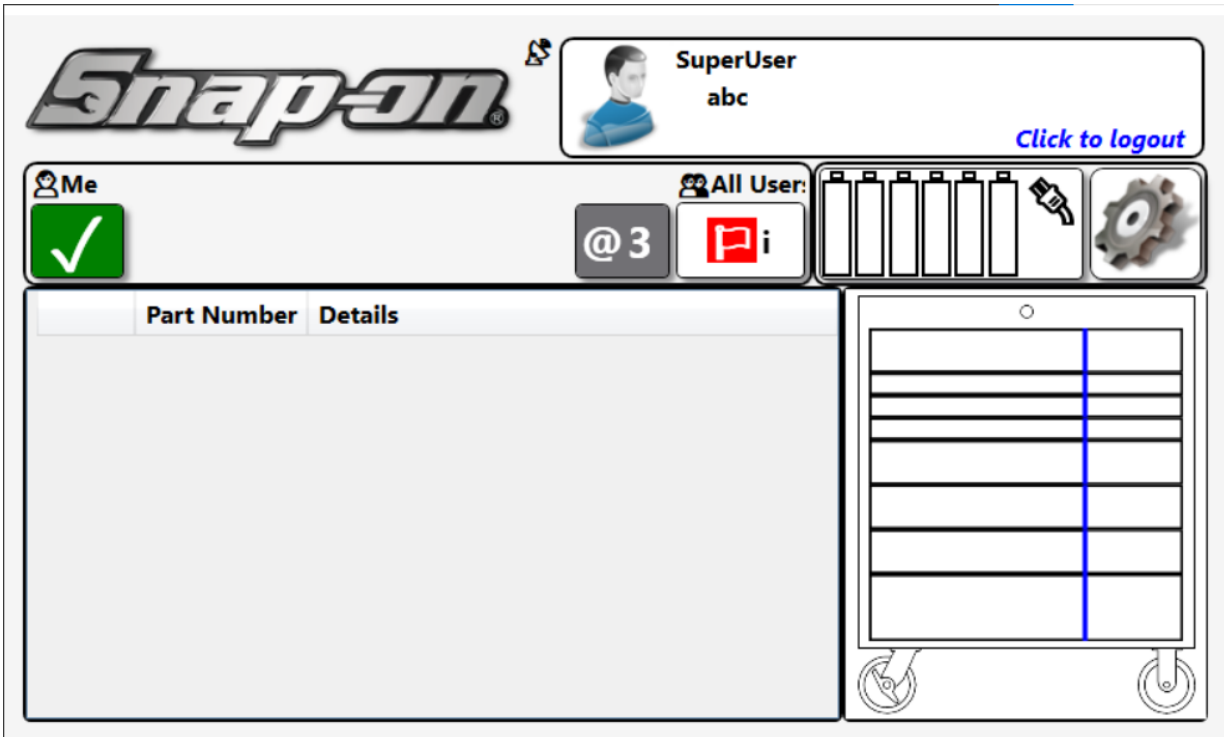
Touch Screen Full Keyboard

This version of work order entry supports full alphanumeric work orders like the with the addition of an alphanumeric keyboard for input.





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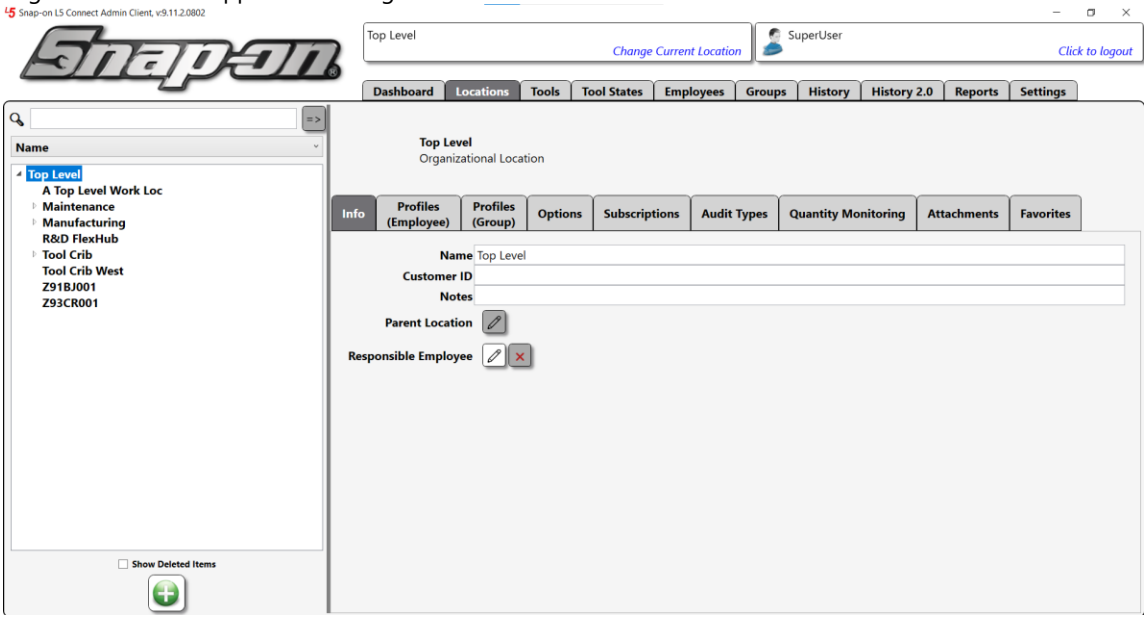
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Admin Setup

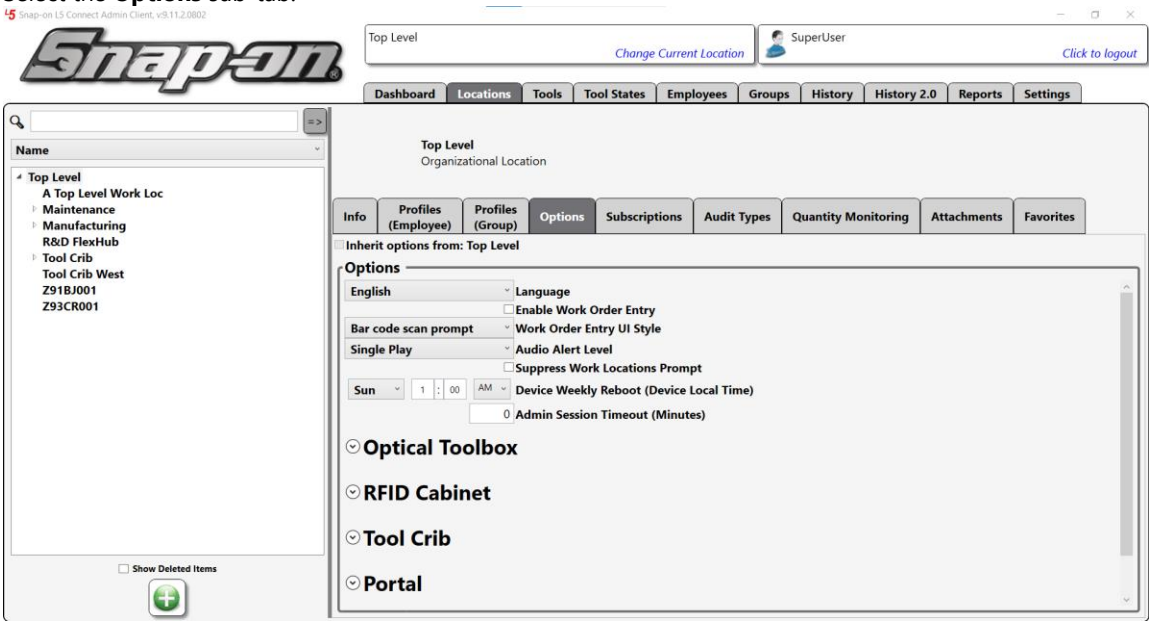
Configuring work orders for your L5 Connect system is done through the admin application.

Turning On Work Orders

1. Log into the admin application and go to the **Locations** tab.



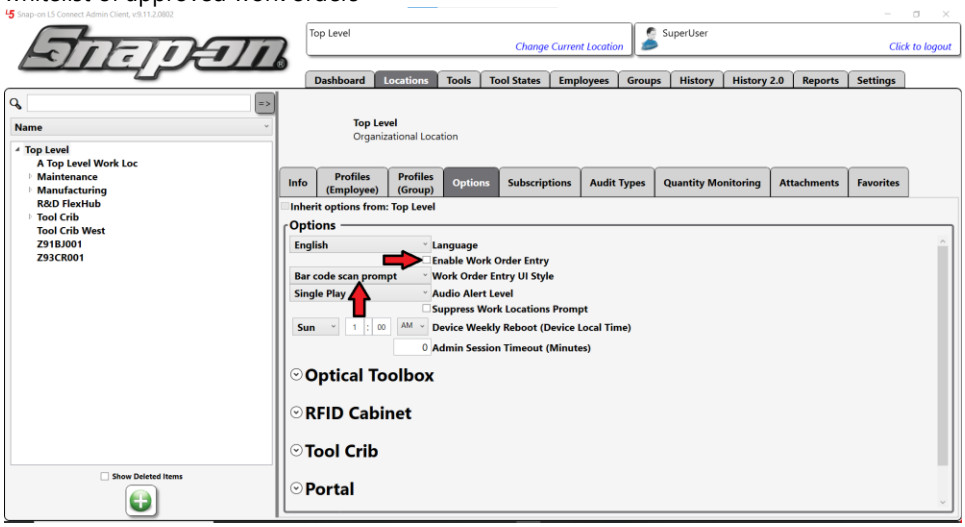
2. Select the **Options** sub-tab.



3. Check the **Enable Work Order Entry** checkbox and set the **Work Order Entry UI Style** pull down to the desired value.

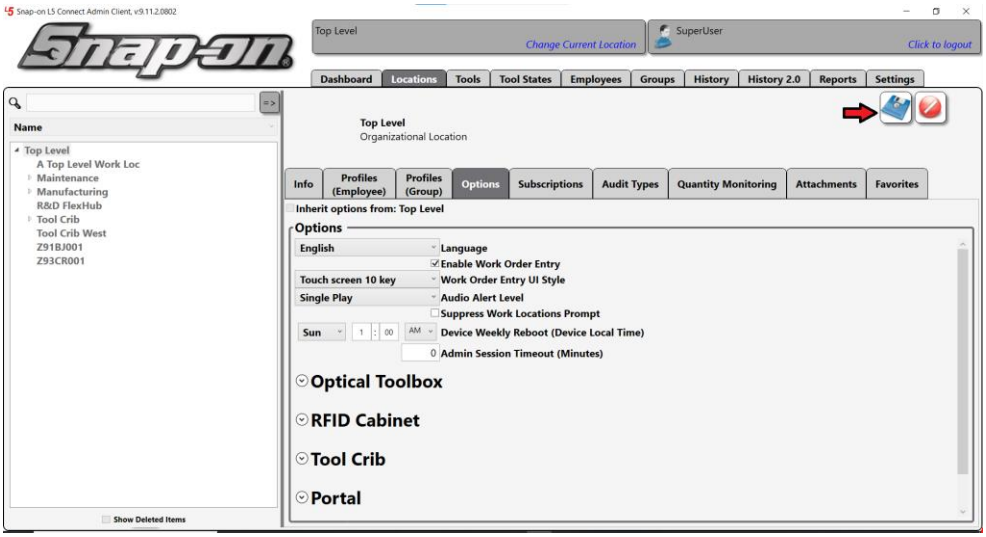
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- **Bar code scan prompt** - Scan or input by keyboard any text string work order
- **Touch screen 10 key** - On screen keyboard to input a numeric work order on a whitelist of approved work orders
- **Touch screen full keyboard** - On screen keyboard to input an alpha-numeric work order on a whitelist of approved work orders



NOTE: More information on Location options can be found in the L5 Connect™ Locations article.

4. Click the blue **Save** button.



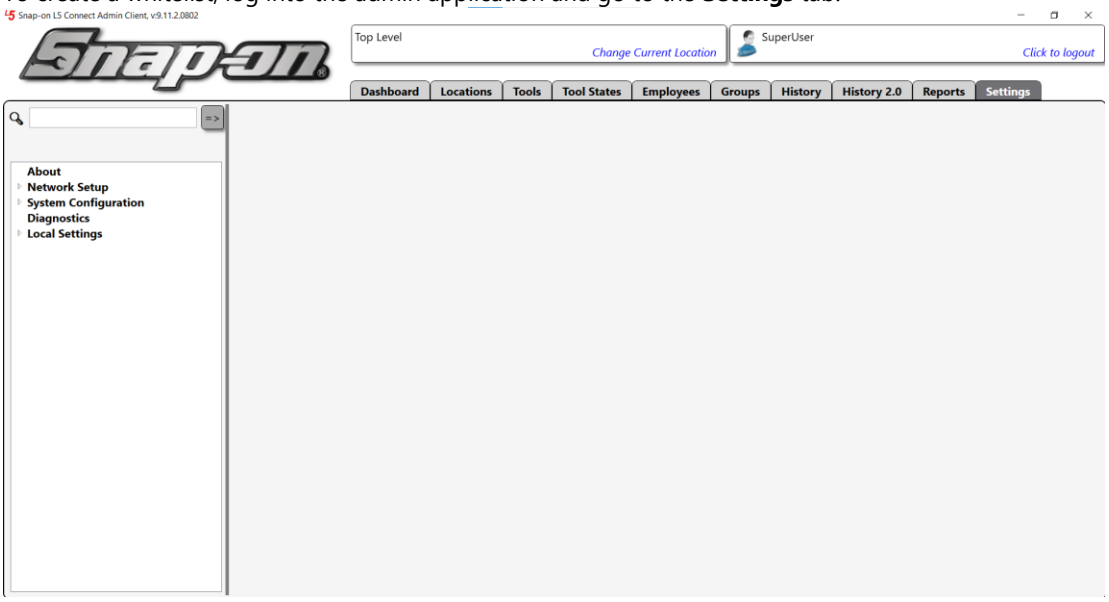
NOTE: As of the current software version, 9.11.2.x, the Suppress Work Locations Prompt option must be disabled to use work orders. In future releases these two features will be able to be separated so that work orders can be turned on independently of work locations.

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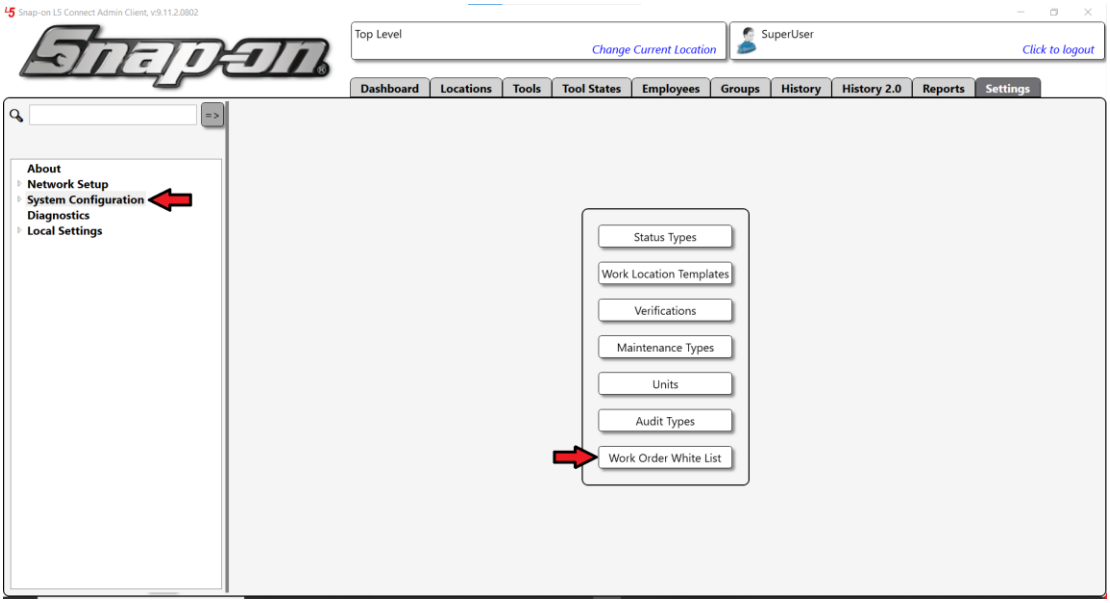
Creating a Whitelist

You can create a whitelist of a specific set of work orders that you would like any attempted work order entry checked against. If the attempted work order does not appear on the whitelist the user will receive a warning that the value was not valid and have to retry the work order entry or not be granted access to the device.

1. To create a whitelist, log into the admin application and go to the **Settings** tab.



2. Select the **System Configuration** listbox item on the left side of the screen, then click the **Work Order White List** button.

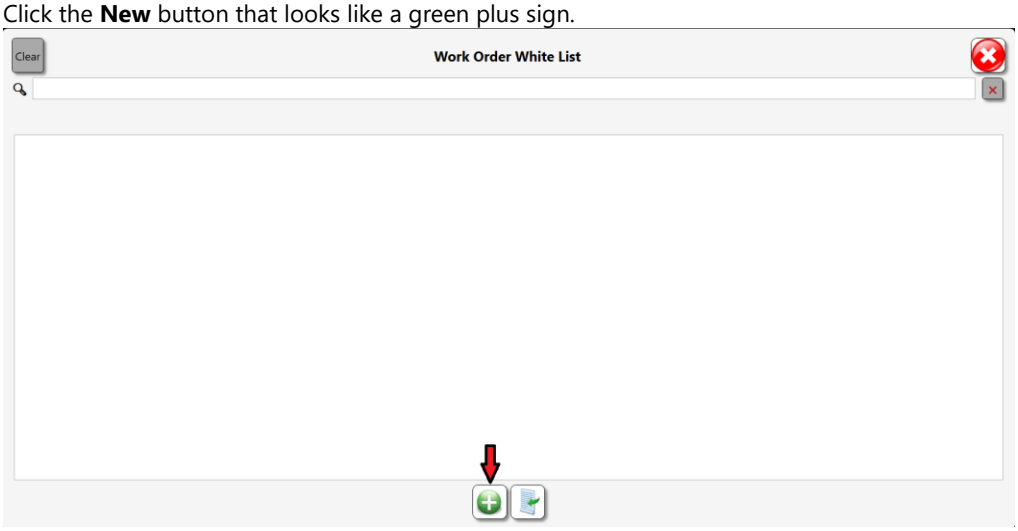


There are two options to add work orders to the whitelist at this point.

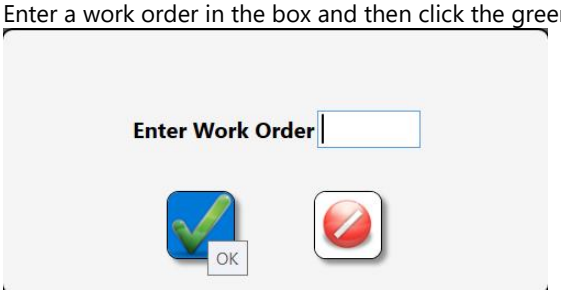
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Manually Adding Work Orders to Whitelist

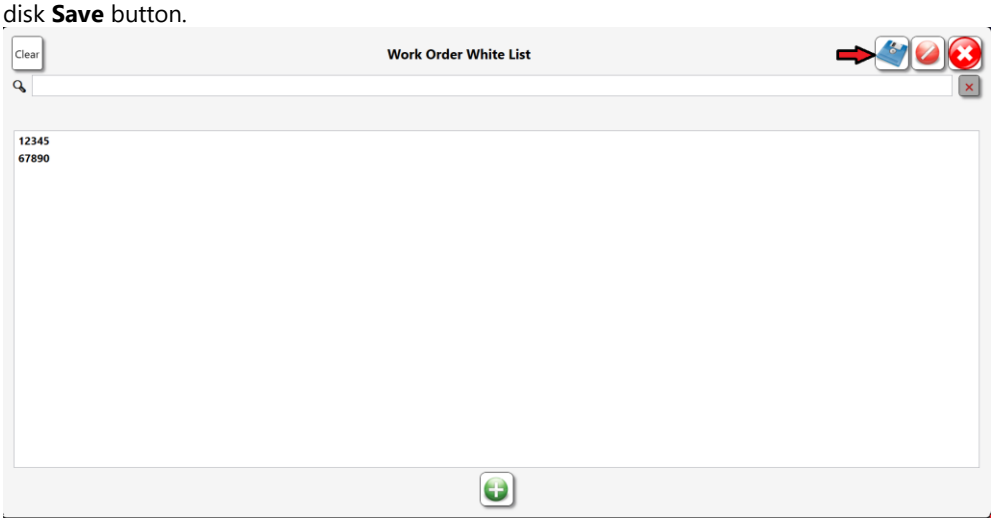
3. Click the **New** button that looks like a green plus sign.



4. Enter a work order in the box and then click the green checkmark **OK** button.



5. Repeat that process as many times as required to add all the desired work location values, then click the blue disk **Save** button.



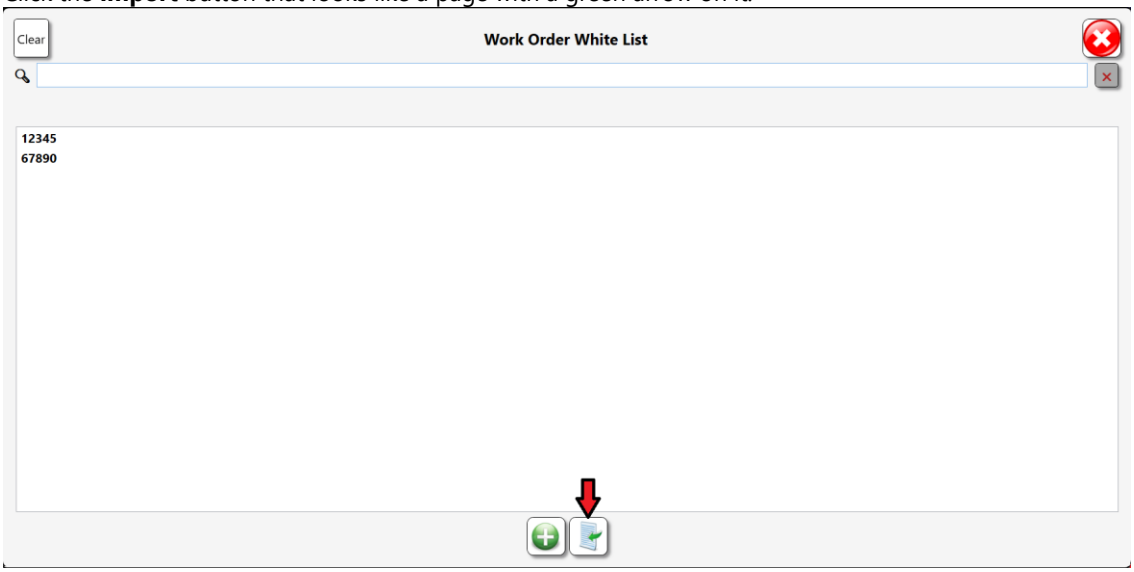
NOTE: You can remove a work order from the list by selecting it and clicking the red minus sign **Delete** button. You can also delete all the work orders currently shown in the window by clicking the **Clear** button and then clicking the **Clear** button on the window that asks you if you are sure you want to delete all shown work orders from the whitelist.

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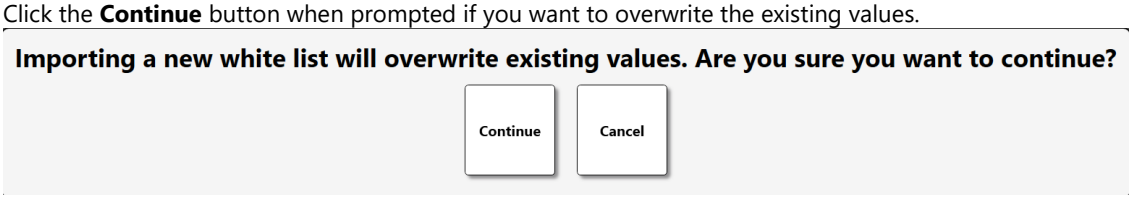
Importing a Whitelist of Work Orders

You can also import a whitelist from an Excel file. **NOTE:** This will replace the current whitelist.

1. Click the **Import** button that looks like a page with a green arrow on it.

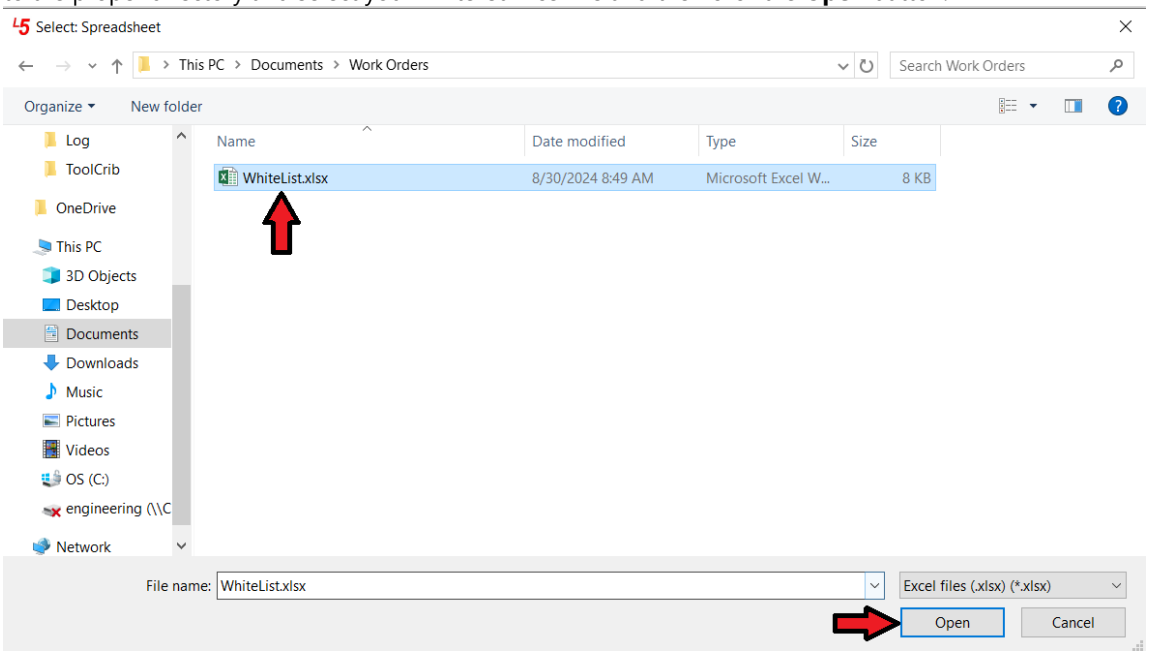


2. Click the **Continue** button when prompted if you want to overwrite the existing values.

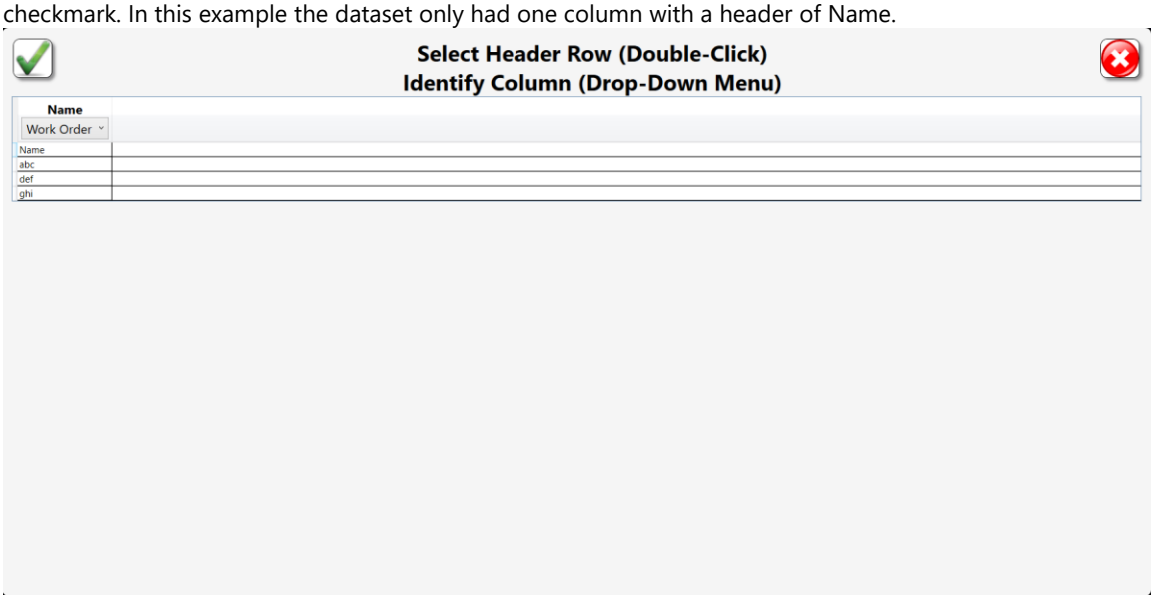


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3. You will see a file dialog window looking for an .xlsx file containing the list of whitelist work orders. Navigate to the proper directory and select your whitelist Excel file and then click the **Open** button.

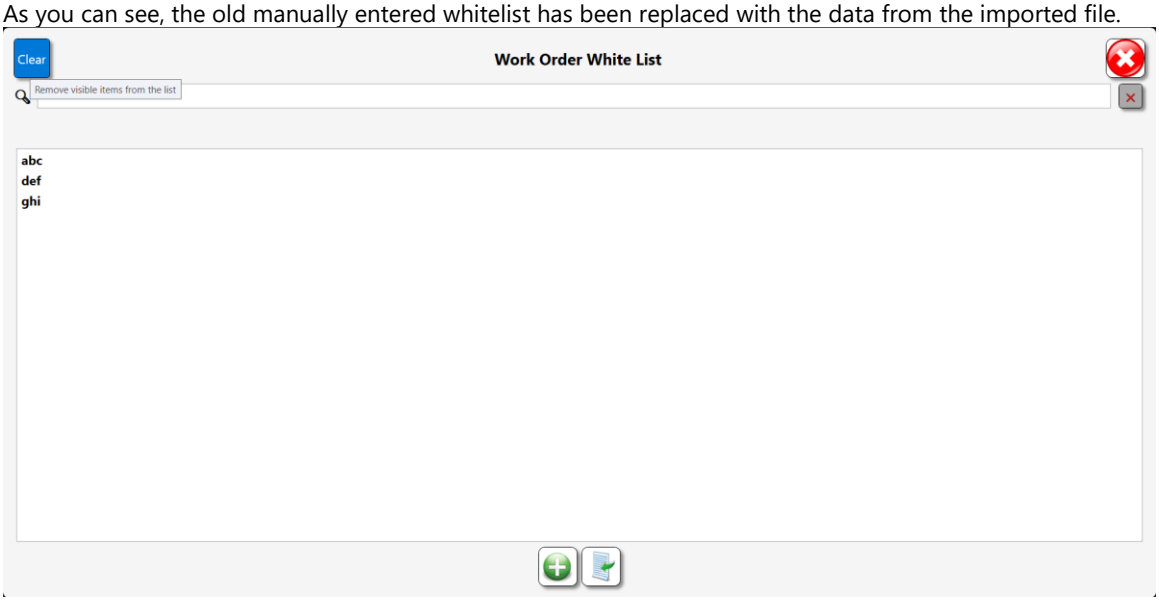


4. You will see a standard L5 Connect system data import window. Since there is only one column needed for the data, you will need to choose which column in your data represents the work order. Once you have selected the column that represents the work order fields, click the **OK** button that looks like a green checkmark. In this example the dataset only had one column with a header of Name.

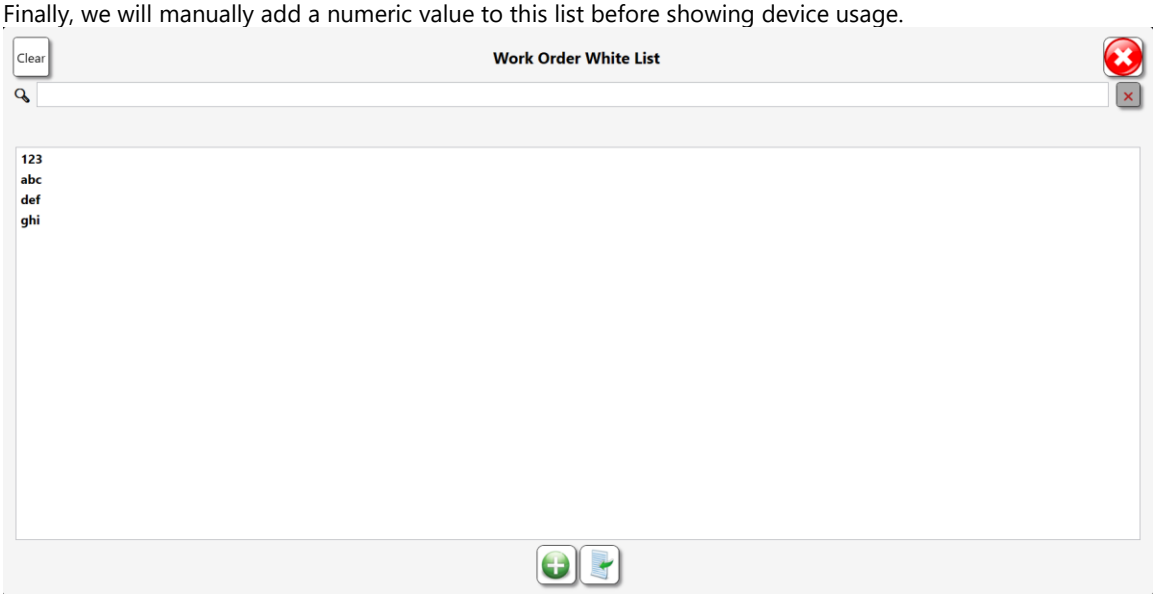


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5. As you can see, the old manually entered whitelist has been replaced with the data from the imported file.



6. Finally, we will manually add a numeric value to this list before showing device usage.



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User/Employee Configuration

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Employees

This document will cover managing employees in the L5 Connect system. Employees are the user accounts used to control the access and administration of the L5 Connect system. Each Employee should have a separate account within the system that is not shared. This method allows for more precise auditing of the system. An employee account can either be a standard account or an admin account.

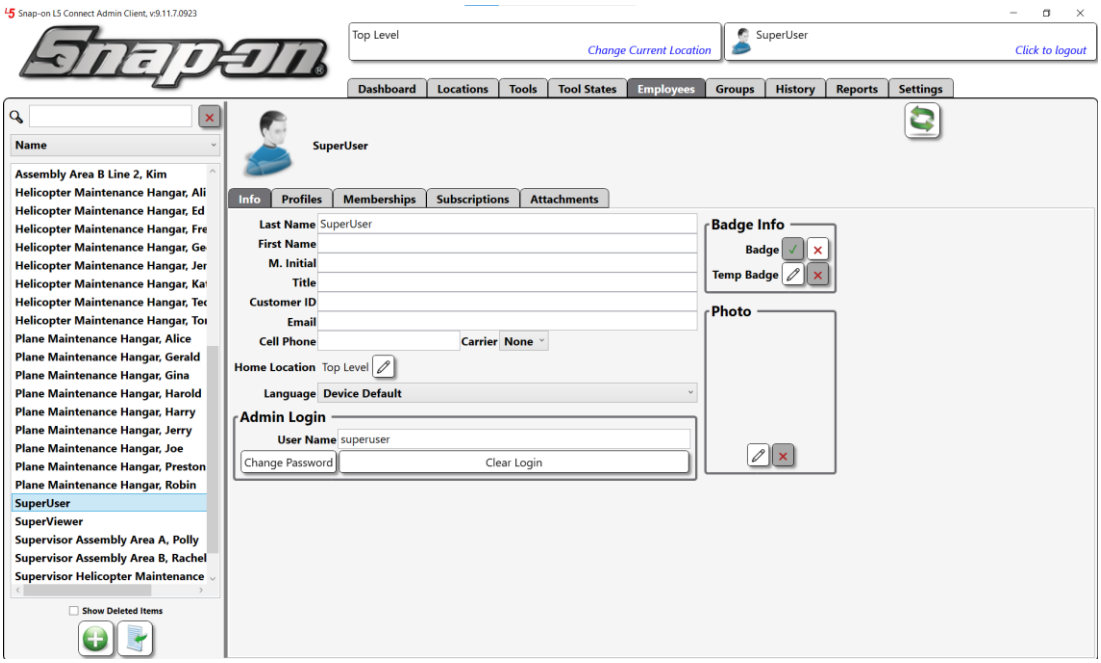
Standard Account – Is used for regular access to the L5 Connect™ devices. Has no access to the Administrative Functions on any device and cannot log into the L5 Connect™ Admin Client.

Admin Account – Admin accounts are standard accounts with additional permissions and a username & password. Admin accounts can access administrative functions on devices and log into the Administrative Clients.

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Employee attributes

Employee Attributes are the properties of an Employee Account and define who and what the Employee is and what they have access to. You can set all these attributes in the Info sub-tab of the Employee Tab.



The attributes of the Employee are:

Last Name, First Name, and M. Initial – The name of the Employee. **NOTE: The Last name field is required.**
Title – The courtesy title of the Employee (Dr., Mr., Mrs., Ms., etc.)
Customer ID – A unique code assigned to the Employee (Bin number, Employee ID, etc.) This ID can differentiate Employees with the same name. **NOTE: No two employees can have the same Customer ID.**
E-mail – E-mail Address of the Employee. Used to send status notifications and reports (Subscriptions) to the Employee.
Cell Phone – Cellphone number of the Employee. Used to send status notifications and messages (Subscriptions) to the Employee. **NOTE: Cell Phone Number is currently only supported in the US. Carriers supported: AT&T, Verizon, Sprint, and T-Mobile.**
Home Location – Employee's Location in the system. Please review the Locations section of this guide for more information.
Language – Set the text and audio language of the system for the Employee. When an employee logs into the machine, it will change the text and audio to match the currently selected language.
Admin Login – Set Employee as Administrator by creating a username and password. This setting is required if the Employee needs to access any administrative functions on any device or administrative clients. The username must be unique, and the password must be at least six characters long.
Badge – With an RFID badge scanner, assign a badge to the Employee for ATC Device access.
Temp Badge – With an RFID badge scanner, assign a badge that will expire based on your set time and date.
Photo – Set an image that will display on all devices when an employee logs in. This setting can act as an additional

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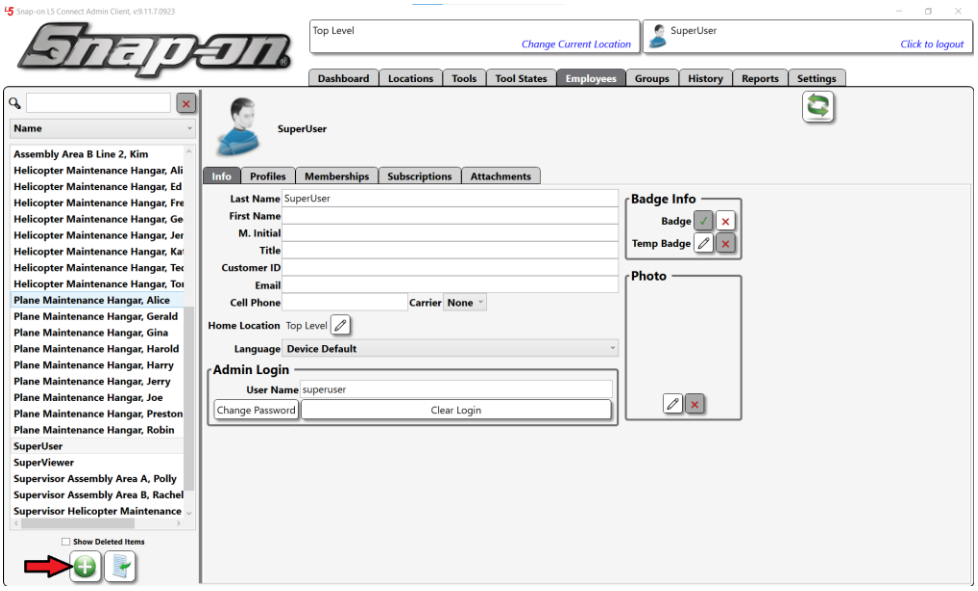
form of identification to verify that no one is using someone else's account. You should use a square photo (equal dimension for length and width) no bigger than 1MB.

Creating an employee

Creating an employee requires that the user account creating the new Employee is an admin and that they have permission to add employees to the location they are adding them.

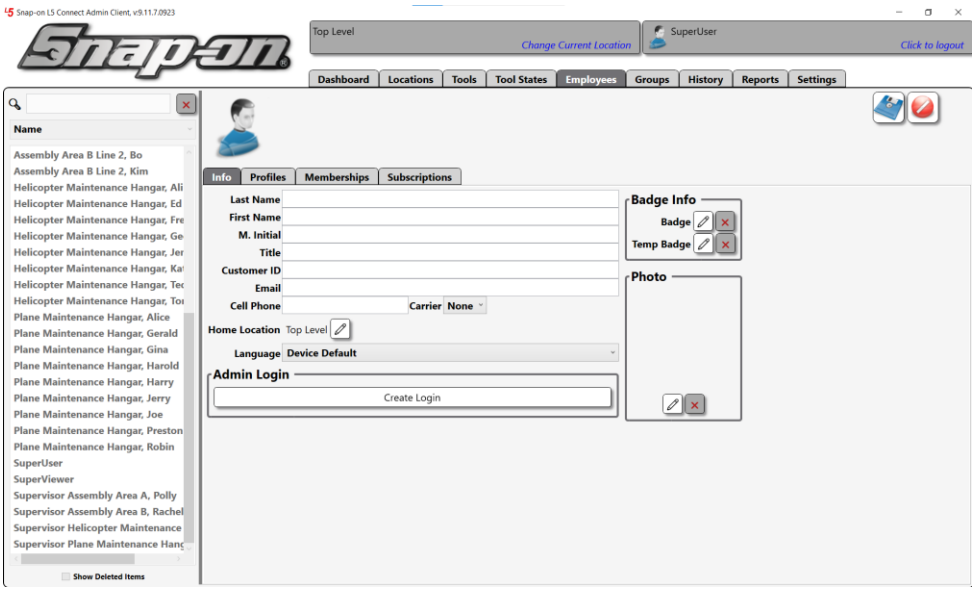
To begin, launch the Administration Client if it is not already running. Log in with your administration credentials. Once you have logged in, you should be at the main Dashboard. Click on the Employees tab.

On the bottom left of the Employees screen, click on the **New** button that has a green + icon.



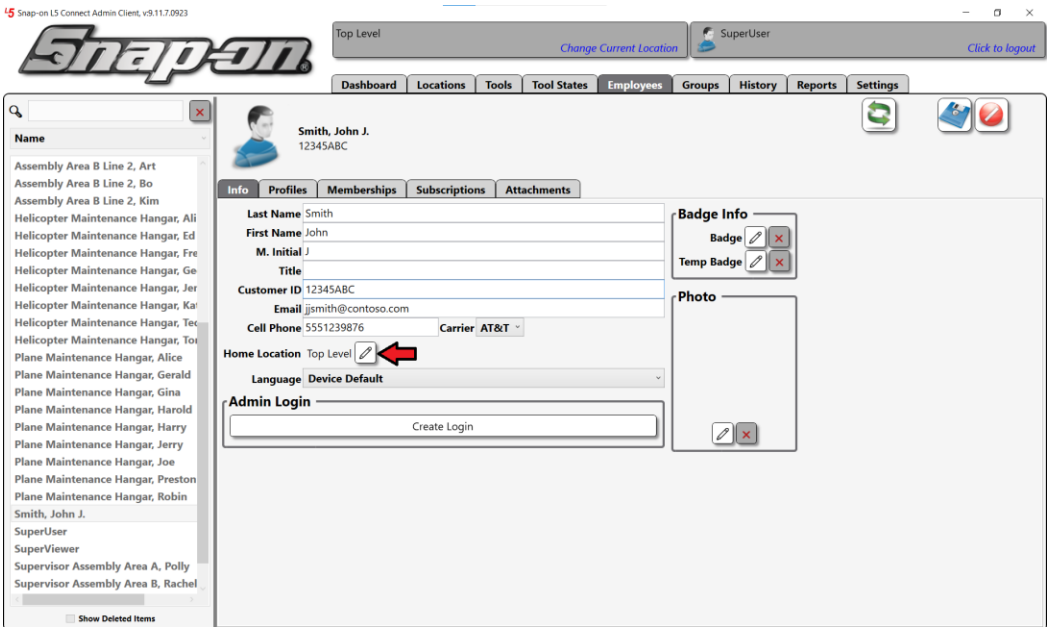
This button will open the New Employee Properties sub-tab.

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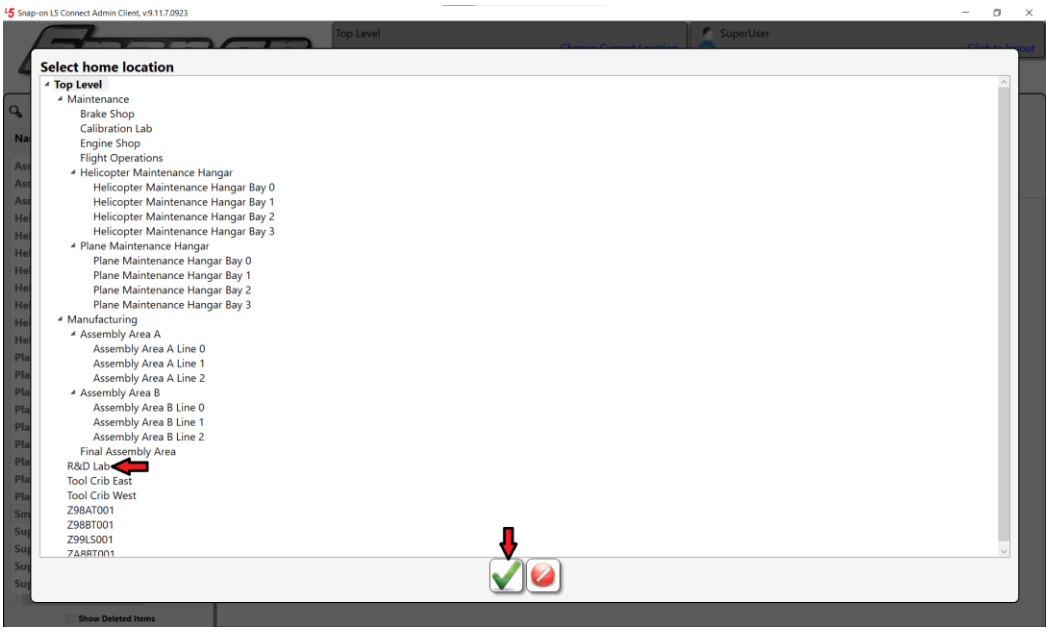
You will need to fill out all the attributes for the user from here. The following is some sample information you can use to practice. The Employee's name is John J. Smith. He has no title. His Employee ID is 12345ABC. He has the e-mail address of jjsmith@contoso.com. His cellphone is 555-123-9876, and AT&T is his carrier. He uses the standard system language and does not need administrative access. The Employee's primary work location is R&D Lab.

To set his **Home Location**, click the **Change** button that looks like a pencil.

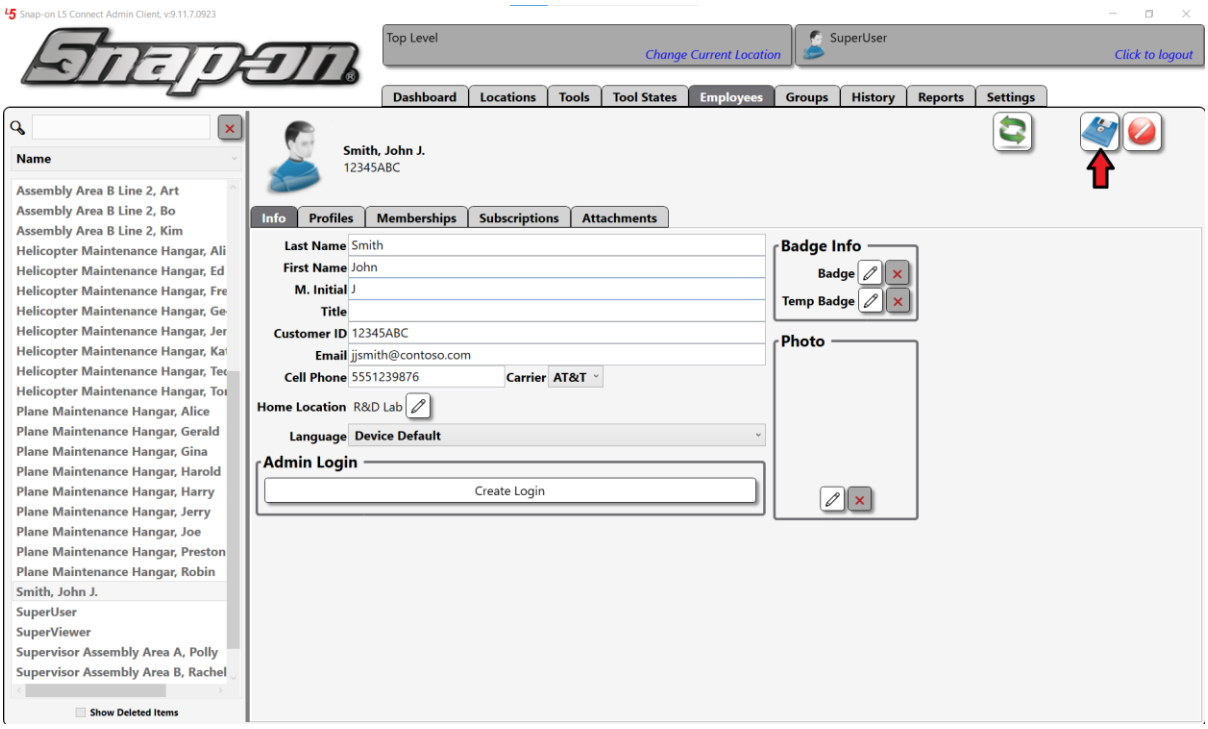


This button will bring up the Location select screen. Select R&D Lab, then click on the ✓ button. **NOTE: The Home Location will default to the Current Location the Admin is working in. Please see the Locations section of this guide for more information.**

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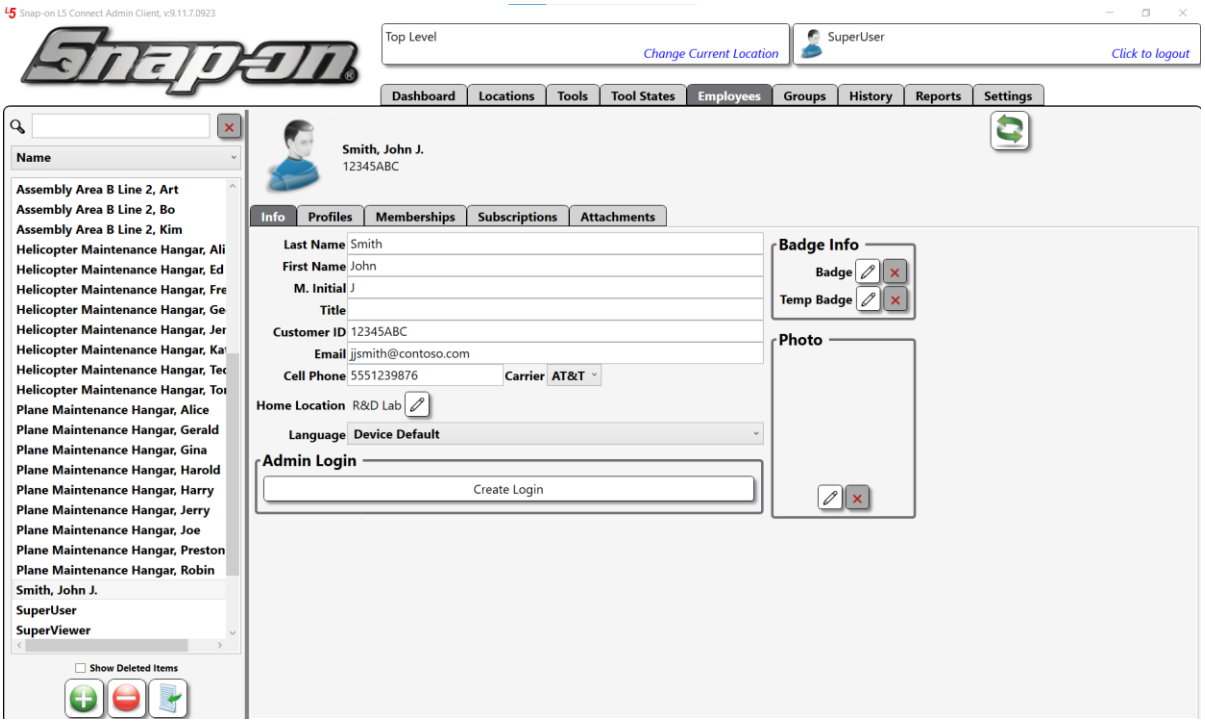


Perform one final check of the attribute data to ensure everything is correct. Once you are sure everything is right, click on the blue **Save** button in the top right of the screen.



After you click save, the icons in the top right will disappear, and the Employee will show up in the list on the left.

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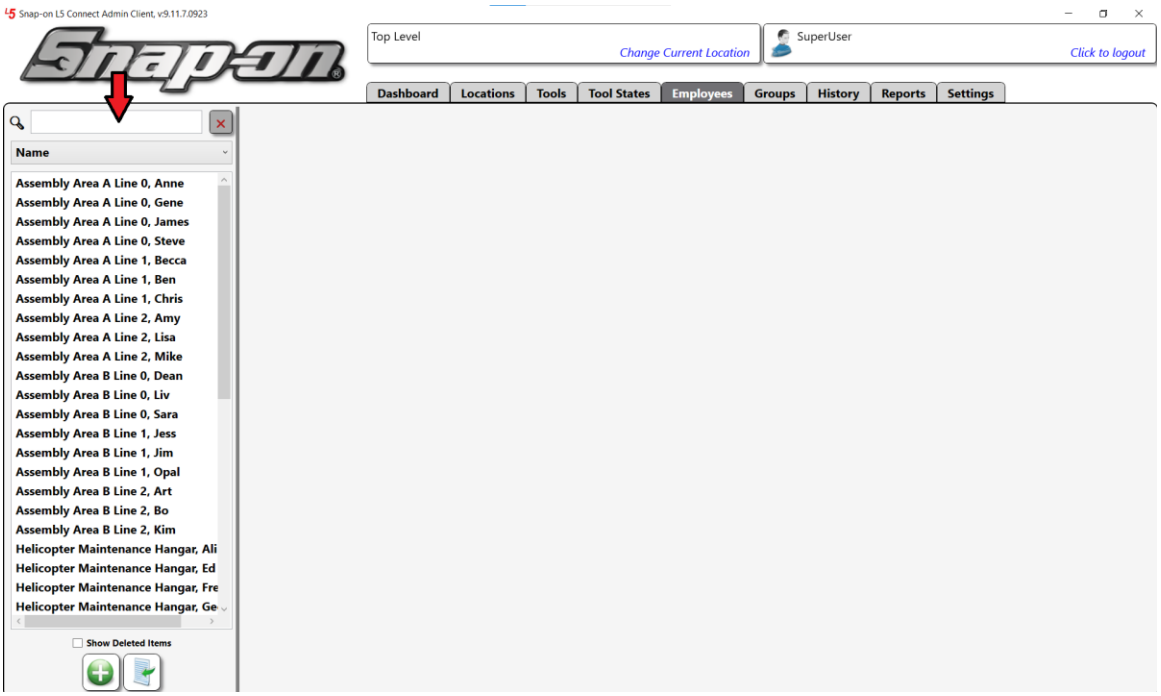


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Searching for an employee

If you have many employees in the system, L5 Connect™ provides a quick and easy way to search and filter the list of employees. By utilizing the search function, you can quickly locate and administer employees. **NOTE: You will only be able to search for employees assigned to your current location and any sub-locations under it. If you attempt to search for an employee outside of your current location, you will not get any results for your search.**

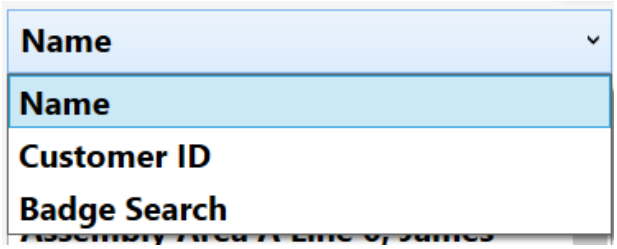
First, log into the Admin Client and go to the **Employees** tab to start a search. To quickly find the user you are looking for, you can use the search bar above the list of employees.



Below the Search Bar is a pull-down. This pull-down will allow you to search for an employee using three different methods. These methods are:

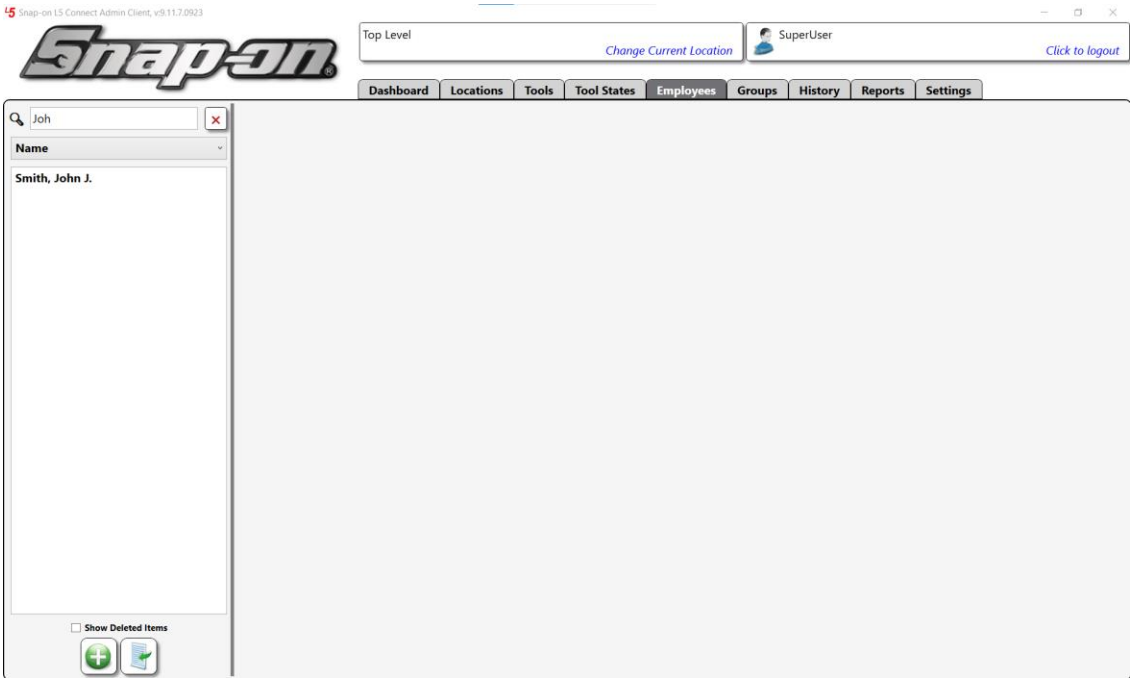
- **Name** – The name of the Employee can use first and last name to filter.
- **Customer ID** – The Customer ID value of the Employee.
- **Badge Search** – Scan a badge, and the Employee assigned to it will be the result.

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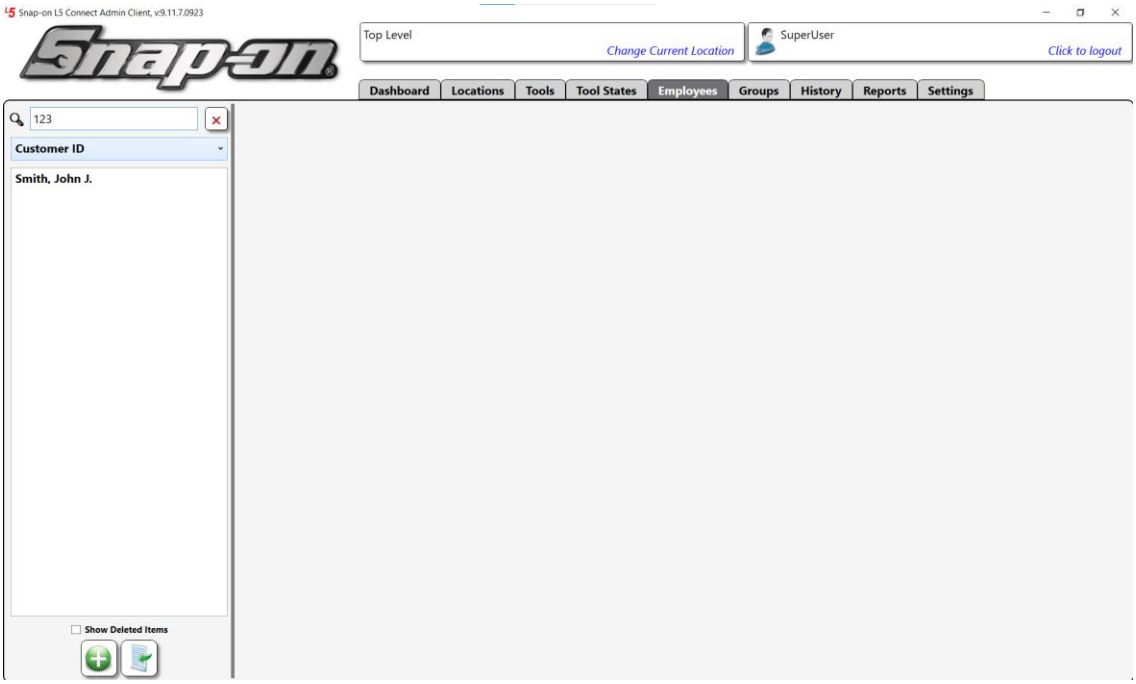


Name and customer ID search

Go to the search bar, make sure the Name is selected and start typing the name. As you type the name John, the list will filter. Customer ID search works just like Name search, except you type in the Customer ID value instead of the name. The search bar is an active search, meaning that the list will filter as you type. Therefore, you do not need to type the full name or Customer ID of the Employee to get a result.

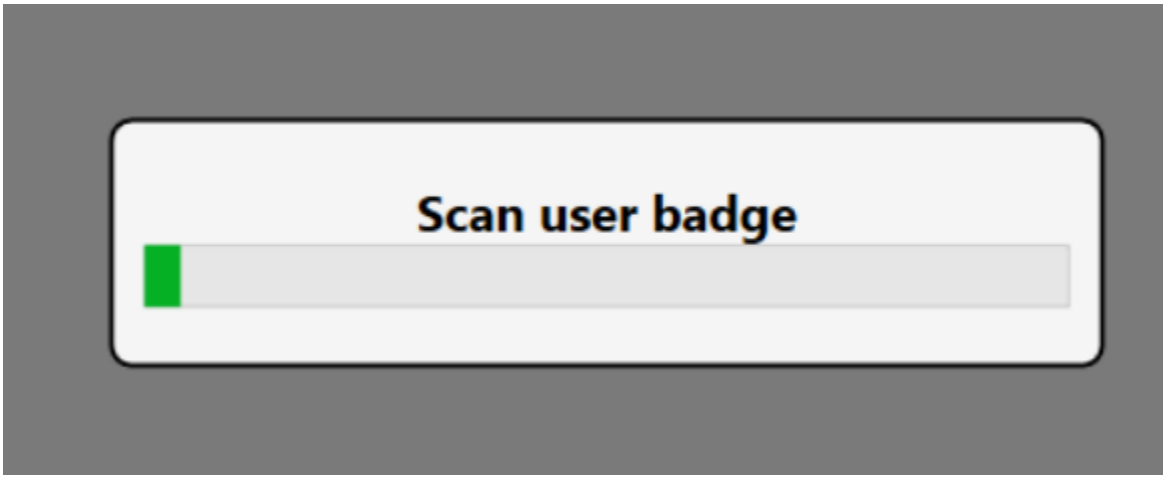


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Badge search

Badge Search requires that you have a compatible card reader to scan the user's Badge. Selecting **Badge Search** from the pull-down menu will cause a window to appear prompting you to scan the employee's badge. Upon completion of the scan, the user's information is displayed.

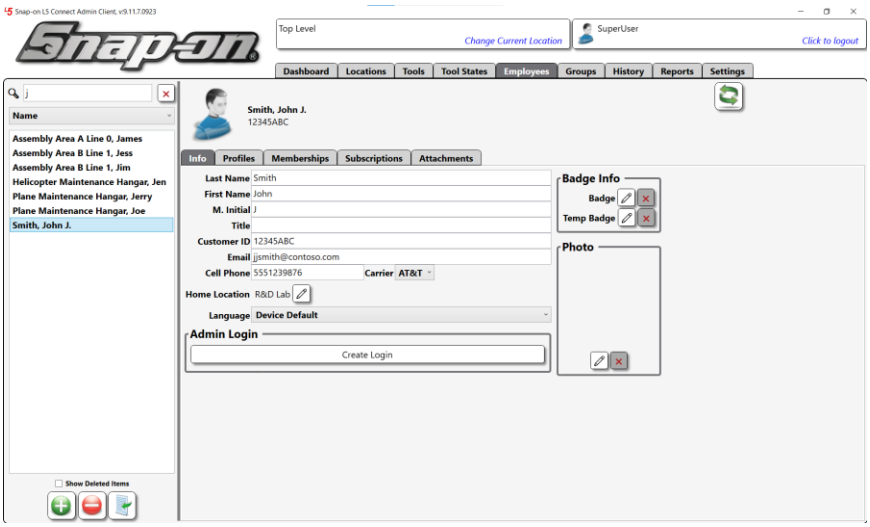


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Editing an Employee

When you need to make a change to an employee, you must edit the user account. To edit the employee, the admin must have permission to the employee's home location. For this example, we will add a photo to the user account with your sample employee. For information about managing badges on an employee see the Managing Employee Badges document.

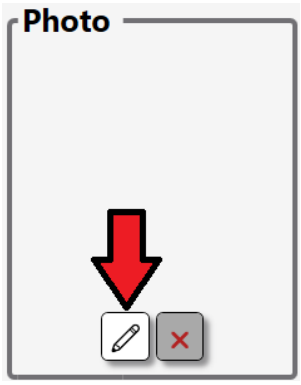
First, log into the Admin Client and go to the **Employees** tab. Find the Employee by searching for it and click on the name to bring up the employee properties.



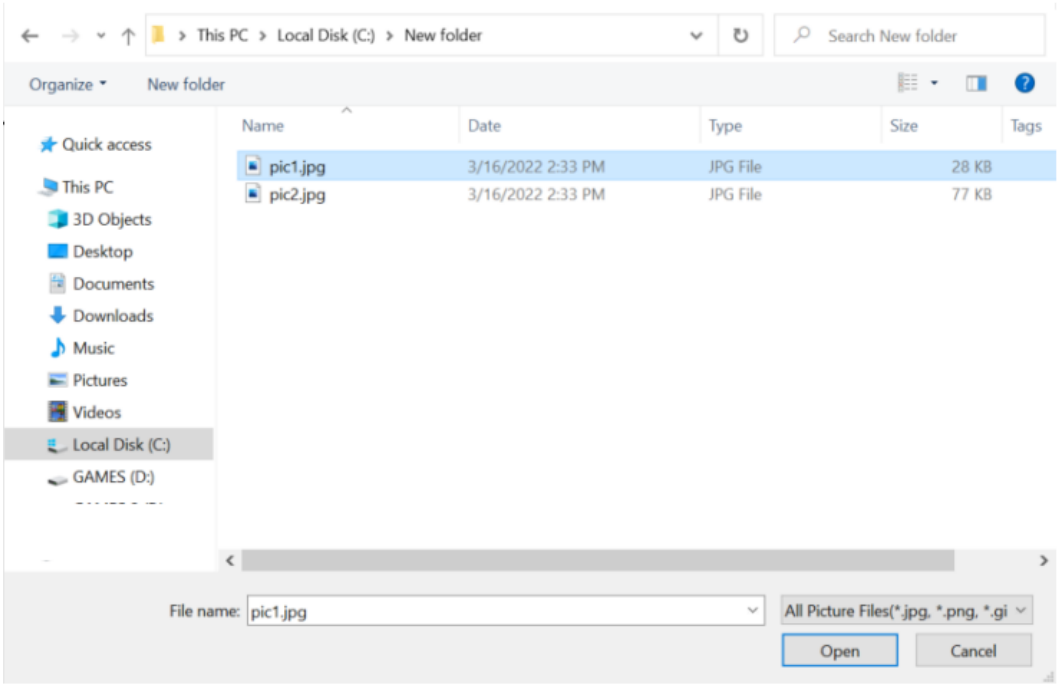
Once you have the Employee displayed, you can make any changes needed. Once done, make sure to SAVE the changes by clicking on the Save icon in the upper right of the screen. **NOTE: Until a change is made, you are not in edit mode and the SAVE and CLEAR buttons are visible.**

You can add a photo to an Employee to better identify the user when they log into any device. Once added, this photo will show up anywhere in the system when that user logs in. Click on the **Change** button that looks like a pencil in the Photo box on the right side of the screen. **NOTE: It is recommended to use an image with a square aspect ratio (Same Dimensions for both Length and Width). Also, it is recommended to keep the file size of the image below 1MB.**

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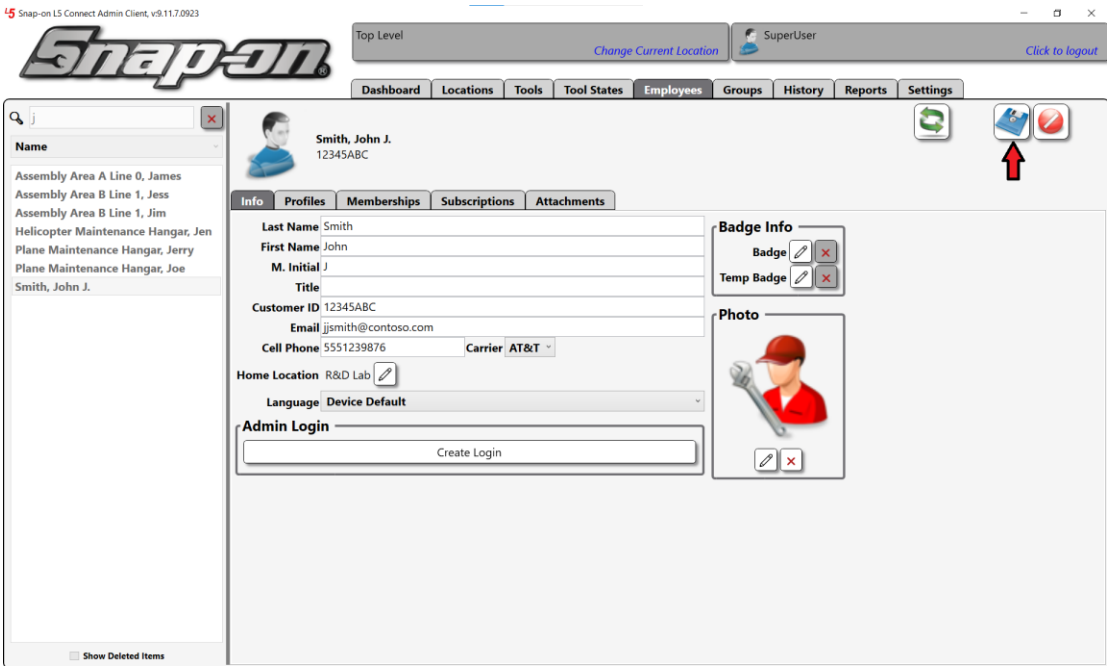


When you click on the button, a file selection window will open. This file selection window is automatically filtered to file extensions supported by the system.

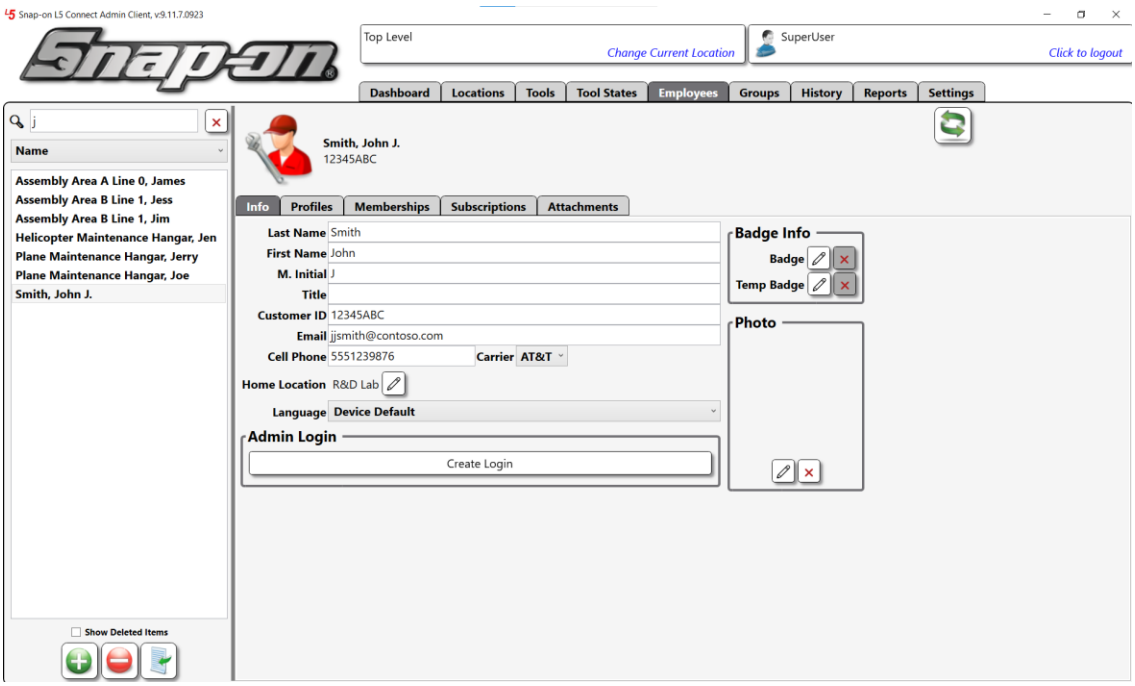


Select the file you want to use as your picture and click open. You will now see the picture displayed in the **Photo** group box. Click the blue **Save** button to commit the change.

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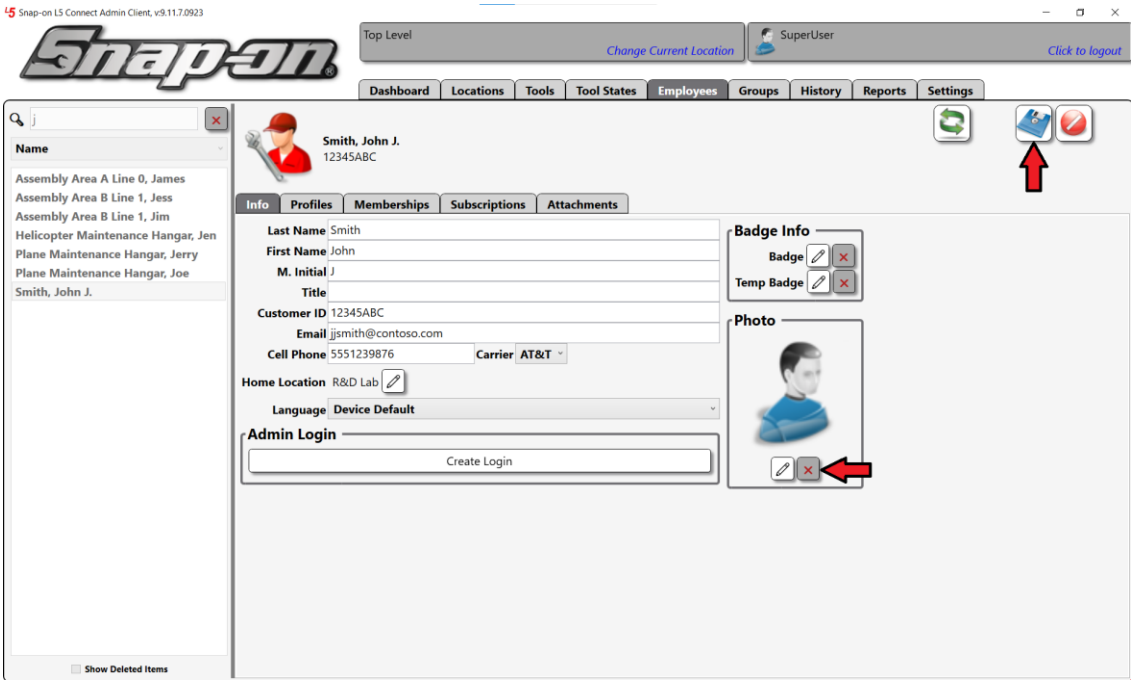


You will notice the generic picture on the employee ID card changes to the new one you just added when you save.



To remove the picture, click on the red ❌ in the Photo box, then SAVE. The employee picture will revert to the generic one.

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Remember, the employee picture will display when this user logs into the system on any client or device.

Setting an Employee as Admin

One person cannot do everything. For example, suppose you need to delegate administrative responsibilities to others. In that case, you can promote a standard account when you need more Admins. For more information on how to configure an employee as an admin, see the Authentication Configuration document.

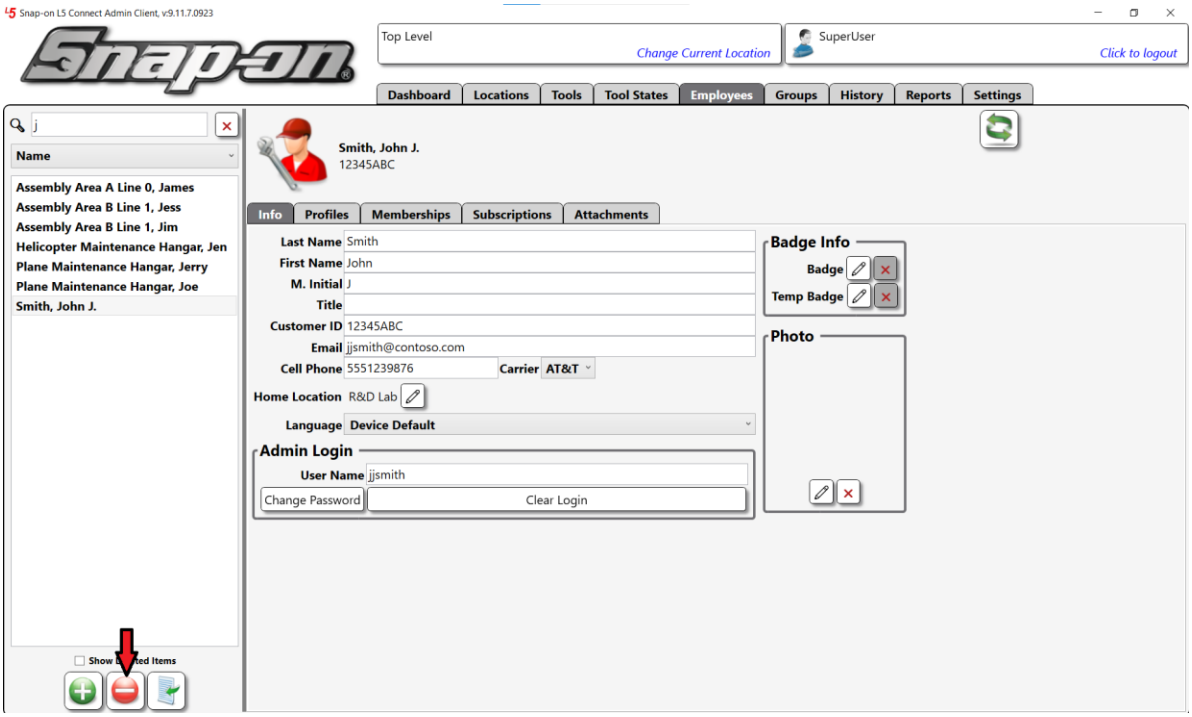
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Deleting an employee

You can delete an account when an employee no longer needs access to the L5 Connect™ system. When you delete the Employee, the system deactivates the user by clearing all permissions and badges assigned to that Employee. However, all other employee information remains for historical purposes. Also, if you decide to reactivate this user, it is easy to do so.

NOTE: Nothing in L5 Connect™ is deleted, it is just made inactive. This is to ensure all history is preserved for audit and reporting purposes.

To delete an employee, you must open the Employees tab and find them in the user list on the left. Once you have the Employee selected, click on the red **Delete** button.

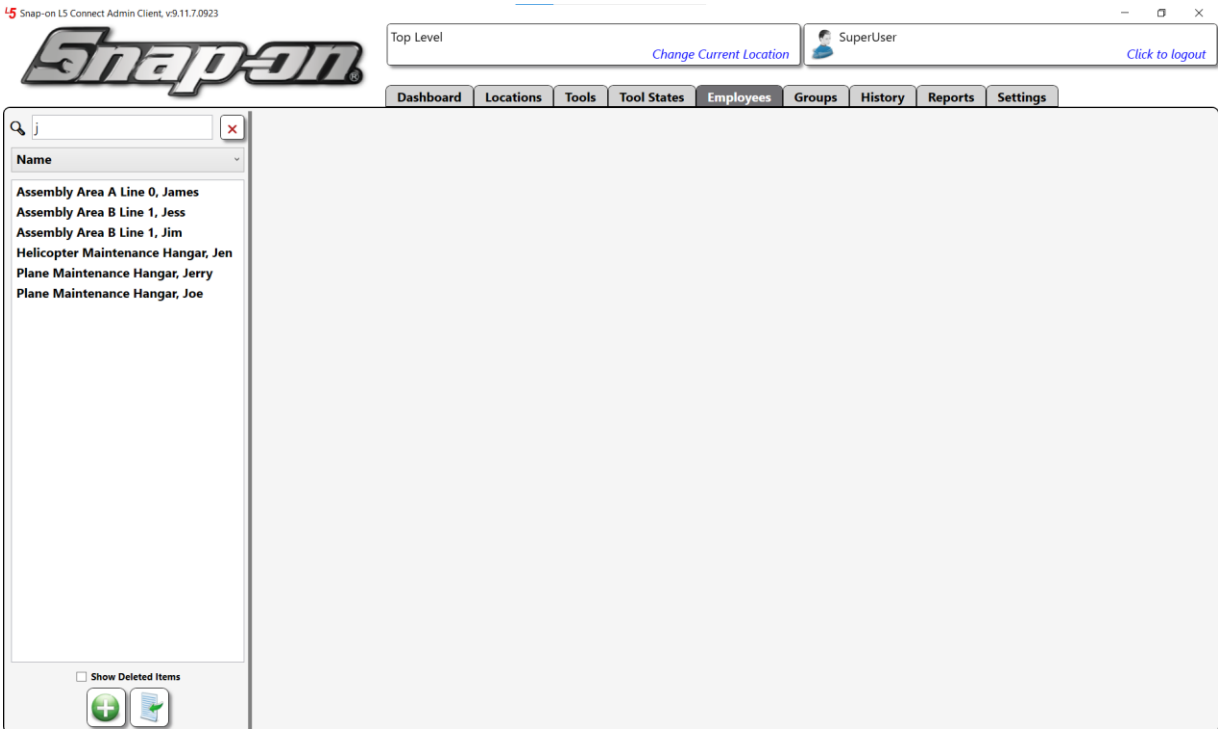


Click **Yes** to continue with the deletion when you are prompted with the "Are you sure" window.



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The employee now disappears from the list of employees.

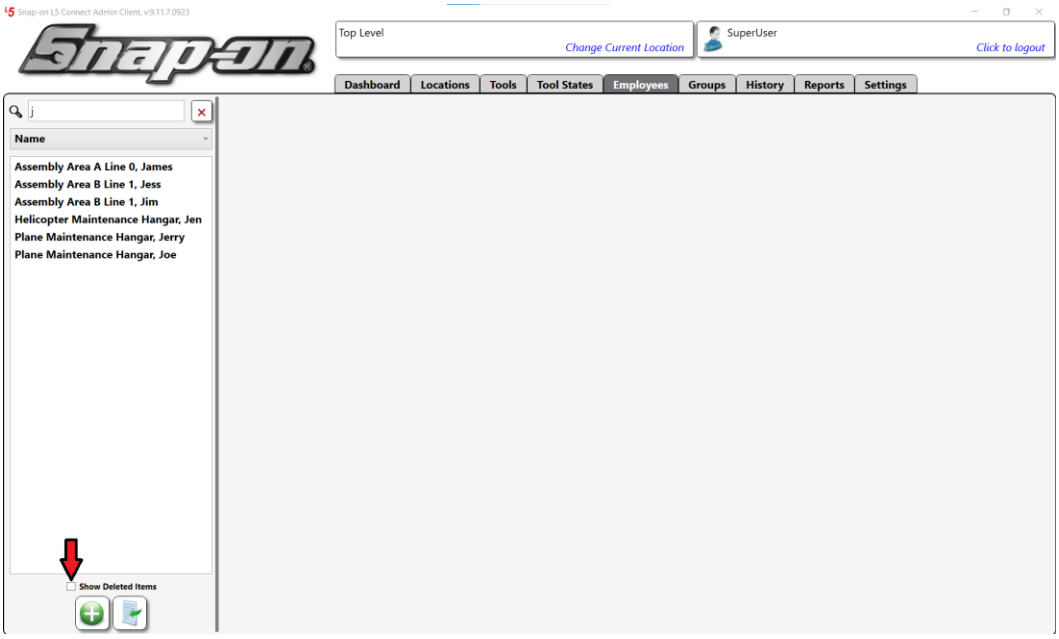


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Restoring an employee

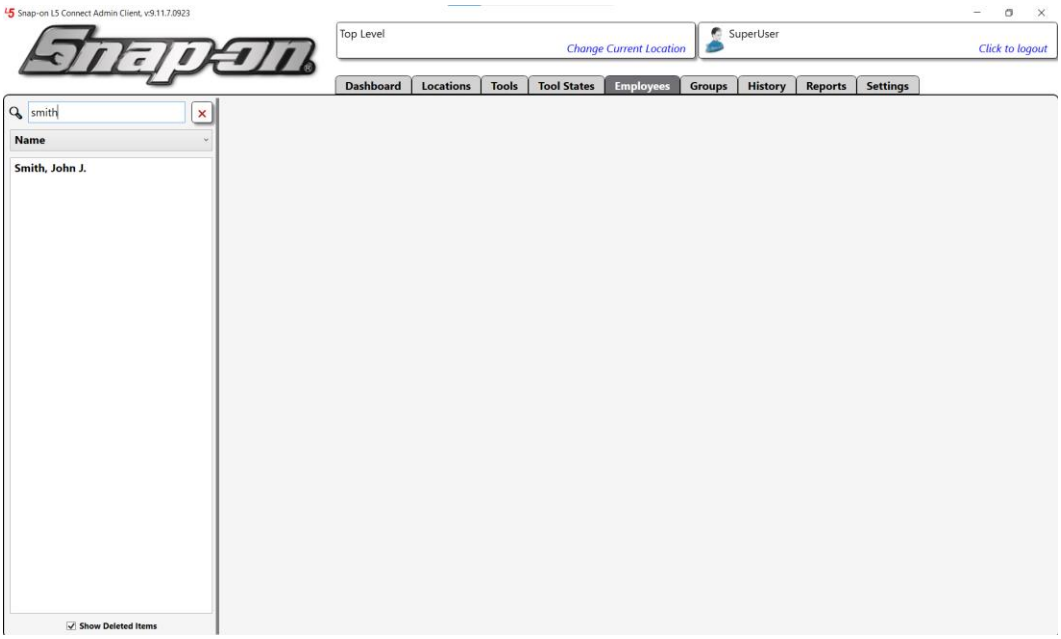
Suppose you have a returning user whose account has been deleted. In that case, you will need to restore the account.

To restore the deleted account, you need to be on the Employees tab and click the **Show Deleted Items** checkbox.

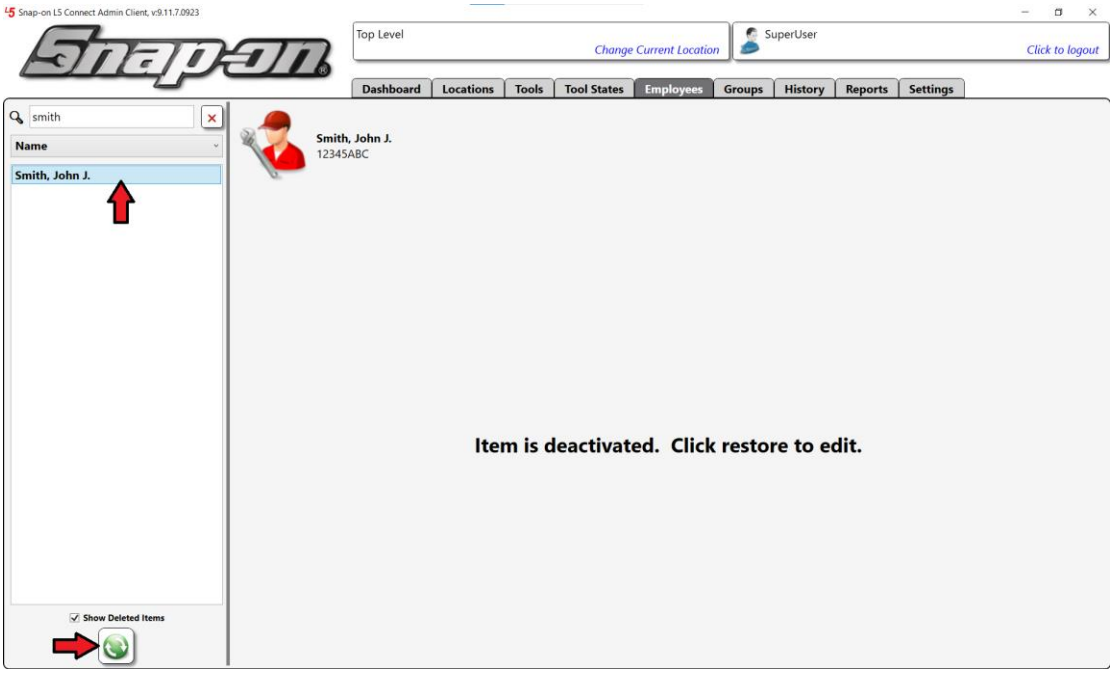


Your employee list changes and shows all deleted accounts at your current location or any sub-locations below.

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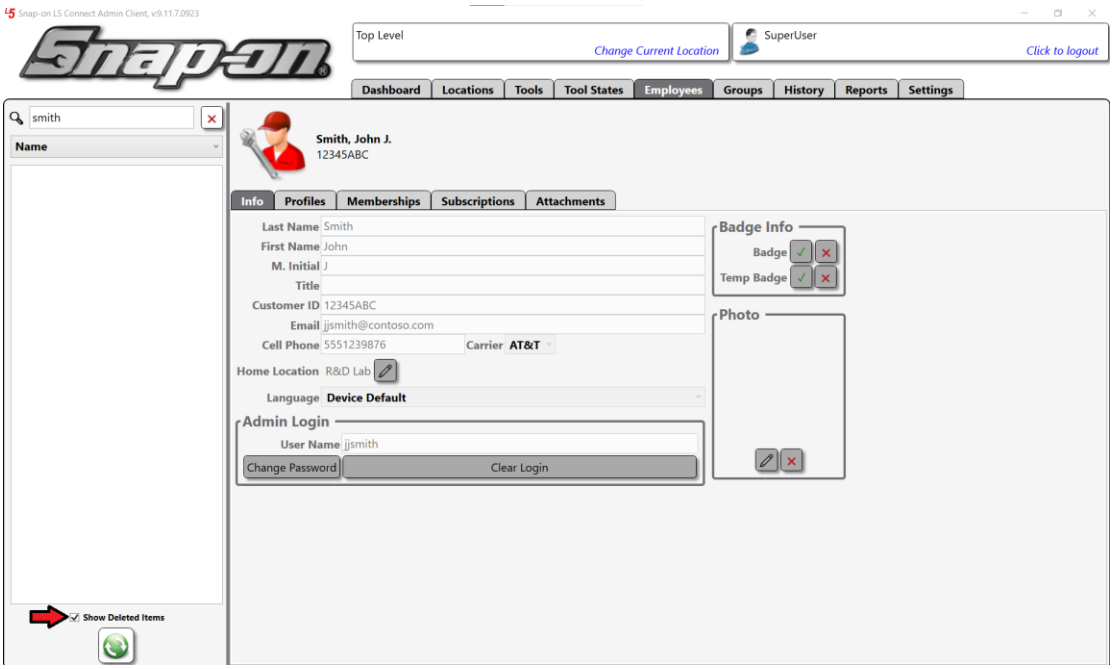


Select the user you wish to reactivate, then click the **Restore** button.



The user disappears from the list of deactivated employees. Now you need to uncheck the **Show Deleted Items** checkbox.

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The user has been reactivated. **NOTE: The user's permissions and badges are cleared when it is deleted. You will need to reassign permissions and badges to the user after you have completed the restoration.**

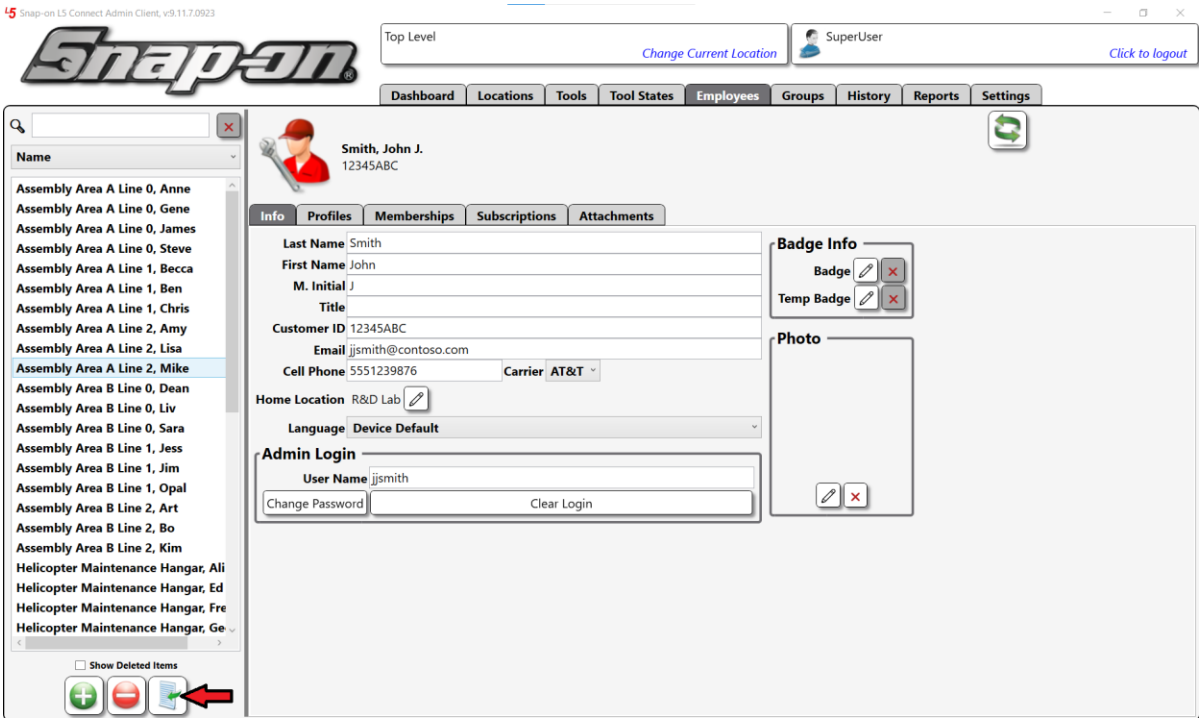
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Importing Employees from a Spreadsheet

If you have many users, adding them one-by-one can be time-consuming. To save time, L5 Connect™ can import a list of users into the system. By using an excel file (xlsx), you can import all your users at once.

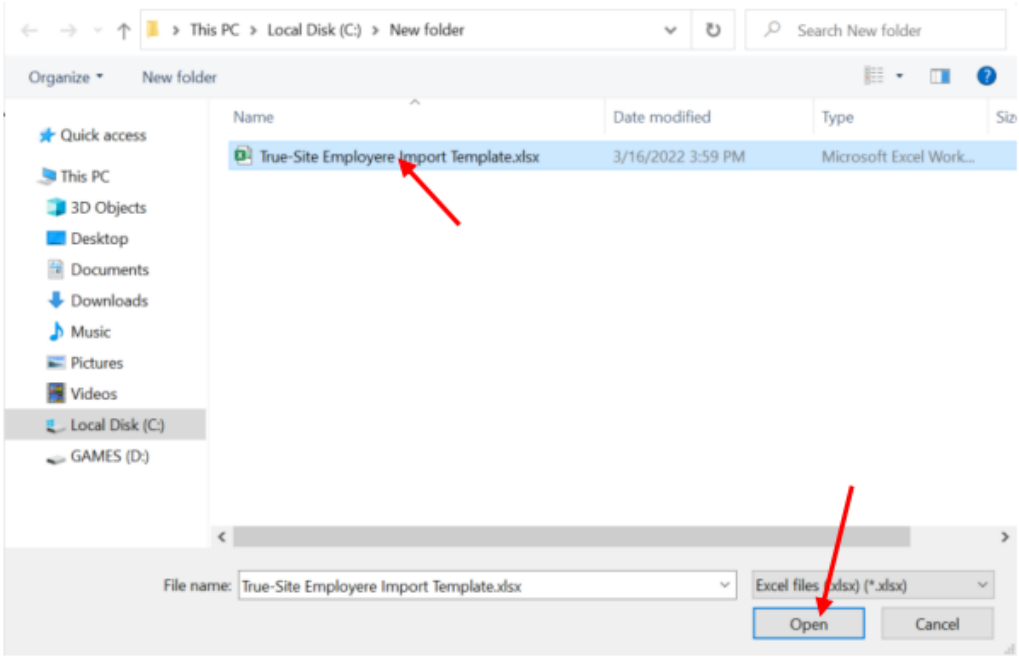
The tool properties that can be imported are:
Badge - The full hexadecimal value read from the HID badge of the employee
Customer ID - A unique customer supplied identifier for that employee
E-mail - E-mail address of the user to be used for system notifications
First Name - First name of the user
Last Name - Last name of the user (This field is required)
M. Initial - Middle initial of the user
Title - Title of the user
Username - username of user (if he is an Admin)

Once you have your file of employees ready, click on the **Import** button at the bottom left of the Employees tab.

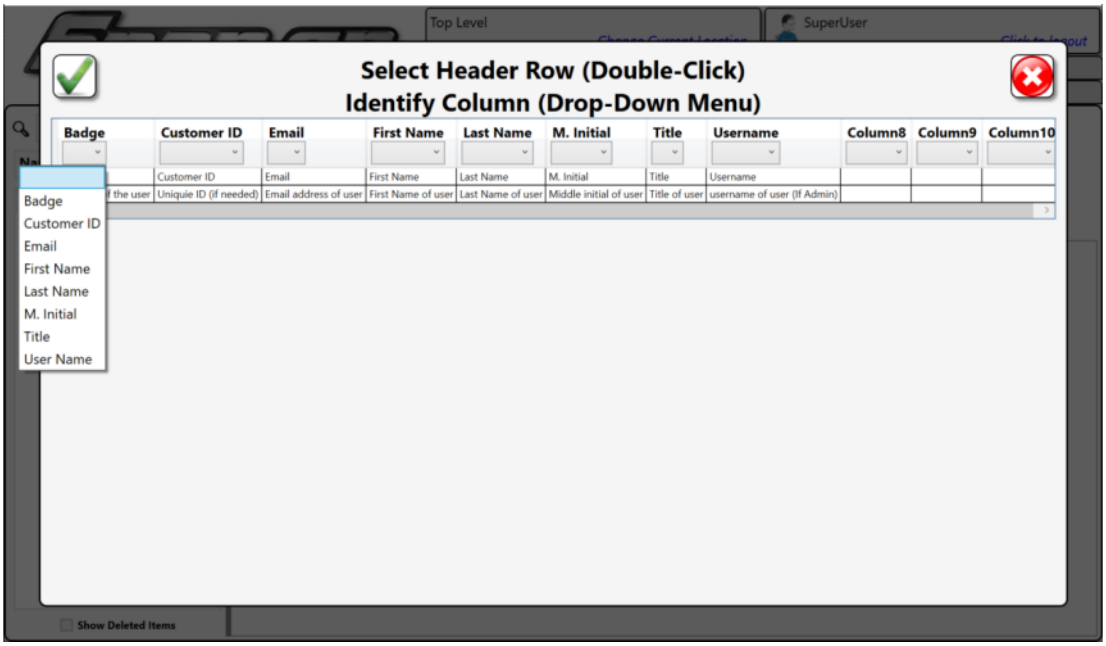


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This will open a file dialog window. Browse to the location of the file. Once you have selected it, click Open.



Once open, the import window will display. Use the pull-downs to match the data in the columns with the Employee attribute to which it needs to be assigned.



Once you have matched all the columns with an attribute, click the ✓ button in the top left to start the import. Once complete, the users will be in the system. **NOTE: You will still need to assign these employees profiles at appropriate locations in the L5 Connect system as needed.**

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E-mail and text

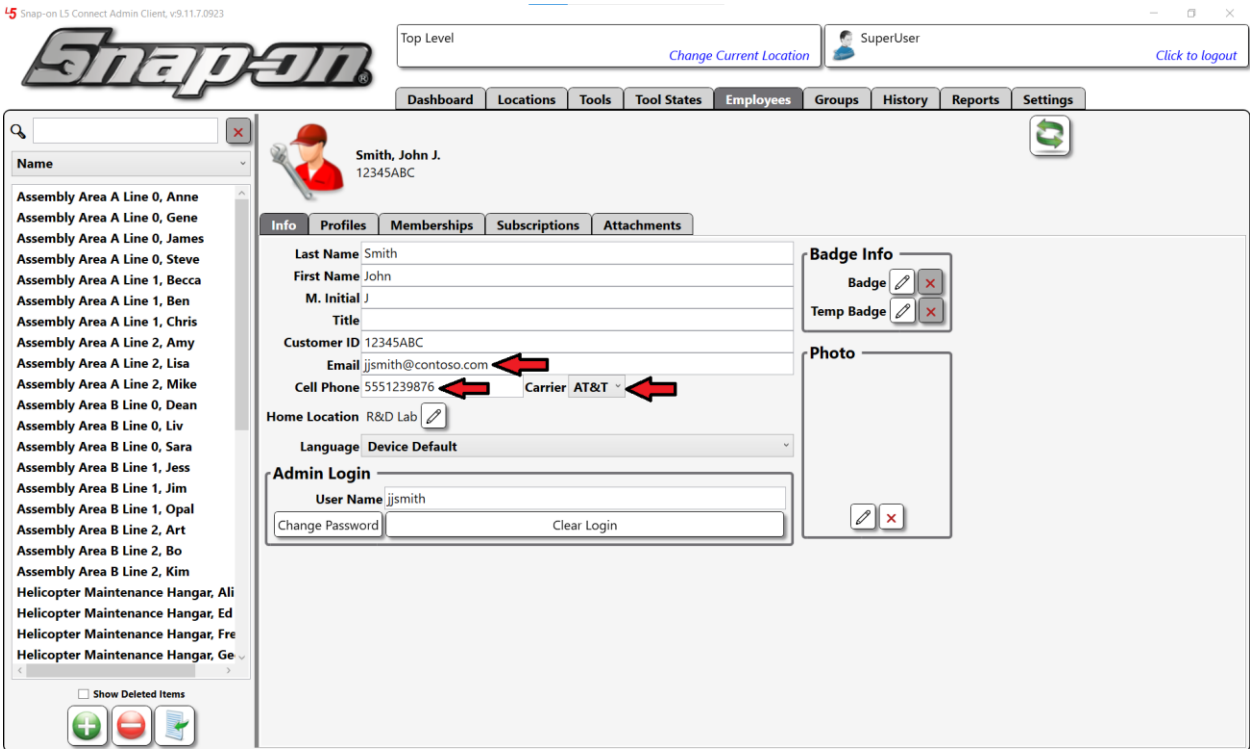
For the L5 Connect™ service to send out any messages, you must configure L5 Connect™ to use a valid e-mail server and texting service. L5 Connect™ uses SMTP for e-mail and text. For more information on configuring SMTP in L5 Connect™ use the How to Setup SMTP Configuration document.

Configuring E-mail

You need to add at least one e-mail to the Employee so they can receive the notifications. You can set an Employee to have multiple e-mails separated by semi-colons.

Configuring text messaging

Text Messaging is configured on a per-employee basis and defined in the employee **Info** Sub-tab. First, input the number, including area code and without dashes (ex.5555555555), and select the carrier to which the number belongs. Remember that currently, texting only works for US phone numbers.



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Groups

Groups allow an administrator to easily assign permissions to a set of Employees who are members of a group instead of setting those permissions on each Employee individually. This simplifies access management as you can move Employees out of a group if they no longer need the group's permissions. For example, an employee belongs to the Administrators group but is transferred to the Auditing team. Suppose you move that Employee out of the Administrators group and into the Auditors group. In that case, their permissions will be automatically changed to reflect their new role.

You should set permissions to groups and then assign users to those groups, as setting permissions on Employees can become challenging to manage if you have many users.

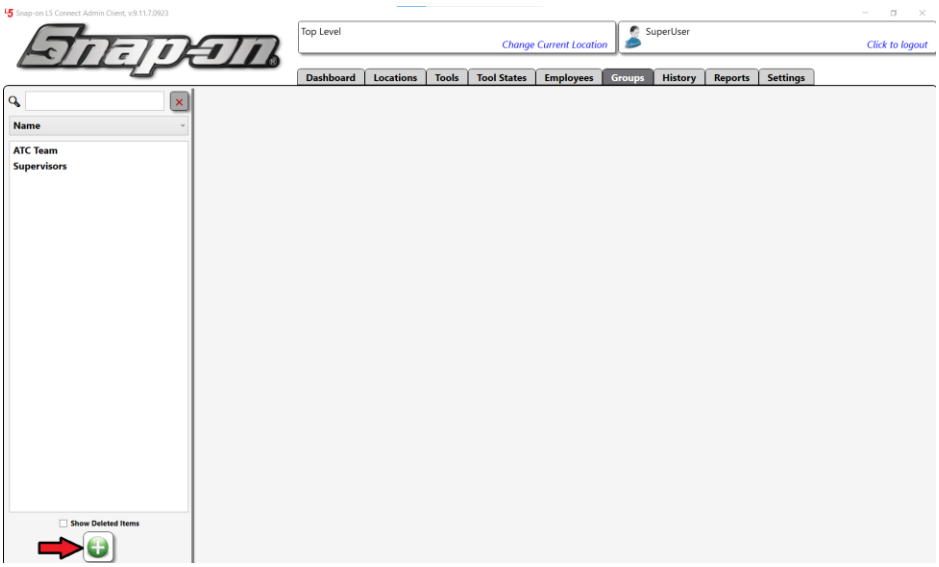
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Creating a Group

To create a group, you will need to have the appropriate administrative permissions for the location you wish to make the group. Once you have determined you have the appropriate permissions, you are ready to begin.

For this example, you need to create a group for the Maintenance Team within the Maintenance Location.

Click on the Groups Tab to bring up the Groups screen in the Administration Client. Then, on the bottom left of the Groups screen, click on the green **New** button. This will open the Group settings window.

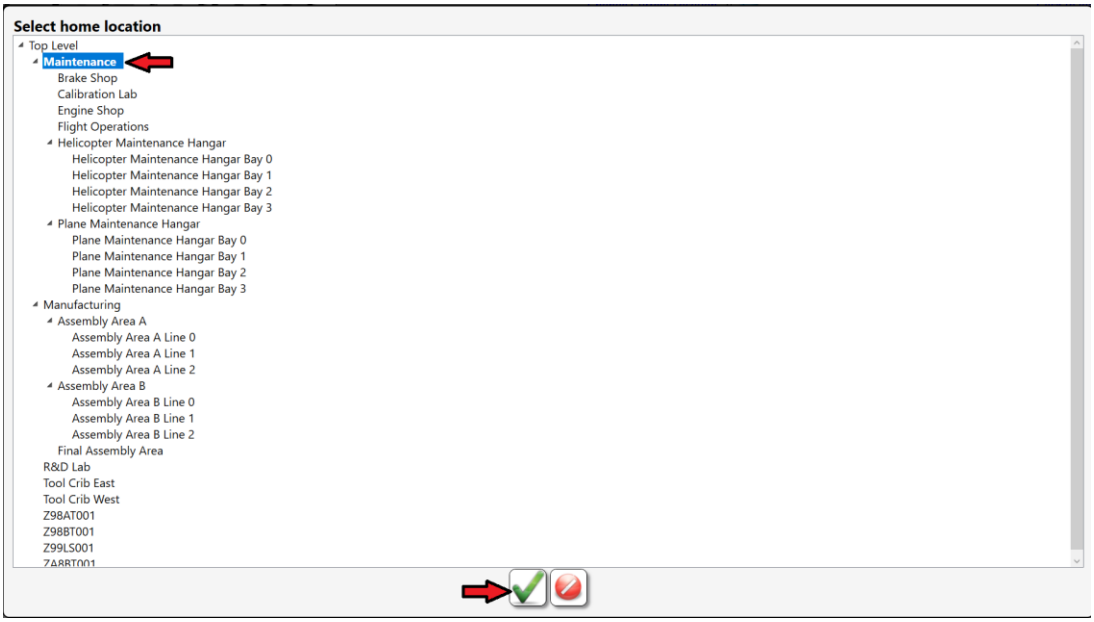


In the Name textbox, enter the desired name of the group. For this example, you will be creating a group for your Maintenance team, so you set the **Name** to **Maintenance**. **Note: Group names must be unique.**

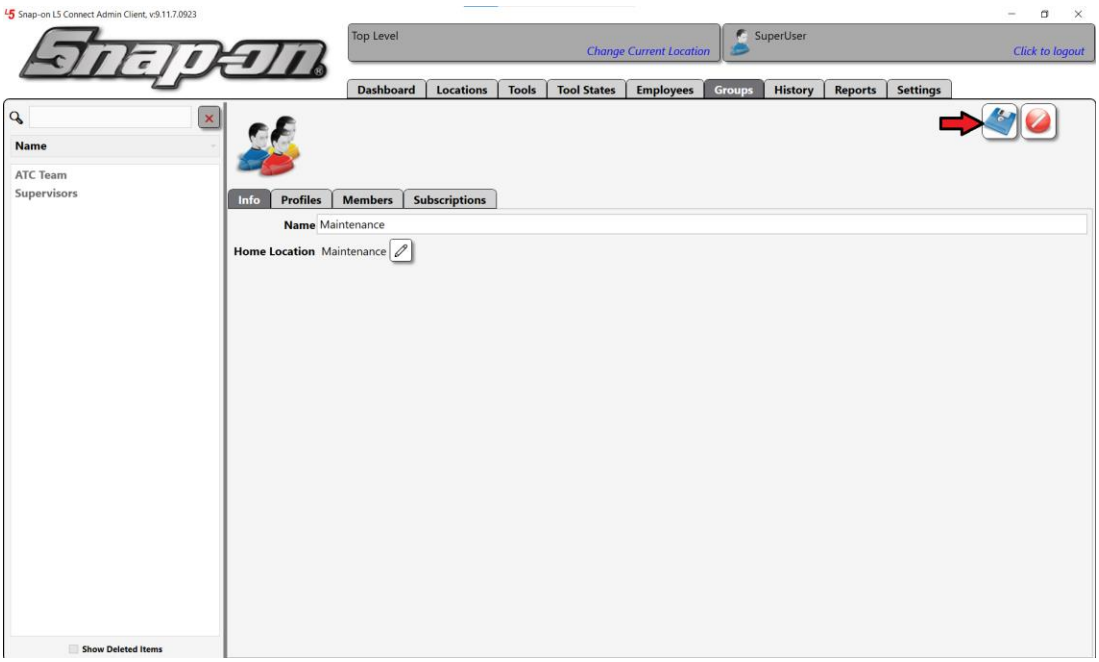


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Next, set the Home Location by clicking on the **Change** button that looks like a pencil to open the location selection screen. Select the location where you want to place the group. In this case, the group represents the Maintenance team, so you want to place it at the Maintenance location. Once you have the Location highlighted, click on the green check at the bottom to confirm the Location. When creating a group, the Home Location will default to your Current Location. For more information, please see the L5 Connect™ Locations document.



Click the blue **Save** button to finish creating the group.



You will see the newly created group listed on the group List on the left side of the screen.

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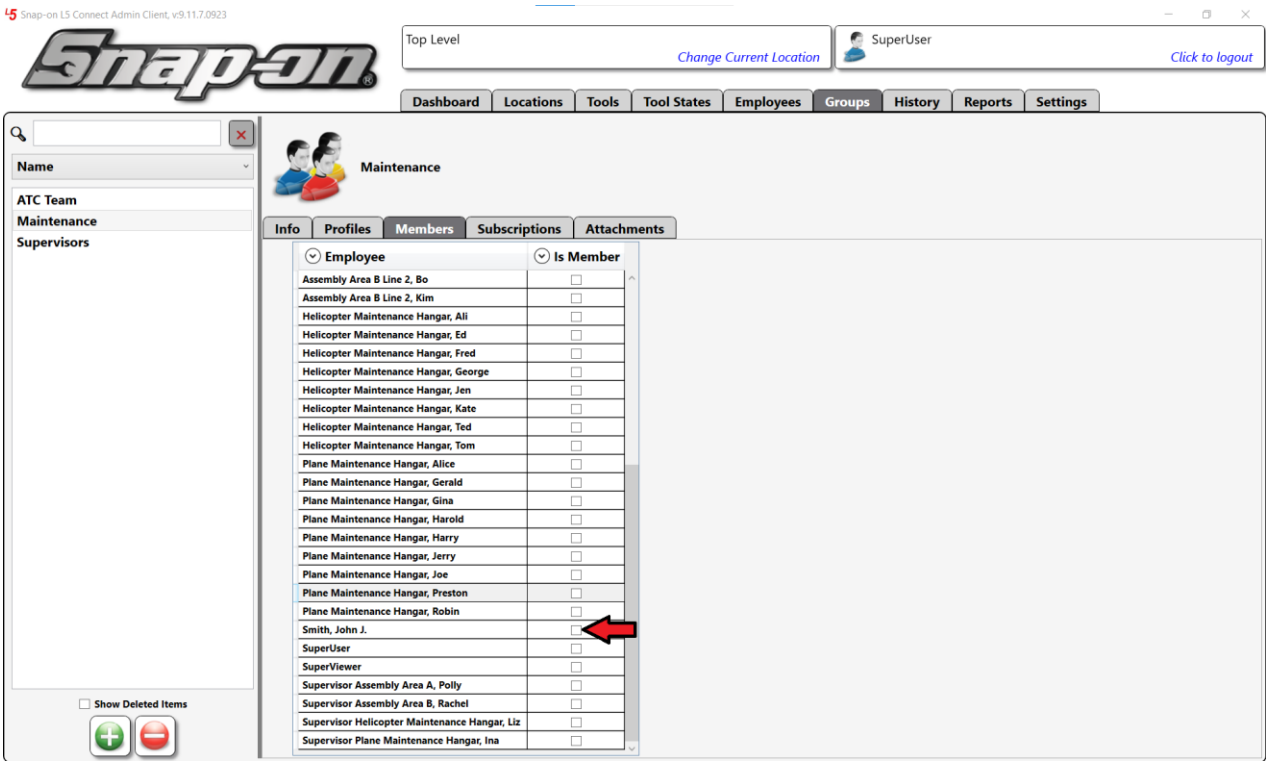
Editing a Group

To edit a group, you need to select it, make any required changes, and then click the SAVE button.

NOTE: The save and cancel icons will not appear until you make a change to the group.

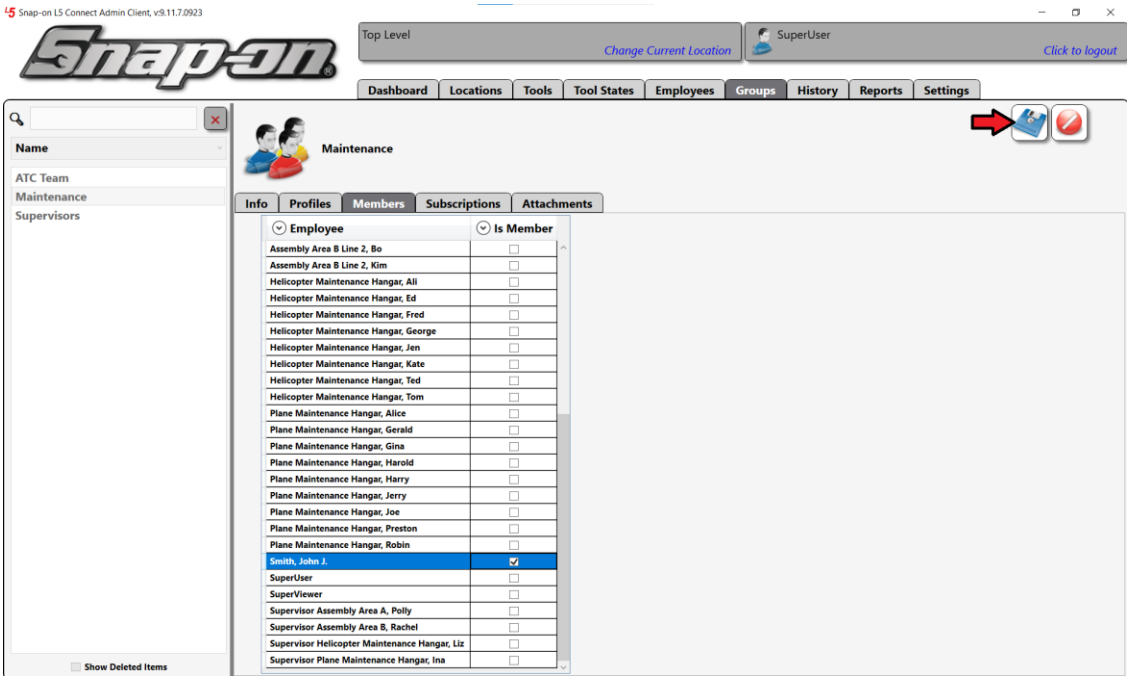
Adding/Removing Employees to a Group

Select the Members sub-tab on the Groups tab to add an Employee to the group. Find the Employee you want to add to the group from the list, then check the Is Member check box. Add John J. Smith to the Maintenance group.

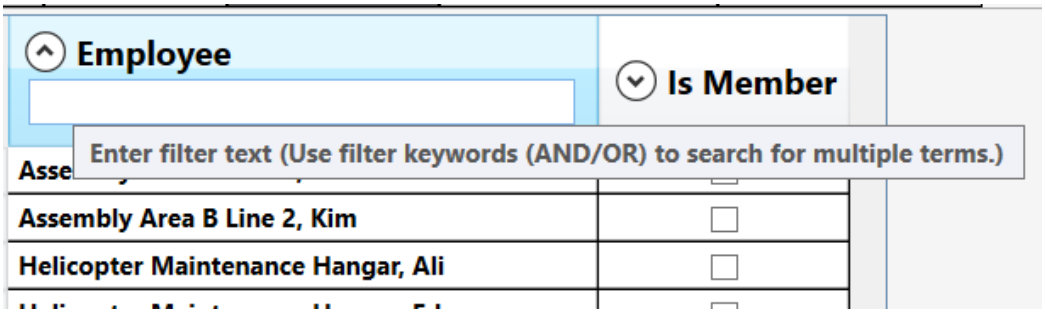


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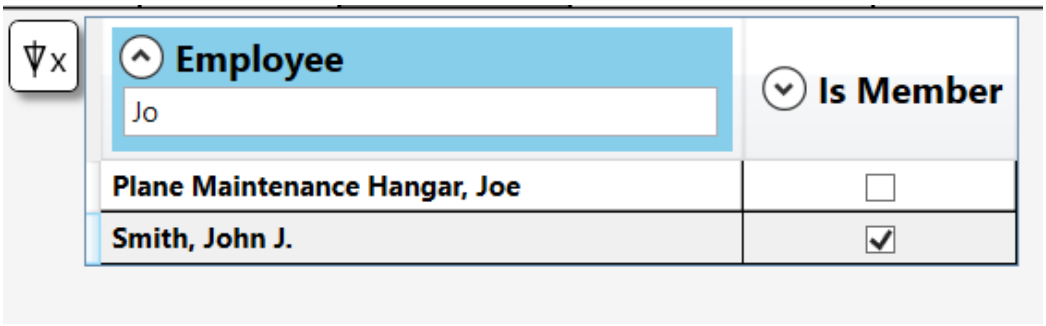
Click on the blue **Save** button to save our changes.



If you have many users, you can filter the list by clicking on the **Filter** button.



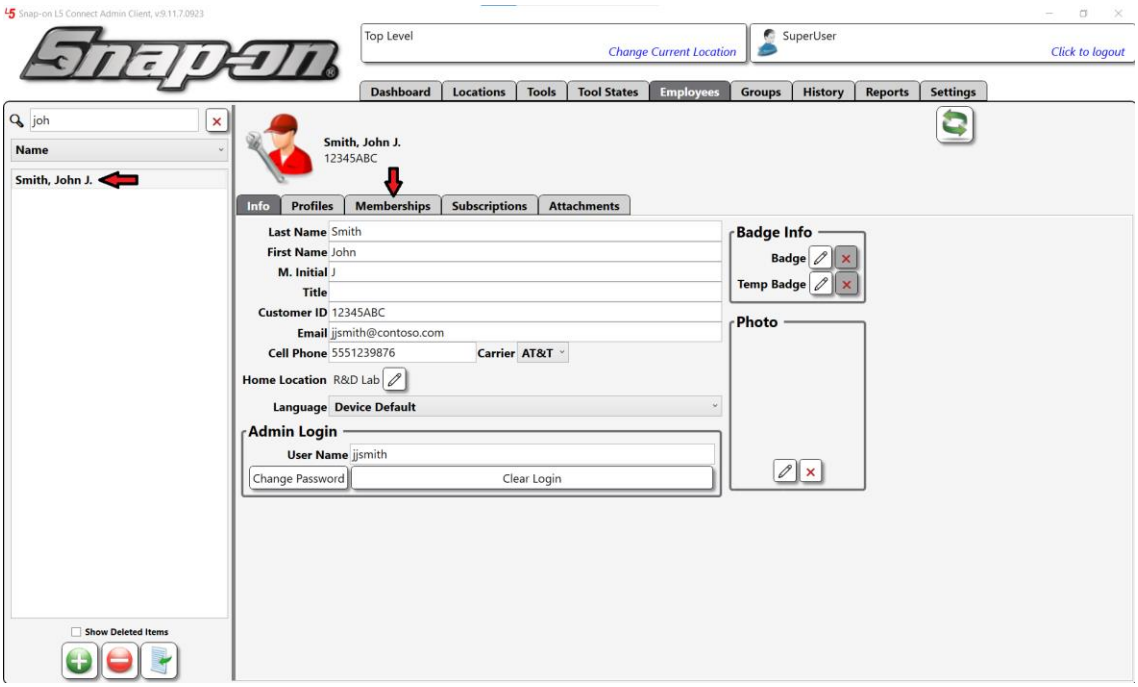
You can then start typing a name, and the list will automatically filter based on the text in the box. To clear a filter, click the **Clear Column Filters** button on the left side of Employee Name.



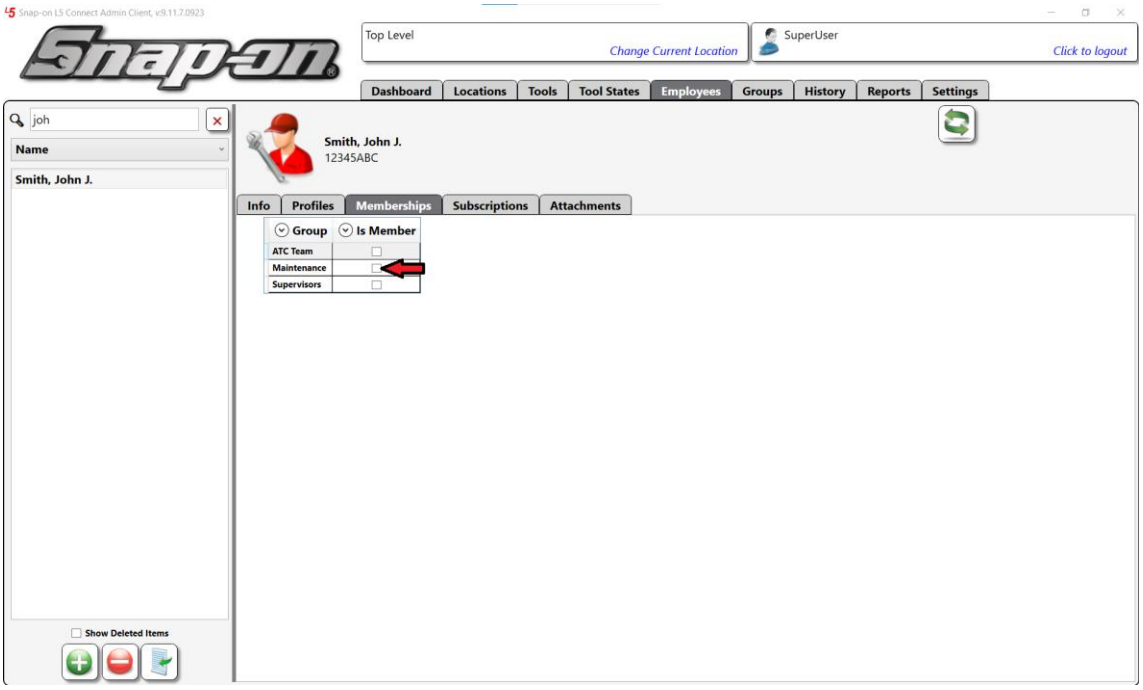
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To remove an employee from the group, uncheck the **Is Member** checkbox by their name.

Alternatively, you could add an employee to a group from the **Employees** tab. On the Employees tab you would select the employee you wish to add to the group and then select the **Memberships** sub-tab.

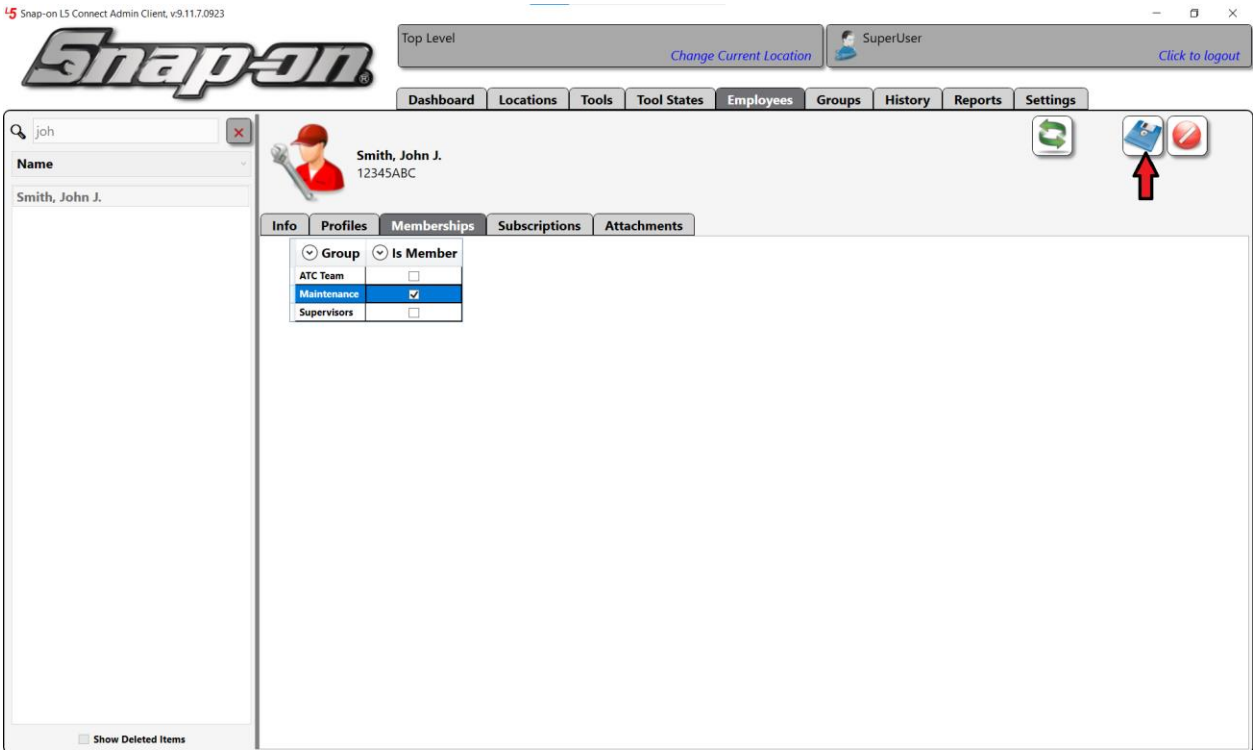


Then find the group to which you want to add the employee and check the **Is Member** checkbox.



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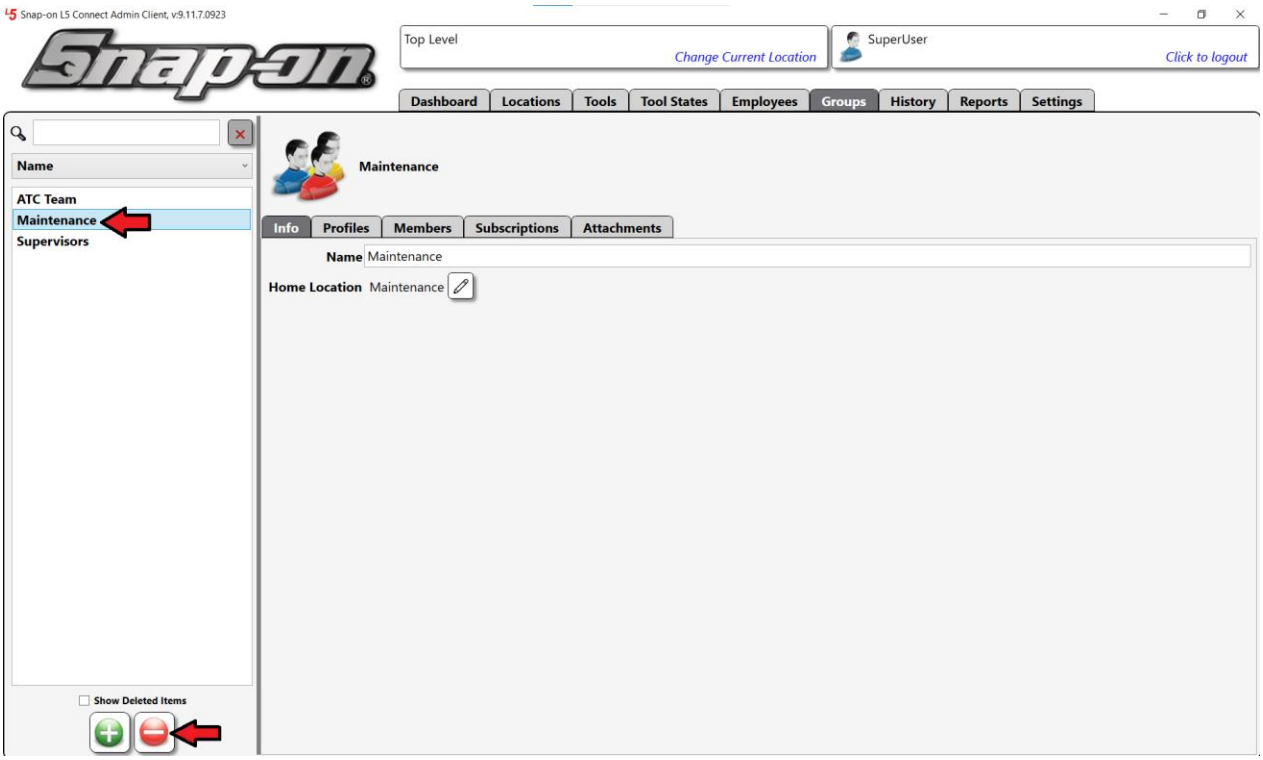
Finally, click the blue **Save** button.



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Deleting a Group

When a group is no longer needed, you can remove that group from the system. To delete the group, make sure you are on the Groups Tab. Then select the group you want to delete from the list on the left side, then click on the red **Delete** button at the bottom of the list.



You will then be prompted to confirm that you want to delete this group. Click **Yes**.

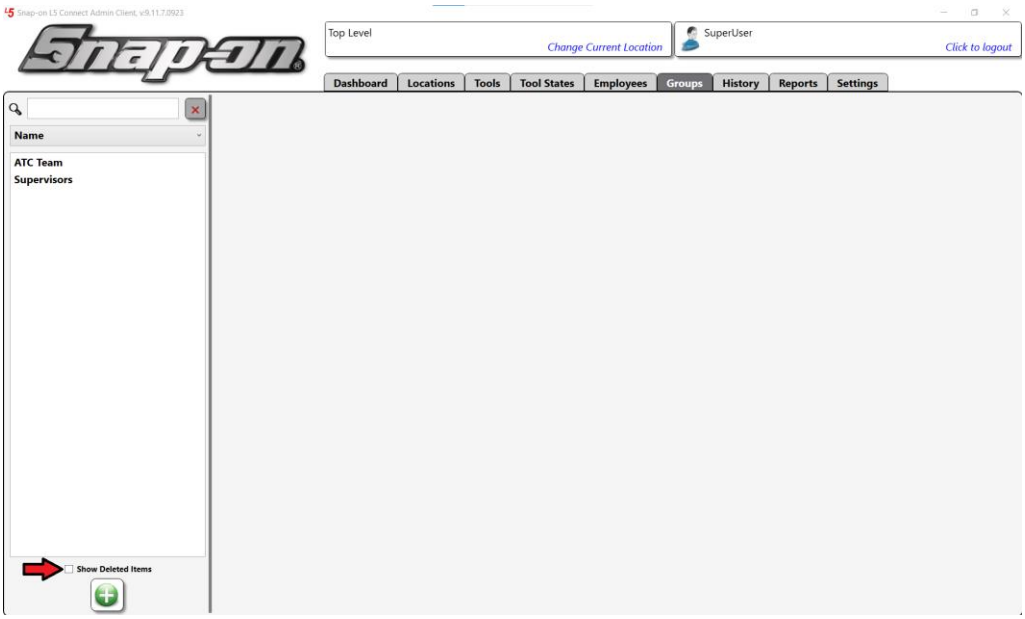


The group has now been deleted.

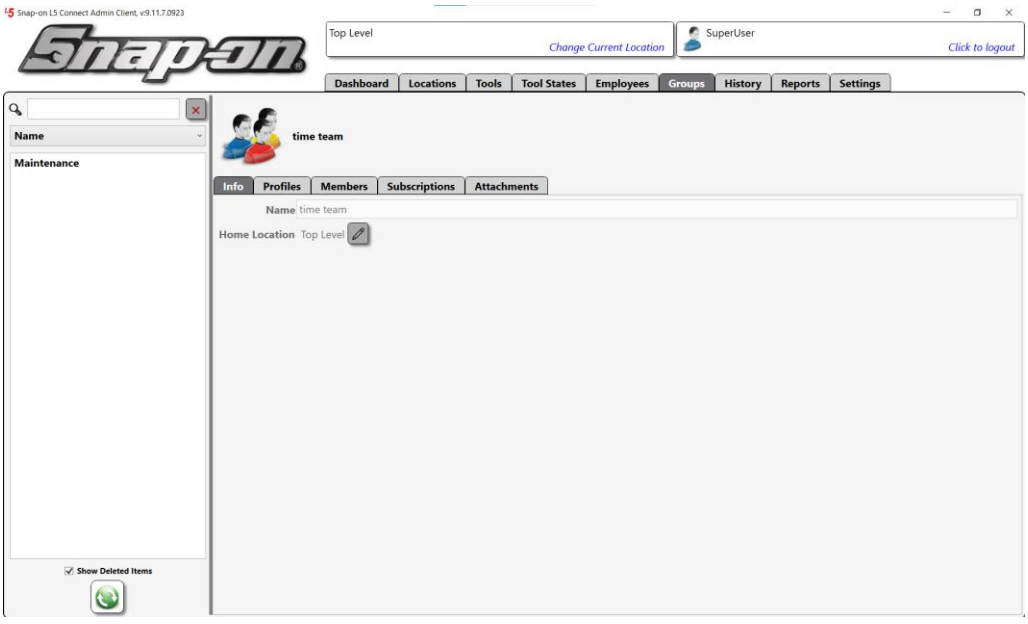
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Restoring a Deleted Group

When you delete a Group, it is not removed from the system. Instead, it is deactivated to preserve event history. To restore the group, you must check the **Show Deleted Items** on the main group page found under the group list on the left side.

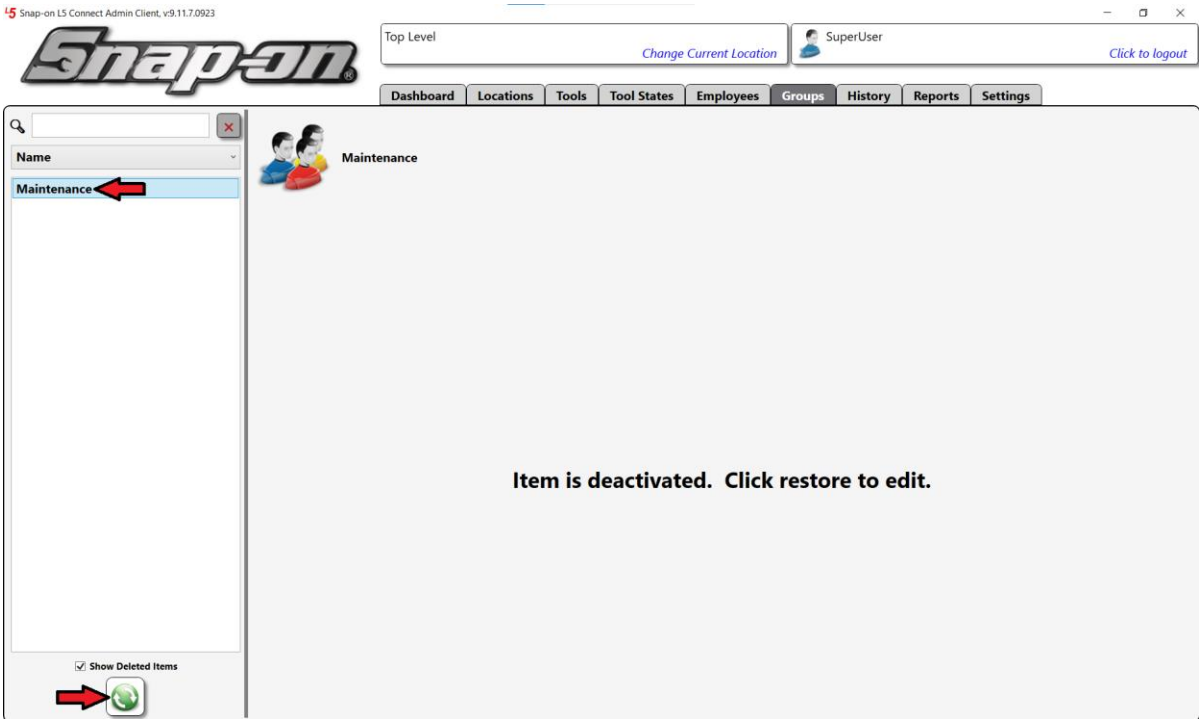


Once you have checked the box, you will see all groups that have been deleted. **NOTE: If you are not at the top level of the location tree, you will not see all deleted groups. You will only see groups at your current level and any sub-location levels.**

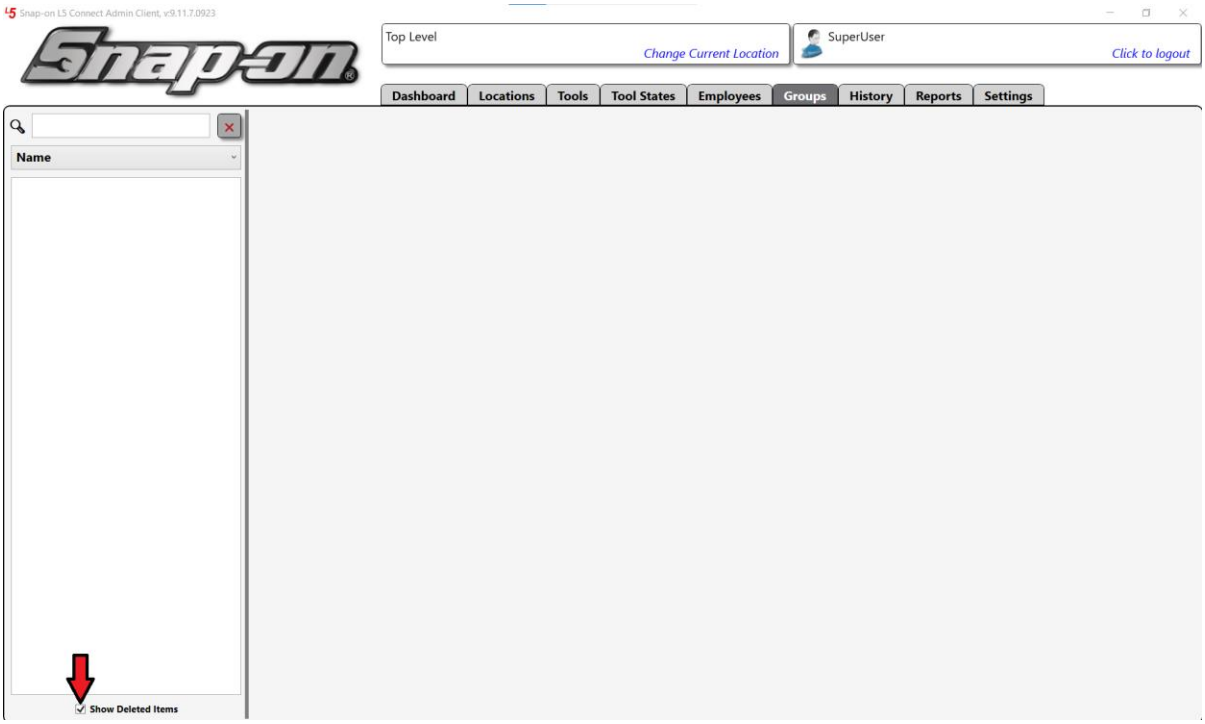


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Select the group you want to restore, click on the green **Restore** button.

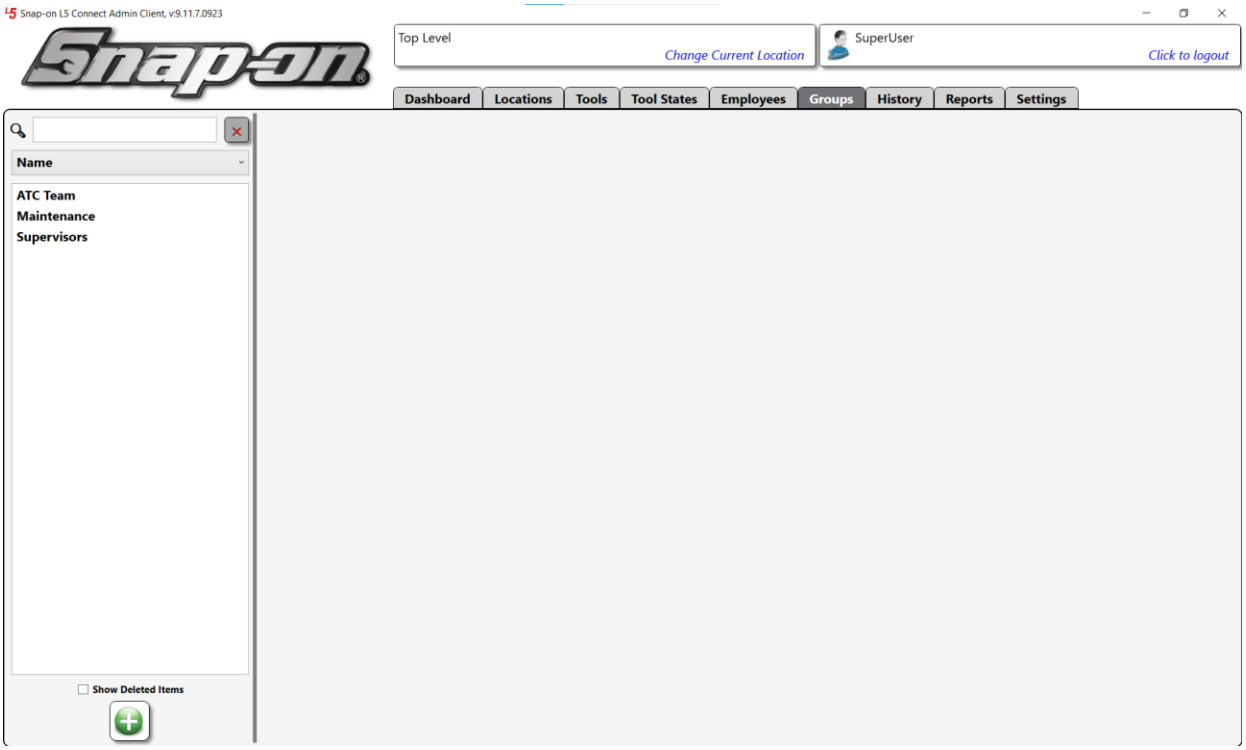


Uncheck the **Show Deleted Items** checkbox to see the active groups list.



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Your group has been restored.



NOTE: When a Group is deleted, all assigned profiles, permissions, and members are cleared. When it is restored, these will need to be added back manually.

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Default and Custom Profiles and Permissions

With Locations, you can logically organize L5 Connect™ resources to make managing and delegating tasks and assignments much easier. But how do you determine what a specific Employee can and cannot do within a particular location? That is where Profiles come into play.

A **Profile** is a set of pre-configured permissions that can be assigned to either Employees or Groups and is used to define a job role within the system.

Permissions are organized into categories. Each category will have a list of actions that you can grant to a profile. These categories are:

- **Employees** – Permissions for managing employee access
- **Locations** – Permissions for managing location objects
- **Groups** – Permissions for managing groups
- **Devices** – Permissions for L5 Connect™ Devices
- **Status** – Permissions for the Device States and Status
- **System Configuration** – Permissions for Global L5 Connect™ Configuration
- **Tools** – Permissions for tools
- **Reports** – Permissions for custom and built-in reports

You can see the complete list of permissions in the Complete Permissions List.

Default Profiles

There are already five built-in profiles in the system. These Profiles are:

- **SUPERUSER** – This Profile is granted every permission in the system. It is usually reserved for the IT or Technical Engineer in charge of the system. This is the only default profile that can make system-level changes. To function correctly, an Employee with admin access must be assigned this Profile at the Top Level of the Location Tree.
- **SUPERVIEWER** – This Profile is granted all visibility permissions but cannot make any changes. This role is helpful for management that wants to see everything but does not plan on administration of the system.
- **ADMINISTRATOR** – This Profile is granted most administrative permissions but cannot make system-level changes. This role is reserved for an area or department supervisor who needs complete control of the users and devices in specific locations.
- **MAINTENANCE** – This Profile is granted limited administrative permissions to devices and reports. This role is designed for the maintenance team to keep the L5 Connect™ devices working online.
- **SYSTEM USER** – This Profile is granted the basic permissions to the system, with no access to administrative functions. This role allows a user to access ATC Devices in a location for tool issues and returns.

NOTE: These default Profiles cannot be edited or deleted.

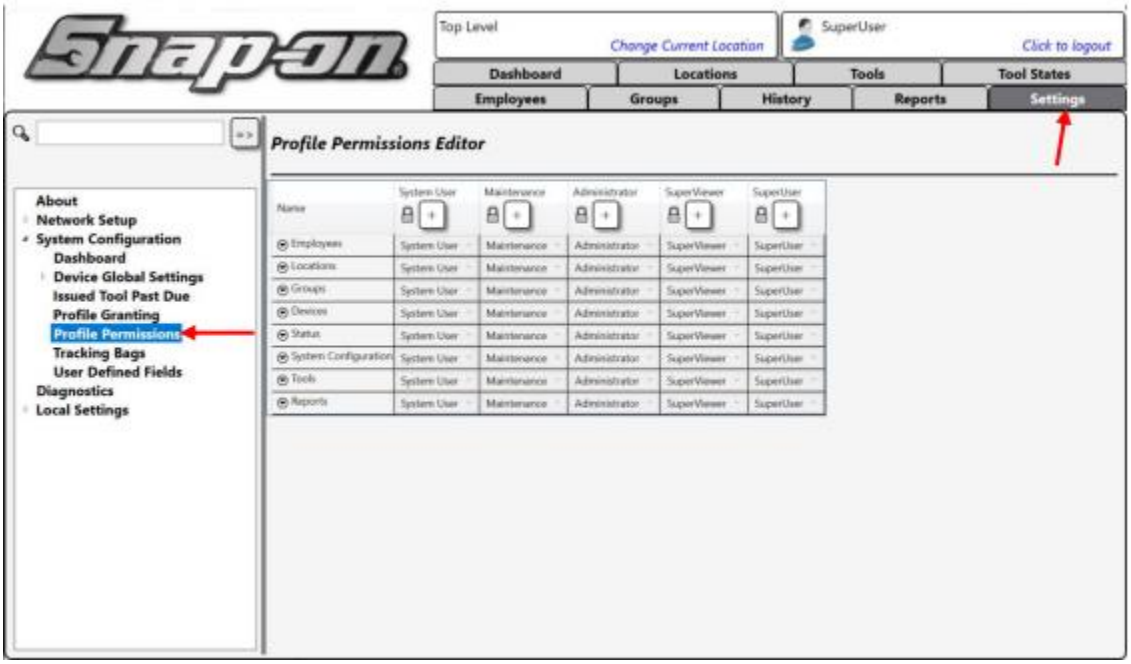
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Custom Profiles

The five default profiles should cover most roles needed to operate L5 Connect™ in an organization. Yet sometimes you may have a specific job role in your organization that the default profiles do not cover. In such cases, you need to create your own custom set of permissions by creating a Custom Profile. For
example, your company needs a profile with more permissions than the Standard user but not an Administrator. You want to call this role Power User. This will require you to make a new Profile, as none of the built-in ones will fulfill this need.

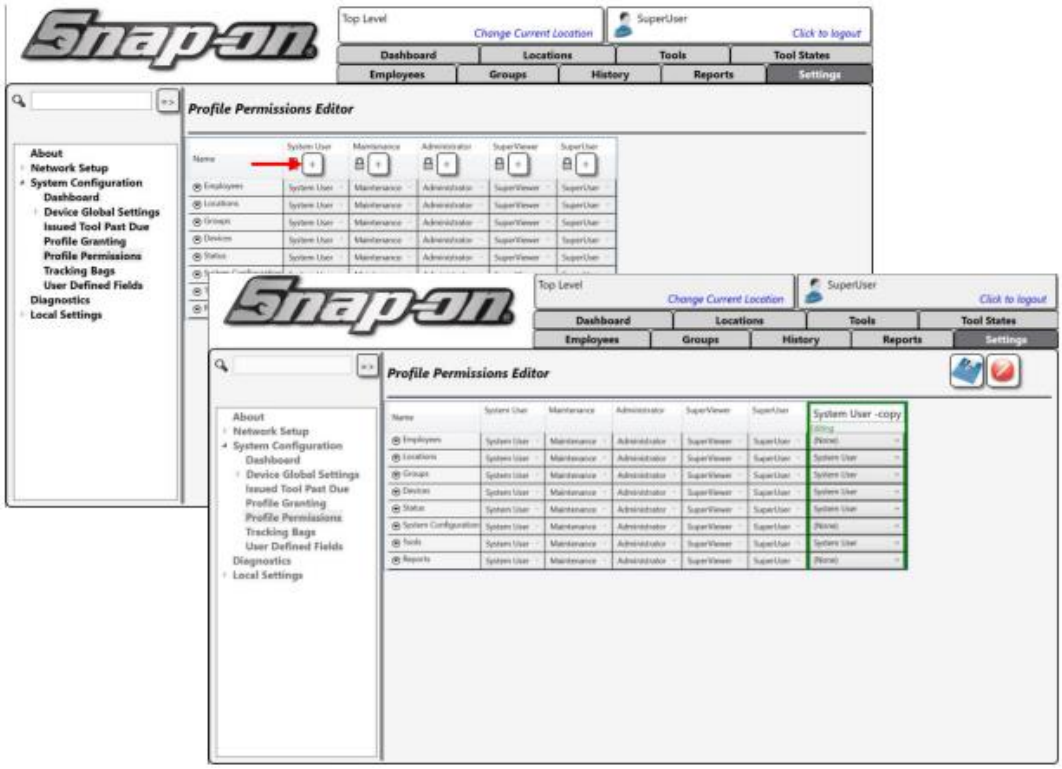
Creating the Custom Profile

1. Creating a Profile is done within the Profile Permission Editor. To access the editor, you must click on the Settings Tab in the L5 Connect™ Admin Client. Once there, on the left side of the screen, expand System Configuration, then select Profile Permissions.

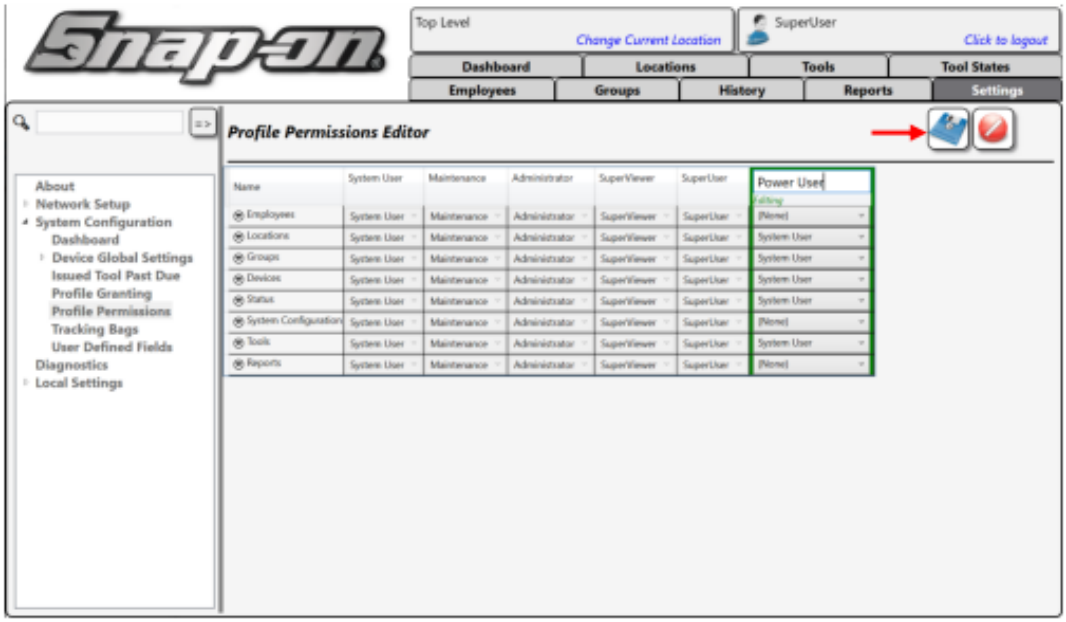


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2. On this screen, you will see all the current profiles in the system. Right now, you only have the default available. To create the new custom profile, you will need to select one of the defaults that match your needs as closely as possible. In this case, you will be creating our custom profile based on the System User Profile. Click the **+** icon under System User. This will create a copy of the System User profile that you can modify.



3. Rename the Profile to **Power User**, then click on the **Blue save** button.



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4. You will be presented with a message box informing you that the new Profile must be set in the Profile Granting screen before use. More information about Profile granting will be later in this section. Click **OK**.



5. The Profile is now created. Right now, it's just a copy of System User; you need to customize the permissions to reflect the role you want this Profile to serve.



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6. Click on the **pencil** icon for **Power User** to enter edit mode.



7. When in edit mode, you can only change the currently selected Profile. Give this user the ability to add employees and update their badges. You do not want them to grant admin access, nor do you want them to give out Temp Badges. All other permissions should be the same as System User. So, the new permissions should look like this. Click the **Blue save** button to commit the changes.



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8. If you want to delete a profile, click on the ❌ icon under the Profile's name. Then save your changes.



Common Custom Profiles

Here are a few custom profiles that you might want to create.

Tool Crib Attendant

To create a **Tool Crib Attendant** profile, you would make a copy of the profile that most closely matches what you would like your attendant to have and then add the **Tool Crib Attendant** permission from the **Locations** group.

Tool Courier

To create a **Tool Courier** profile, you would make a copy of the system user profile and add the **Tool Courier** permission from the **Devices** group.

Cal Lab Tech

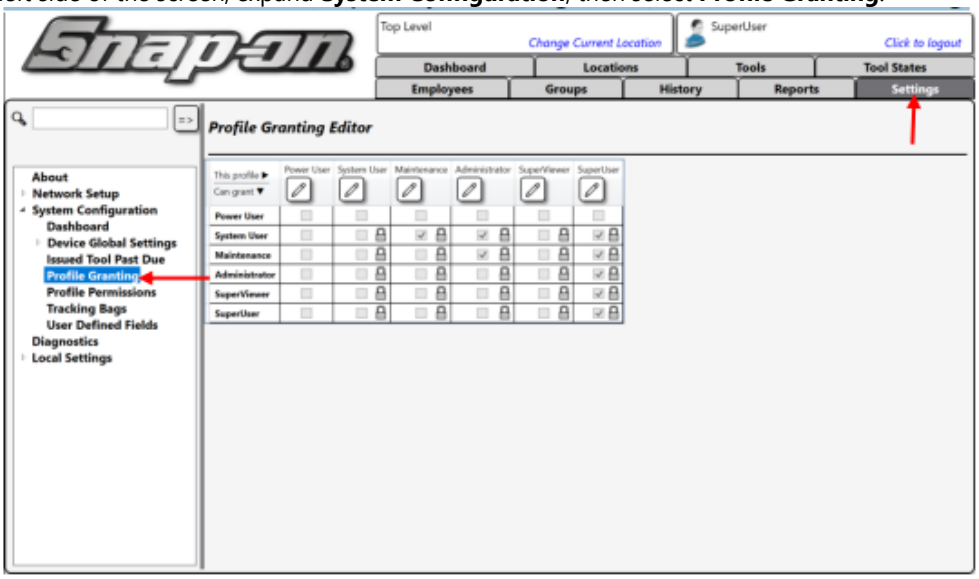
To create a **Cal Lab Tech** profile, you would make a copy of the maintenance profile and add the **Info Edit** permission from the **Tools** group.

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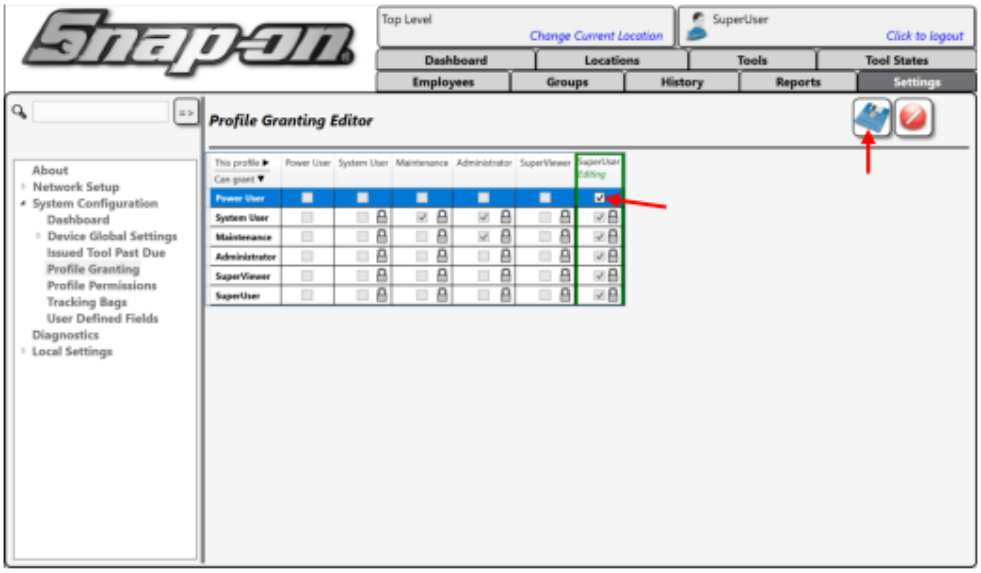
Profile Granting

When you create a new custom profile, you need to determine which other profiles in the system can assign that new Profile to users and groups. This is done in the Profile Granting Editor.

1. To access the editor, you must click on the **Settings** Tab in the L5 Connect™ Admin Client. Once there, on the left side of the screen, expand **System Configuration**, then select **Profile Granting**.



2. The checkboxes on the screen represent if a profile has access to grant other profiles. You need to give Super User and Administrator the ability to grant the Power User profile. If you click on the **Pencil** icon, you will enter edit mode for that Profile. All other profiles will be locked until you save your changes. Click the **Pencil** button for Super User and check the box so it can grant the Power User profile, then click the **Save button**.



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3. As you can see, the Super User profile can now grant the Power User profile. Edit the **Administrator** profile to also grant the **Super User** profile. When you are done, your screen should look similar to this.



4. Now, the Super User or Administrator Profile should be able to assign the Power User profile to employees and groups.

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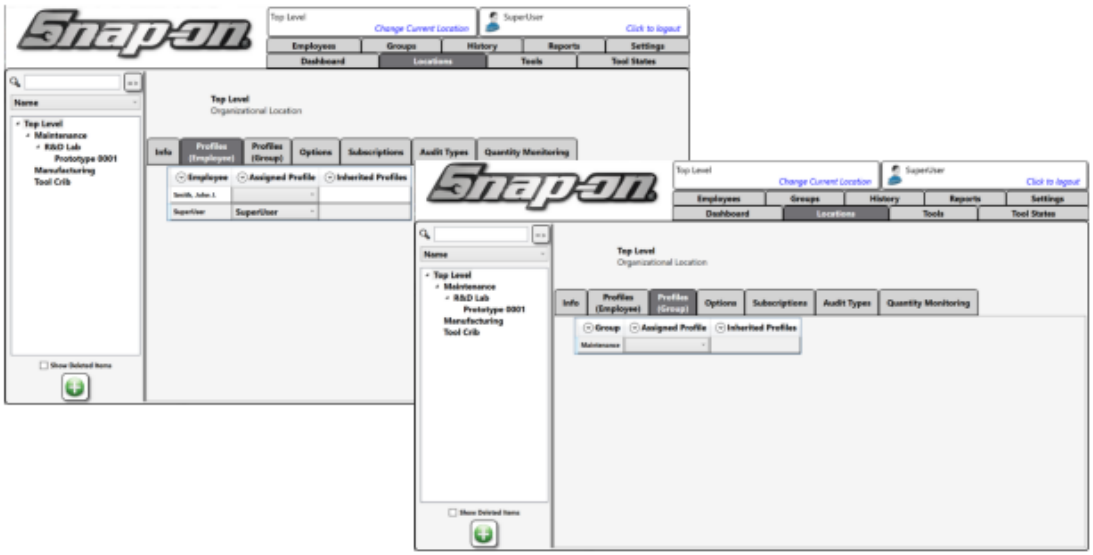
Assigning Profiles

Now that you have created a Profile, assigned permissions to it, and given grant rights to it for **Super User** and **Administrator**, you need to assign it to an employee or group to apply those permissions to Employees. You can do this in a few different ways. You can use the **Locations Tab**, **Employees Tab**, or **Groups Tab**. Each one has a different way of assigning a profile.

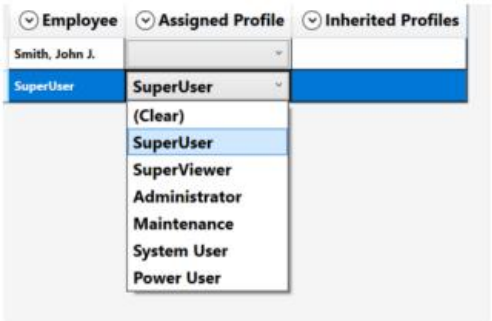
Location Tab Method

The first method is the **Location Method**. In this method, you will select a location in the **Location Tree** on the left side of the screen. Once you have chosen that Location, you will see two sub-tabs, **Profiles (Employees)** and **Profiles (Groups)**. Clicking on the Employees sub-tab will display all the Employees in the system. The Groups sub-tab will show you all the Groups in the system.

NOTE: You will only see Locations, Employees, and Groups that you have permissions to.



Simply use the pull-down to select which profile you want to assign to a particular employee or group, depending on which sub-tab you are on. Once selected, click the **Save** button in the top right of the screen.

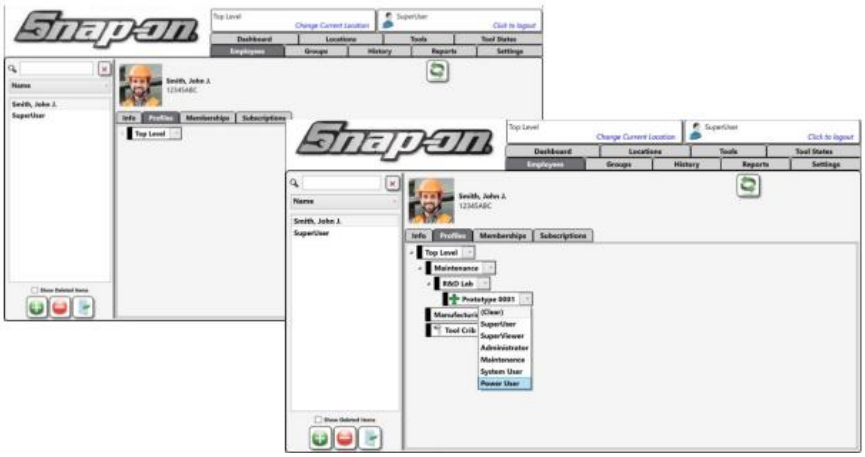


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Employee Method

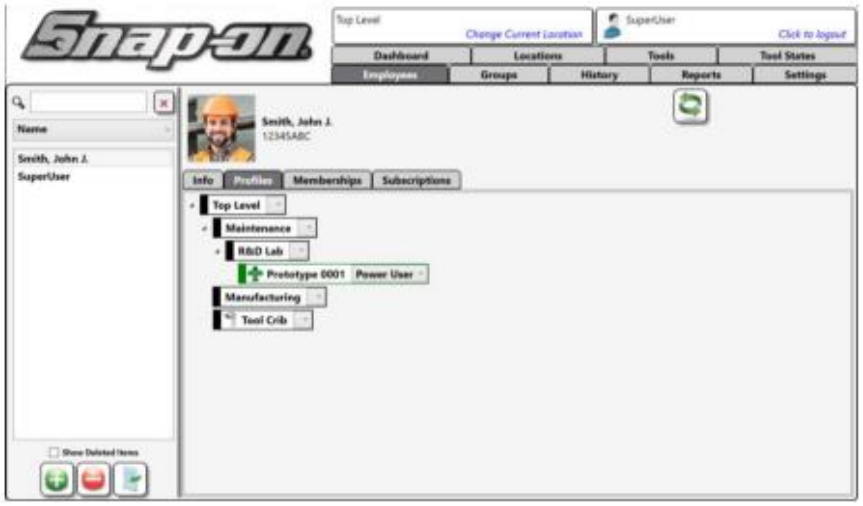
The second method to assign profiles is the **Employee Method**. In this method, you will use the **Profiles sub-tab** on the **Employees Tab**.

Locate the Employee you want to assign the Profile to on the left side and select them to bring up their Employee Settings. Then choose the **Profiles sub-tab** and expand the **Location Tree** to drill down to the location you want to assign the Profile.



NOTE: An Employee or Group can have different profiles assigned at different locations at the same time.

Use the pull-down to select the Profile you want to assign. Then save the Employee.



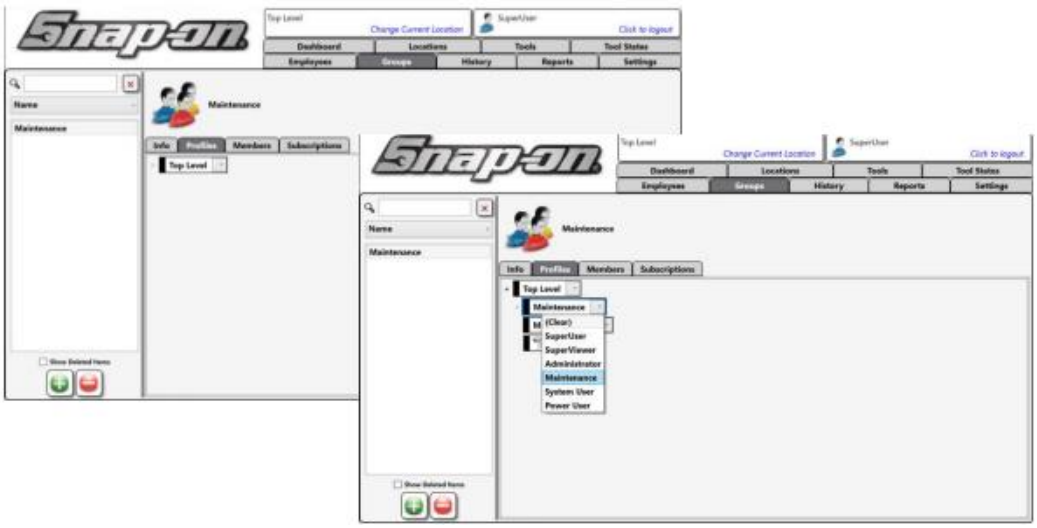
NOTE: When a profile is assigned, the location will turn GREEN, when no profile is assigned, the location will be BLACK.

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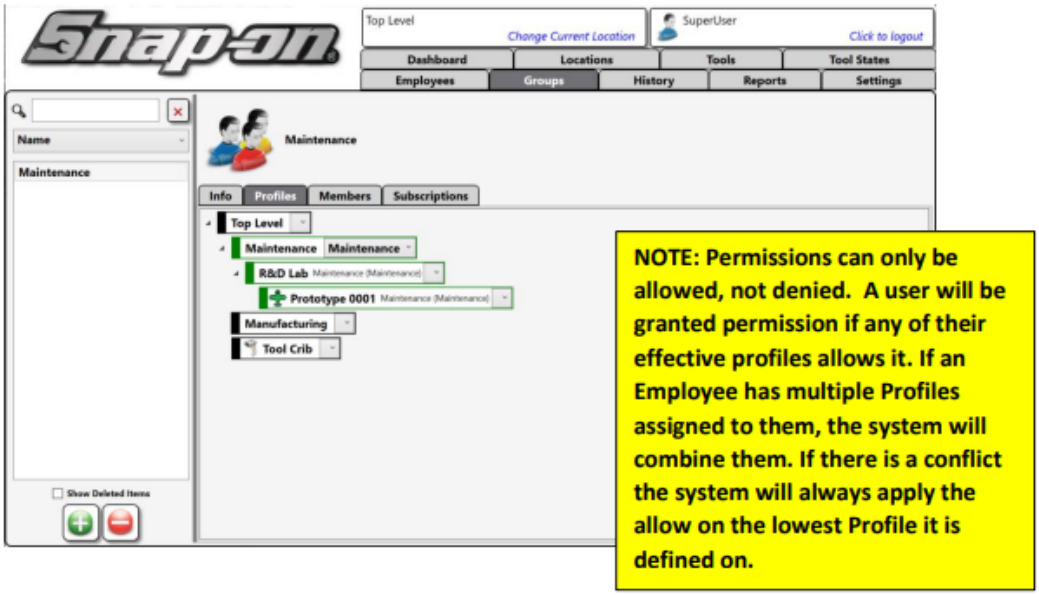
Group Method

This Method works identically to the **Employee Method**, except that it applies to groups. You will assign the Profiles just like in the **Employee Method**.

Locate the group you want to assign the Profile to on the left side and select them to bring up their Group Settings. Select the **Profiles** sub-tab. You will use the **Location Tree** to drill down to the location you want to assign the Profile.



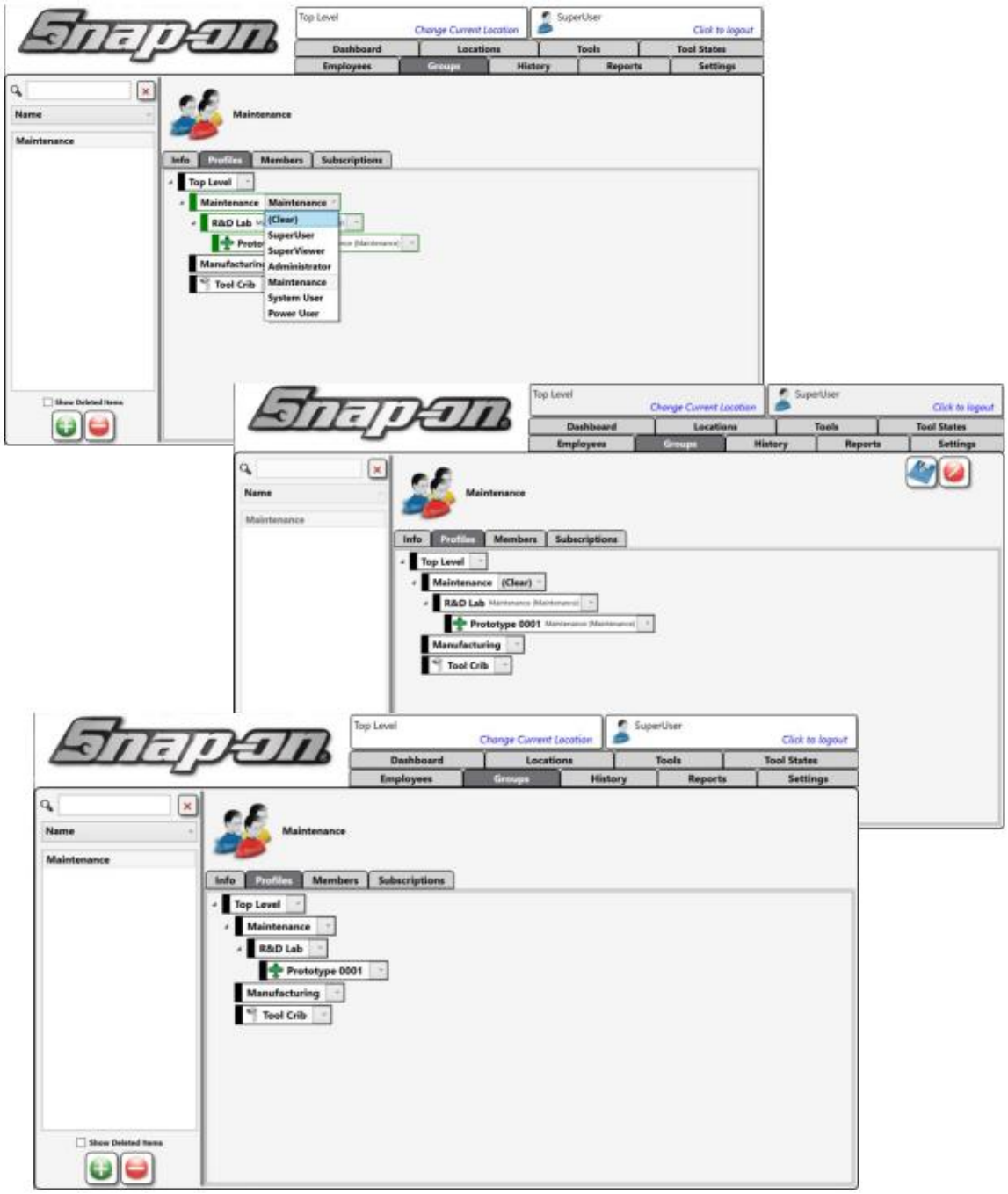
Now use the pull-down to select the Profile you want to assign. Then save the Group. As you can see, when you set a **Profile** to a location with sub-locations, the same **Profile** is applied to the parent's **Child Locations**.



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Clearing a Profile

When you want to remove a Profile from an Employee or Group, you need to select the **(CLEAR)** option from the pull-down and save the Profile.



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Complete Permissions List

Group	Permission	Purpose
Employees		
	Add/Remove	Add and remove employee accounts
	Admin Client Access Edit	Promote a standard Employee account to an Admin account and set a username & password
	Badge Edit	Set, change, and clear the RFID badge of an Employee
	Contact info Edit	Edit the E-mail, Cellphone number, and Cell Carrier of an Employee account
	Contact info View	View the E-mail, Cellphone number, and Cell Carrier of an Employee account
	Info Edit	Edit the properties of an Employee account
	Info View	View the properties of an Employee account
	Photo Edit	Add, remove, and change the photo of an Employee account
	Temp Badge Edit	Set, change, and clear the temp RFID badge of an Employee
Locations		
	Device Edit	Change the properties of a Tool Control Device
	Device Move	Change the Location of a Tool Control Device
	Info View	View Information about a Location
	Issue Tool to Work Location	Assign Tool to Work Location in Selected Location
	Issue Tools From Device	Check out Tool from Device in Location
	Notifications Edit	Change Notification Settings for a Location
	Organizational Location Edit	Change Org Location Object Properties
	Tool Crib Attendant	Enables Employee to sign in as Crib Attendant
	View Employee Signatures	Allows the user to view employee signatures entered at the end of a crib session
	View Events	View Events of Location

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Group	Permission	Purpose
	Work Location Edit	Change Properties of a Work Location Object
	Work Location Move	Move a Work Location Object to a new Location
Groups		
	Add/Remove	Add/Remove a Group Object
	Edit Members	Edit member of a Group Object
	Info Edit	Edit Group Object Properties
	Info View	View the Group Object Properties
Devices		
	Access	Access a device to check out/in tools
	Add/Remove from Service	Add/remove a device from a service
	Audit	Enables Audit Mode Access
	Bypass Biometrics Access	Disable this option to require Biometrics for Device Login
	Bypass Issued Tool Lock Out	Disable to deny users log in at a device if they have tools issued from another device
	Bypass Second Badge Verify	Disable this option to require 2nd Badge for Verification
	Date Time	Change Date/Time Settings in System Menu
	Device Setup	Allows the user to perform device setup tasks on the device
	IT Function Access	Access IT Functions in System Menu
	Network Settings	Access Network Settings in System Menu
	Screen Calibration	Access Screen Calibration Settings in System Menu
	Service Diagnostics	Access Service Diagnostics in System Menu
	Tool Courier	Allow user to pick up and drop off tools from FlexHub drop off compartments
	Tool Return Device Other User Drop Off	Allow user to return someone else's tools to LockerHub

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Group	Permission	Purpose
	Tool Training - Drawer	Enable Full Drawer Training
	Tool Training - Single	Enables Single Tool Training
	Volume	Change Sound Volume of Voice Statements from Device
Status		
	{Customizable Statuses}	Only the protected statuses that cannot be changed are listed below. The other "customizable" status names are not listed in this document but are visible in the Admin Client. For more information about customizing statuses see the Tool Statuses document.
	Info Conflict Clear	Allow user to clear an information conflict
	Needs Confirmed Clear	Clear Status Needs Confirmed status
	Status Change for Other Issued Tool	Change Status for tool issued to another user
System Configuration		
	Audit Types Edit	Change audit type
	Certifications Edit	Change Certifications Requirements for Tool
	Diagnostics	Access Diagnostics
	Maintenance Type Edit	Change Maintenance Types
	Master Tool Edit	Add/Edit/Remove Master Tools
	Network Settings	Change Network Settings
	Profiles Edit	Add/Edit/Remove and Assign Profiles (recommended only for Sys Admin Account)
	System Configuration	Edit System Configuration Settings
	Tracking Bags Edit	Allow user ability to manage tracking bags
	Units Edit	Edit Unit values
	Verifications Edit	Edit Verification Settings

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Group	Permission	Purpose
	Work Location Template Edit	Edit Work Location Templates
Tools		
	Bypass Tool Status Issued Lock Out	Allow user to issue tools with statuses
	Home Location Change	Change Location of Tool Instance
	Info Edit	Change Tool Properties
	Info View	View Tool Properties
	Override Issued Tool State	Allow user to manually edit issued tool state
	Tolerance Edit	Enabled editing detection tolerances of tools in devices
Reports		
	Report Schedule	Enables the Ability to Schedule report
	Report Share	Enables Ability to Share Custom Reports

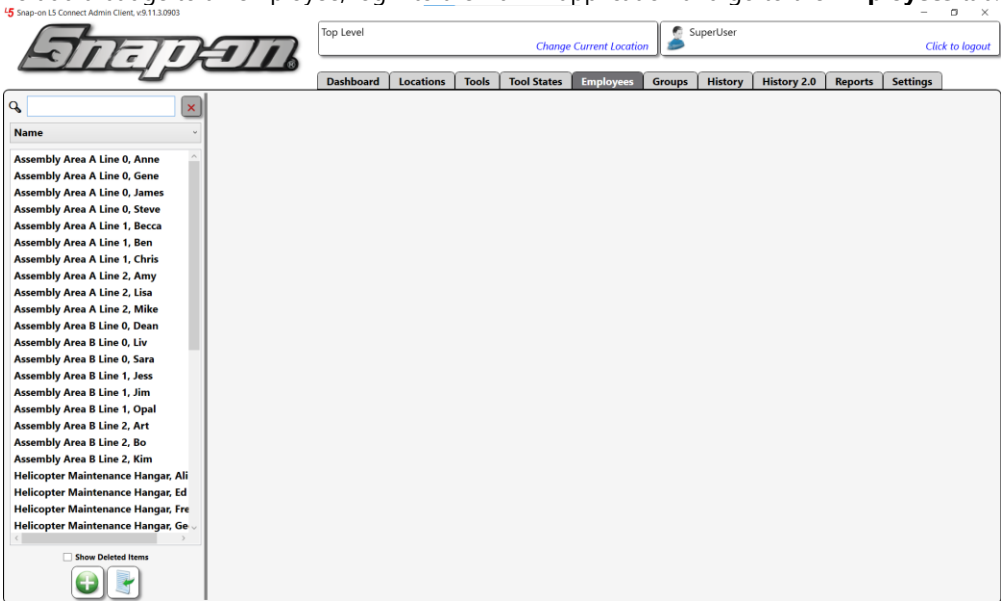
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Employee Badges

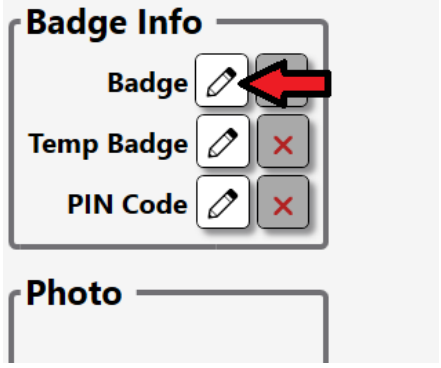
This document will cover managing employee badges. The L5 Connect system uses RFID badges assigned to the employees defined in the system to allow access to the devices managed by the system. When creating an employee, if there is no badge assigned to that employee, they will not be able to access any of the devices in the system. This document will explain how to properly assign a badge to an employee.

Adding a Badge

1. To add a badge to an employee, log into the Admin application and go to the **Employees** tab.



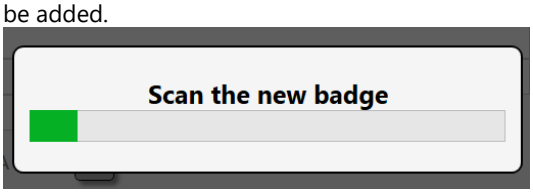
2. Select the employee for whom you would like to add a badge. In the **Badge Info** group box, click the **Badge** edit button that looks like a pencil. **NOTE: If this button is instead a greyed out green checkmark, that means the employee already has a badge assigned to them.**



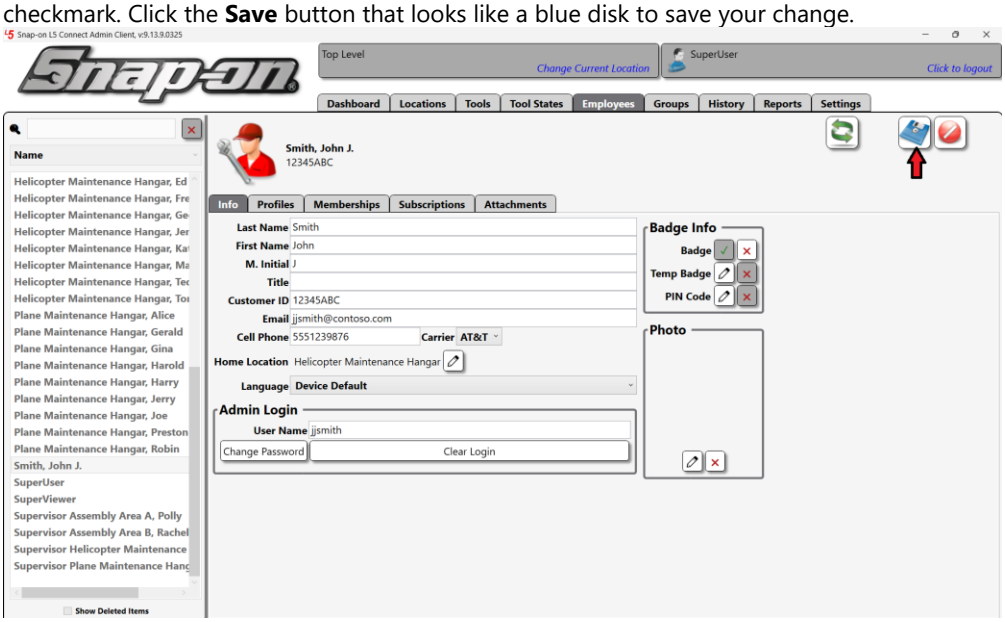
3. You will see a pop-up window with a progress bar asking you to scan the RFID badge of that employee. If you don't scan a badge by the time the progress bar completes, the system will time out and no badge will

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be added.



4. After successfully scanning a badge, you will see the badge edit button change to a greyed out green checkmark. Click the **Save** button that looks like a blue disk to save your change.

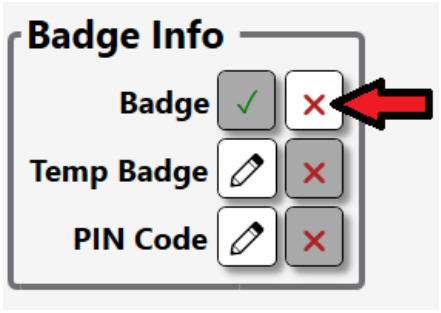


5. You have now successfully added a badge to the employee.

NOTE: Even though you have assigned a badge to the employee, they will still not have access to any devices unless they also have a profile within the system. For more information about profiles see the Default and Custom Profiles and Permissions document.

Updating a Badge

1. If an employee loses or breaks a badge and needs to have his badge updated, you would simply click the **Clear** button that looks like a red x to remove the old badge.



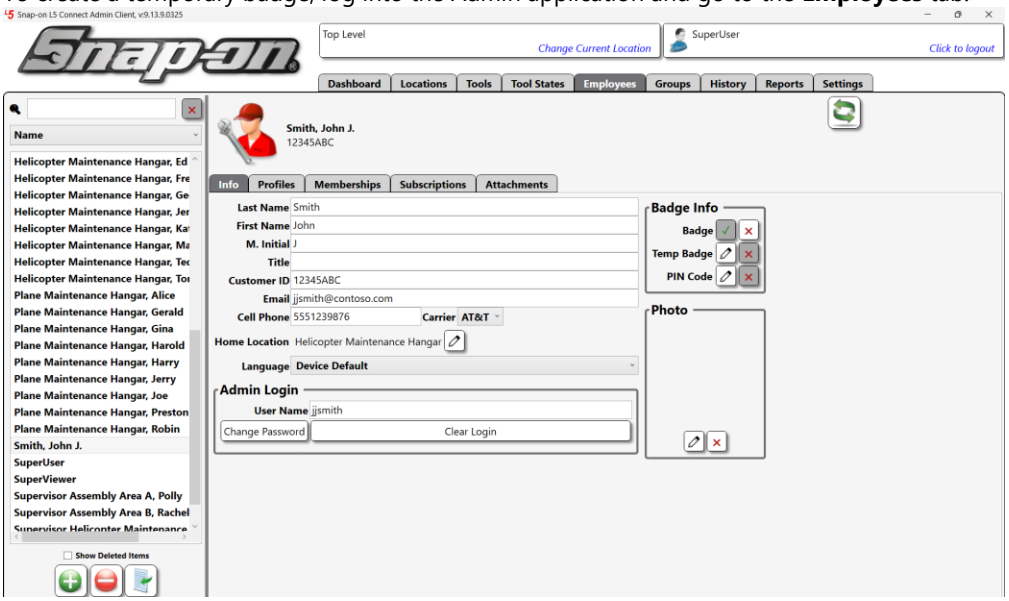
2. Then, repeat the process to add a badge.

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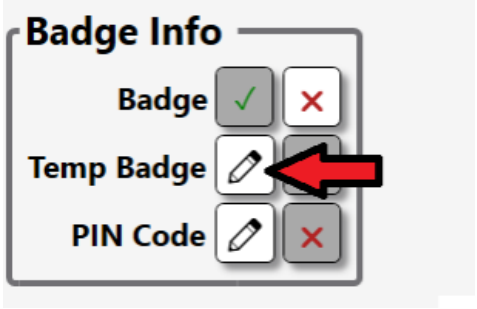
Adding a Temporary Badge

Suppose you have an employee forget their badge one day or you have a contractor who needs access for a limited time. You can provide them with a temporary badge to allow access for an amount of time specified at the creation of the temporary badge.

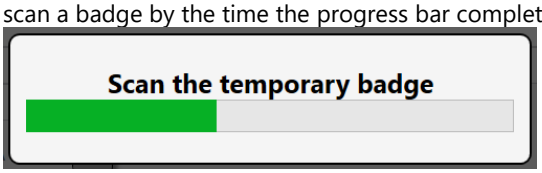
1. To create a temporary badge, log into the Admin application and go to the **Employees** tab.



2. Then select the employee for whom you would like to add a temporary badge. In the **Badge Info** group box, click the **Temp Badge** edit button that looks like a pencil. **NOTE: If this button is instead a greyed out green checkmark, that means the employee already has a temporary badge assigned to them.**



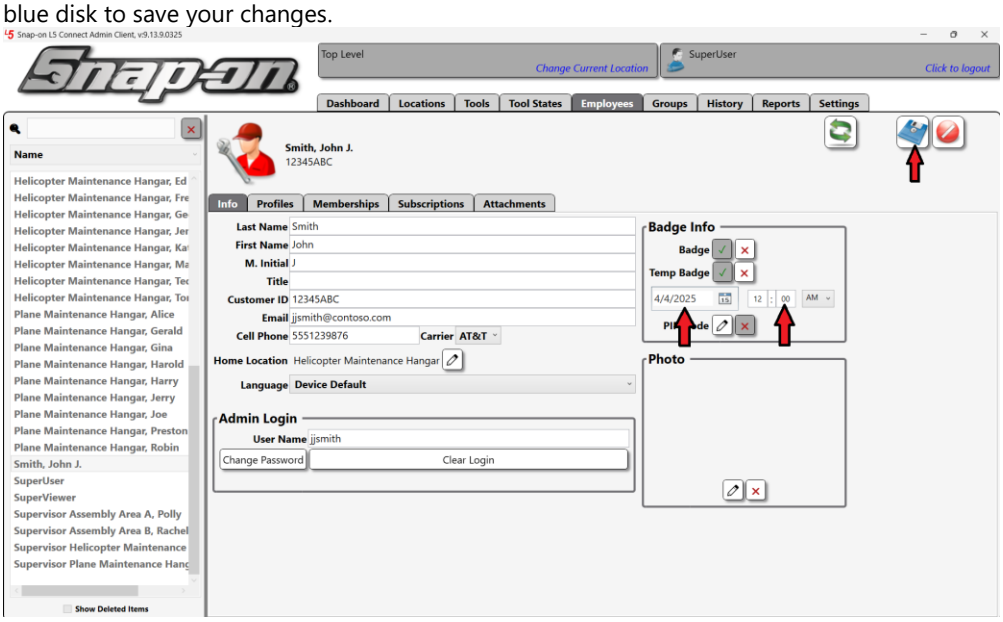
3. You will see a pop-up window with a progress bar asking you to scan the RFID temporary badge. If you don't scan a badge by the time the progress bar completes, the system will time out and no badge will be added.



4. After successfully scanning a badge, you will see the badge edit button change to a greyed out green checkmark. You will also see a date and time, which you should set to when you would like the temporary badge to stop providing access to the system devices. Once that is set, click the **Save** button that looks like a

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blue disk to save your changes.



5. You have successfully added a temporary badge to the employee.

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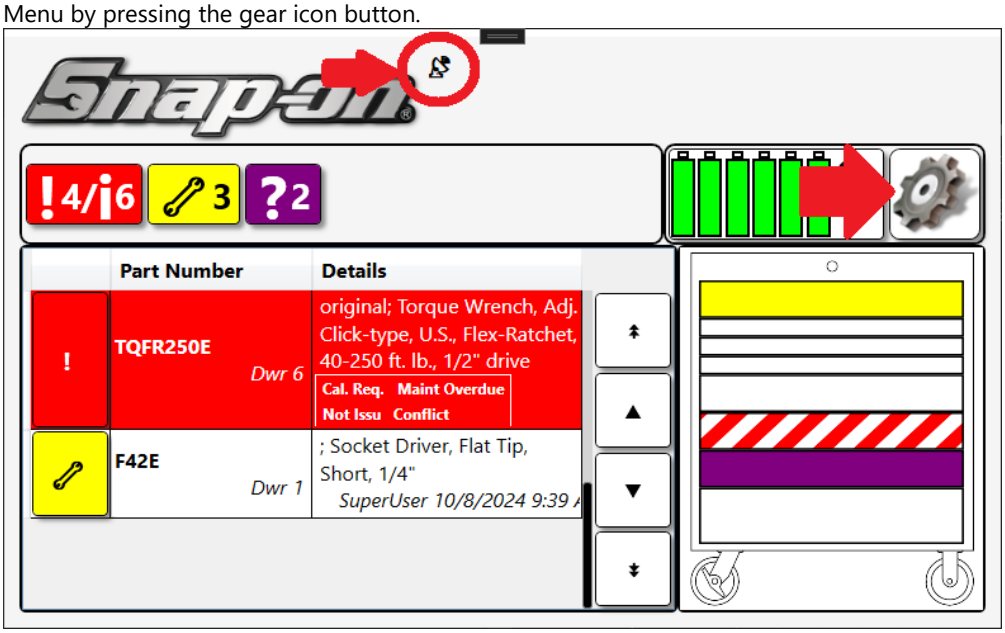
Assigning Badges at Device

Admin users can assign primary or temporary badge credentials for existing employees from certain ATC devices.

Supported software versions: 9.11.2 or greater
Supported devices: ATC Toolbox, RFID Cabinet
Access point: Device menu/System Changes/Edit Employee
Device must be online (satellite icon showing on front screen).
Required permissions: ATC Admin Client login + Badge edit or Temporary Badge Edit over desired employee(s)

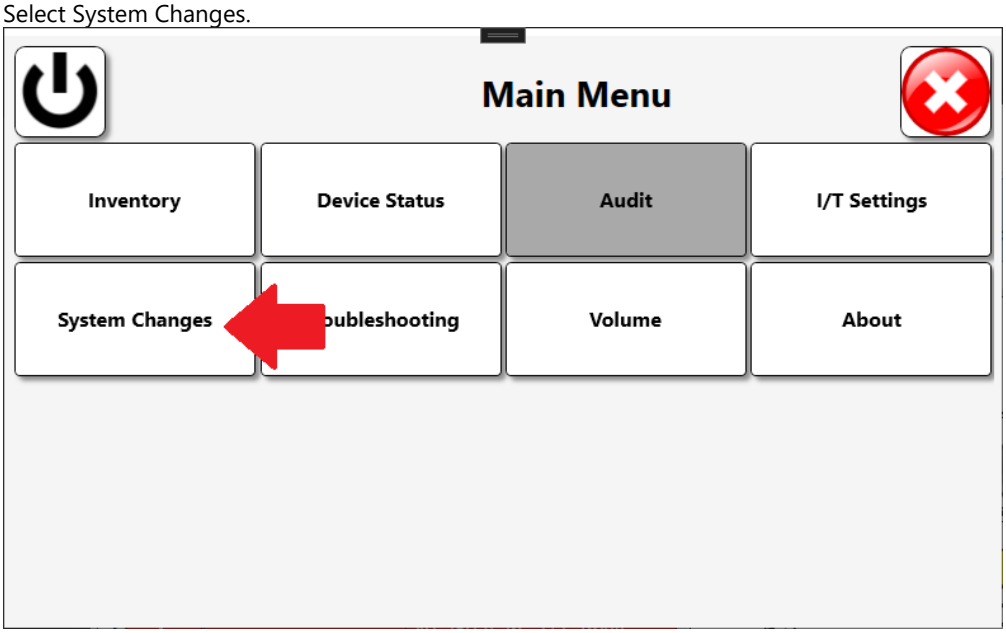
NOTE: Users cannot use this feature to add a new employee at the device.

1. From the device main screen, confirm the device is online with the satellite icon, then access the Device Menu by pressing the gear icon button.

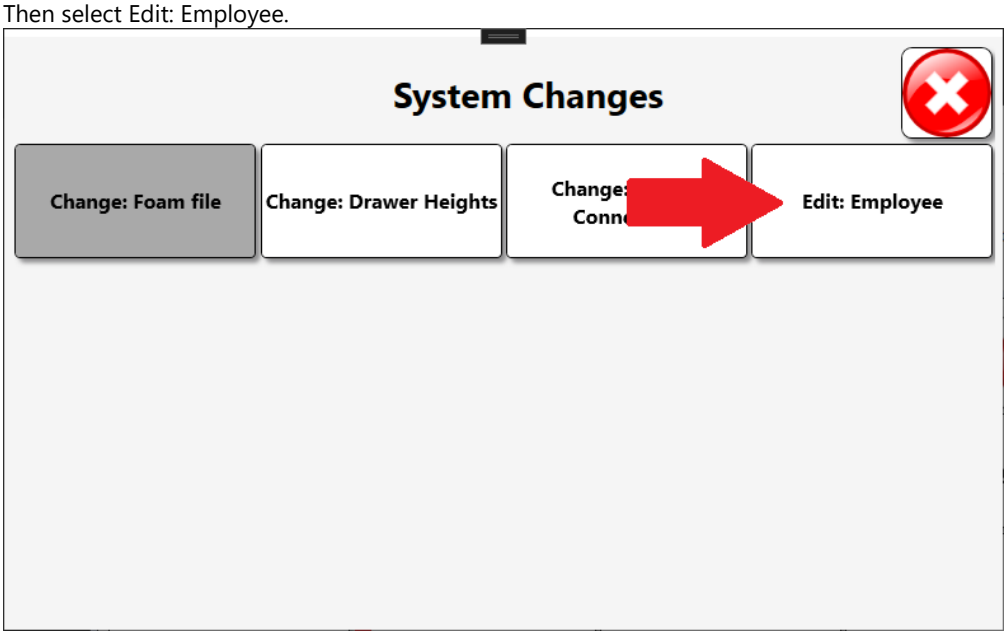


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2. Select System Changes.



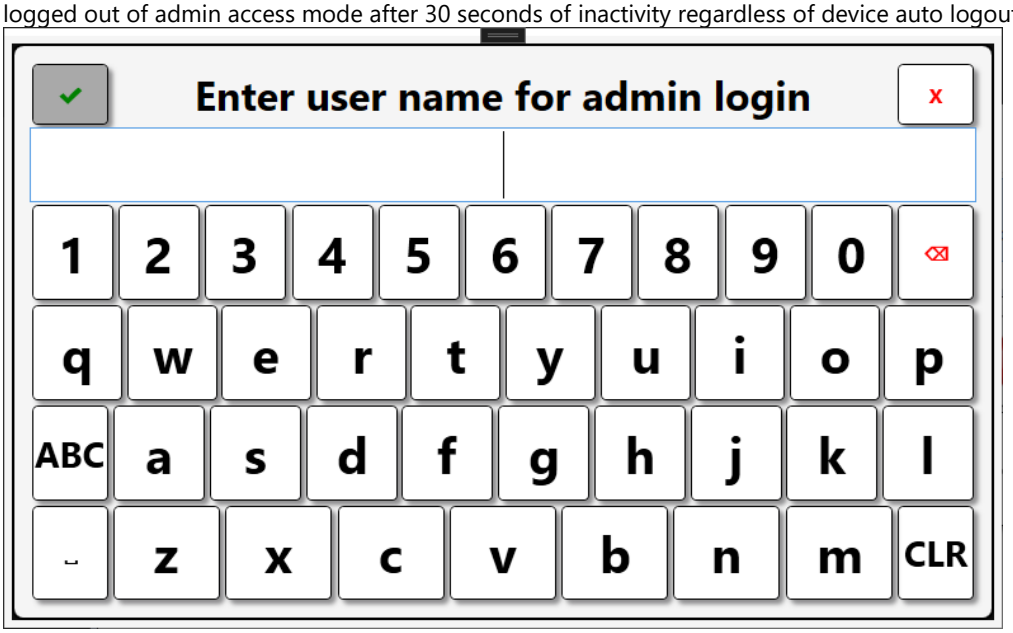
3. Then select Edit: Employee.



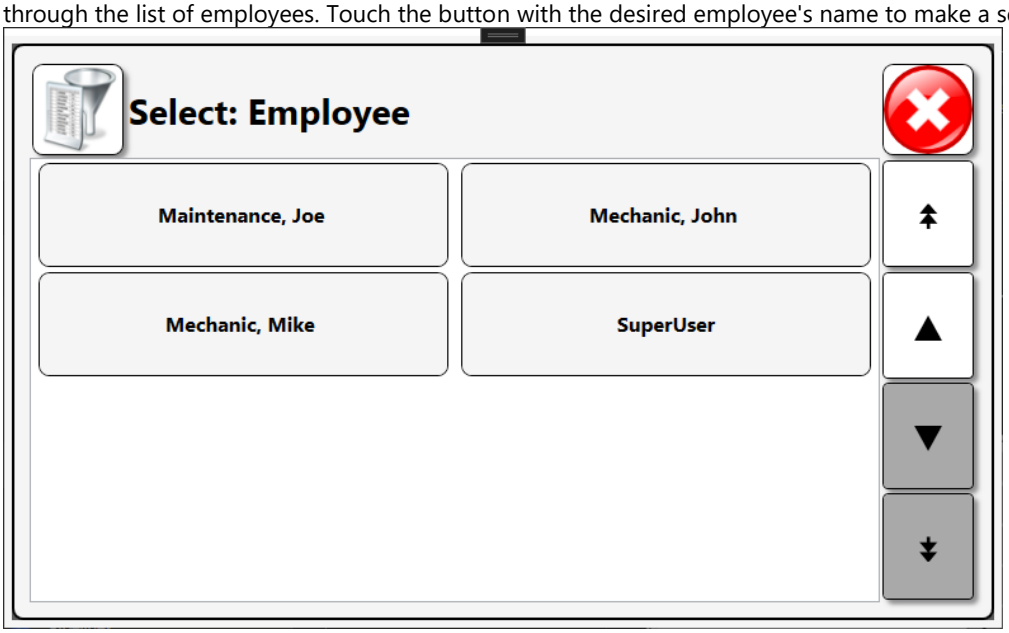
4. You will be prompted for your admin username and then your admin password. This is the same username and password that you use to log into the L5 Connect Admin Client software. You can use the touch screen keyboard, or you can plug in an external USB keyboard to enter your credentials. Please note that you will be

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logged out of admin access mode after 30 seconds of inactivity regardless of device auto logout settings.

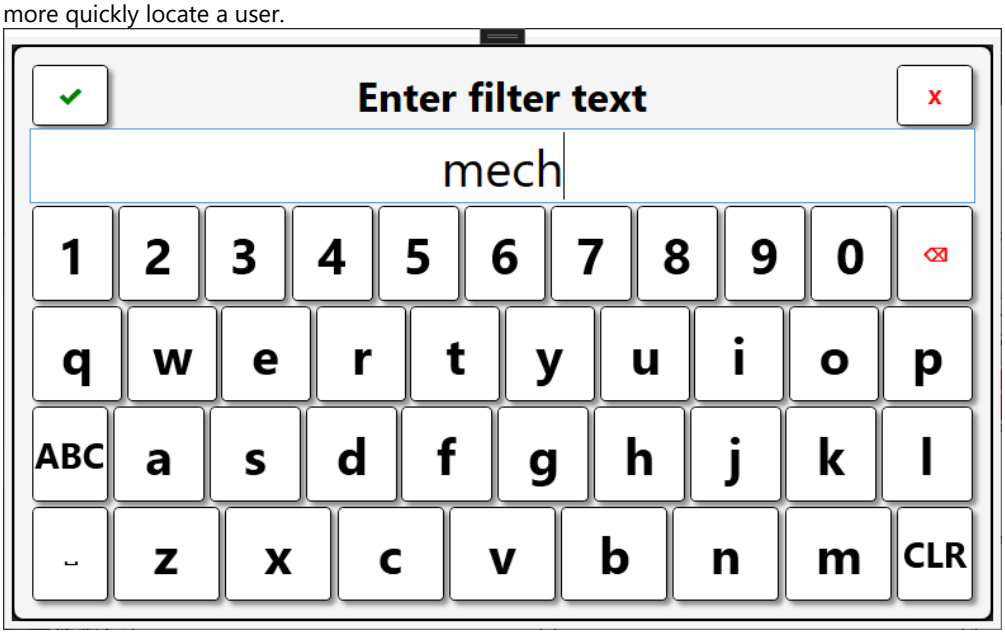


5. After logging in, you will be prompted to select an employee to edit. This list will only contain the names of employees that you have permission to edit. You can use the navigation arrows on the right to move through the list of employees. Touch the button with the desired employee's name to make a selection.

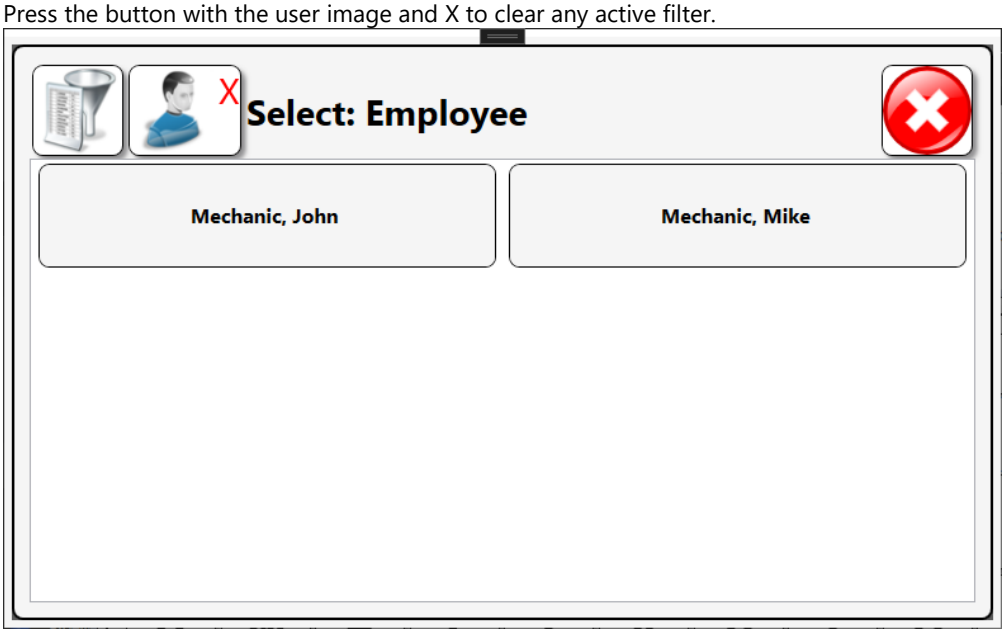


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6. You can also select the filter button in the upper left and enter all or a portion of the employee's name to more quickly locate a user.

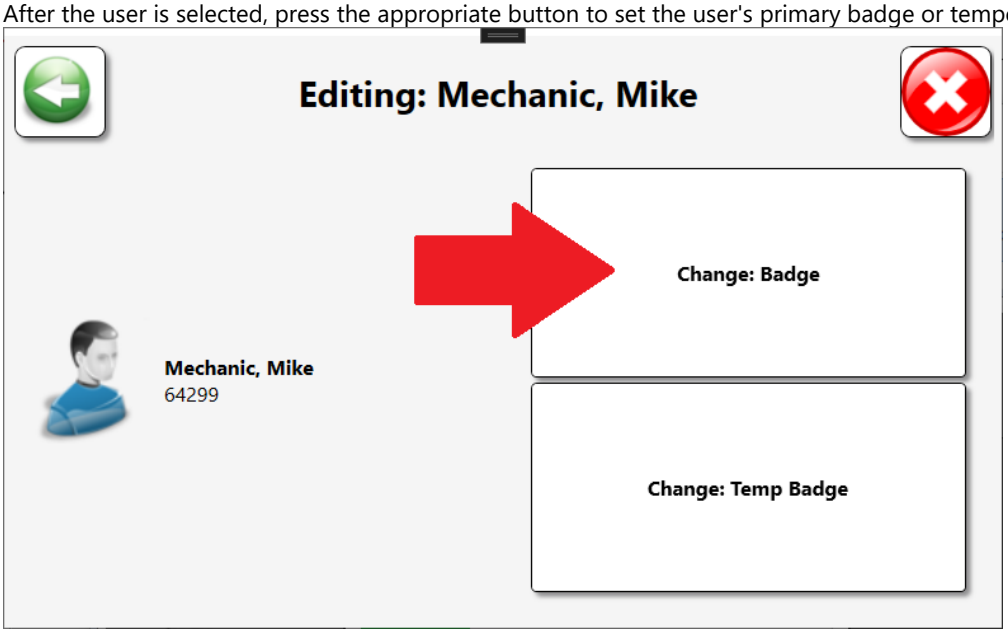


7. Press the button with the user image and X to clear any active filter.

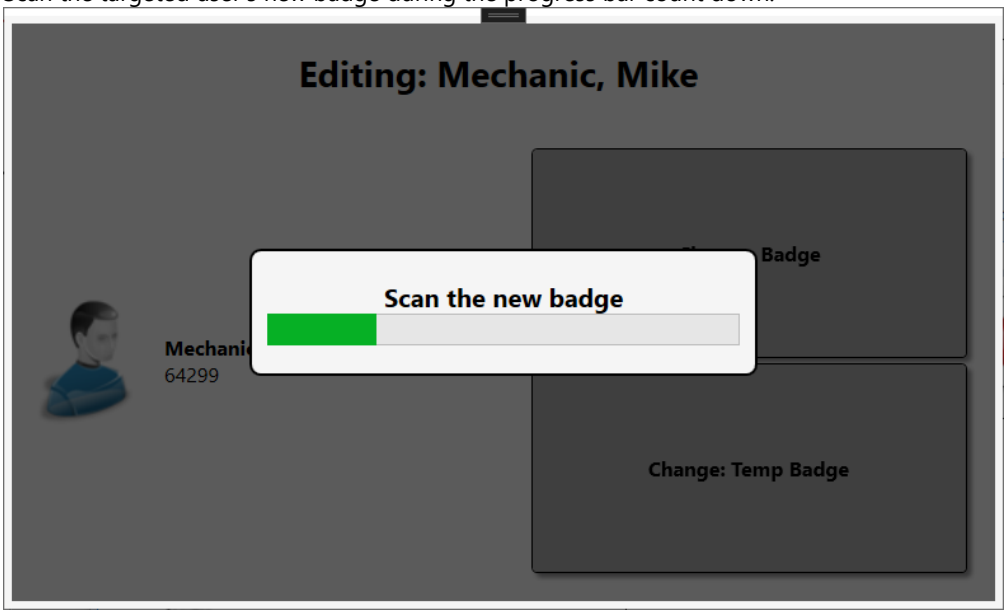


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8. After the user is selected, press the appropriate button to set the user's primary badge or temporary badge.



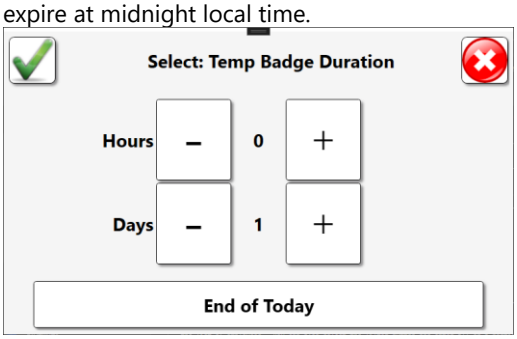
9. Scan the targeted user's new badge during the progress bar count down.



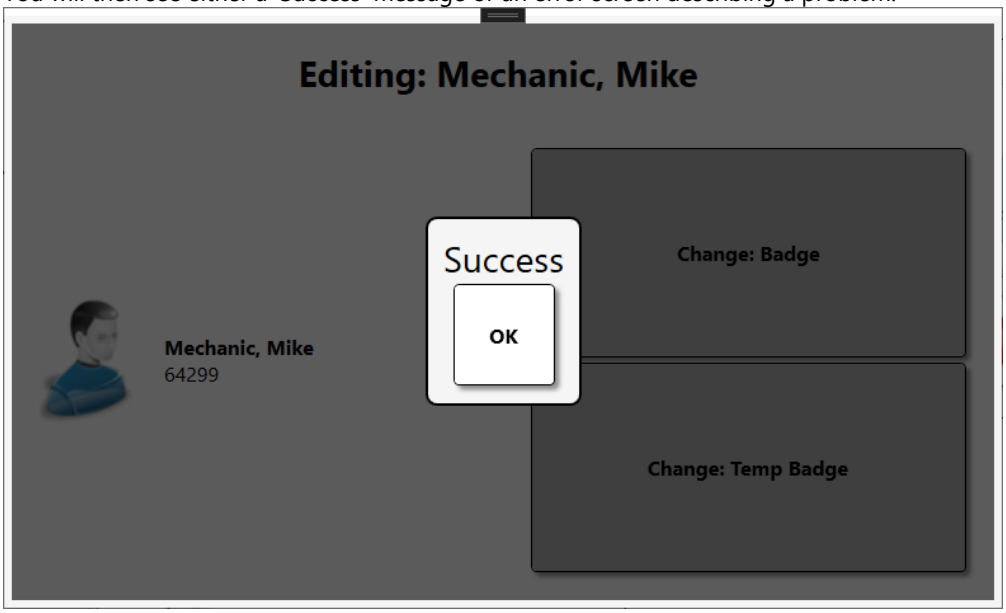
10. If you are editing a temporary badge, you will be asked to assign an expiration date for the temporary badge. You can press the green check button to accept the default time of 1 day, or you can use the on-screen buttons to change the badge duration. Pressing the 'End of Today' button will cause the badge to

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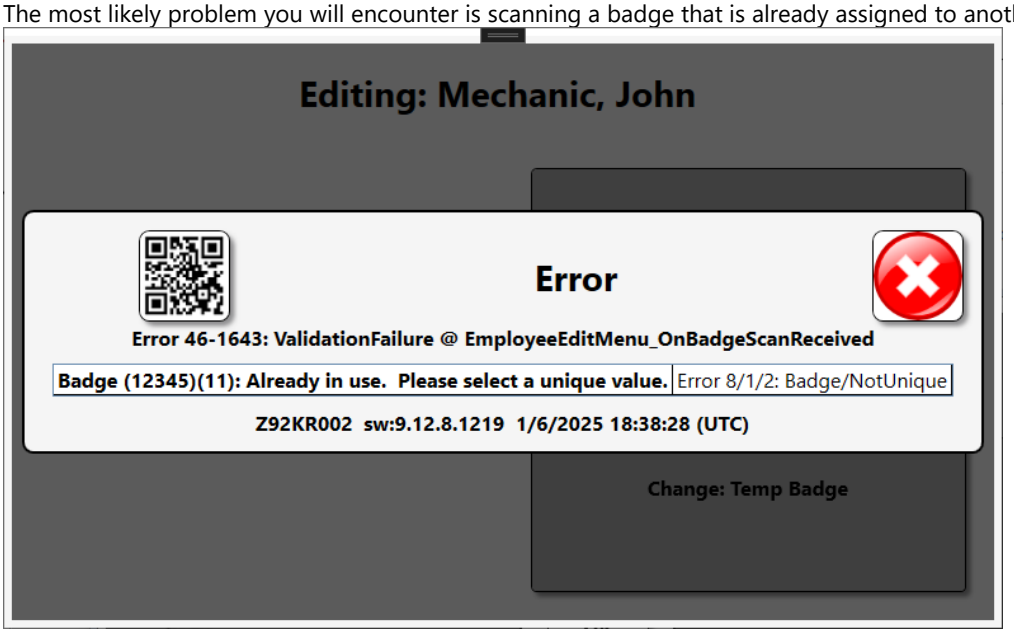
expire at midnight local time.



11. You will then see either a 'Success' message or an error screen describing a problem.



12. The most likely problem you will encounter is scanning a badge that is already assigned to another user.



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13. From the employee edit screen, you can press the Left green arrow button to return to the employee select screen to continue the process for another user.

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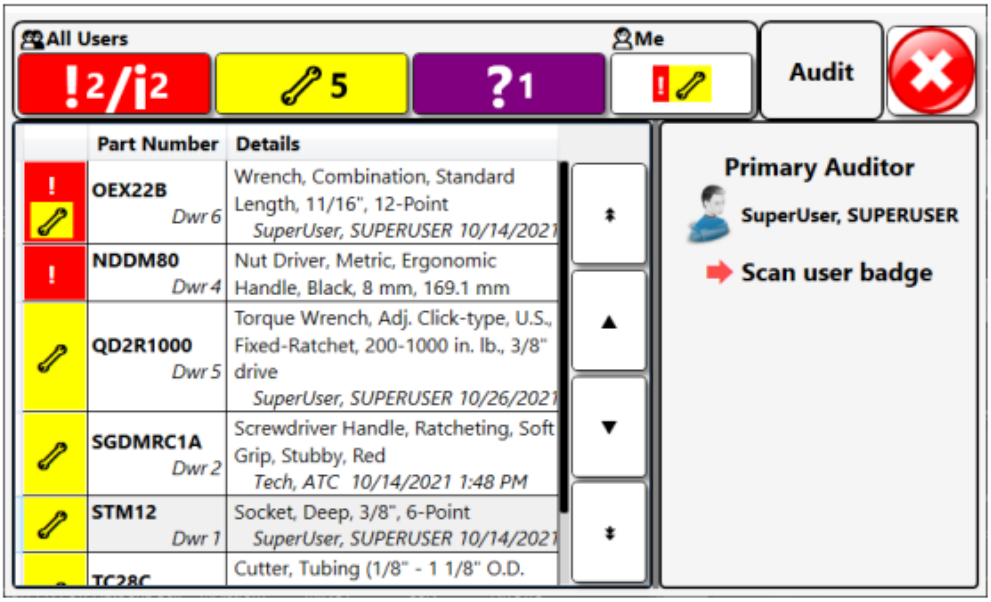
Badge Usage on Devices

RFID badges serve multiple purposes on the devices.

1. The only way to log into the devices is by scanning your badge.

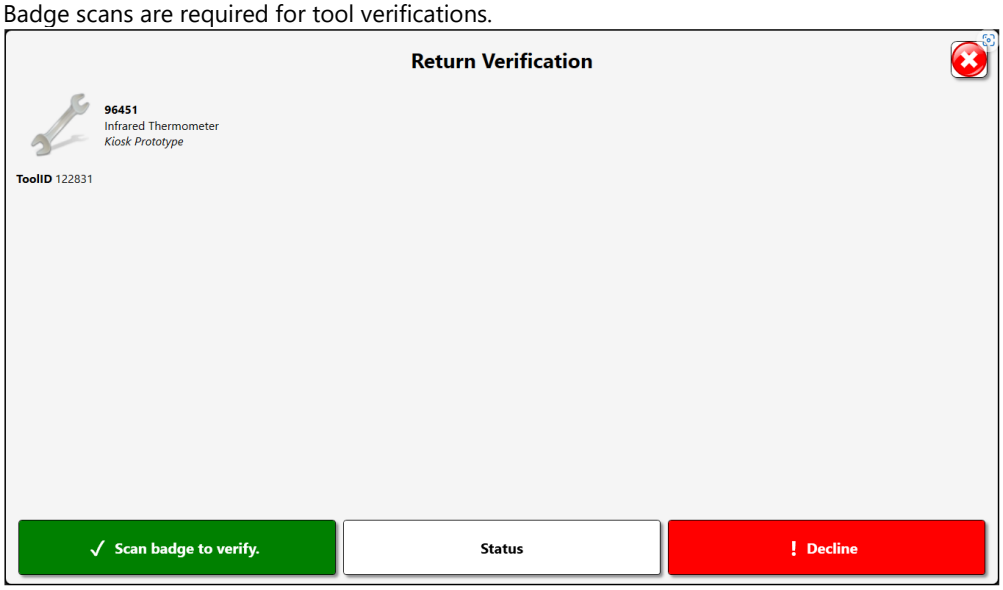


2. Badge scans are required for performing device audits.

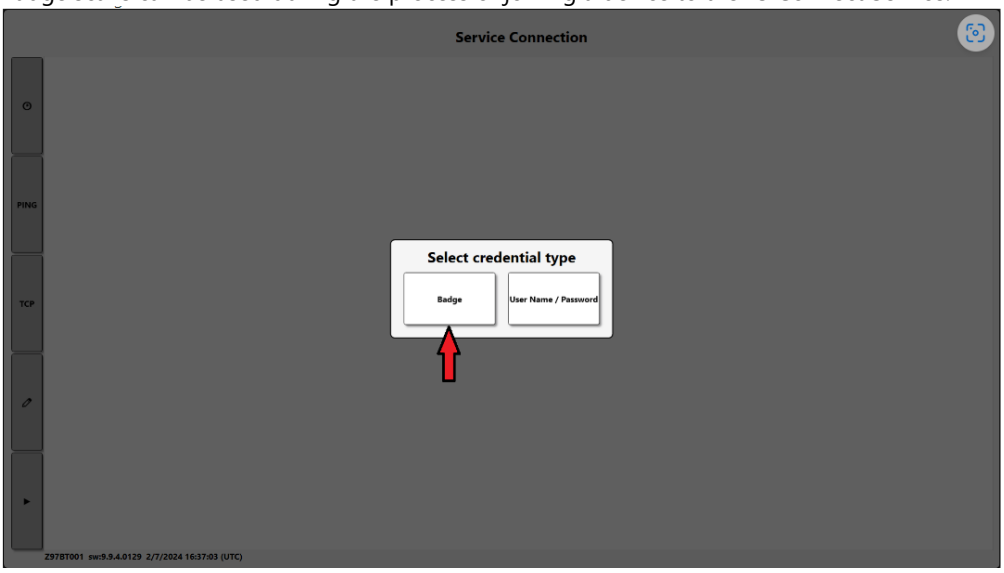


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3. Badge scans are required for tool verifications.

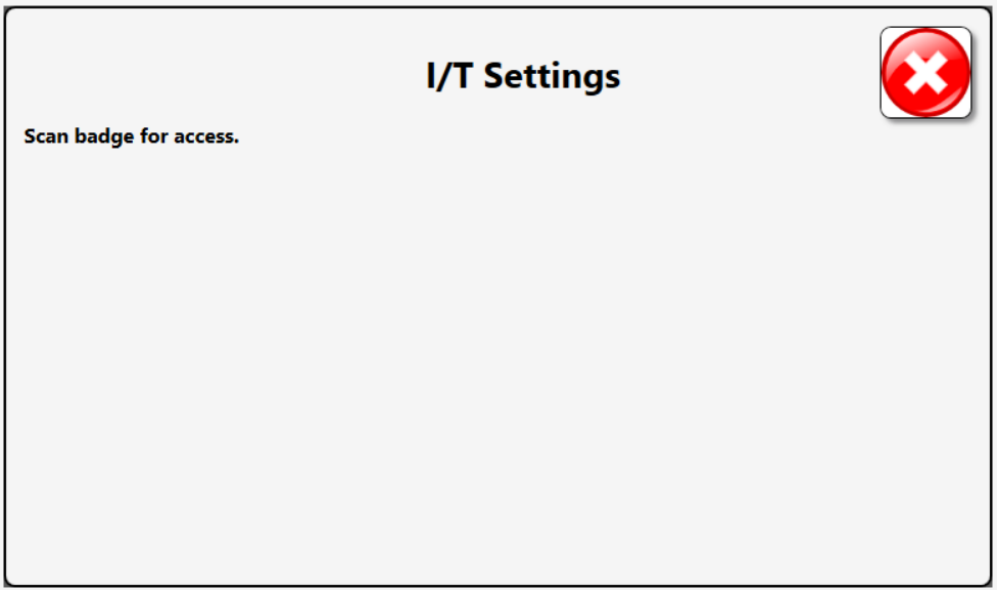


4. Badge scans can be used during the process of joining a device to the L5 Connect Service.



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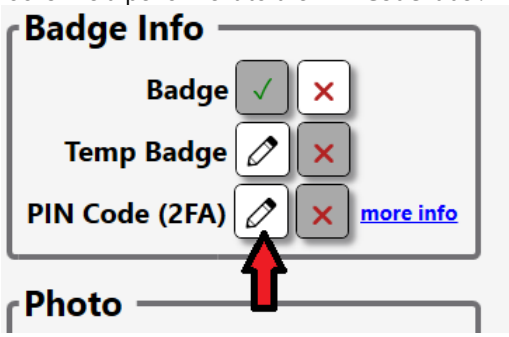
5. They can also be required for activities such as device configuration.



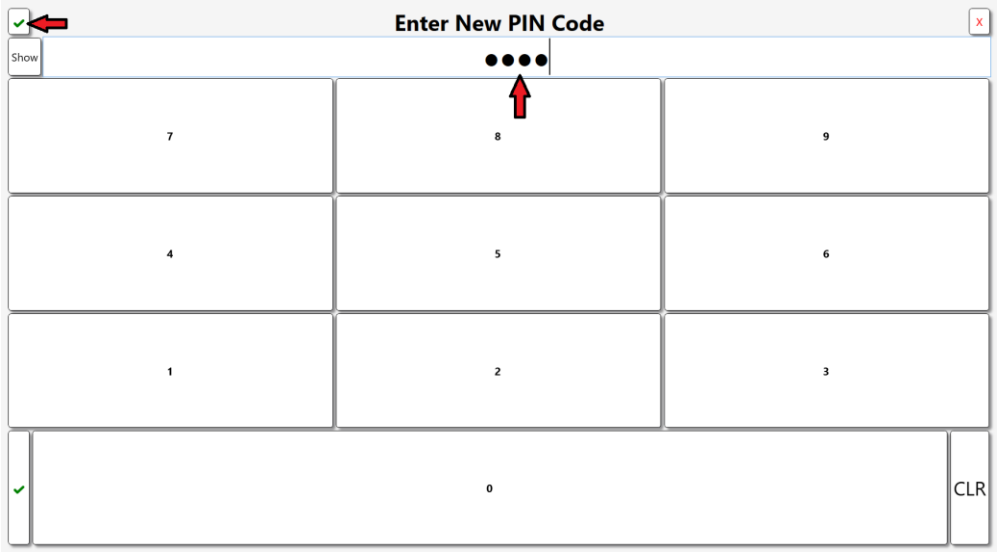
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PIN Code

1. Some features in the L5 Connect™ system may require a PIN code in addition to a badge scan for authentication purposes. To set up a PIN code for an employee you would click the **Change** button that looks like a pencil next to the **PIN Code** label.

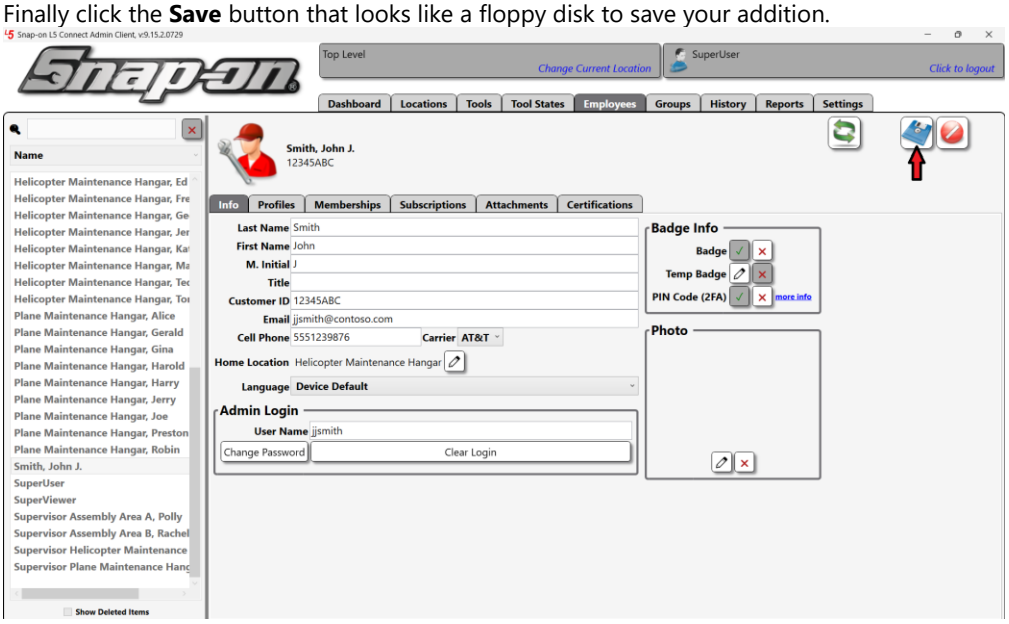


2. You would then enter a PIN code for the employee and then click the green checkmark button. **NOTE: A PIN code must be a positive integer of at least 4 digits and no more than 8 digits.**



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3. Finally click the **Save** button that looks like a floppy disk to save your addition.



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Tools

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Adding Tools

In L5 Connect™, there are two different types of tools: **Masters** and **Instances**.
A **Master** defines a tool's type, properties, and characteristics. It acts as a template for all instances of that tool. Masters are typically managed within the Admin Client.
An **Instance** is a representation of a physical tool. You can have multiple **Instances** of a Master Tool to represent having multiples of that same tool. This is used to denote the availability of the tool. The **Instance** will get its properties such as calibration settings and validation from its Master. Instances are stored at a True-Crib™ or in an ATC Device.

Tool Properties

A tool's **Properties** are the attributes that define the tool and how the system handles it when someone checks one out.

- **Part Number** – a unique alphanumeric number to identify the tool
- **Description** – the name and description of what the tool is
- **Units** – the amount to be issued when checking out the part/tool
- **Tag** – the barcode or RFID tag that will be used to ID the tool
- **Photo** – A picture that represents the tool

In L5 Connect™, **Issue Behavior** determines the type of tool and how L5 Connect™ processes it. There are four types of Tools

- **Durable** – A Tool that can be returned and used again
- **Kit** – A collection of tools that are issued together
- **Consumable** – A Tool that is disposed of after use and not expected to be returned
- **Returnable Consumable** – A tool that must be returned to ensure proper disposal

Instances also have a set of properties that can be defined as well.

- **Customer ID** – a unique alphanumeric number set by the user to ID the tool instance
- **Serial Number** – the serial number of the physical tool the Instance is being created for
- **Tag** – if the Barcode for the Instance is different from the Master, it will be defined here

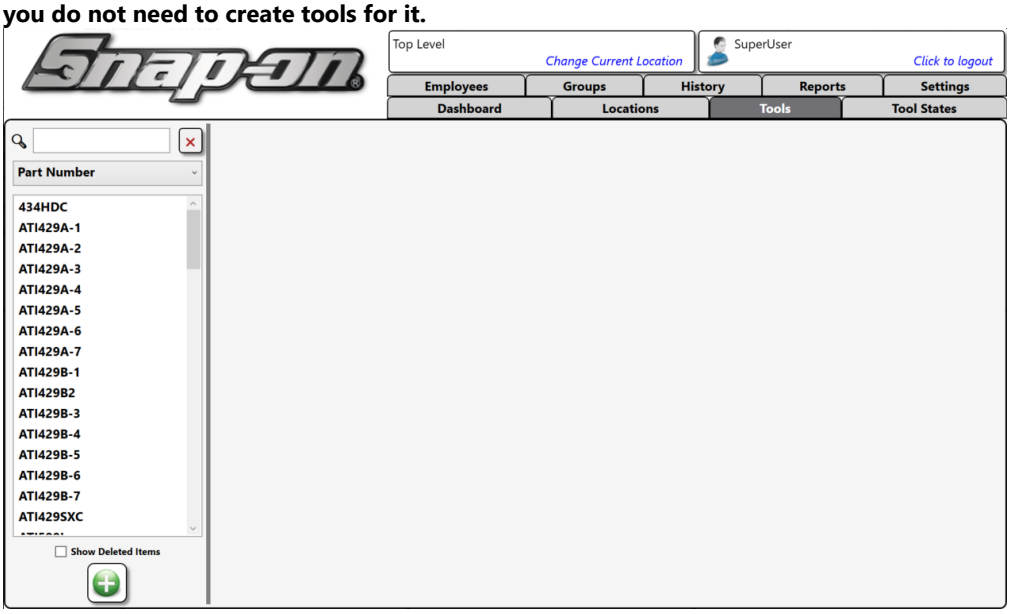
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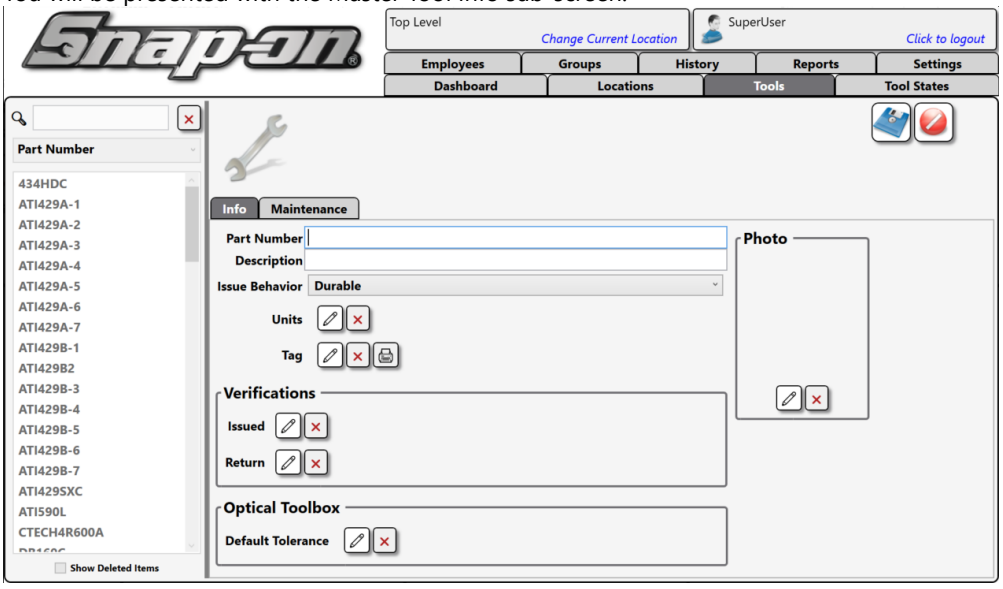
Adding Tools in the L5 Connect™ Admin Client

Durables

1. First, you need to create a **Master**. Go to the **Tools** tab in the admin client. The list on the left side will list all known Master Tools in the system. Click on the Add Button at the bottom left of the screen. **NOTE: ATC Toolbox Devices automatically add their tool inventory to the system when they join the service, so you do not need to create tools for it.**



2. You will be presented with the Master Tool Info sub-screen.

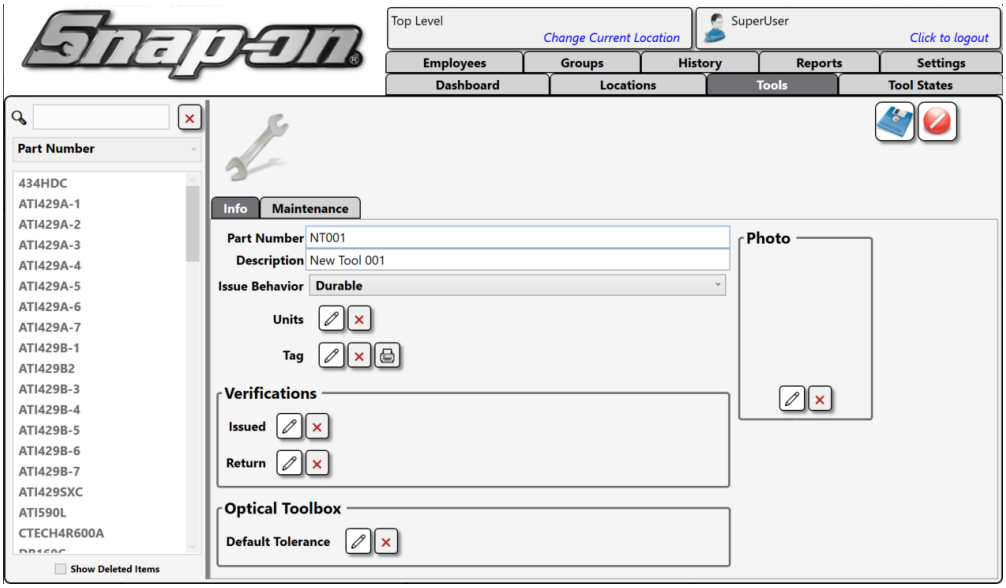


3. Now add a tool with the following properties:
    - Part Number of NT001
    - Description of New Tool 001

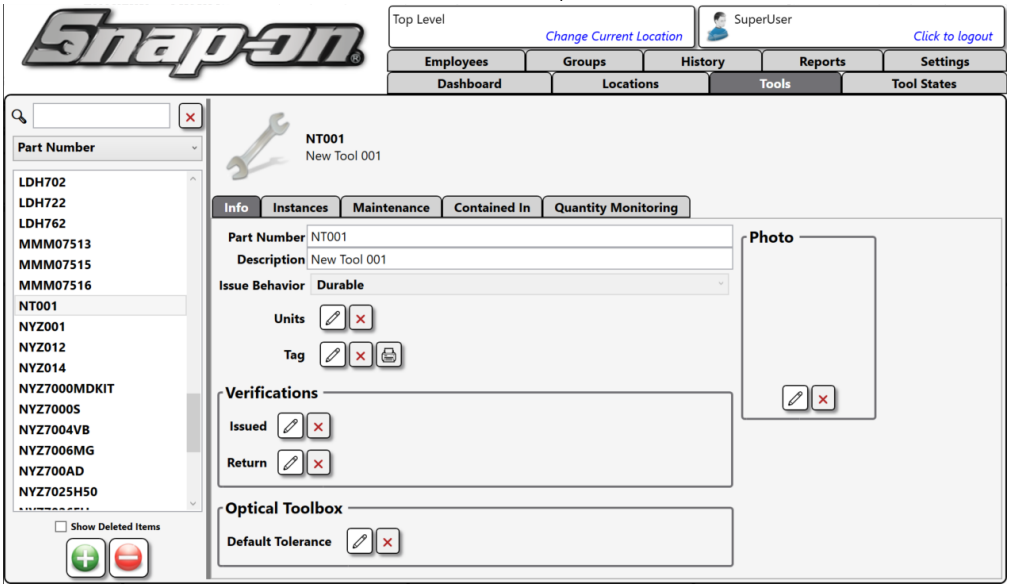
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- Issue Behavior Durable
- It will not have a Unit, Tag, or Photo.

4. Click the save button to add the Master.



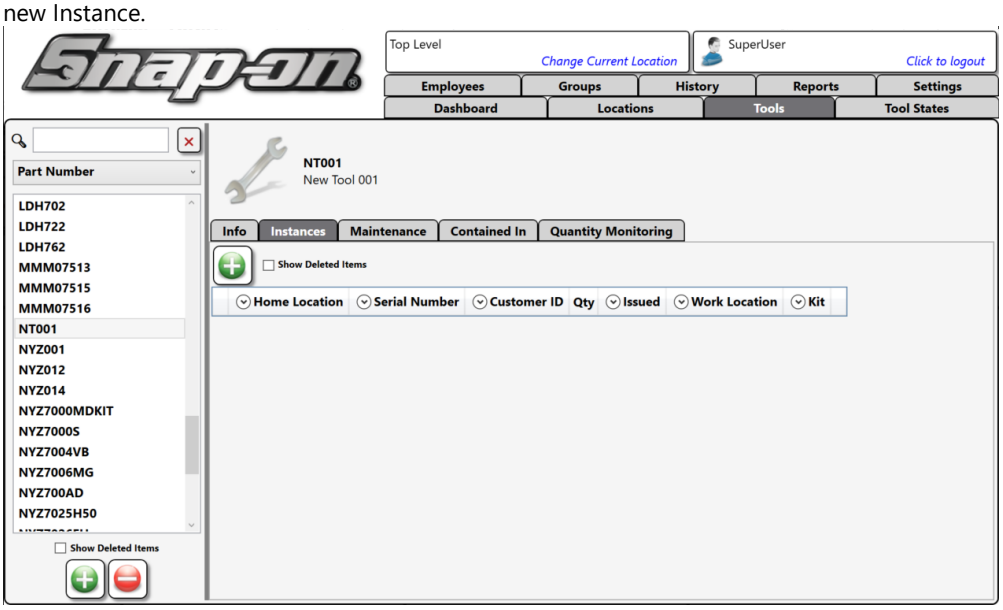
5. The tool will now be shown in the list of master tools, as seen below.



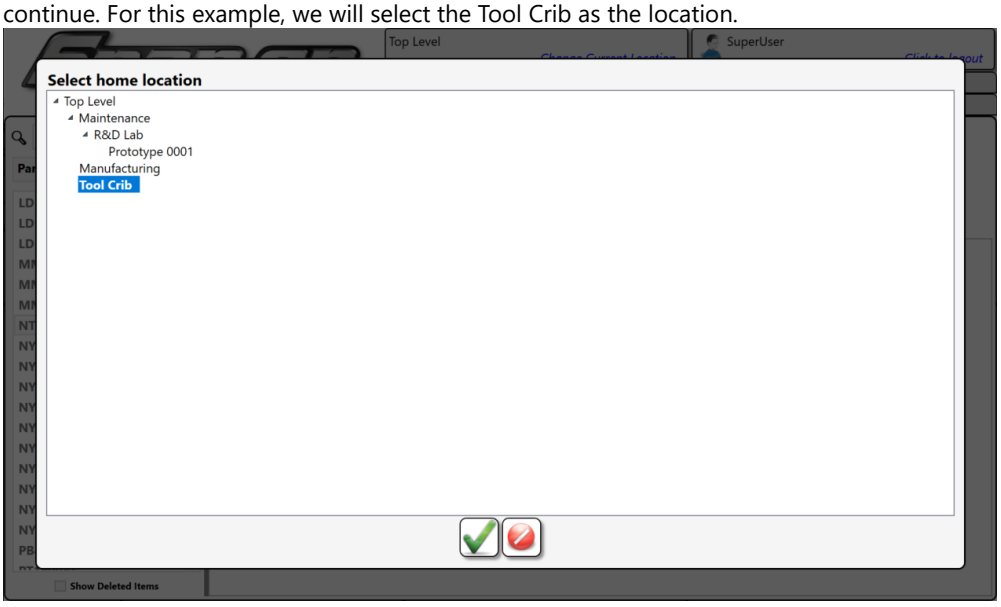
6. Now that you have the **Master** created, you need to add an instance of the Master tool to our crib so that you can issue them out to Employees.
   Click on the **Instances** sub-tab to bring up the Instances screen. Click on the green plus button to create a

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new Instance.

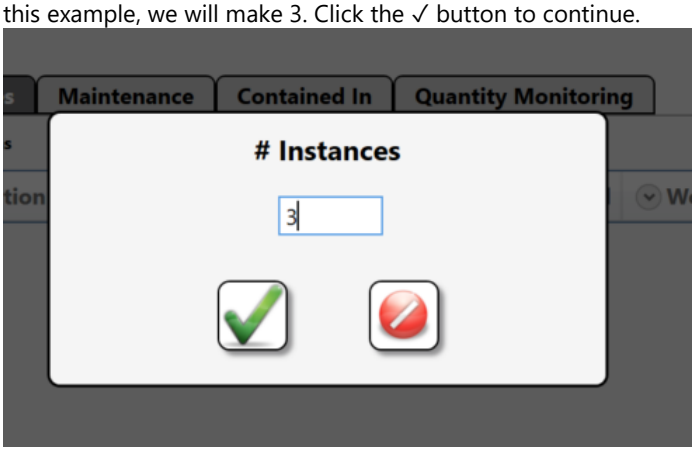


7. Select an ATC device as the Location this Instance will be created and stored, then click the ✓ button to continue. For this example, we will select the Tool Crib as the location.

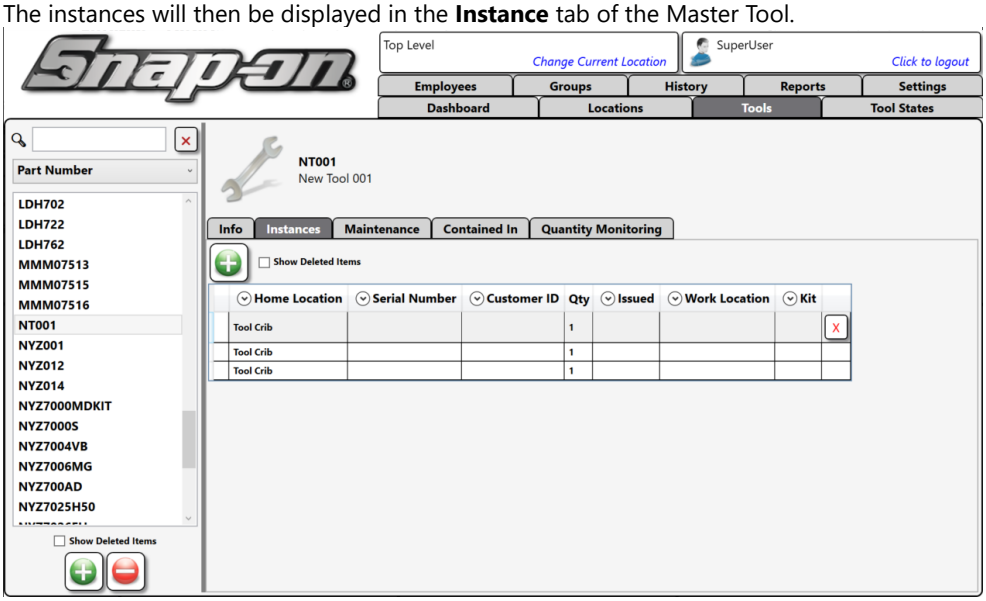


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8. After selecting a device location, the system will then ask you how many instances you want to create. For this example, we will make 3. Click the ✓ button to continue.



9. The instances will then be displayed in the **Instance** tab of the Master Tool.



10. If you need to identify each tool separately due to different maintenance schedules or other reasons, you can distinguish each tool instance using its instance properties. To access the properties of an instance, double click on one of the tool instances in the list. This will bring up the **Instance Information** screen. **NOTE: When a tool instance is created, a ToolID will be assigned to it by the system. This is a unique internal tracking number that is used to identify a specific tool instance and allows for tracking and historical forensics within the system. You cannot change the ToolID. It is recommended that when you replace a tool that you create a new instance and scrap the old one. That way you can track when**

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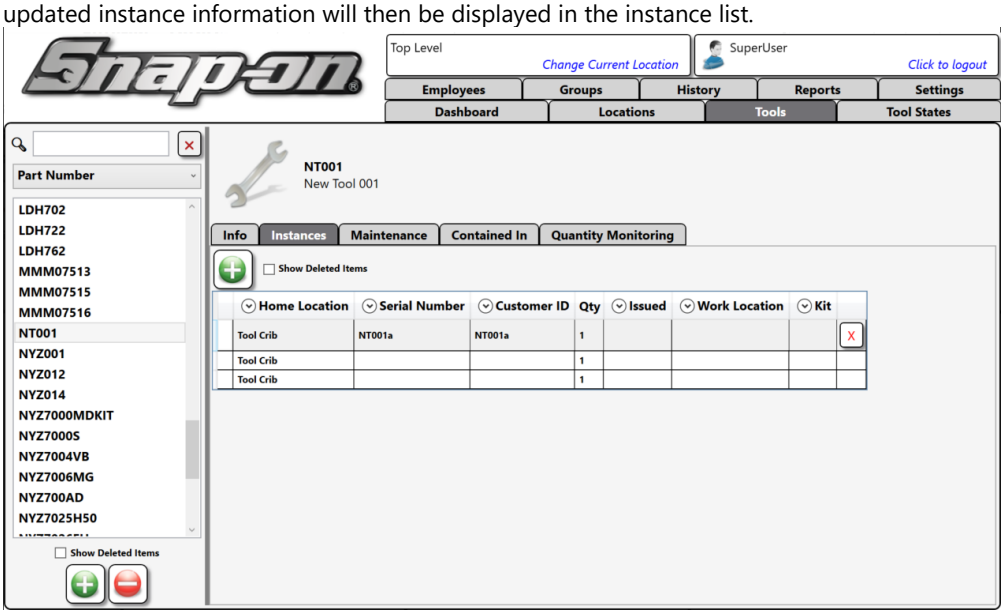
a tool was replaced.



11. You can then define the instance with additional identifying information. For this example:

- Customer ID- NT001a
- Serial Number - NT001a

12. You can click on the **SAVE** button to save the changes to the Instance, then click the **CLOSE** button. The updated instance information will then be displayed in the instance list.



Consumables

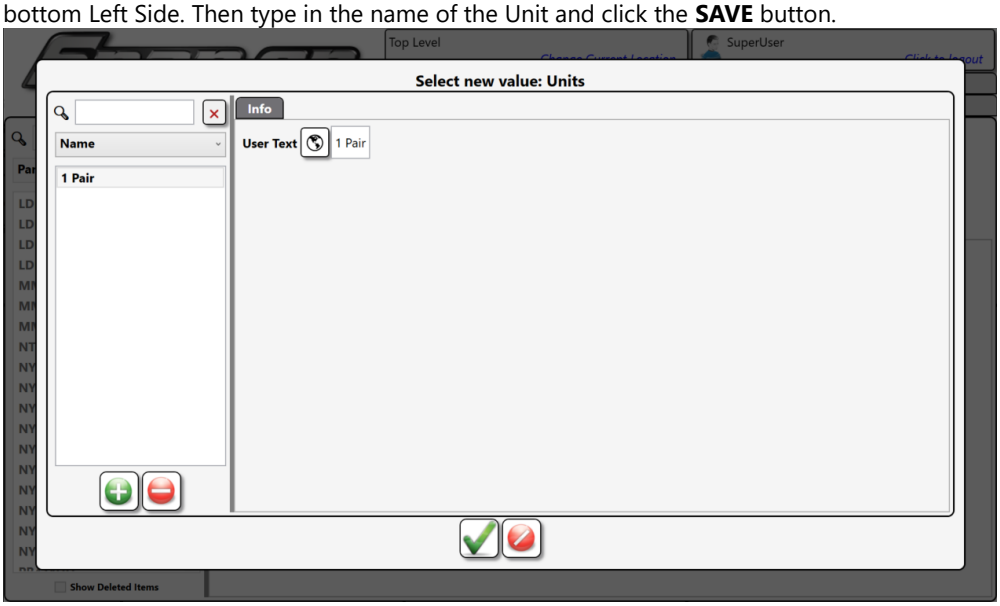
Consumables & Returnable Consumables are tools that have a quantity and are disposed of after use. The process of creating these is the same as creating a Durable tool. The only difference is that you create a single instance to

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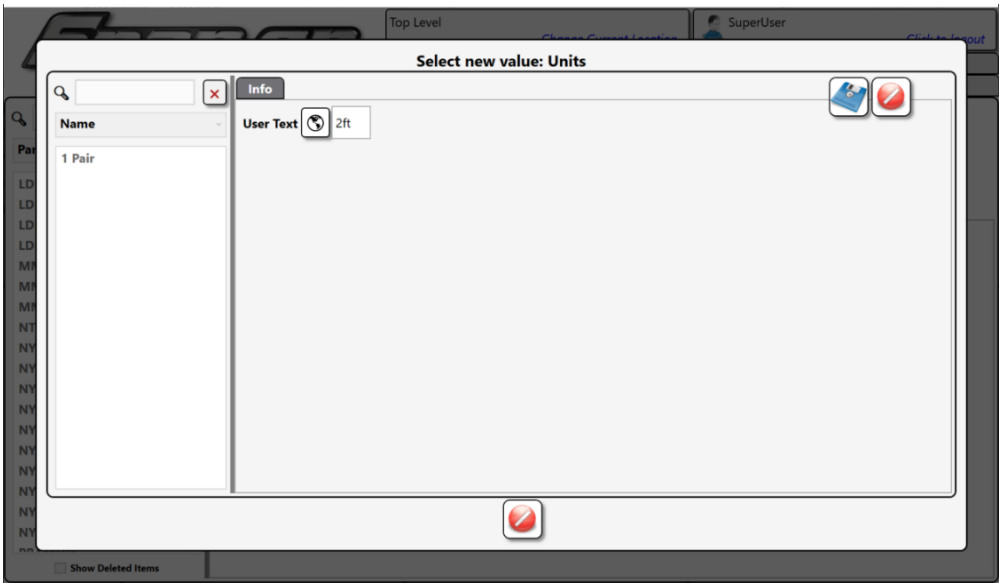
represent the amount of the tool. So, if you have 50 of a consumable tool, you will make one Instance and set its Quantity to 50. **NOTE: Consumables are only supported in the Tool Crib.**

WARNING! When creating instances of Consumables & Returnable Consumables only create 1 instance. The quantity of the consumables is defined in the properties of the instance.

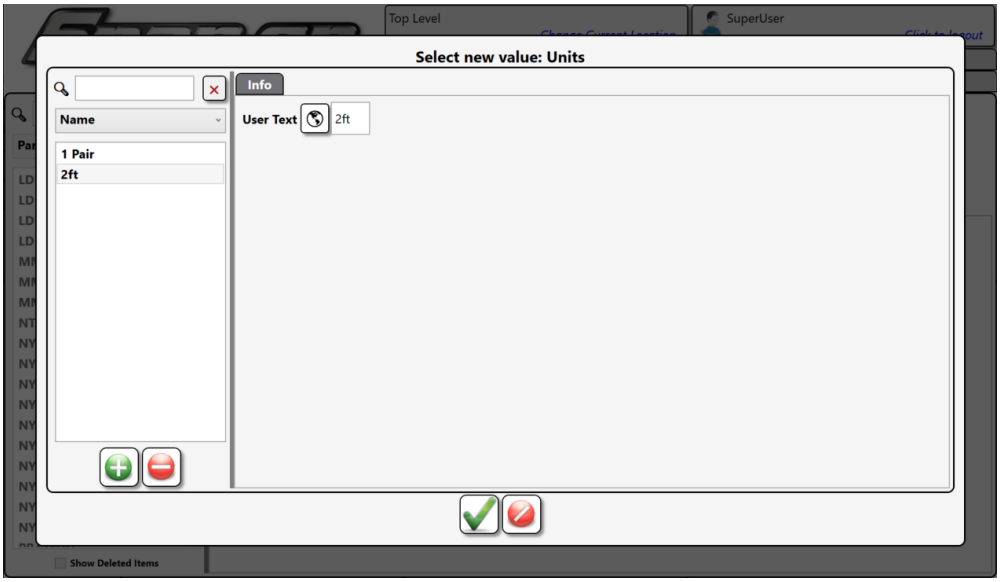
1. The first step is to create a master tool for the consumable. For this example, we will input the following information for our consumable:
    - Part Number CON001
    - Description Consumable Tool 001
    - Issue Behavior Consumable
    - The Unit will be 2ft (if this does not exist, you will need to create it)
    - It will not have a Tag or Photo.
2. To create a unit, click the **pencil** button next to Units. This will display the Units screen. All units are global and, once created, can be used with any tool master in the system. Click on the **NEW** Unit button on the bottom Left Side. Then type in the name of the Unit and click the **SAVE** button.



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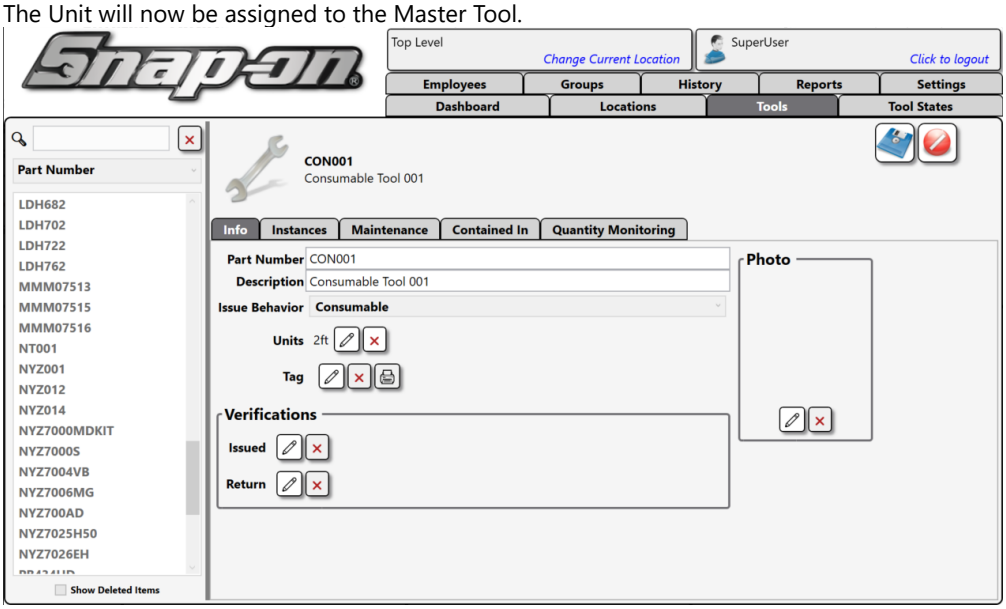


3. Click the ✓ button at the bottom of the screen when done.

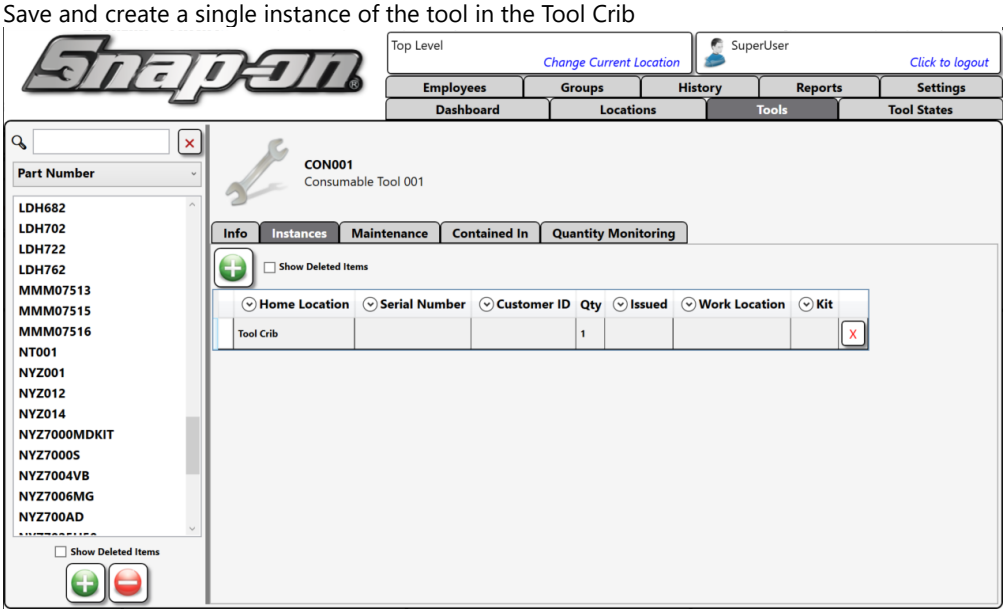


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4. The Unit will now be assigned to the Master Tool.

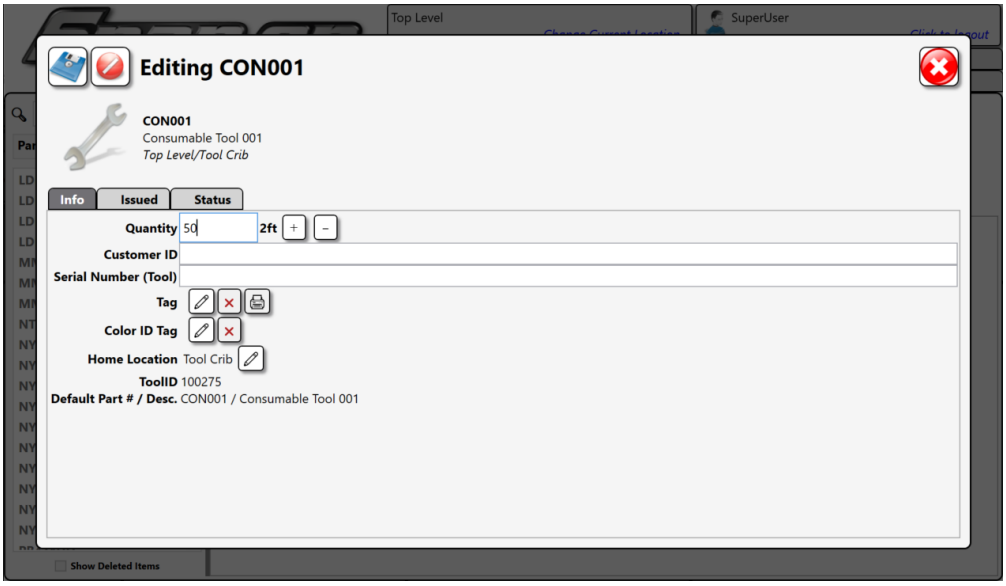


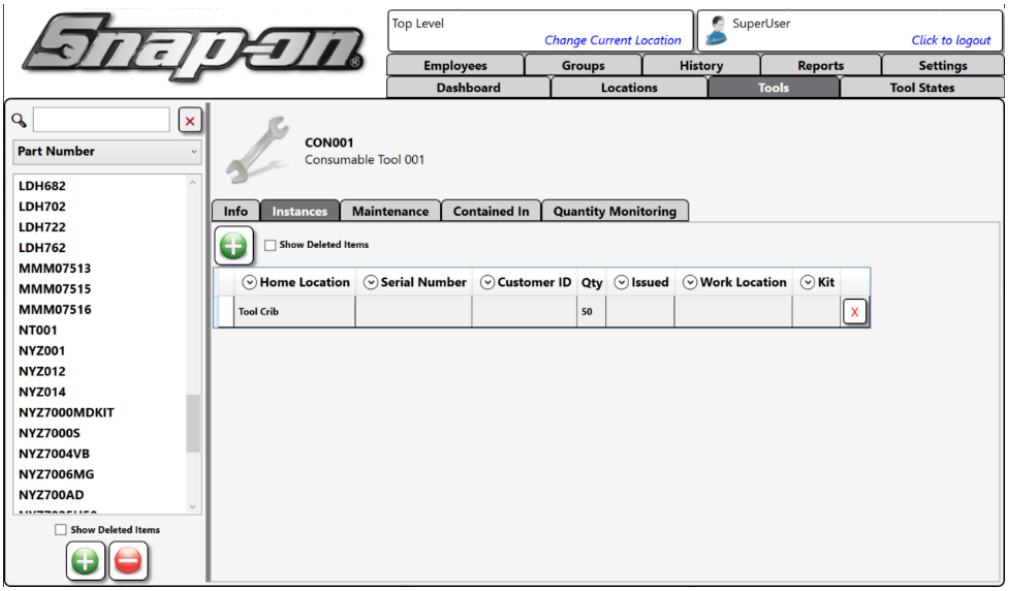
5. Save and create a single instance of the tool in the Tool Crib



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6. In the instance properties set the Quantity to 50. Save and Close. The Quantity is now listed in the instance list.



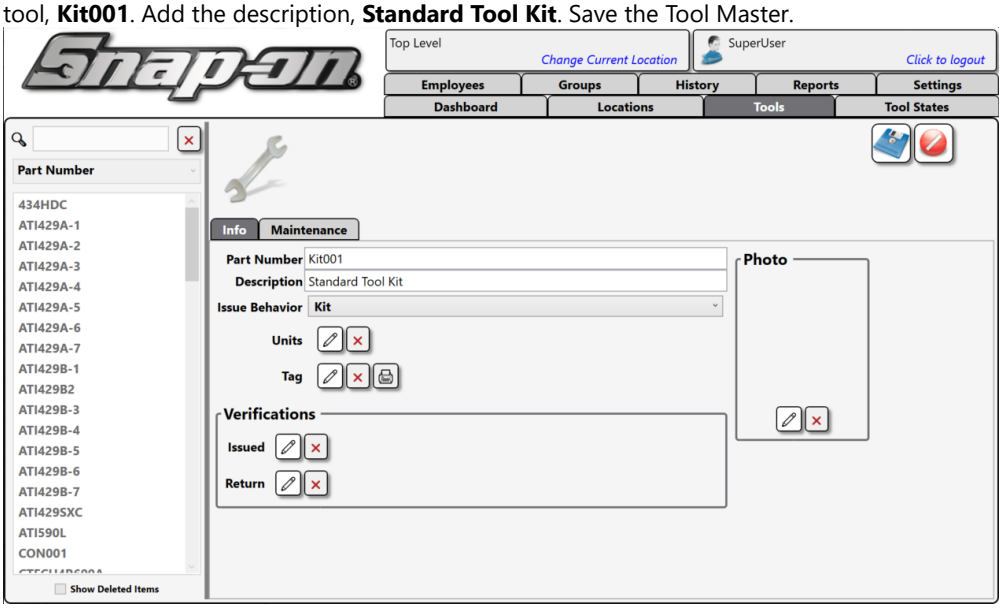


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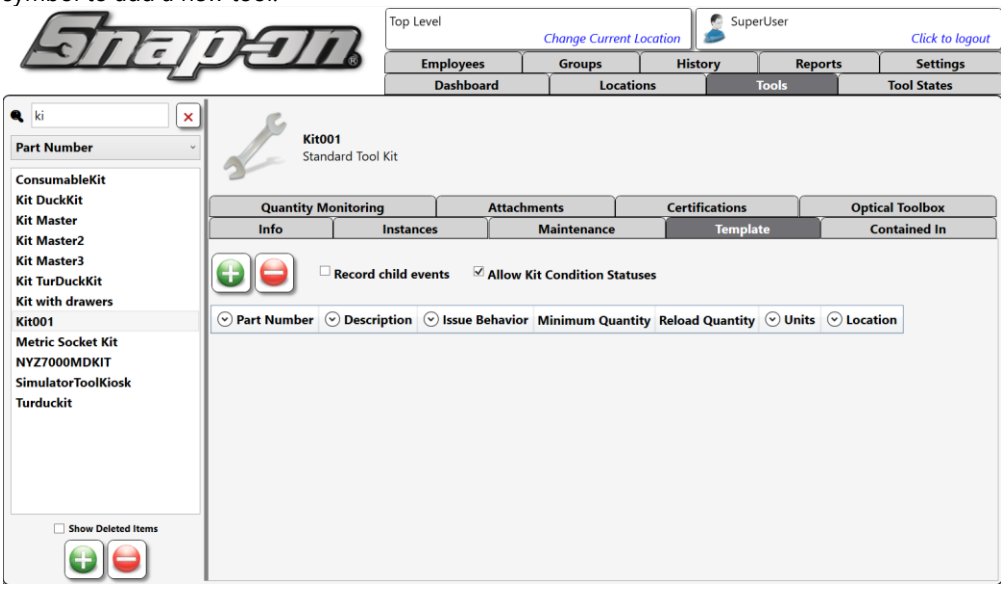
Tool Kits

Tool Kits allow us to create a bundle of tools that can be issued out as a single instance. This is useful when you have a standard tool loadout issued to Employees frequently.

1. To create a toolkit, you need to create a new Tool Master and set the behavior to Kit. Name this new master tool, **Kit001**. Add the description, **Standard Tool Kit**. Save the Tool Master.



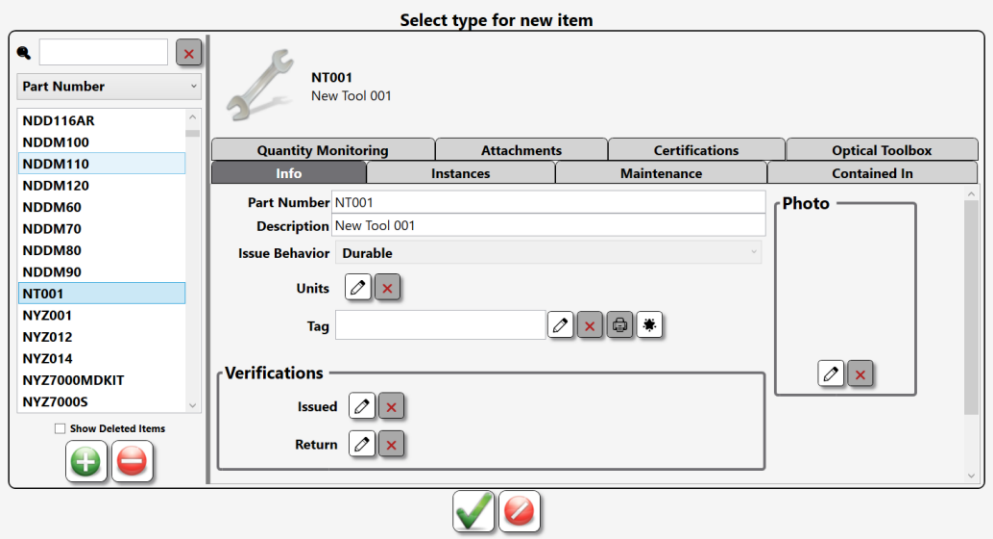
2. Now add the tools that will be included with the kit. Click on the **Template** tab, then click on the **Green +** symbol to add a new tool.



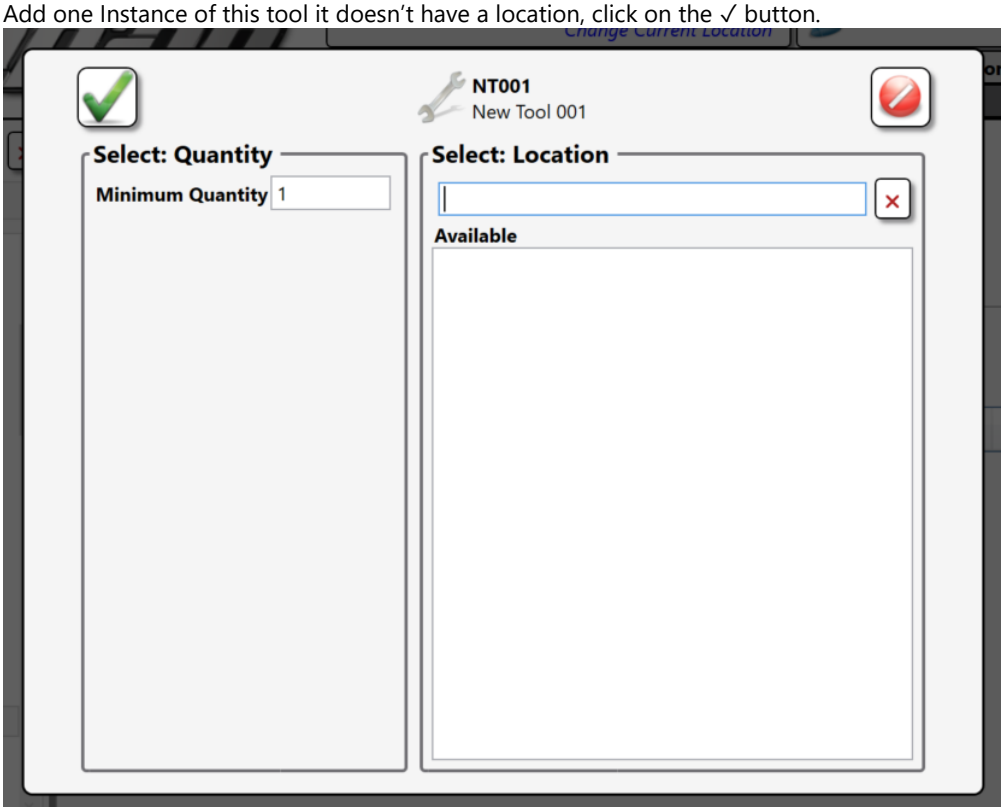
3. You will then be presented with a list of the master tools managed by the system. Find the tool you want to include in your kit. For this kit, select **NT001** and click on the ✓ button to add it.
NOTE: Just like with normal Tools, Kit Tools have a MASTER and instances. If the tool you want to add

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to the kit is not in the list, you will need to create a new MASTER for that tool.



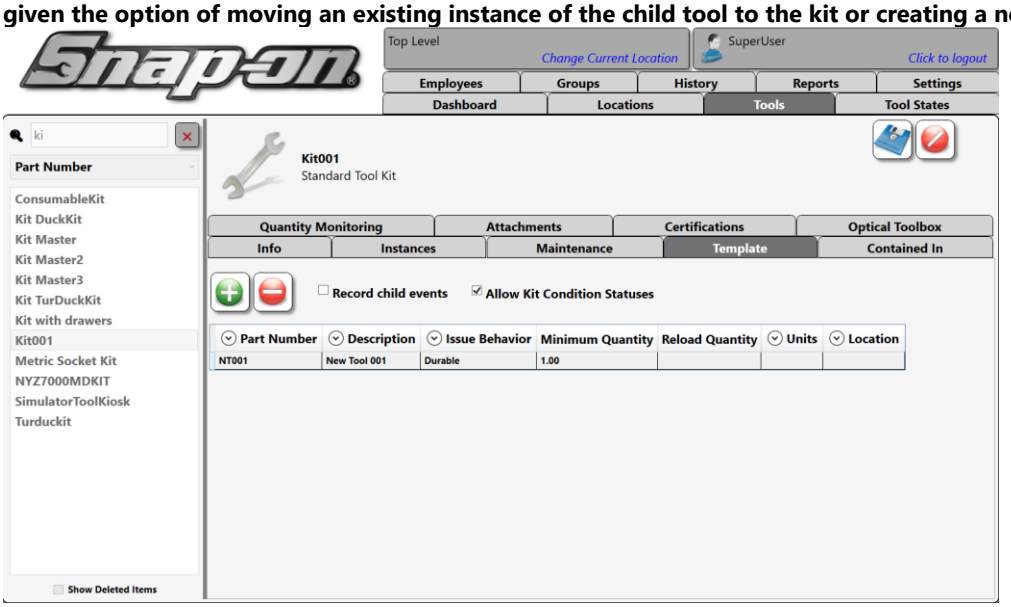
4. Once you have selected your tool, the system will ask how many of the tools you wish to add to the kit. Also, If the kit has specific locations like drawers or pouches, you can add those.
Add one Instance of this tool it doesn't have a location, click on the ✓ button.



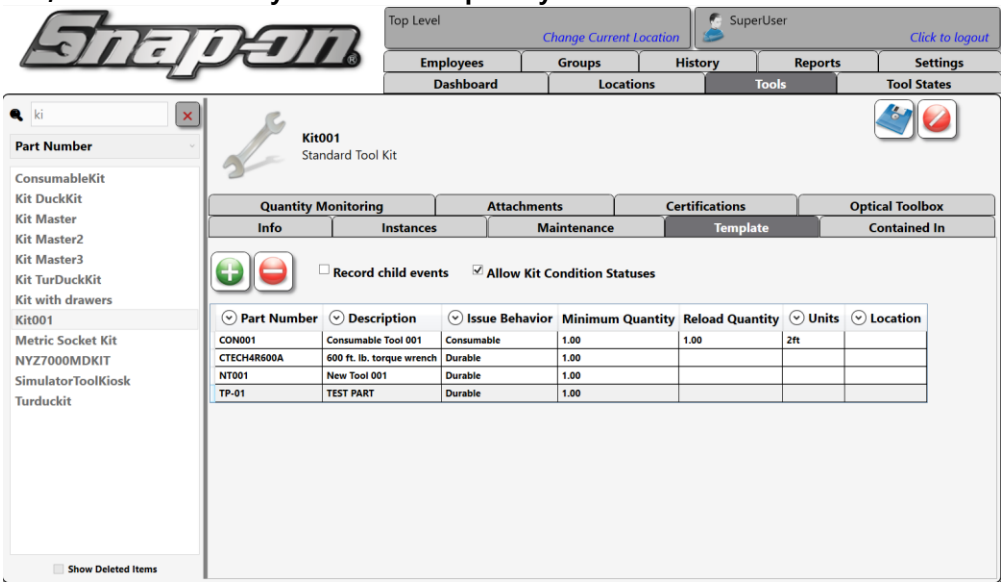
5. You should see the tool listed in the Template.
NOTE: Adding a tool to a template does not create an instance, like a master tool, a template is just a blueprint of what the kit is supposed to contain. When you create an instance of the Kit, you will be

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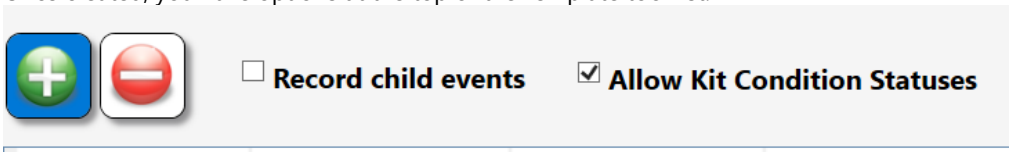
given the option of moving an existing instance of the child tool to the kit or creating a new one.



6. Finish setting up your kit by adding tools to the kit by repeating the steps above. Once you are finished, click the **Blue Save Icon** to save the **Kit Master Tool.**
NOTE: When adding a consumable to a kit, it will prompt you for a Minimum Quantity like a durable tool, but it will also ask you for a reload quantity once the minimum amount has been reached.



Once created, you have options at the top of the Template tool list.



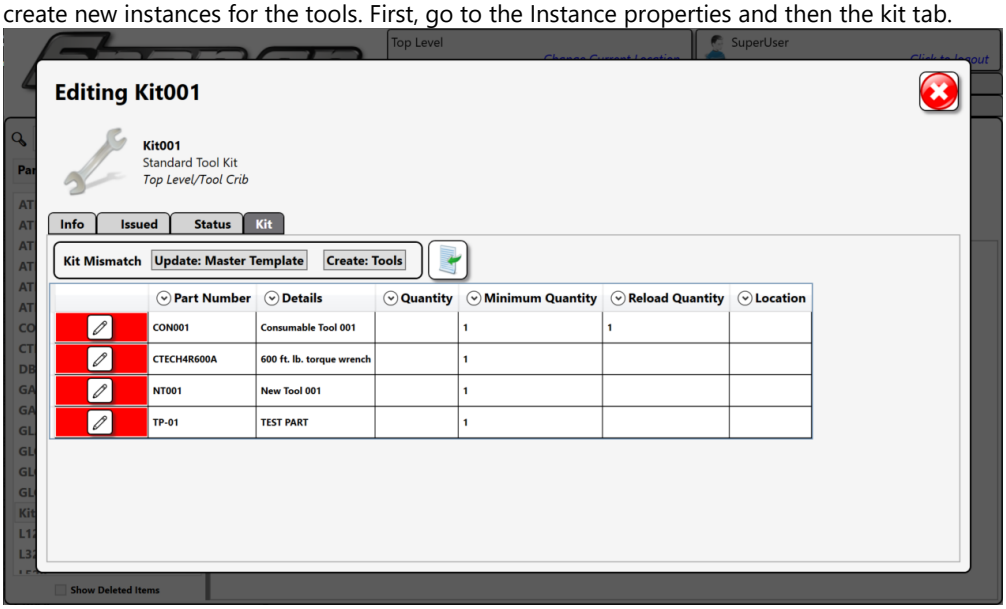
- **Record child events** – Log events for all children of the kit and the kit itself.
- **Allow Kit Condition Statuses** – If an instance of a kit doesn't have an instance of all the child tools assigned to it, a status of Kit Mismatch will be applied to it. If a tool is missing from the kit at return

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it will have a Kit Incomplete status assigned to it. If a consumable tool in the kit has less than the minimum quantity, it will have a Kit Low Quantity status assigned to it.

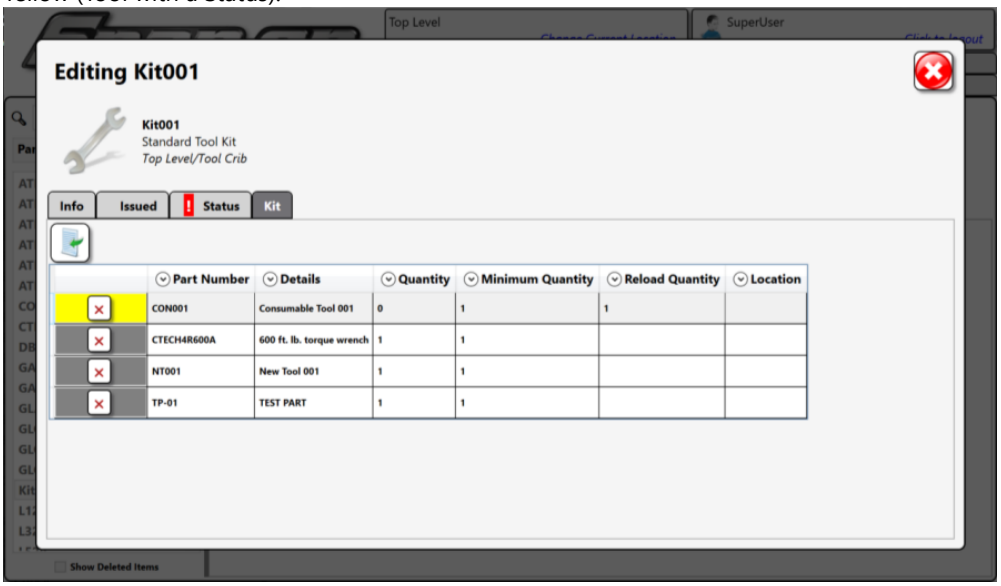
7. Set the options how you would like them and create an instance of the kit in the Tool Crib so that it can be issued out.

8. Once the Instance is created, you need to create or move tool instances for the child tools. In this exercise, create new instances for the tools. First, go to the Instance properties and then the kit tab.



9. You will see a Kit Mismatch section here. You have two options:
   - **Update: Master Template** – Change the Template on the Master tool based on the Instance.
   - **Create: Tools** – Create tool instances based on the Master Tool Template.

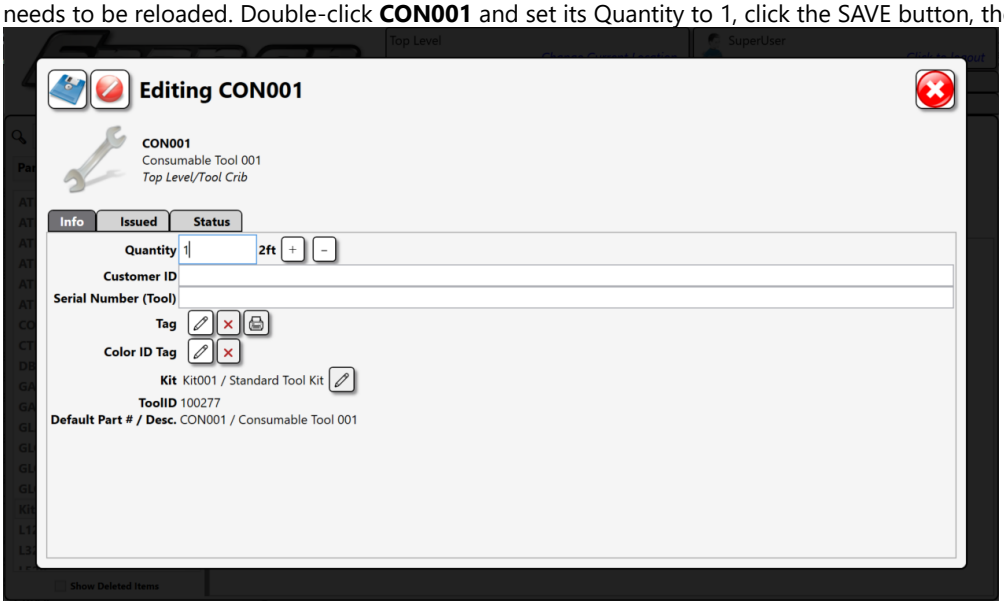
10. Click on **Create: Tools** you will see the color change from RED (Missing instance) to Grey (Present) and Yellow (Tool with a Status).



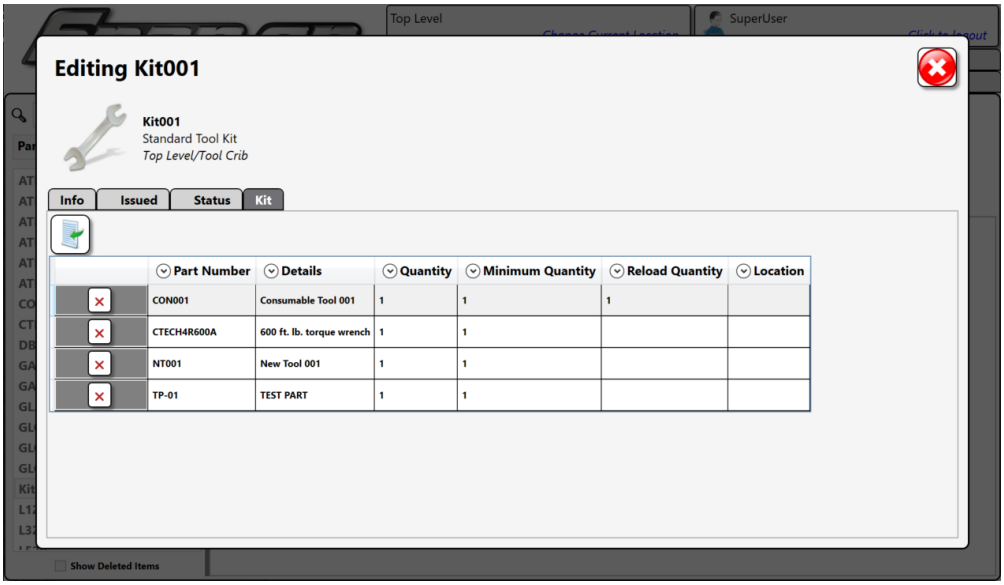
The yellow is a Tool Status for the consumable since there isn't any quantity of the tool in the kit, and it

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needs to be reloaded. Double-click **CON001** and set its Quantity to 1, click the SAVE button, then CLOSE.

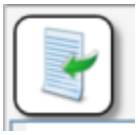


The status has now been cleared.



Importing a Tool Kit Template

If you already have a list of tools you want to add to a kit, you can import them to the Instance by clicking the **IMPORT** button.

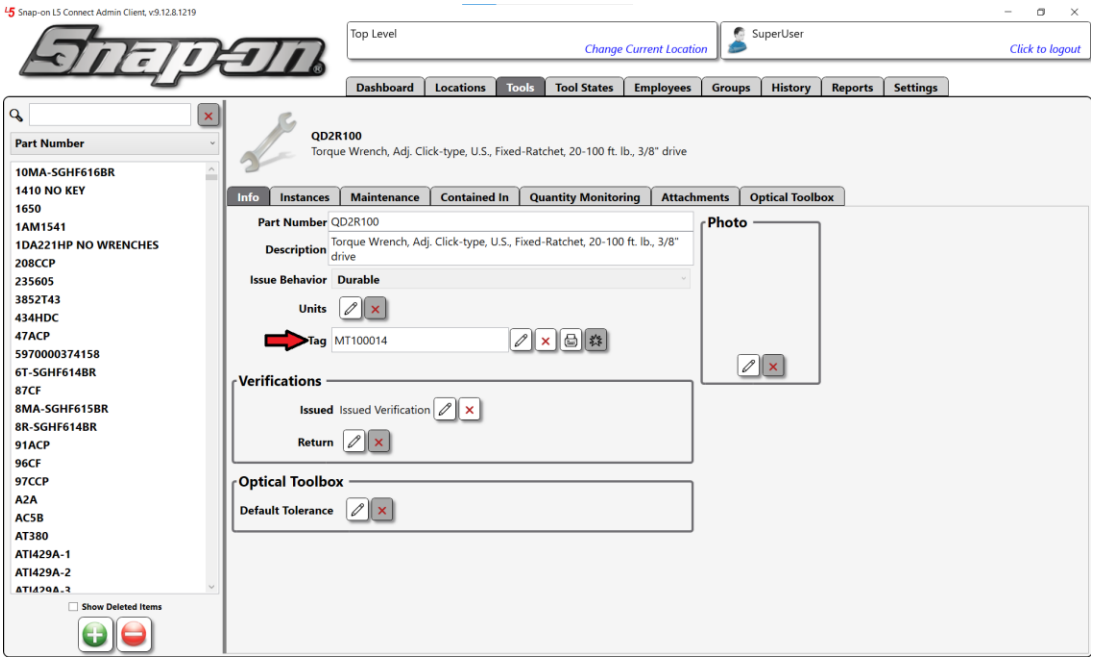


You will need to create a new Kit Master. Then create an instance of that Master. Go to the kit tab within the instance properties and use the **IMPORT** button. Once imported, you can then click on Update: Master Template. That will then push the list of tools to the Tool Master Template.

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Tool Tags

Master tools and tool instances can have tags assigned to them. This is either a 1D or 2D barcode, or it can also be an RFID tag. A tag on a master tool could be used in a crib for a bin of multiple instances of that tool type. Then the attendant could scan a copy of that tag on the bin to issue one of the instances of that tool. A tag could be applied to specific instances of tools that need to be tracked individually for maintenance purposes, such as torque wrenches. RFID tags are also used to uniquely track tool instances inside of RFID devices such as the ATC Portal and ATC Locker.





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You can manually enter a tag value by typing it into the text box. This value must be unique in the system. You could also click the **Pencil** button and then scan the tag, using a supported tag scanner to import the tag value. Alternatively, you can click the **Auto generate value** button to have the system assign a generated tag value. Then you will need to click the blue **Save** button to save the change.





Once you have a valid tag created, you can then use the print button to print that tag. This requires that you have previously installed and configured an L5 approved barcode printer for your system. Otherwise, the print button will not be enabled.



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Importing Tools from Spreadsheet

When setting up an ATC device for the first time or adding several new tools to the inventory, it can be very time-consuming to input all that information one tool at a time. Tool importing would cut that time down significantly, allowing you to be more productive.

You can use the Tool Import wizard if you have a list of the tools in an Excel format (.xslx). To start, you must be logged into the Administration Client and have the appropriate permission to import tools.

The tool properties that can be imported are:

- **Compartment (Kiosk only)** - Door/drawer number of the tool's desired kiosk
- **Customer ID** – Custom ID defined by the customer
- **Description** – The Tool Name or short description of the tool
- **Issue Behavior** – The type of tool (See Tool section of Administration Guide)
- **Location** – The sub-location within the Crib that the tool will reside
- **Parent** – For Kits, this is the Parent (Key) in which this tool belongs to
- **Parent (Key)** – For Kits, this is the ID to identify a kit Parent (Must be unique)
- **Part Number** – The Part Number of the Tool
- **Quantity** – the number of instances that needs to be created
- **Serial Number** – the serial number of the tool
- **Tag** – RFID or Barcode for the tool
- **Units** – the amount of something that is given to an Employee on a single issue

Note: When attempting to import a tool in which a MASTER already exists in the system, you will instead add an additional instance of that tool.

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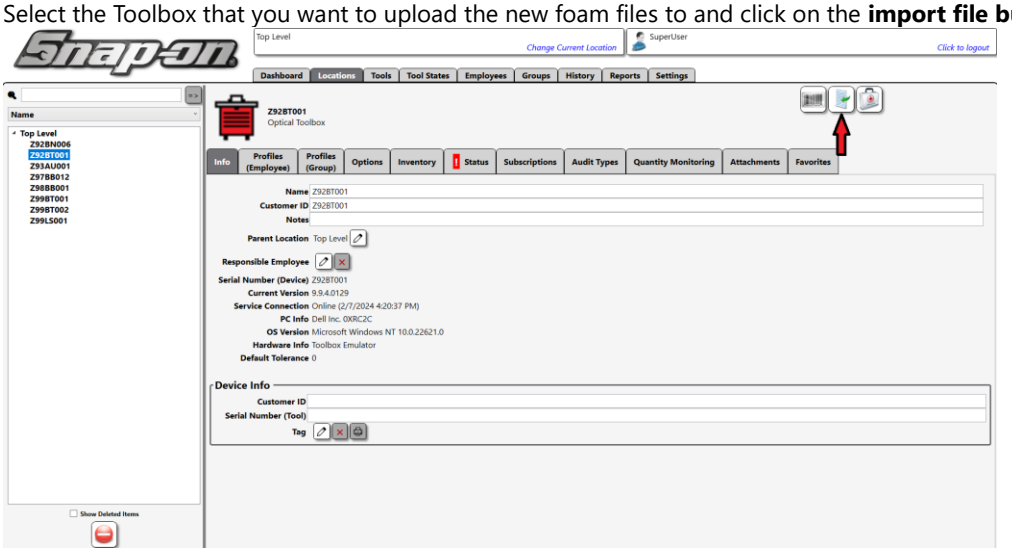
Via Admin Client

ATC Toolbox

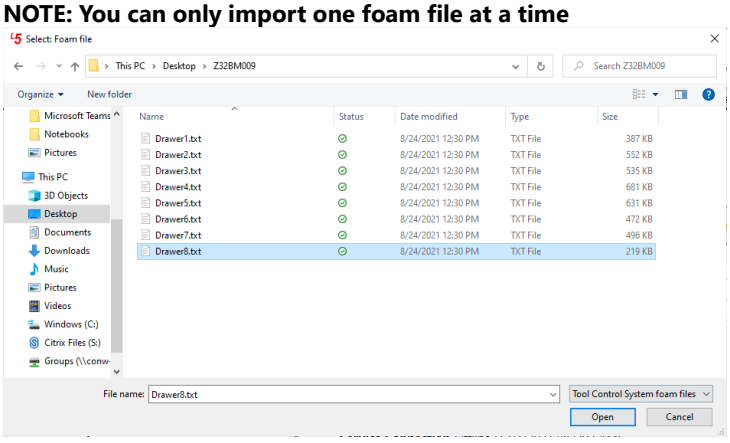
To use the Toolbox, you will need to train it to detect the tools within it. We do this by utilizing a Foam File that tells the Toolbox where to look to find the tool in the drawer. You will need to import the foam file to the Toolbox.

NOTE: Tools on the Toolbox cannot be imported through an excel sheet, instead a foam file must be uploaded. You will have one foam file for every drawer that the toolbox has. If you do not have any foam files, please contact your Snap-on representative.

1. From the L5 Connect™ Admin Client, click on the **locations** tab.
2. Select the Toolbox that you want to upload the new foam files to and click on the **import file button.**

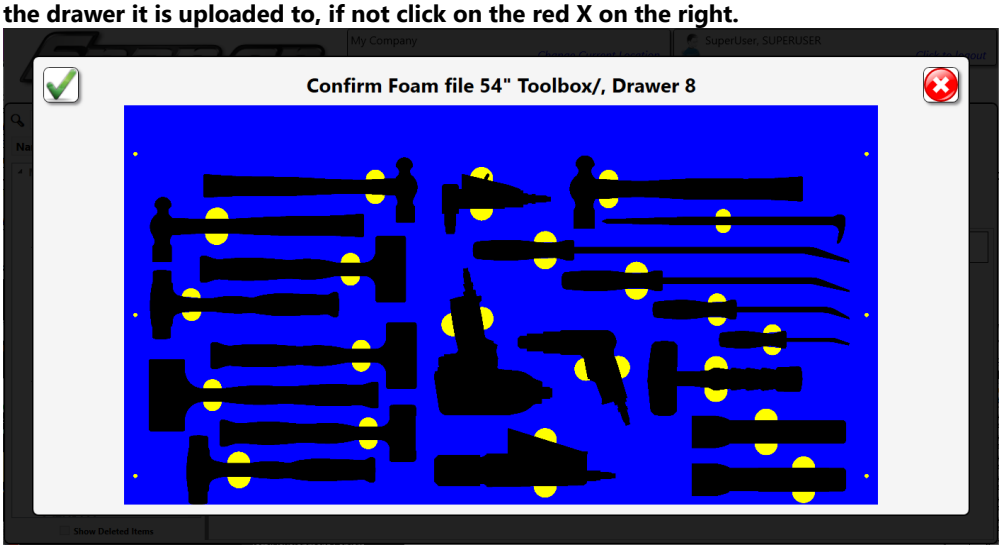


3. Browse to the file and click **Open.**
   NOTE: You can only import one foam file at a time

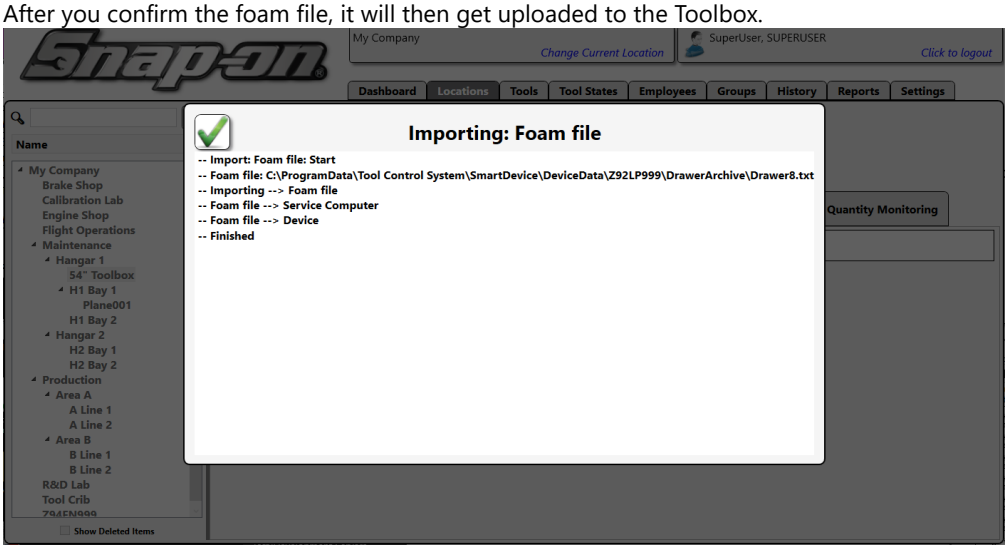


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4. You will then be asked to confirm that the foam file is correct. **NOTE: The foam file should look exactly like the drawer it is uploaded to, if not click on the red X on the right.**



5. After you confirm the foam file, it will then get uploaded to the Toolbox.

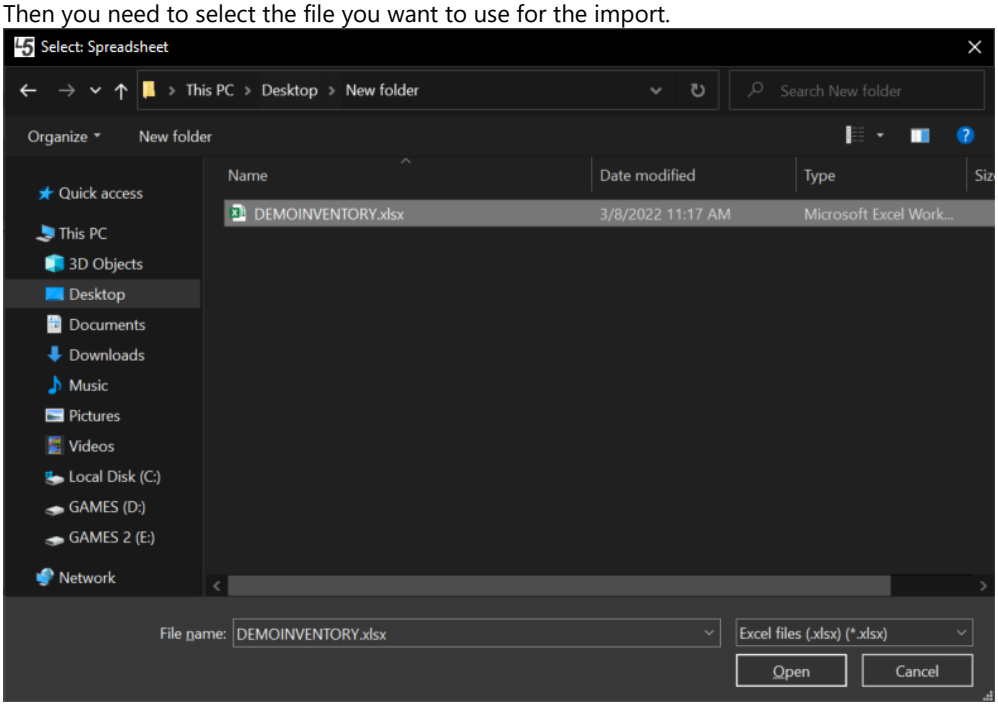


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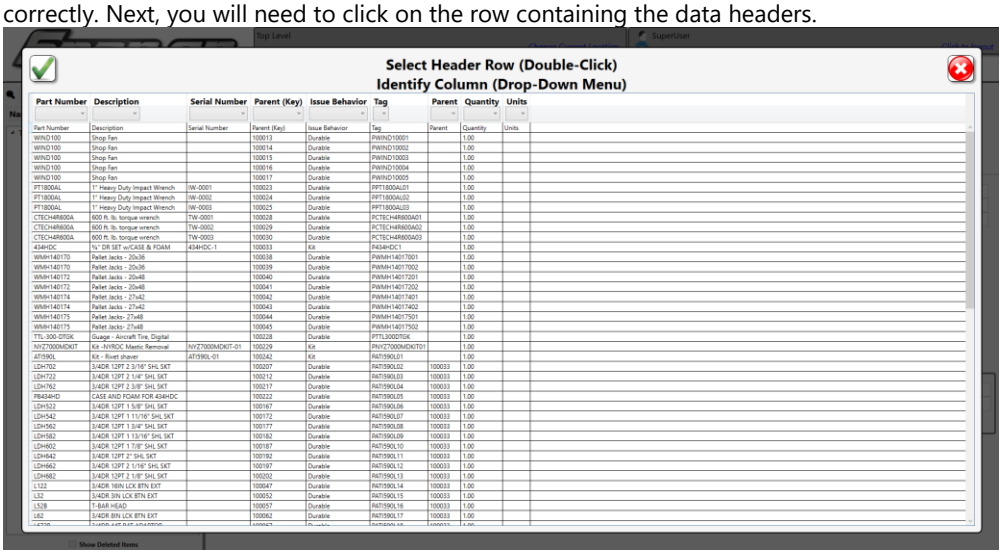
Other Devices

NOTE: Only 100 tools can be imported at a time from the admin client. However, larger numbers of tools can be imported directly on certain devices. (See below)

1. On the Location Tab, select the device on the left that you want to import tools into, then click the Import Tools Button open the import wizard.
2. Then you need to select the file you want to use for the import.

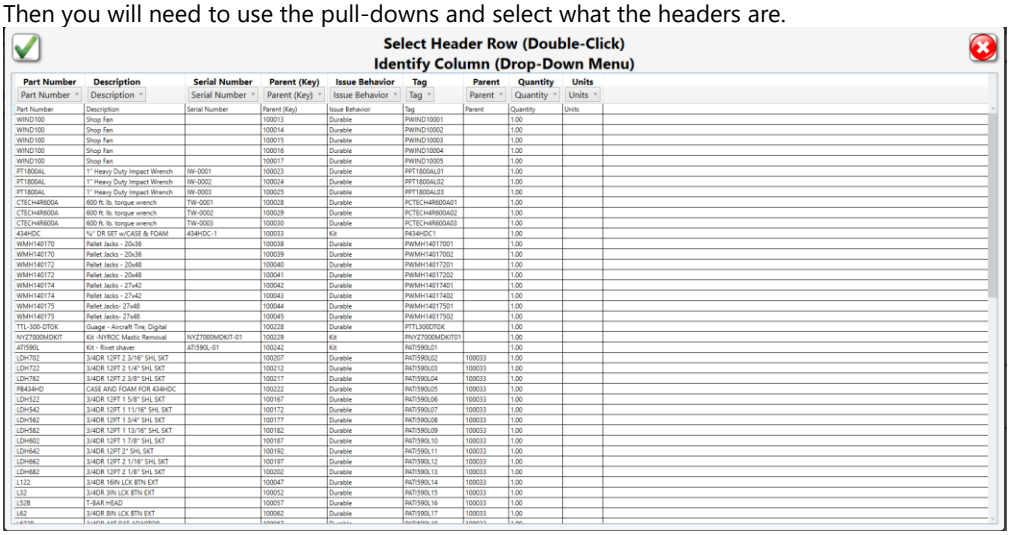


3. Once you have selected the file, the wizard will want you to define some data on the screen so it can read it correctly. Next, you will need to click on the row containing the data headers.



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Then you will need to use the pull-downs and select what the headers are.



4. Once you have selected these, you can click on the Import Button ✓, or you can click on the X to cancel. The tools should now be added to the device.

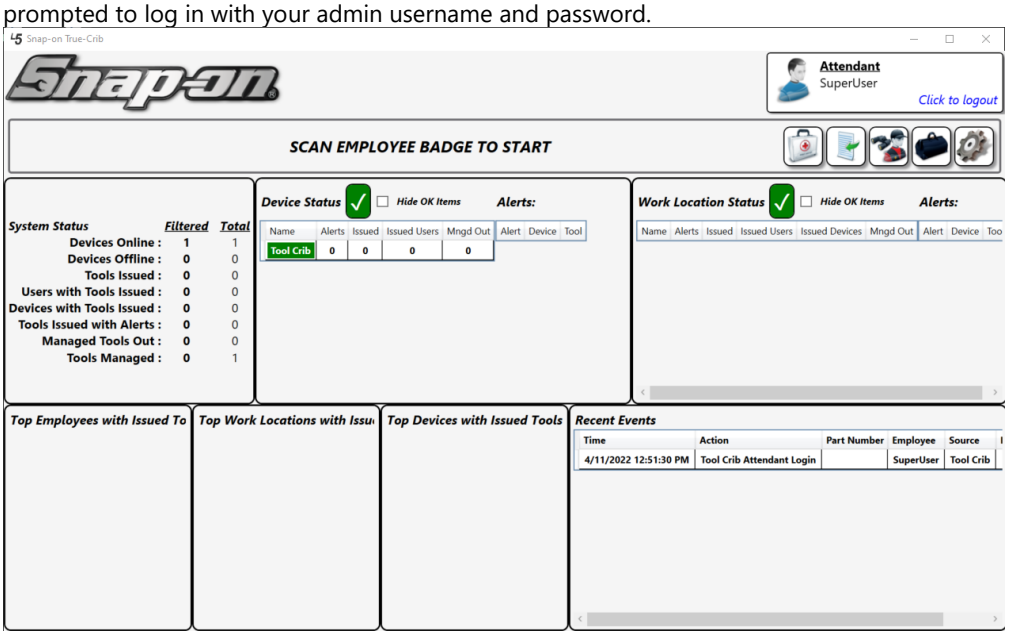
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Direct Device Import

Tool Crib

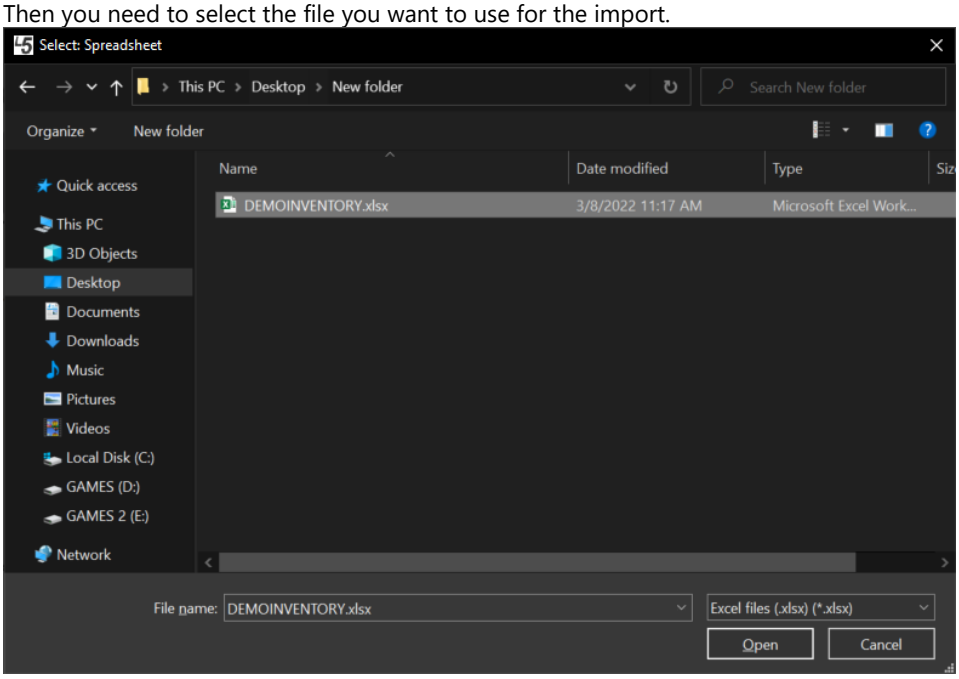
NOTE: Importing tools directly on the Tool Crib allows for imports of greater than 100 tools at once

1. On the True-Crib™ Dashboard, click on the Import Tools Button to import your tools. You will then be prompted to log in with your admin username and password.

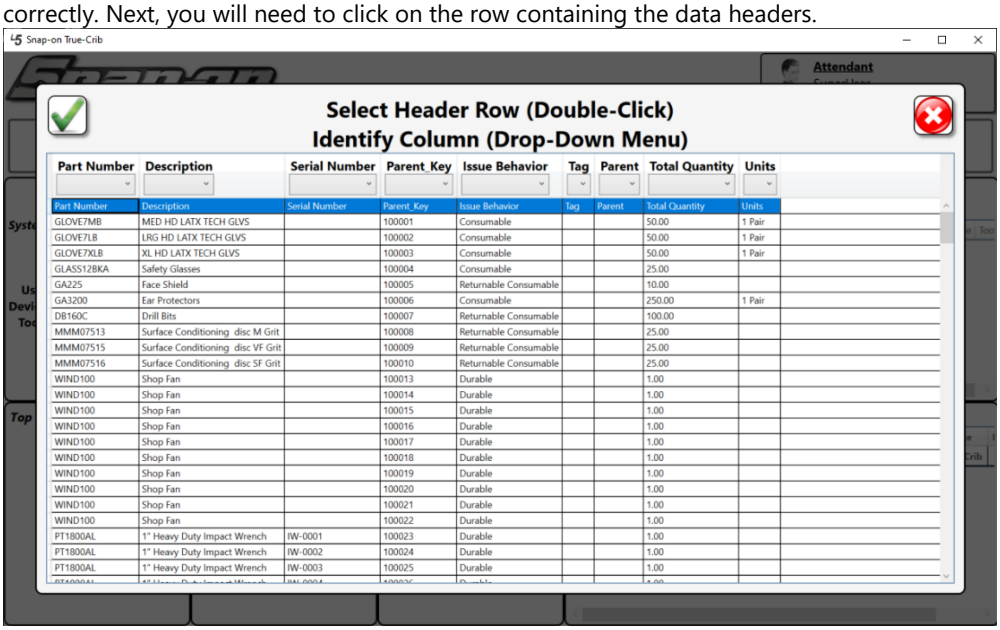


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2. Then you need to select the file you want to use for the import.

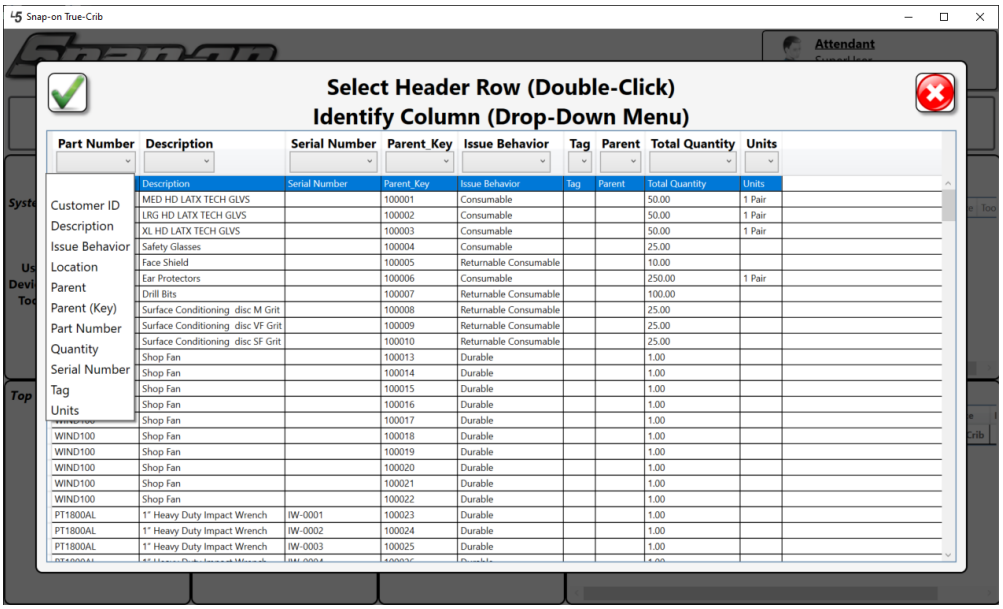


3. Once you have selected the file, the wizard will want you to define some data on the screen so it can read it correctly. Next, you will need to click on the row containing the data headers.



Then you will need to use the pull-downs and select what the headers are.

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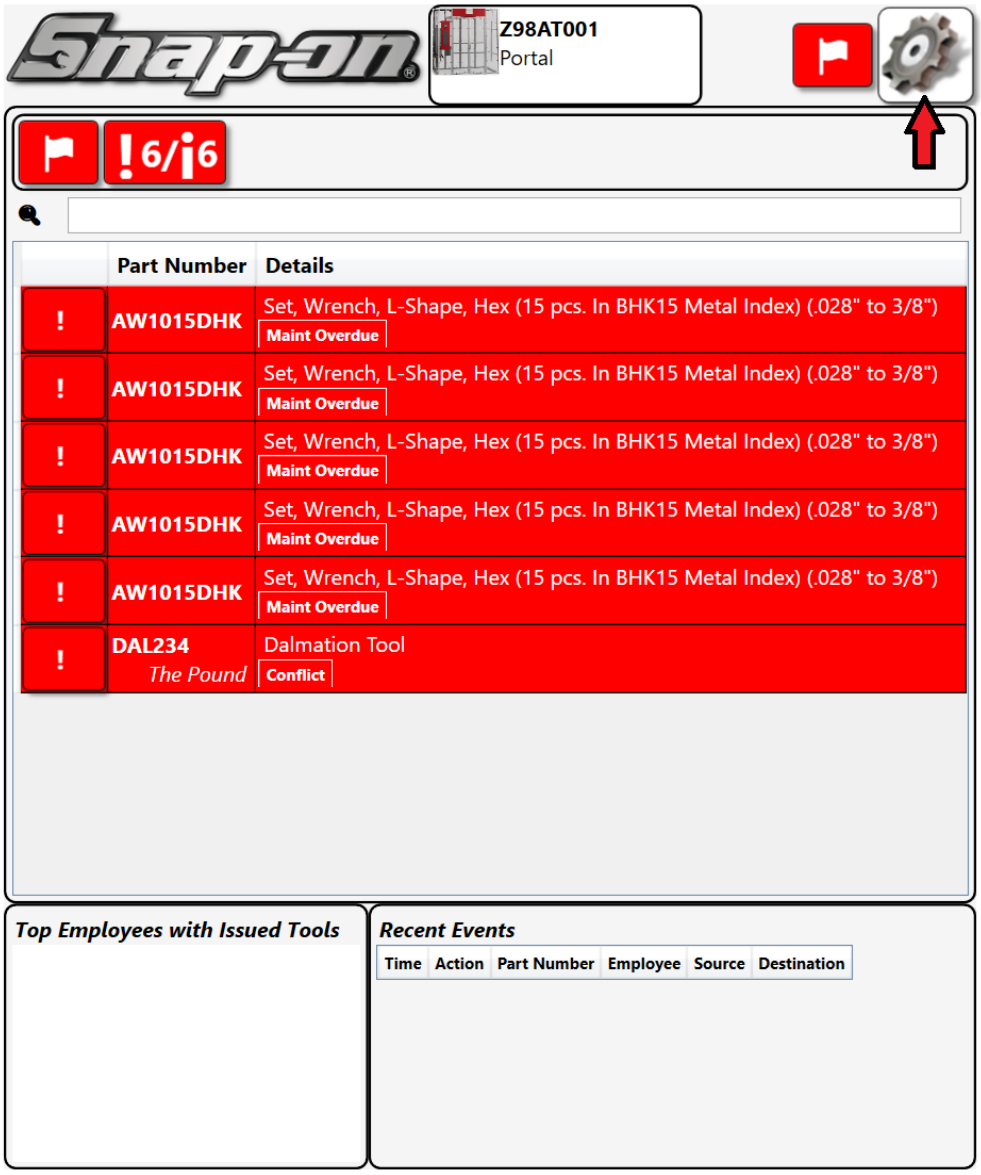
Once you have this selected, you can click on the Import Button ✓, or you can click on the X to cancel. The tools should now be added to the crib.

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Portal

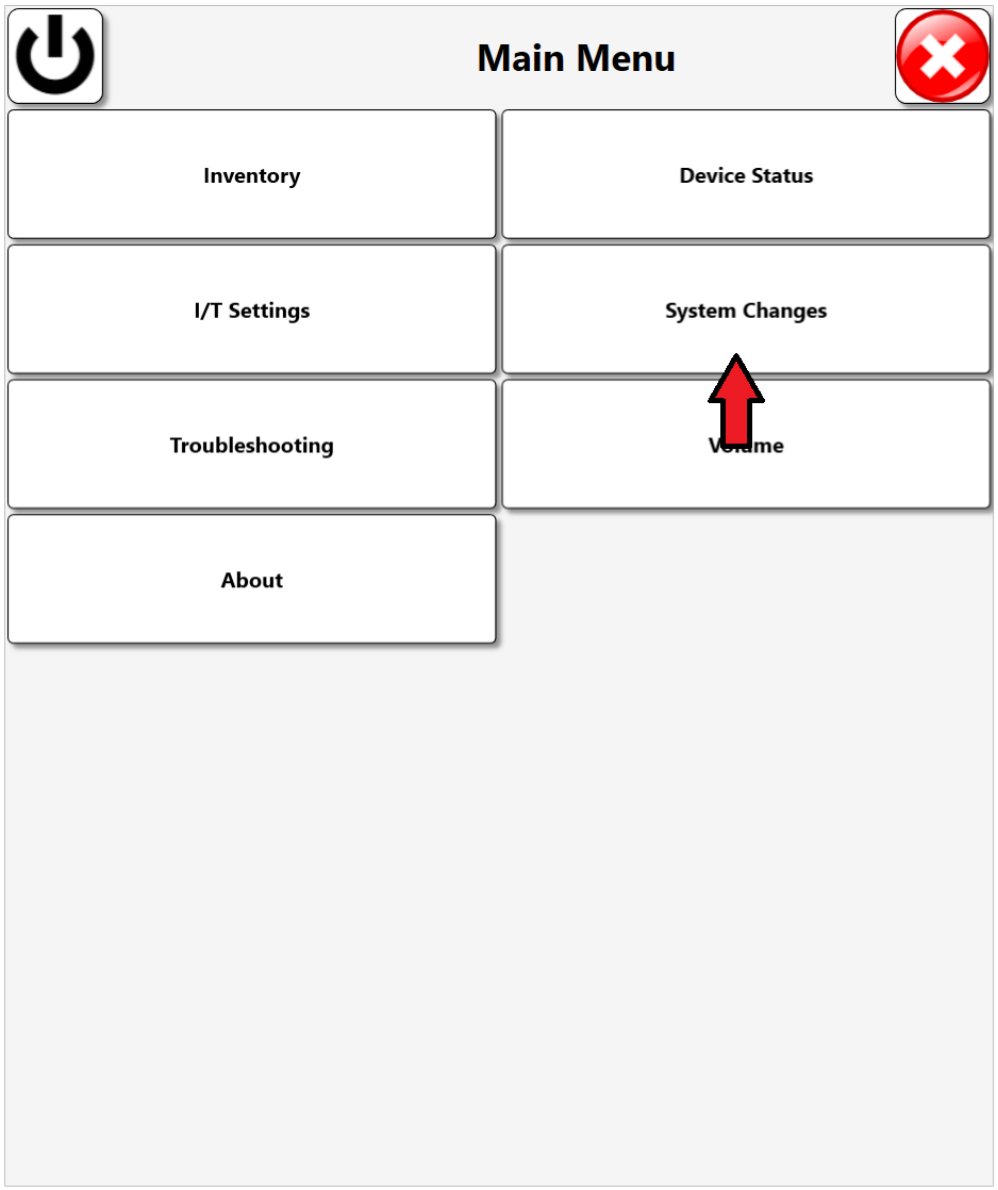
As of version 9.13.8.0314, you can import tools directly into the Portal and the number of tools can be greater than 100.

1. On the main screen of the portal, click the **Main Menu** button, which looks like a gear.



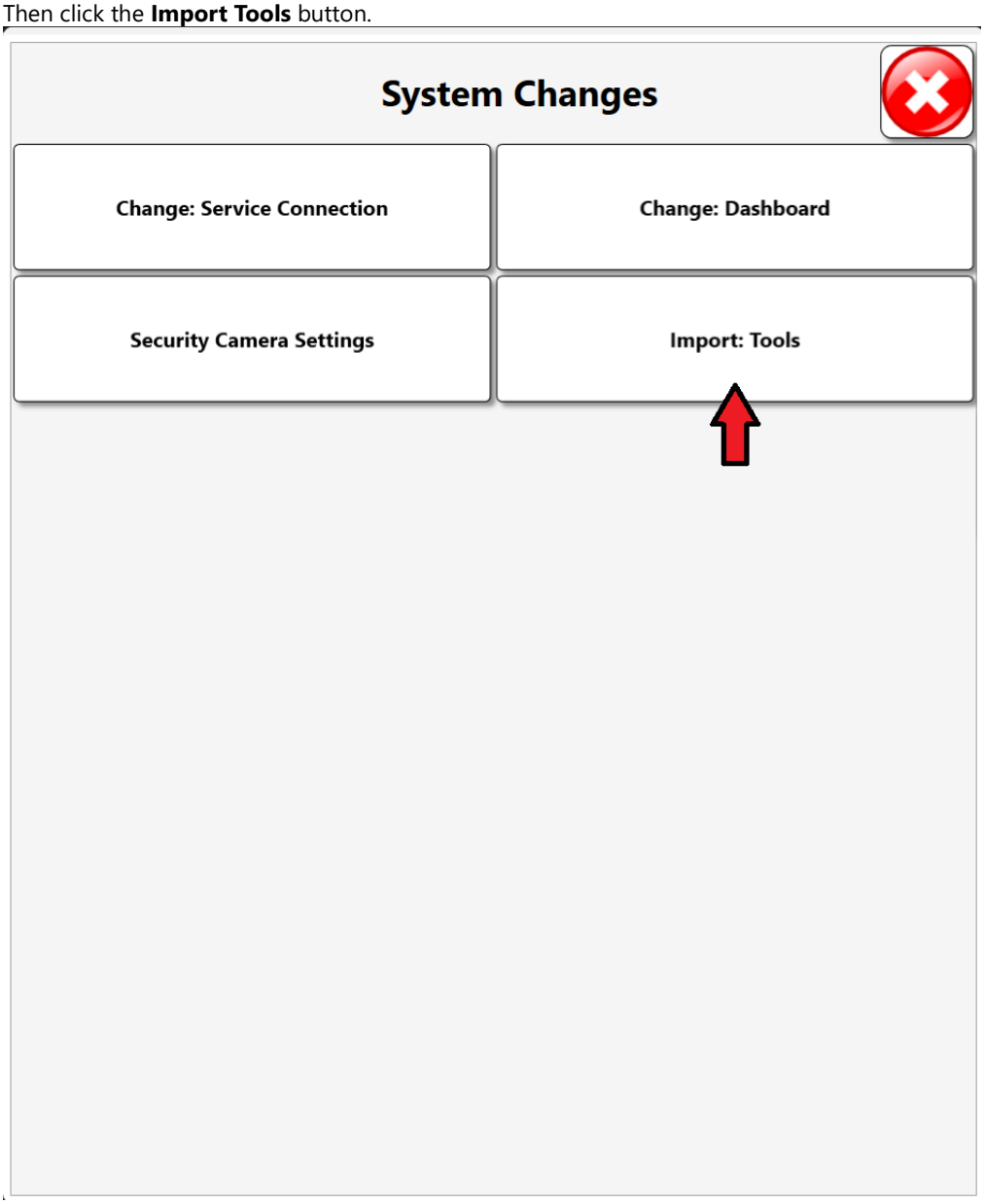
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2. Then click the **System Changes** button.



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3. Then click the **Import Tools** button.



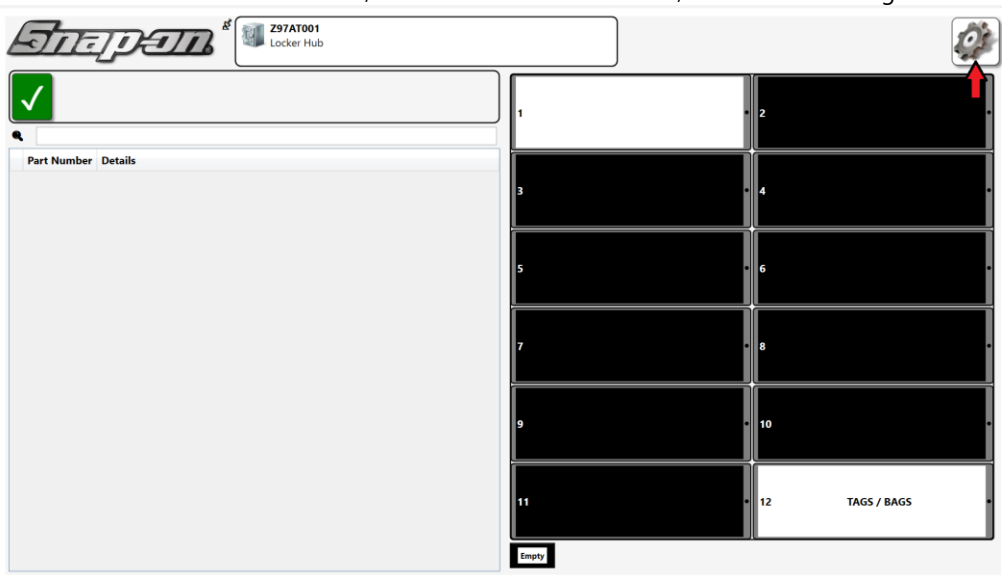
4. At this point you should be prompted to enter your admin credentials, and the process will be the same as in the Tool Crib section.

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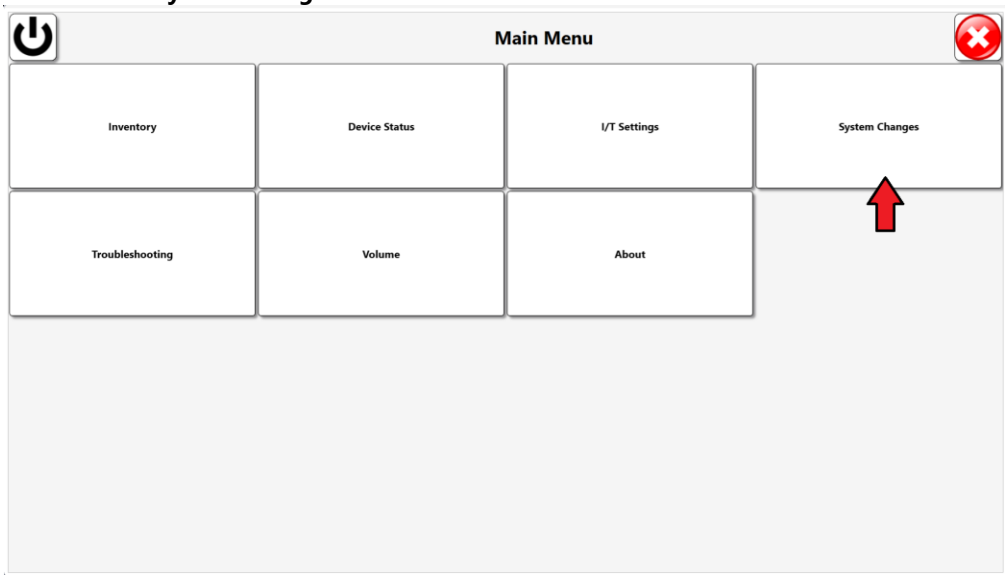
FlexHub

As of version 9.13.8.0314, you can import tools directly into the FlexHub and the number of tools can be greater than 100.

1. On the main screen of the FlexHub, click the **Main Menu** button, which looks like a gear.

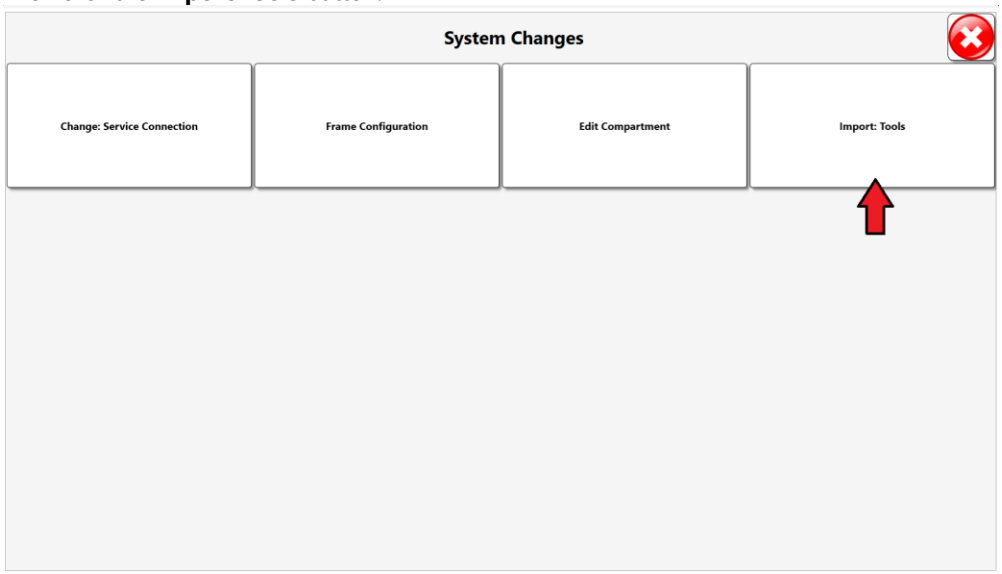


2. Then click the **System Changes** button.



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3. Then click the **Import Tools** button.



4. At this point you should be prompted to enter your admin credentials, and the process will be the same as in the Tool Crib section.

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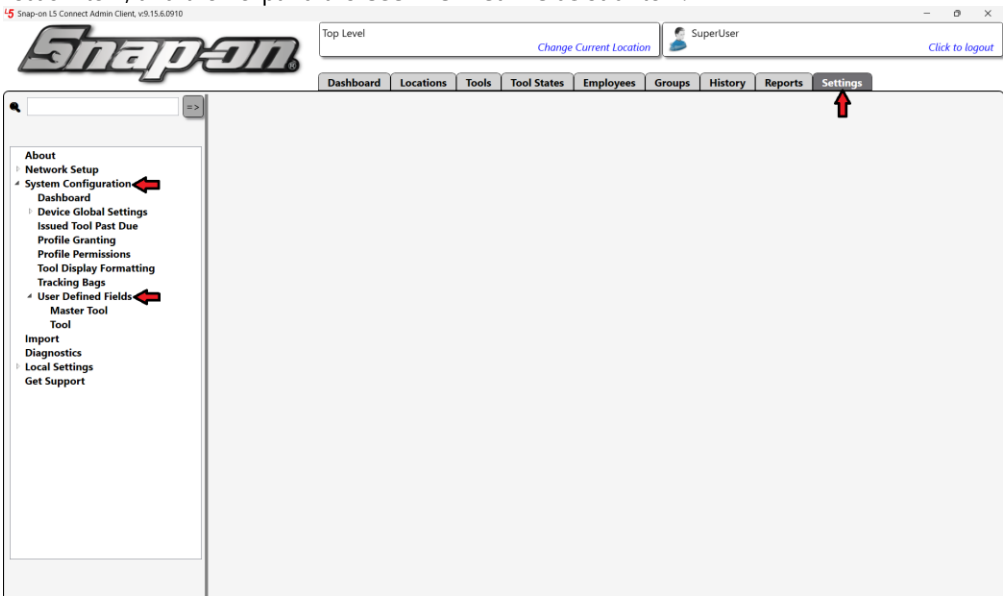
User Defined Fields

Sometimes a customer will want to have a field on a tool or master tool that is specific to their application. The L5 Connect system provides user defined fields that can be configured with customer specific titles for both tools and master tools. This document will explain the process of setting up user defined fields in the L5 Connect system.

Tool Instance User Defined Fields

There are two user defined fields for tool instances. These can be configured to have a custom label.

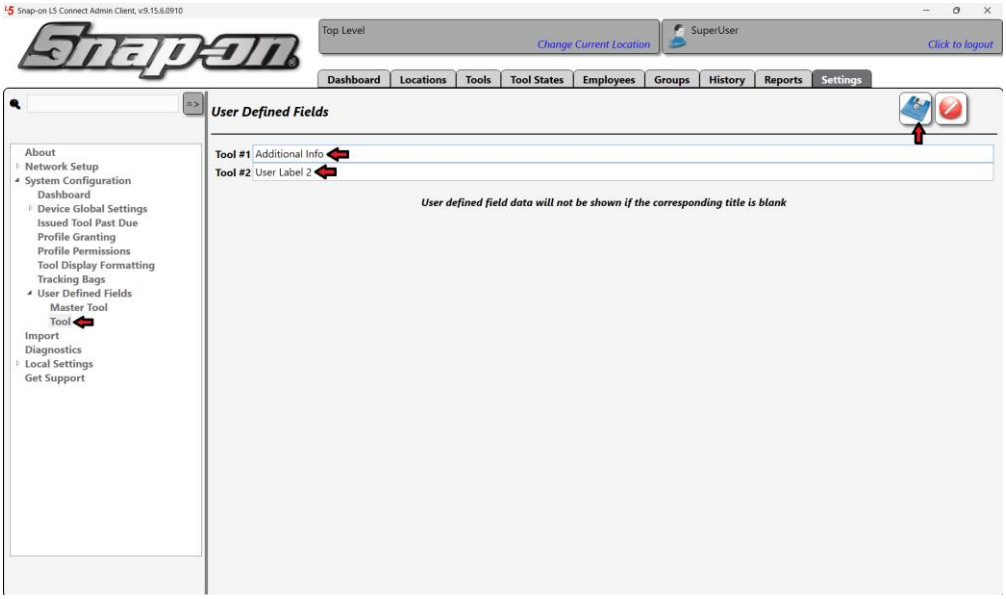
1. To configure these, open the Admin application, select the **Settings** tab, expand the **System Configuration** listbox item, and then expand the **User Defined Fields** sub-item.



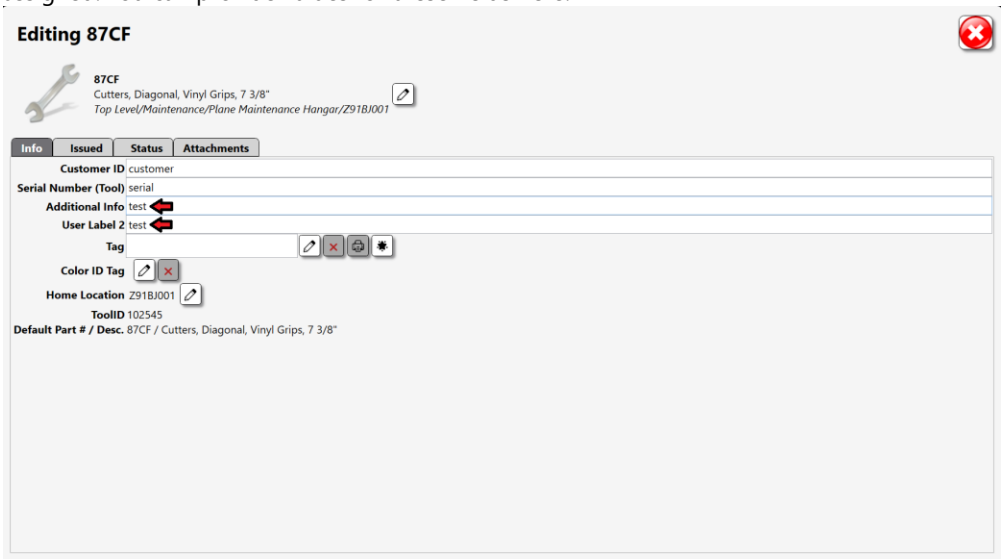
2. Under the **User Defined Fields** sub-tab, select **Tool**. In the **Tool #1** textbox, enter the label you want for the first user defined field. In the **Tool #2** field, enter the label you want for the second user defined field. Then

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click the save button that looks like a blue disk.



3. If you go to the **Info** sub-tab of a tool instance, you will see your user defined fields with the labels you assigned. You can provide values for these fields here.

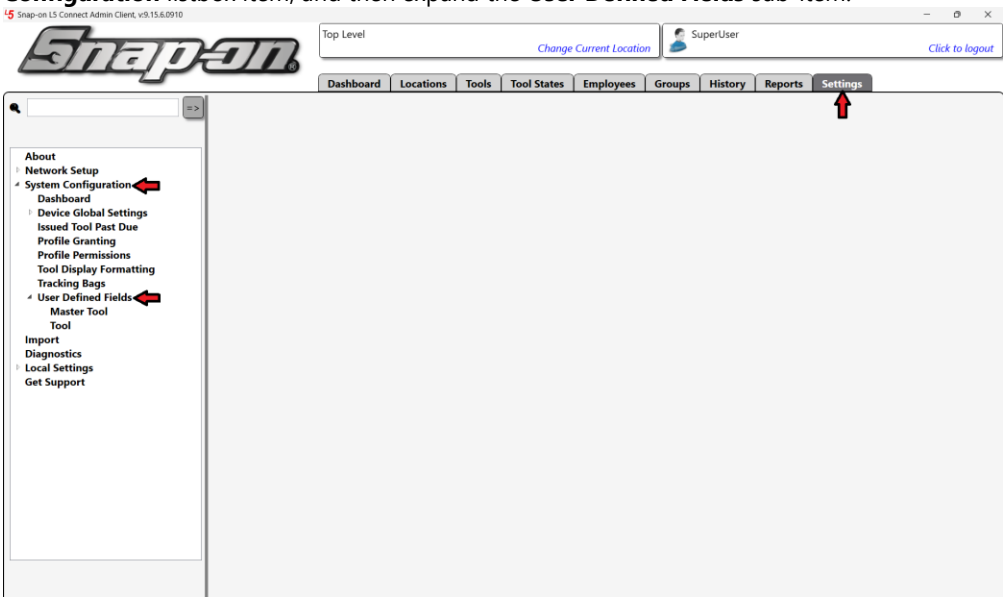


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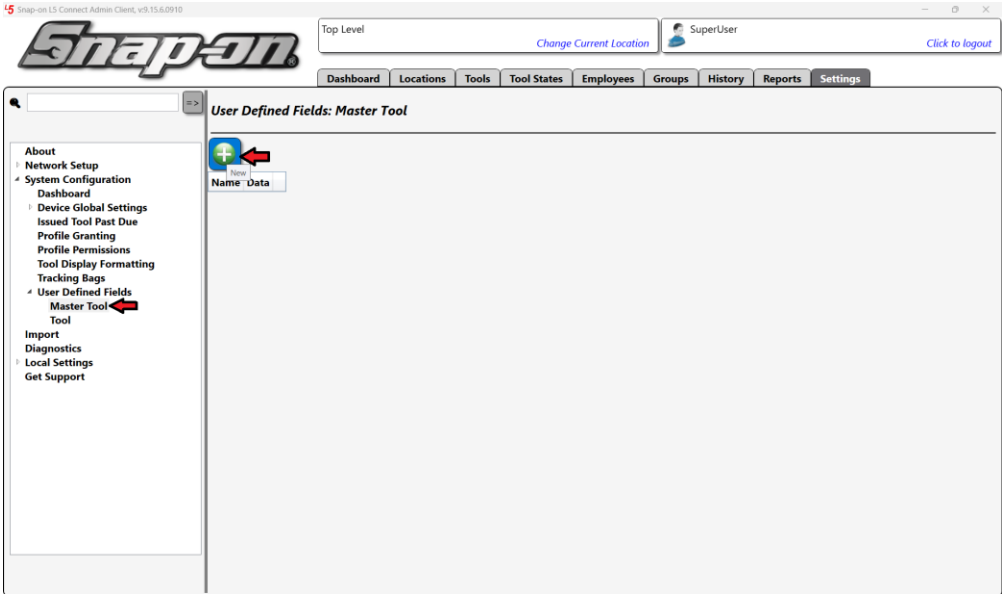
Master Tool User Defined Fields

The L5 Connect system also supports adding up to twenty master tool user defined fields.

1. To add a master tool user defined field, in the Admin application go to the **Settings** tab, expand the **System Configuration** listbox item, and then expand the **User Defined Fields** sub-item.

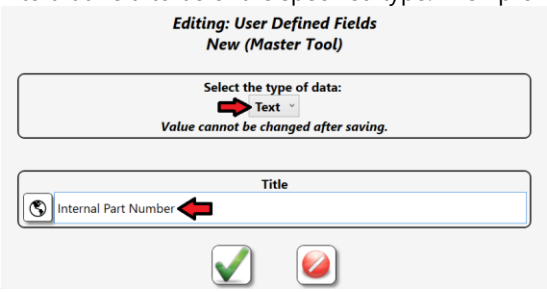


2. Under the **User Defined Fields** sub-tab, select **Master Tool**. Then click the **New** button to add a new master tool user defined field.

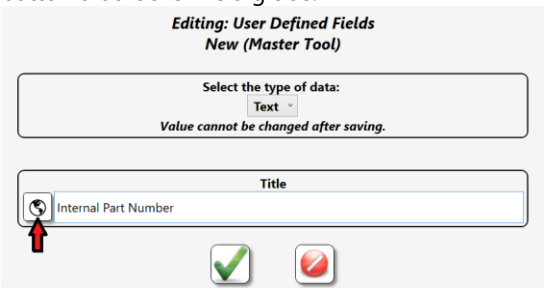


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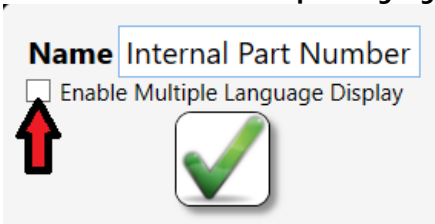
3. Select the type of data the user defined field should hold from the pull-down menu. This forces the data put into that field to be of the specified type. Then provide a title for the user defined field.



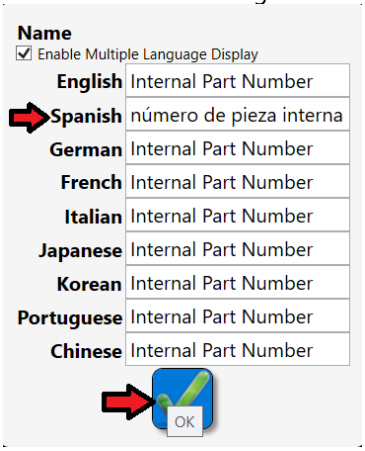
4. If you need to support more than one language, you can do this by clicking the **Edit Multiple Languages** button that looks like a globe.



5. Then click the **Enable Multiple Language Display** checkbox.

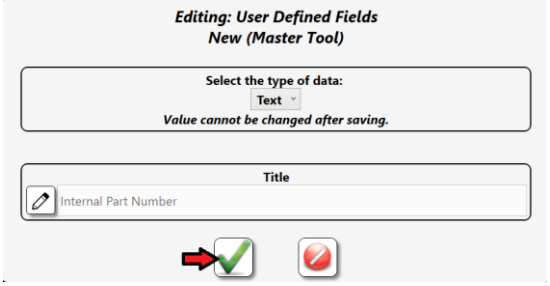


6. You can now add translations for any other language supported by the L5 Connect system. Then click the **OK** button that looks like a green checkmark.

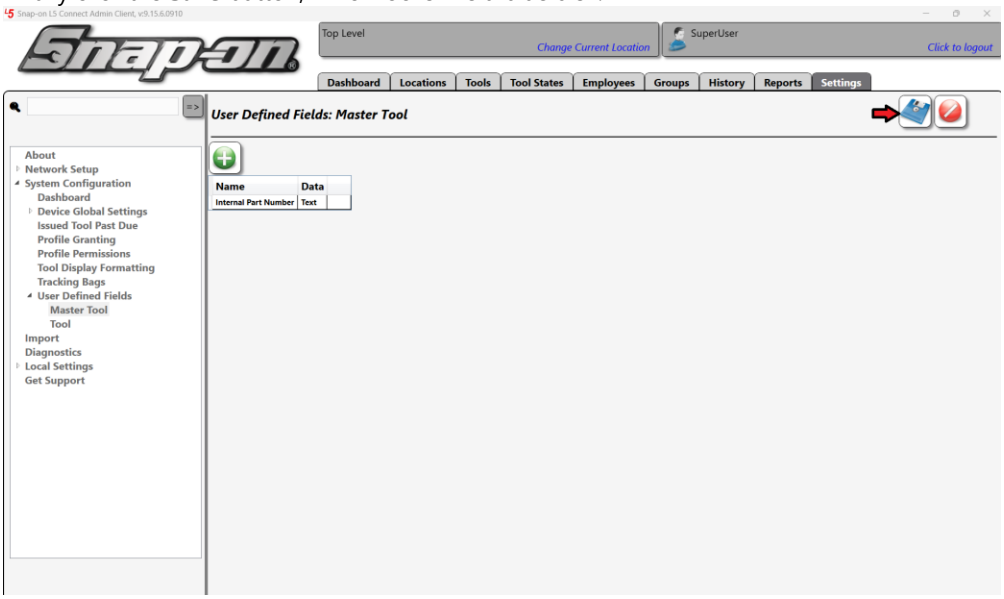


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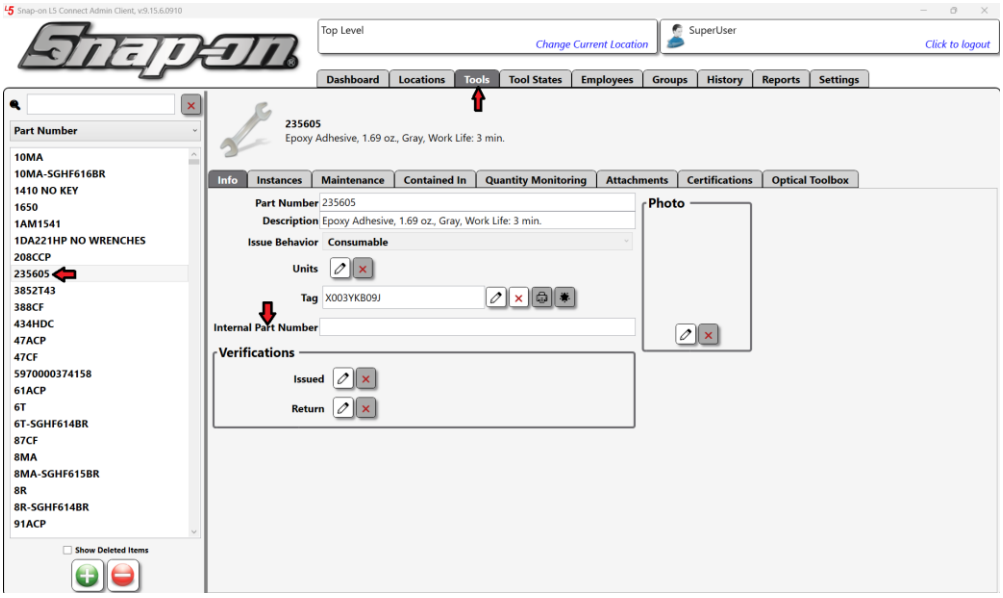
7. Then click the **OK** button.



8. Finally click the **Save** button, which looks like a blue disk.



Now if you go to the **Tools** tab and select a master tool and look at the **Info** sub-tab, you will see your newly created user defined field.



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Tool Statuses

Statuses in the L5 Connect system exist to tie important information to a tool or device. This information can be about the general state of the ATC device or information that pertains to a specific instance of a tool, like tool needs calibration, tool lost, replacement requested, etc. This article will cover how to set up statuses within the L5 connect software and how to add and clear statuses on a device-by-device basis.

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Setup Tool Statuses within the L5 Connect Admin Client

Statuses within the L5 Connect system allow users to add additional information about the current state of an instance of a tool or device. Information such as, device offline, tool lost, calibration requested, etc. To set up and use these statuses, they must first be set up within the L5 Connect Admin client. Some status types are created with the installation of the admin client, and some of these status types cannot be edited. There are also custom statuses provided for customer use that can be edited.

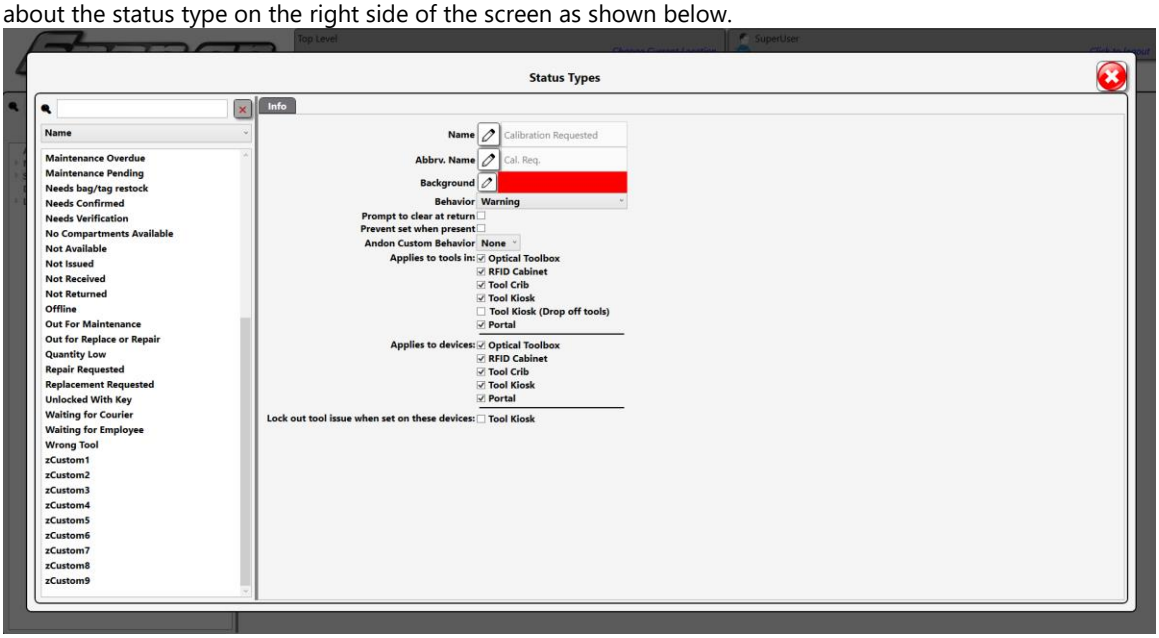
Required Permission: Admin login to L5 Connect Admin Client & Superuser profile at the root location

When to use

1. Initial device setup at customer site
2. If the user needs additional statuses not created in the initial installation and setup of the ATC device.

Procedure

1. Open the L5 Connect Admin Client, and login using an Admin account. Navigate to the **Status types** screen, **Settings/System Configuration/Status Types**
2. Within the status types sub screen the user will see a list of status types to the left. The user will then click on the status type in which they desire to modify. After clicking on a status type the user will see information about the status type on the right side of the screen as shown below.



3. On this screen the user can modify many aspects of the status type including the name, background color, behavior, prompting the user, and what the status applies to whether tools in a device or the device itself. **NOTE: The names and Abbreviated name on some statuses cannot be changed, as they are a default status type within the L5 Connect System.**

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There are also some placeholder statuses that can be changed by the user to fit any status type they may need, shown above as zCustom1-9
Follow along below for a brief description of the settings that can be changed about a specific status type:

- **Behavior**: A Status Type Behavior determines how the system alerts and reports the status when applied.
  - **Info Only**
    - Causes status indicator to appear on device tool lists (white Background with ⓘ symbol; the symbol looks different with the device font)
    - Status abbreviation appears under the tool details on device tool lists
    - Status details appear in the tool's details screens
  - **Managed Out of Box**
    - Includes all "Info Only" behaviors
    - The tool is controlled outside of the device, and its alerts and issued conditions can be "suppressed."
    - Gray Background and @ symbol appear when a condition is being "covered")
  - **Warning**
    - Includes all "Info Only" behaviors
    - It plays an audio warning when issued
  - **Alert**
    - Includes all "Warning" behaviors
    - Shown on dashboards, front screens, etc.
    - Red Background with the ! symbol is displayed for tools with an alert status
- **Prompt to clear on return**: If checked, it will prompt the user to clear the status upon returning a tool to the device
- **Prevent set when present**: If checked it will prevent this status type from being set if the tool is still present within the device.
- **Andon Custom Behavior**: Allows the user to select the behavior of the Andon Light; either none, solid, or blink.
- **Applies to Tools in**: If a device is checked this status type can be applied to any tools within the checked device
- **Applies to Devices**: If a device is checked this status type can be applied to the checked device. **NOTE: a device must be online to set a status**
- **Lock out tool issue when set on these devices**: **NOTE: This feature is currently only offered on the Tool Kiosk.** If checked applying this status to a tool/tool(s) will lock out the tool, meaning the tool cannot be issued until the status is cleared.

After making modifications to the status type click the **Save** icon.

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Modifying Tool Statuses within the L5 Connect Admin Client

1. To modify tool statuses within the L5 Admin Client, navigate to either the **Tools menu, tool states menu, dashboard recent events, and the history tab.**
2. Double click the instance of a tool in which a user wishes to modify the statuses. This will open the Tool details window, proceed to the status sub-menu.
3. Another way to get to the tool details window is by right clicking on an instance of a tool.

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Device Specific Procedures

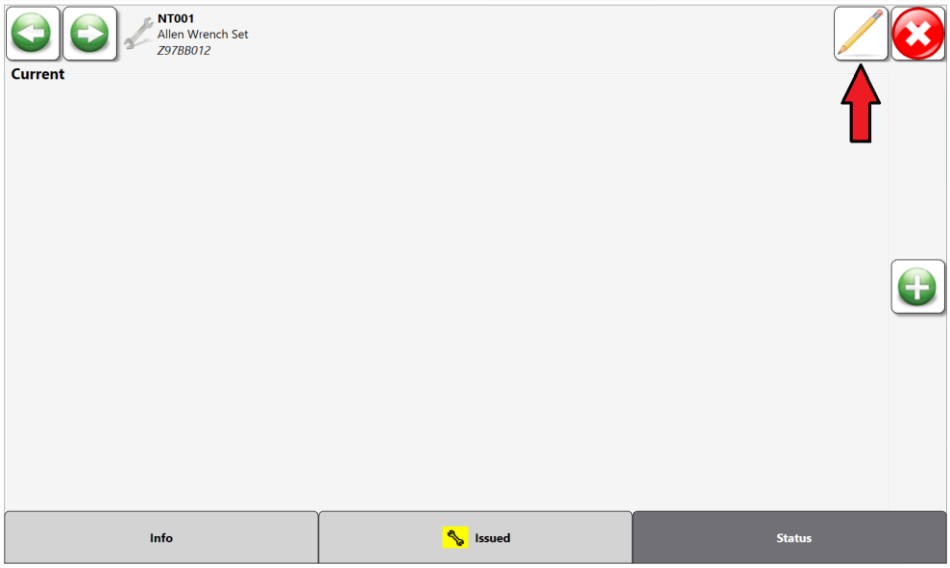
Listed below are the device specific procedures for applying and clearing a status to a tool.
NOTE: Any statuses applied by an admin user must be cleared by an admin user.

Required Permissions: Device User

Kiosk

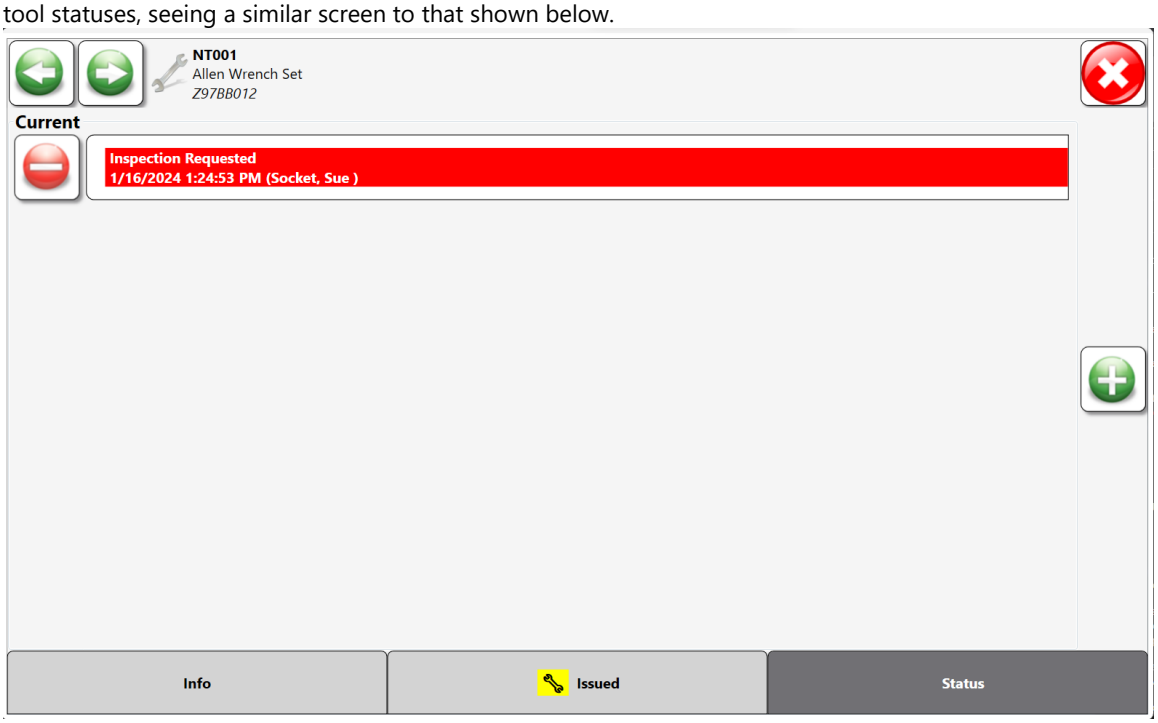
There are two ways a user of the Kiosk can apply or remove a status from a tool:

1. For the first, login to the Kiosk and then click the settings button and navigate to inventory screen, **Kiosk Menu/Settings/Inventory.** The user will then click on the tool in which they wish to apply or remove a status. **NOTE: If the user has not logged in at the Kiosk dashboard they will see a pencil icon in the top right corner, shown below. Click on the pencil icon, and scan your badge for to edit statuses.**

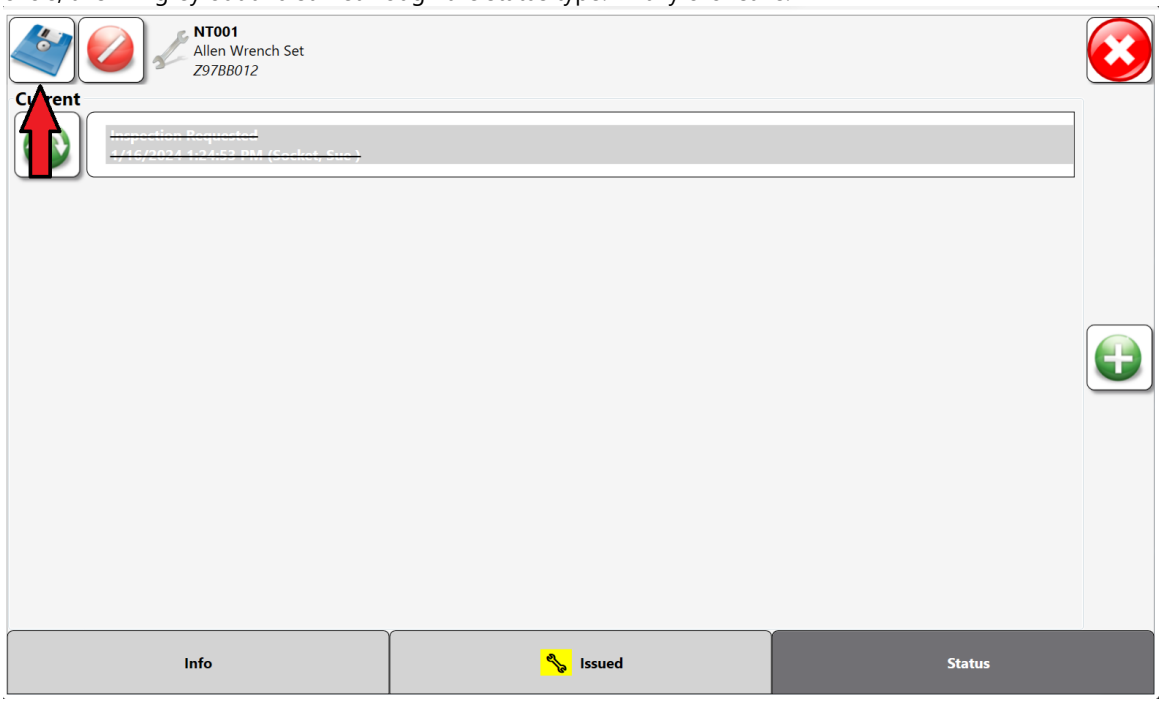


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After the user has logged in at the dashboard or scanned their badge for edit access, the user can then edit tool statuses, seeing a similar screen to that shown below.

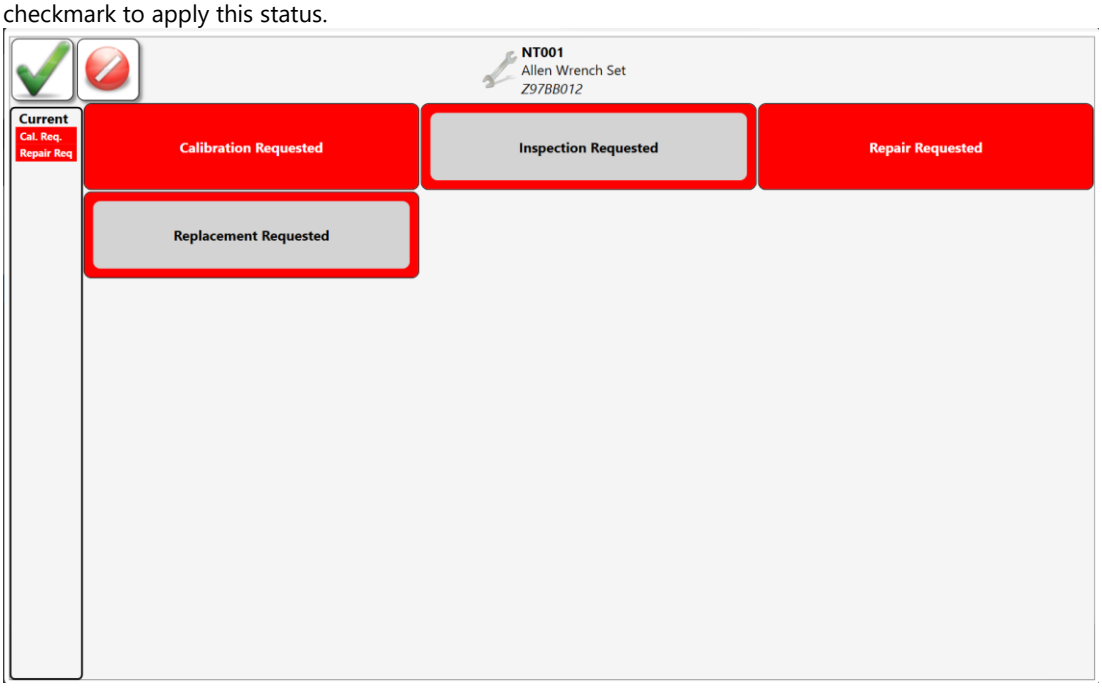


If the user wishes to remove a currently applied status click on the delete button which is displayed as a red circle, this will grey out and strikethrough the status type. Finally click save.

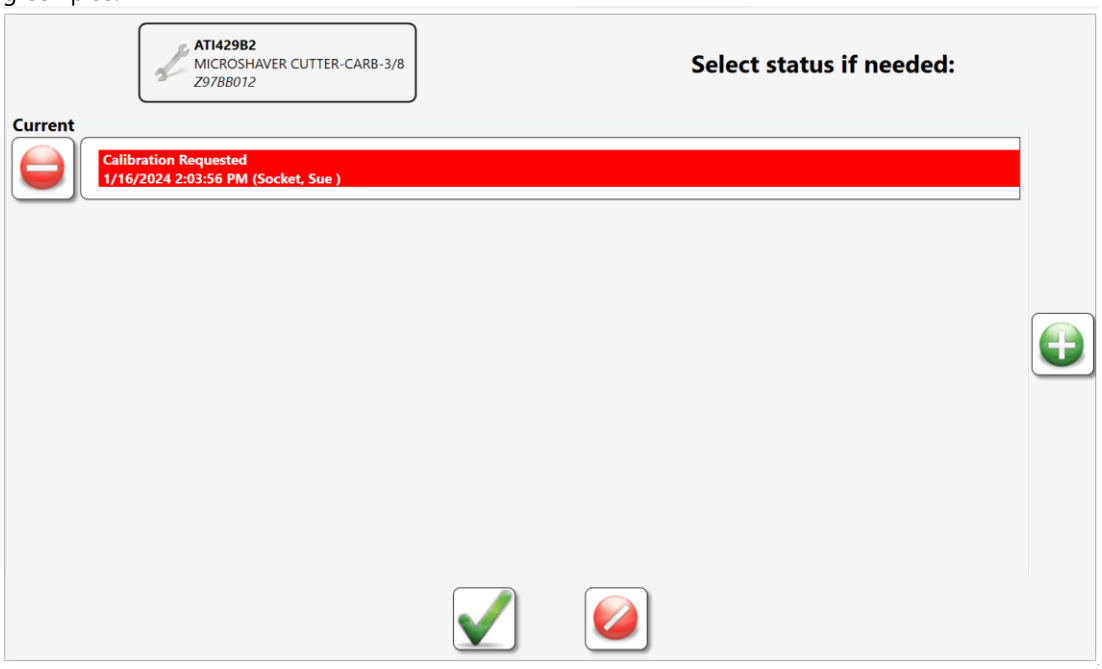


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If the user wishes to add a status, click the green plus sign on the right side of the screen which will display the status types that can be applied to the tool. Select whichever status type applies, then click on the green checkmark to apply this status.



2. For the second method of adding or removing a status we will be returning a tool to the kiosk. Login to the kiosk and select the workflow option **Return.** Select an item to be returned to the kiosk and click the green check mark. The user will be met with the following screen, allowing the user to add a status by clicking the green plus.



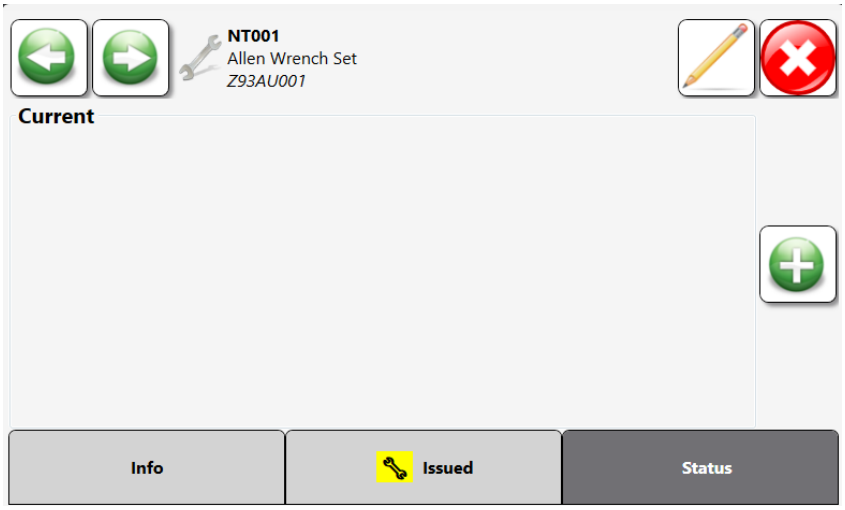
To remove a status click on the red circle to the left of the current status. Click the green checkmark at the bottom of screen when finished.

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Locker

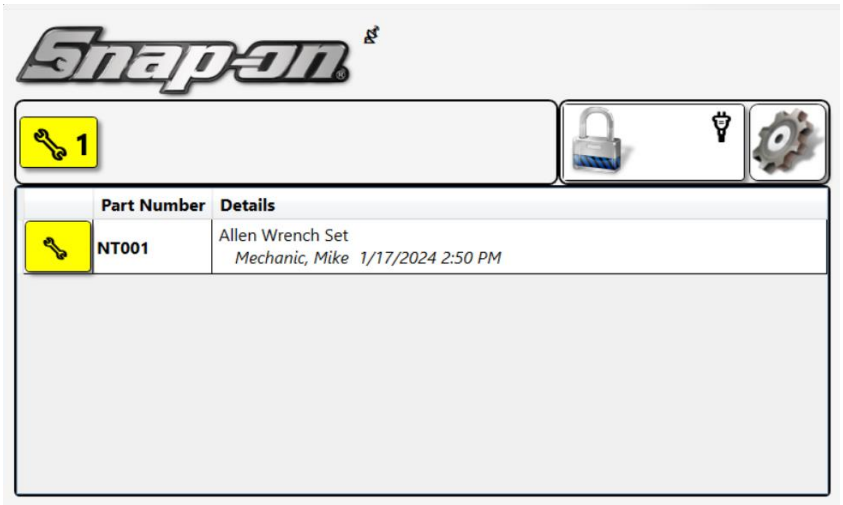
There are two ways a user of the Locker can apply or remove a status from a tool.

1. For the first method of adding or removing a status, log into the Locker and click on the settings button, navigating to the inventory screen. The user will then select the tool in which they wish to apply or remove a status. **NOTE: If the user has not logged in at the Locker dashboard, they will see a pencil icon in the top right corner, shown below. Click on the pencil icon and scan your badge to edit the statuses. Shown below.**



Click on the green plus to add a status or the red circle next to the status to remove. When completed, click the save icon.

2. The second method involves changing the tool status on the dashboard of the locker. For this method a tool must be issued from the locker. If a tool is on issue from the locker, it will be displayed on the dashboard as shown below.



Login to the locker and double click on the tool to modify the status applied. **NOTE: If the user has not logged in at the Portal dashboard, they will see a pencil icon in the top right corner. Click on the pencil icon and scan your badge to edit statuses.** After entering their credentials, the user can click on the

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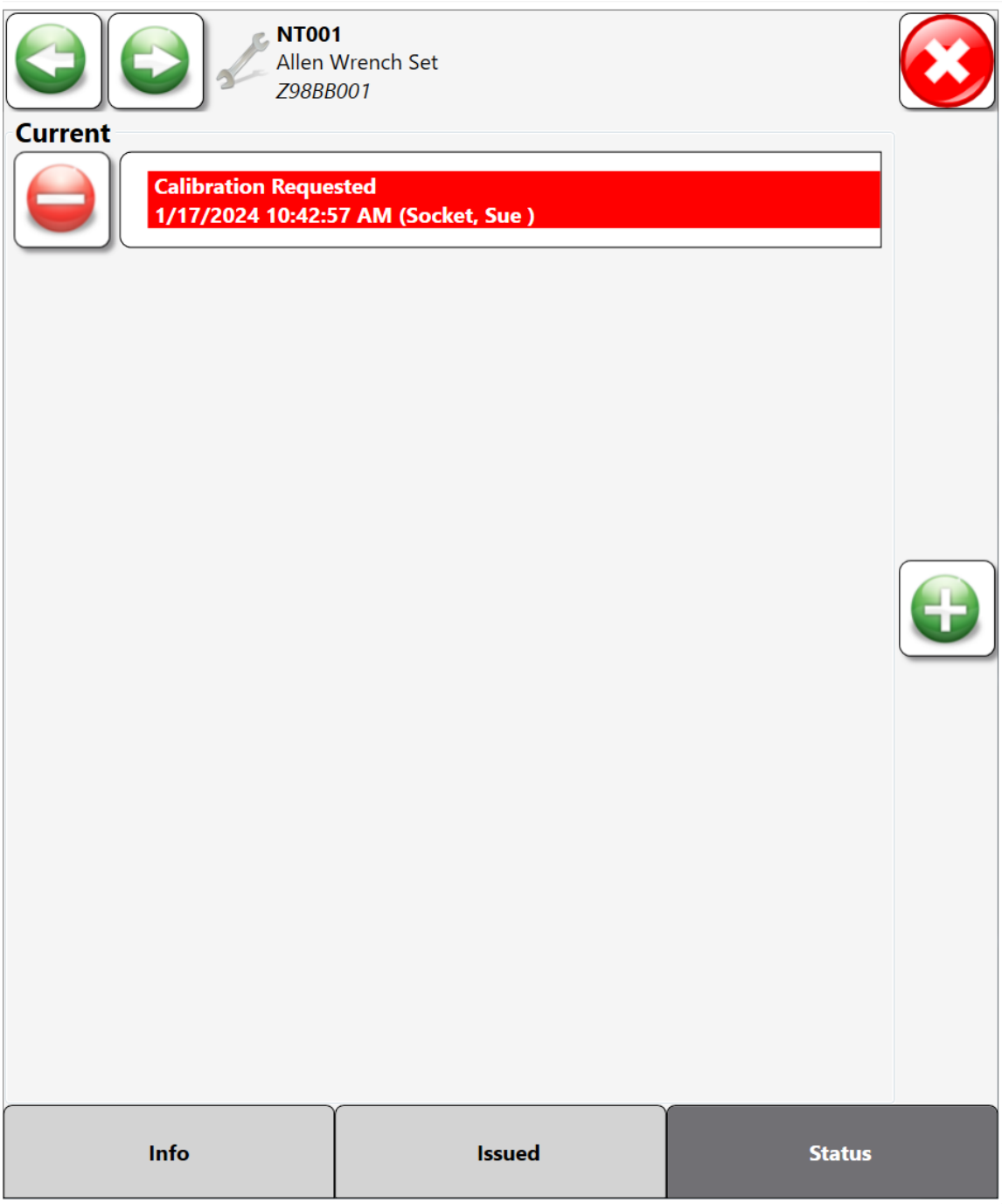
green plus to add a status or the red circle next to the status to remove. When completed, click the save icon.

Portal

There are three ways a user of the Portal can apply or remove a status from a tool.

1. For the first, login at the Portal dashboard. Then click the settings button and navigate to inventory screen. The user will then click on the tool in which they wish to apply or remove a status. After selecting the tool, the user will see any status types currently tied to the tool. An example of this screen is shown below.

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NOTE: If the user has not logged in at the Portal dashboard they will see a pencil icon in the top right

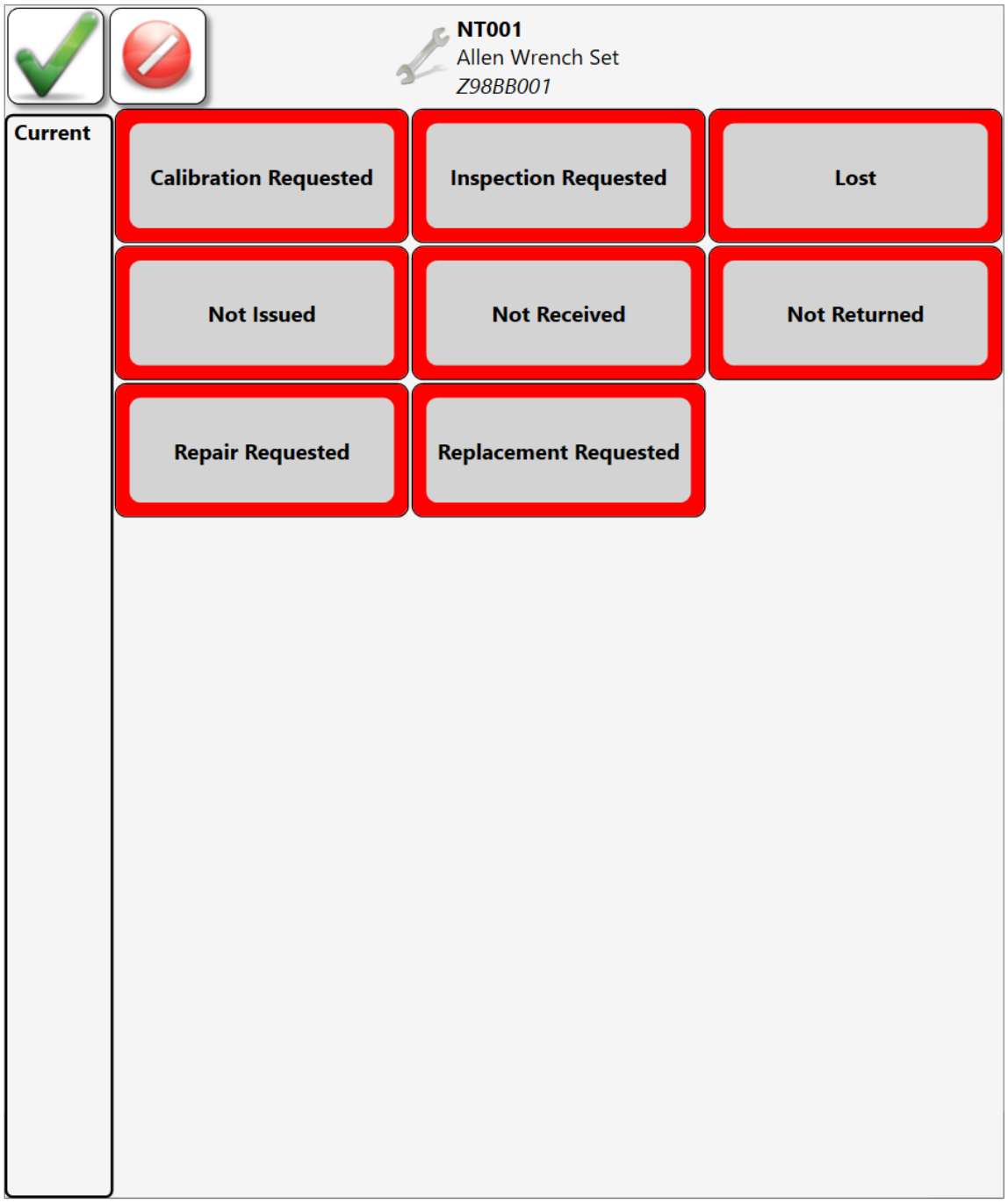
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corner, shown below. Click on the pencil icon and scan your badge to edit the statuses. Shown below.



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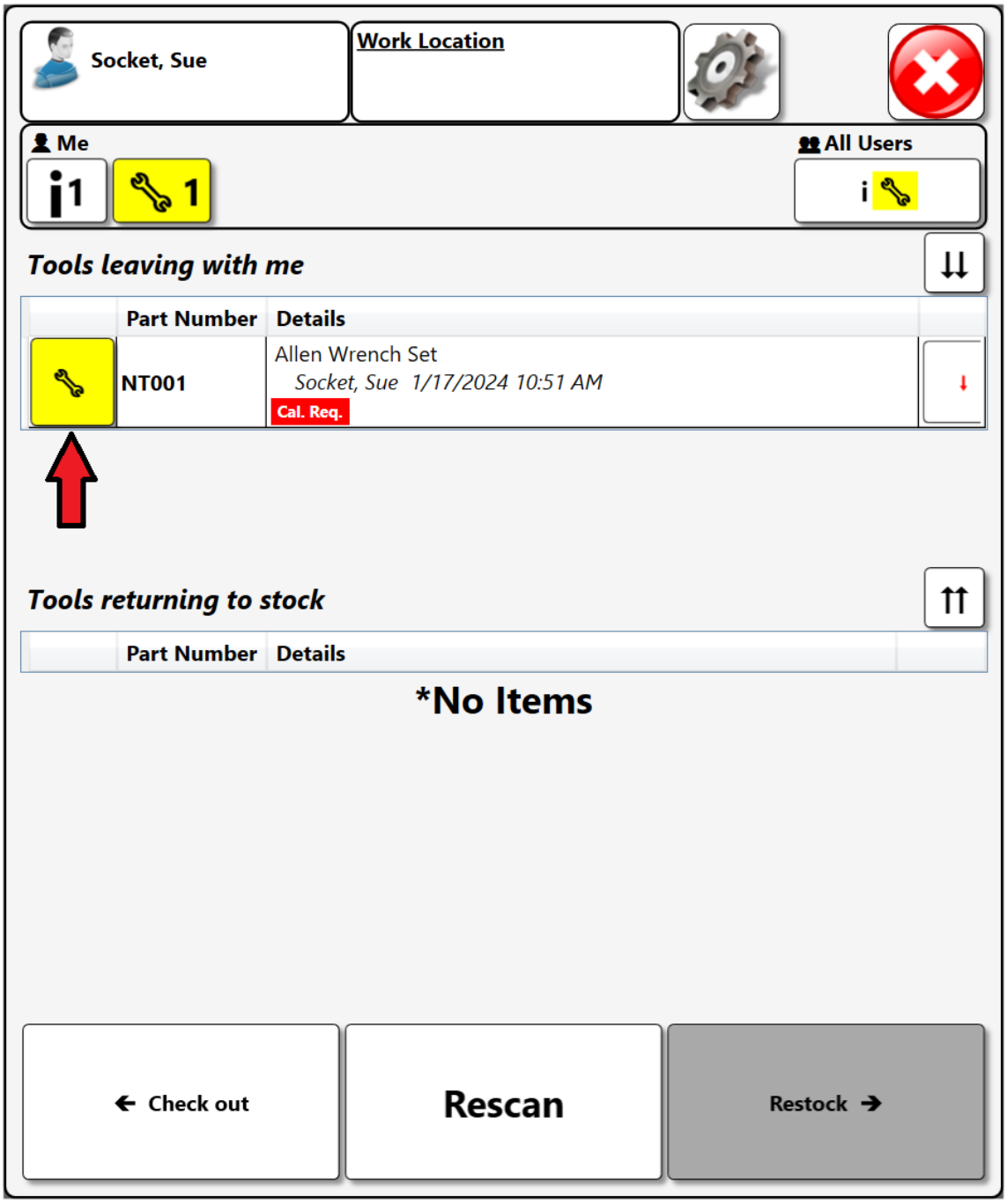
If the user wants to remove a status click on the delete button to the left of the current status. If adding a status click on the green plus on the right side of the screen. The user will see a similar screen to that shown below.



When completed, click the save icon.

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2. The second way a user can add or remove a status on a tool is by issuing or returning a tool to the portal. After logging into the portal, the dashboard will display either a list of tools leaving with the user or a list of tools to be returned to the portal. Either double click the tool or click the box to the left of the part number as shown below.



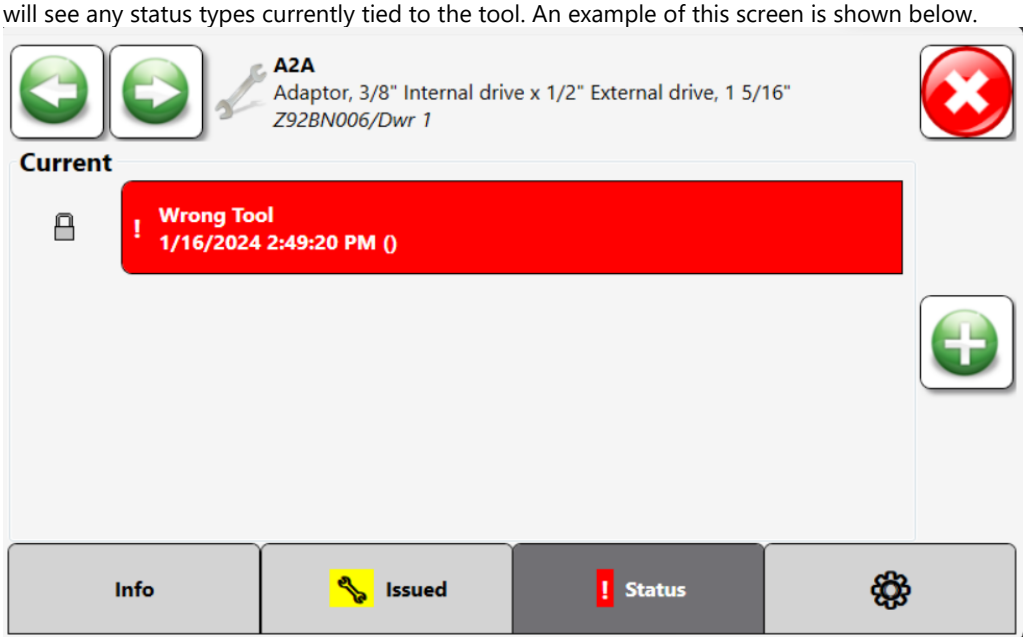
3. The third way a status can be added or removed is from the poral dashboard. Without logging in the user can see a list of all tools on issue from the portal. From here the user can tap the wrench icon next to the tool to add a status. From this point the workflow of adding or removing a status is like that of method 2 described above.

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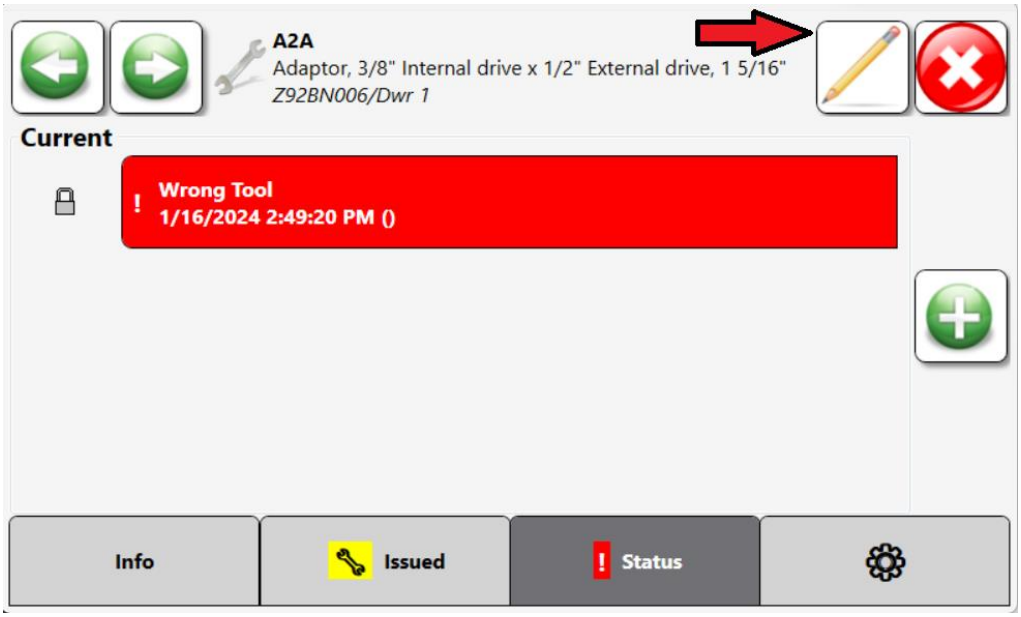
Toolbox

There are three ways a user of the Toolbox can apply or remove a status from a tool:

1. For the first, login to the Toolbox. Then click the settings button and navigate to inventory screen. The user will then click on the tool in which they wish to apply or remove a status. After selecting the tool, the user will see any status types currently tied to the tool. An example of this screen is shown below.



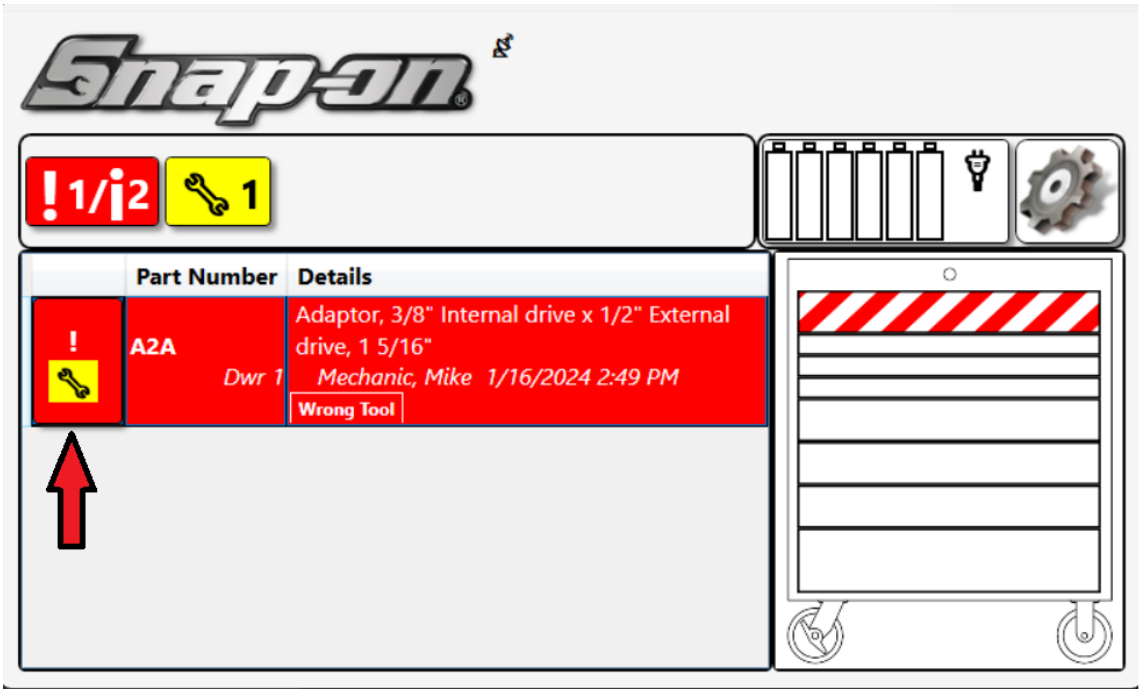
NOTE: If the user has not logged in at the Toolbox dashboard they will see a pencil icon in the top right corner, shown below. Click on the pencil icon and scan your badge to edit the statuses. Shown below.



The user can click on the green plus to add a status or the red circle next to the status to remove. When completed, click the save icon.

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2. The second method of adding or removing a status to a tool can be found on the main dashboard of the Toolbox. This dashboard shows any tool currently checked out from the box along with any statuses applied to that tool. Click on the yellow wrench icon to the left of the part number as shown below. The user can also click on the red square with the exclamation point below the **Snap-on** logo to see all tools with statuses attached. Then the user can add or remove a status like shown in the methods above.

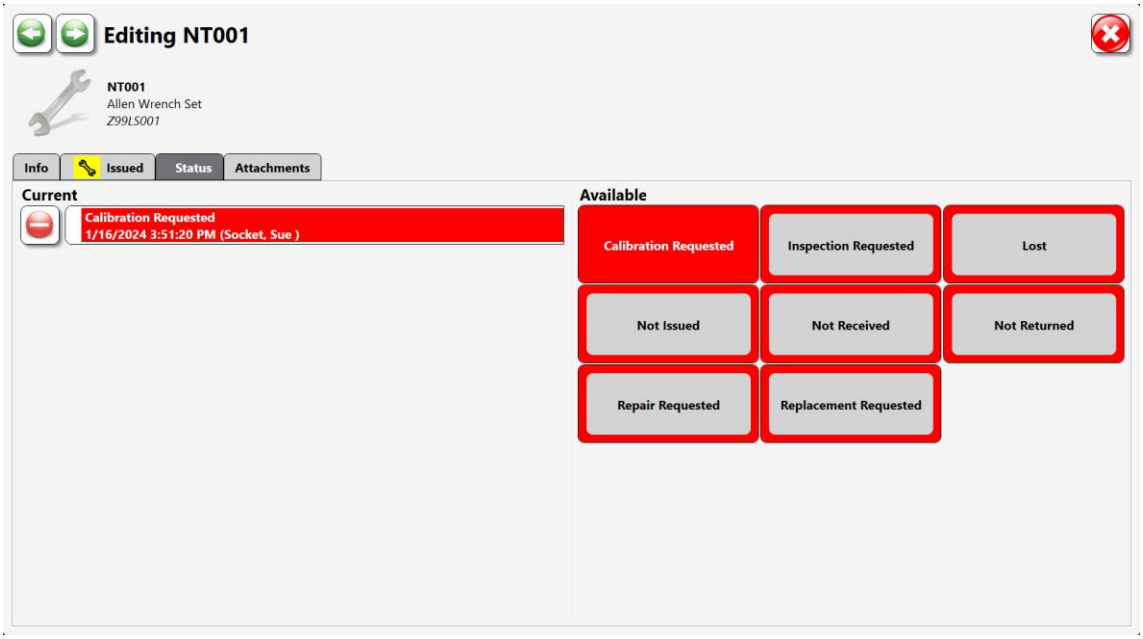


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Tool-Crib

There are two ways for a user to apply or remove statuses from a tool. The first can be done by any device user, while the second can only be done by a user with an attendant login.

1. Login to the Tool-Crib, and from the dashboard select the tool in which the user wishes to add or remove a status. Double click on an issued or present tool to attach or remove a status. The user will see the following screen.



   To remove a status, look under the current column for any statuses currently applied and click on the delete button. To add a status, click on one or more of the statuses listed under the available column.
2. The second method of applying statuses or removing statuses from a tool can be done through the attendant login. First use an attendant login to access the Tool-Crib, and then click on the settings button. Next the user will navigate to the inventory screen, where every item in the Tool-Cribs inventory will be displayed. Select the item in which the user wishes to add or remove a status, the user will be met with a similar screen to what is shown in the first method. To remove a status, look under the current column for any statuses currently applied and click on the delete button. To add a status, click on one or more of the statuses listed under the available column.

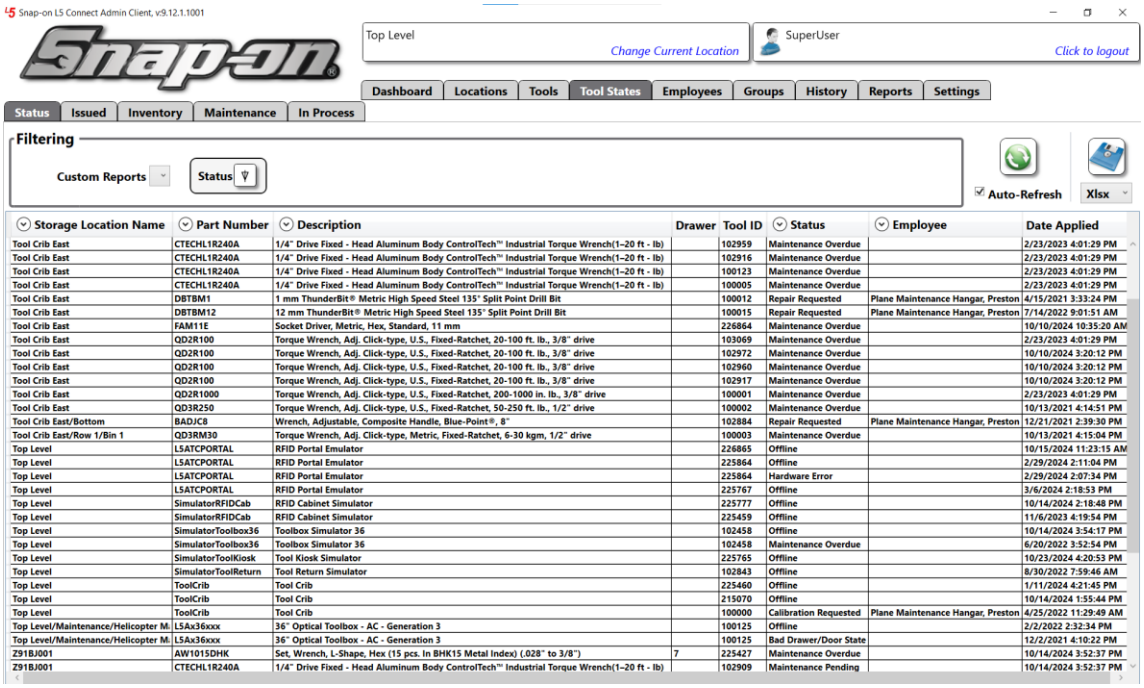
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Tool Status Reports

The Tool States screen is a real-time view of the system. Unlike the Dashboard, these views are generated using the reporting engine of the system and thereby can be filtered. You can also apply a custom report to some views to find the exact information you want in real-time. There are two ways to access these reports within the admin client.

Access Point: L5 Connect Admin Client
Required Permission: Admin login to L5 Connect Admin Client

1. To access the tool status reports login to the L5 Connect Admin Client, and from the dashboard click on the **Tool States** tab. The user will see a similar screen to that shown below.

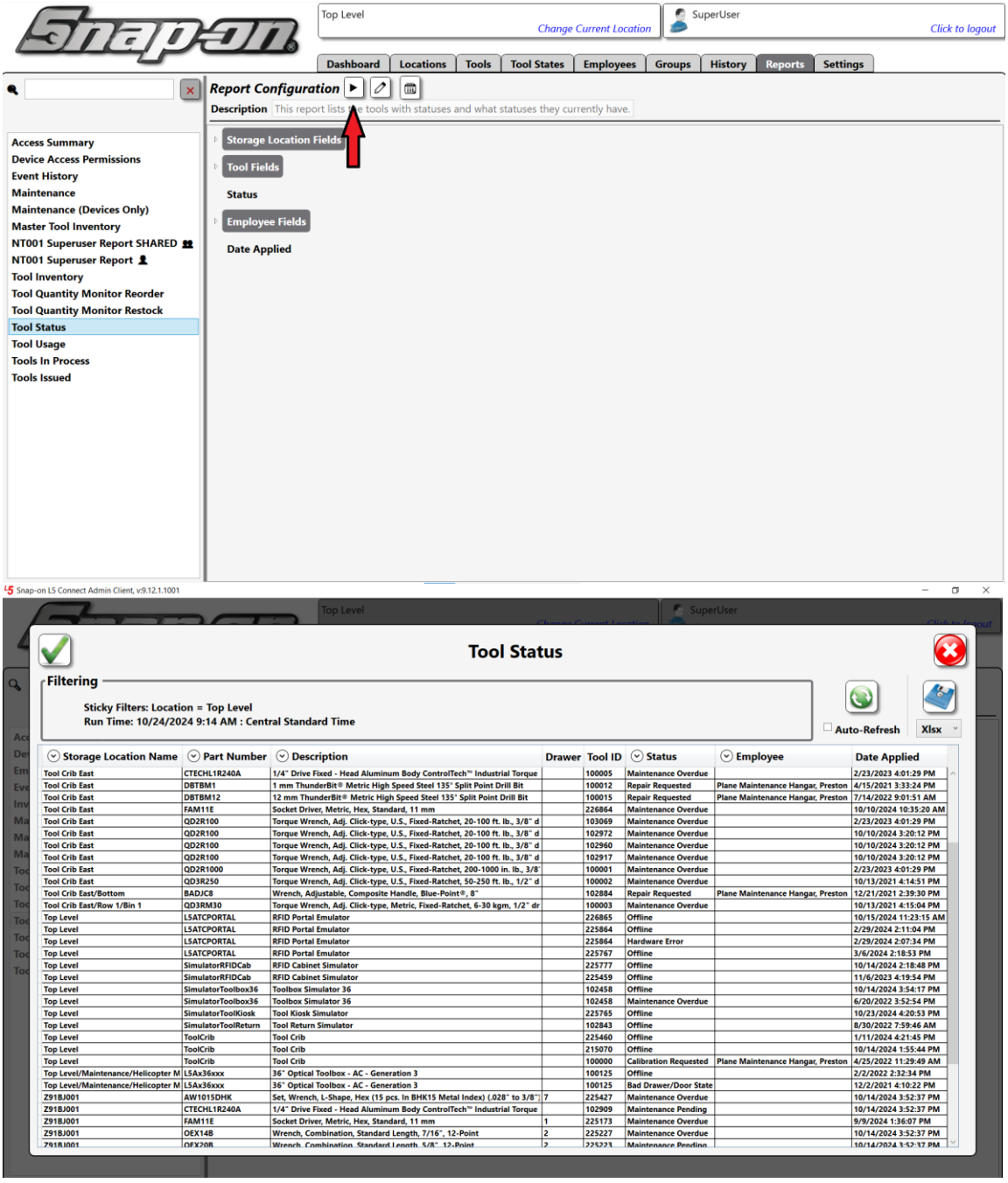


Storage Location Name	Part Number	Description	Drawer	Tool ID	Status	Employee	Date Applied
Tool Crib East	CTECHL1R240A	1/4" Drive Fixed - Head Aluminum Body ControlTech™ Industrial Torque Wrench(1–20 ft - lb)		102959	Maintenance Overdue		2/23/2023 4:01:29 PM
Tool Crib East	CTECHL1R240A	1/4" Drive Fixed - Head Aluminum Body ControlTech™ Industrial Torque Wrench(1–20 ft - lb)		102916	Maintenance Overdue		2/23/2023 4:01:29 PM
Tool Crib East	CTECHL1R240A	1/4" Drive Fixed - Head Aluminum Body ControlTech™ Industrial Torque Wrench(1–20 ft - lb)		100123	Maintenance Overdue		2/23/2023 4:01:29 PM
Tool Crib East	CTECHL1R240A	1/4" Drive Fixed - Head Aluminum Body ControlTech™ Industrial Torque Wrench(1–20 ft - lb)		100005	Maintenance Overdue		2/23/2023 4:01:29 PM
Tool Crib East	DBTBM1	1 mm ThunderBit® Metric High Speed Steel 135° Split Point Drill Bit		100012	Repair Requested	Plane Maintenance Hangar, Preston	4/15/2021 3:33:24 PM
Tool Crib East	DBTBM12	12 mm ThunderBit® Metric High Speed Steel 135° Split Point Drill Bit		100015	Repair Requested	Plane Maintenance Hangar, Preston	7/14/2022 9:01:51 AM
Tool Crib East	FAM11E	Socket Driver, Metric, Hex, Standard, 11 mm		226864	Maintenance Overdue		10/10/2024 10:35:20 AM
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive		103069	Maintenance Overdue		2/23/2023 4:01:29 PM
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive		102972	Maintenance Overdue		10/10/2024 3:20:12 PM
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive		102960	Maintenance Overdue		10/10/2024 3:20:12 PM
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive		102917	Maintenance Overdue		10/10/2024 3:20:12 PM
Tool Crib East	QD2R1000	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 200-1000 in. lb., 3/8" drive		100001	Maintenance Overdue		2/23/2023 4:01:29 PM
Tool Crib East	QD3R250	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 50-250 ft. lb., 1/2" drive		100002	Maintenance Overdue		10/13/2021 4:14:51 PM
Tool Crib East/Bottom	BADJC8	Wrench, Adjustable, Composite Handle, Blue-Point®, 8"		102884	Repair Requested	Plane Maintenance Hangar, Preston	12/21/2021 2:39:30 PM
Tool Crib East/Row 1/Bin 1	QD3RM30	Torque Wrench, Adj. Click-type, Metric, Fixed-Ratchet, 6-30 kgm, 1/2" drive		100003	Maintenance Overdue		10/13/2021 4:15:04 PM
Top Level	L5ATCPORTAL	RFID Portal Emulator		226865	Offline		10/15/2024 11:23:15 AM
Top Level	L5ATCPORTAL	RFID Portal Emulator		225864	Offline		2/29/2024 2:11:04 PM
Top Level	L5ATCPORTAL	RFID Portal Emulator		225864	Hardware Error		2/29/2024 2:07:34 PM
Top Level	L5ATCPORTAL	RFID Portal Emulator		225767	Offline		3/6/2024 2:18:53 PM
Top Level	SimulatorRFIDCab	RFID Cabinet Simulator		225777	Offline		10/14/2024 2:18:48 PM
Top Level	SimulatorRFIDCab	RFID Cabinet Simulator		225459	Offline		11/6/2023 4:19:54 PM
Top Level	SimulatorToolbox36	Toolbox Simulator 36		102458	Offline		10/14/2024 3:54:17 PM
Top Level	SimulatorToolbox36	Toolbox Simulator 36		102458	Maintenance Overdue		6/20/2022 3:52:54 PM
Top Level	SimulatorToolKiosk	Tool Kiosk Simulator		225765	Offline		10/23/2024 4:20:53 PM
Top Level	SimulatorToolReturn	Tool Return Simulator		102843	Offline		8/30/2022 7:59:46 AM
Top Level	ToolCrib	Tool Crib		225460	Offline		1/11/2024 4:21:45 PM
Top Level	ToolCrib	Tool Crib		215070	Offline		10/14/2024 1:55:44 PM
Top Level	ToolCrib	Tool Crib		100000	Calibration Requested	Plane Maintenance Hangar, Preston	4/25/2022 11:29:49 AM
Top Level/Maintenance/Helicopter M.	L5Ax36xxx	36" Optical Toolbox - AC - Generation 3		100125	Offline		2/2/2022 2:32:34 PM
Top Level/Maintenance/Helicopter M.	L5Ax36xxx	36" Optical Toolbox - AC - Generation 3		100125	Bad Drawer/Door State		12/2/2021 4:10:22 PM
Z91BJ001	AW1015DHK	Set, Wrench, L-Shape, Hex (15 pcs. In BHK15 Metal Index) (.028" to 3/8")	7	225427	Maintenance Overdue		10/14/2024 3:52:37 PM
Z91BJ001	CTECHL1R240A	1/4" Drive Fixed - Head Aluminum Body ControlTech™ Industrial Torque Wrench(1–20 ft - lb)		102909	Maintenance Pending		10/14/2024 3:52:37 PM

If the user wishes to export this list, click on the Save icon. This will export the list as an excel spreadsheet.

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2. The second way a user can access the tool status reports is by navigating to the **Reports** tab within the L5 Connect Admin Client. On the left-hand side of the screen click on **Tool Status**, which will bring the user to the screen shown below. Click the run button to generate the report. **Note: Generating this report may take a minute or two**



The user can then export or print the report from this page, using the **Export** button that looks like a blue disk after selecting the file type.

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Tool Status Notifications

When a device has issues, you may not be around to see it. Subscriptions allow you to stay informed about what is happening with your L5 Connect™ service. Subscriptions are automated messages that are generated based on status. It can be sent either via e-mail or an SMS Text Message **(US Carriers ONLY FOR TEXT)**.

NOTE: You will need to have set up the SMTP settings and email addresses of the intended recipients beforehand if these notifications are e-mailed. See the SMTP Configuration document for more details.

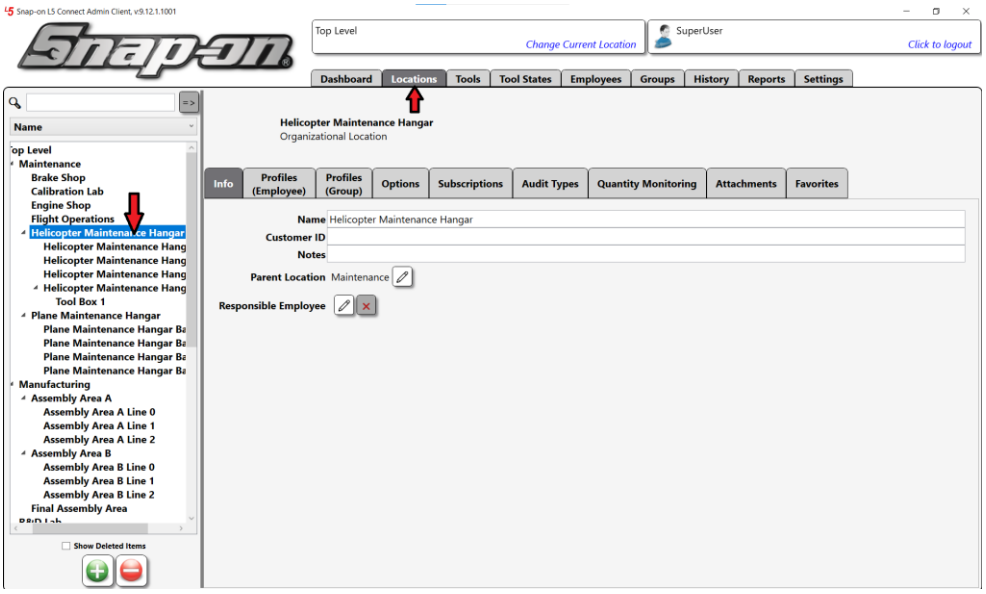
Tool status notifications can be setup from multiple places in the L5 Connect™ admin application, but the process always consists of first picking the part of the location tree for which you want notifications and then selecting who should receive the notifications. The second part of the process consists of defining how the notification will be delivered and what statuses will actually trigger the notifications.

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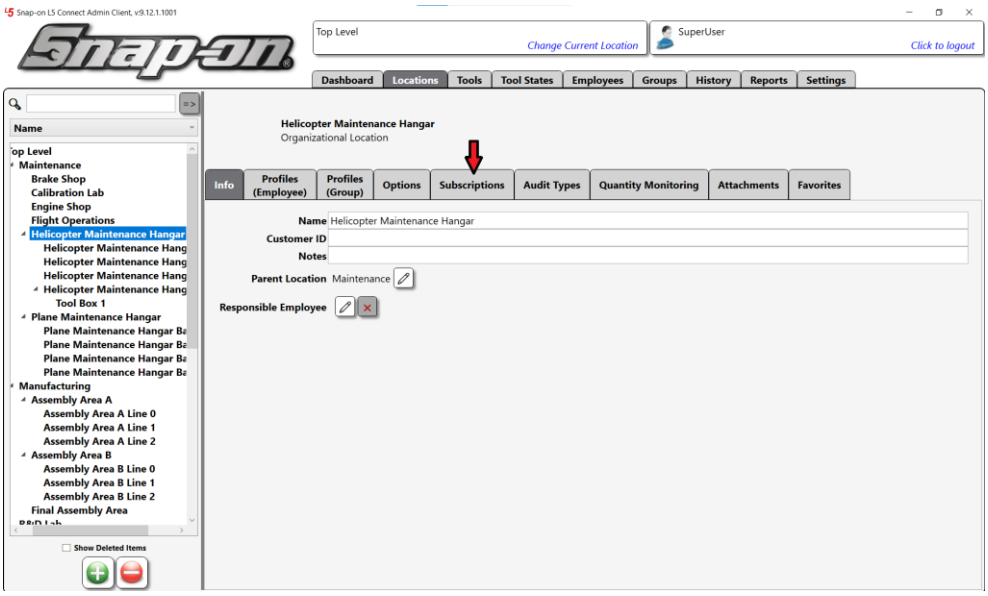
Configuration from Locations Tab

If you wanted to set up tool status for a certain part of your organizational tree, you could create a tool status notification from the locations tab. For instance, if you were the manager of the **Helicopter Maintenance Hangar**, you could create a notification to notify you any time a tool under that location was tagged as lost.

Log into the admin application and go to the **Locations** tab. Then select the **Helicopter Maintenance Hangar** location from the locations tree.

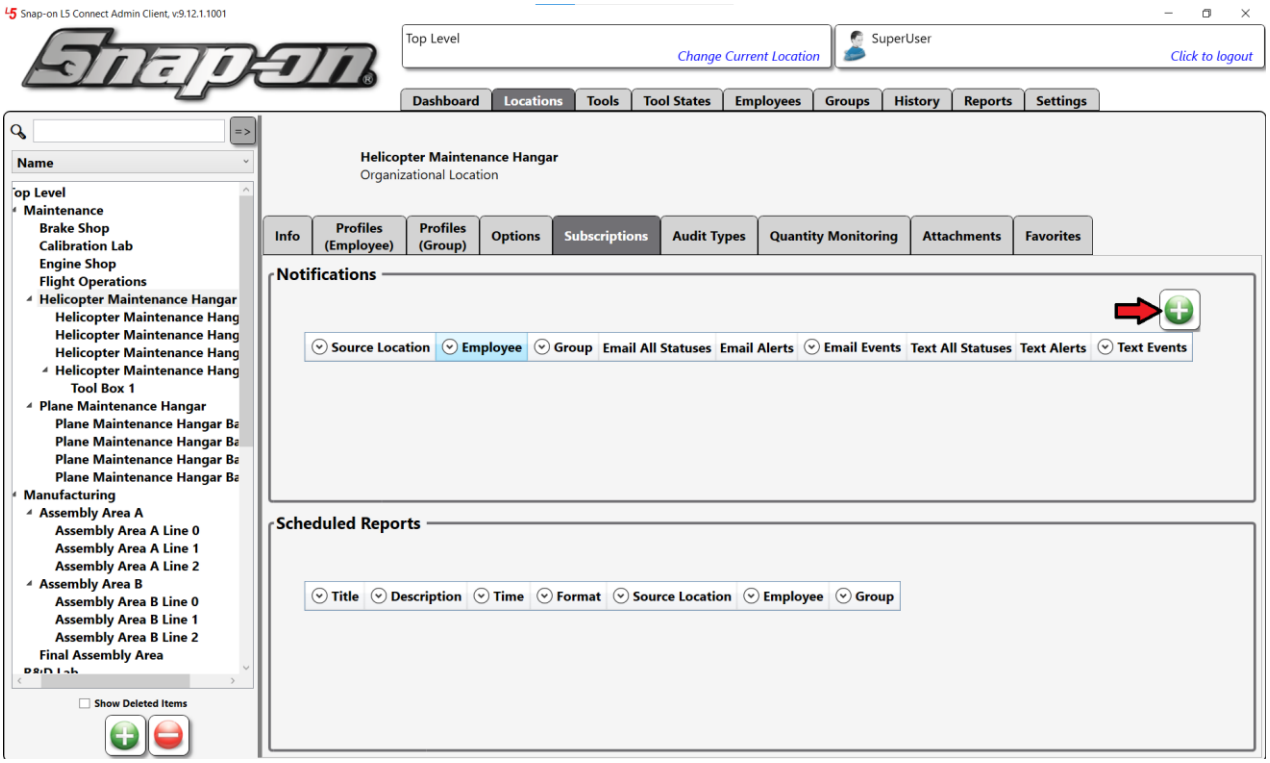


Then select the **Subscriptions** sub-tab for that location.

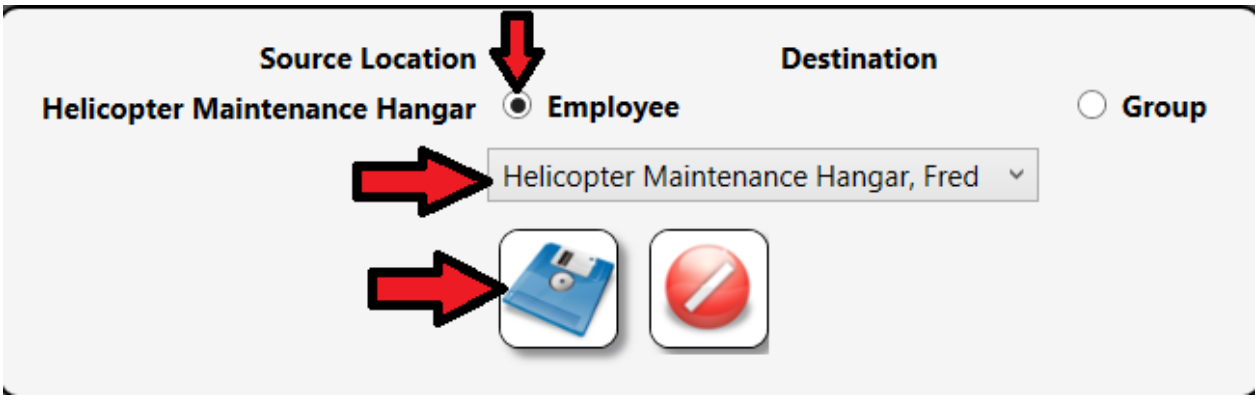


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Click the **New** button.



Now you need to select whether you want to notify an **Employee** or a **Group** of employees. In this case we will choose to notify an **Employee**. After selecting the radio button for **Employee** select the specific employee from the pull-down list of employees. Finally click the blue **Save** button.

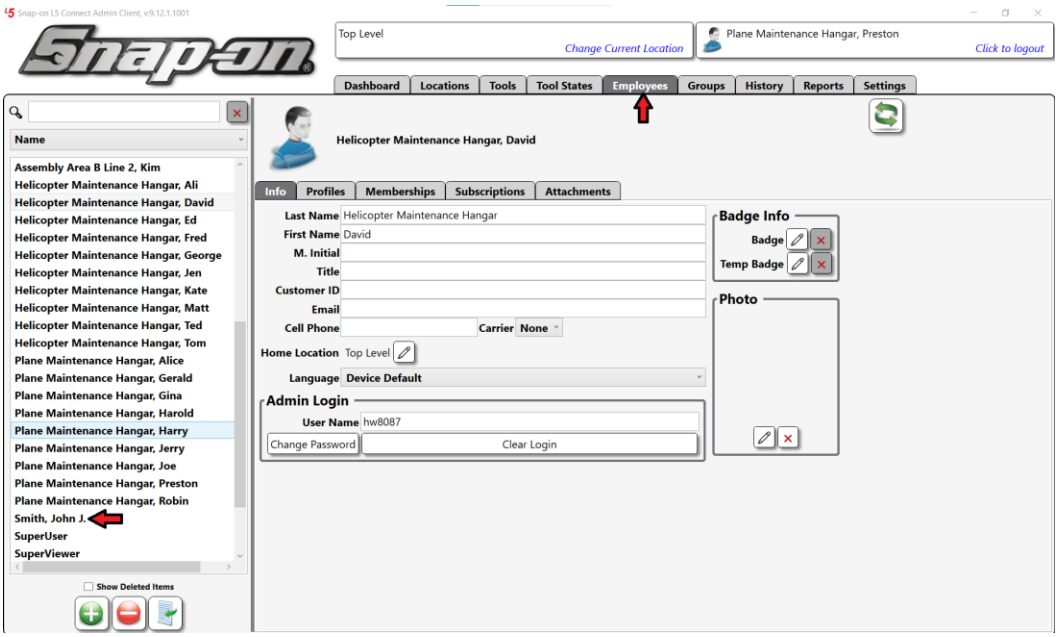


Now follow the procedure in the Configuration of Notification Delivery and Triggers section.

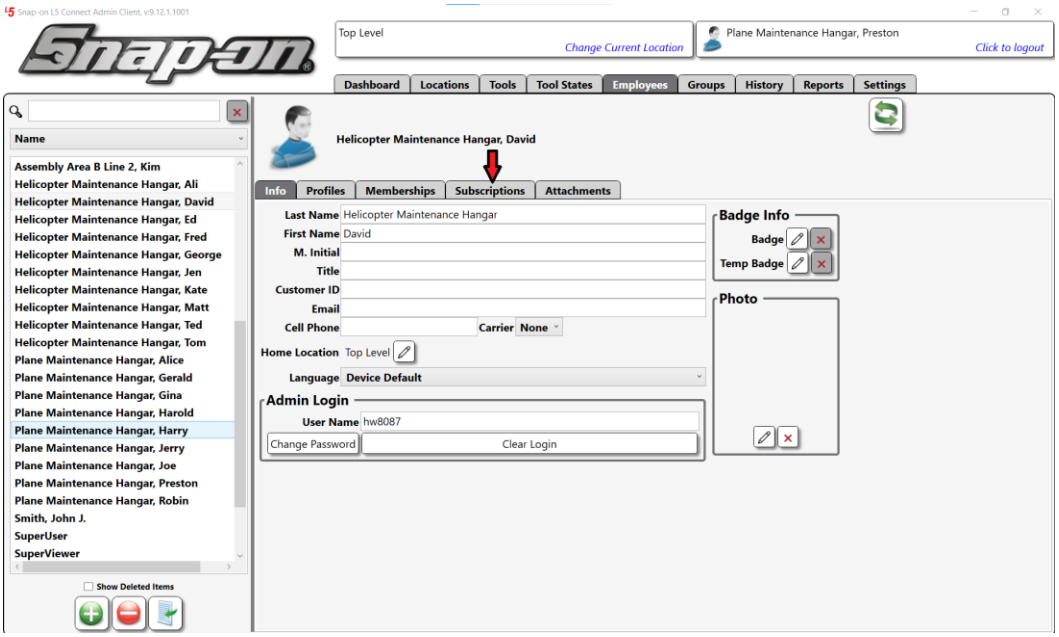
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Configuration from Employees Tab

If you wish to create a notification for a specific employee, you can do that from the **Employees** tab. Go to the **Employees** tab and then select the employee to whom you wish to assign a notification.

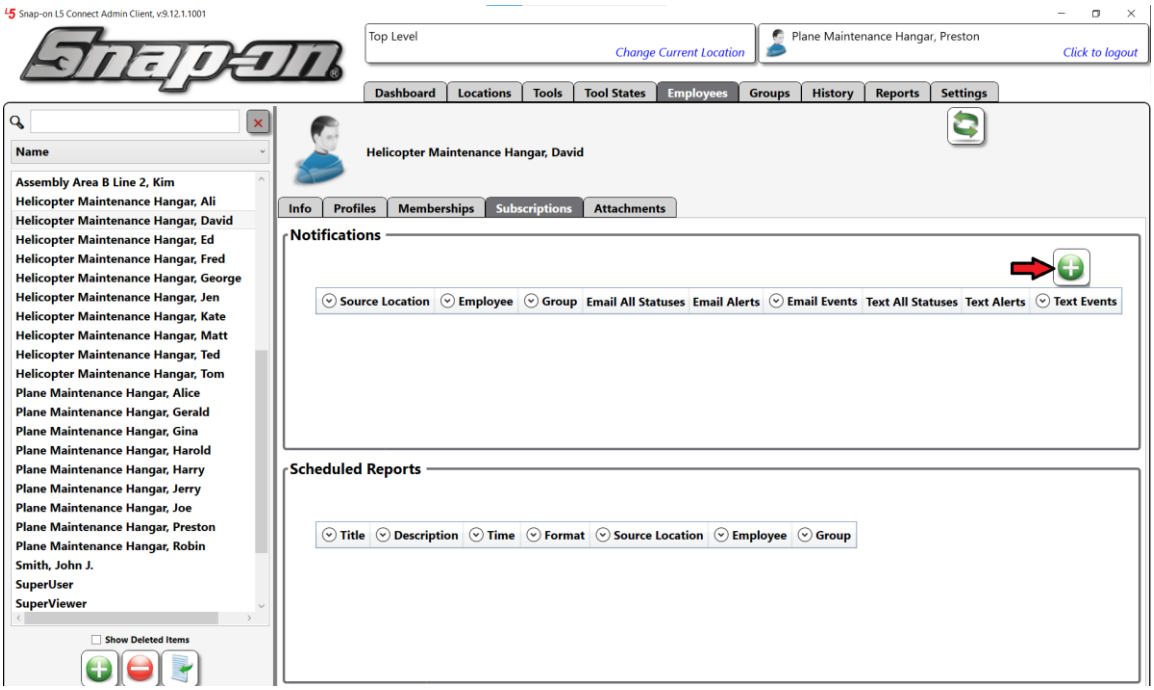


Then select the **Subscriptions** sub-tab.

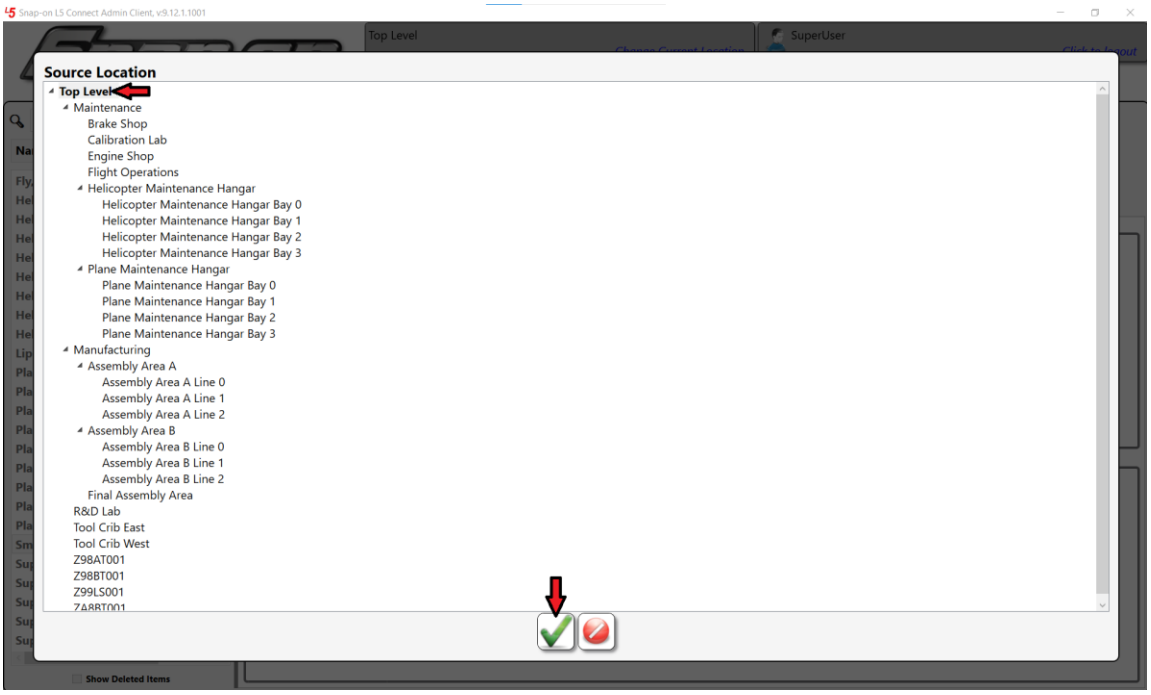


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Click the **New** button.



Select the location in the location tree that corresponds to the part of the system for which you want to receive notifications. Then click the **OK** button that looks like a green checkmark.

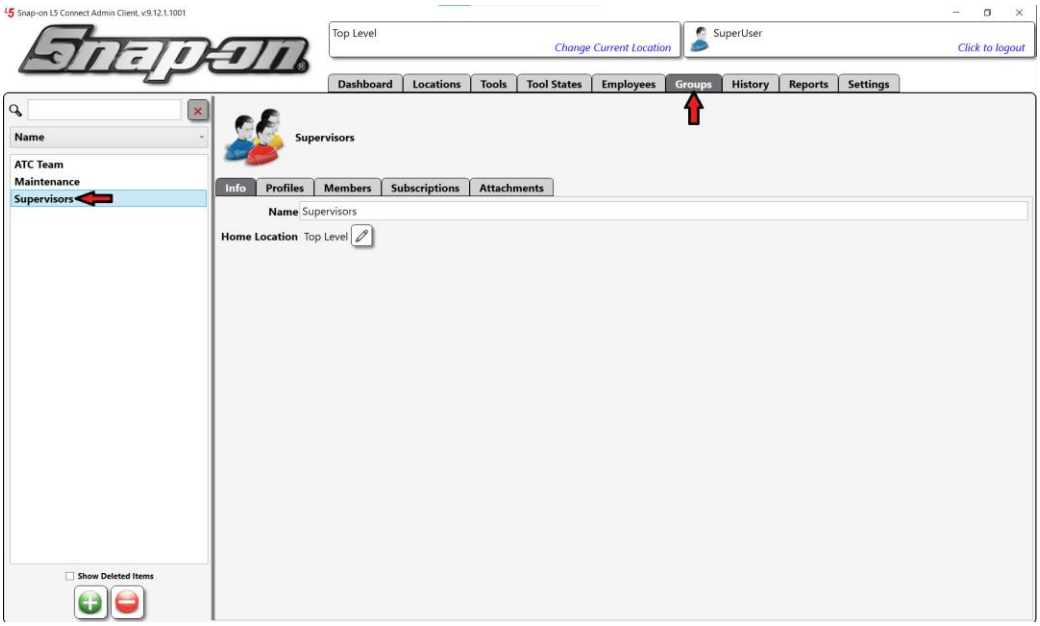


Now follow the procedure in the Configuration of Notification Delivery and Triggers section.

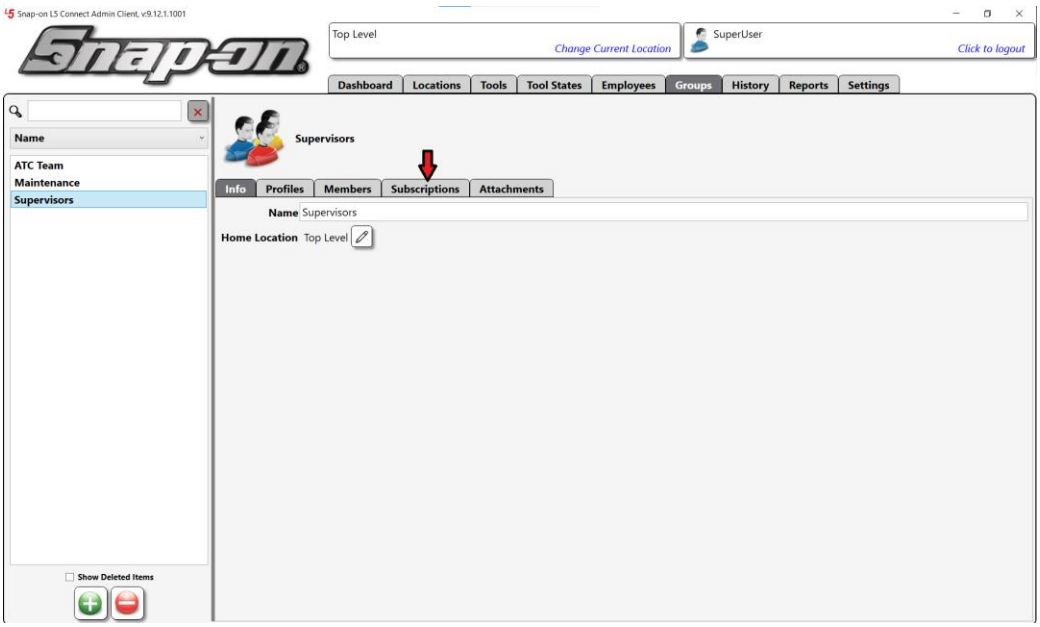
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Configuration from Groups Tab

If you wish to create a notification for a group of employees, you can do that from the **Groups** tab. Go to the **Groups** tab and then select the group to which you would like to assign a notification. The employees in the group will need to have their personal information configured properly to receive email or text message notifications.

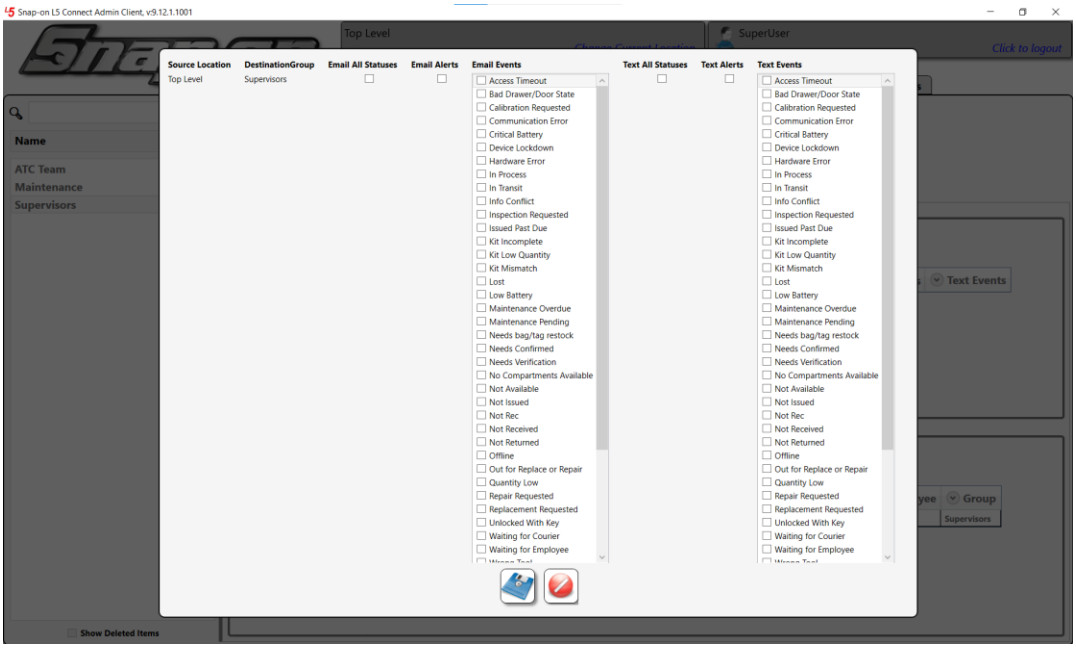


Then select the **Subscriptions** sub-tab.



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Click the **New** button. Notice that in this case you aren't required to select a location from the location tree for the notification as with the employee tab scenario. The group notification will be applied to the current location filter of the admin creating the notification automatically.



Now follow the procedure in the Configuration of Notification Delivery and Triggers section.

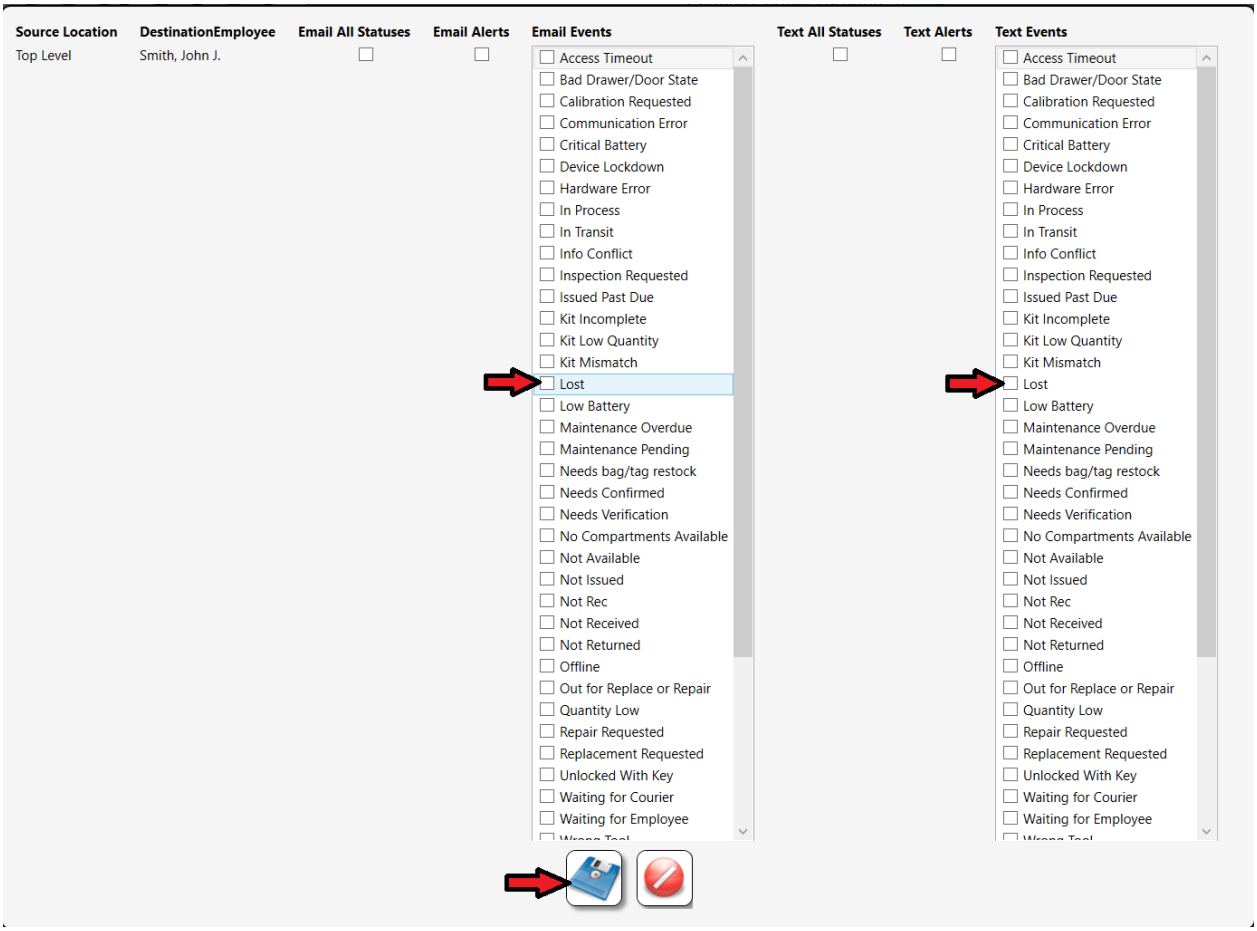
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Configuration of Notification Delivery and Triggers

Whether you create a notification from the locations tab, the employees tab, or the groups tab, you will eventually have to configure how the notifications will be delivered and what statuses will trigger the notifications. This section will cover that part of the process.

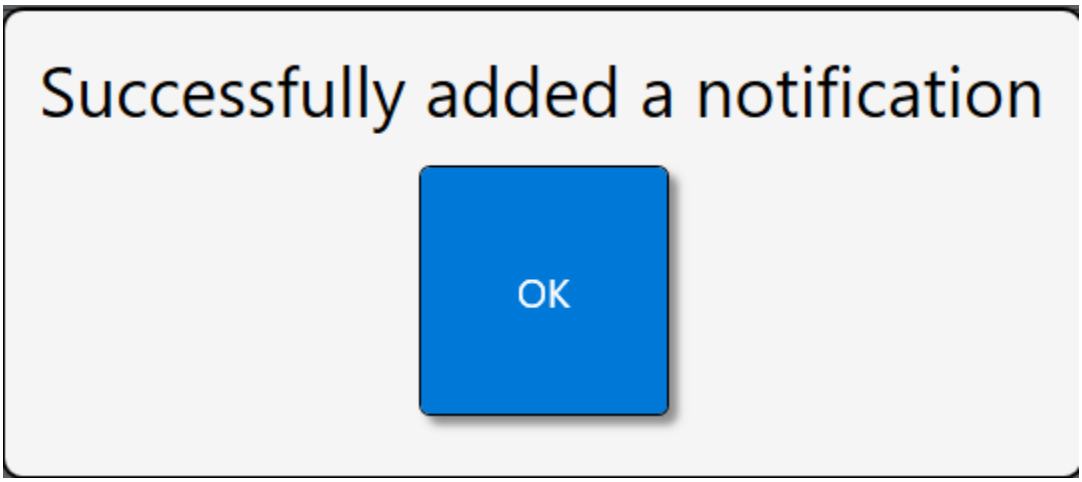
You can configure the notification to send emails, text messages, or both emails and text messages. The first set of configurable options are for email notification and the second set are for text notification. For each of these notification types you can select to receive notifications about all statuses, all statuses that cause an alert, or individually select specific statuses.

For this example, we will choose to receive both email and text notifications about tools that have a **Lost** status applied to them. In the **Email Events** status list, select the checkbox for the **Lost** status. Then in the **Text Events* status list, select the checkbox for the **Lost** status. Then click the blue **Save** button to save your new notification.



Click the **OK** button.

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We have configured this notification to send an email and text notification any time a tool in a device under the selected location gets marked with a **Lost** status.

NOTE: For e-mail notifications to be sent, the L5 Connect system must be configured for an SMTP server as stated above and the employee must have been configured to have an email address. The employee must have been configured to have a cell provider and phone number to receive text notifications.

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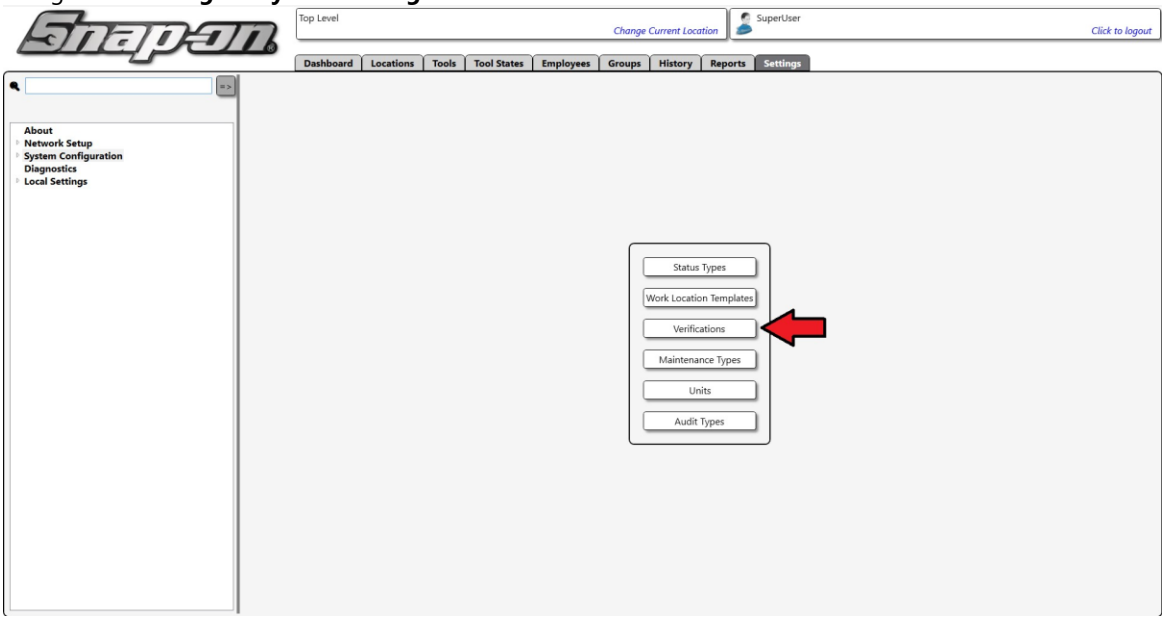
Verifications

The goal of the camera verification process is to allow administrators/superusers of the L5 Connect Admin Client to require visual verification of any tool(s) or kit(s) condition when issued and/or returned to its device. For example, these steps could be ensuring that the settings are reset on a tool or cleaned before returning it. It could also verify that a kit being issued or returned is not missing anything. **Currently Image verification is only supported for the ToolCrib and ToolCrib SEAT devices.**
NOTE: All Verifications are global and can be assigned to any Master once created.

Setup Verifications within L5 Admin Client

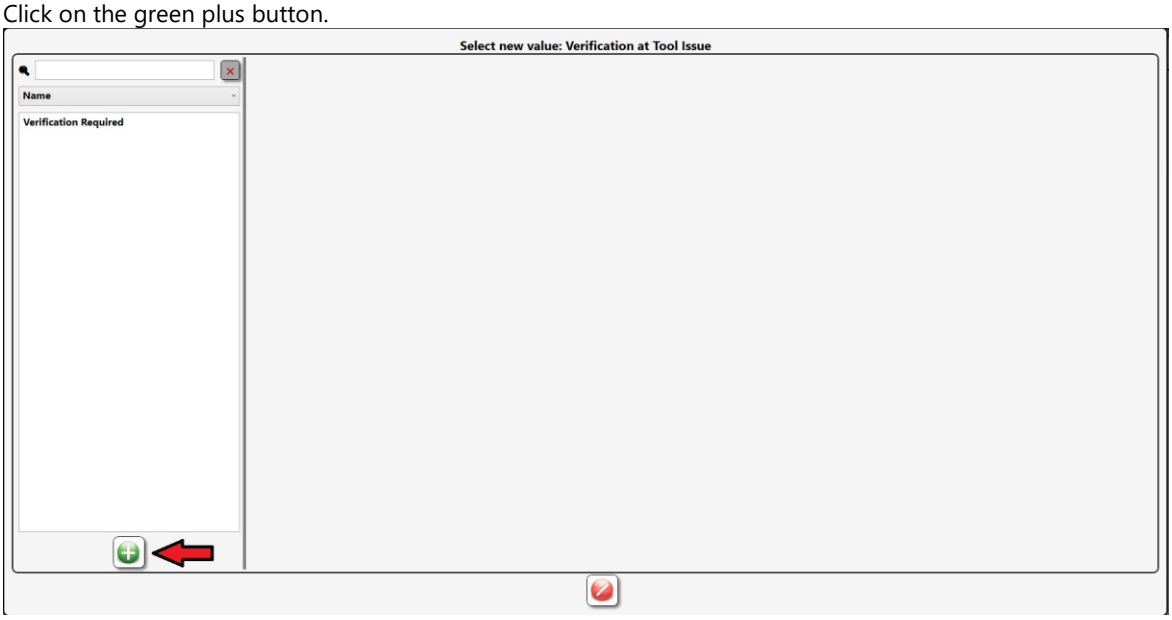
Creating Verifications

1. Open the L5 Admin Client, and complete User login
2. Navigate to **Settings=>System Configuration=>Verifications**.

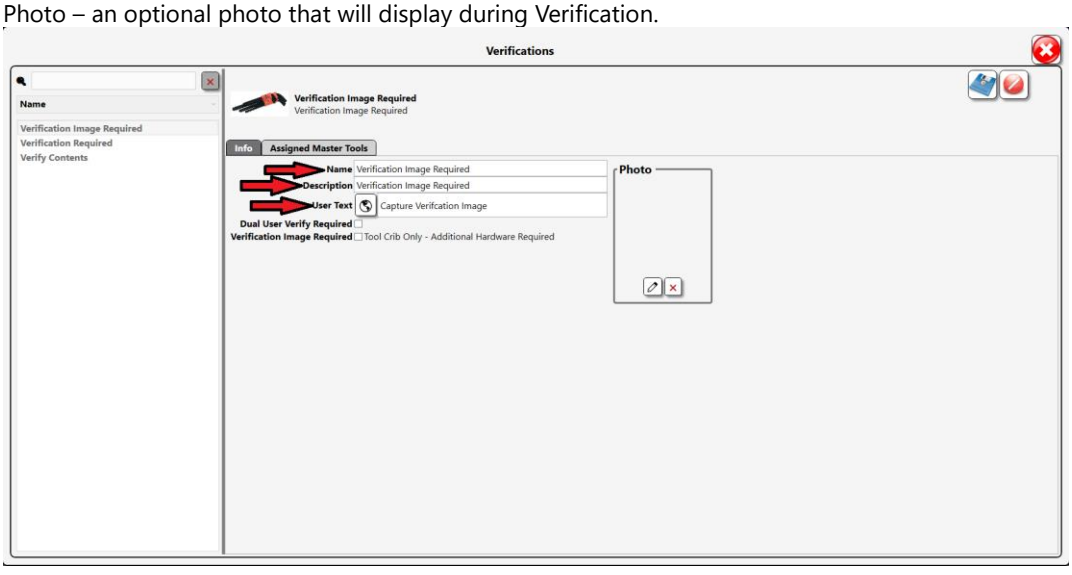


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3. This will bring up the **Verifications Dialog Screen**. From this screen, you will need to create a new verification that instructs the employees on what you want them to do when they issue or return the item(s). Click on the green plus button.

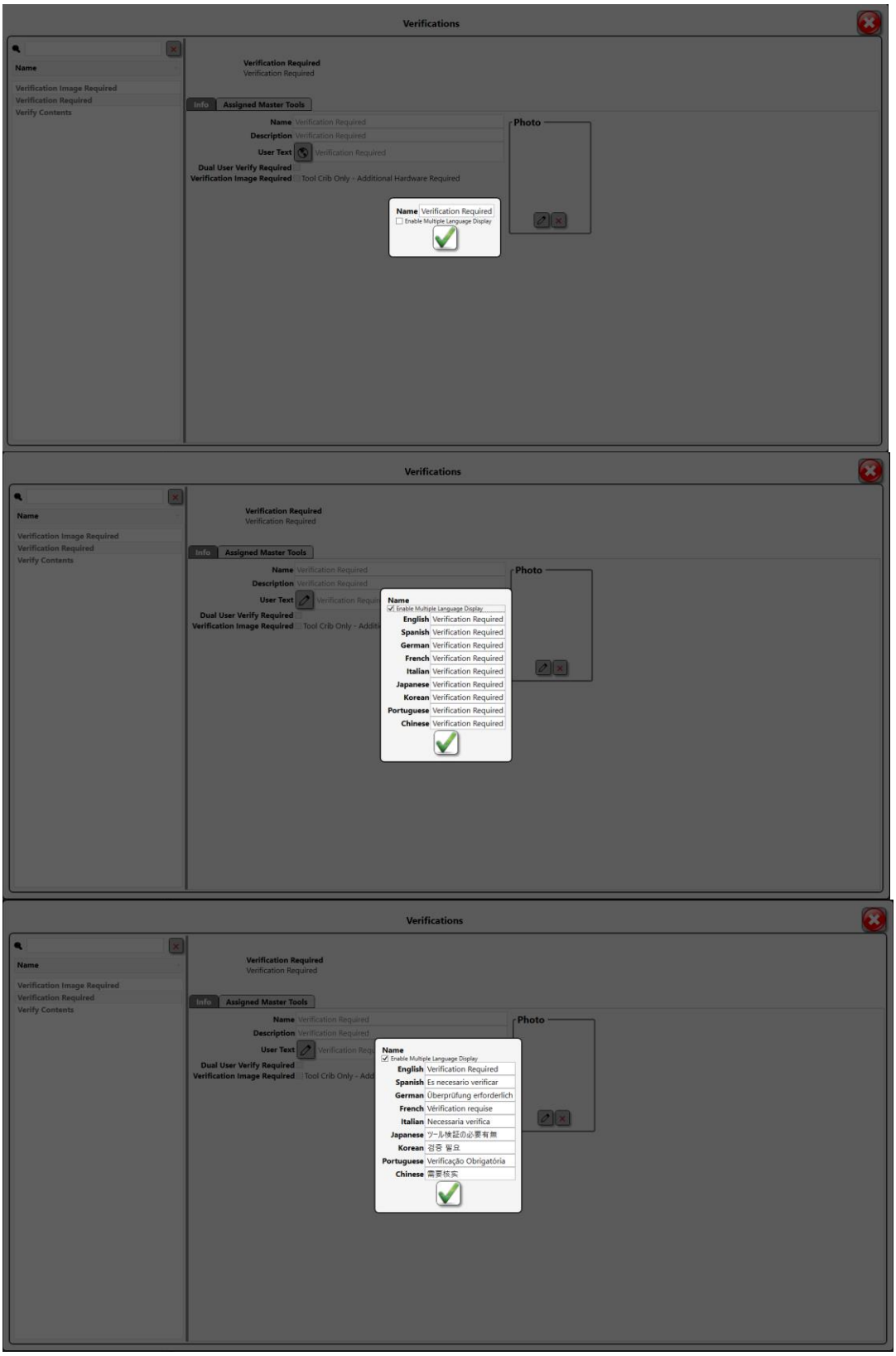


4. You will now see the Verification Creation Sub-screen. You can define several properties here:
    - Name – The Verification name that will show in the list on the left.
    - Description – A description of what the Verification does.
    - User Text – The text that will display when the Verification runs.
    - Photo – an optional photo that will display during Verification.



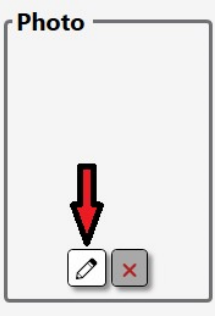
If the user wants to have text in multiple languages, press the globe button.

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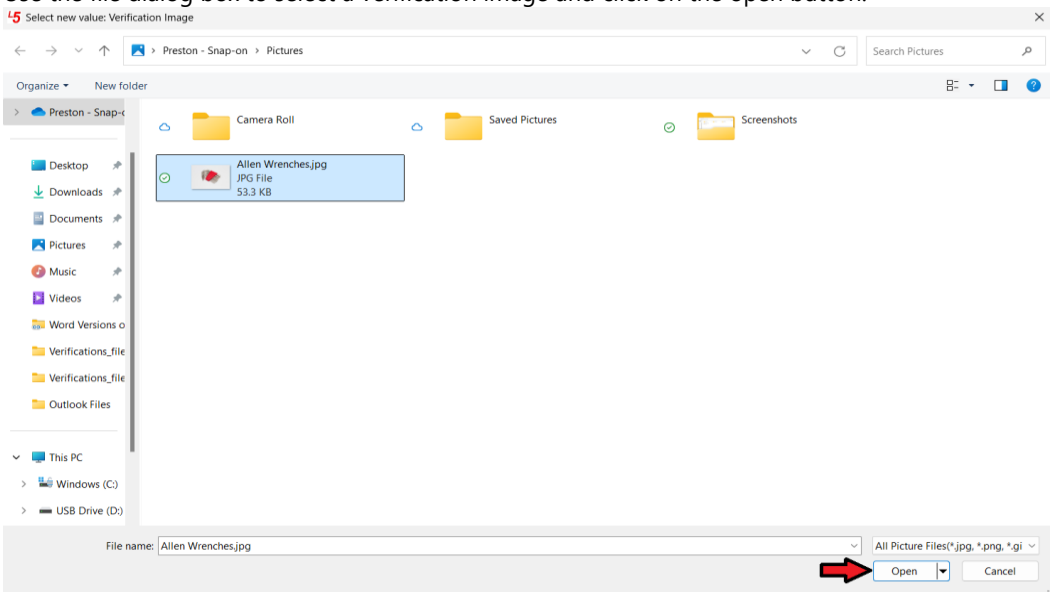


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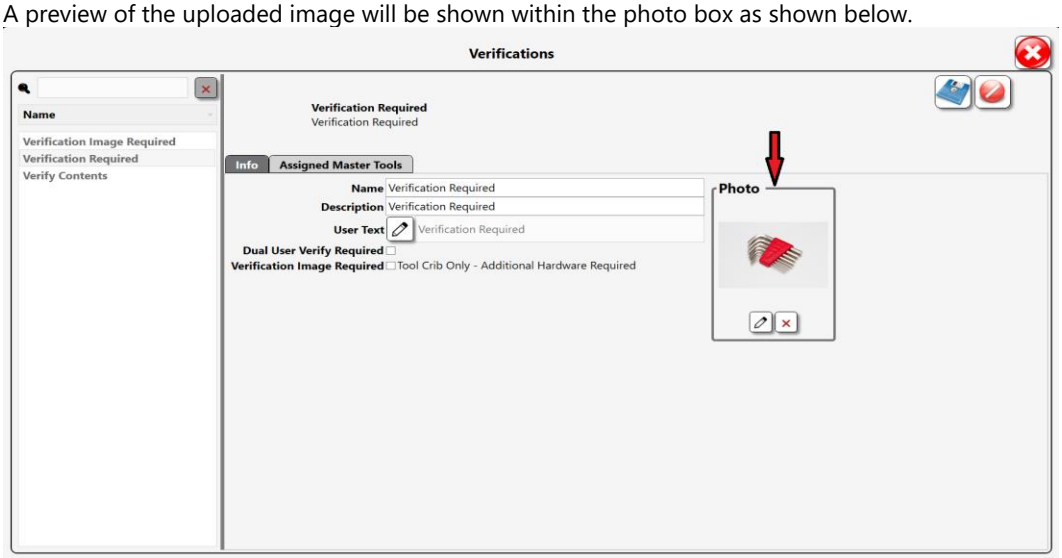
A photo is good to have so that when someone is issued the set, they can see what is supposed to be in it. To add a photo, click on the **pencil** button. You will then be prompted to select your image.



Use the file dialog box to select a verification image and click on the open button.

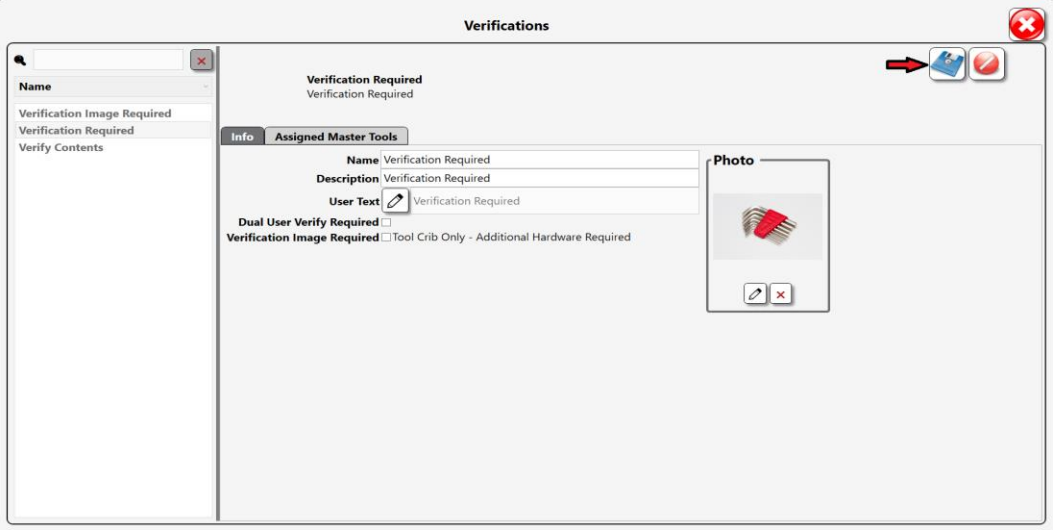


A preview of the uploaded image will be shown within the photo box as shown below.



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The picture will then be shown on the verification screen. Click the Save button when you are done.



Dual User Verification

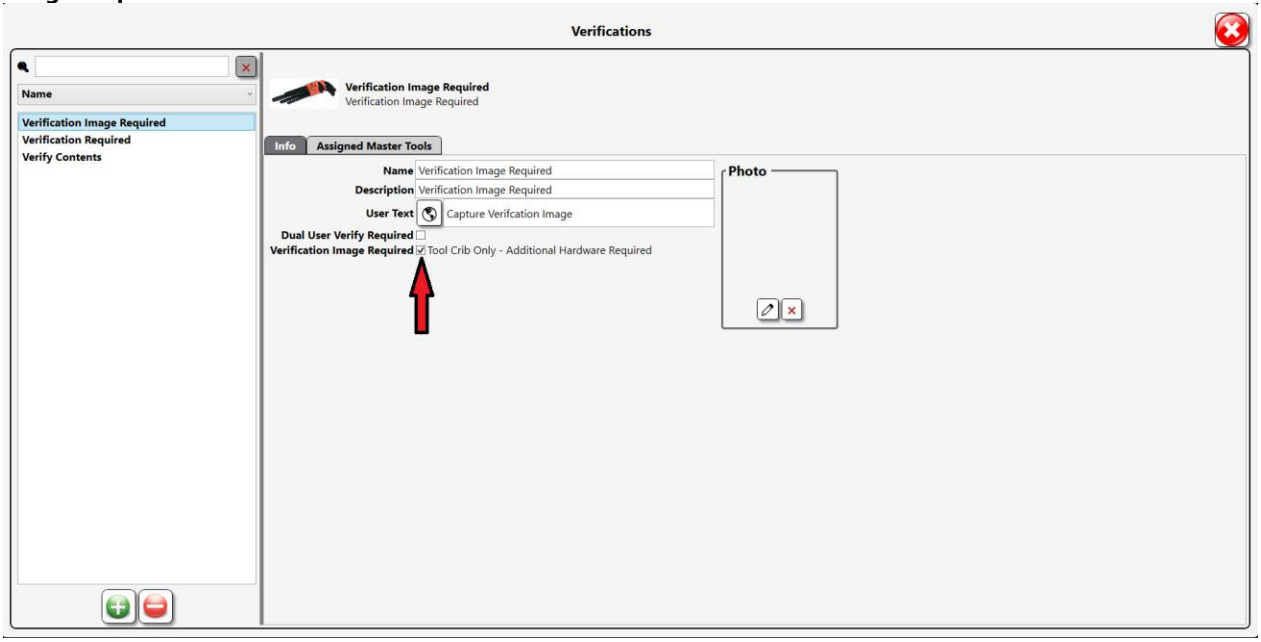
If the user needs to have a second person validate the Verification, check the box by **Dual User Verify Required** (Supported devices: Locker & Toolbox). This will require a second permissioned user to confirm the Verification.

Verification Image Required

The verification image feature uses an external camera to store an image of the tool(s) issued or returned by the user during verification. The images captured will be displayed within the **History** tab of the L5 Connect Admin Client. **NOTE: The Verification Image Required feature is currently only available on the Tool Crib and requires additional hardware (camera and mount).** To add image verification to a verification type, click on the **Verification**

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Image Required checkbox.



Special Installers

The Camera verification feature in a ToolCrib or ToolCrib SEAT device(s) will require the installation of additional libraries for functionality. Please follow along with the steps below for the installation procedure for these libraries.

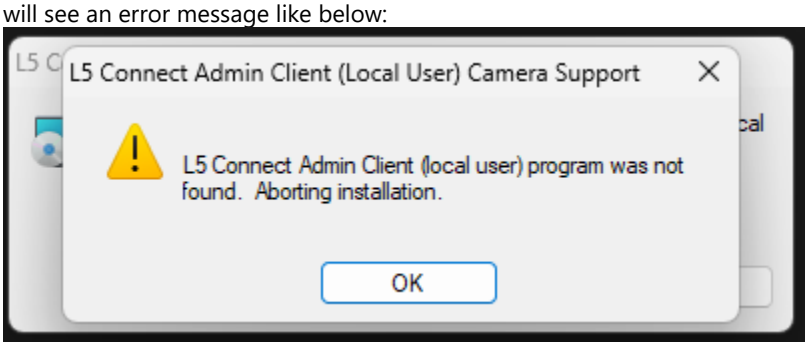
1. Contact Snap-on Industrial Pro-Services to obtain a download link containing the required installer files. You will see four files shown below.

Name	Modified	Modified By	+ Add column
AdminClient_Camera_Support_Installer.msi	6 days ago	Lipsey, Matthew J	
AdminClient_LocalUser_Camera_Support_Installer.msi	6 days ago	Lipsey, Matthew J	
Installer_OpenCVS_Portal.msi	6 days ago	Lipsey, Matthew J	
Installer_OpenCVS_ToolCrib.msi	6 days ago	Lipsey, Matthew J	

2. Download the file(s) that you need.
   Tool Crib: Installer_OpenCVS_ToolCrib.msi (requires admin credentials)
   Tool Crib seat (all users install): AdminClient_Camera_Support_Installer.msi (requires admin credentials)
   Tool Crib seat (local user install): AdminClient_LocalUser_Camera_Support_Installer.msi
   Note: the admin client support installers are ONLY required if the user is performing verifications on a tool crib seat launched through the admin client.
   Double click to start the installation. If the main target program is not already installed on the machine, you

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will see an error message like below:



Camera Diagnostics

The camera diagnostics sub menu provides a live feed from the cameras on the device. This screen can be used for camera setup and adjustment.

Access Point(s)

- L5 Connect Admin Client - **Admin Client Dashboard/Settings/Diagnostics/Diagnostics:Camera**
- L5 Connect TrueCrib - **After attendant login; TrueCrib Dashboard/Settings/Diagnostics/Diagnostics:Camera**

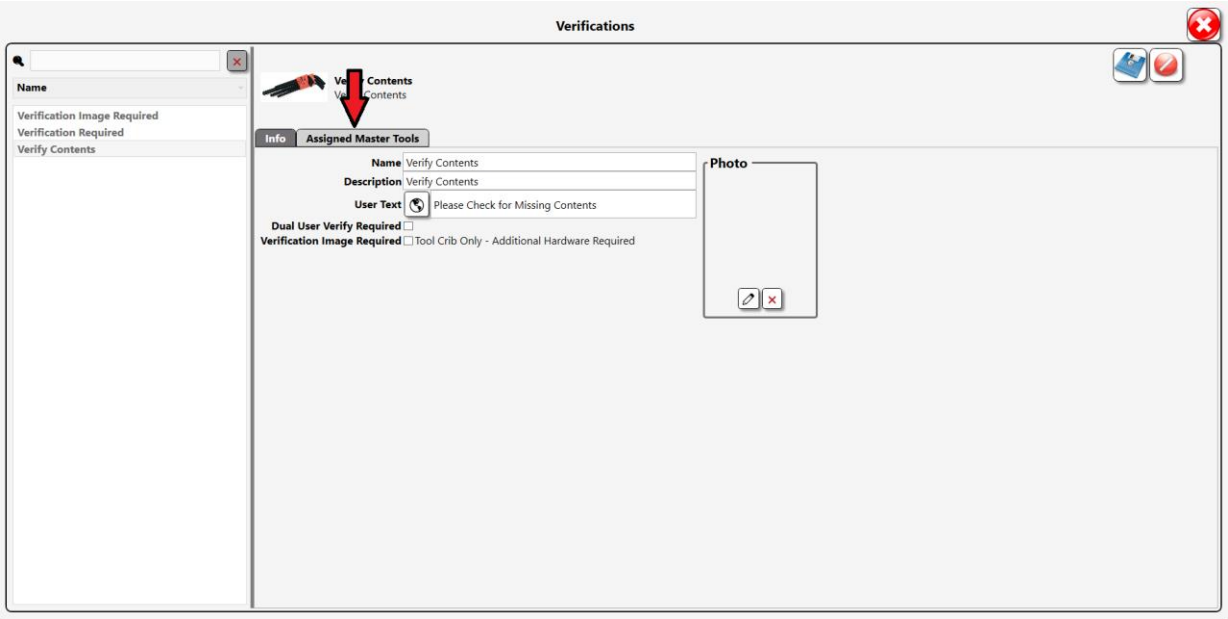
Required Permissions

- Admin Client Access Edit
- Diagnostics

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Assigning Verifications to Tools

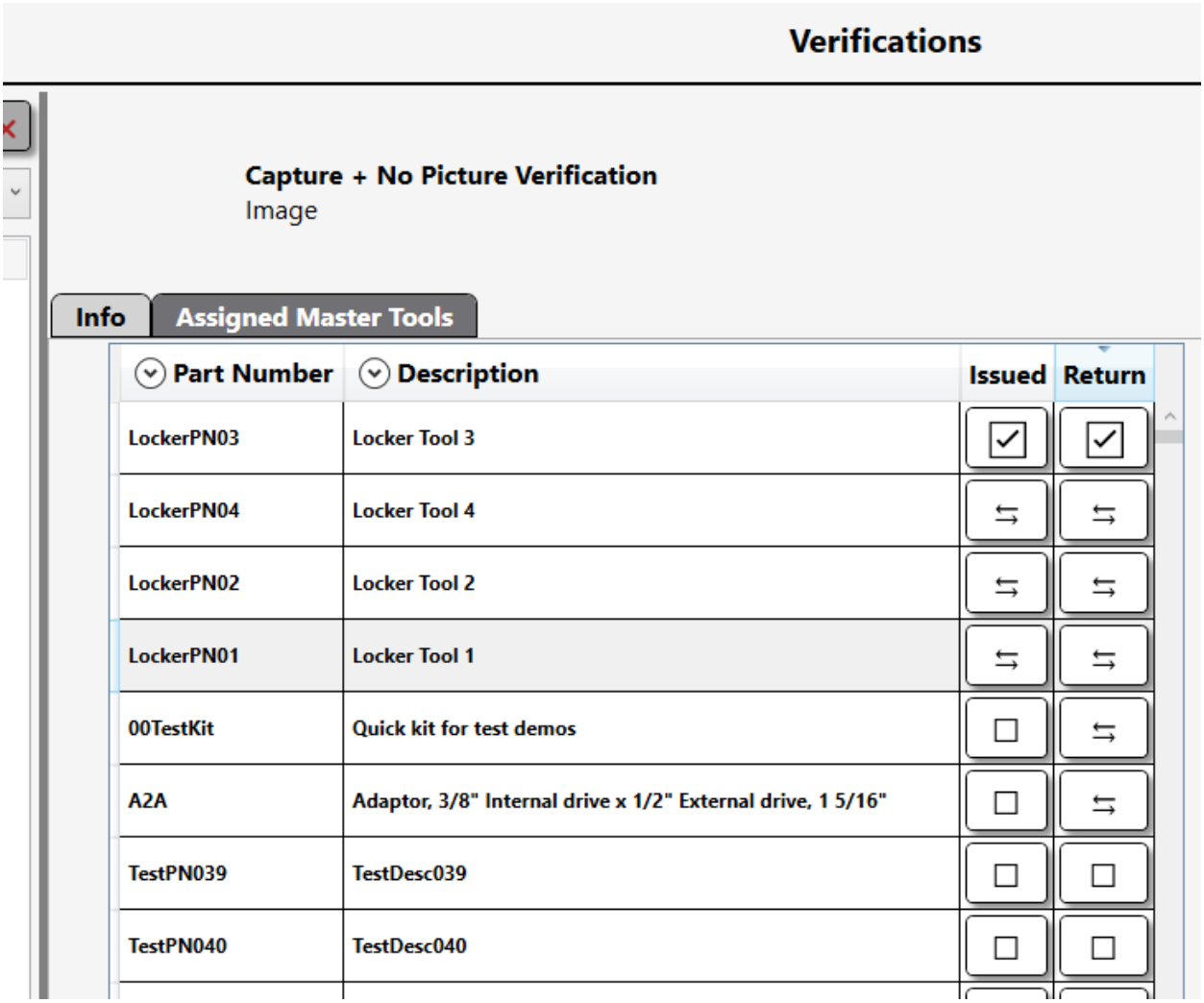
To view which tools have been assigned a given verification type click on the Assigned Master Tools tab within the Verification sub-screen as shown below.



This will show a list with four columns of data: Part number, Description, Issued, and Return. Any item that requires that specific verification type will have a checked box in the issued or returned column. **NOTE: Both Issued and return check boxes can be filled.** The user can also add verifications to other tools within this list by clicking the

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issued or return checkbox.



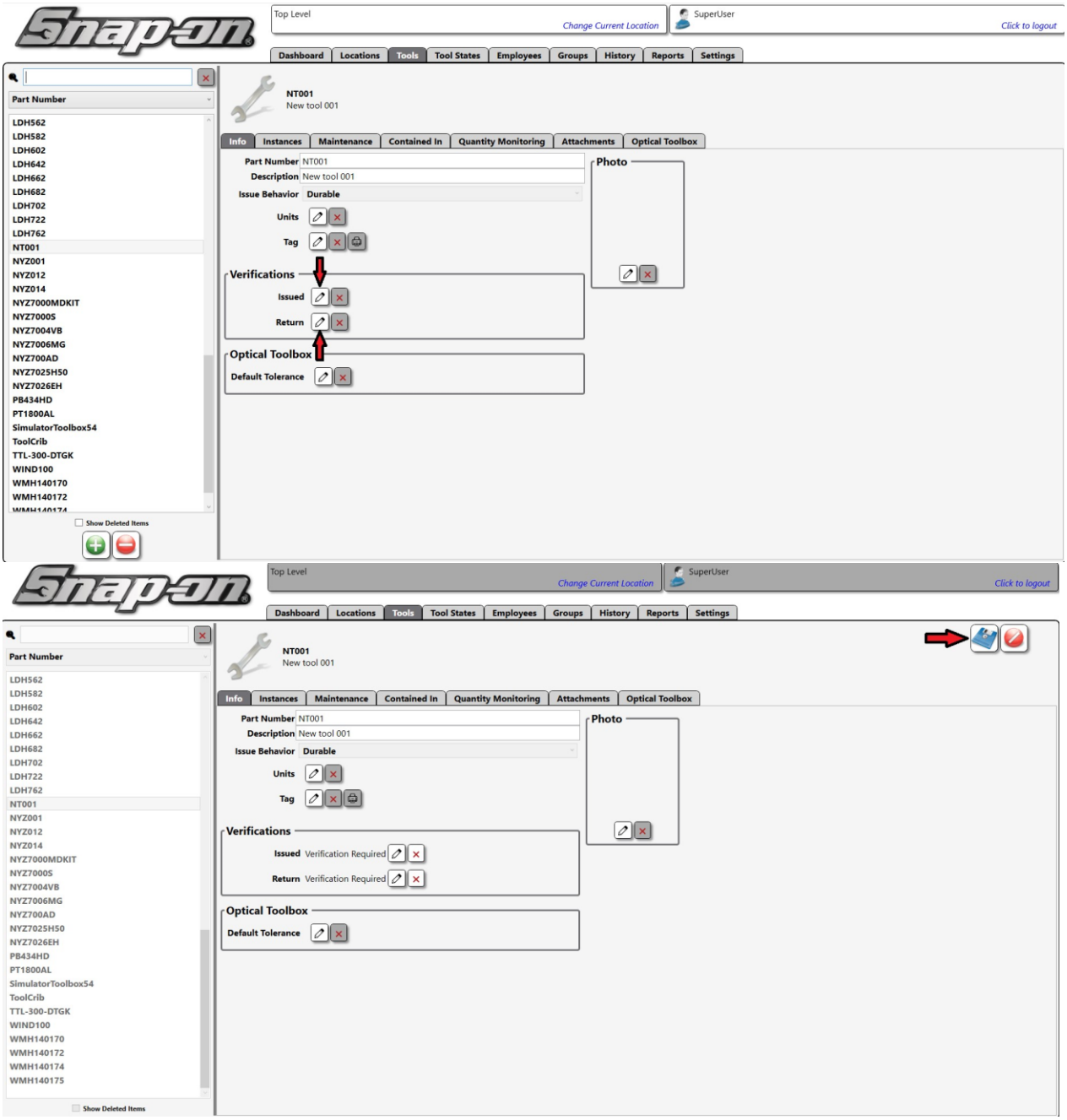
You can assign a single verification to multiple master tools from the verifications screen like shown above, or you can assign a verification to issue/return from the master tool screen as shown below.

Dual arrows on the Assigned Master Tools sub tab indicates that a different verification is already assigned to that master tool.

The issue and the return verification type can be different from one another if required.

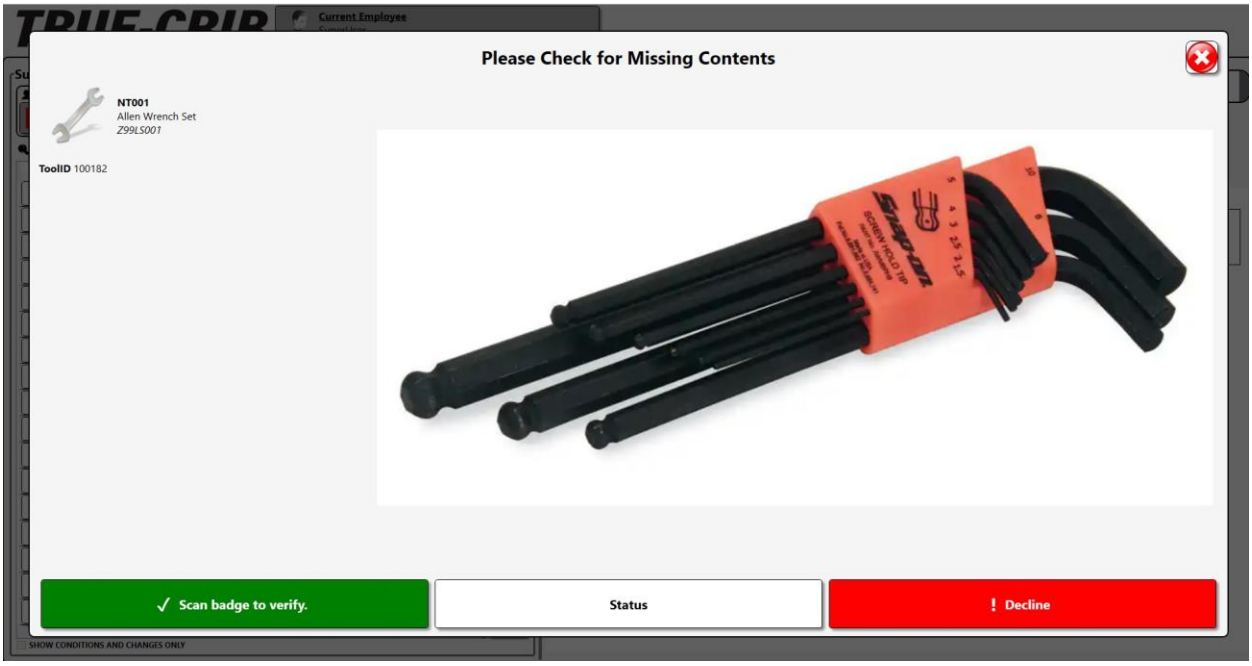
NOTE: If verification is required on issue and return then repeat this process with whichever mode was not selected.

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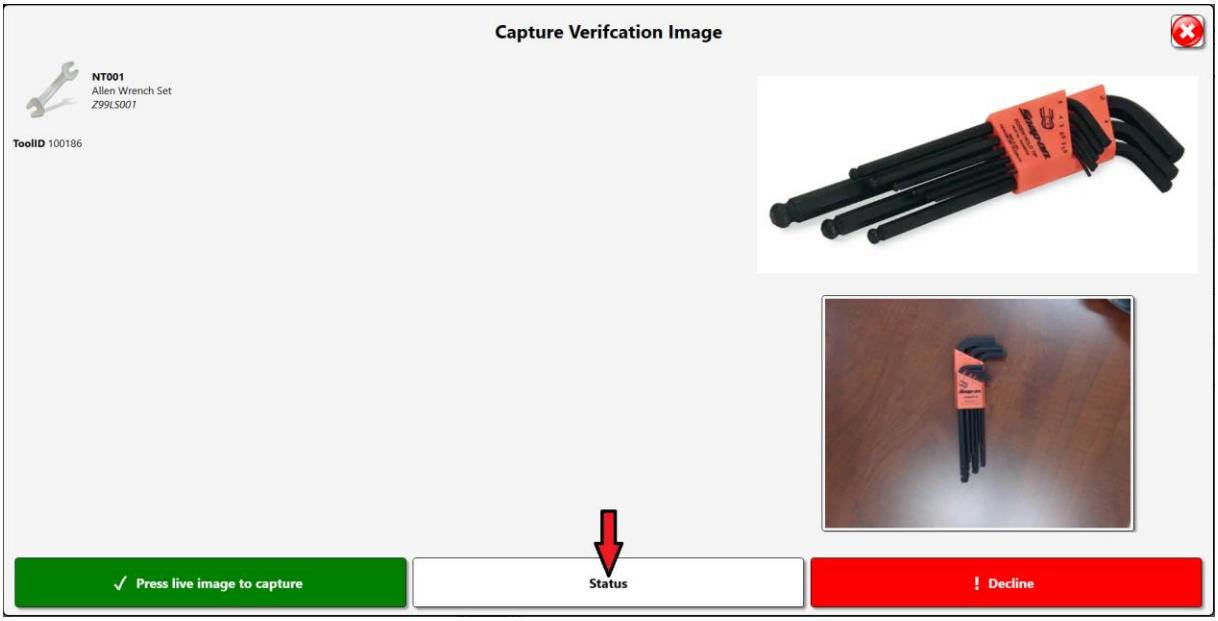


Once assigned, the Verifications will run each time this tool is issued or returned. **Verifications will be applied to all tool instances of the Master Tool in which verifications are assigned**. When the tool is issued or returned, the Employee will be prompted with an audio prompt warning and the following screen. Verification steps specific to each device type are contained in the Device Specific Procedures section below.

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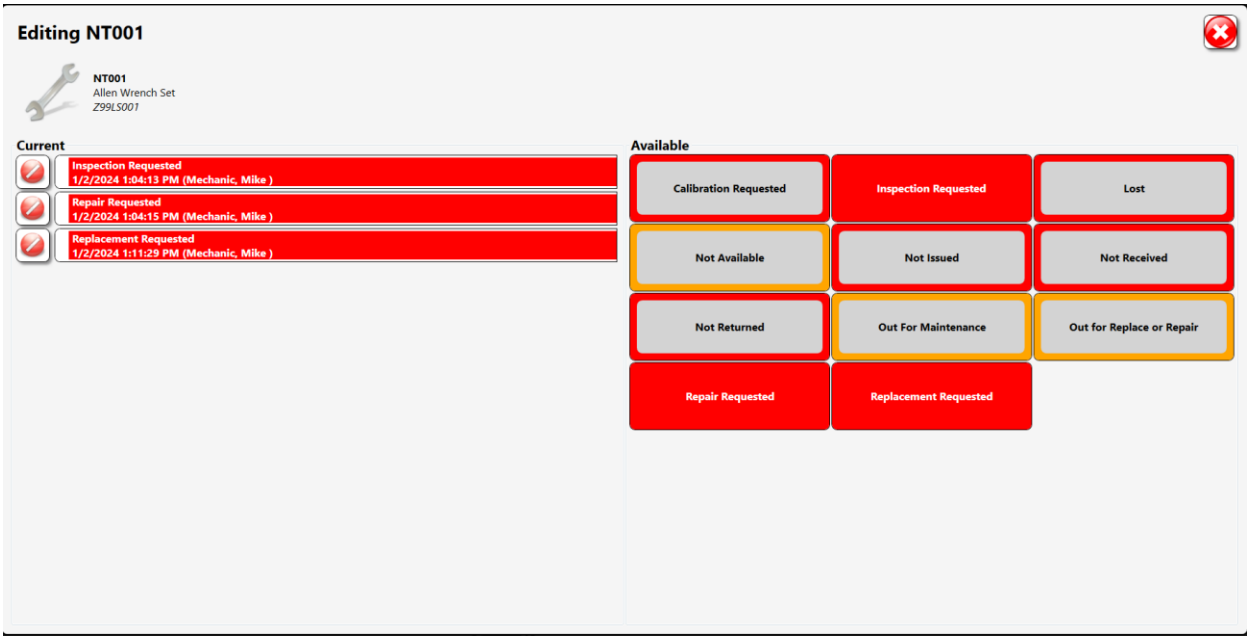


The tool status can also be cleared or changed by clicking on the status button on the verification screen. Click on the status button as shown below.



Now within the status tab the user can set or clear statuses on the tool being verified. To add a status to the tool being verified click any one or more of the status options listed under the available column. The status will now be shown under the current column with a red circular icon with a white strikethrough at a 45 degree angle.

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To remove a status to the tool being verified click any one or more of red icons to the left of the status options listed under the current column. This will remove the status from the list of those currently applied to the tool on the left and back into the available tab on the right.

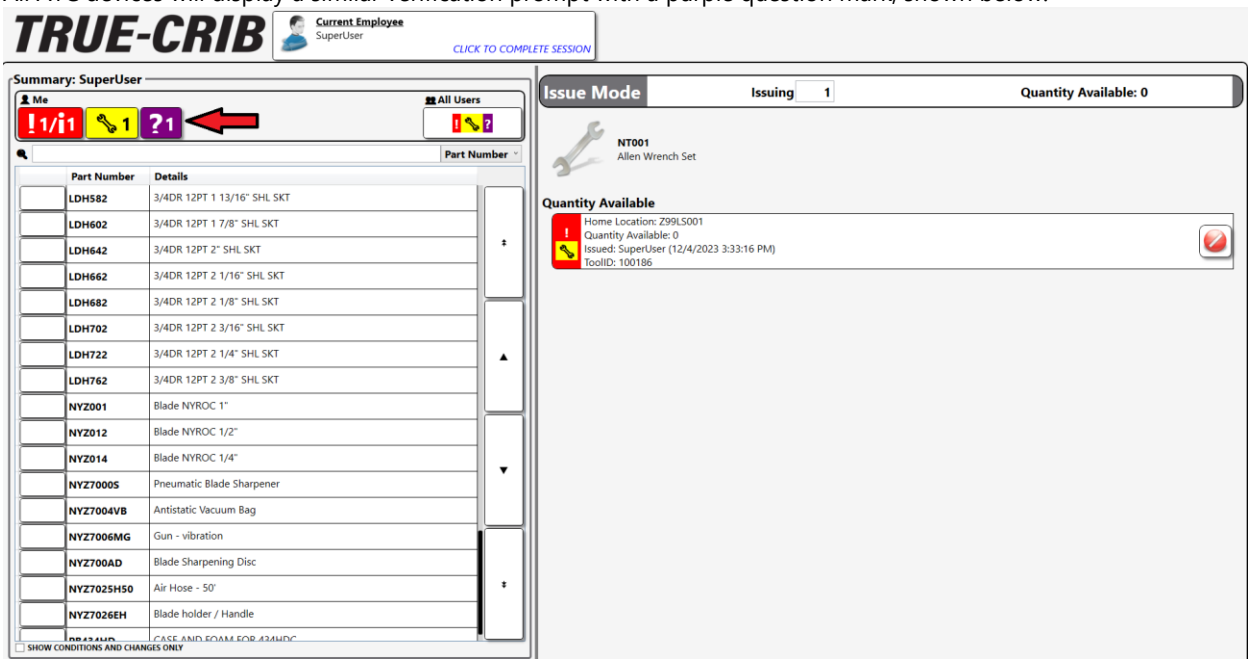
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Verification Operation

The workflow for verifications between devices is fairly similar. All device specific behaviors will be specified later in this document.

Verification Prompt

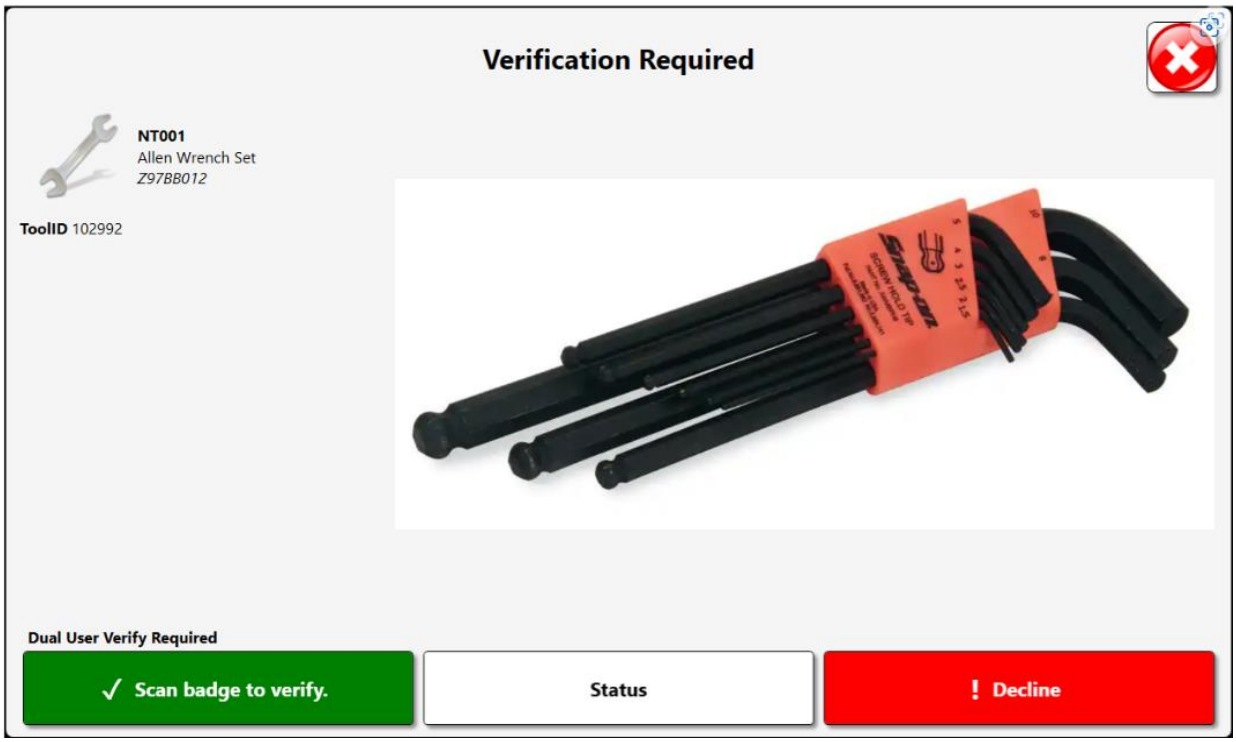
All ATC devices will display a similar verification prompt with a purple question mark, shown below.



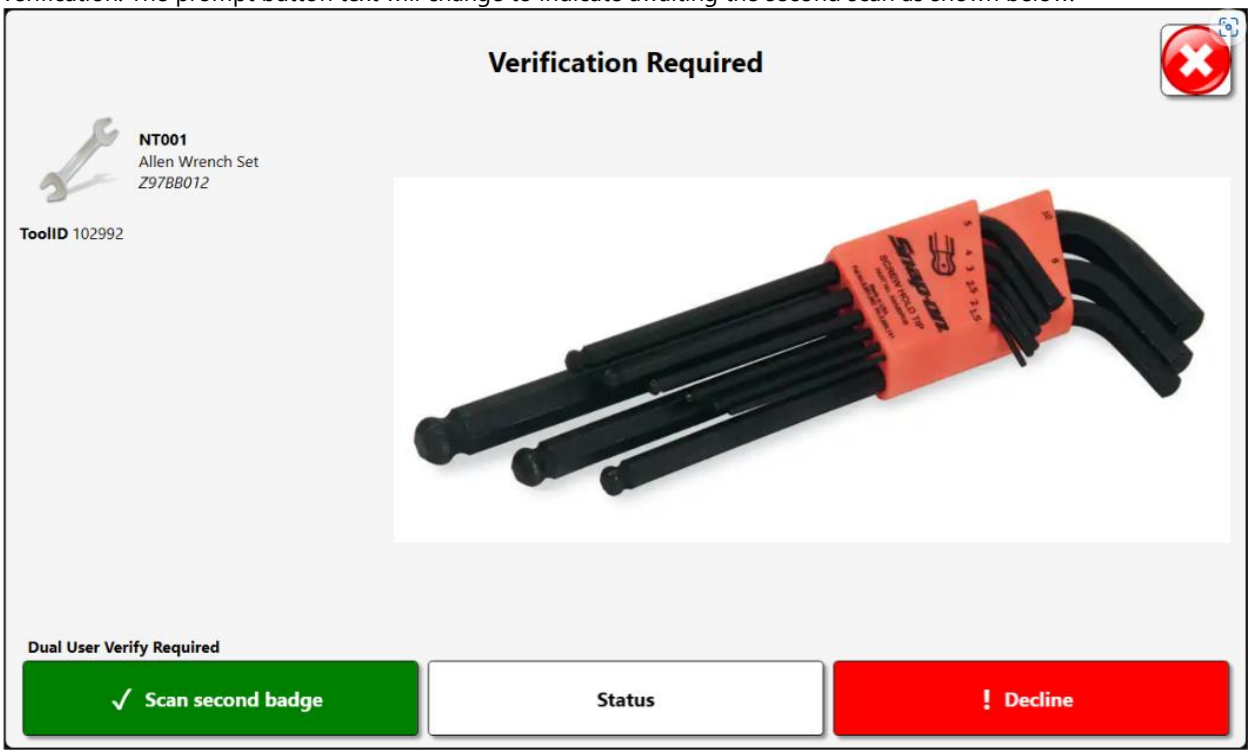
Dual User Verify Option

Issue or return a tool from an ATC device, an item tagged for Dual User Verify will require **two** users to scan their badge. The first being the user that issued or returned the tool, with that screen shown below.

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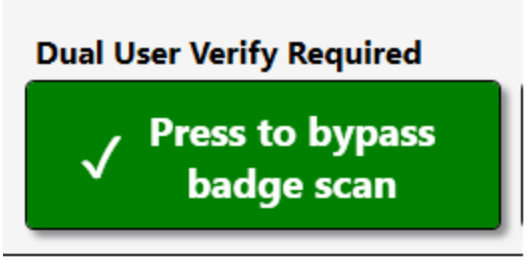
After the primary badge scan, a different user with machine access is required to scan their badge to complete the verification. The prompt button text will change to indicate awaiting the second scan as shown below.



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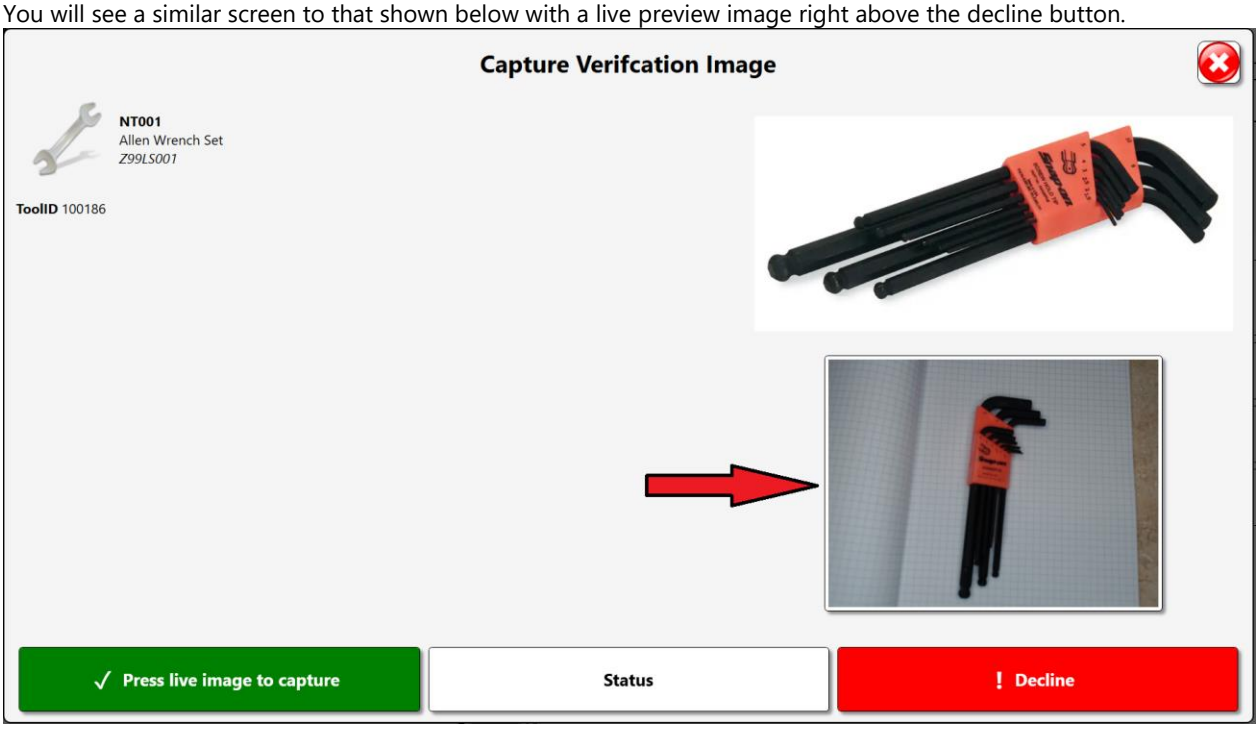
Bypass Dual User Verify

Dual user verify can be bypassed by a privileged user, with **bypass second badge verify** permissions. After the initial verification badge scan, the button prompt will change as shown below. The process can be completed by pressing the button to bypass or by performing the second badge scan normally.



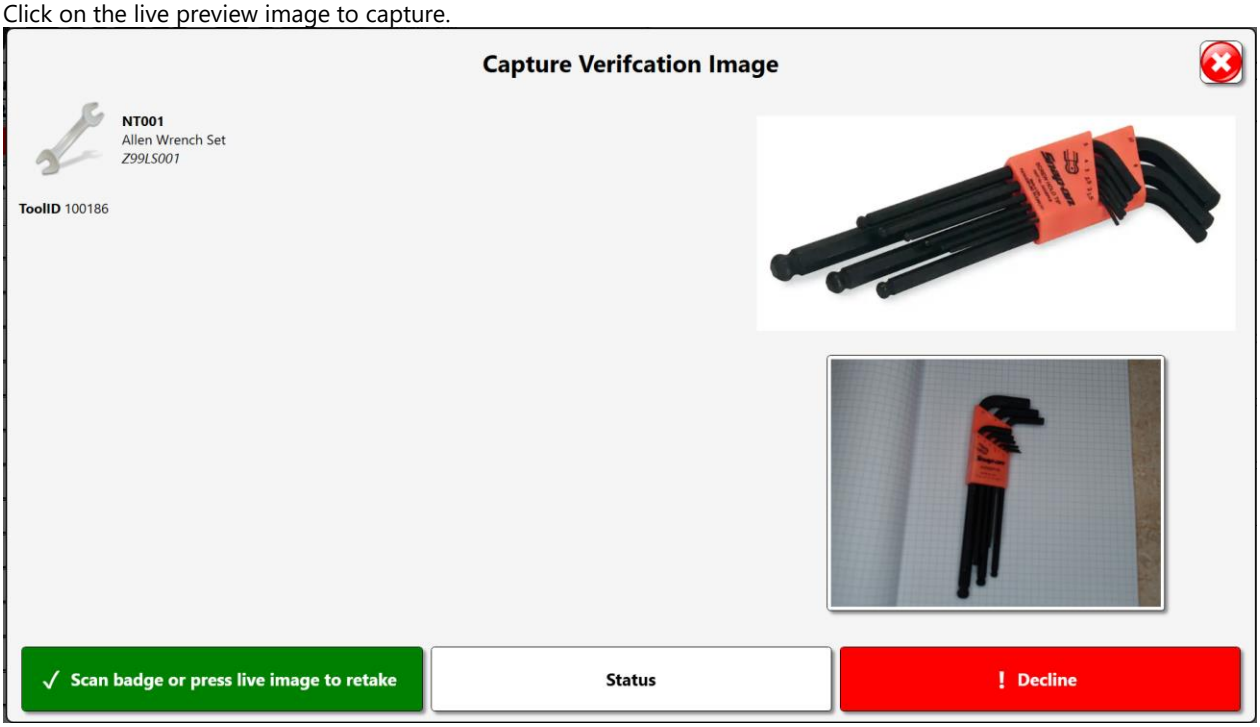
Verification Image Required

Issue or return a tool tagged for image verification from the Tool Crib, and click on the purple question mark shown above.
You will see a similar screen to that shown below with a live preview image right above the decline button.



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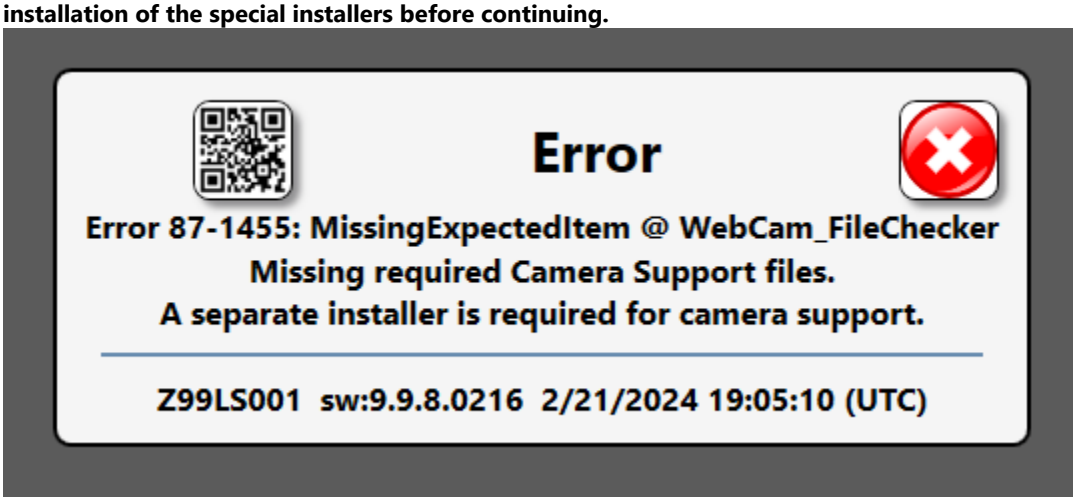
Click on the live preview image to capture.



Either scan your badge to complete verification or press the live image to retake.

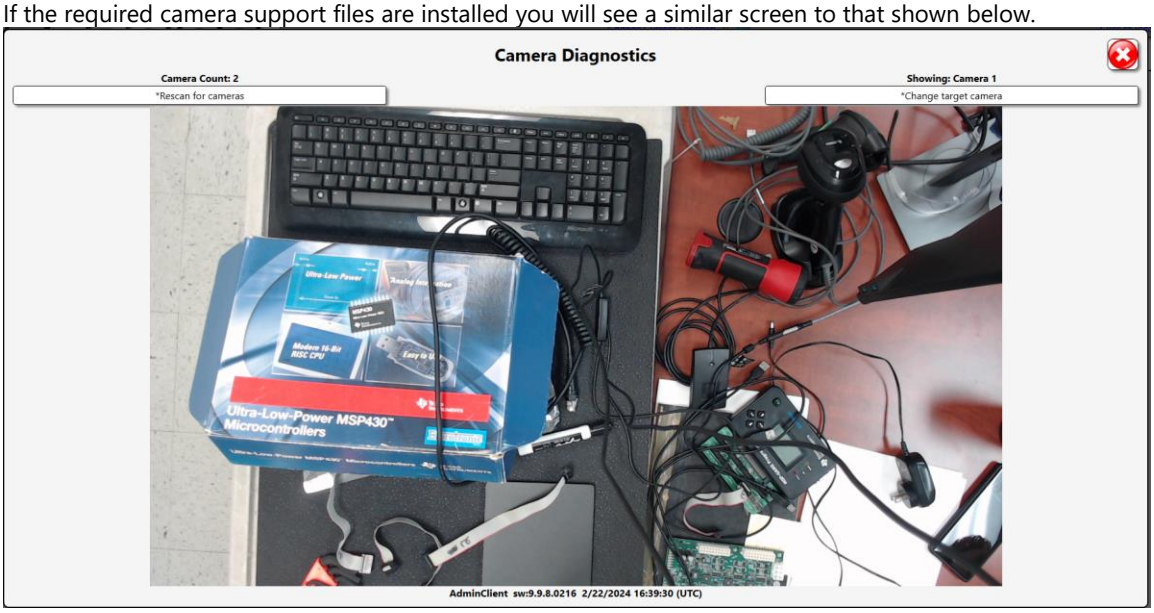
Switching Camera View in Admin Client/Tool Crib

1. Navigate to one Camera Diagnostics sub menu through one of the paths above.
   NOTE: If you see the screen below it means no camera support files have been installed. Complete the installation of the special installers before continuing.



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If the required camera support files are installed you will see a similar screen to that shown below.

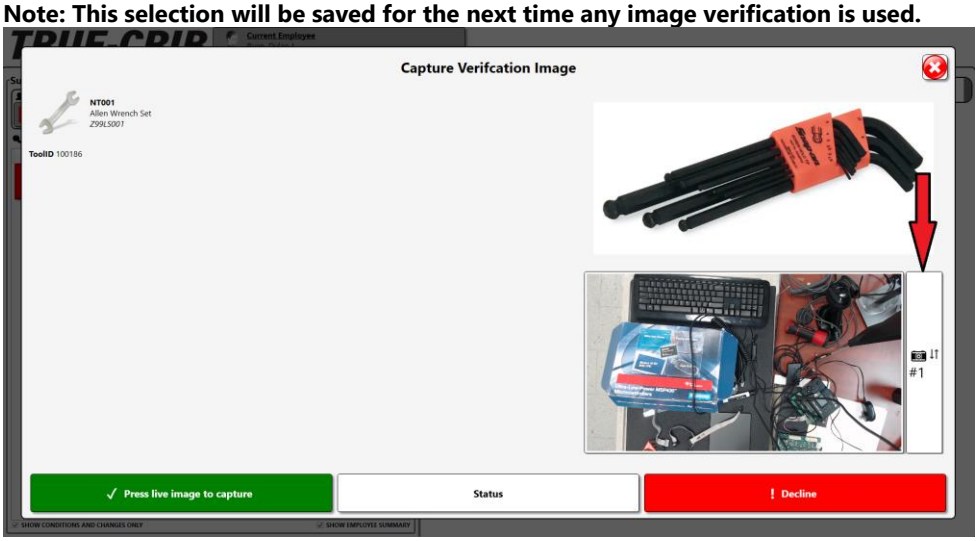


2. You will see a live camera preview as well as two buttons towards the top of the screen; **Rescan for cameras & Change target camera**.
    - Rescan for cameras: Will rescan for any cameras not immediately identified on system start up.
    - Change target camera: Will change the target of the camera preview to the other identified camera.

Switching Camera View

Note: On device start up the cameras may not be identified in the same order as previously

1. Switching camera view can be accomplished through the normal image verification process. To begin, issue or return a tool that requires image verification, and open the verification image sub menu.
2. To switch camera used for this verification click on the **Change target camera** button to the right of the camera preview (shown below).
Note: This selection will be saved for the next time any image verification is used.



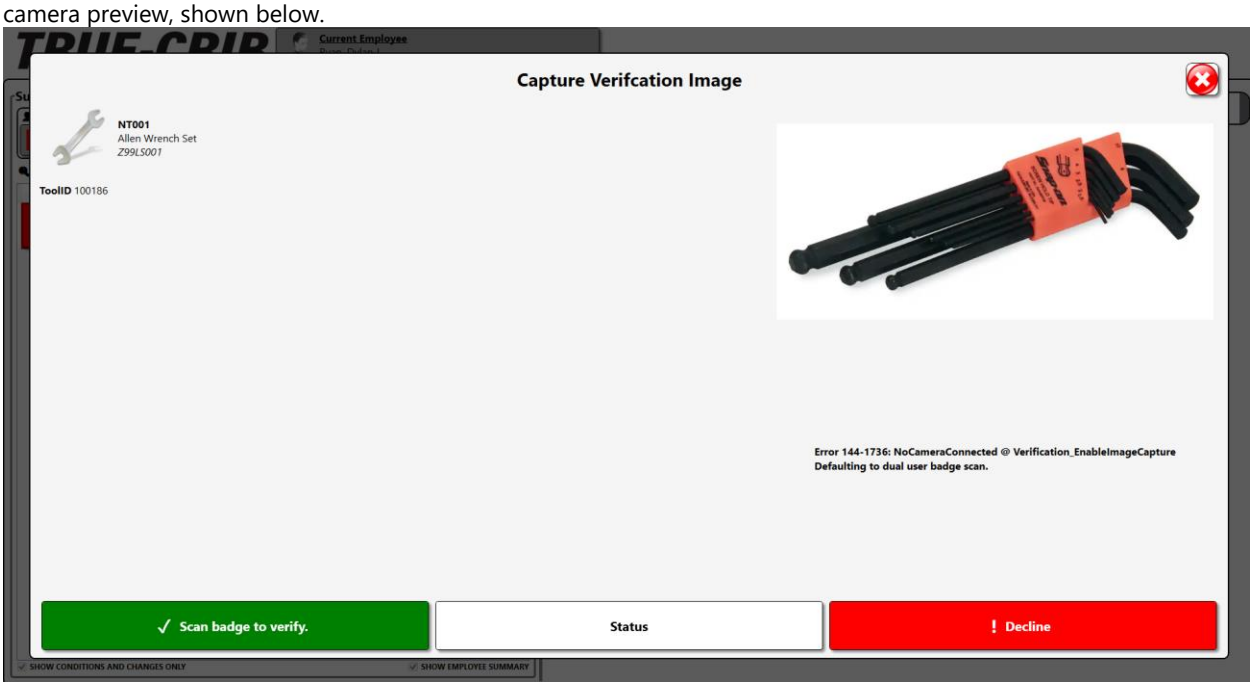
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Unsupported Device Behavior

If you use a verification with verification images on an unsupported device the device will act just like the option is not enabled. **NOTE: The Verification Image Required feature is currently only available on the Tool Crib with the additional hardware (camera and mount).**

Missing Camera Behavior

If a device is missing a camera and image verifications is required you will see the following message in place of the camera preview, shown below.



To complete verifications with a missing camera, continue with dual user verify.

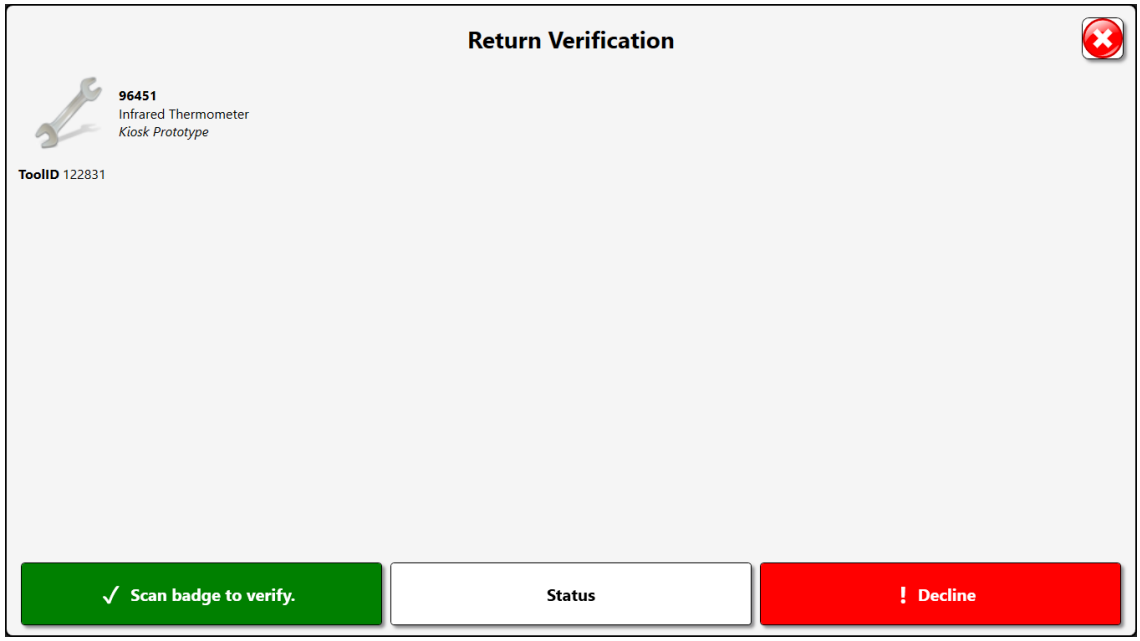
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Device Specific Behaviors

ATC FlexHub

Verification Required

1. Scan badge with RFID reader on the ATC FlexHub
2. Click on the tool/item(s) to issue or return to the ATC FlexHub. If an item is tagged for verification the user will be prompted with the following menu.



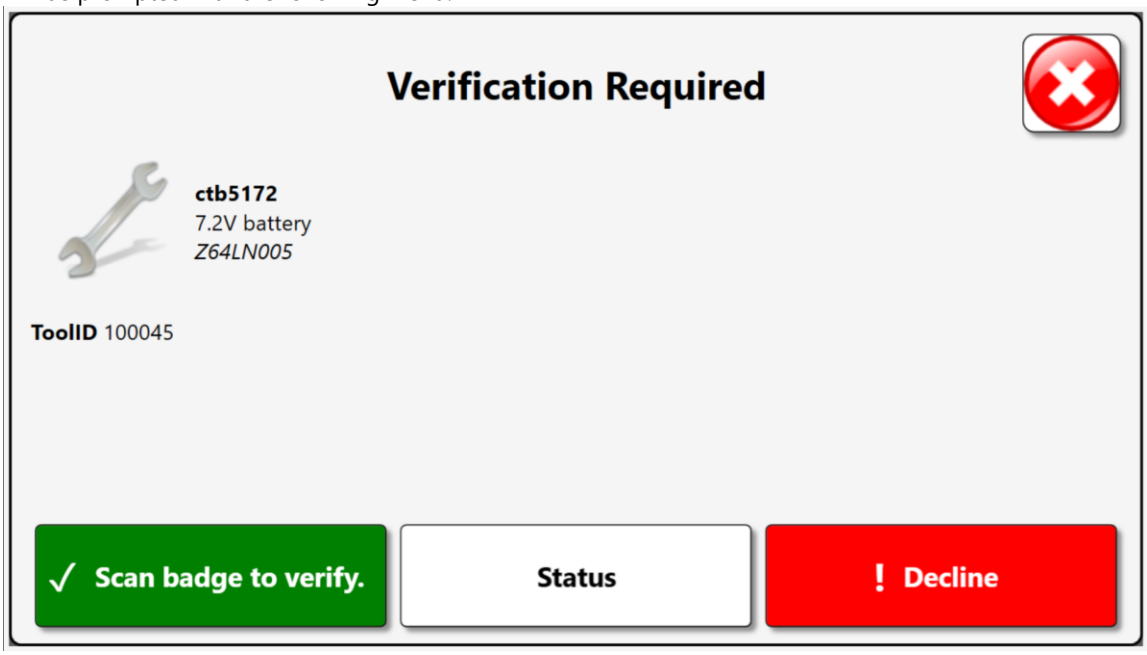
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Locker

Verification Required

Issue

1. Scan badge with RFID reader on the locker, successful login will cause the door on the locker to open.
2. Remove an item from the locker and the close the door. If any issued item is tagged for verification the user will be prompted with the following menu.

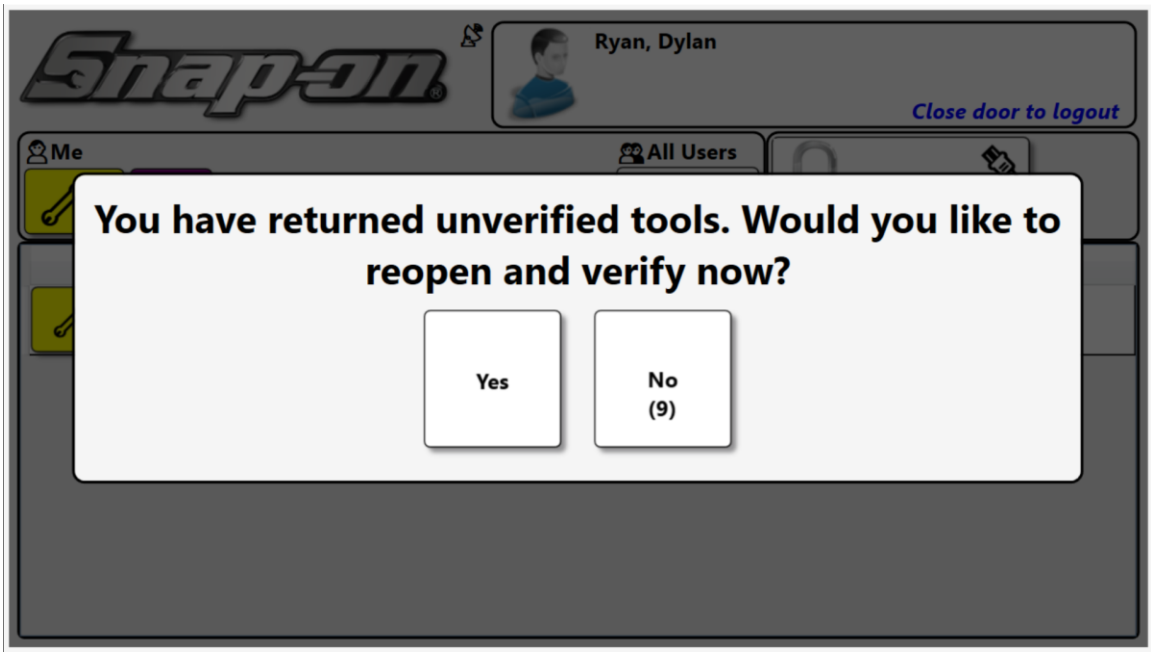


3. If for any reason the verification is declined or skipped the user can return to the verification screen. To return to the verification screen, scan badge with RFID reader and click on the purple box with a question mark on the locker dashboard like shown above.

Return

1. Scan badge with RFID reader on the locker, successful login will cause the door on the locker to open.
2. If there are any tools tagged for verification issued out to the user a purple box with a question mark will appear in the top left under the Snap-on logo on the Locker dashboard. Click on this purple box and the user will be met with the verifications screen. Scan badge to verify, return the tool to the locker, and close the door.
3. If for any reason the verification is declined or skipped, the user will be met with the following message after closing the door.

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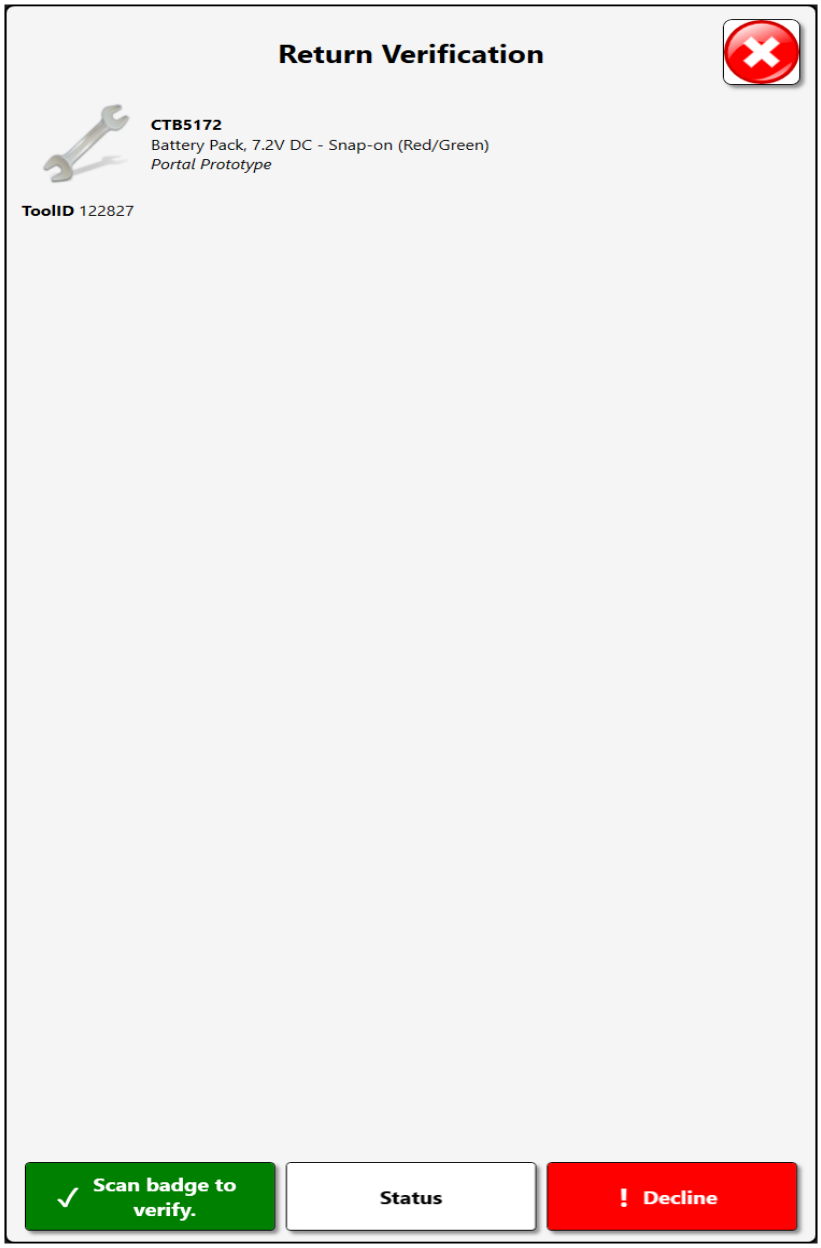
Click **Yes** to reopen the door and verify the tool(s) being returned like shown in the previous step. If **No** is selected or after the timer runs out the user will be logged out and the verification will be recorded as skipped.

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Portal

Verification Required

1. Scan badge with RFID reader on the Portal
2. Scan item(s) to issue or return to the portal. If an item is tagged for verification the user will be prompted with the following menu.
3. If for any reason the verification is declined or skipped the user can return to the verification screen. To return to the verification screen, click on the purple box with a question mark on the portal dashboard.

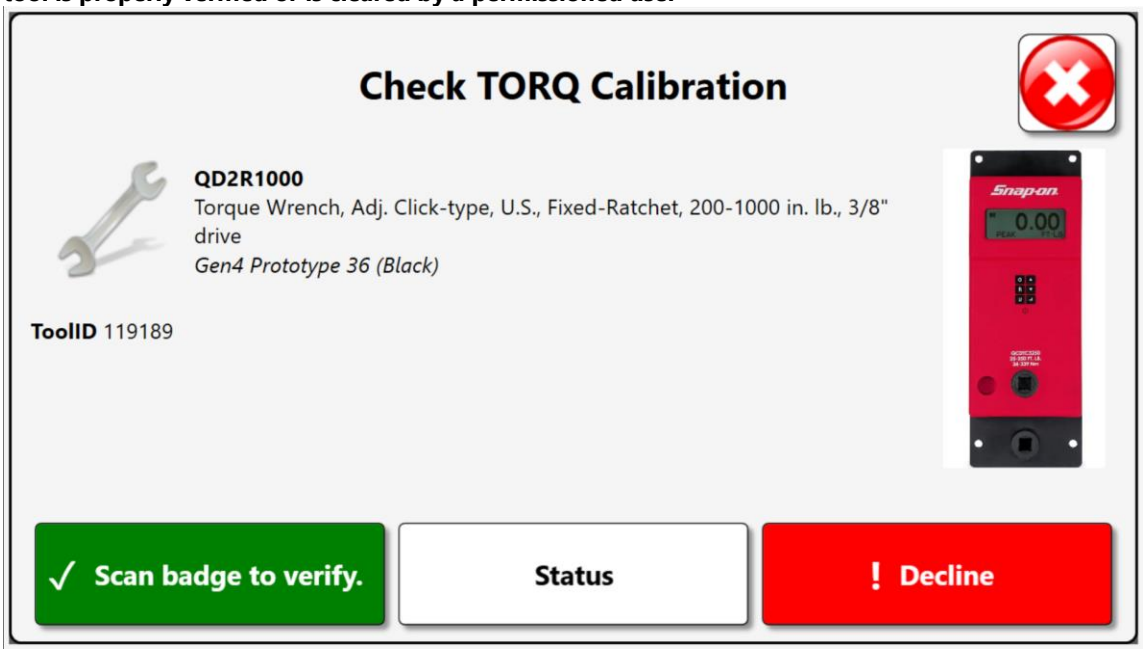


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Toolbox

Verification Required

1. Scan badge on toolbox RFID reader.
2. Now issue or return a tool/kit to the toolbox. Upon closing the drawer, the user will be met with the Verification menu as shown below. From here the user will again scan the badge on the RFID reader. **NOTE: If the verification message is dismissed that will be reported in the devices log within the L5 Admin Client and a "Needs Verification" status will be applied to the tool. This status will remain until the tool is properly verified or is cleared by a permissioned user**



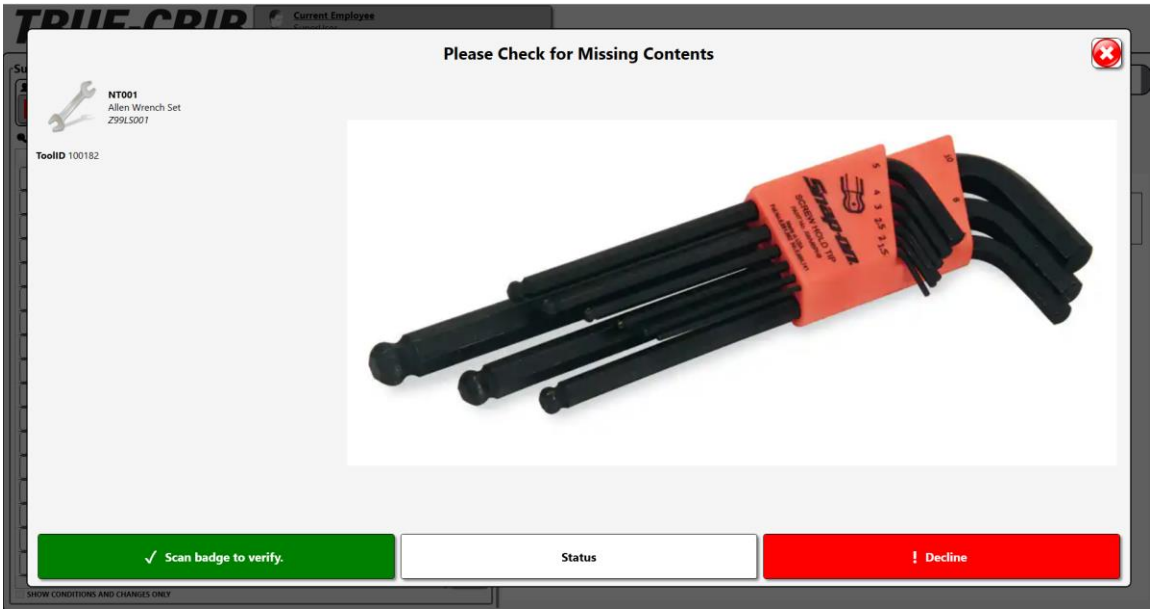
3. If for any reason the verification is declined or skipped the user can return to the verification screen. To return to the verification screen, reopen the drawer in which the issued or returned tool is assigned. Once the drawer is opened the user will be met with the following prompt. Click on the purple question mark icon to return to the verification prompt.

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Tool-Crib

Verification Required

1. Scan badge with RFID reader on the Tool Crib.
2. Now issue or return a tool/kit to the Tool Crib. Once the item is issued or returned a purple question mark icon will appear on the left side of the screen. Click the purple box with a question mark.
3. When the tool is issued or returned, the Employee will be prompted with the following screen. **NOTE: The Tool-Crib forces the user to complete the verification process. Declining will return the user to their current session.**



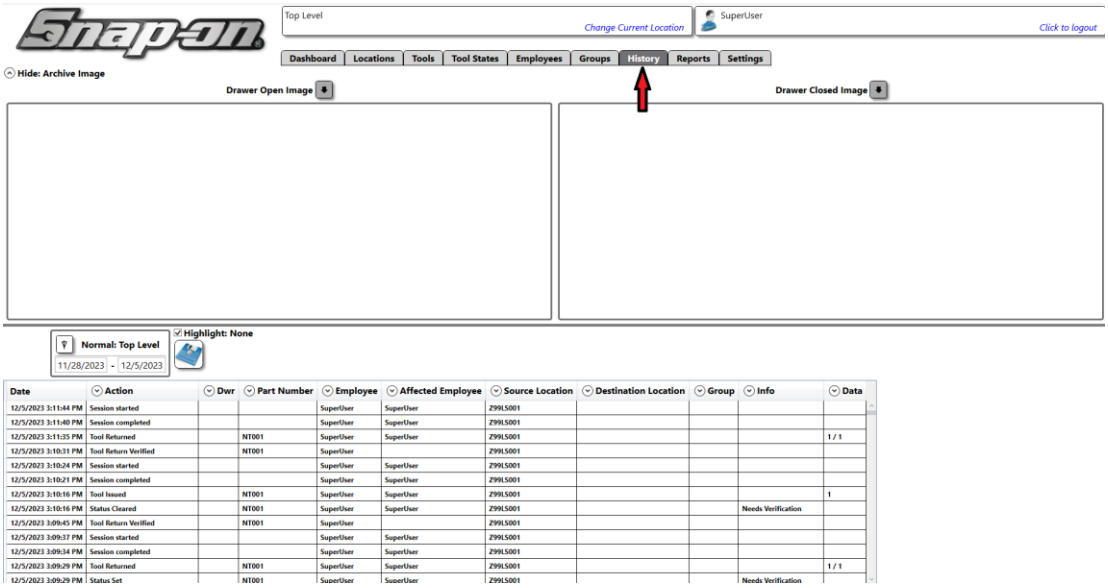
If the user selected Image Verification Required, follow along with the above section)

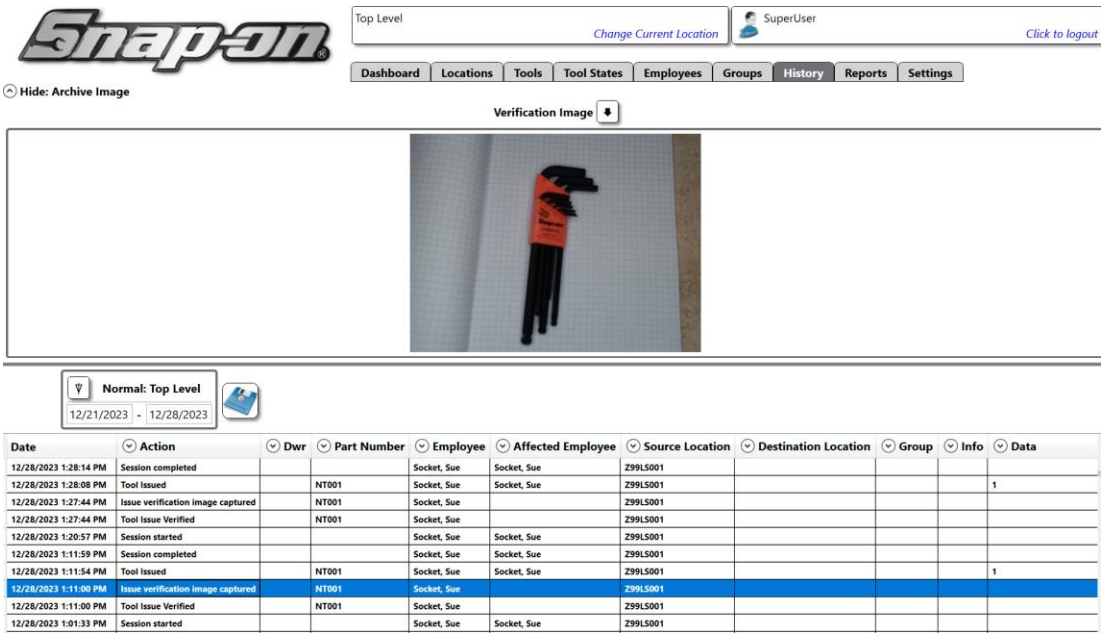
4. Whenever the session is completed, the user will be prompted to address any pending verifications.

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Event Log

Any action taken on any device within the ATC system will be logged within the L5 Connect Admin Client, which can be found under the History tab. This event log will give the date, time, action taken, part number, Employee number, and the name of whatever device is accessed. This log will also show if the user completed the tool issue/return verification or not, showing this logged action with one of the following messages: **"Tool Issue Verified", "Tool Return", "Tool Issue Verification Skipped", and "Tool Return Verification Skipped**". Additionally on specific actions and devices an image may be saved and tied to that action taken, like the **verification images** on the **Tool-Crib**.





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Tool Maintenances

Some tools require regular maintenance or calibration. Keeping track of this can be cumbersome and tedious. Keeping accurate maintenance records can also prove challenging. L5 Connect™ provides the ability to set up automated tracking, notification, and capturing historical records for these important functions. It can track what tools need to be serviced and how long the tools have gone without service. This is done by creating tool maintenance instances.

This document will discuss the configuration and usage of tool maintenances in the L5 Connect system. It will cover how to setup a maintenance types and how that differs from an instance of a maintenance type. It will cover how these maintenances behave on devices and their related statuses.

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Maintenance Types

A maintenance type describes what sort of maintenance is required to keep the tool functioning properly. It is assigned to a master tool in the L5 Connect system. Any instances of that master tool will then have this maintenance type applied to them. There are two built-in maintenance types in the system. Users can also create their own custom maintenance types.

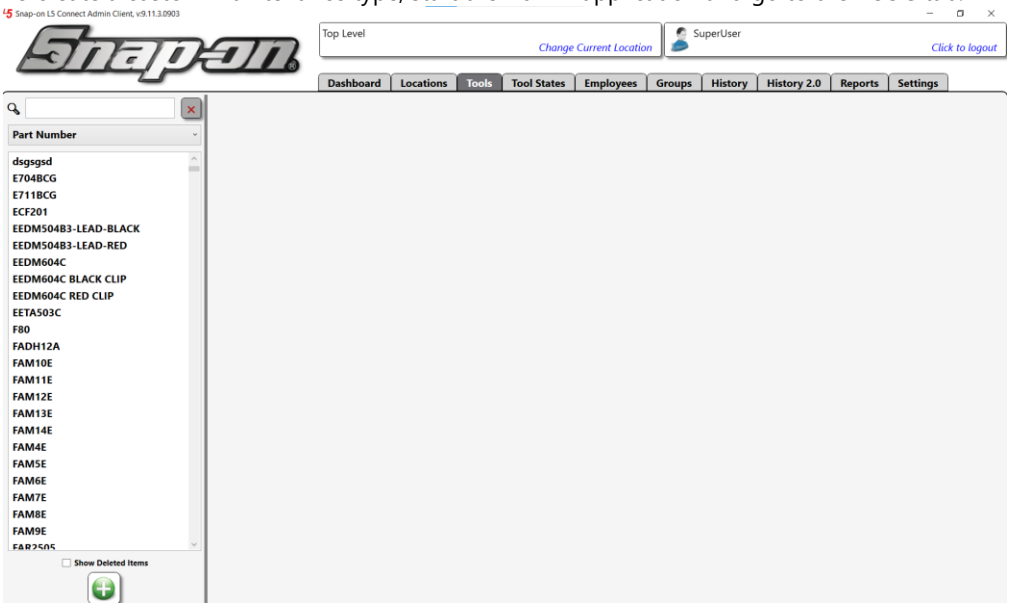
Built In Maintenance Types

There are two built-in maintenance types in the L5 Connect system. These are calibration and inspection. Many tools require regular calibration such as torque wrenches or measuring gauges. Tool inspections can be common for tools that frequently get chipped or worn down. These maintenance types, like any other user created ones, can be applied to multiple master tool types across the system.

Custom Maintenance Types

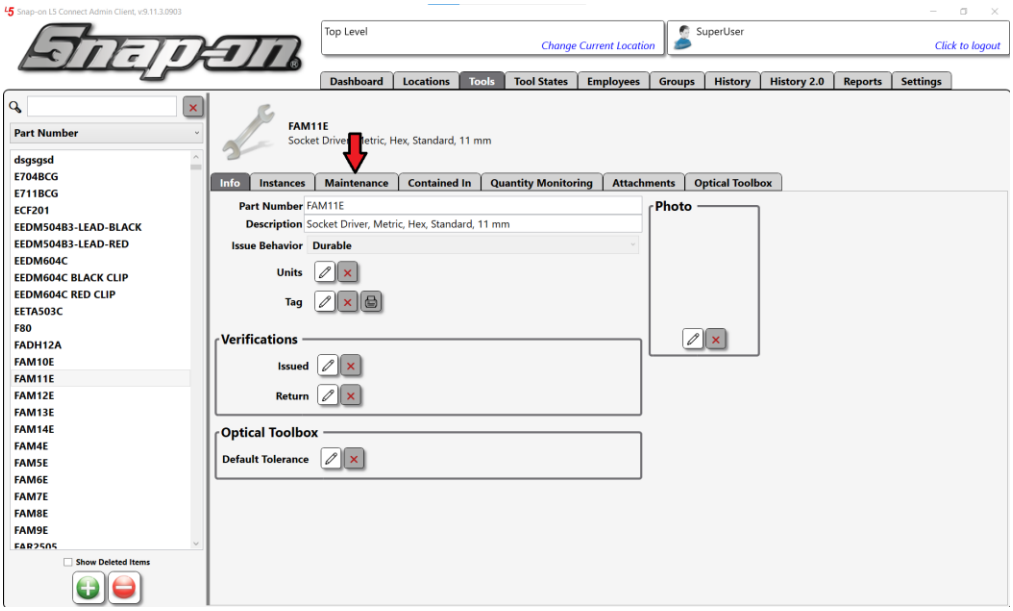
Users can create their own custom maintenance types for use in their L5 Connect system.

1. To create a custom maintenance type, start the Admin application and go to the **Tools** tab.

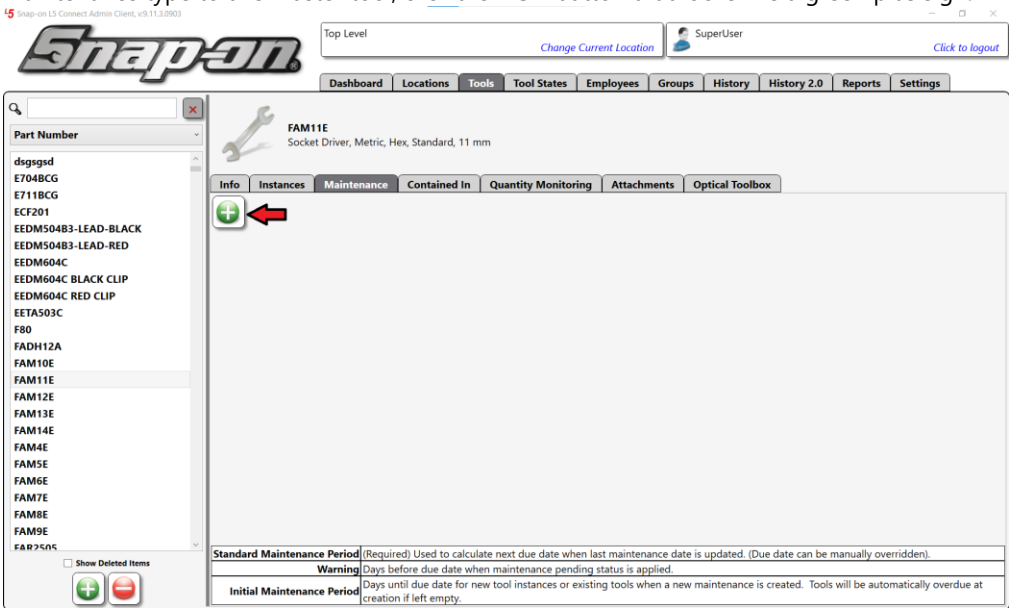


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2. Select the master tool for which you would like to assign your custom maintenance type and then click the Maintenance sub-tab.

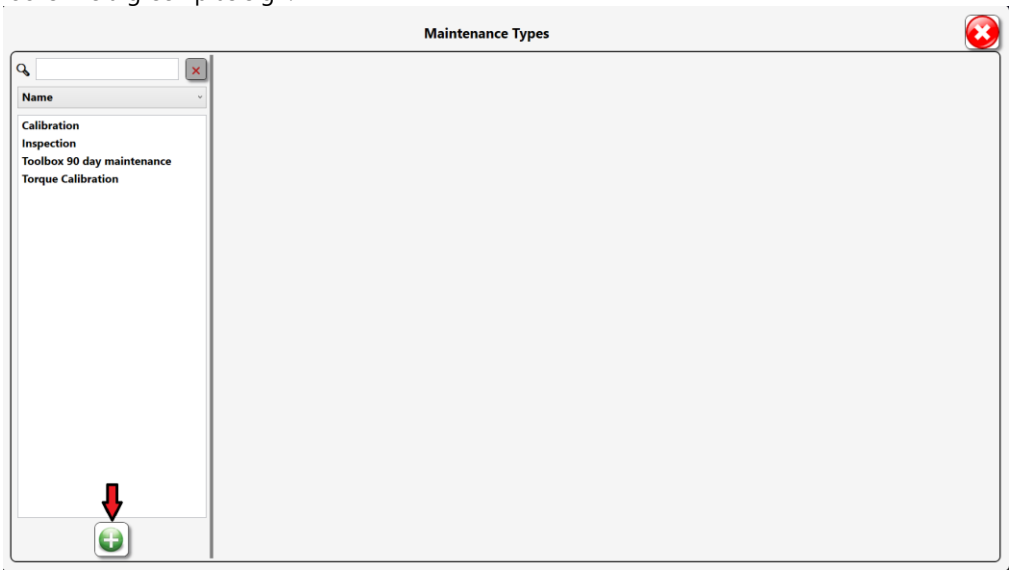


3. If there are any maintenance types already assigned to this master tool they will appear here. To add a new maintenance type to this master tool, click the **New** button that looks like a green plus sign.

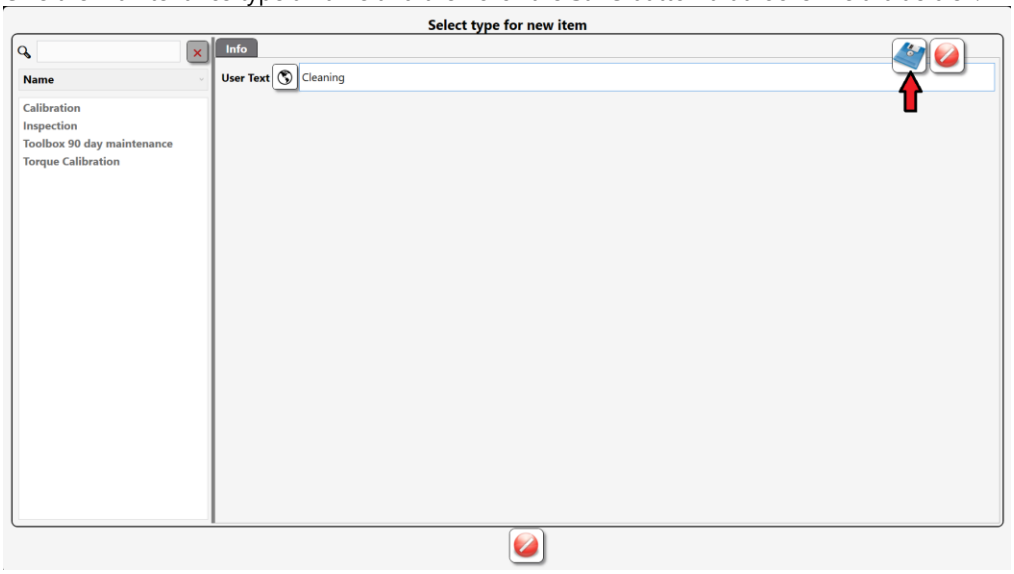


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4. This opens the **Maintenance Types** window. To add a new maintenance type, click the **New** button that looks like a green plus sign.

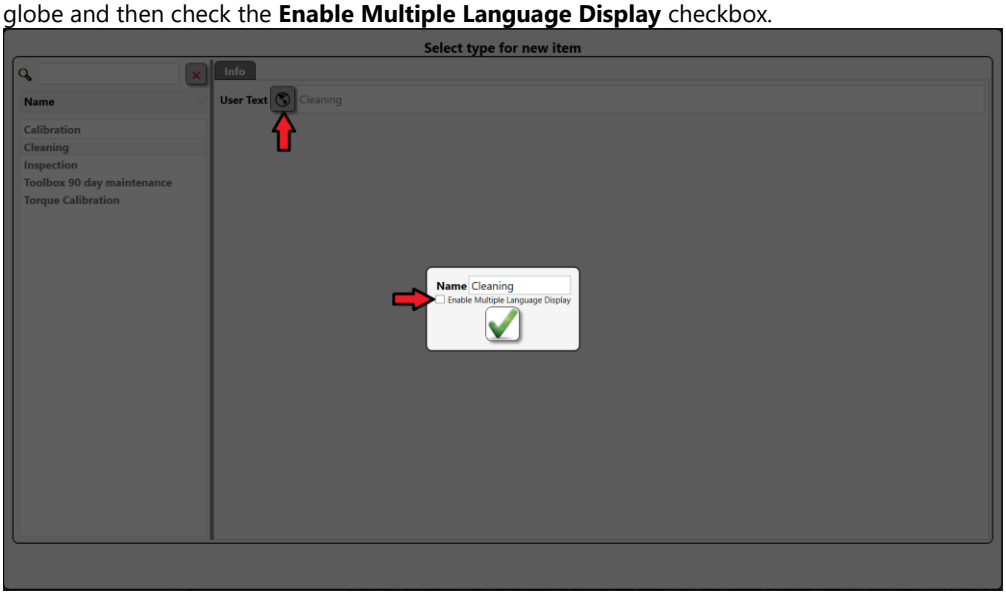


5. Give the maintenance type a name and then click the **Save** button that looks like a blue disk.

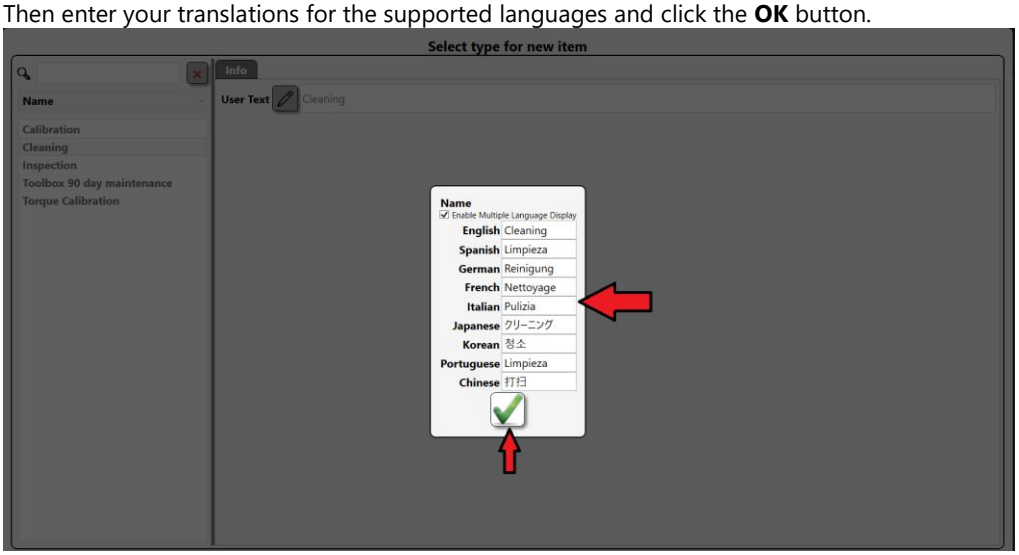


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6. If you need a multi-language display, you can click the **Edit Multiple Languages** button that looks like a globe and then check the **Enable Multiple Language Display** checkbox.

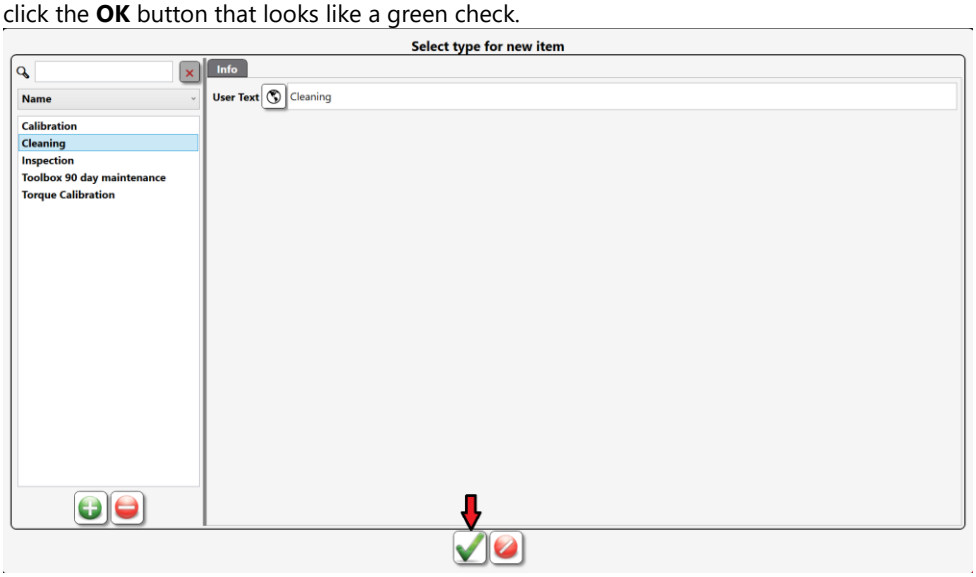


7. Then enter your translations for the supported languages and click the **OK** button.



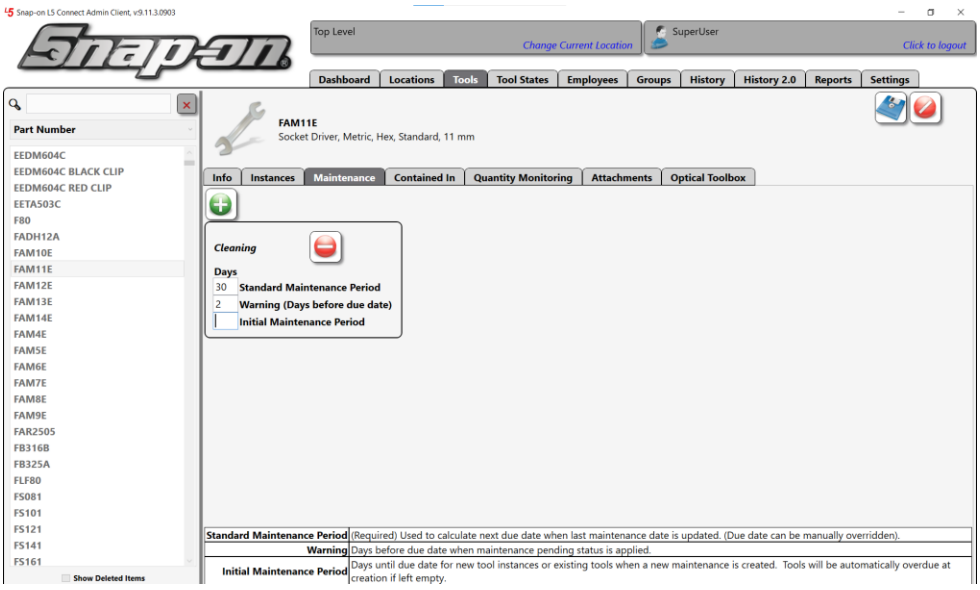
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8. The new maintenance type is now shown in the list of maintenance types. Make sure it is selected and then click the **OK** button that looks like a green check.



9. You can see that the cleaning maintenance type has been created and is in the process of being assigned to the selected tool type but more information is still needed.
- **Standard Maintenance Period** - (Required) Used to calculate next due date when last maintenance date is updated
- **Warning (Days before due date)** - Days before due date when **Maintenance Pending** status is applied to tool
- **Initial Maintenance Period** - Days until due date for new tool instances or existing tools when a new maintenance is created. Tools will be automatically overdue at creation if left empty.

Enter these fields and click the blue **Save** button.



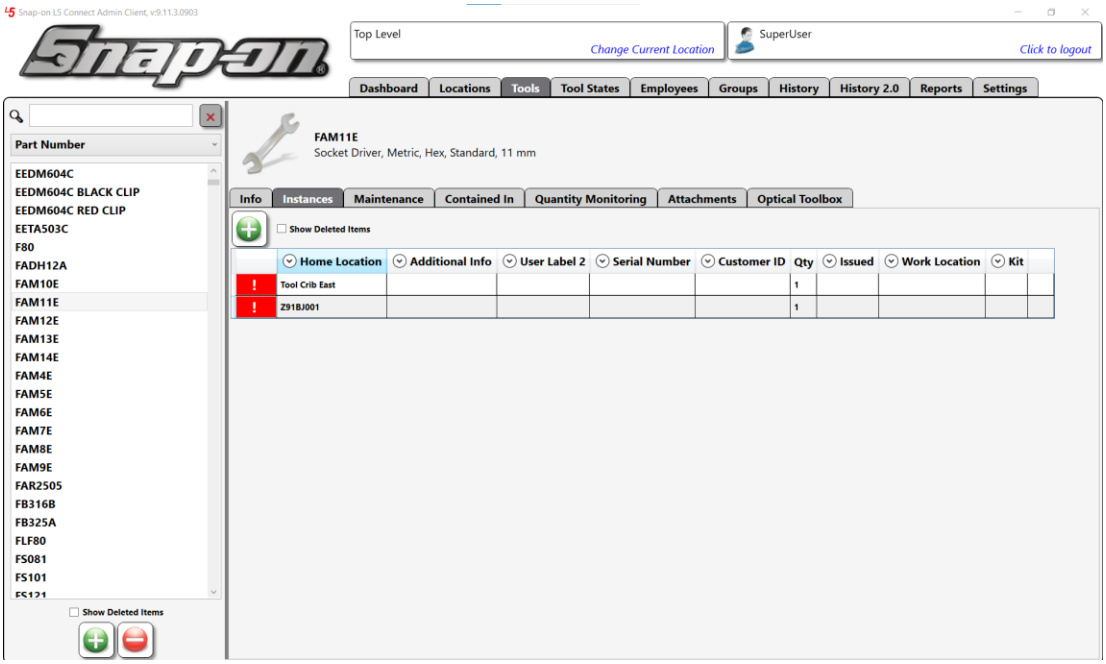
You have now created a new custom maintenance type and assigned it to a master tool type with maintenance period data specific to that master tool. Every instance of the master tool edited will now have a cleaning maintenance assigned to it.

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Tool Maintenance Statuses

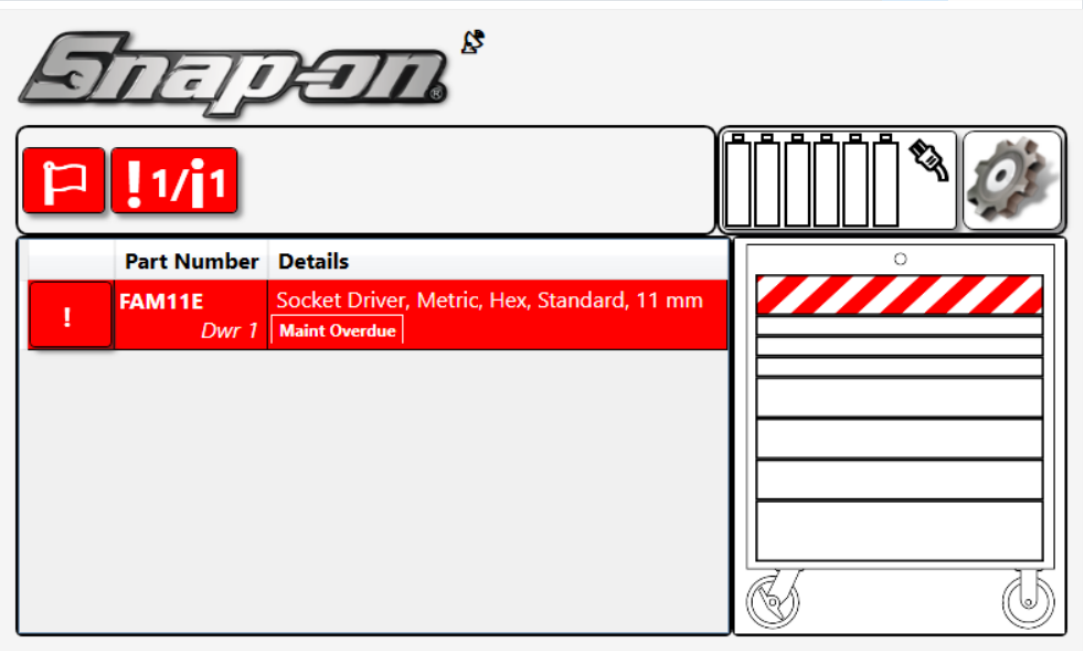
The system automatically sets and clears the **Maintenance Overdue** status based on the maintenance due date of each individual tool with that maintenance type. It will also apply a **Maintenance Pending** status as a warning that a tool is almost due for maintenance based on the **Warning** value configured in the maintenance type. This **Maintenance Pending** status will be automatically cleared when the tool becomes overdue or has the maintenance date updated.

Because the **Initial Maintenance Period** was left blank in the example above, each instance will now have a **Maintenance Overdue** status assigned to it. A switch to the **Instances** sub-tab will show that.



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This is also confirmed by looking at the device as well.



The system does not know when these tools were last cleaned and can't calculate the next maintenance date. It sets the status so that this information can be provided now that required maintenance has been defined for these tools. If the user had made sure all instances of this tool type had been freshly cleaned, they could have set the **Initial Maintenance Period** to 30 days, and they would not have a status assigned to them.

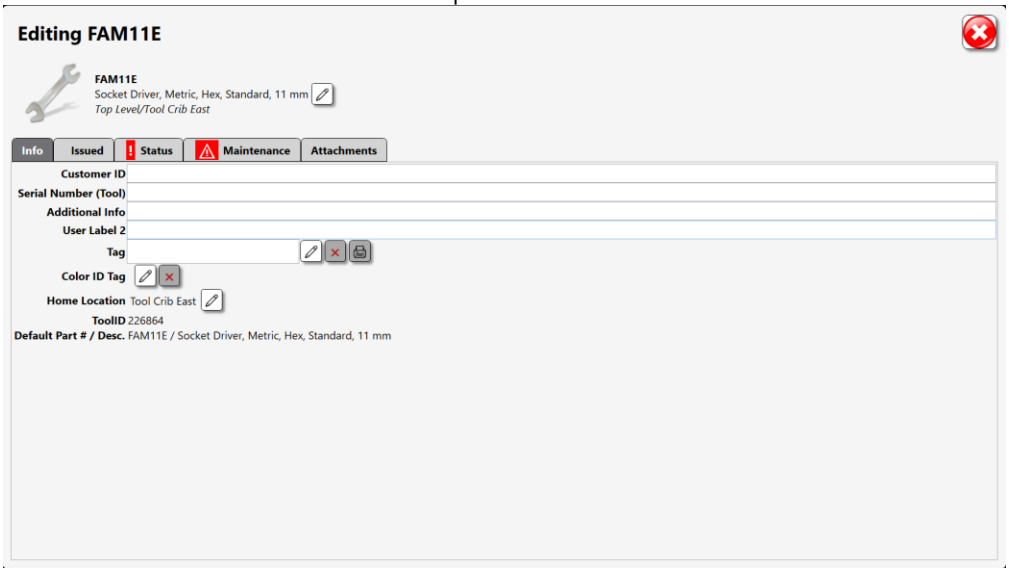
Follow the Updating Tool Instance Maintenance Information process for each instance of the tool type to finish setting up this maintenance type. Clearly, if you have a lot of this tool type you might want to consider providing the **Initial Maintenance Period** value when assigning the maintenance type to the master tool based on the situation.

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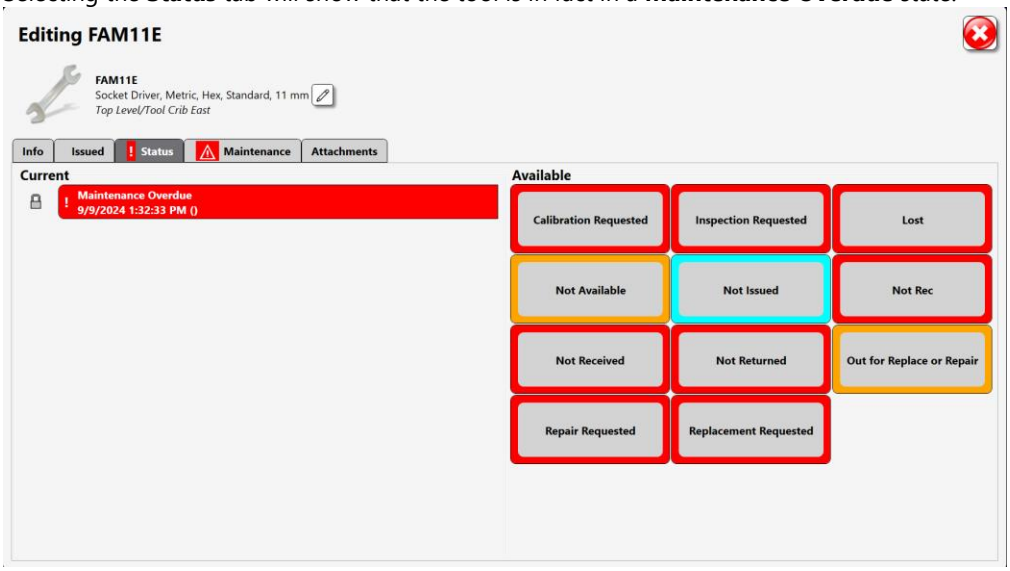
Updating Tool Instance Maintenance Information

NOTE: The Tool Instance Maintenance Information can be edited from either the user interface of the tool's home device or the Administration Client. The example below uses the Administration Client.

1. Double-click one of the tool instances to open the tool details menu.

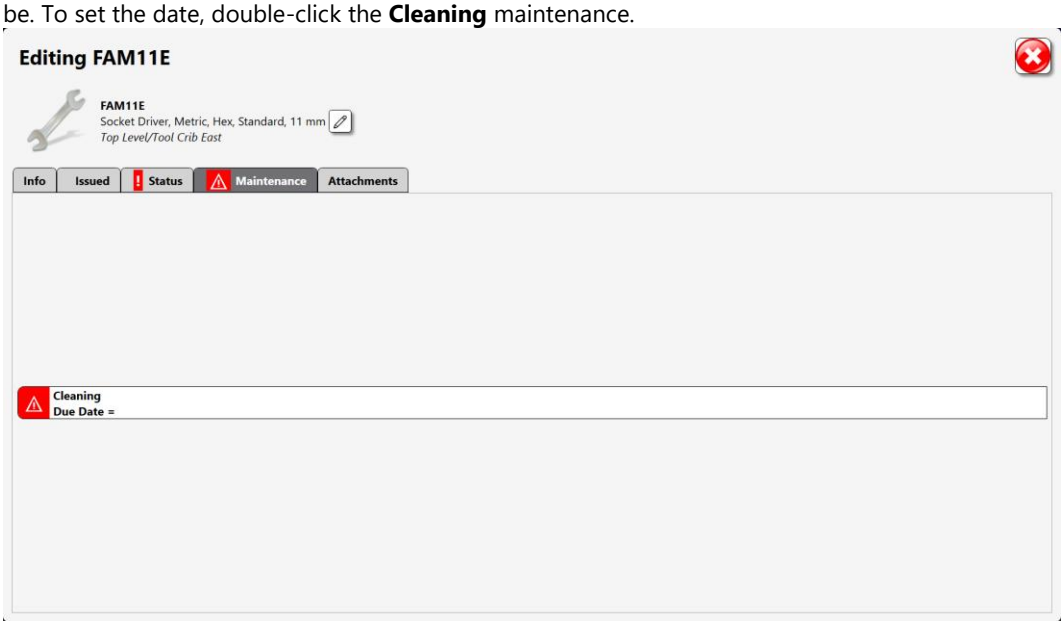


2. Selecting the **Status** tab will show that the tool is in fact in a **Maintenance Overdue** state.

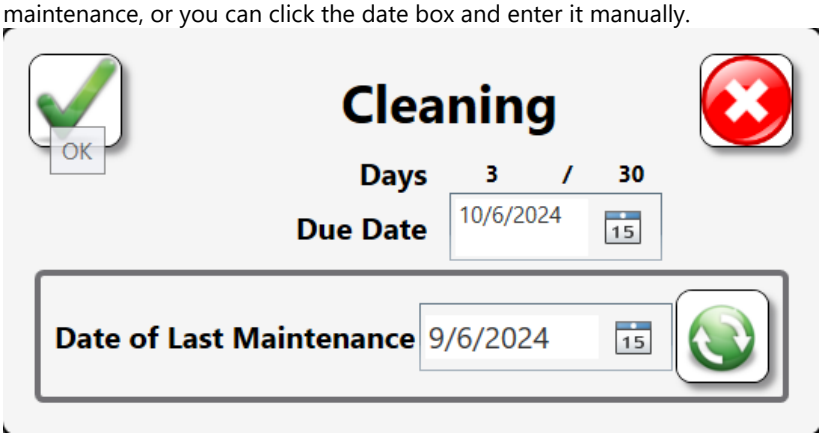


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3. Now switch to the **Maintenance** tab. You can see that the system doesn't know when the due date should be. To set the date, double-click the **Cleaning** maintenance.



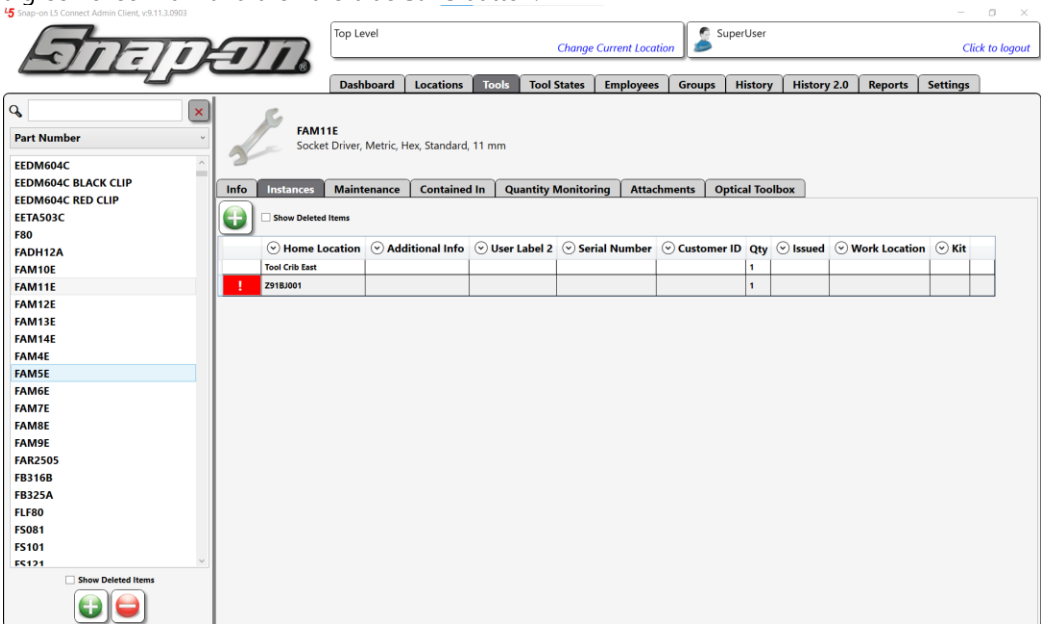
4. You need to set the date of the last maintenance, and the system will take it from there. You can do this one by Clicking the green **Update Maintenance** button to set the date of last maintenance to today. Alternatively, you can click the **Date Picker** button, which looks like a calendar and select the date of last maintenance, or you can click the date box and enter it manually.



5. Once the date of last maintenance has been set you can see that the **Due Date** has been calculated based on the information you provided for the **Cleaning** maintenance type. Now click the **OK** button that looks like

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a green checkmark and then the blue **Save** button.



6. The first instance of this tool type no longer has the **Maintenance Overdue** status now. You will need to repeat this for each instance of the tool type to finish setting up this maintenance type.

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Importing Tool Maintenances

In some cases, it might be useful to be able to import maintenance information for tools. One example would be if you are moving tools with previous maintenance information into an L5 Connect tool crib and you don't want to manually input that maintenance data for each of those tool instances. Another possibility is if you sent a group of tools off to have maintenance performed and you don't want to have to update the maintenance data for each tool individually.

Importer Assumptions

The L5 connect system now supports importing maintenance type information for tools. This import feature assumes that the tools already exist in the system, and they have already been setup with a maintenance type.

NOTE: The maintenance importer will import any maintenance type, but it only supports importing one maintenance type at a time. If you have multiple maintenance types, you must import their data separately.

Import File

Your input file for the importer will need to be an Excel spreadsheet. It must have the **Tool ID** as a column to map the data to a specific tool instance in the system. Additionally, you must have at least one of the **Last Maintenance** or **Due Date** fields with calibration data to be updated. If you don't already have a source for your spreadsheet, you can easily create one by running a **Maintenance** report. If you need a customer-based reference for the tools such as the **Customer ID** field, you can add that to the report as well. For more information on how to run reports see the L5 Connect Reports document. Here is an example of a maintenance which has been exported into an Excel spreadsheet and had the **Last Maintenance** and **Due Date** fields updated in preparation for importing.

Maintenance

Filtered By: Location = Top Level, Maintenance Type = Calibration, Due Date End Date = 6/28/2025

Run Time: 5/29/2025 2:29 PM : Central Standard Time

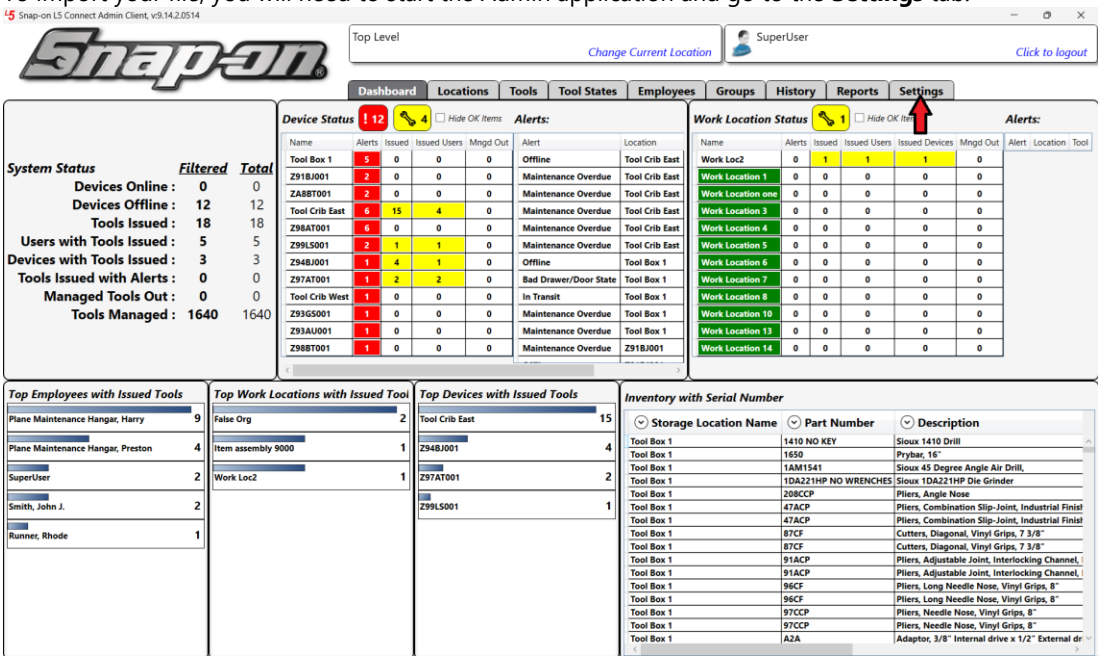
Requested By: SuperUser

Storage Location Name	Part Number	Description	Tool Customer ID	Tool ID	Maintenance Type	Last Maintenance	Due Date
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive	148750	100004	Calibration	5/28/2025 0:00	5/29/2026 0:00
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive	457223	102917	Calibration	5/28/2025 0:00	5/29/2026 0:00
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive	934211	102960	Calibration	5/28/2025 0:00	5/29/2026 0:00
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive	134829	102972	Calibration	5/28/2025 0:00	5/29/2026 0:00
Tool Crib East	QD2R100	Torque Wrench, Adj. Click-type, U.S., Fixed-Ratchet, 20-100 ft. lb., 3/8" drive	742314	103069	Calibration	5/28/2025 0:00	5/29/2026 0:00
Z91BJ001	AW1015DHK	Set, Wrench, L-Shape, Hex (15 pcs. In BHK15 Metal Index) (.028" to 3/8")	213648	225427	Calibration	5/28/2025 0:00	5/29/2026 0:00
Z91BJ001	OEX20B	Wrench, Combination, Standard Length, 5/8", 12-Point	146378	225223	Calibration	5/28/2025 0:00	5/29/2026 0:00

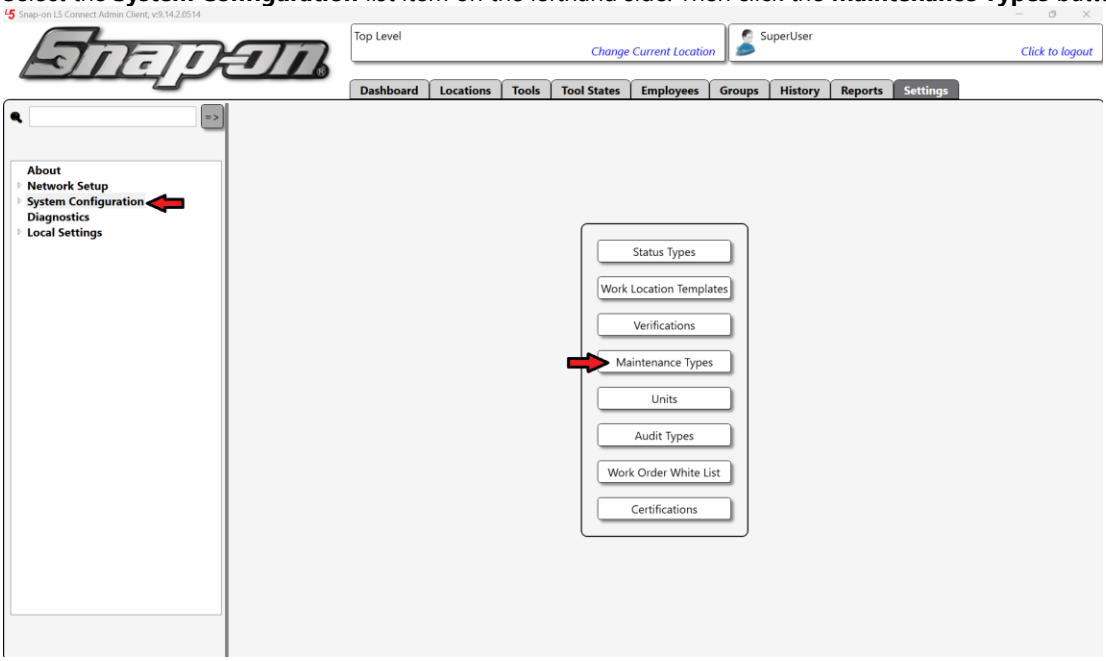
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Running the Importer

To import your file, you will need to start the Admin application and go to the **Settings** tab.

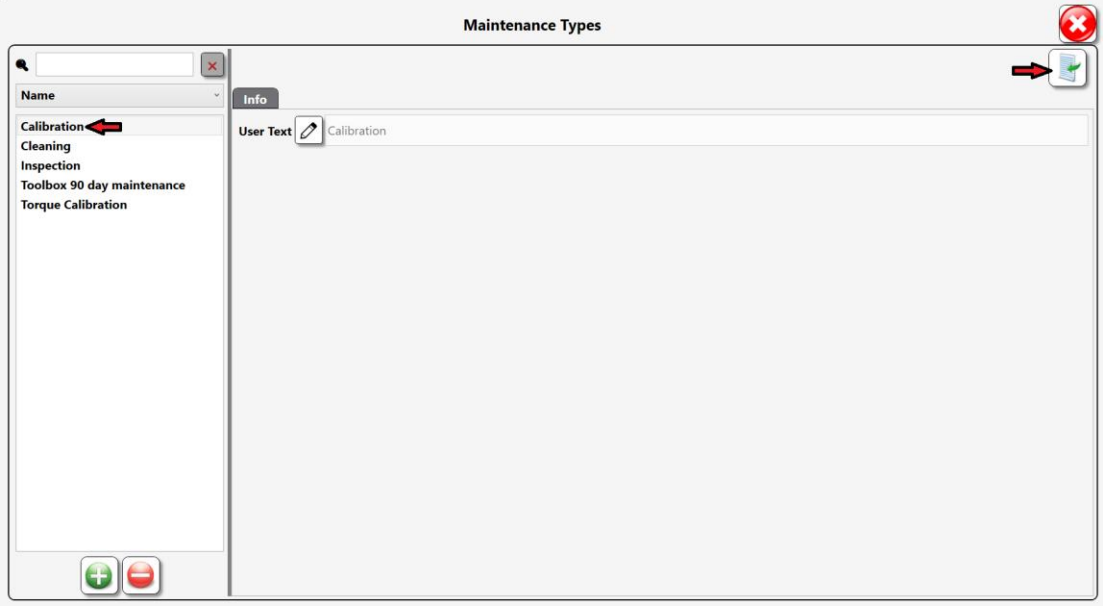


Select the **System Configuration** list item on the lefthand side. Then click the **Maintenance Types** button.

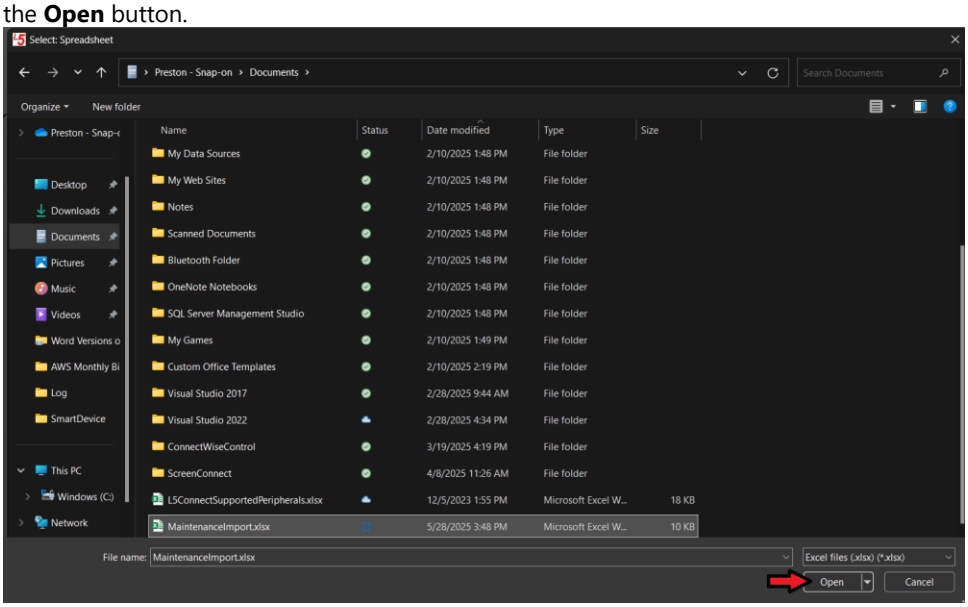


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Select the **Calibration** maintenance type from the list of maintenance types on the left. Then click the **Import** button.



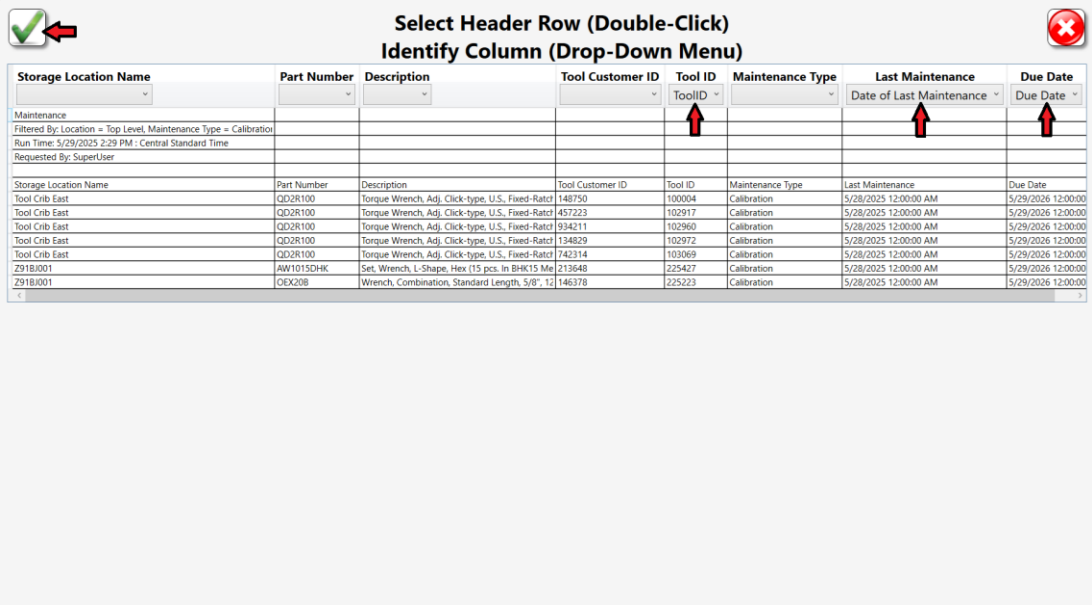
In the file dialog window, navigate to the directory where your spreadsheet is located and select your file. Then click the **Open** button.



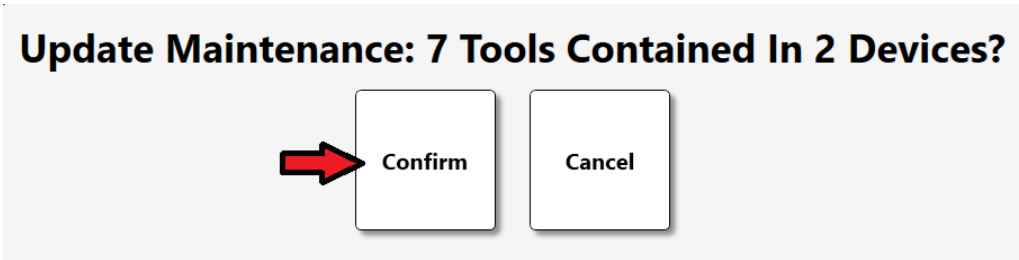
Now you need to map the columns of the spreadsheet that the importer cares about. **Tool ID** should be mapped to **ToolID** in the pulldown menu. Then map **Last Maintenance** to **Date of Last Maintenance** and map **Due Date** to **Due Date**. Once everything is mapped, click the **OK** button to import the data.

NOTE: The devices containing the tools need to be online. Otherwise, the system will import what it can and give you a list of the ones that were offline.

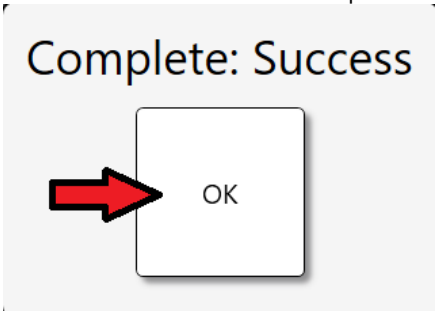
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You will then be prompted to confirm that you want to import the listed number of tools. Click the **Confirm** button to continue.



Then click the **OK** button to complete the process.



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Kit Inspection Process

This document will explain the process of how kit inspections work. In the L5 Connect system, whenever a kit is returned to a device, the user is prompted to inspect the kit to ensure that all the tools are present and in good condition.

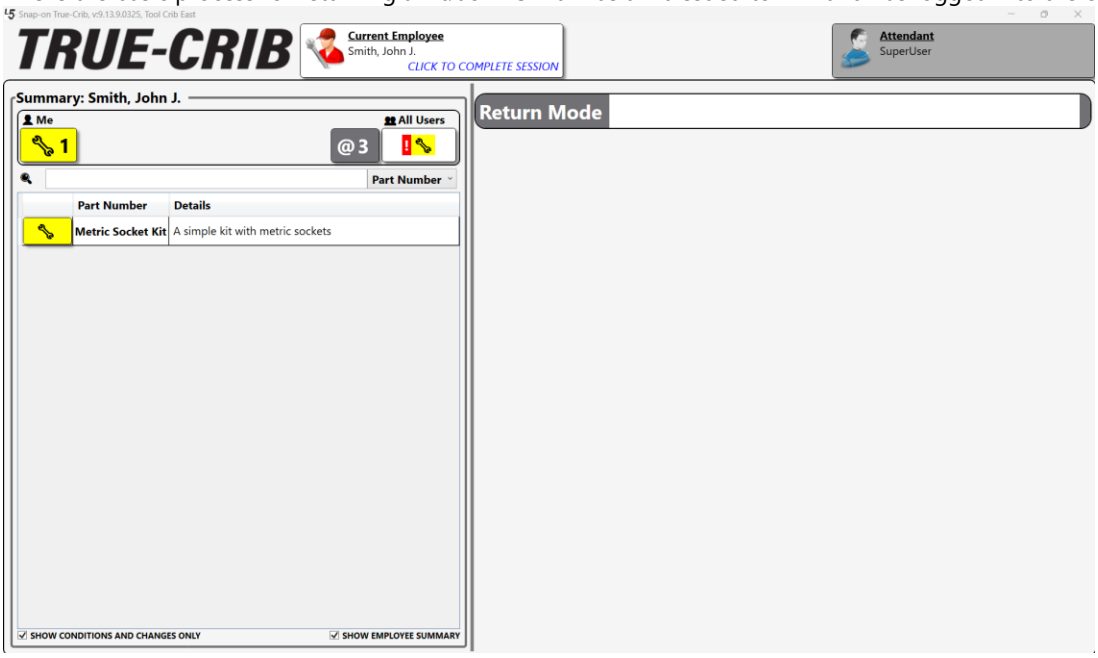
Devices That Support Kit Inspection

Not all devices in the L5 Connect system support kit inspection. Here is a list of the devices that currently do support kit inspection.

- True-Crib
- ATC FlexHub
- ATC Portal

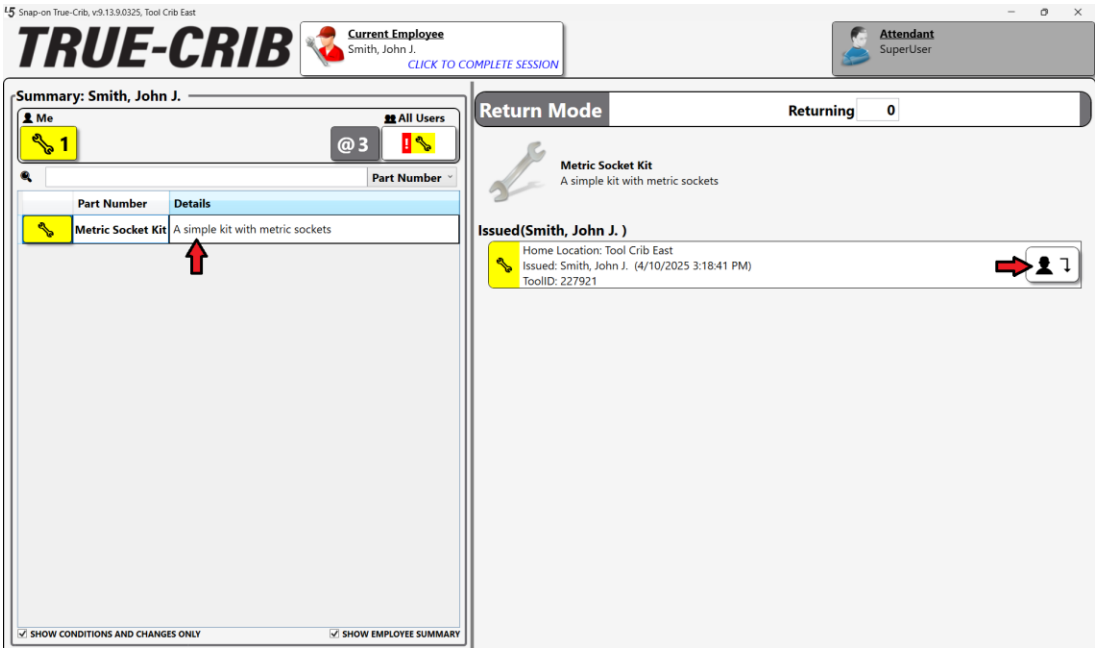
Basic Kit Inspection

This is the basic process for returning a kit. John Smith has a kit issued to him and has logged into the crib to return it.

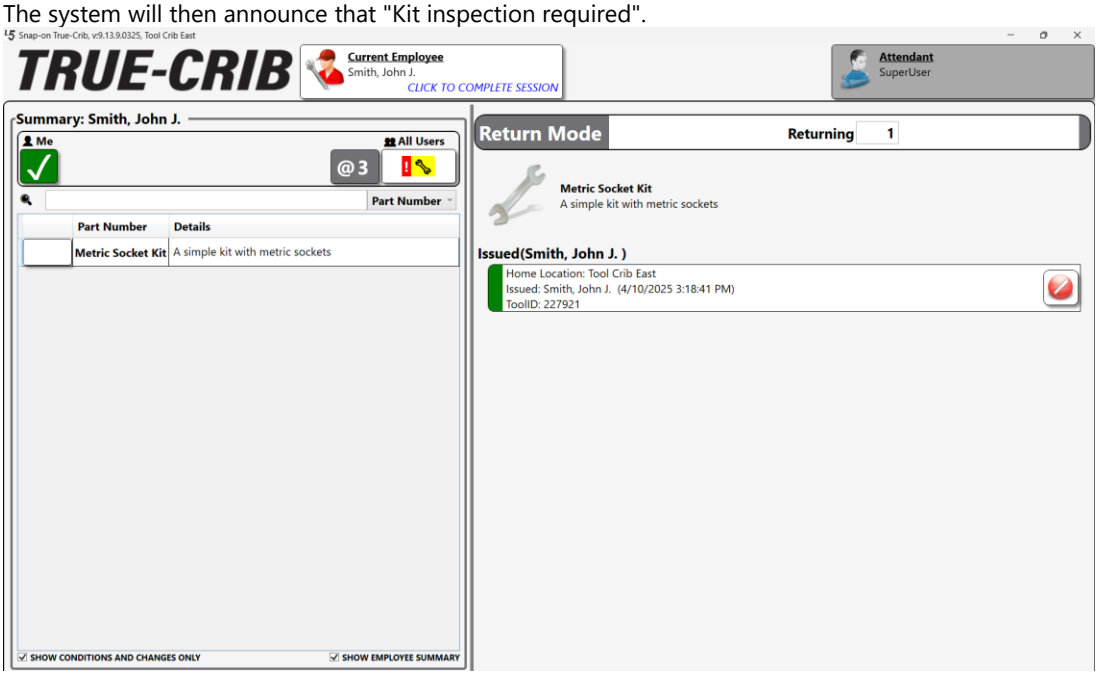


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The kit is selected, and the attendant clicks the **Return** button to return the kit. Alternatively, the bar code of the kit could be scanned to return it.

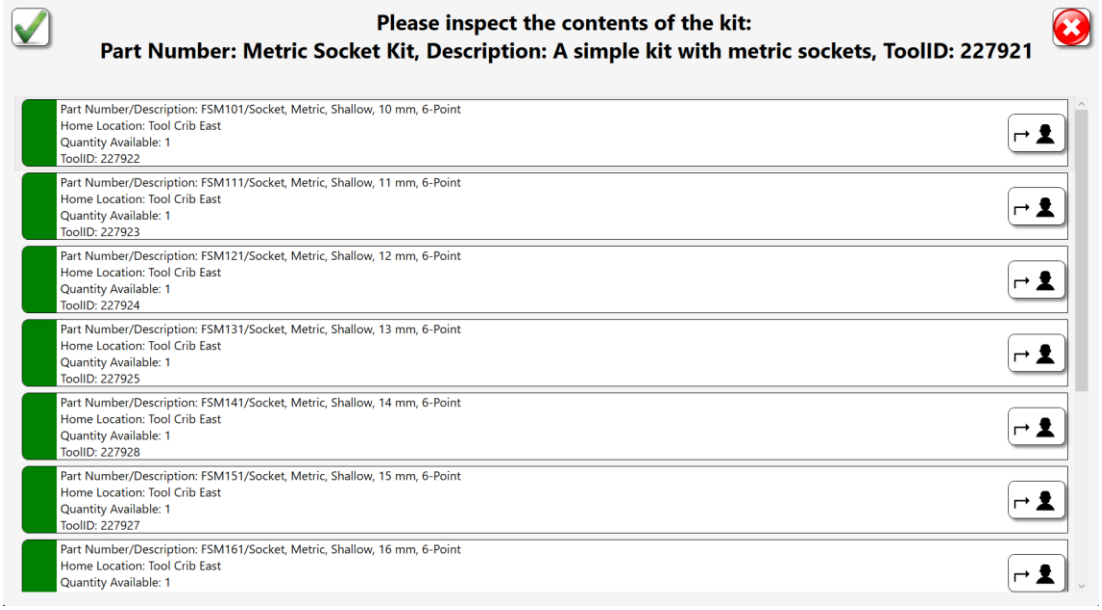


The system will then announce that "Kit inspection required".

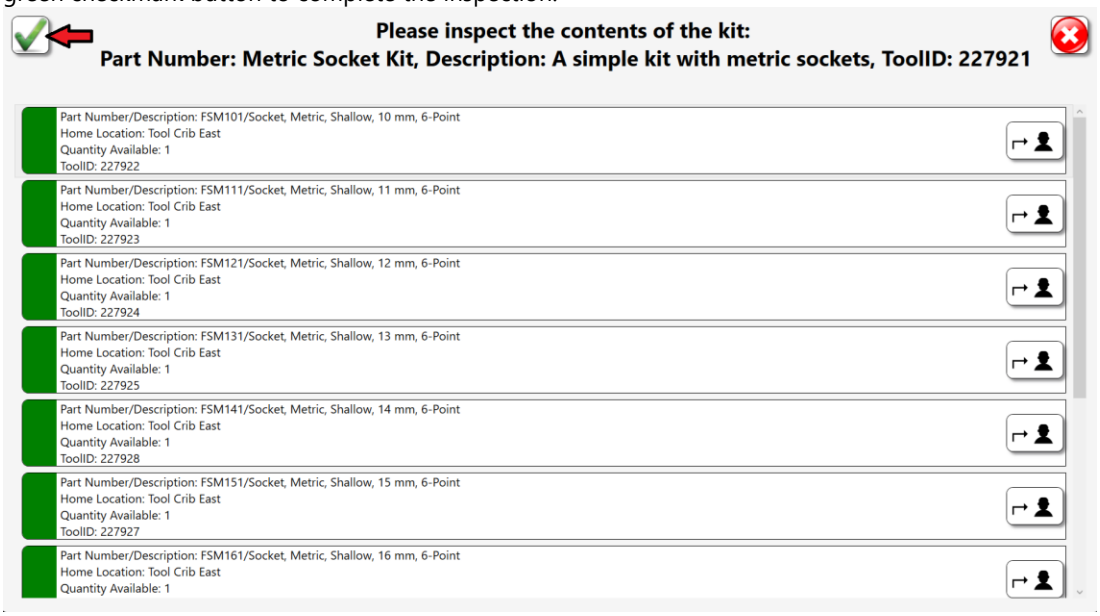


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When John Smith initiates an end to his employee session, the attendant is prompted to inspect the kit.



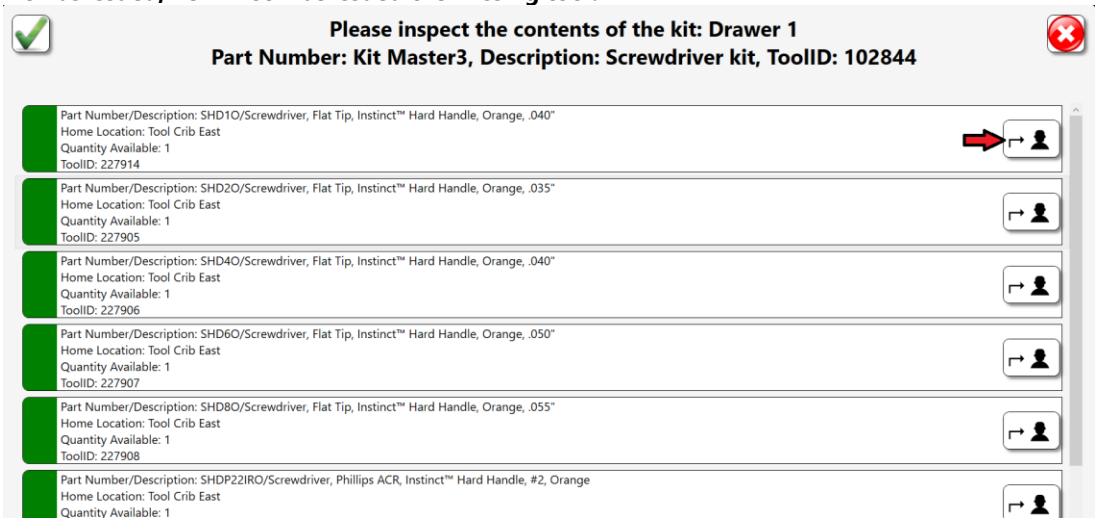
At this point, the attendant would then inspect the kit to ensure all the tools were present. Then he would click the green checkmark button to complete the inspection.



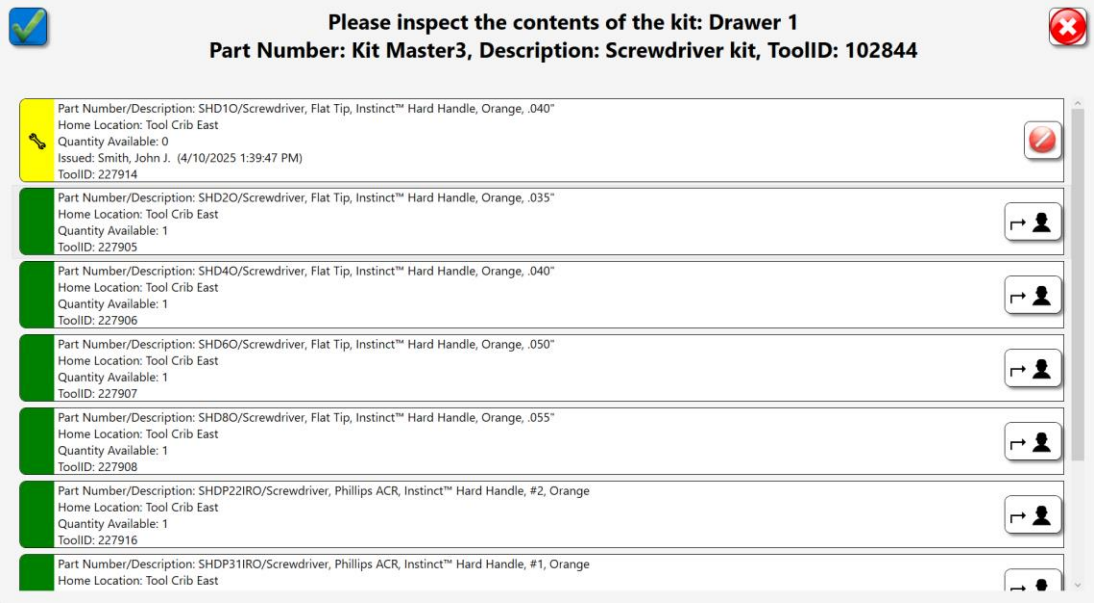
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When a Tool is Missing (Kit Incomplete)

What happens when you are inspecting the kit, and a tool is missing? For instance, suppose the first tool in drawer 1 of this kit is not there. The person inspecting the kit would click the **Issue** button for that tool. This will issue that tool to the employee who is checking in the kit. **NOTE: If the person returning the kit is not the person to whom the kit was issued, he will still be issued the missing tool.**

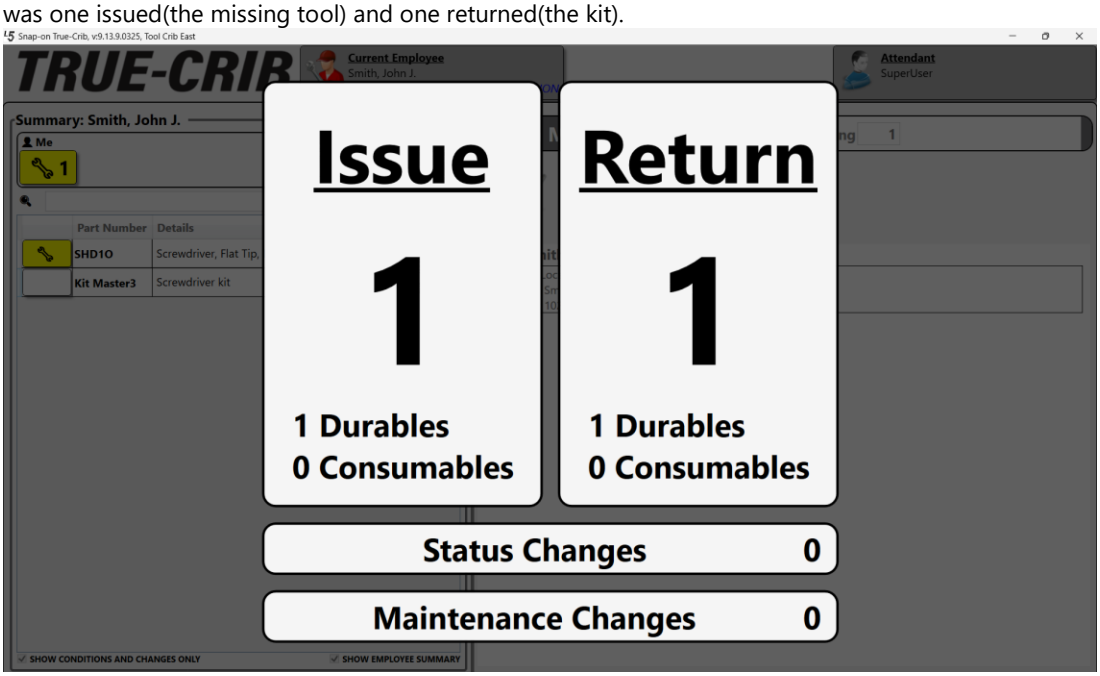


Since they have not returned this tool with the kit, it will now be issued to them even though the rest of the kit will be returned.

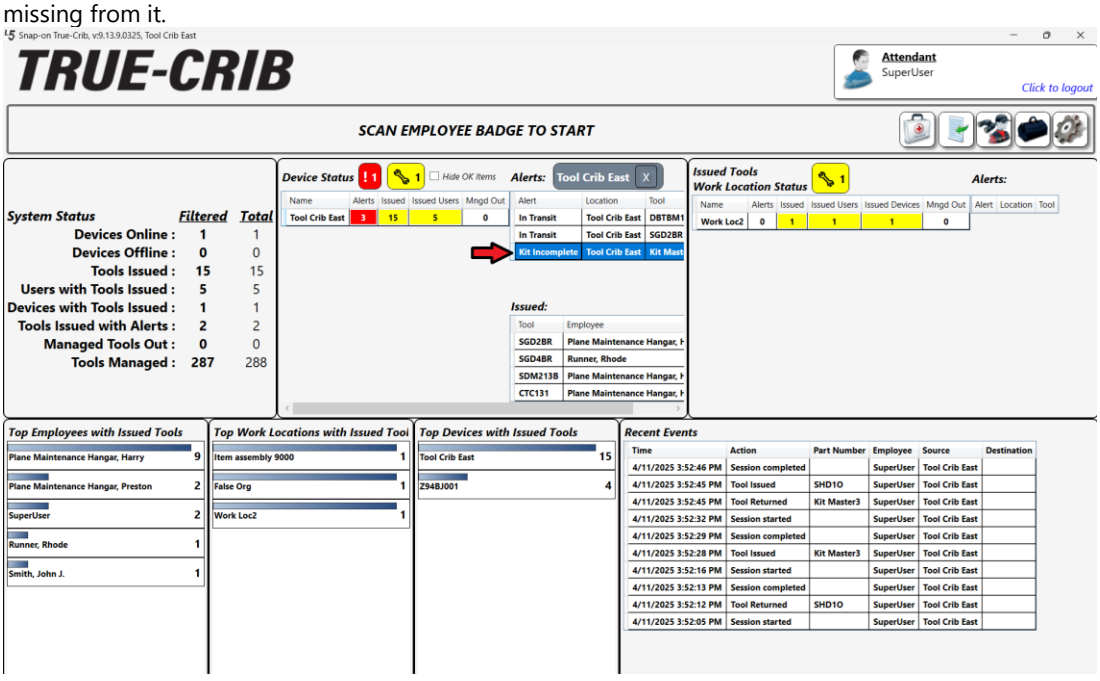


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As the inspection is completed, the employee session will end. As you can see from the session summary screen, there was one issued(the missing tool) and one returned(the kit).



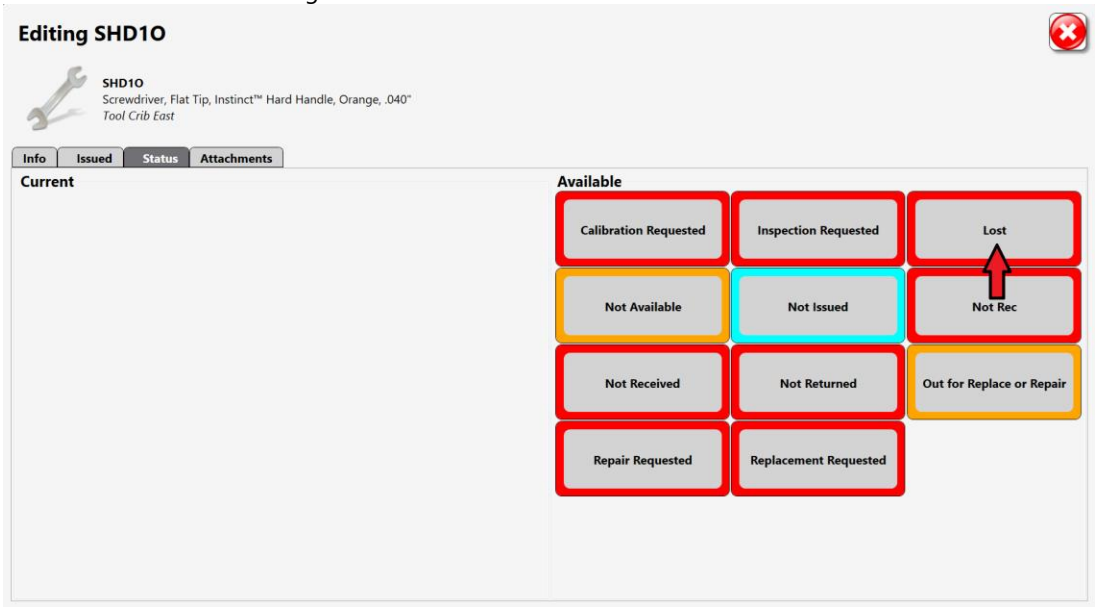
Also, the dashboard of the crib now shows an alert status on the kit tool of **Kit Incomplete** because it has a tool missing from it.



Kit statuses will only be set if the kit has been configured to enable them. For more information on how to do this, see the Kit Tools section of the Adding Tools document.

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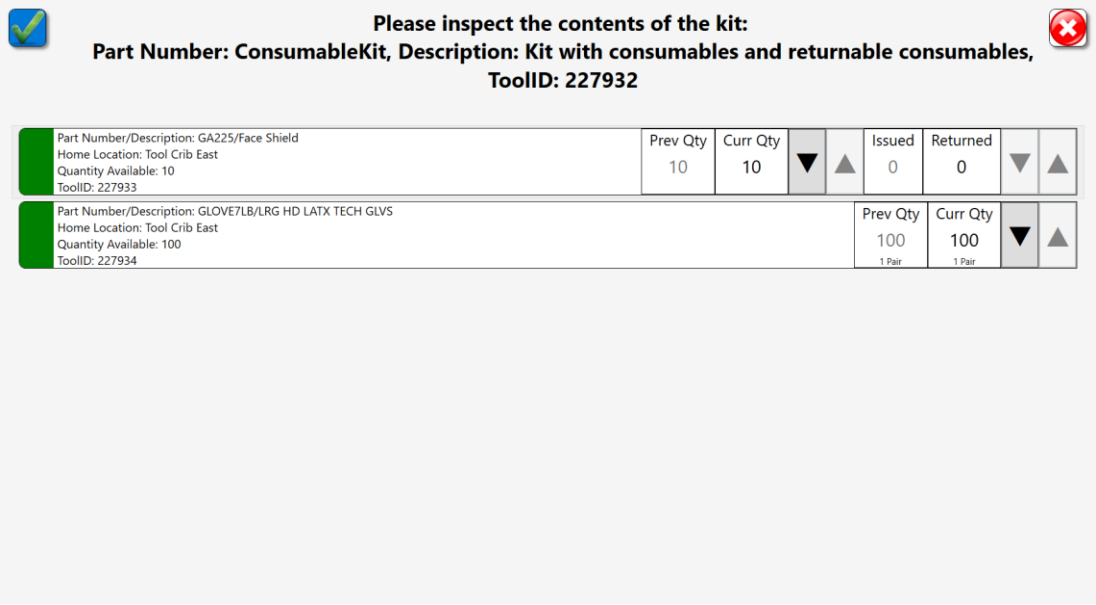
It should also be noted that if during the inspection you notice a tool has some problem such as being broken, you can double click that tool to go to the tool details and set a status on the tool to show that it needs attention.



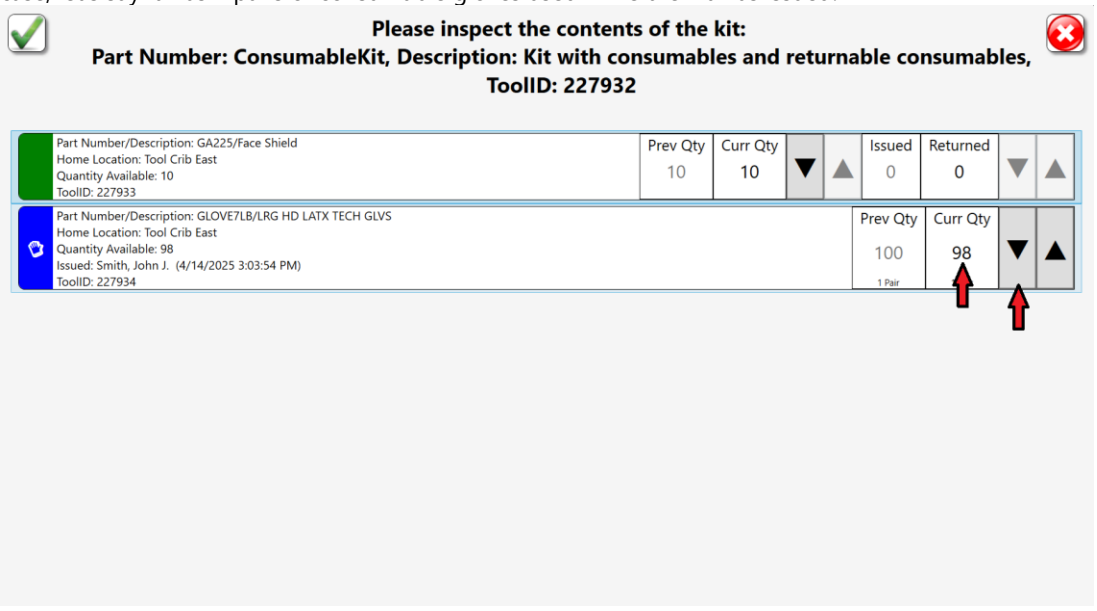
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Consumables and Returnable Consumables

Kits with consumables and returnable consumables behave a bit differently than other kits. When a kit with consumables is returned, the system will give a voice prompt just as before that kit inspection is required. As the inspection screen is displayed, however, there are some notable differences between the consumable and returnable consumable tools.



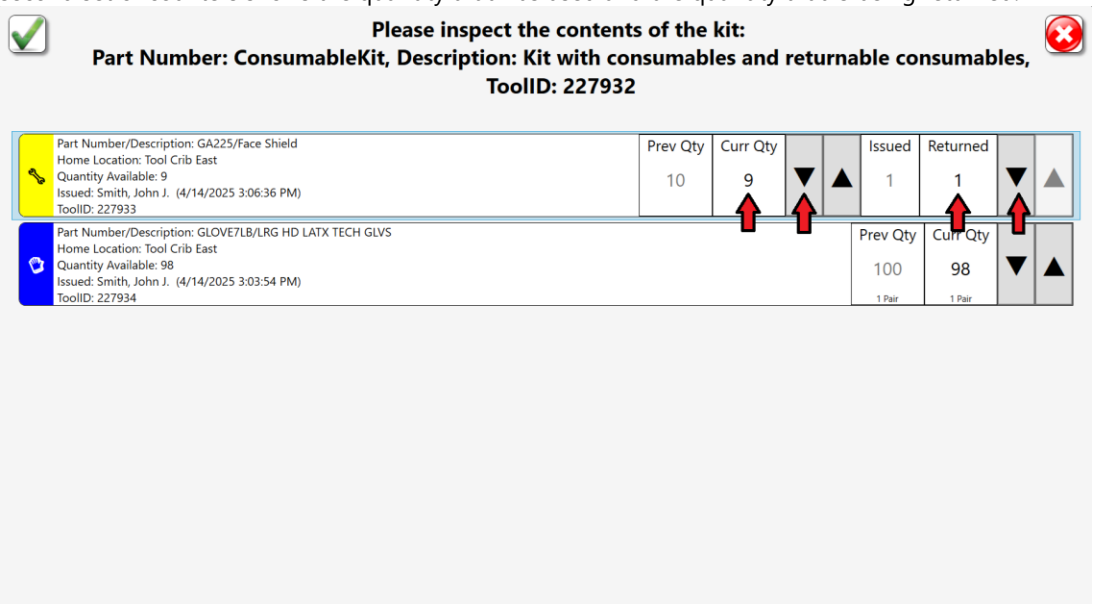
First let's look at the consumable tool, the gloves. When the kit was issued there were 100 pairs available. Now that the kit is being returned, the inspector needs to decrement the number of pairs of gloves that are still in the kit. In this case, let's say it was 2 pairs of consumable gloves used while the kit was issued.



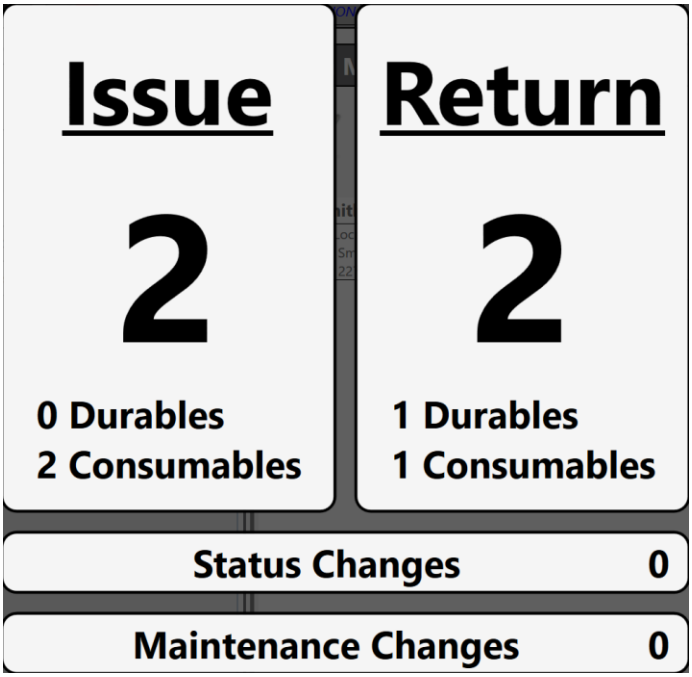
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NOTE: If the number of pairs of gloves used was large enough, the system would set a Quantity Low status to alert users that the kit needed to be replenished.

Now let's look at the returnable consumable tools. These tools are considered consumable but must be returned before being disposed of. In this case, there are two sets of counters. The first set shows the original quantity, and the quantity left unused when the kit is returned. We will assume 1 was used and decrement that counter by 1. The second set of counters shows the quantity that was used and the quantity that is being returned.



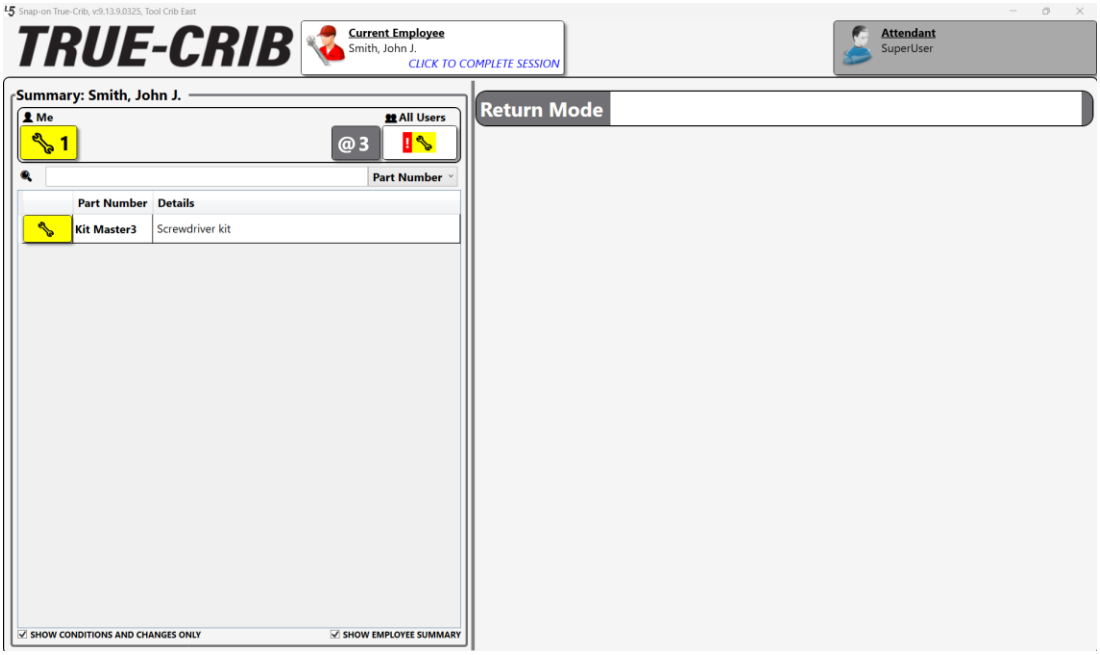
The session summary at the end of the inspection shows that two consumable tools were issued, the gloves and the face shield. It also shows that two tools were returned. These were the durable kit and the consumable face shield.



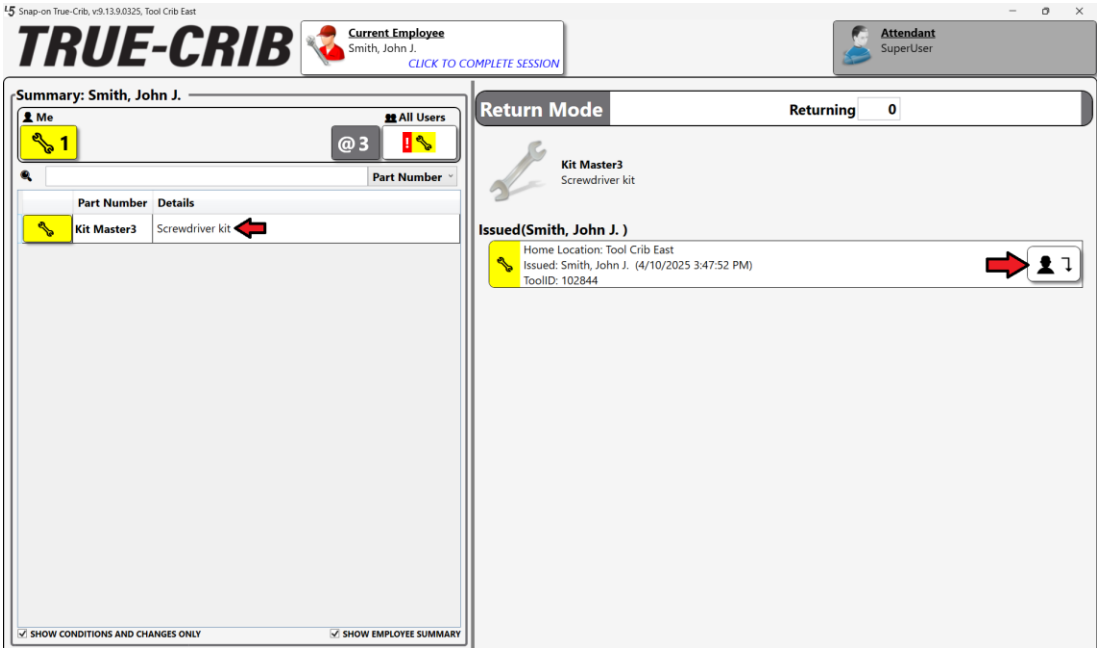
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Sub-Locations

Some kits will have sub-locations in them such as drawers. These types of kits will have more options for kit inspection. This time we will look at an example of a kit with multiple sub-locations. John Smith starts a session to return a new screwdriver kit.

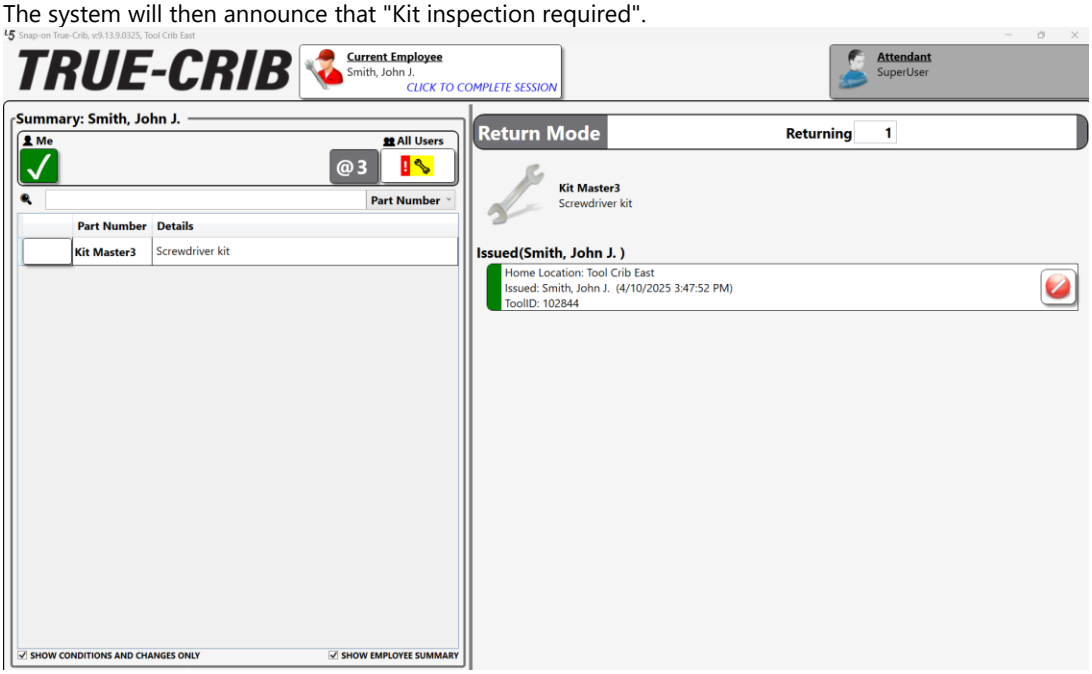


The kit is selected, and the attendant clicks the **Return** button to return the kit. Alternatively, the bar code of the kit could be scanned to return it.

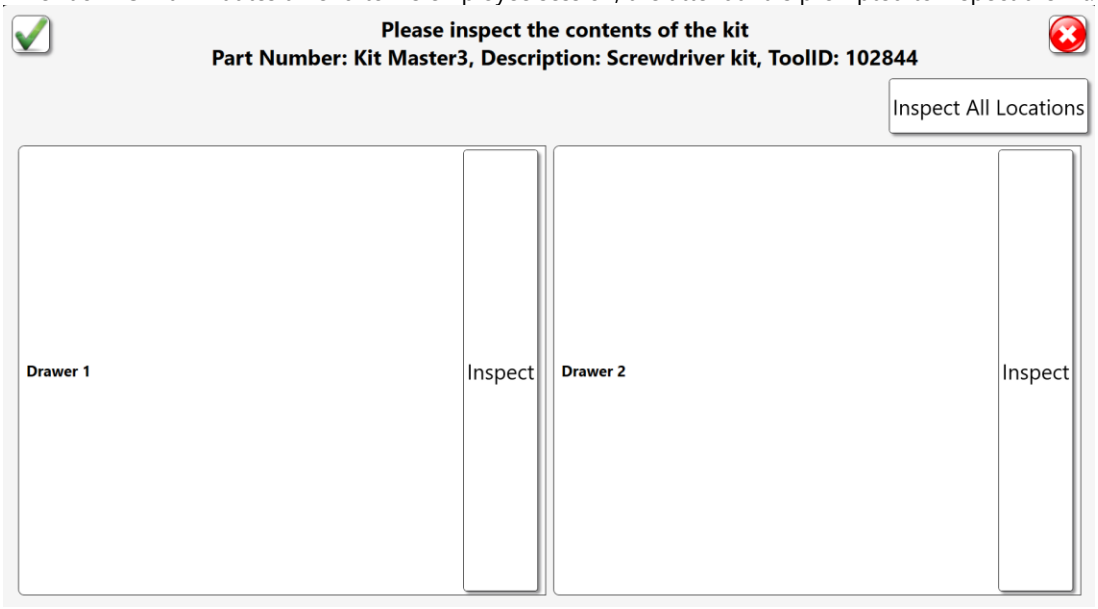


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The system will then announce that "Kit inspection required".



When John Smith initiates an end to his employee session, the attendant is prompted to inspect the kit.

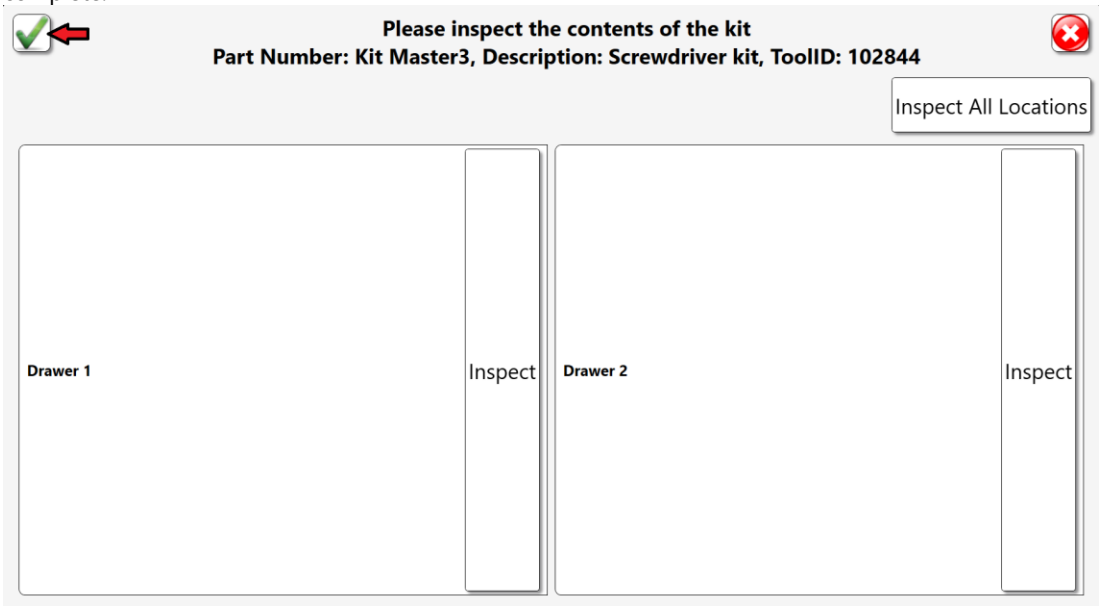


Notice that there are multiple drawers in this kit. In the basic inspection mode, the attendant has several options on how he can verify the contents of the kit.

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Manual Inspection

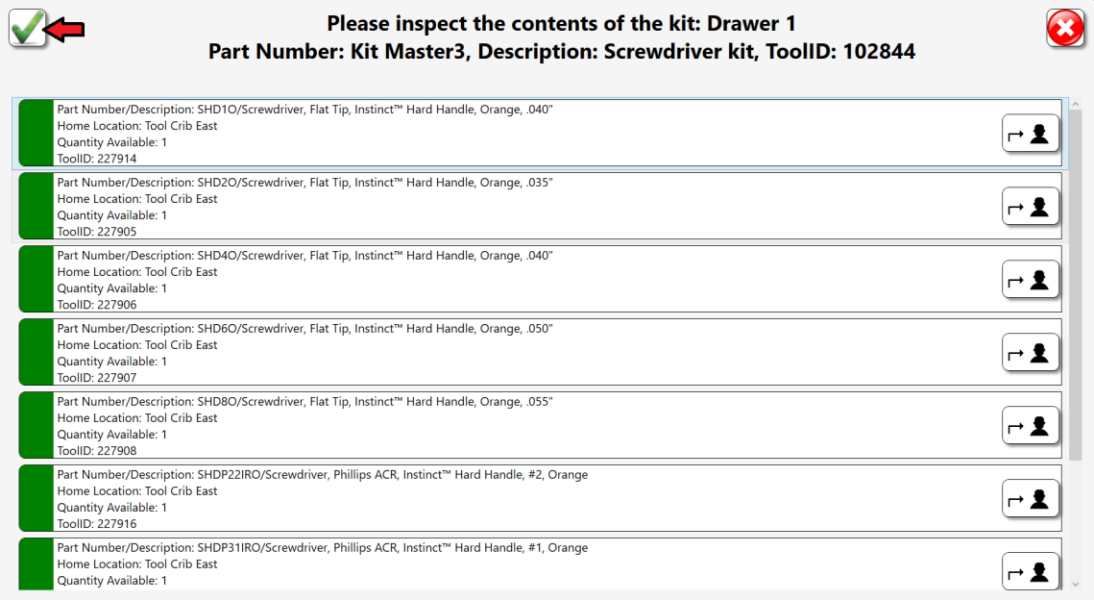
The first option is manually inspecting everything and then just clicking the green checkmark to verify that the kit is complete.



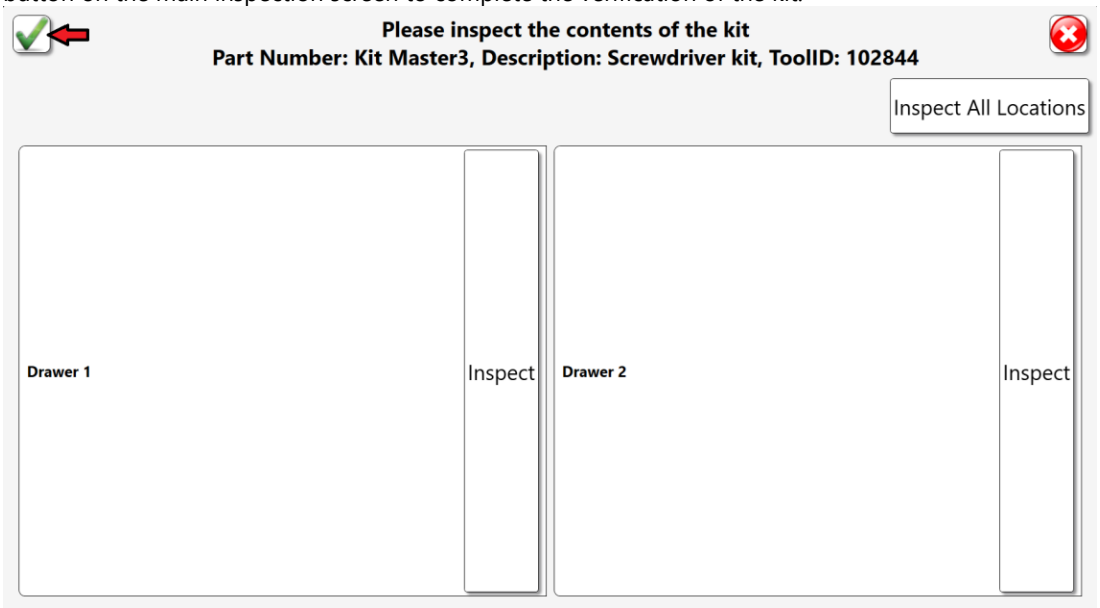
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Manually Inspecting Each Location

The second option is to click the **Inspect** button on each of the locations to show him the expected contents of each location one at a time and verify each location in that way. Once he has verified all the listed tools are present, he would click the green checkmark button to verify that location.



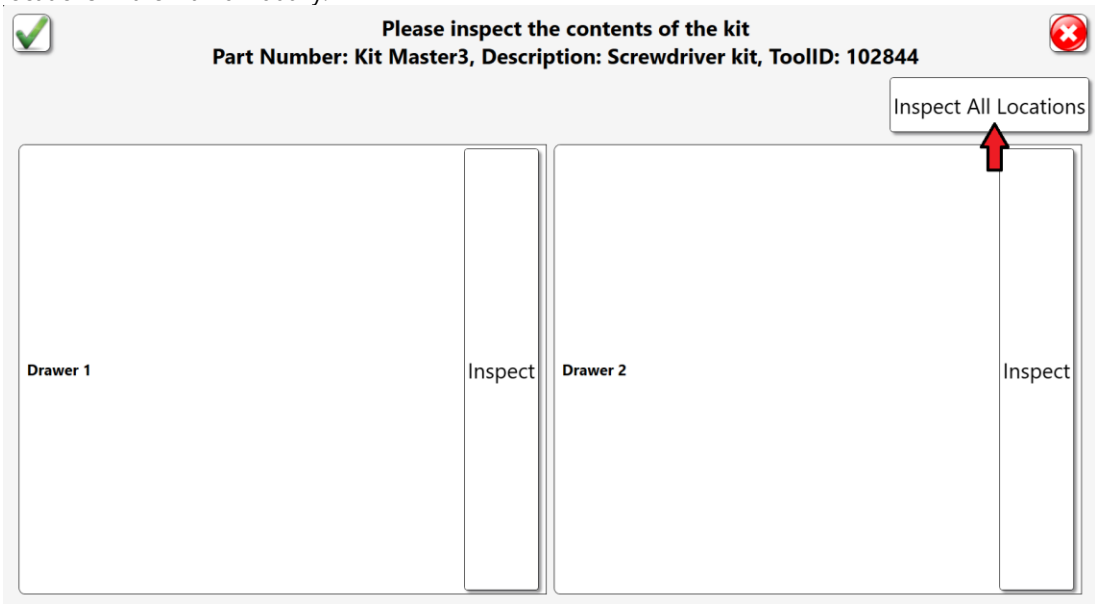
Once he has repeated this process for each of the locations in the kit, he would then click the green checkmark button on the main inspection screen to complete the verification of the kit.



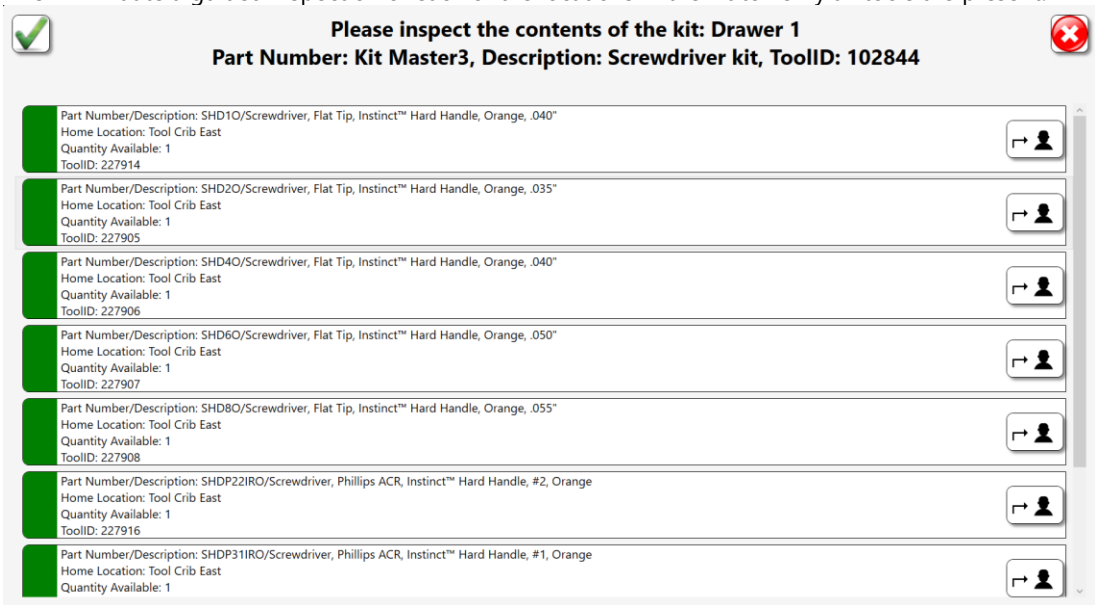
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Guided Inspection

Finally, he could click the **Inspect All Locations** button, and the system would walk him through verifying each of the locations in the kit individually.

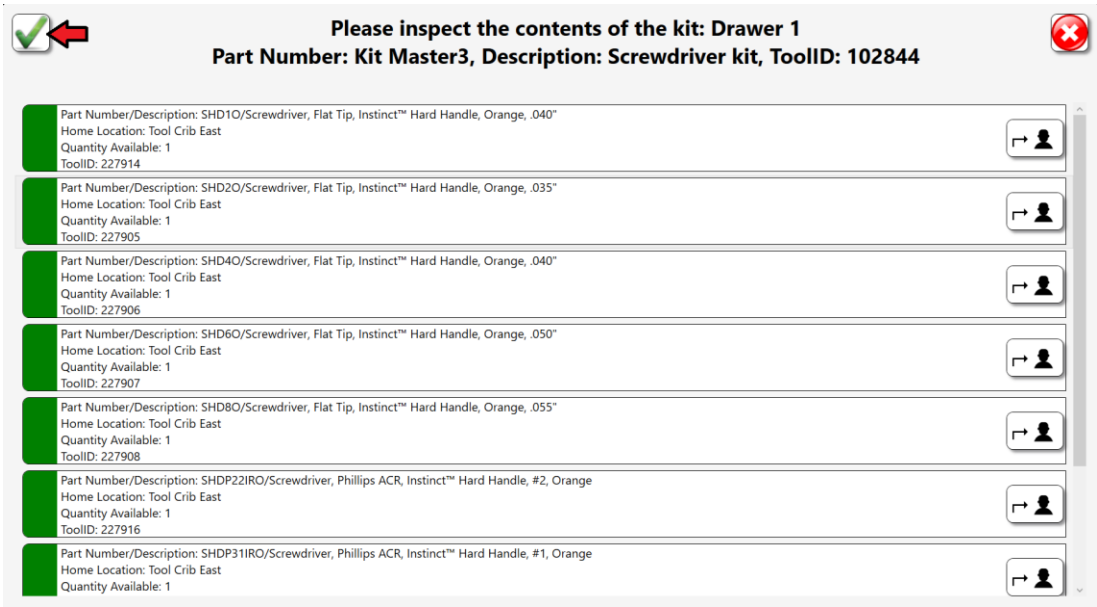


This will initiate a guided inspection of each of the locations in the kit to verify all tools are present.



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After verifying each tool listed in the current location, click the green checkmark button to verify that location's contents.



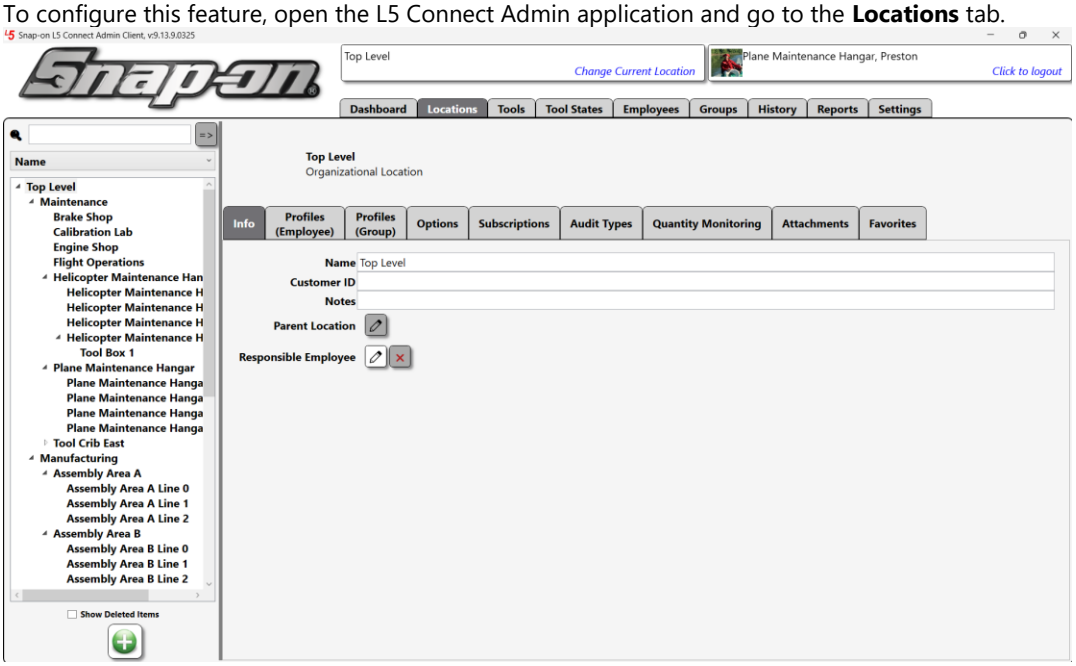
Repeat this process as the system walks you through each of the locations and once you have completed the verification of all locations the kit inspection will compete automatically, and the employee session will end.

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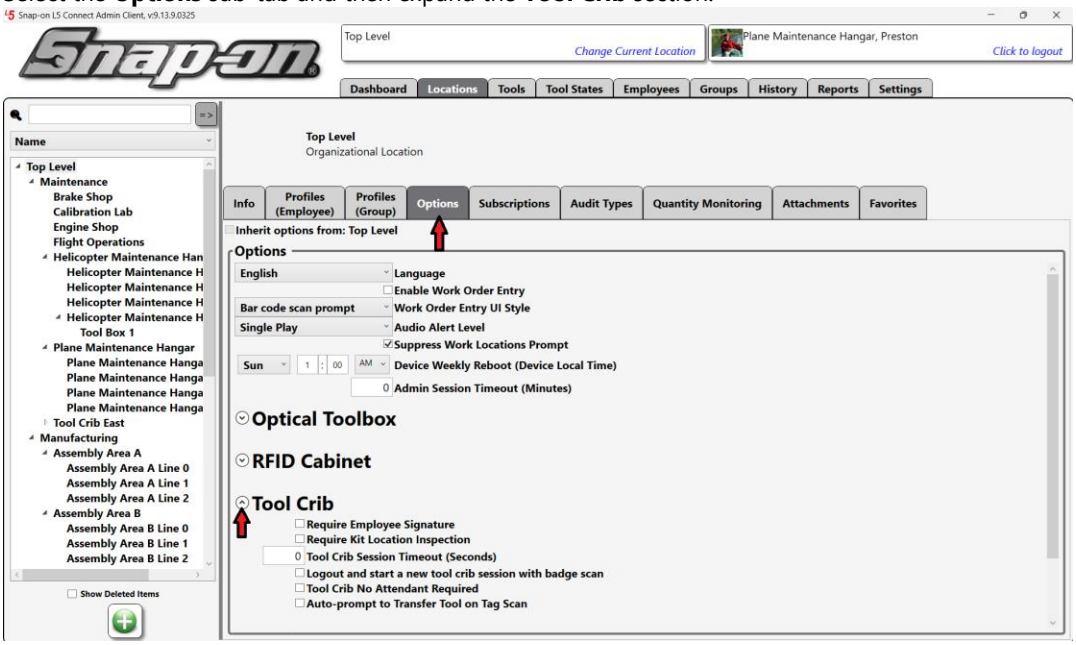
Require Kit Location Inspection Feature

The L5 Connect system has a **Require Kit Location Inspection** feature. Enabling this feature will force users returning a kit with multiple sub-locations to use the guided inspection procedure described in the Guided Inspection section.

To configure this feature, open the L5 Connect Admin application and go to the **Locations** tab.



Select the **Options** sub-tab and then expand the **Tool Crib** section.



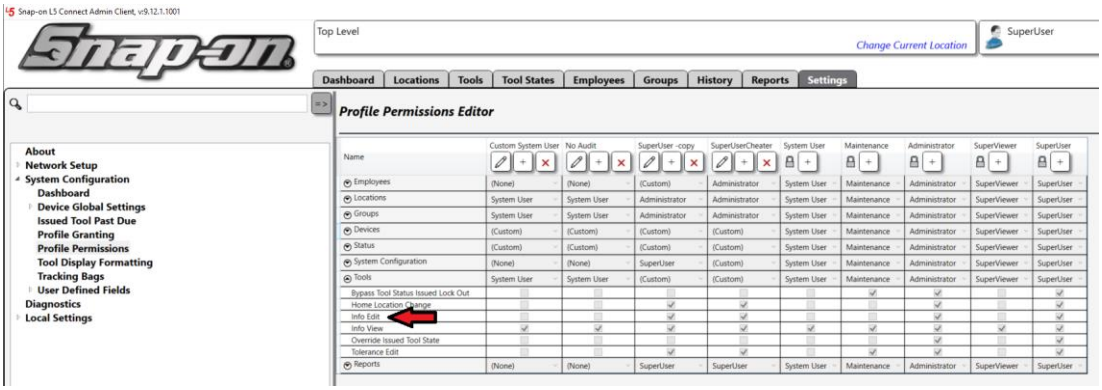
Select the **Require Kit Location Inspection** checkbox to force users to go through the guided inspection process.

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Tool Custody Transfer

Sometimes a user who has tools issued to them may be at the end of their shift, but the job is not complete yet and the tools are still needed to complete the job. Rather than forcing the employee to return the tools so that the employee who will be taking over can then check them back out, the L5 Connect™ system allows the custody of these tools to be transferred from one employee to another. This custody transfer can be initiated from the tool or from the employee.

NOTE: Tool custody transfer requires the Info Edit permission in the Tools group of permissions.

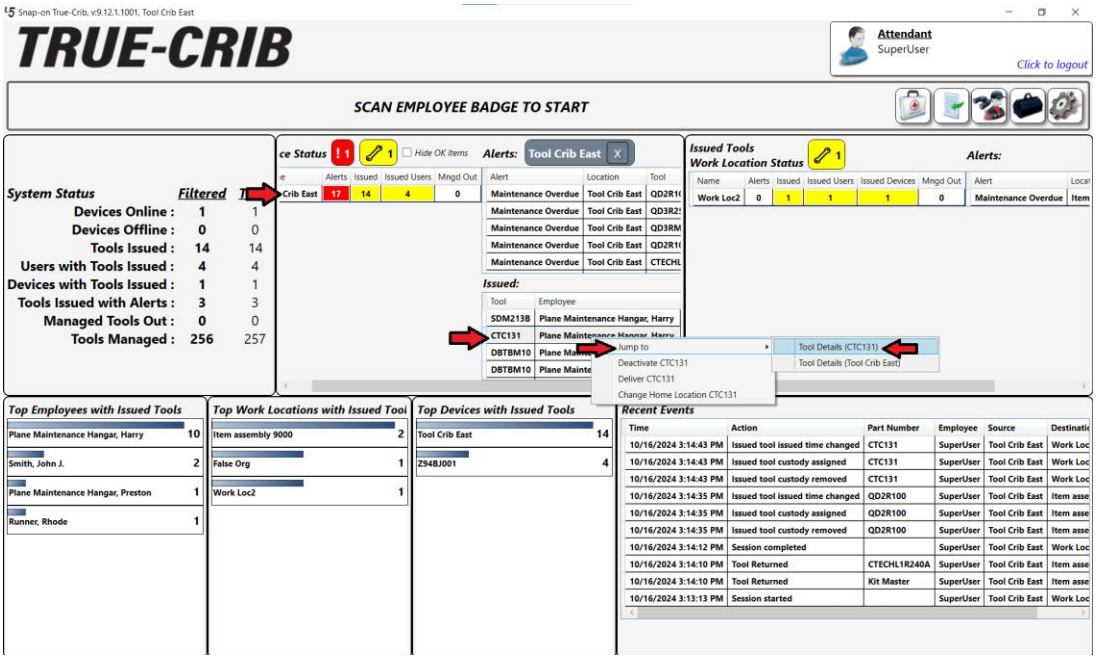


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Tool Initiated Custody Transfer

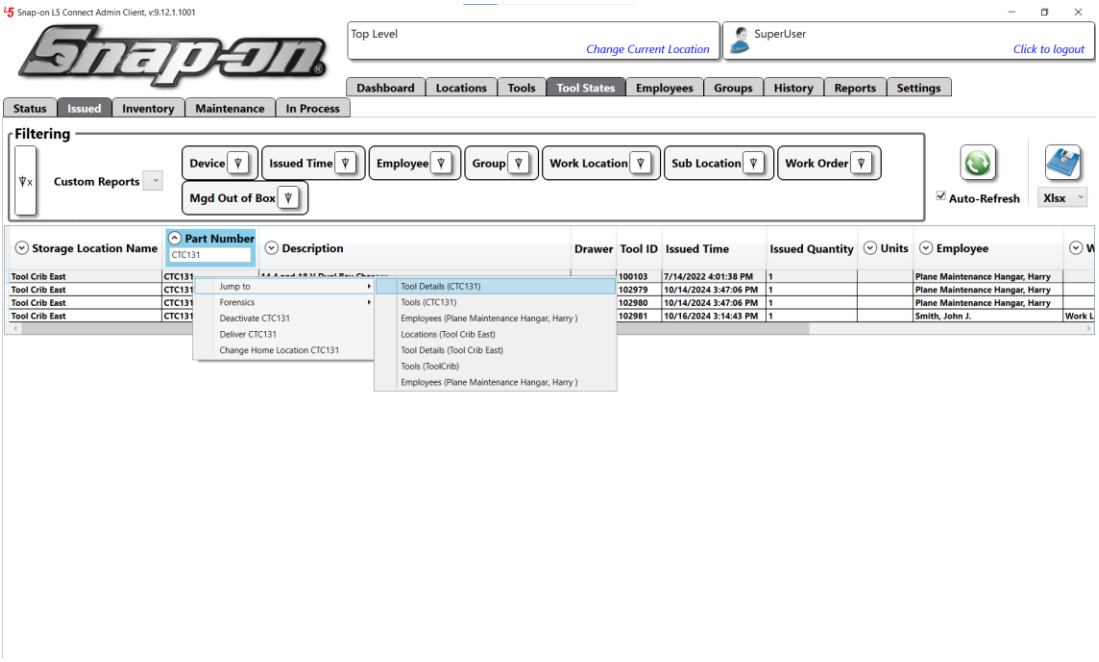
Initiating custody transfer from the tool can happen from multiple places in the admin application. Basically, anywhere from which you can access the tool info will work.

For example, on the dashboard you could select the device from which the tool is issued in the **Device Status** widget. This will cause the list of tools issued from that device to be displayed. You could then double click the tool of interest or right click and select **Jump to** and then **Tool Details** to pull up the tool info for that tool.

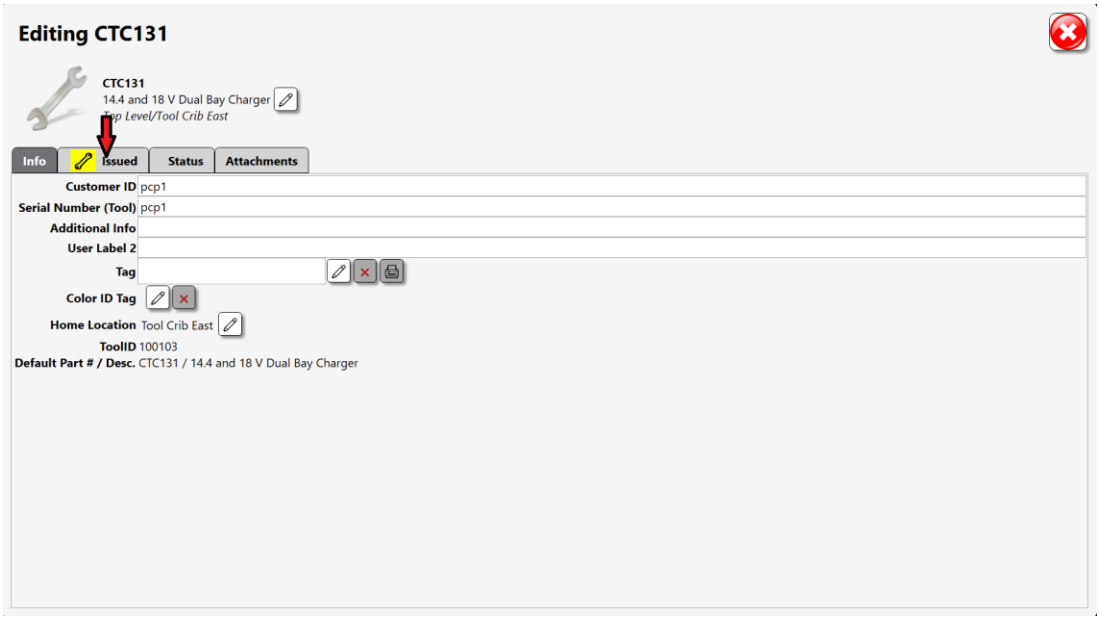


Alternatively, you could go to the **Tool States** tab and select the **Issued** sub-tab. You could filter the list of issued tools if needed, and then either double click the desired tool or right click and use the context menu to select **Jump to** and then **Tool Details** to pull up the tool info.

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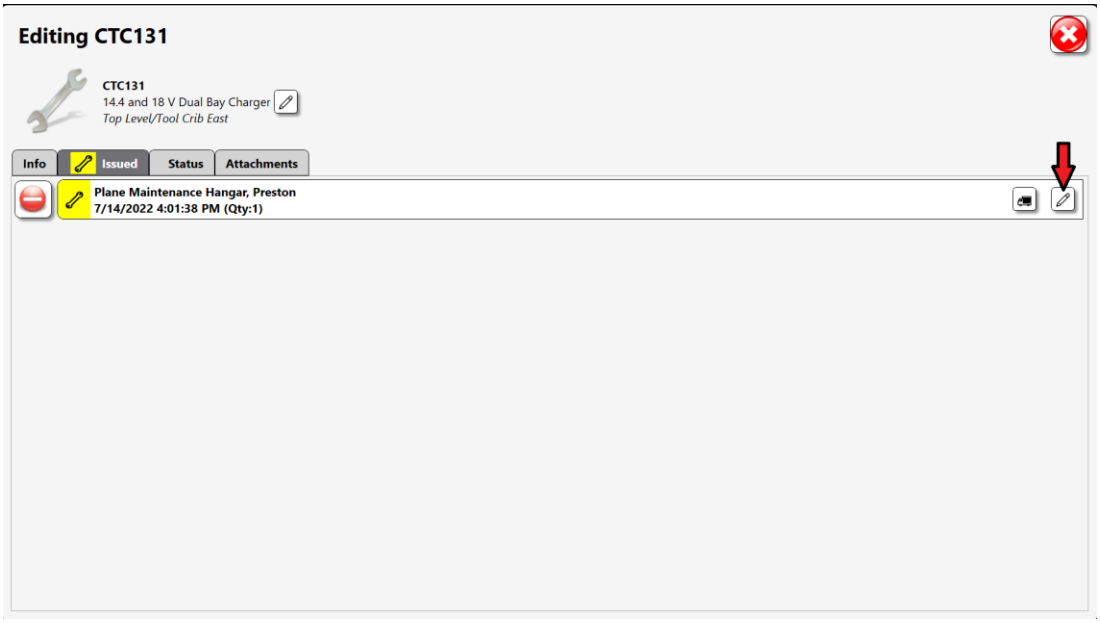


Once you get to the tool info page select the **Issued** sub-tab.

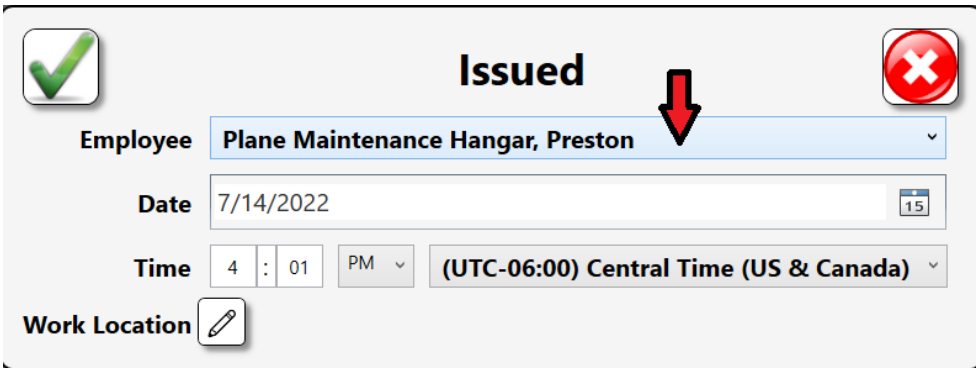


Then click the **Change** button, that looks like a pencil, to edit the tool issued details.

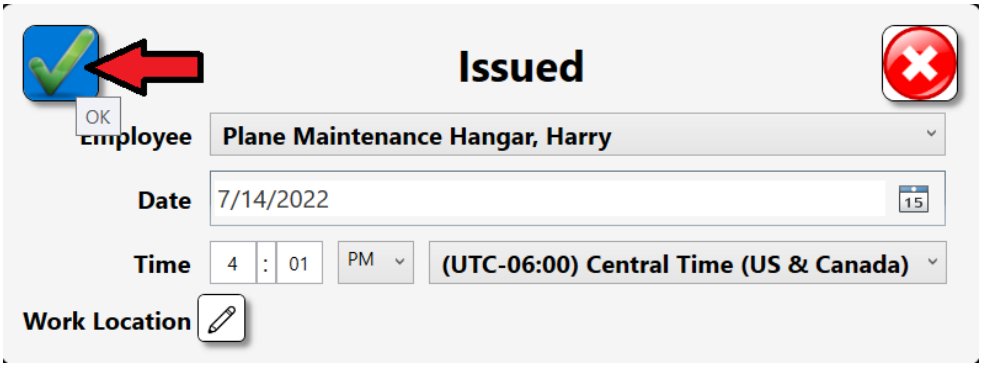
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Click the **Employee** pull-down and select the employee to whom you wish to transfer custody of the tool. **NOTE: The list of employees to which you can transfer custody is limited to those that have access to the tool's device.**

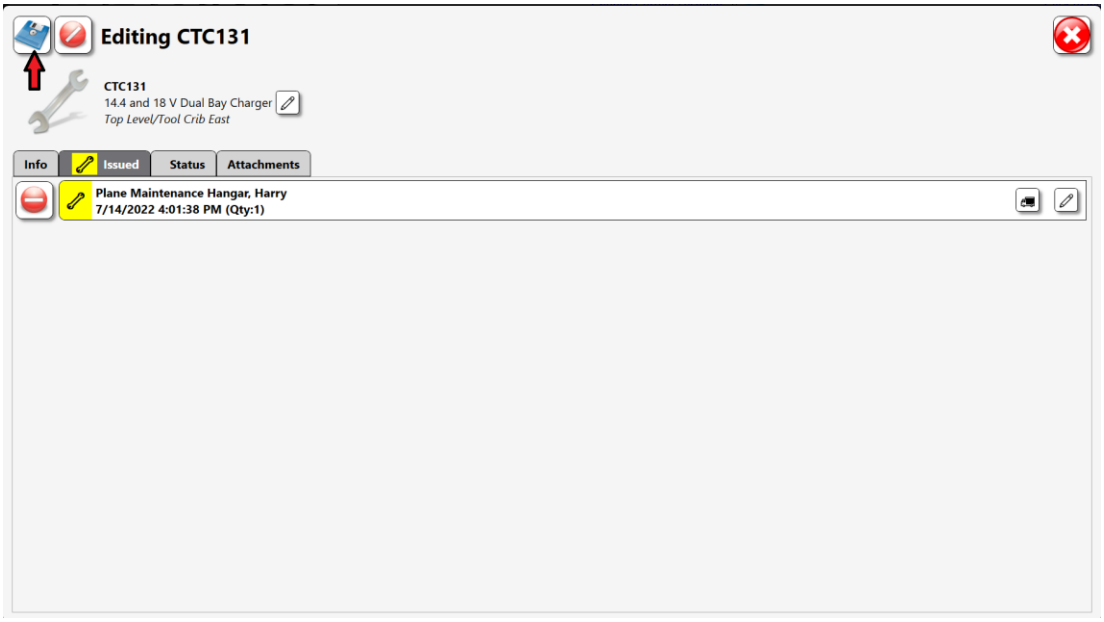


Once you have the new employee selected, click the green **OK** button.



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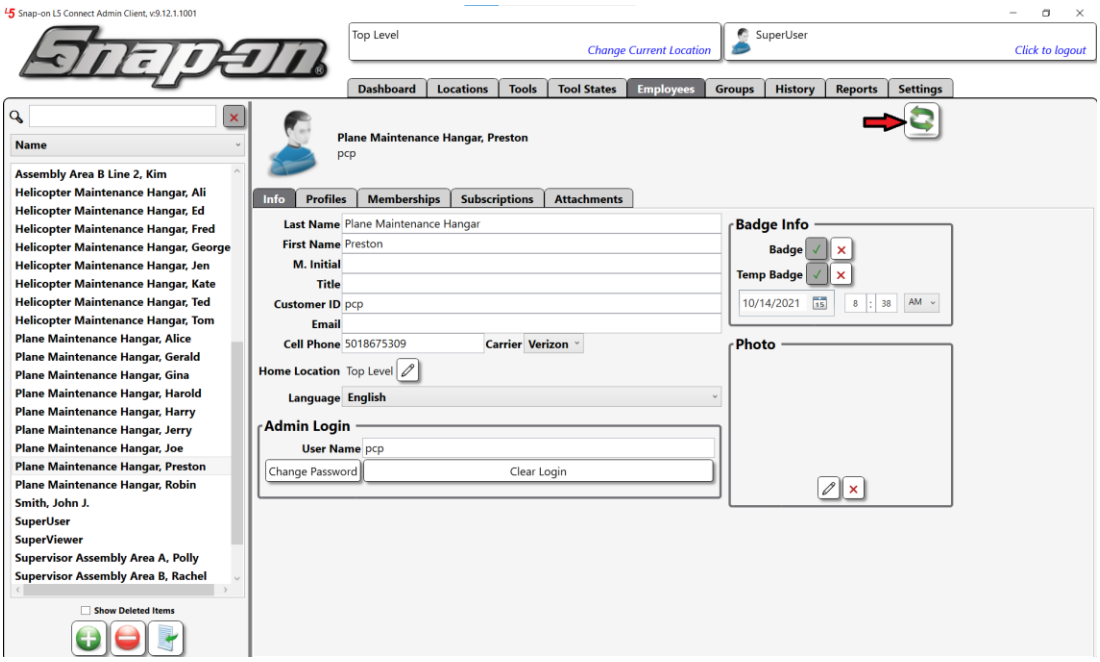
Finally, click the blue **Save** button to save the change and the tool will now be issued to the new employee.



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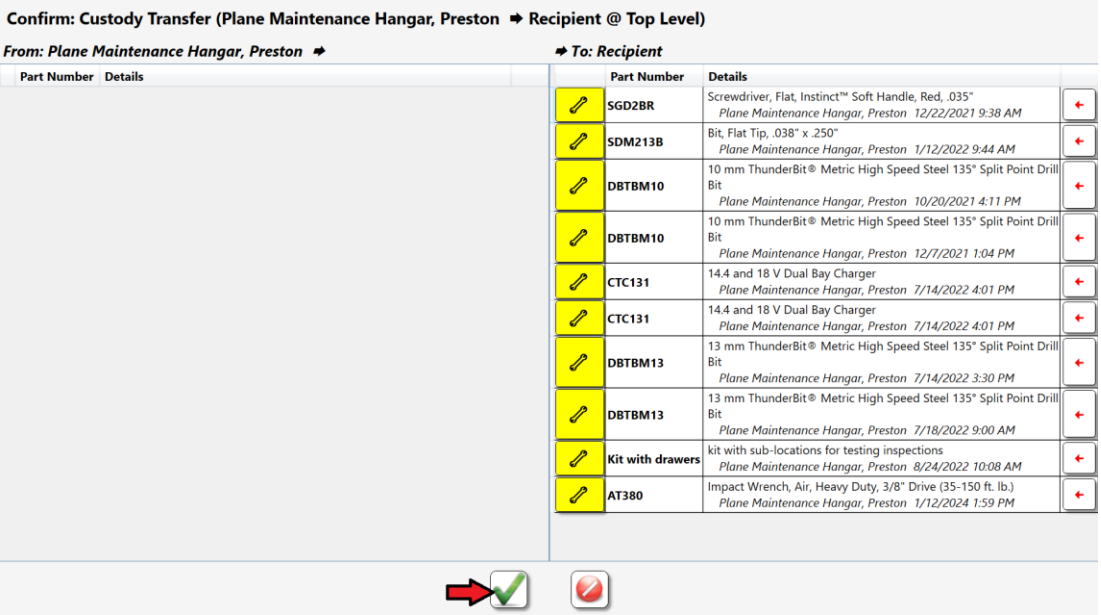
Employee Initiated Custody Transfer

Suppose the employee has multiple tools issued and it would be inconvenient to find each tool individually and then transfer the custody. You can instead go to the **Employees** tab and find that employee. Then you click the **Custody Transfer: Issued Tools** button.

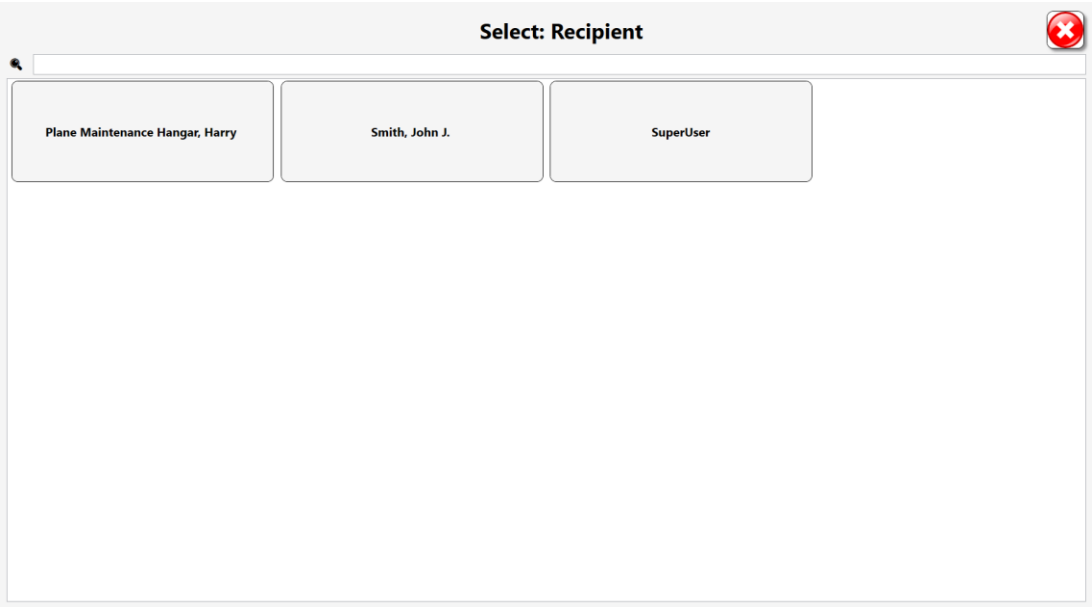


You will be taken to a **Confirm: Custody Transfer** screen and all the tools currently issued to the user will be pre-selected to be transferred to a soon to be selected new employee. If there are tools that you don't wish to transfer, you can move them back to the original employee by clicking the red arrow button next to those tools. Once you have the tools you wish to transfer selected, click the **OK** button that looks like a green checkmark.

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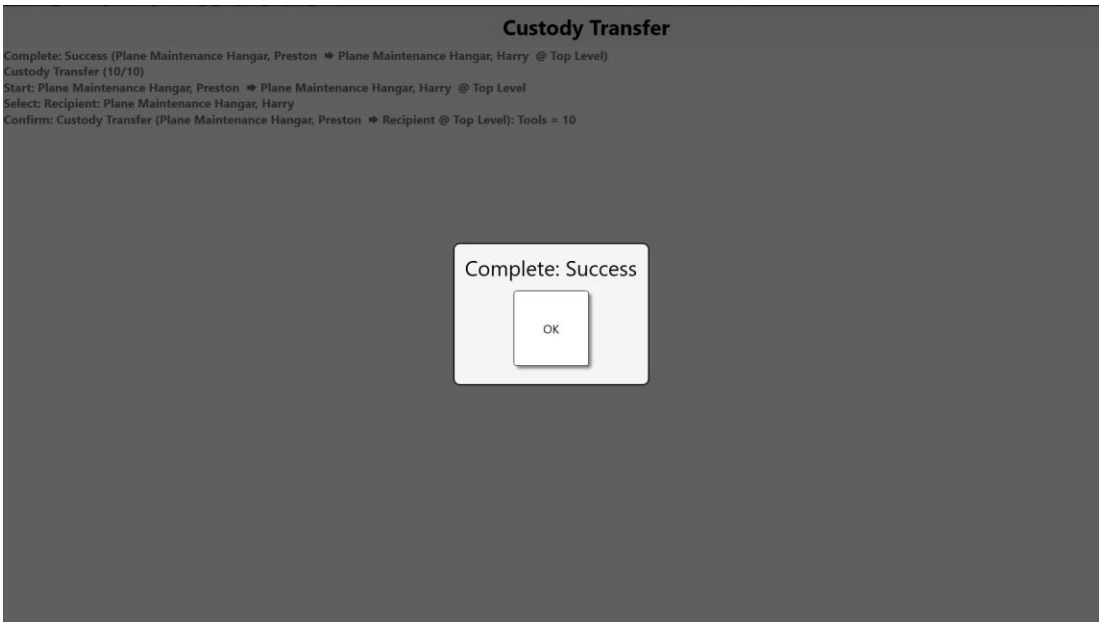


You will then be prompted to select the employee to whom the tools will be transferred. Select the employee to which you wish to transfer the tools. **NOTE: The list of employees to which you can transfer custody is limited to those that have access to ALL the devices for the selected list of tools.** You can use the search bar to find the desired employee when you have a lot of employees from which to choose.



You should then see that you have successfully transferred custody of the tools to the new employee. Press the **OK** button.

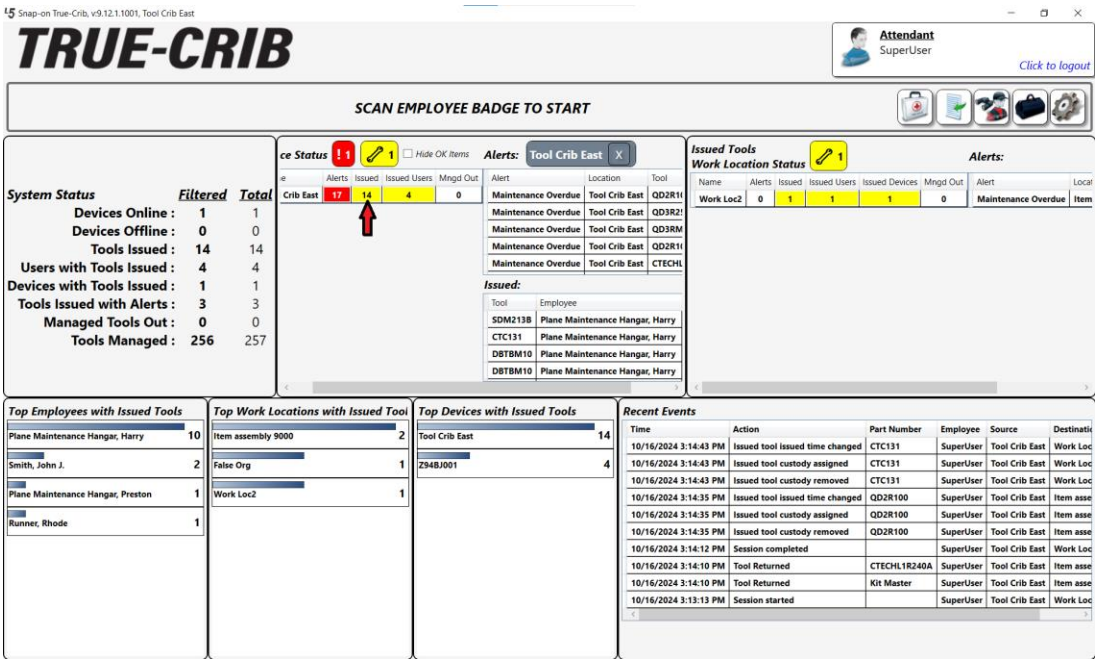
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True-Crib Custody Transfer

Tool custody transfer can also be accomplished from a True-Crib device. Log into the crib as an attendant but without a session. On the **Device Status** widget of the dashboard, click the **Issued** number to display the issued tools.



Right click the tool of interest from the list of issued tools. Then click the **Jump to** menu option and finally click the **Tool Details (Part Number)** menu option. Once you have reached the tool details screen the process is the same as the **Tool Initiated Custody Transfer** section of the document.

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Tool Swap Process

The goal of this article is to document the process of swapping tools in the L5 Connect system. An example of why you might want to do this would be if a tool in an ATC FlexHub has been set with a **Maintenance Overdue** status and the user would like to take a freshly calibrated tool of the same type from a True-Crib and swap it with the tool that needs calibration.

Configuration of L5 Connect system to Allow Tool Swap

1. Using the admin client, login and navigate to the **Locations** Tab.
2. Select the device in which you wish to allow tool swap. Then click on **Options**. **NOTE: Not all devices support configuration of "Auto-Prompt to Transfer on Tag Scan". As of this document's writing, only tool cribs, and FlexHubs support Auto-Prompt tool swap. This doesn't mean that tools can't be transferred to other devices, however.**
3. Look to see if the Options for this device are inherited from another location. If the options are inherited, you will either need to go to that location to change the options or uncheck the checkbox to inherit options to set them for this location.
4. Check the **Auto-prompt to Transfer Tool on Tag Scan** checkbox.
5. Repeat this process for any other device types/instances you wish to allow to swap tools including any cribs from which you will be providing the replacement tools.

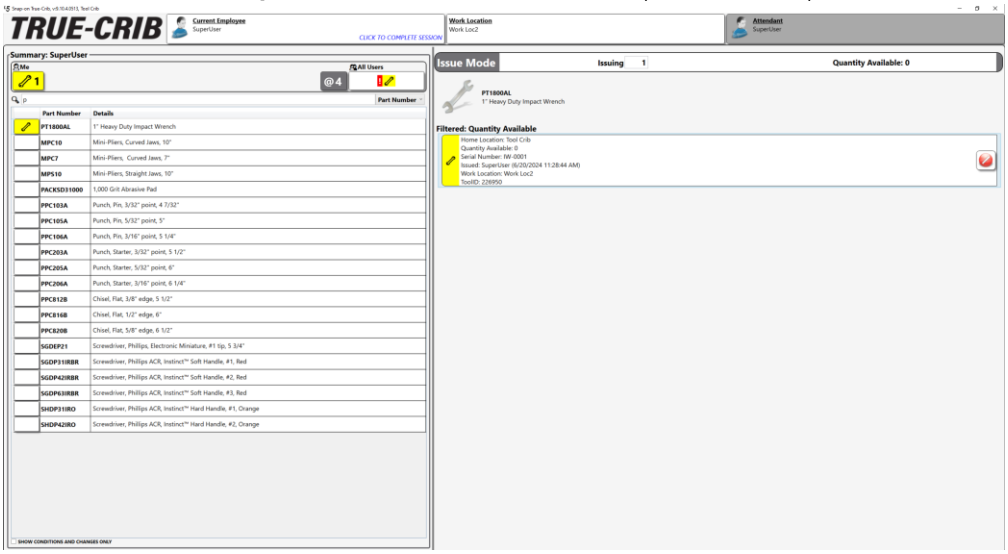
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Tool Swap Process from TrueCrib to Device Types

This section will walk through the process of swapping a tool at each of the device types with a spare tool from the crib. The beginning where the spare tool is removed from the crib and taken to the device in need and the ending part where the tool removed from the device is returned to the crib would be the same for any of the devices. These parts will be described once and the middle portion of doing the swap on the device will be explained for each type of device.

Getting a Replacement Tool from the Crib

1. A supervisor checks the admin dashboard and sees that the QD2R100 torque wrench in one of the devices has a maintenance overdue status. The user goes to a tool crib and logs in as an attendant and then starts a session.
2. The user finds another QD2R100 wrench that is in calibration, issues the tool, and ends the session.



Swapping Replacement Tool with a Tool at the Device

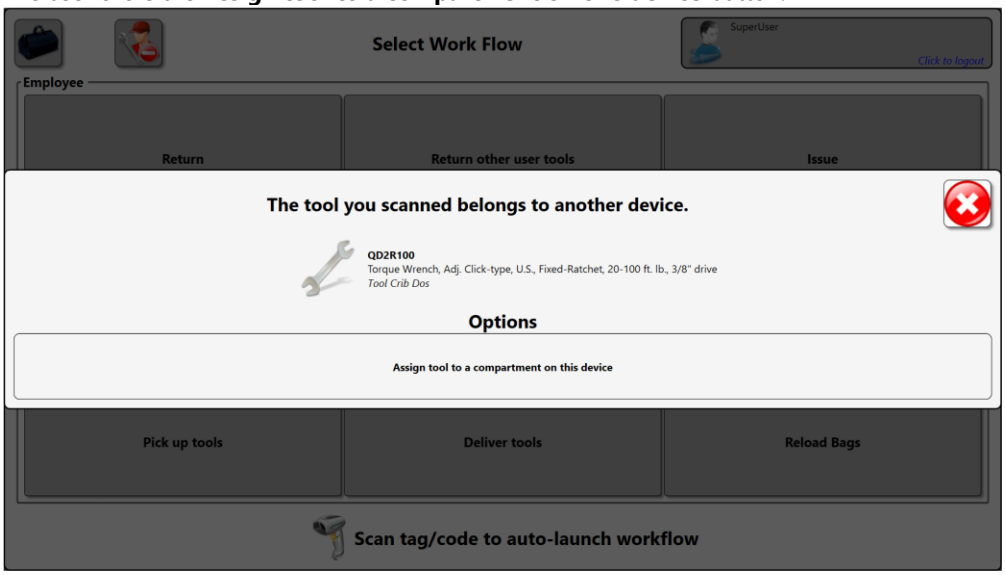
There is a separate section on how to swap the tool on each device type.

FlexHub Tool Swap

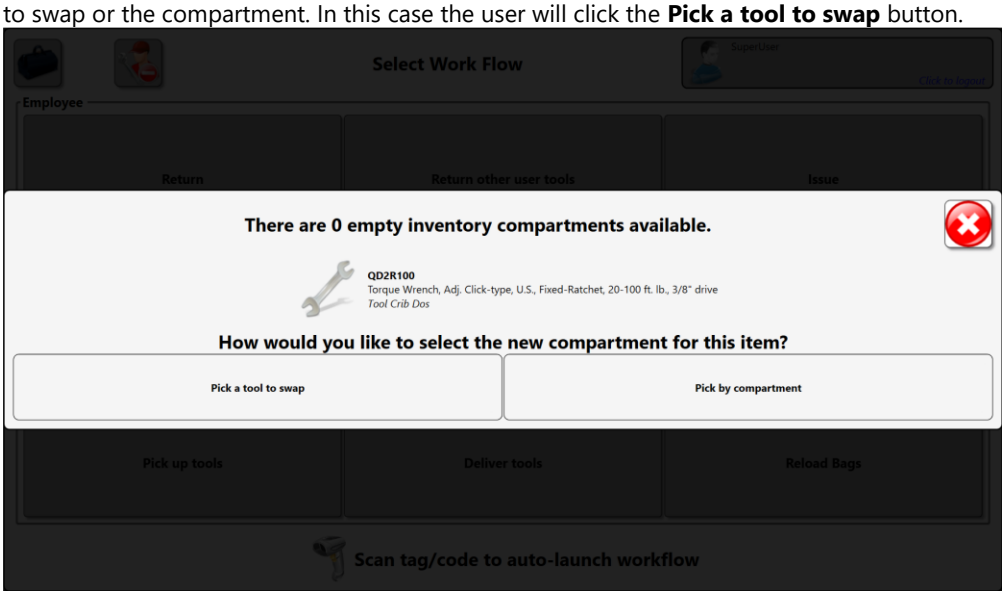
1. The user takes that tool to the device with tool that has the maintenance overdue status.
2. The user logs into the FlexHub and scans the tag on the replacement tool.

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3. The user clicks the **Assign tool to a compartment on this device** button.

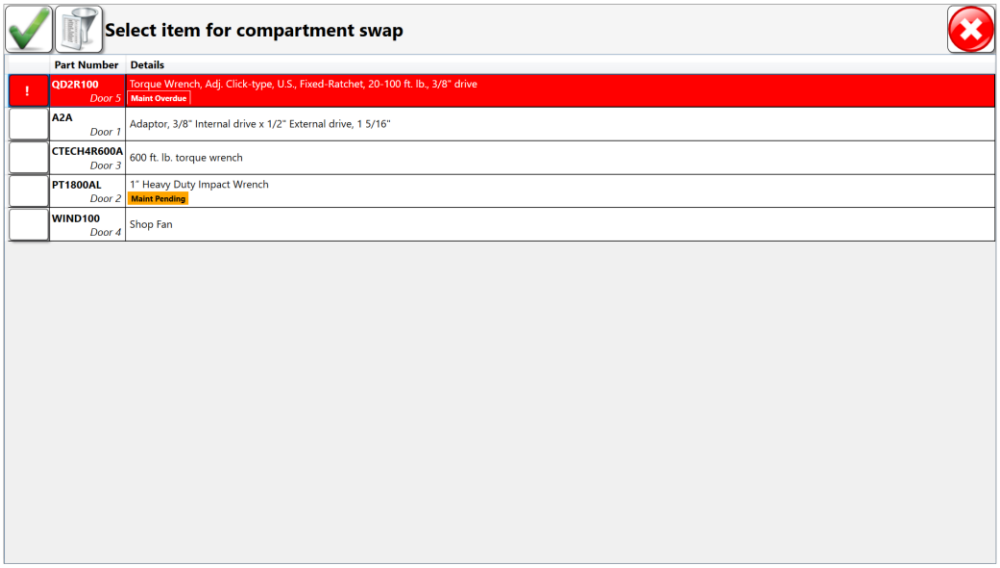


4. Next the user will be prompted to select whether to select the compartment by choosing the tool they want to swap or the compartment. In this case the user will click the **Pick a tool to swap** button.

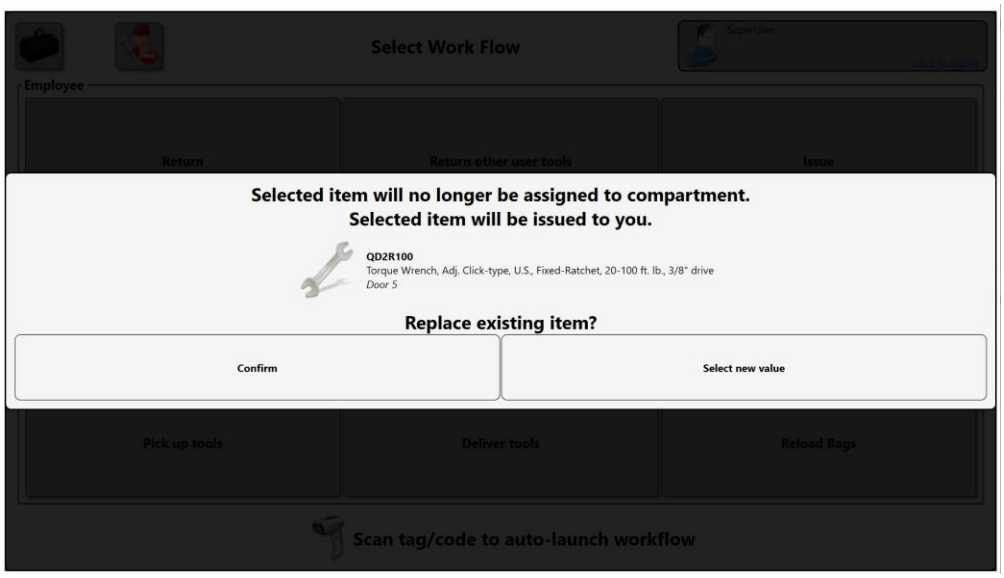


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5. The user selects the wrench with the **maintenance overdue** status, then clicks the **Green Check** button.

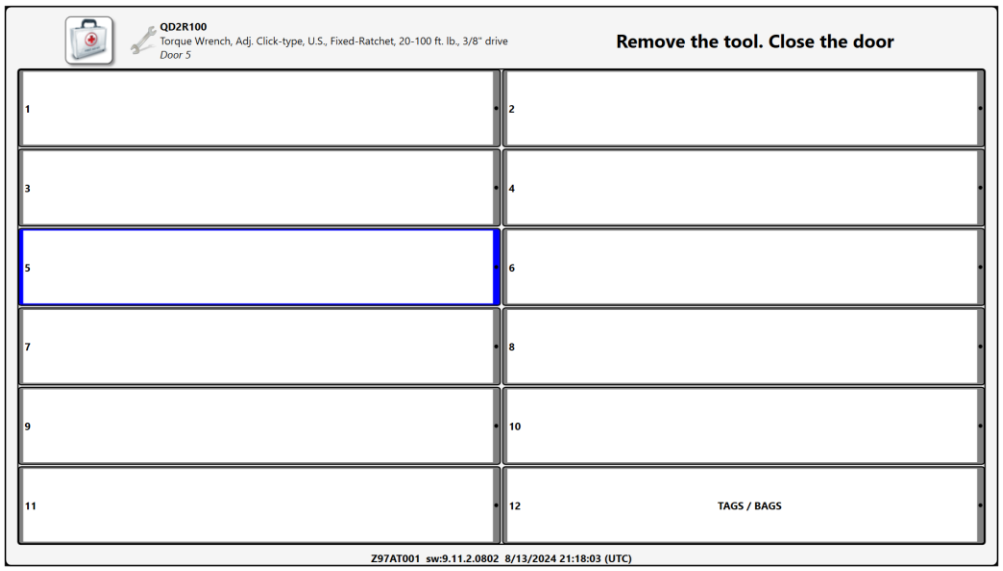


6. A prompt is displayed to confirm that the selected item will no longer be assigned to the compartment and will be issued to the user. The user clicks the **Confirm** button.

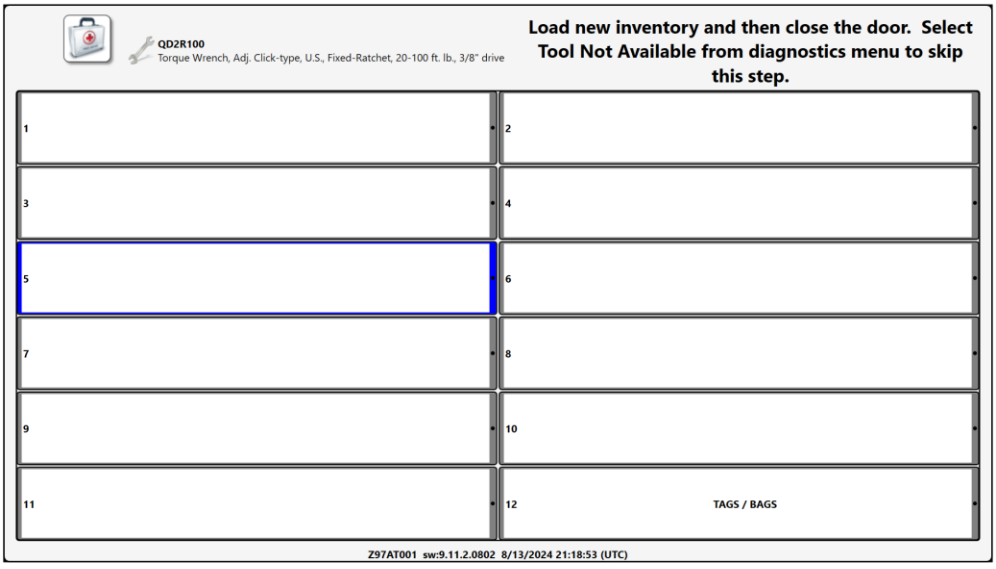


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7. The user is then prompted to remove the tool and close the door. The user takes the tool and closes the door.

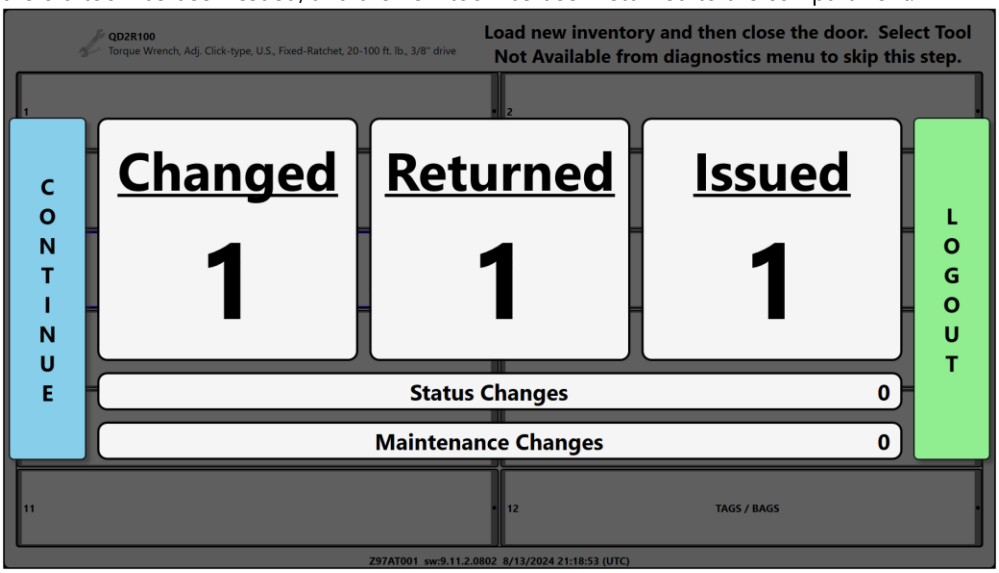


8. Now the user is prompted to load the new tool into the compartment and close the door. The user does so.

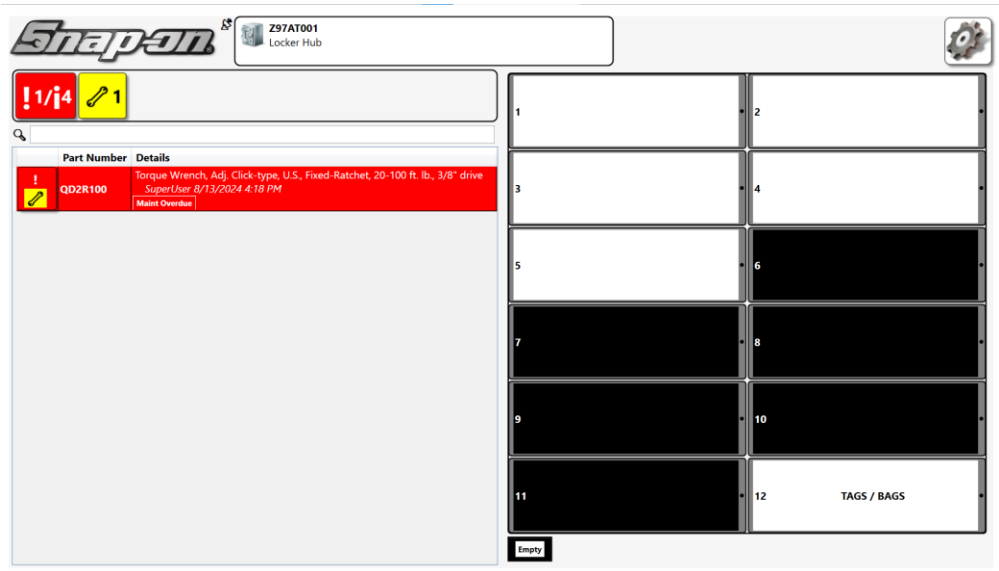


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9. The user is then presented with the summary screen that shows a change has been made to the inventory, the old tool has been issued, and the new tool has been returned to the compartment.



10. At this point, the tool the user had issued from the crib is now a part of the FlexHub inventory. It is assigned to the compartment that had been the home of the tool with the maintenance overdue status. Meanwhile the maintenance overdue tool is still part of the FlexHub inventory but does not have a compartment to which it is assigned as can be seen by the main screen of the FlexHub. Once the **Returning Out of Calibration Tool to Crib** part of the process occurs, it will automatically disappear from the FlexHub main screen.

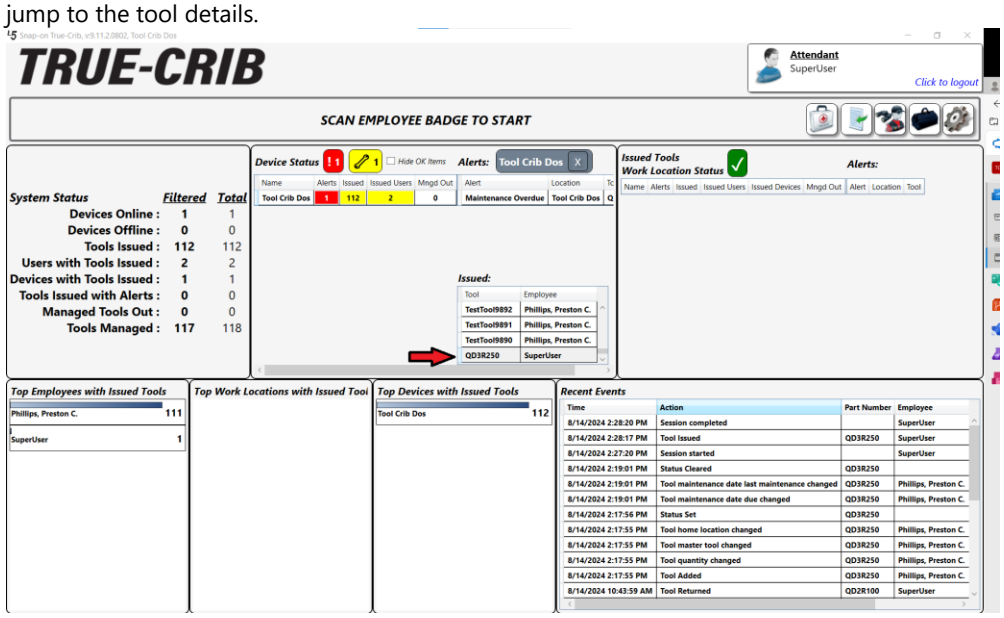


Optical Toolbox Tool Swap

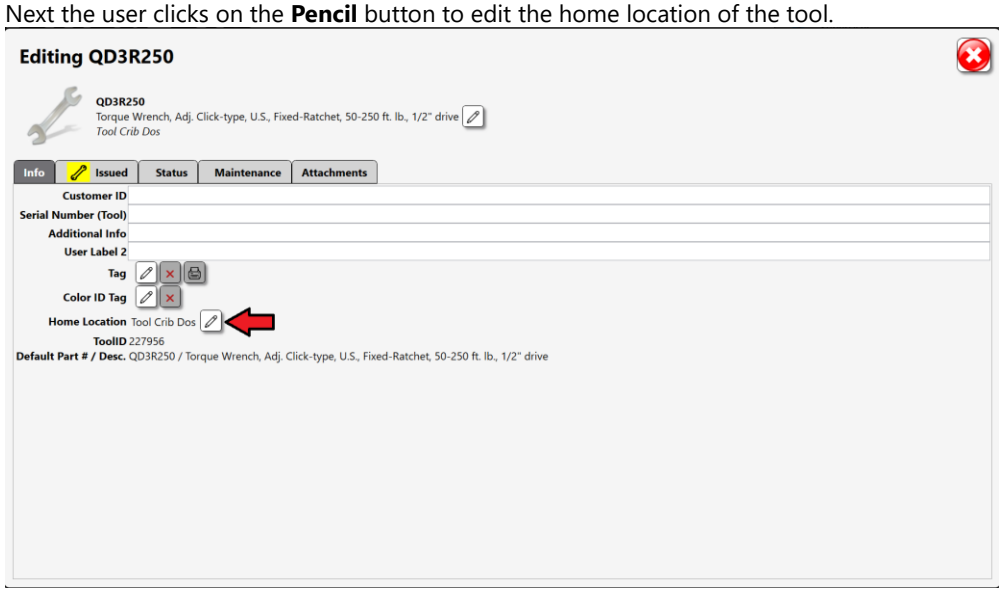
NOTE: for this device we are using a different model torque wrench due to the availability of in the toolbox inventory.

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1. First the user double clicks on the just issued tool using the dashboard of the crib as shown. Alternatively, the tool could be found in the inventory or by right clicking the tool issued event in the recent events and jump to the tool details.



2. Next the user clicks on the **Pencil** button to edit the home location of the tool.

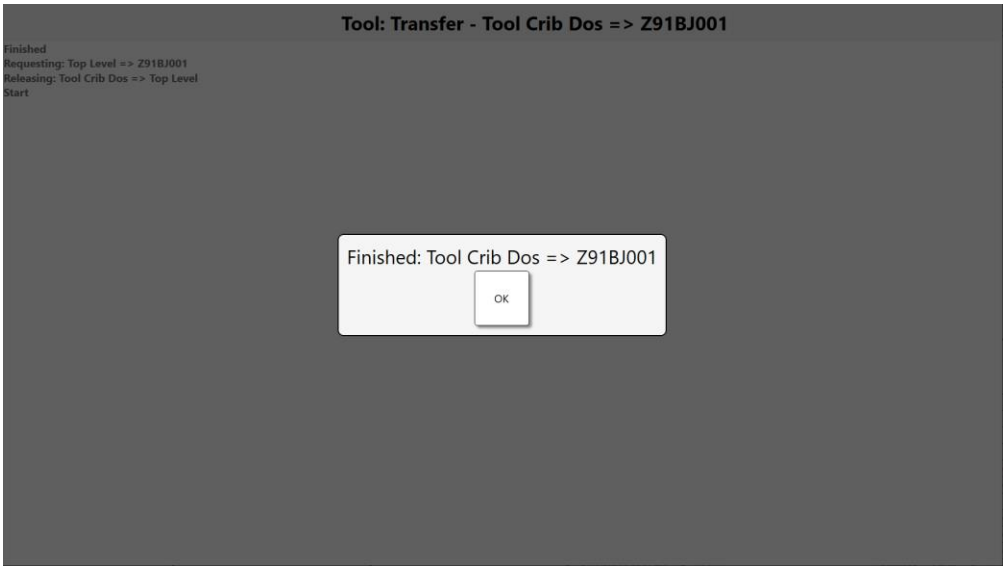


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3. The user selects the location of the device to which the tool will be transferred and clicks the **Green Checkmark** button.



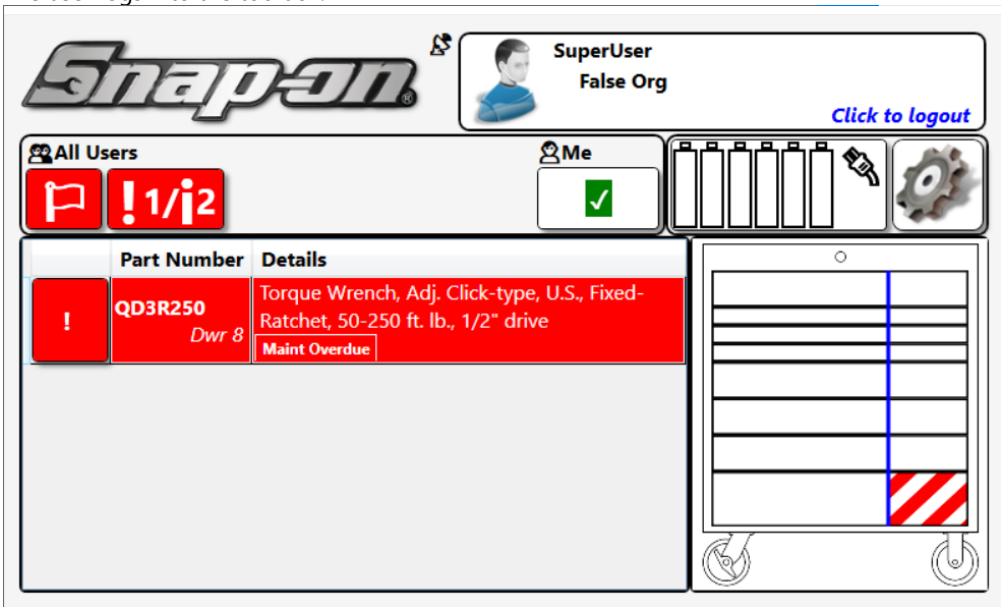
4. The user clicks the **OK** button to finish the transfer to the toolbox.



5. The user logs out of the crib and takes the replacement tool to the toolbox.

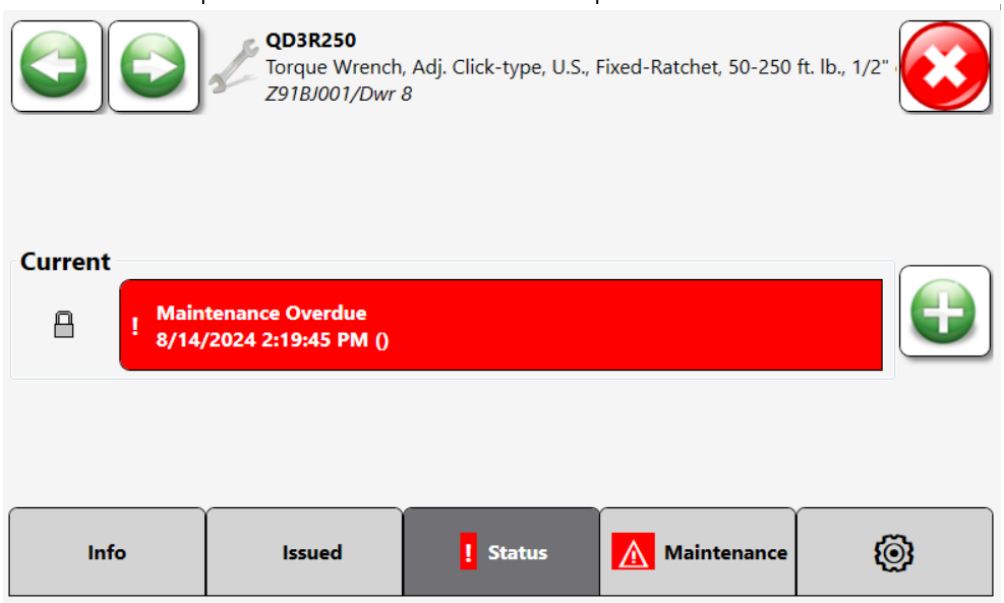
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6. The user logs into the toolbox.



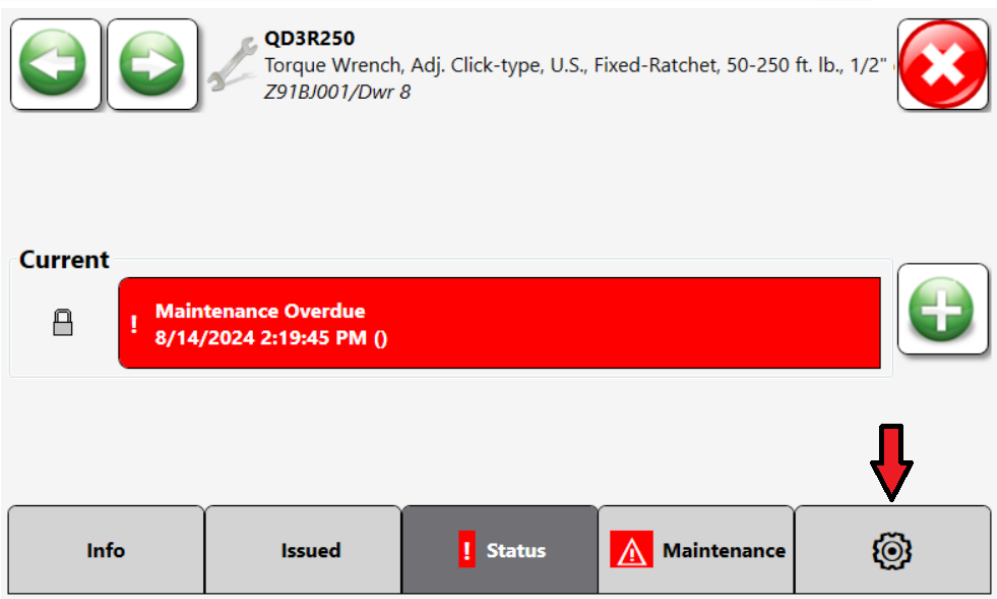
7. The user opens the drawer and removes the tool in need of calibration from its pocket and then closes the drawer, issuing it to himself.

8. The user double taps the tool in need of calibration to open its tool info menu.

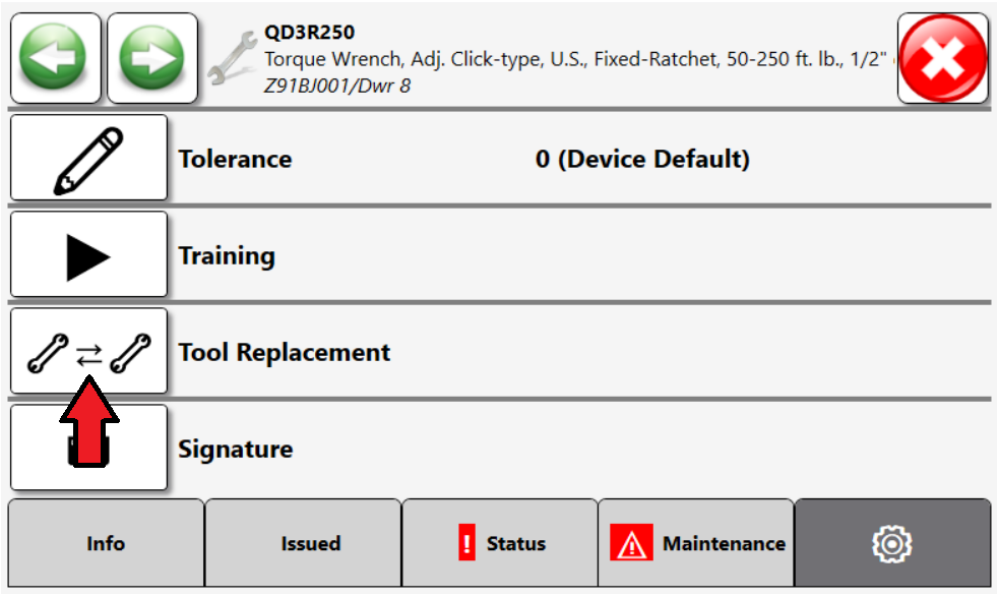


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9. The user then clicks the **Gear** button.



10. The user then clicks the **Tool Replacement** button.

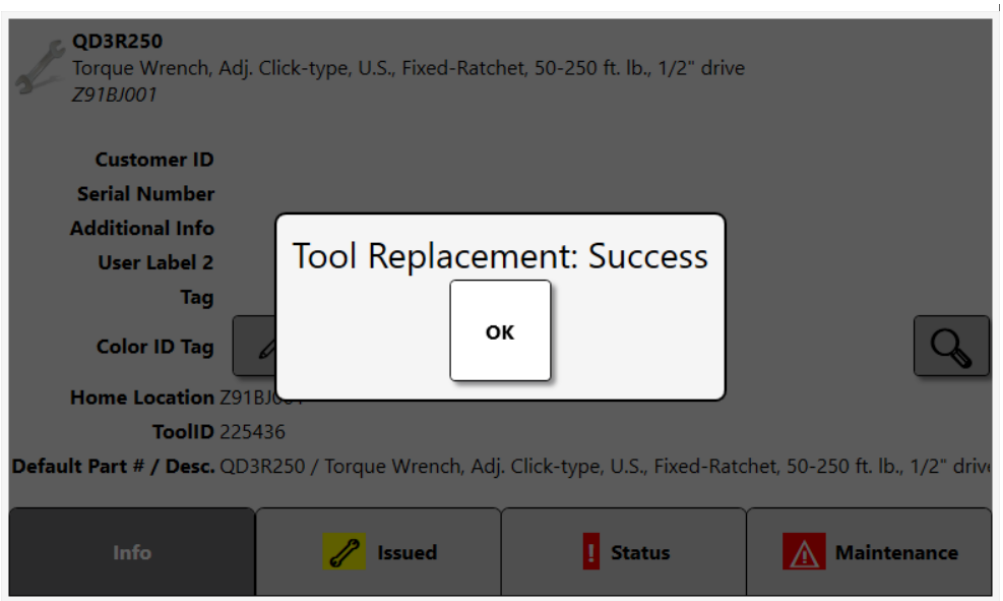


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11. The user selects the instance of the issued replacement tool.

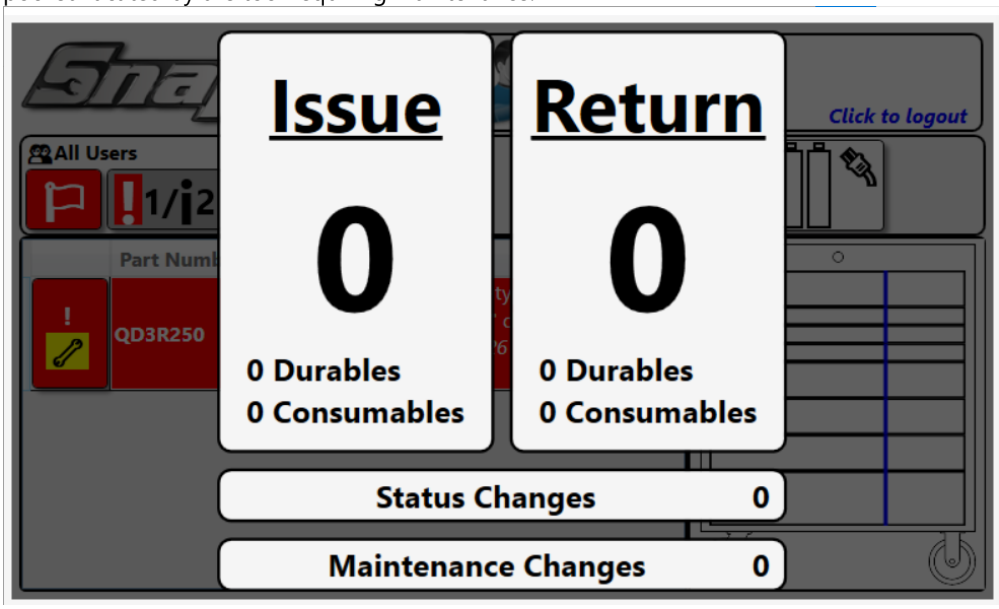


12. The user clicks the **OK** button.



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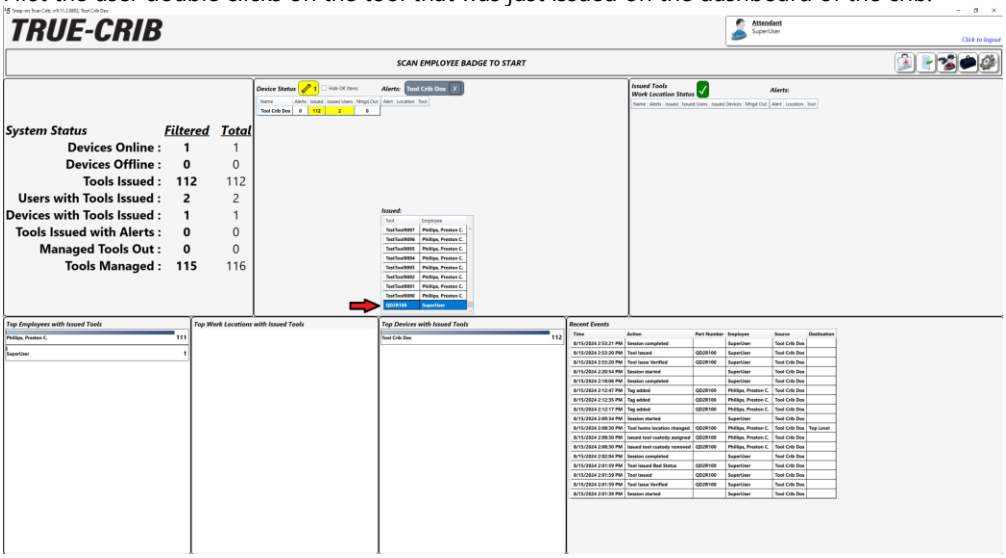
13. The user then opens the drawer where the tool is located and places the new replacement tool into the pocket vacated by the tool requiring maintenance.



14. Now the user takes the tool needing maintenance to the crib and completes the **Returning Out of Calibration Tool to Crib** part of the process.

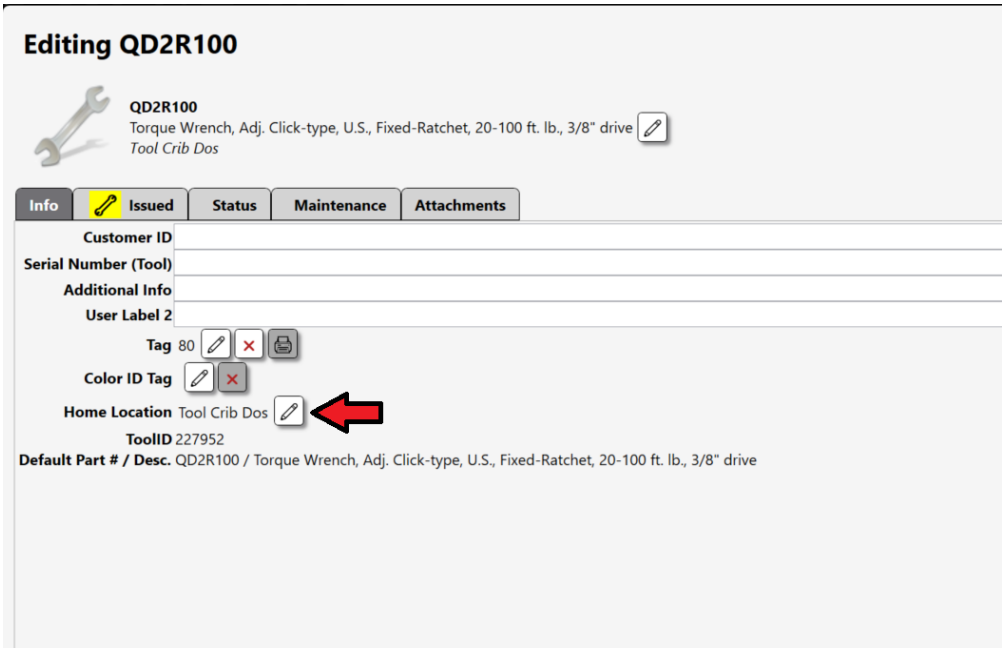
RFID Locker Tool Swap

1. First the user double clicks on the tool that was just issued on the dashboard of the crib.



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2. Next the user clicks on the **Pencil** button to edit the home location of the tool.

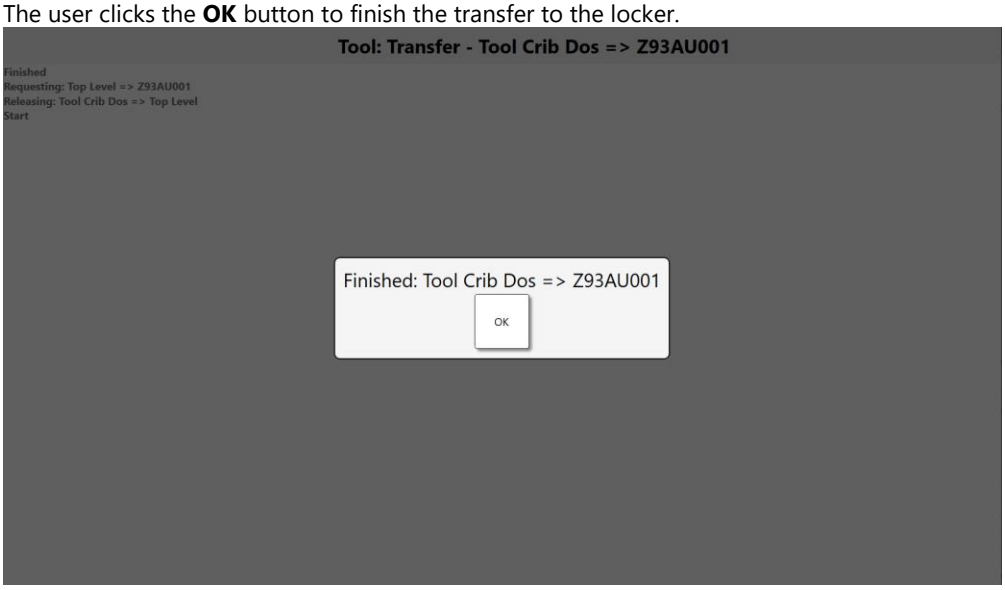


3. The user selects the location of the locker to which the tool will be transferred and clicks the **Green Checkmark** button.

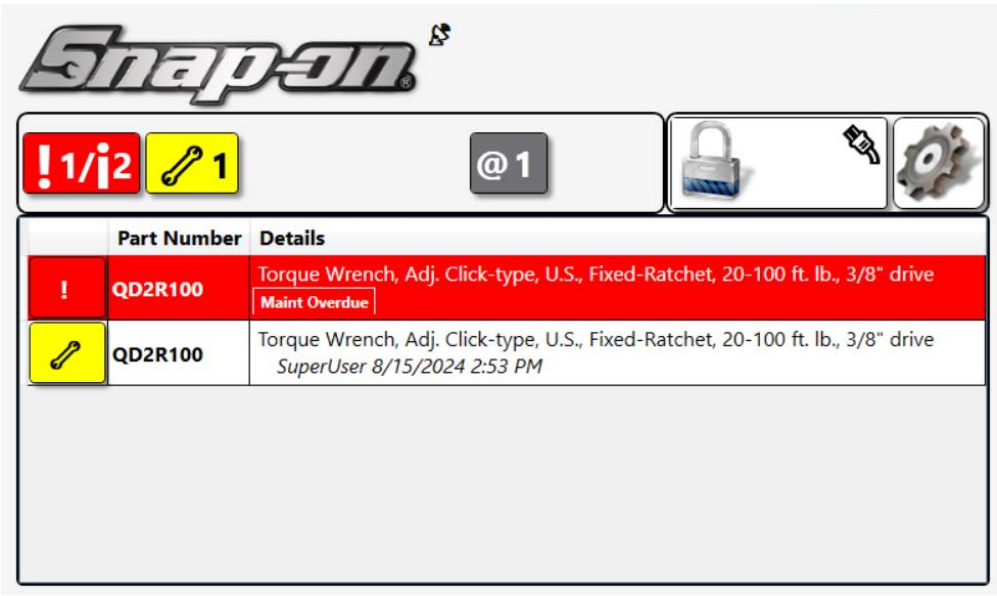


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4. The user clicks the **OK** button to finish the transfer to the locker.

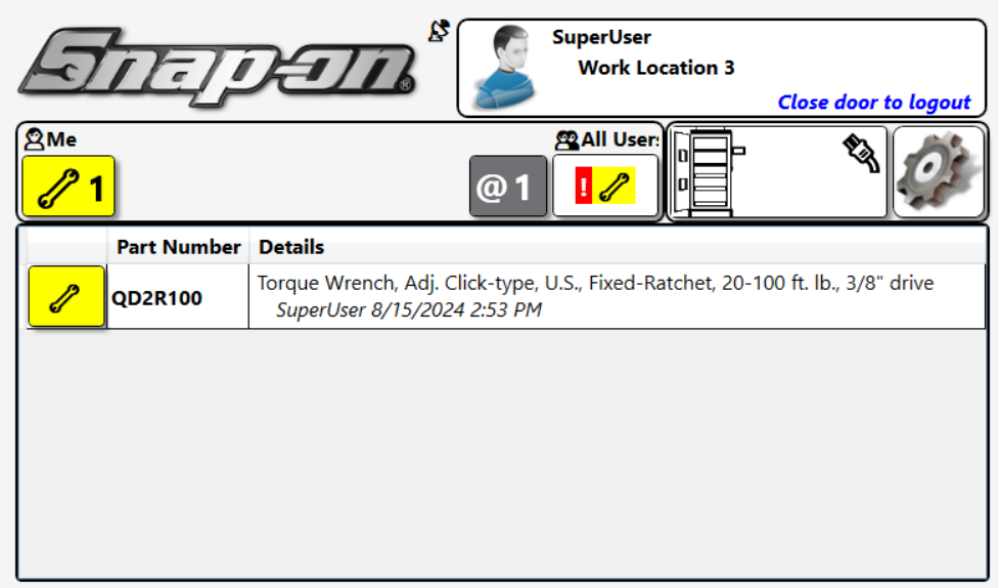


5. The user logs out of the crib and takes the replacement tool to the locker. The locker shows both the tool that needs maintenance and the issued tool whose home location was just changed to the locker.

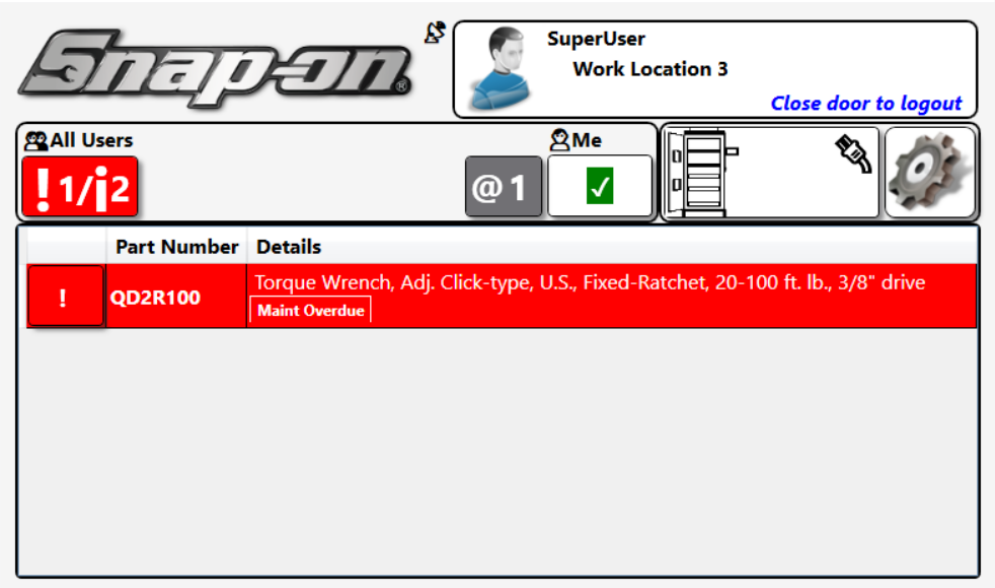


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6. The user logs into the locker and opens the door.

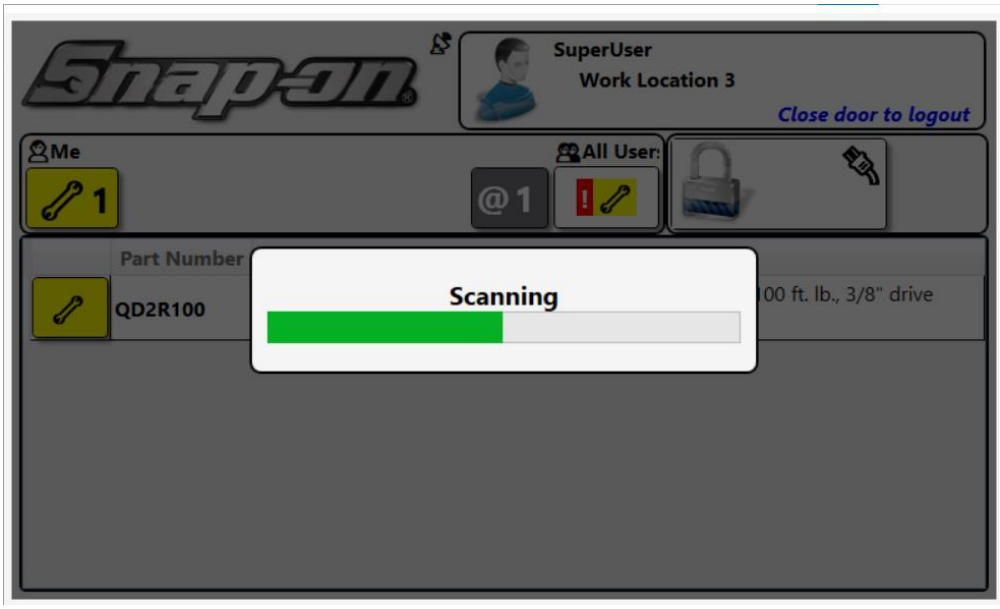


7. The user removes the tool that required maintenance and replaces it with the replacement tool.

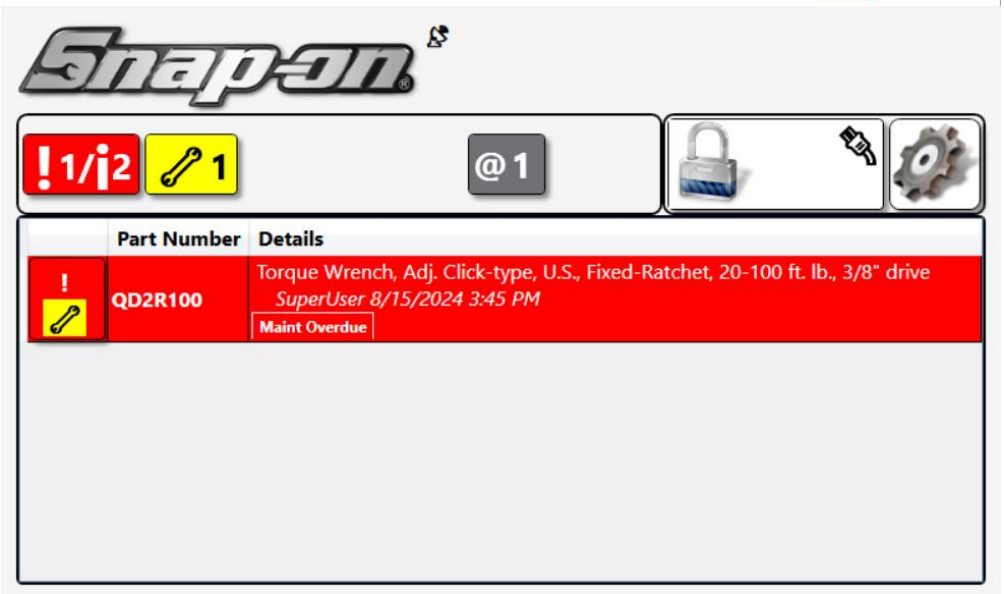


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8. Then the user closes the door.



9. Notice that the tool requiring maintenance is now issued to the user but still a part of the locker.



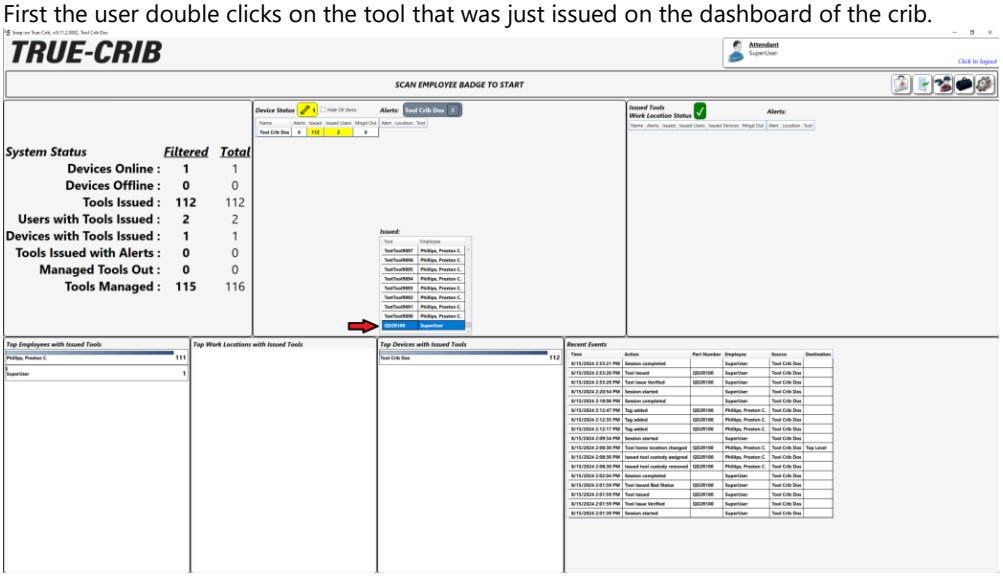
Tool Crib Tool Swap

1. The user takes the replacement tool to the crib with the tool needing maintenance and scans the tool.
2. The user clicks the **Transfer tool to this device** button.
3. The user clicks the **Return tools to crib** button and returns the tool to the crib.
4. The user then issues the tool needing calibration.

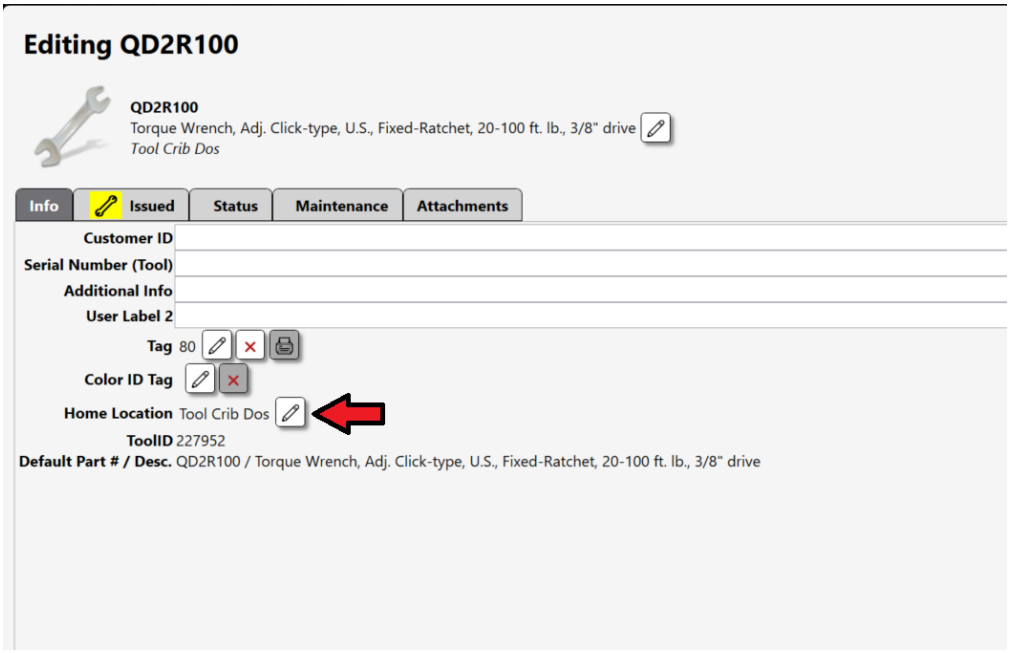
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Portal Tool Swap

1. First the user double clicks on the tool that was just issued on the dashboard of the crib.



2. Next the user clicks on the **Pencil** button to edit the home location of the tool.

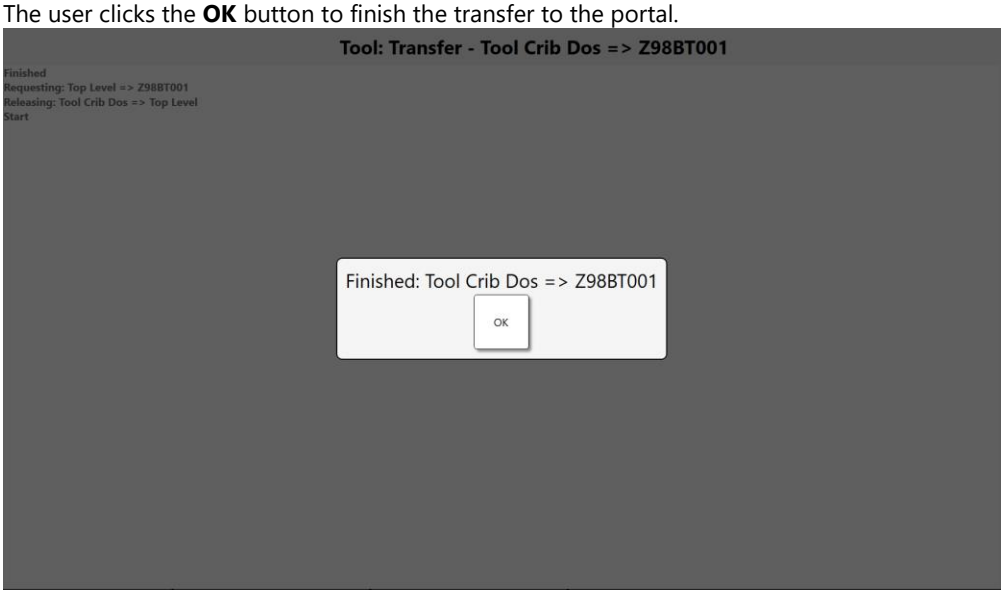


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3. The user selects the location of the portal to which the tool will be transferred and clicks the **Green Checkmark** button.

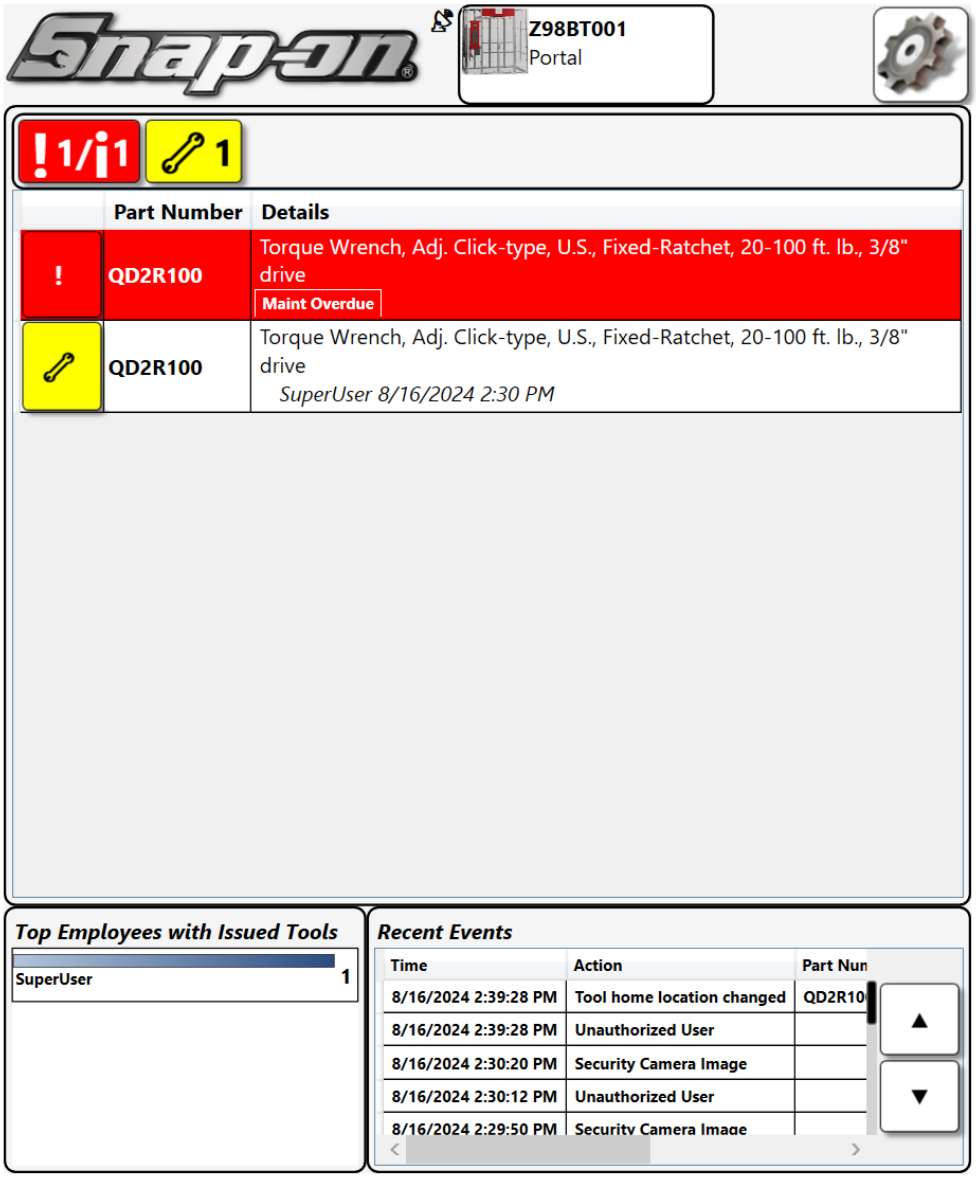


4. The user clicks the **OK** button to finish the transfer to the portal.



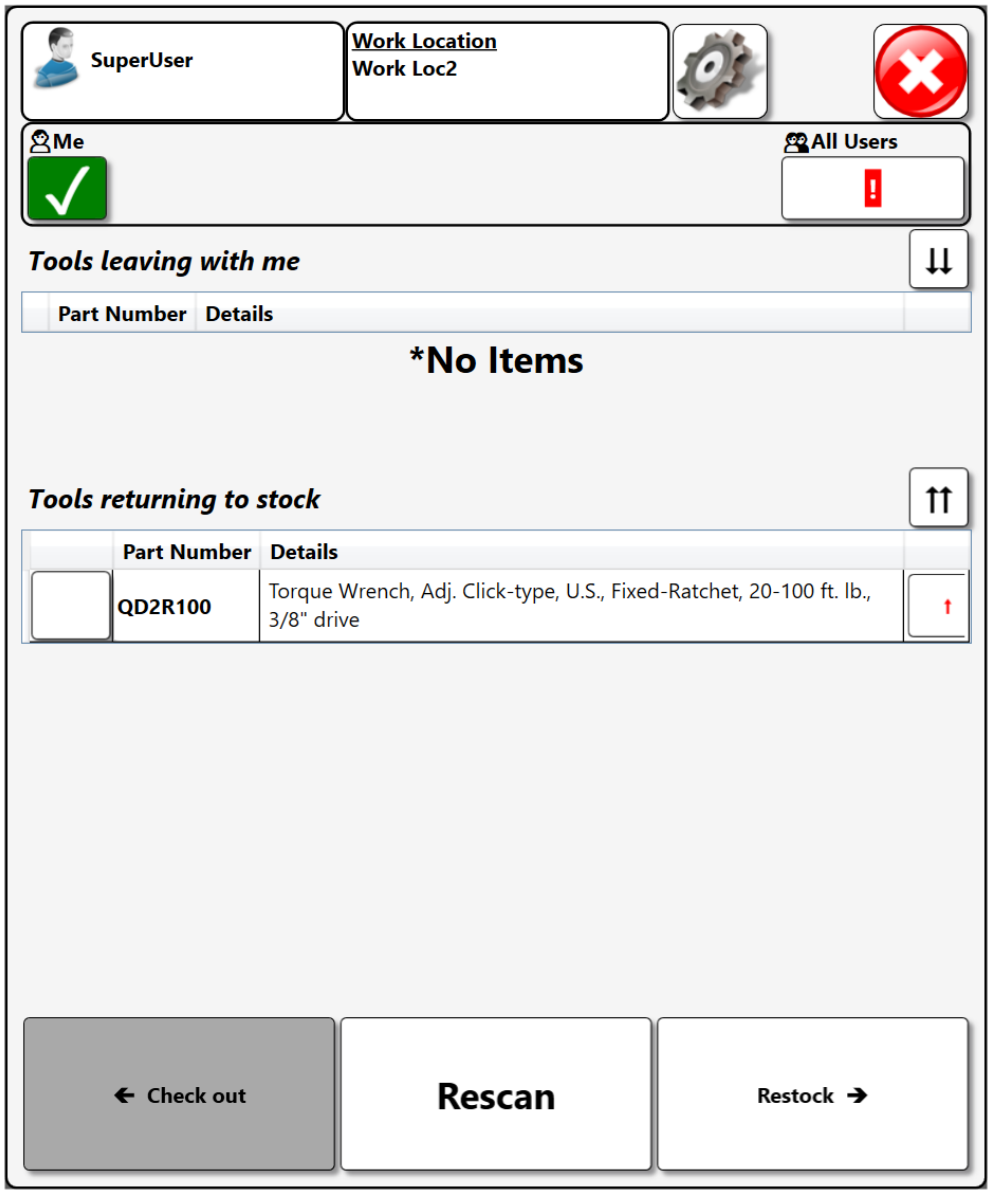
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5. The user logs out of the crib and takes the replacement tool to the portal. The portal shows both the tool that needs maintenance and the issued tool whose home location was just changed to the portal.



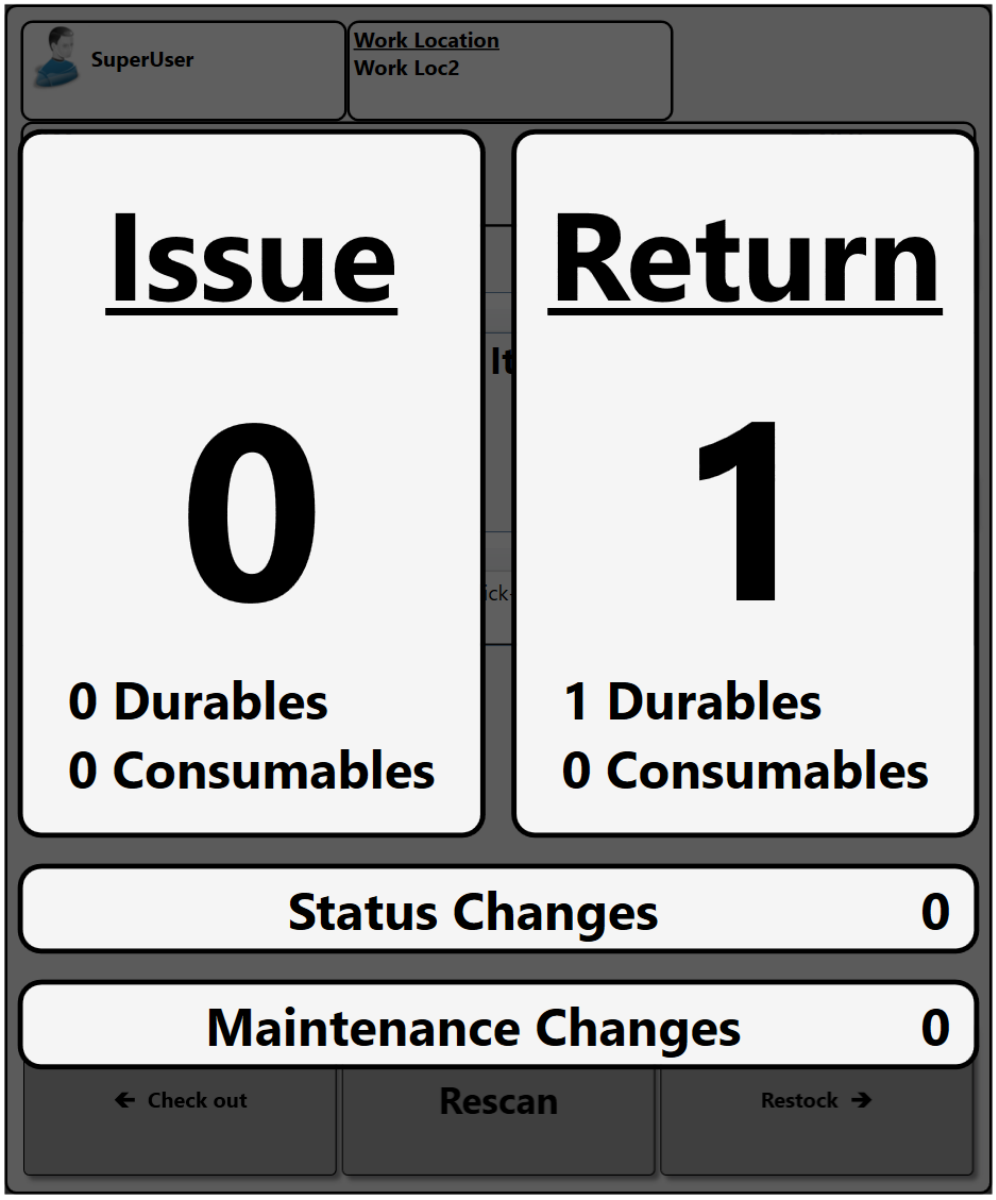
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6. The user enters the portal with the replacement tool and logs in. The portal will scan for tools and detect the replacement tool.



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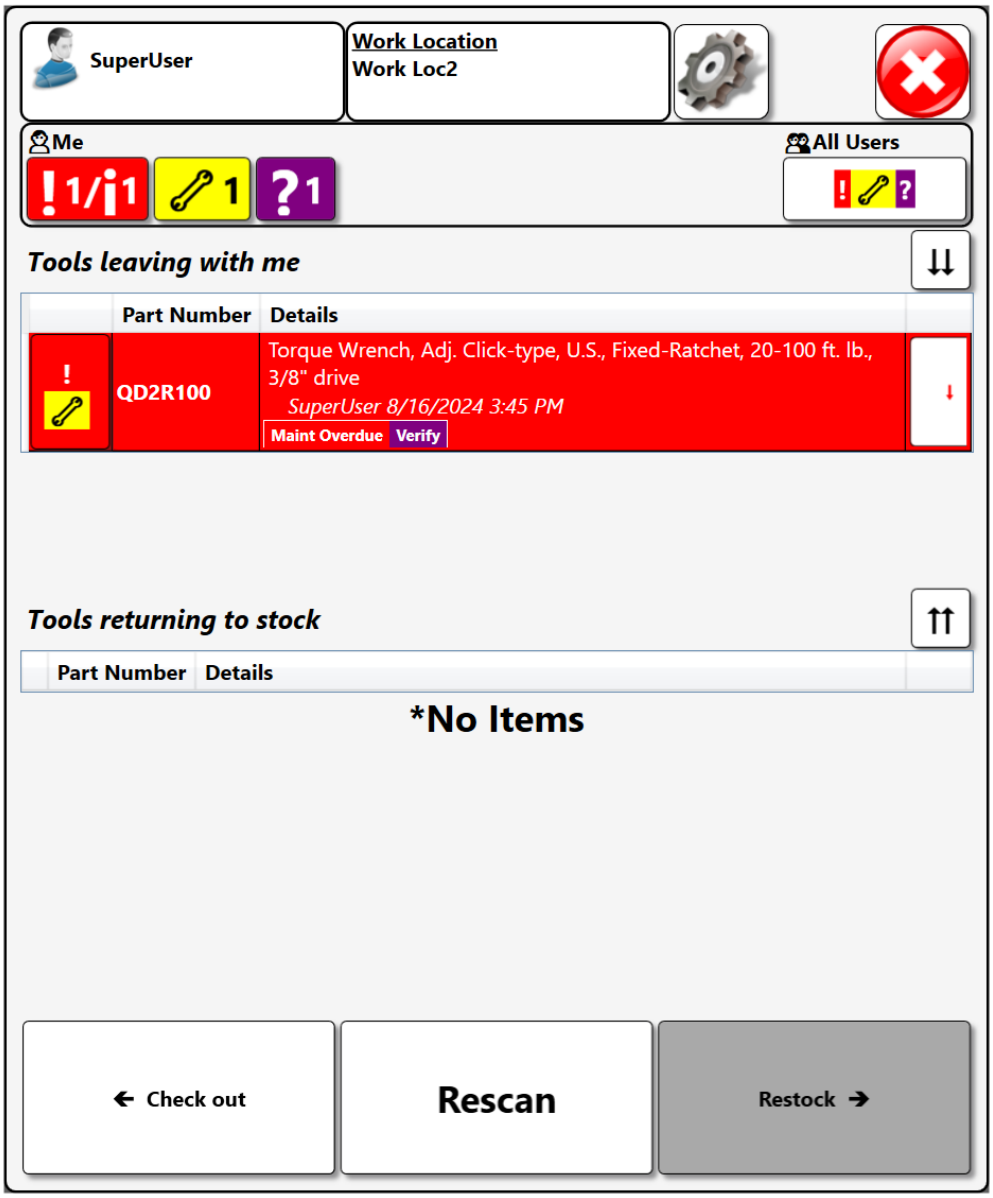
7. The user clicks the **Restock** button, ends the session, and puts the replacement tool in the portal tool storage area.



8. The user then retrieves the tool requiring maintenance, returns to the portal, and starts a new session which initiates a scan.

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9. Once the tool is shown in the **Tools leaving with me** window, the user clicks the **Check out** button and leaves the portal with the tool requiring maintenance.



10. Notice that the tool requiring maintenance is now issued to the user but still a part of the portal inventory.

Returning Out of Calibration Tool to Crib

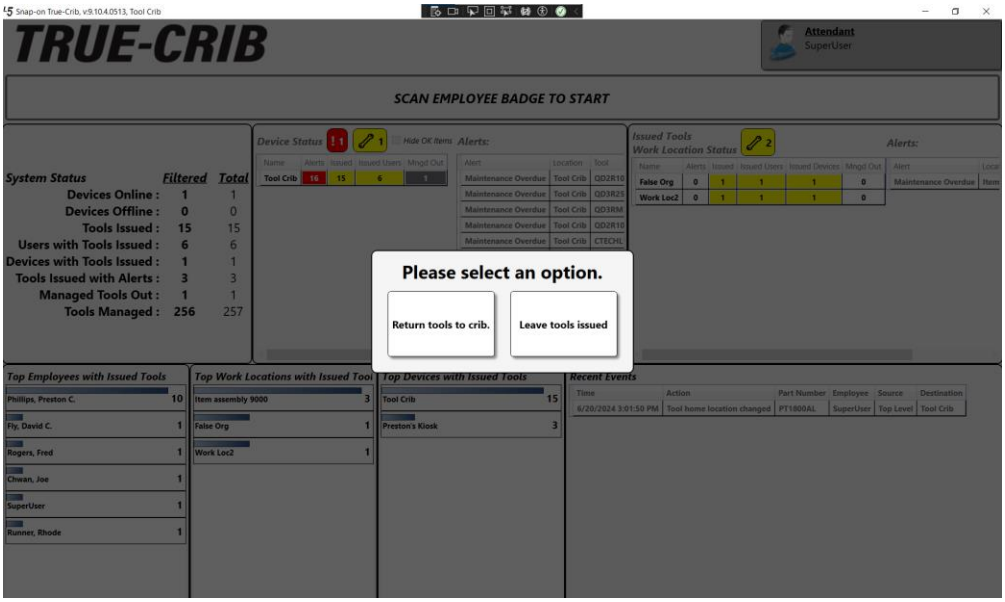
1. The user will now return to the tool crib and login as an attendant and then scan the tool with the maintenance overdue status.

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2. The user then clicks the **Transfer tool to this device** button.

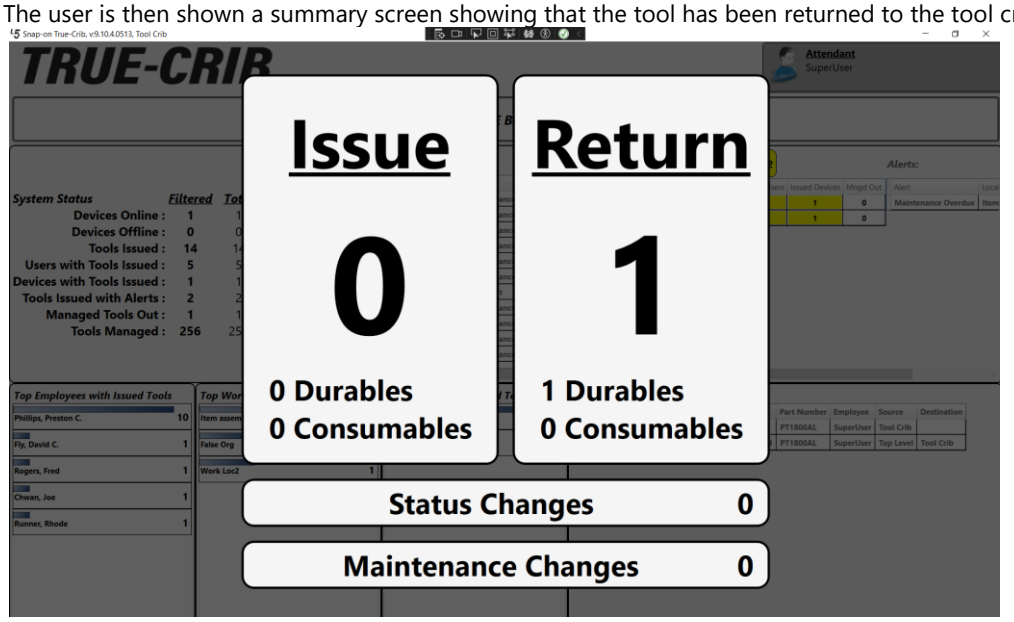


3. The user is then prompted to choose whether the tool should be returned to the crib or left issued. The user clicks the **Return tools to crib.** button.



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4. The user is then shown a summary screen showing that the tool has been returned to the tool crib.



5. The tool has now been moved from the original device to the tool crib. A look at the main screen of that device will confirm it is no longer a part of its inventory.

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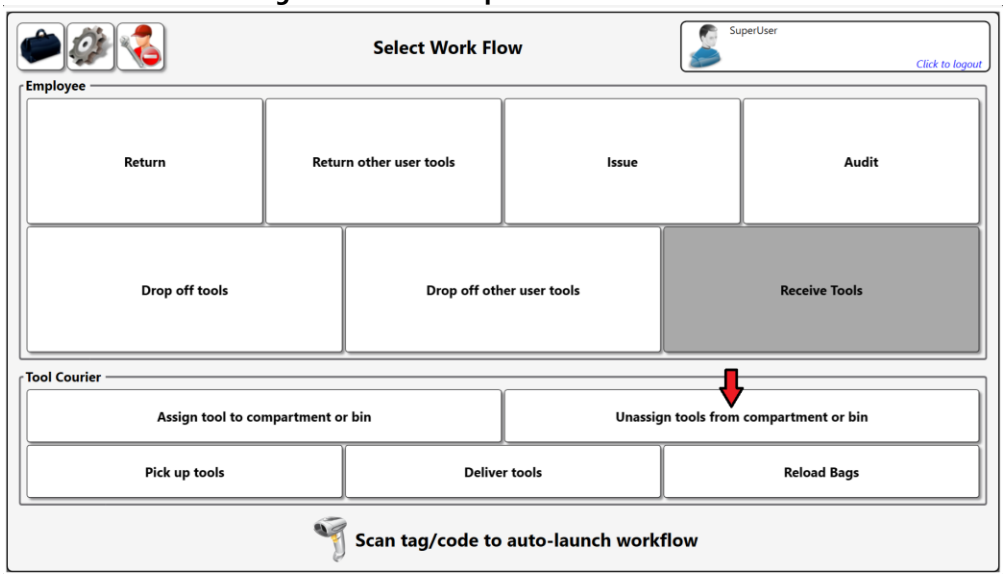
Tool Swap Process from one FlexHub to another FlexHub

The FlexHub now has enhancements that help to simplify the transfer of tools to and from it. This section will illustrate that by walking through the process of transferring a tool from one FlexHub to replace a tool in another FlexHub that needs to be calibrated.

NOTE: Both of the FlexHubs will need to be online for this process to work properly.

Removing a tool from the Donor FlexHub

1. The user scans his badge to log into the FlexHub device.
2. The user clicks the **Unassign tools from compartment or bin** button.



3. When prompted the user will click the **Transfer tools** button to confirm that the tool will be transferred to another device.

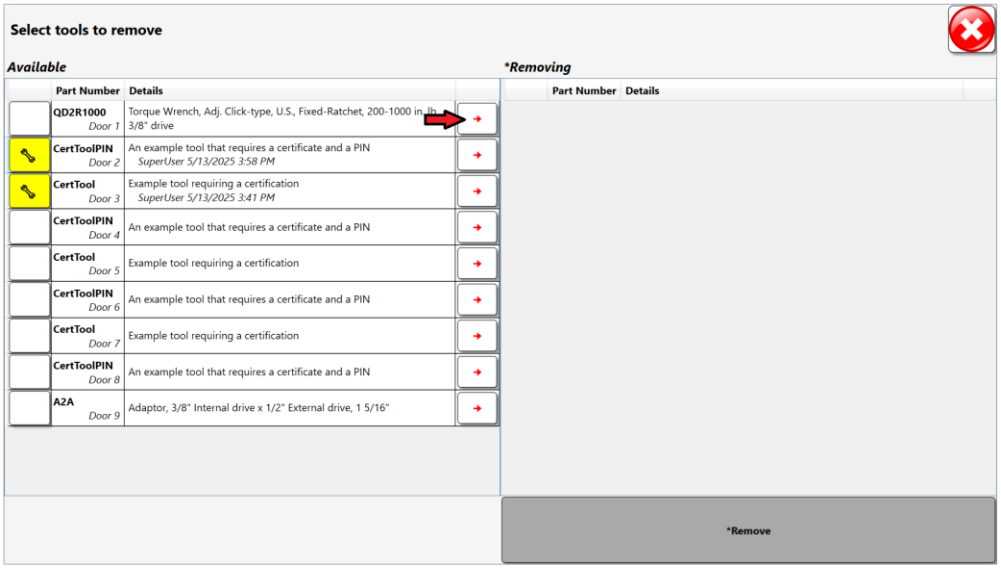


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4. The user will then be prompted to select the device to which the tool will be transferred. After selecting the device from the proffered list, they will click the **OK** button, which looks like a green checkmark.

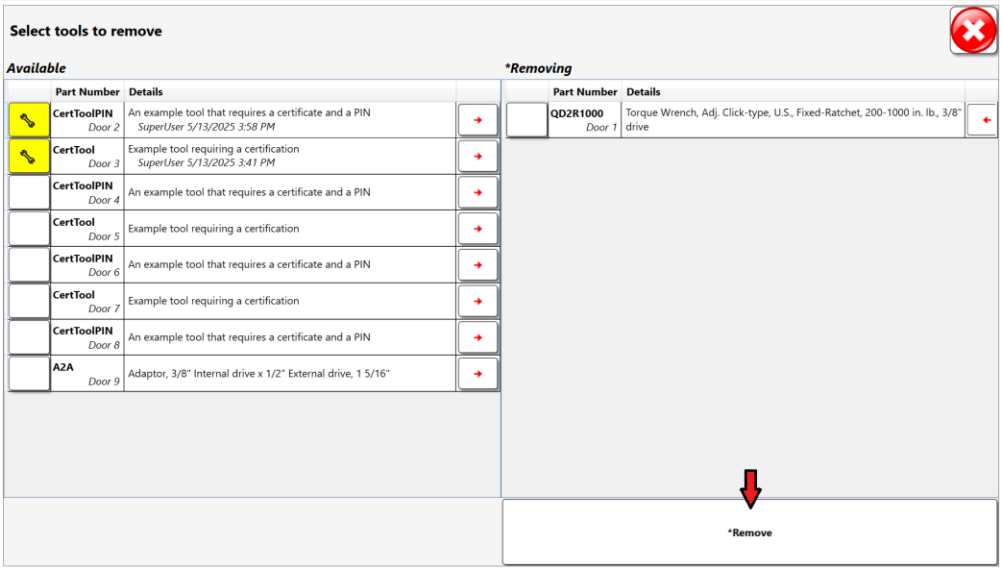


5. The user will then be prompted to select the tool or tools that are being removed. Click the red arrow button to the right of the tool which is being moved to move this tool to the **Removing** side of the screen.

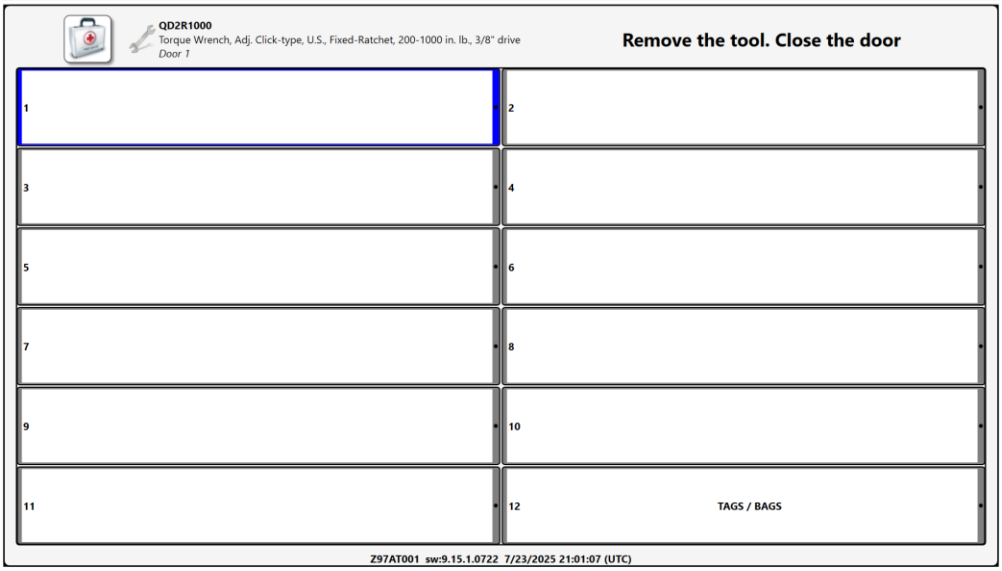


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6. Click the **Remove** button.



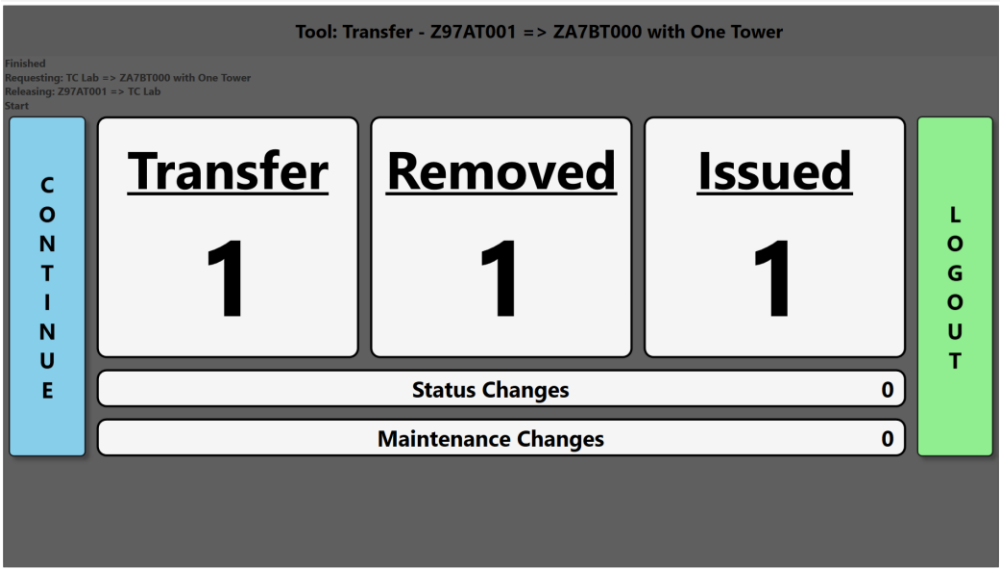
7. The user will then be prompted to remove the tool from the FlexHub and close the door.



8. The user is logged out and the summary screen is displayed. This will complete the removal of the tool from the donor FlexHub. This will also transfer the home location of the tool to the FlexHub device that was

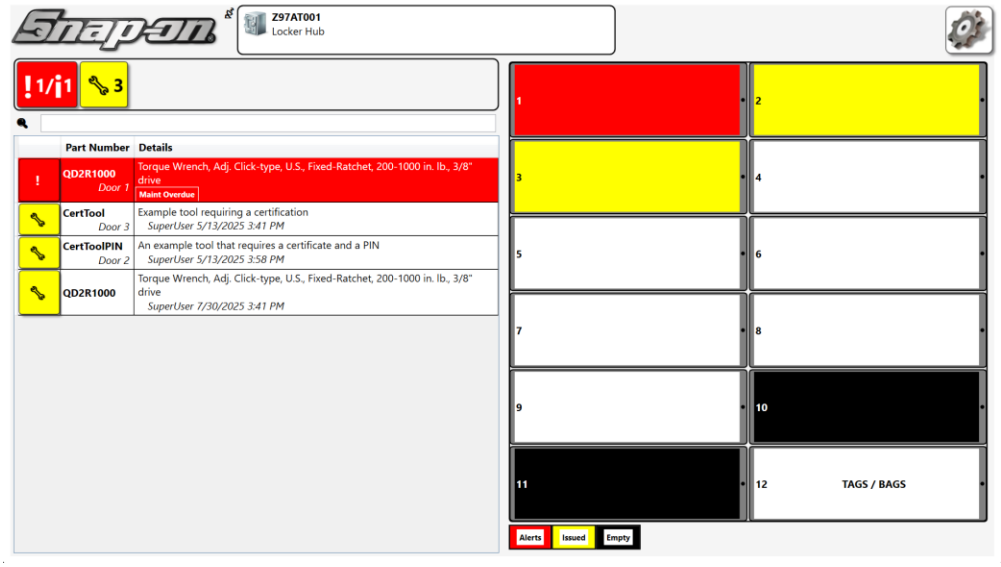
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selected during the process in step 4.



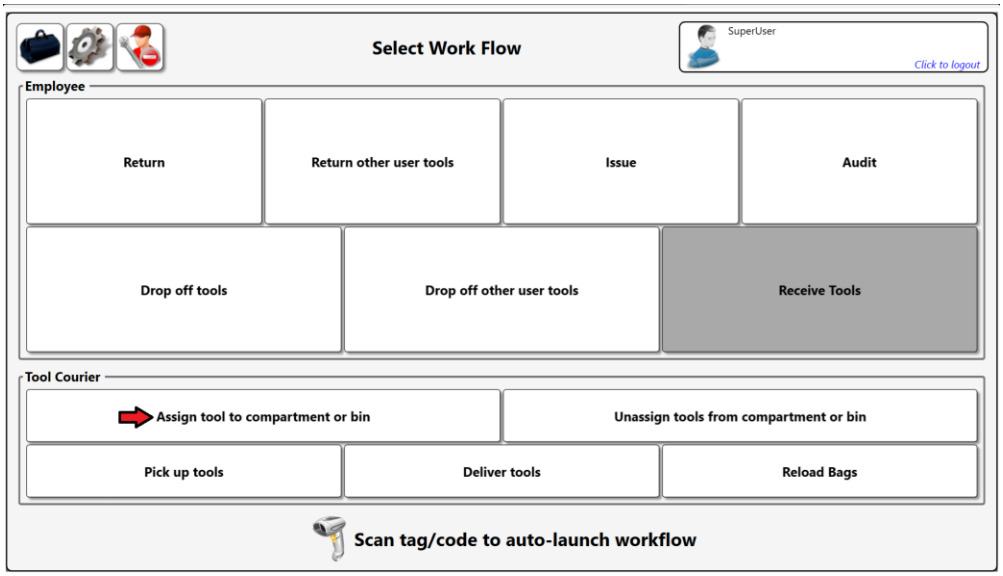
Swapping the Tools

1. The user will go to the FlexHub containing the tool that needs replacement and scan their badge to login.

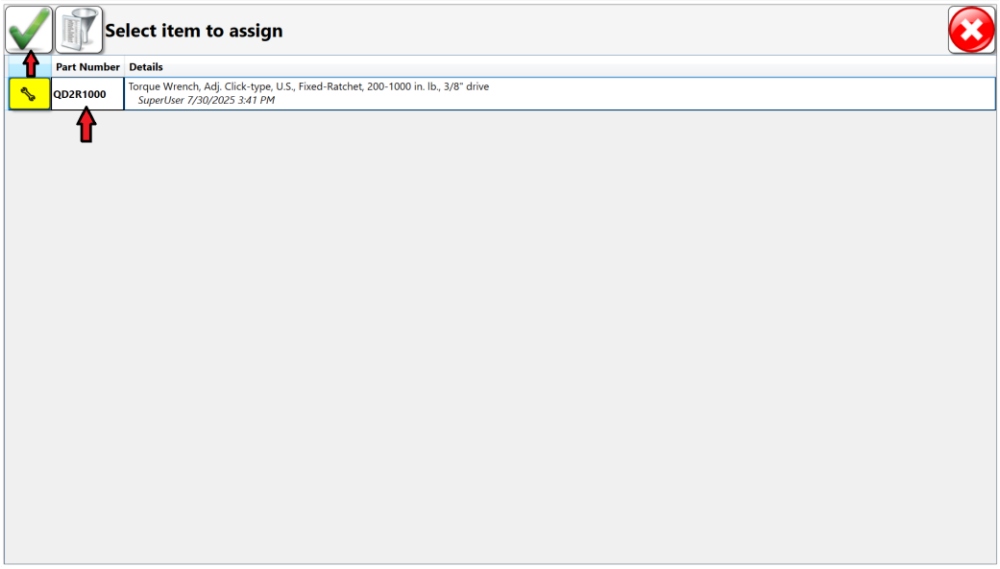


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2. Then he either scans the barcode of the new tool or clicks the **Assign tool to compartment or bin** button to initiate the transfer.



3. The user will then select the new tool to replace the tool in need of calibration and then click the **OK** button that looks like a green checkmark.

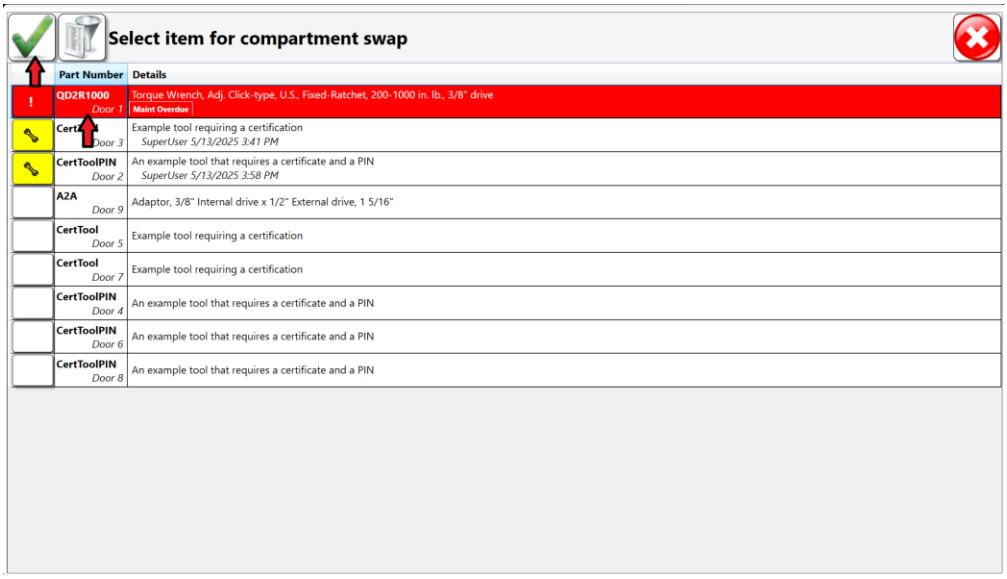


4. When asked how he would like to select the new compartment for the item, he will click the **Pick a tool to swap** button.

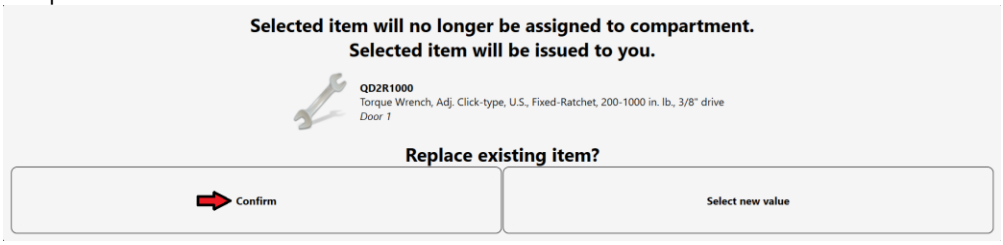


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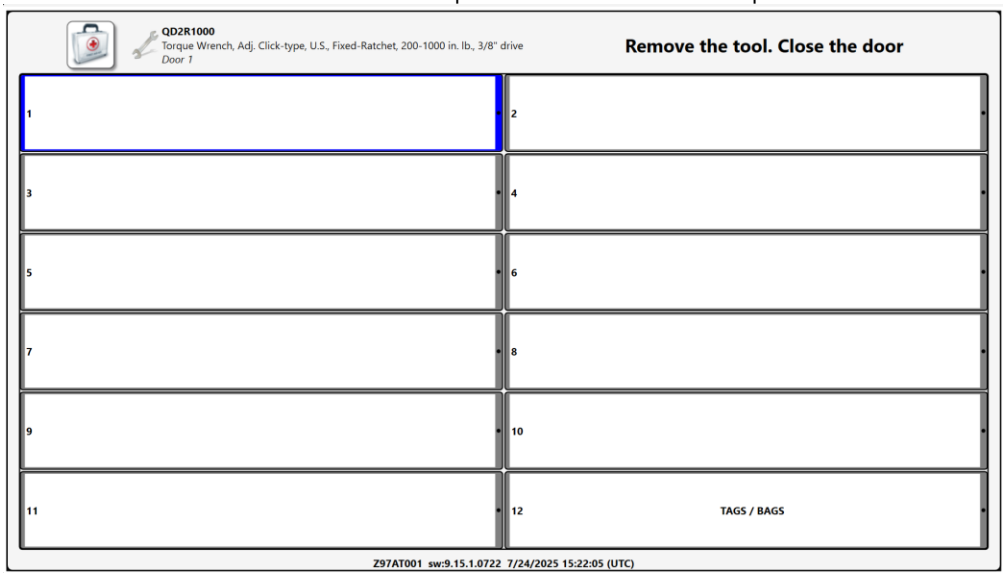
5. He then selects the tool in need of replacement and then clicks the **OK** button that looks like a green checkmark.



6. He will then click the **Confirm** button when prompted to make sure he wants to remove the tool from the compartment and issue it to him.

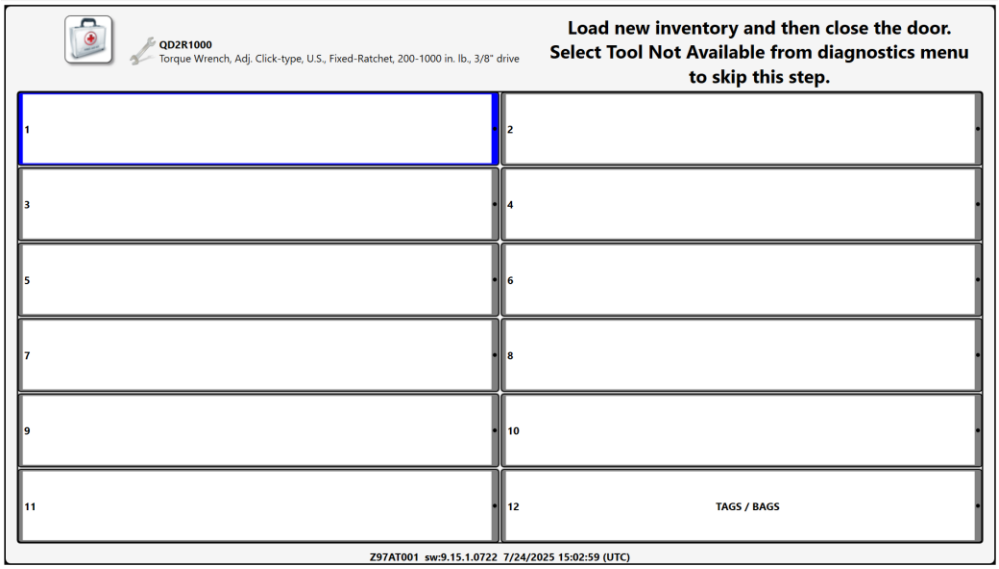


7. He will then remove the tool from the compartment and close the compartment door.

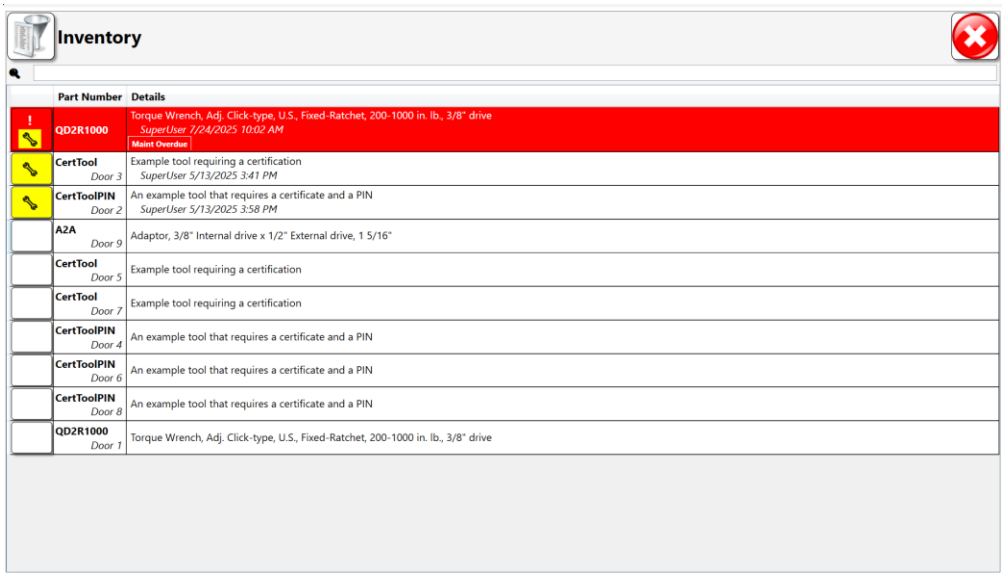


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8. He will then load the new tool into the compartment and close the door when prompted.



9. A look at the inventory for this FlexHub now shows that the new tool is located in the compartment and the tool in need of calibration is now issued to the user.

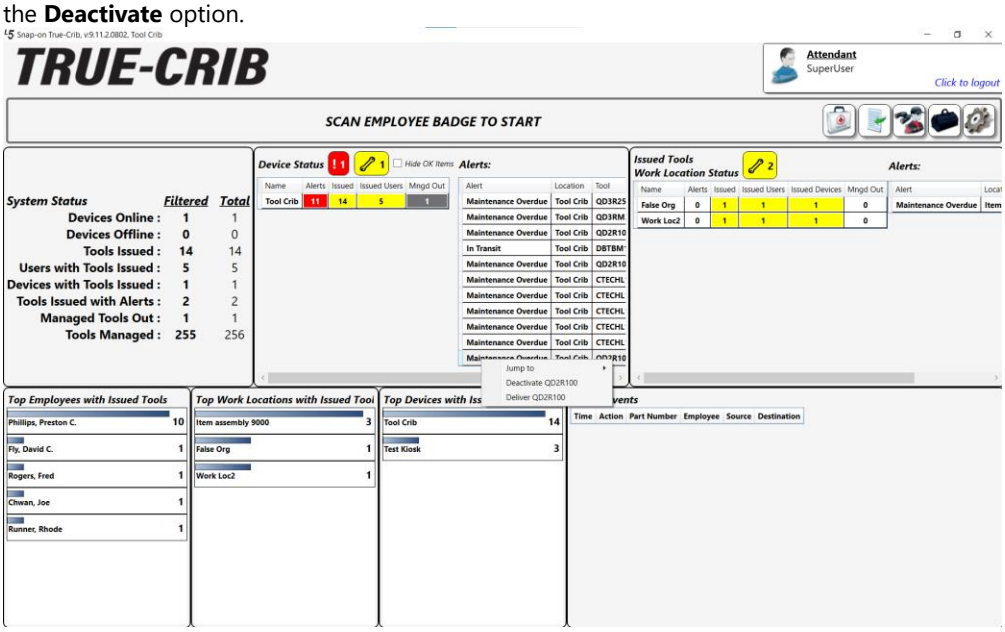


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Tool Deactivation (Tool Scrap) Process

Sometimes a tool may be broken and need to be scrapped and replaced. To accomplish this in the L5 Connect system a tool needs to be **deactivated**. The process will prevent the tool from showing up in inventory or being issued, but all its history will still be available.

1. The user follows the tool swap process to remove the tool from its current device and return it to the tool crib.
2. The user logs into the crib as an attendant.
3. The user finds the tool deactivated in the list of tools with an alert and right clicks the tool. Then he selects the **Deactivate** option.

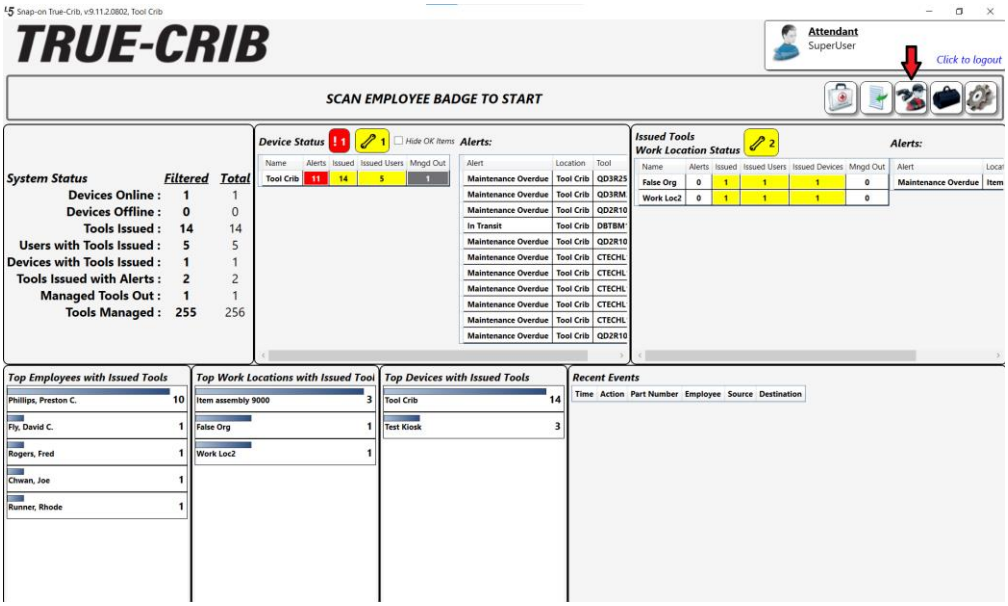


In the unlikely case that your crib has a custom dashboard where the device status widget is not present, there is an alternate approach.

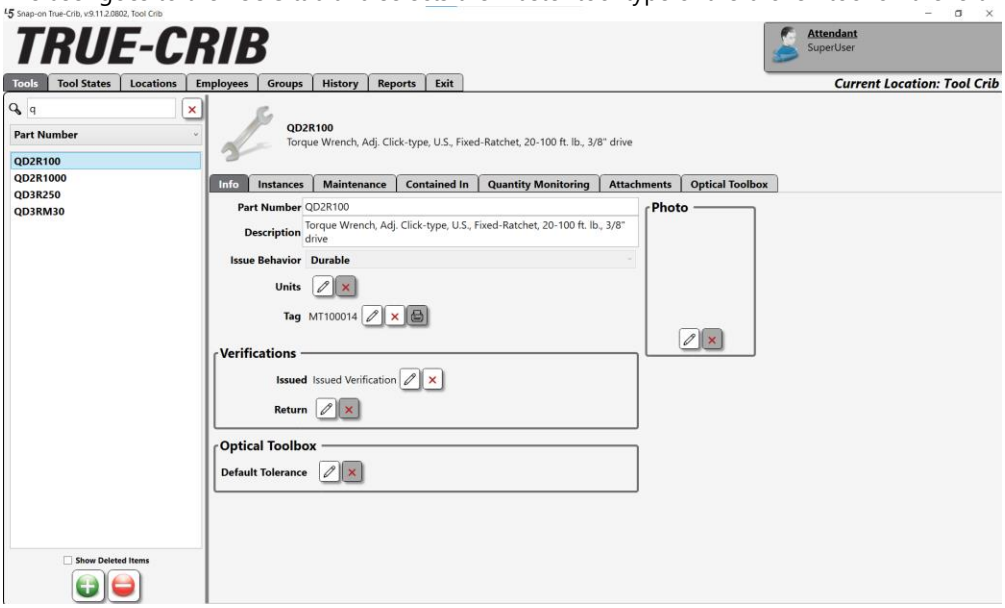
1. The user logs into the crib as an attendant.

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2. The user clicks the **Administration Mode** button and enters admin credentials.

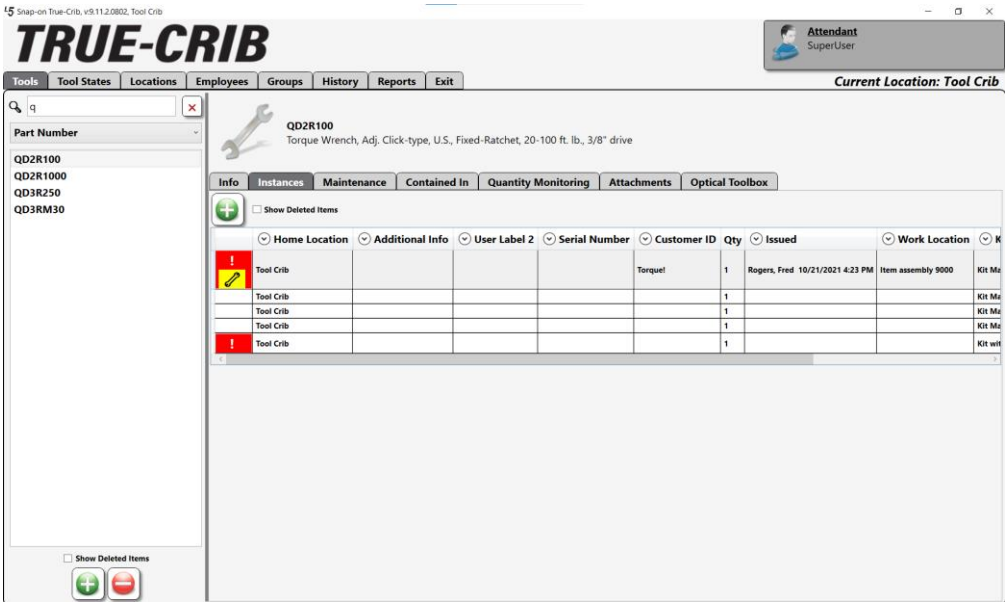


3. The user goes to the **Tools** tab and selects the master tool type of the broken tool on the left-hand side.

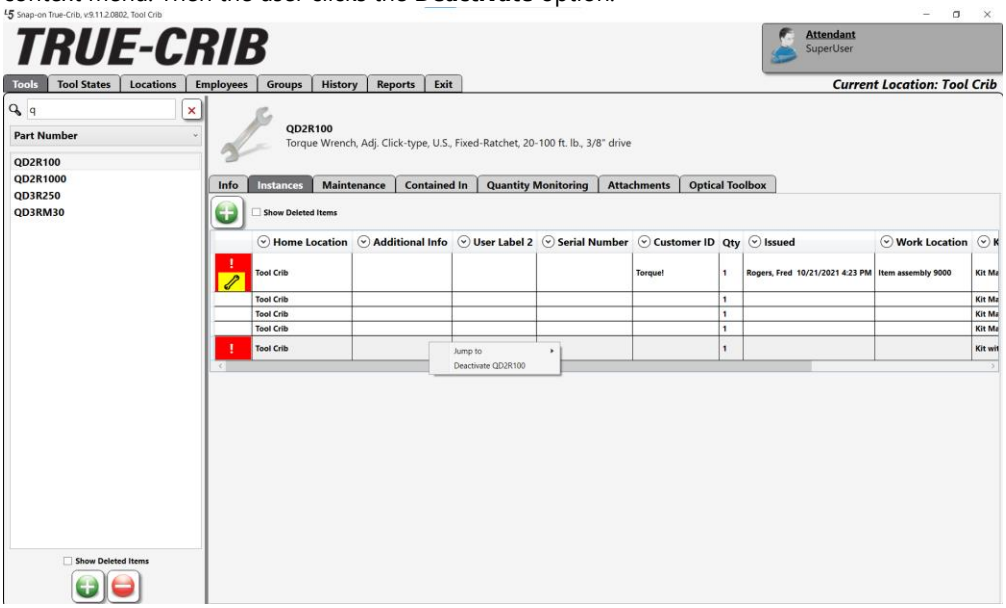


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4. The user clicks the **Instances** sub-tab.



5. The user finds the instance of the tool type that needs to be deactivated and right clicks it to bring up the context menu. Then the user clicks the **Deactivate** option.



6. The tool is now deactivated but will still show up in the history tab or reports.

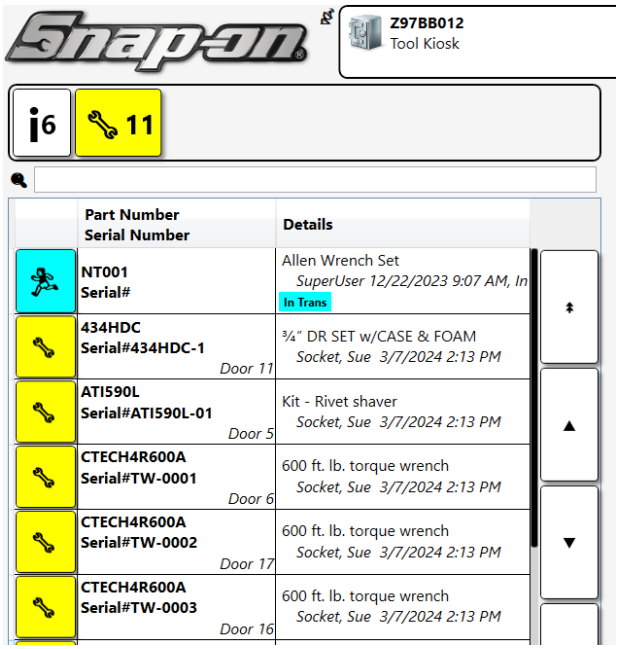
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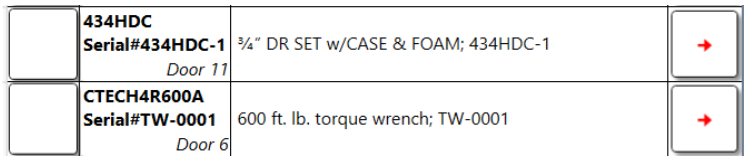
Tool Display Formatting

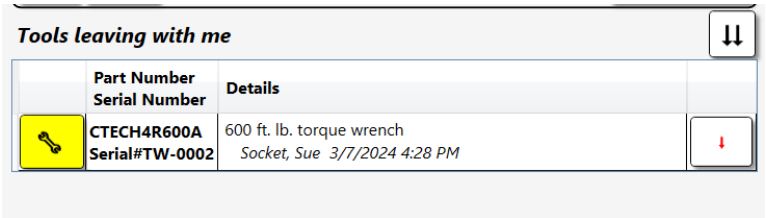
Tool Display Formatting controls the appearance of tool data on device controls. A tool's "extended" information can be added to most device displays in the L5 Connect System. For example, a tool's Serial Number can be added to the "Primary" and/or "Details" columns as shown below. Any changes made to the "Primary" or "Details" columns will be reflected in the headers of the columns, with the value chosen by the user automatically input into the column headers. **Note: Changes will have system wide effects.**

Required Permissions:

- Admin Client Access Edit
- SystemConfigEdit



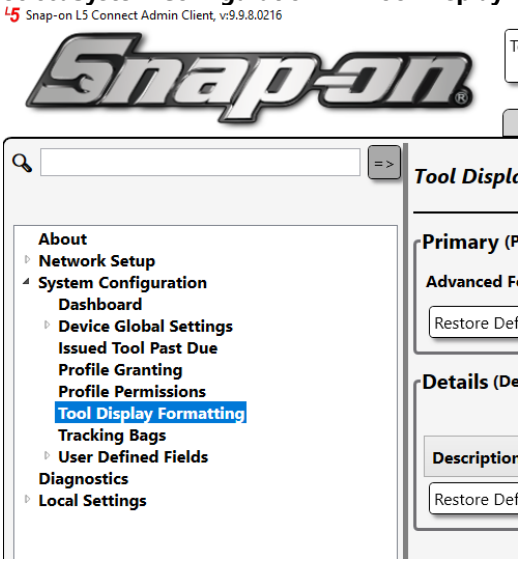




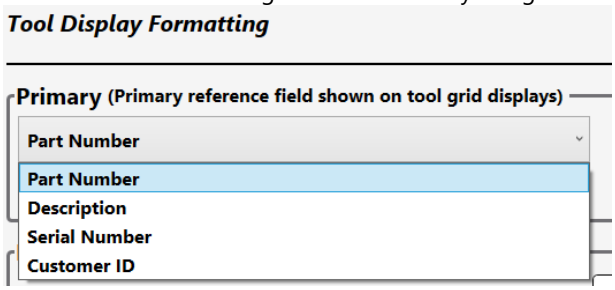
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Setup Tool Display Formatting

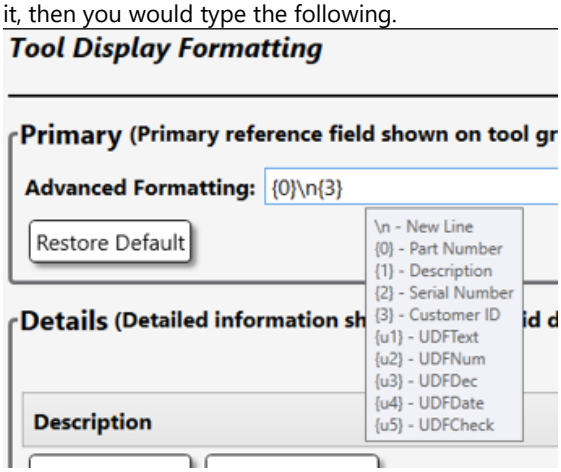
1. To begin, select the **Settings** Tab on the Admin Client
2. Select **System Configuration => Tool Display Formatting** from the list of choices on the left



3. Primary – This is the column that displays the tool's part number by default.
   a. The value can be changed from default by using the drop-down menu shown below.

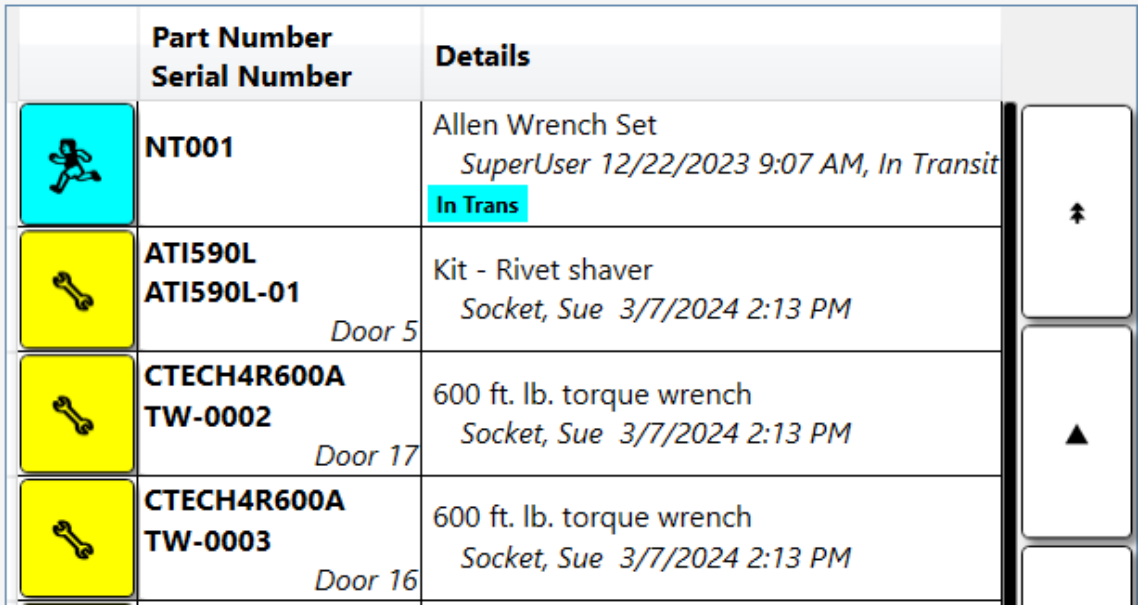


   b. Multiple values can be displayed simultaneously by entering "Advanced Mode". Hover over the Advanced Formatting field to see a list of available values and their required formatting. Any desired labels can also be added as shown below. For example, if you want to display a tools part number and the serial number below it, then you would type the following.

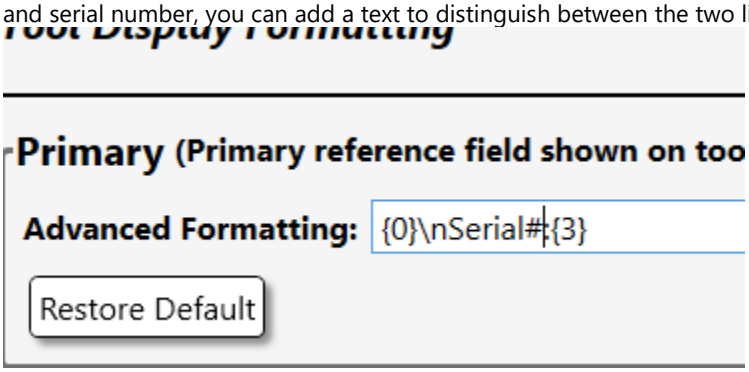


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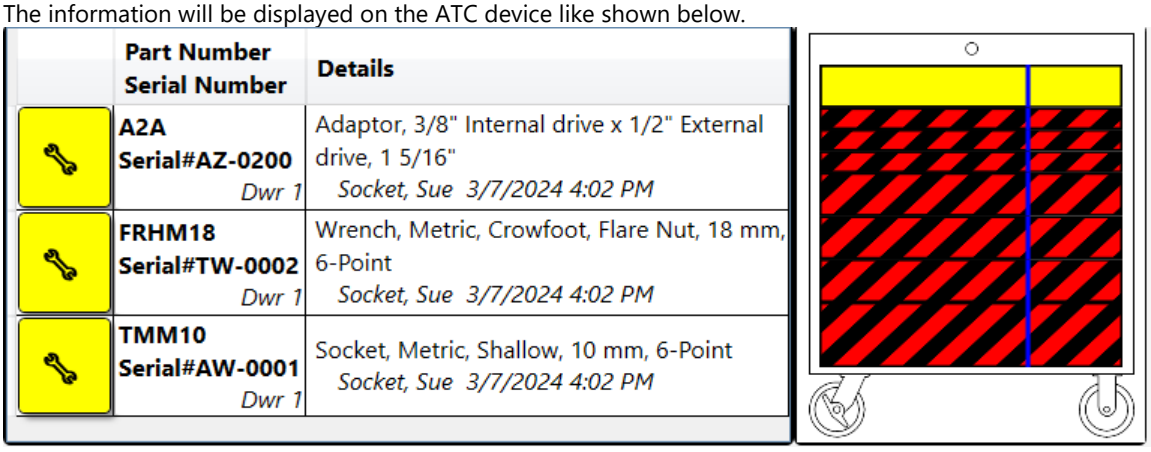
This information will be displayed on the ATC device as shown below.



You can also add custom text using the advanced formatting option. If you want to display the part number and serial number, you can add a text to distinguish between the two like the example shown below.

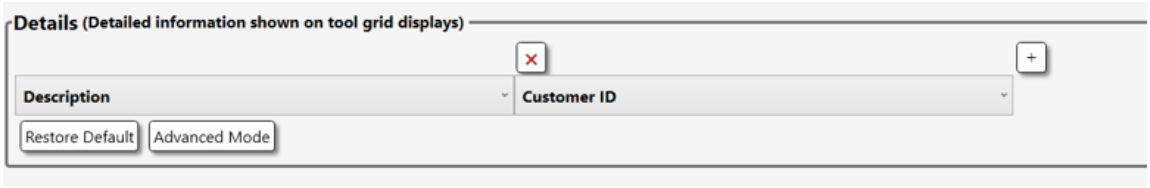


The information will be displayed on the ATC device like shown below.

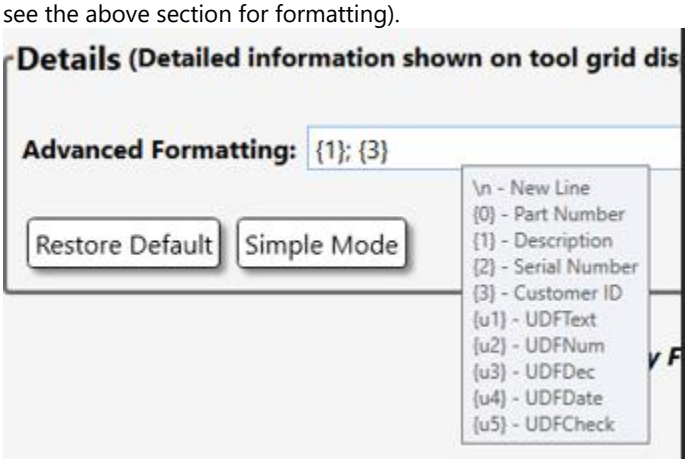


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4. Details
   a. Up to three values can be displayed in the "Details" field in the "Simple" mode. Click the **"plus"** to add a field and the red **X** to remove a field.



   b. Additionally, Advanced Mode is available for Details and uses the same formatting as the Primary (Please see the above section for formatting).



5. When all the desired formatting changes have been made, click the **Save** button in the upper right corner to commit.
6. The changes will automatically be pushed to all devices in the system. **Note: a restart of the User Interface may be required before the displays will update.**

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Tool Quantity Monitoring

When you have a consumable, you need to keep track of the inventory and know when to restock and reorder. You can do this with Quantity Monitoring, which is customizable and can be set anywhere in the location tree to monitor a specific tool. When you set a monitor, it applies to the current Location it is set at and any sub-locations below it.

There are two types of Monitors:

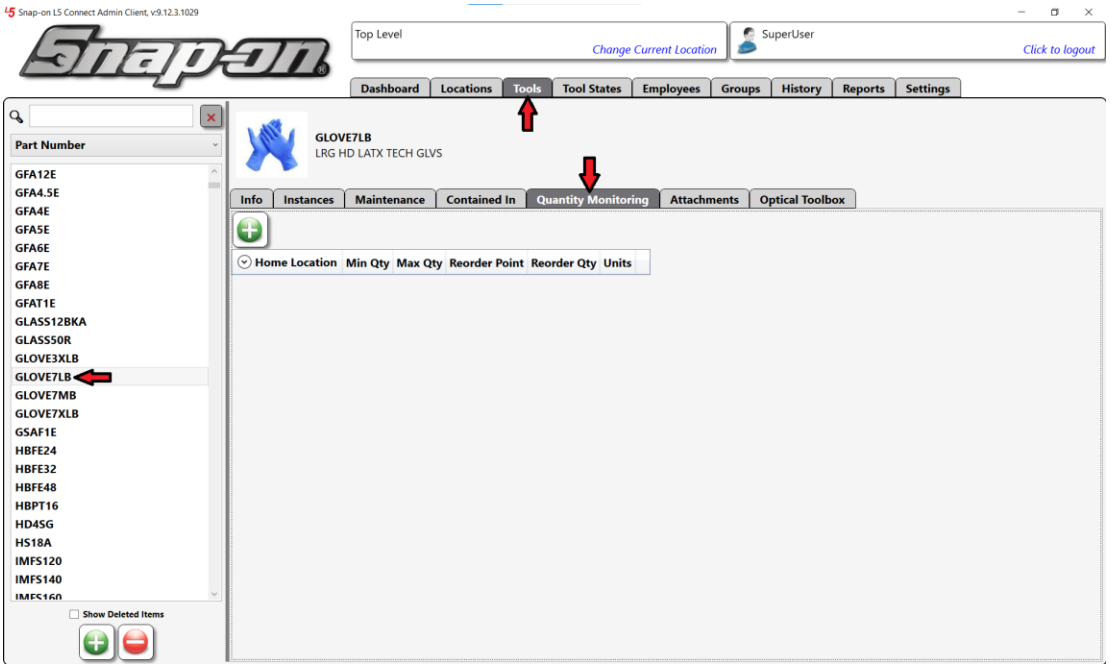
- **MIN/MAX** – This Monitor keeps track of the total available inventory. When the count falls below the MIN value, it shows up in the RESTOCK REPORT. This Monitor is typically set at the Device level.
- **REORDER** – This Monitor keeps track of the total available inventory as well. When the count falls below the Reorder Point value, it shows up in the REORDER REPORT. This Monitor is typically set at the Organization Level.

You can create a monitor from either the Tools Tab or the Locations Tab of the Admin Client.

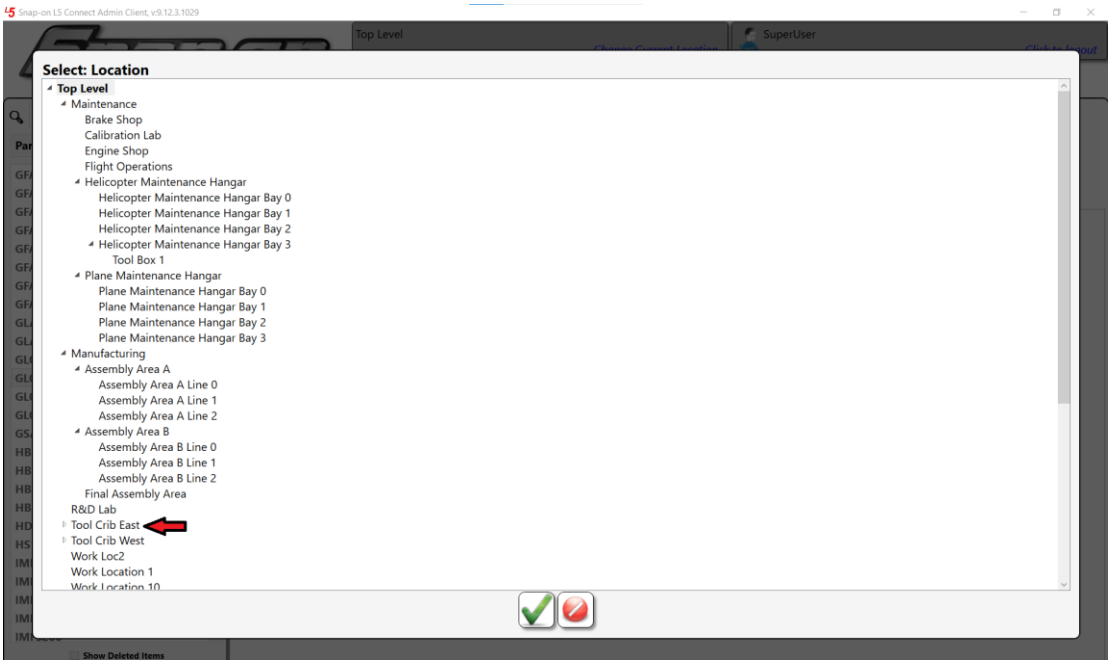
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Creating a Monitor from the Tools Tab

In the admin application, open the **Tools** tab and select a consumable tool, then select the Quantity Monitoring Tab.

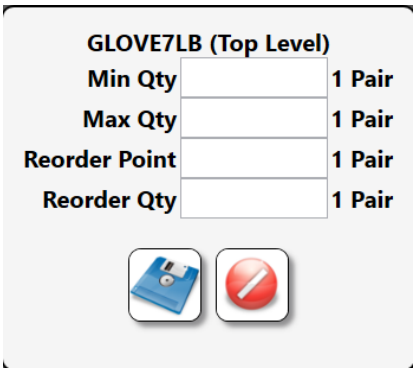


Click the green **New** button and select the location where you want this Monitor to reside. Here you are creating a restock monitor so you will select the **Tool Crib East** location.

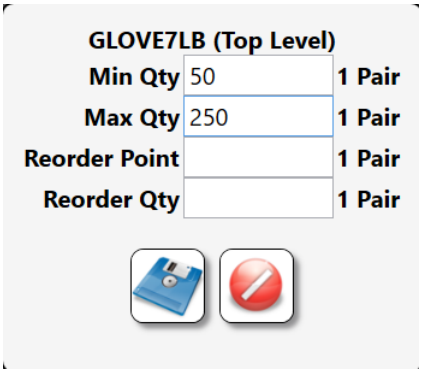


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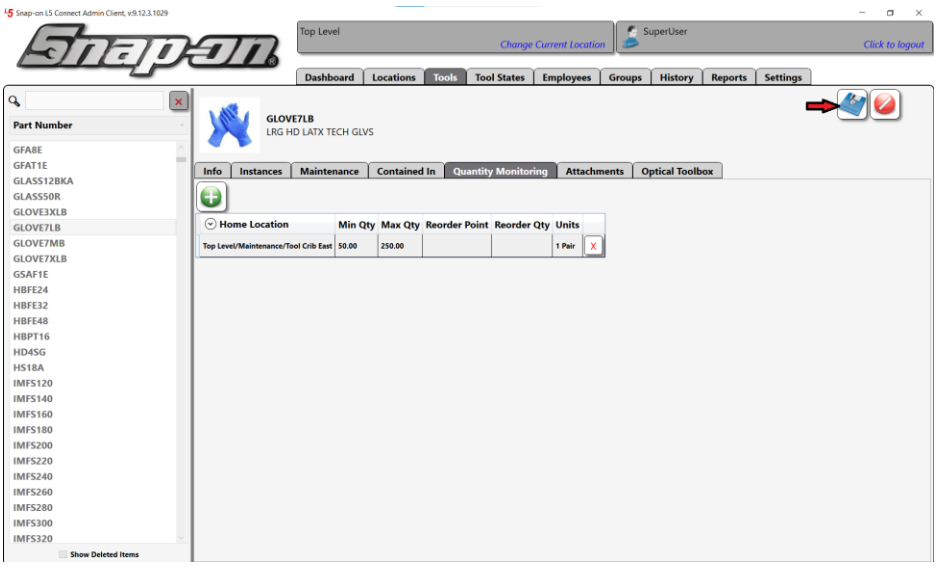
Click the green checkmark **OK** button. You are now presented with the Monitor Properties dialog.



Since you are creating a restock monitor, you need to define the **Min Qty** and **Max Qty** values. These are latex gloves, so you want to have at least 50 pairs and should have no more than 250 at this Location. So, you would set the values like this.



Click the blue **Save** button to save the Monitor. Then click the blue **Save** button to save the tool.

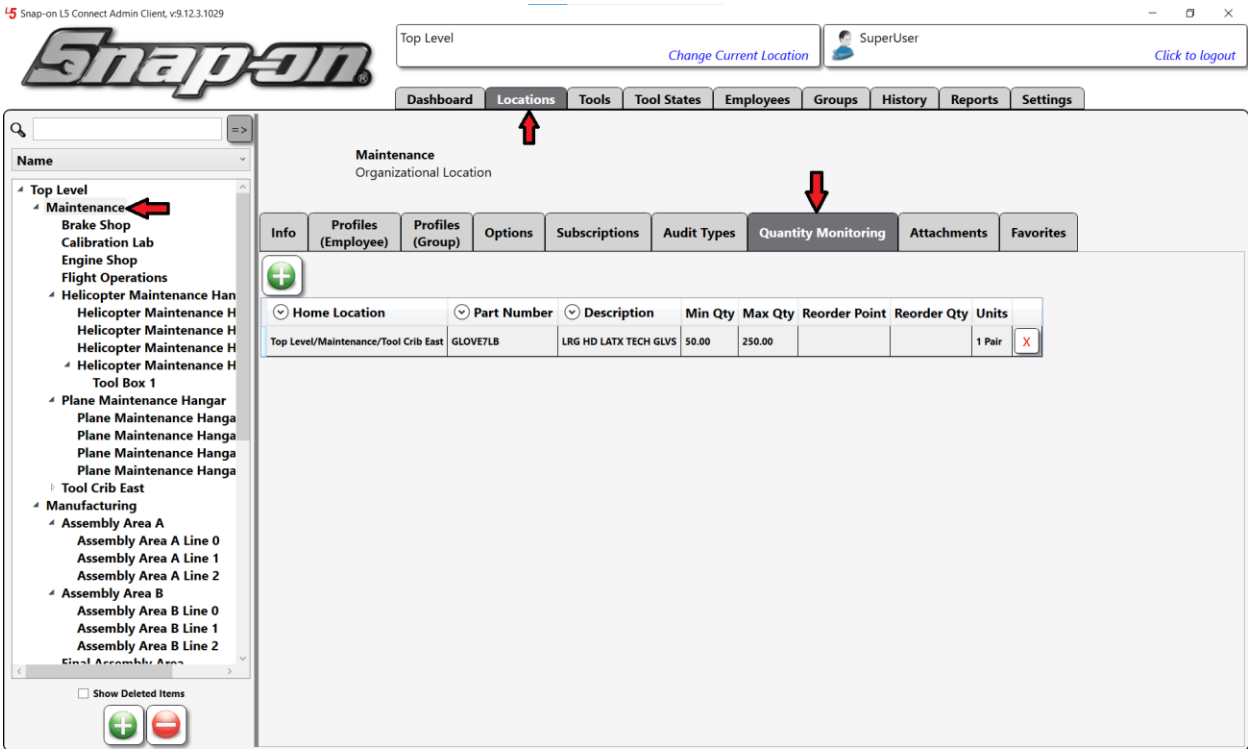


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Creating a Monitor from the Locations Tab

Now that you have a monitor set for restocking, let's create another one for reordering when inventory gets low. You set this at the organizational level so that the monitor can see the inventory levels of all sub-locations.

Open the **Locations** tab, select the **Maintenance** location, and then go to the Quantity Monitoring tab.

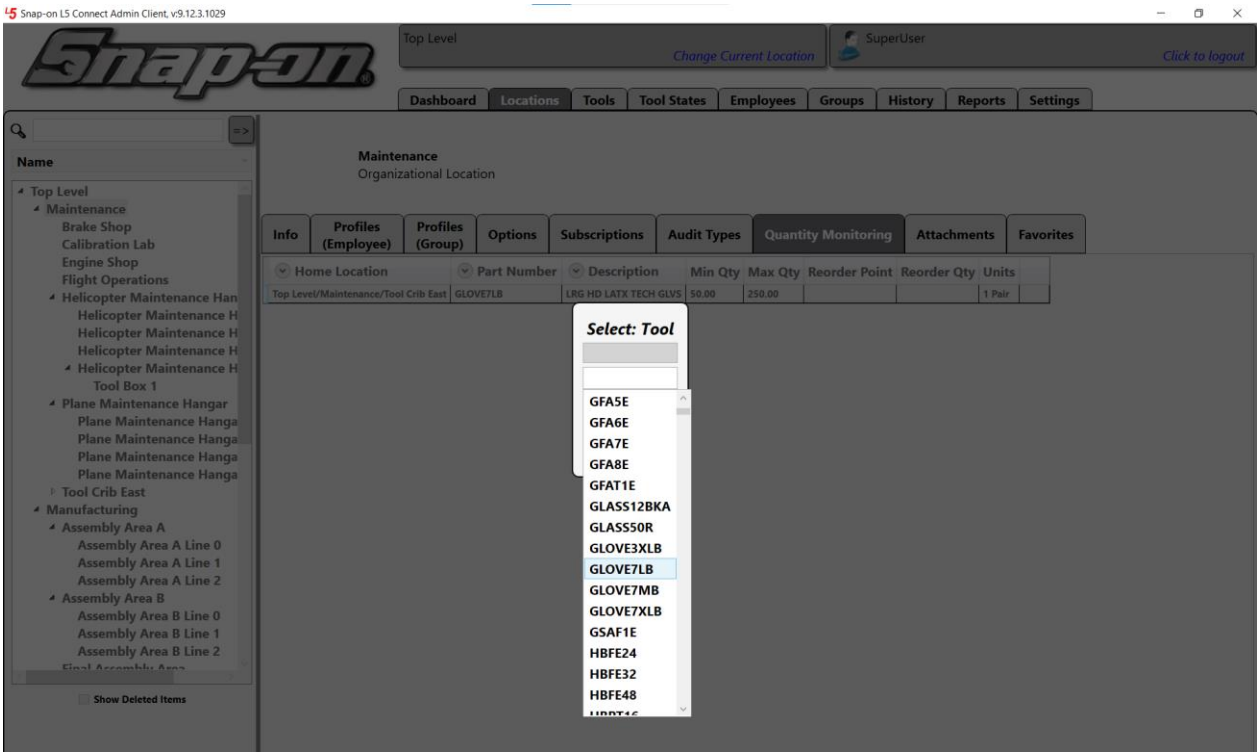


You can see the Monitor you have already created because it is a child location to the one you have selected. You will again click on the green **New** button. This time you are asked to select a tool.

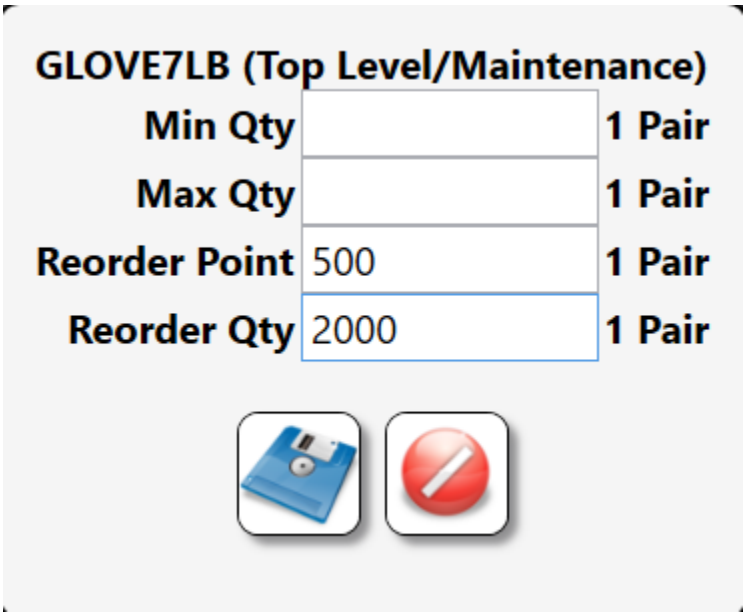


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Move your mouse to the White Space and select the **GLOVE7XLB** tool.

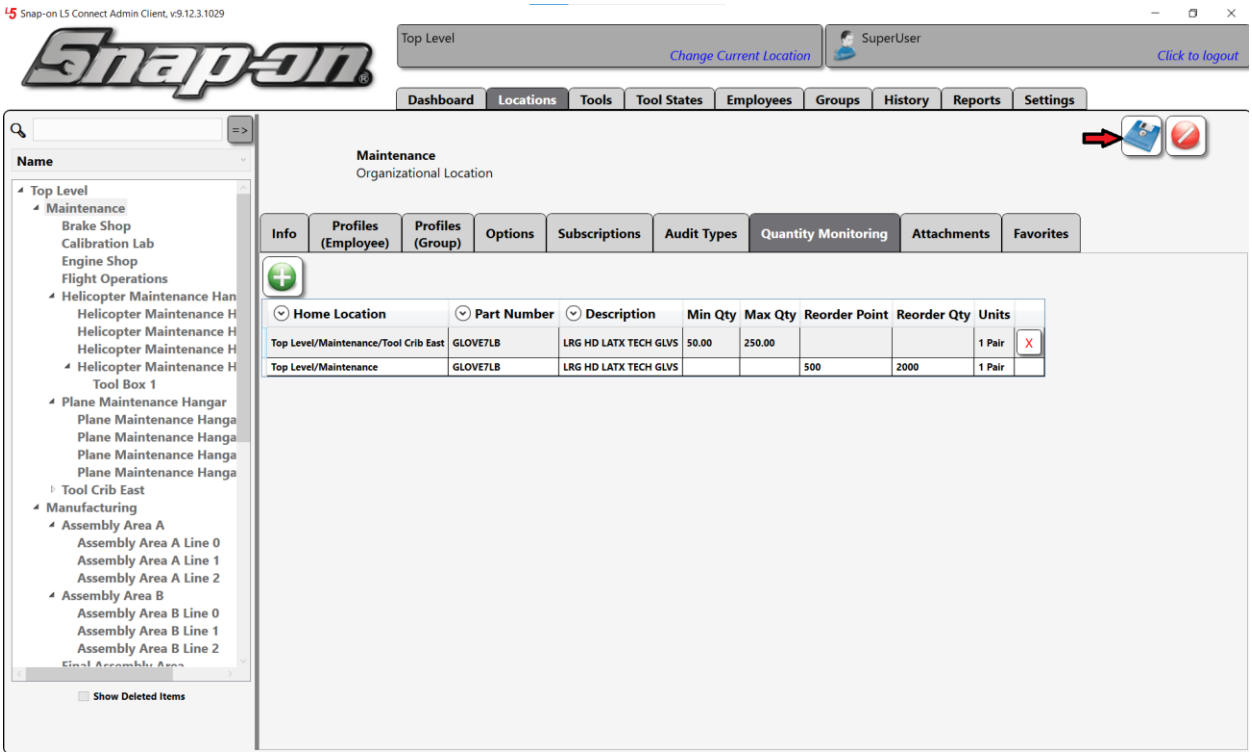


You are presented with the monitor properties screen again. This time you will set the **Reorder Point** and **Reorder Qty** values. Say that if you have less than 500 pairs of gloves, you will reorder 2000.



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Click the blue **Save** button to save the Monitor. Then click the blue **Save** button to save the tool.

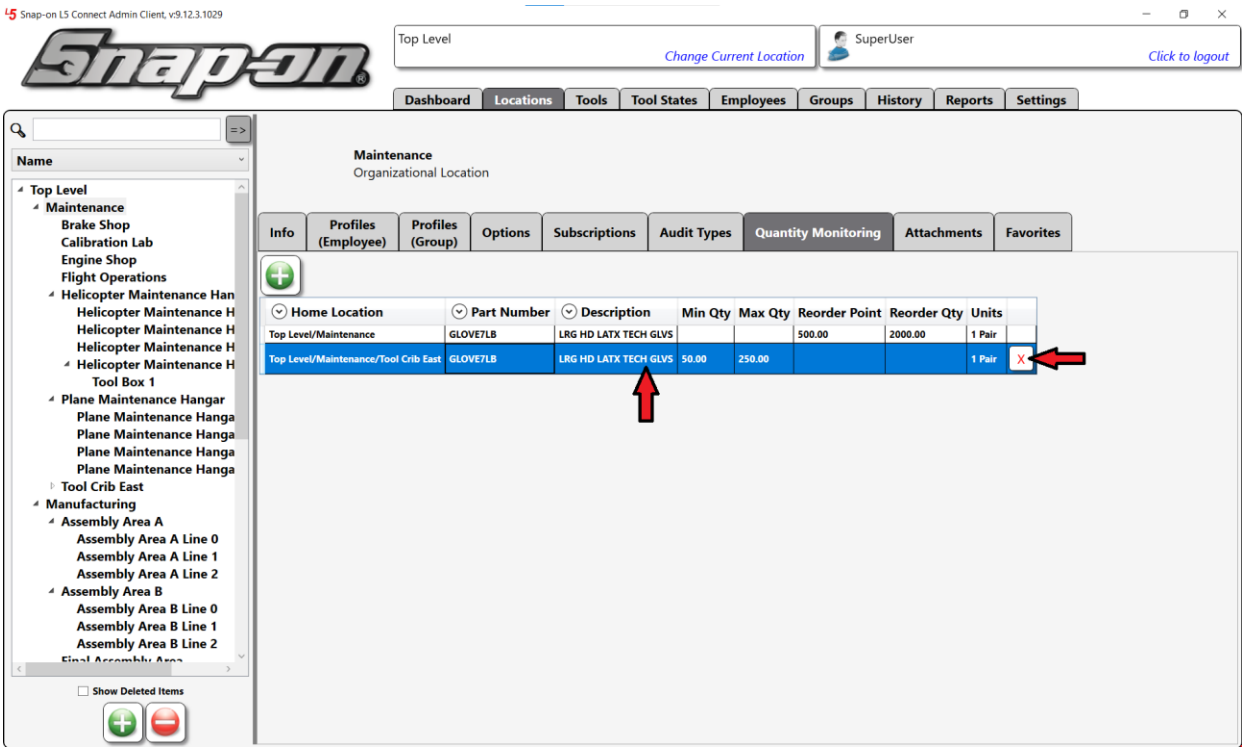


You now have two monitors set to tell you if you need to restock or reorder this specific part when inventory runs too low.

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Deleting a Monitor

If you want to remove a Monitor, select that monitor and then click on the **Delete** button at the end of the monitor's row.



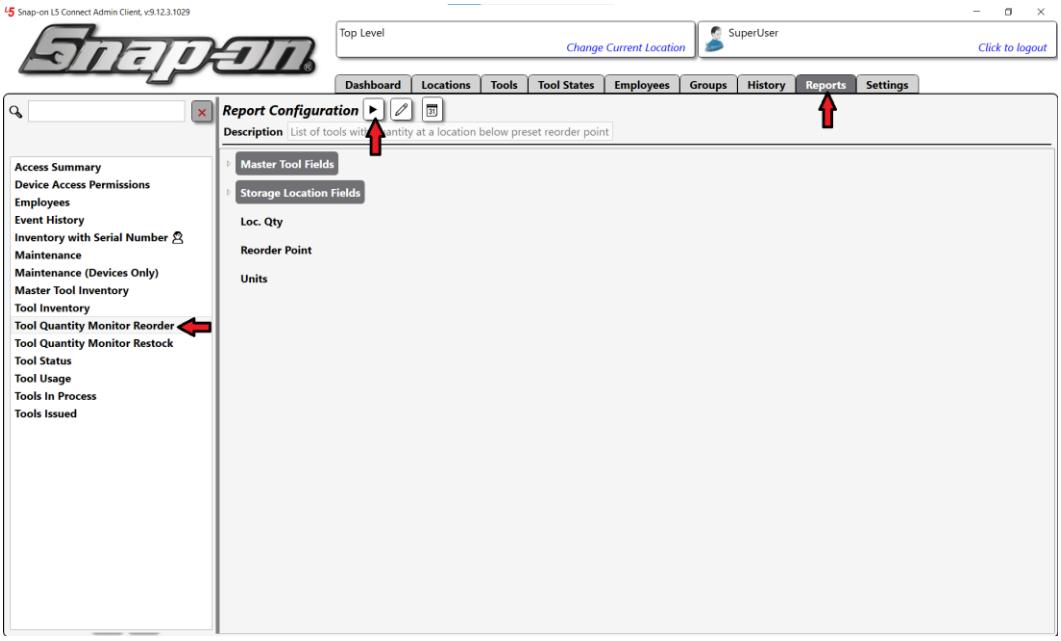
Then click the blue **Save** button to save the change.

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Quantity Monitoring Reports

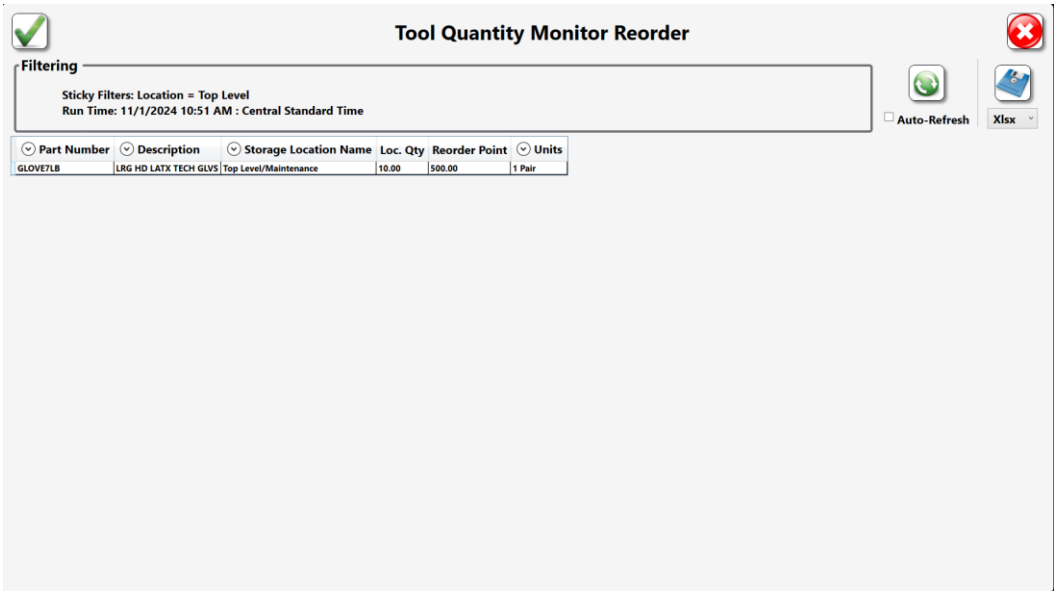
There are two built-in reports that can be run to help with monitoring your tool quantities. There is a **Tool Quantity Monitor Reorder** report and a **Tool Quantity Monitor Restock** report.

You can run these reports by going to the **Reports** tab, selecting the desired report, and clicking the **Run** button.

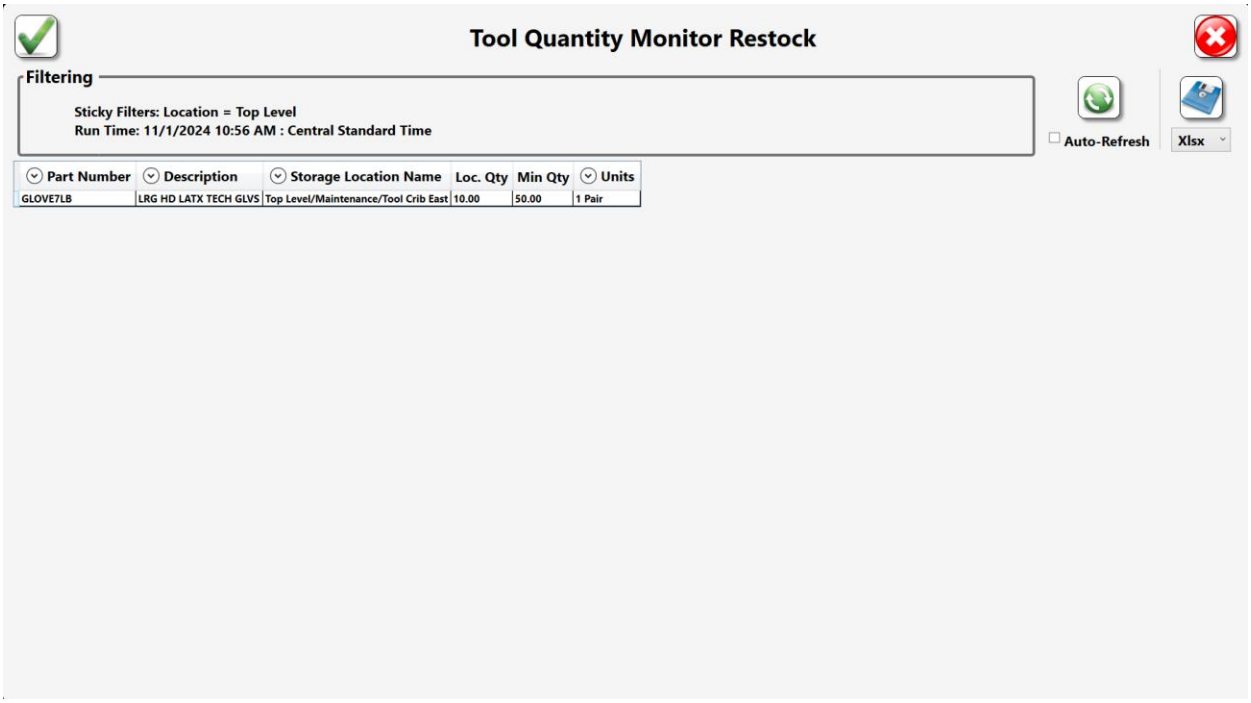


If you run the reorder report, you will see that the gloves show up because the current quantity is below the reorder point. This would allow you to see all the different consumables you need to reorder in one place.

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If you run the restock report, you will see that since the quantity of gloves is below the minimum quantity, the gloves show up as needing to be restocked. This report lets you quickly see which consumables in your system need to be restocked.



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Importing Updates

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Importing Updates to Existing Tool Instances

This document will explain how you can update multiple tools at once by using the new **Tool Field Updater** feature of the Admin application. The tools need to be existing tool instances in the L5 Connect system. You will also need an Excel spreadsheet with the new tool field values to import.

Multiple Object Edit Permission

Because the ability to edit multiple tools at once is a powerful tool and could potentially make unintended changes, there has been a new permission added to the L5 Connect system that is required to allow users to edit multiple objects at once. This permission is required in a user profile to allow that user to update multiple objects at once. The built-in **Administrator** and **SuperUser** profiles have this permission. Alternatively, you could create a custom profile with this permission granted. The **Multiple Object Edit** permission is located in the **System Configuration** section of the permissions list. For more information on how to set up custom profiles see Default and Custom Profiles and Permissions.

Creating a Spreadsheet for Importing

You will need to create a spreadsheet with the list of tool instance data that you wish to update before doing the bulk import. If you don't already have a spreadsheet set up, you can easily create one by running a report in the Admin application and then exporting it to an Excel file. **NOTE: You must include the ToolID column in your spreadsheet to properly map the data.** If you wanted to add a customer ID and serial number to all the tools in a specific toolbox, you could create a custom optical toolbox pockets report filtered to the toolbox device and with the customer ID and serial number columns. Run the report and then export it to an Excel file. Then you can edit this file to add the customer ID and serial number values you wish to update for the tools. For more information on how to create and run custom reports see L5 Connect™ Reports.

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Here is an example of what that might look like.

Tool Inventory

Filtered By: Location = Top Level, Device Serial Number = Z91BJ001

Run Time: 8/28/2025 10:59 AM : Central Standard Time

Requested By: SuperUser

Device Serial Number	Part Number	Description	Drawer	Tool ID	Tool Customer ID	Serial Number
Z91BJ001	10MA-SGHF616BR	10MA-SGHF616BR	5	225374	CID225374	SN225374
Z91BJ001	235605	Epoxy Adhesive, 1.69 oz., Gray, Work Life: 3 min.		102908		
Z91BJ001	47ACP	Pliers, Combination Slip-Joint, Industrial Finish, Vinyl Grips, 7 1/2"		102546		
Z91BJ001	47ACP	Pliers, Combination Slip-Joint, Industrial Finish, Vinyl Grips, 7 1/2"	8	225455	CID225455	SN225455
Z91BJ001	6T-SGHF614BR	6T-SGHF614BR	5	225377	CID225377	SN225377
Z91BJ001	87CF	Cutters, Diagonal, Vinyl Grips, 7 3/8"		102545		
Z91BJ001	87CF	Cutters, Diagonal, Vinyl Grips, 7 3/8"	8	225454	CID225454	SN225454
Z91BJ001	8MA-SGHF615BR	8MA-SGHF615BR	5	225375	CID225375	SN225375
Z91BJ001	8R-SGHF614BR	8R-SGHF614BR	5	225376	CID225376	SN225376
Z91BJ001	91ACP	Pliers, Adjustable Joint, Interlocking Channel, Industrial Finish, 9 1/4"		102565		
Z91BJ001	91ACP	Pliers, Adjustable Joint, Interlocking Channel, Industrial Finish, 9 1/4"	8	225429	CID225429	SN225429
Z91BJ001	96CF	Pliers, Long Needle Nose, Vinyl Grips, 8"		102544		
Z91BJ001	96CF	Pliers, Long Needle Nose, Vinyl Grips, 8"	8	225456	CID225456	SN225456
Z91BJ001	97CCP	Pliers, Needle Nose, Vinyl Grips, 8"		102543		
Z91BJ001	97CCP	Pliers, Needle Nose, Vinyl Grips, 8"	8	225458	CID225458	SN225458
Z91BJ001	A2A	Adaptor, 3/8" Internal drive x 1/2" External drive, 1 5/16"	1	225142	CID225142	SN225142
Z91BJ001	AC5B	Brush, Hand Scratch, Stainless Steel, 7 7/8"		102552		
Z91BJ001	AW1015DHK	Set, Wrench, L-Shape, Hex (15 pcs. In BHK15 Metal Index) (.028" to 3/8")	7	225427		
Z91BJ001	AWBCG1606	Wrench, Ball Hex, T-Handle, 3/32", Red Handle, 9" long	7	225419	CID225419	SN225419
Z91BJ001	AWBCG1607	Wrench, Ball Hex, T-Handle, 7/64", Red Handle, 9" long	7	225420	CID225420	SN225420
Z91BJ001	AWBCG1608	Wrench, Ball Hex, T-Handle, 1/8", Red Handle, 9" long	7	225421	CID225421	SN225421
Z91BJ001	AWBCG1609	Wrench, Ball Hex, T-Handle, 9/64", Red Handle, 9" long	7	225422	CID225422	SN225422
Z91BJ001	AWBC01610	Wrench, Ball Hex, T-Handle, 5/32", Red Handle, 9" long	7	225423	CID225423	SN225423
Z91BJ001	AWBCG1612	Wrench, Ball Hex, T-Handle, 3/16", Red Handle, 9" long	7	225424	CID225424	SN225424
Z91BJ001	AWBC01614	Wrench, Ball Hex, T-Handle, 7/32", Red Handle, 9" long	7	225425	CID225425	SN225425
Z91BJ001	AWBCG1616	Wrench, Ball Hex, T-Handle, 1/4", Red Handle, 9" long	7	225426	CID225426	SN225426
Z91BJ001	AWBMCG1602	Wrench, Metric, Ball Hex, T-Handle, 2 mm, Blue Handle, 9" long	7	225411	CID225411	SN225411
Z91BJ001	AWBMCG16025	Wrench, Metric, Ball Hex, T-Handle, 2.5 mm, Blue Handle, 9" long	7	225412	CID225412	SN225412
Z91BJ001	AWBMCG1603	Wrench, Metric, Ball Hex, T-Handle, 3 mm, Blue Handle, 9" long	7	225413	CID225413	SN225413
Z91BJ001	AWBMCG1604	Wrench, Metric, Ball Hex, T-Handle, 4 mm, Blue Handle, 9" long	7	225414	CID225414	SN225414
Z91BJ001	AWBMCG1605	Wrench, Metric, Ball Hex, T-Handle, 5 mm, Blue Handle, 9" long	7	225415	CID225415	SN225415
Z91BJ001	AWBMCG1606	Wrench, Metric, Ball Hex, T-Handle, 6 mm, Blue Handle, 9" long	7	225416	CID225416	SN225416
Z91BJ001	AWBMCG1608	Wrench, Metric, Ball Hex, T-Handle, 8 mm, Blue Handle, 9" long	7	225417	CID225417	SN225417
Z91BJ001	AWBMCG1610	Wrench, Metric, Ball Hex, T-Handle, 10 mm, Blue Handle, 9" long	7	225418	CID225418	SN225418
Z91BJ001	AWM110DHK	Set, Metric, Wrench, L-Shape, Hex, Long (11 pcs. in BHK11 Metal Index) (2 to 12 mm)	7	225428	CID225428	SN225428
Z91BJ001	B58HLP	Pliers, Linemans, Blue-Point, 8"		102526		
Z91BJ001	B58HLP	Pliers, Linemans, Blue-Point, 8"	8	225457	CID225457	SN225457
Z91BJ001	BADJC10	Wrench, Adjustable, Composite Handle, Blue-Point®, 10"	4	225344	CID225344	SN225344
Z91BJ001	BADJC6	Wrench, Adjustable, Composite Handle, Blue-Point®, 6"	4	225360	CID225360	SN225360
Z91BJ001	BADJC8	Wrench, Adjustable, Composite Handle, Blue-Point®, 8"	4	225343	CID225343	SN225343
Z91BJ001	BP16B	Hammer, Ball Peen, 16 oz.	6	225409	CID225409	SN225409
Z91BJ001	CSA8C	Carbon Scraper, Rigid, Black, 7/8" Blade Width, 7 5/8"		102572		
Z91BJ001	CSA8C	Carbon Scraper, Rigid, Black, 7/8" Blade Width, 7 5/8"	5	225366	CID225366	SN225366
Z91BJ001	CTECHL1R240A	1/4" Drive Fixed - Head Aluminum Body ControlTech™ Industrial Torque Wrench(1-20 ft		102909		
Z91BJ001	DBTBM1	1 mm ThunderBit® Metric High Speed Steel 135° Split Point Drill Bit		102907		
Z91BJ001	E704BCG	Pliers, Electronic, Needle Nose, 45° Angled Serrated Jaws, 6 5/8"	5	225384	CID225384	SN225384
Z91BJ001	E711BCG	Cutters, Electronic, Tapered Head, 5 3/4" (AWG #16 max.)	5	225385	CID225385	SN225385

NOTE: Be sure that you have a report copy of the existing tool data before attempting to change it!

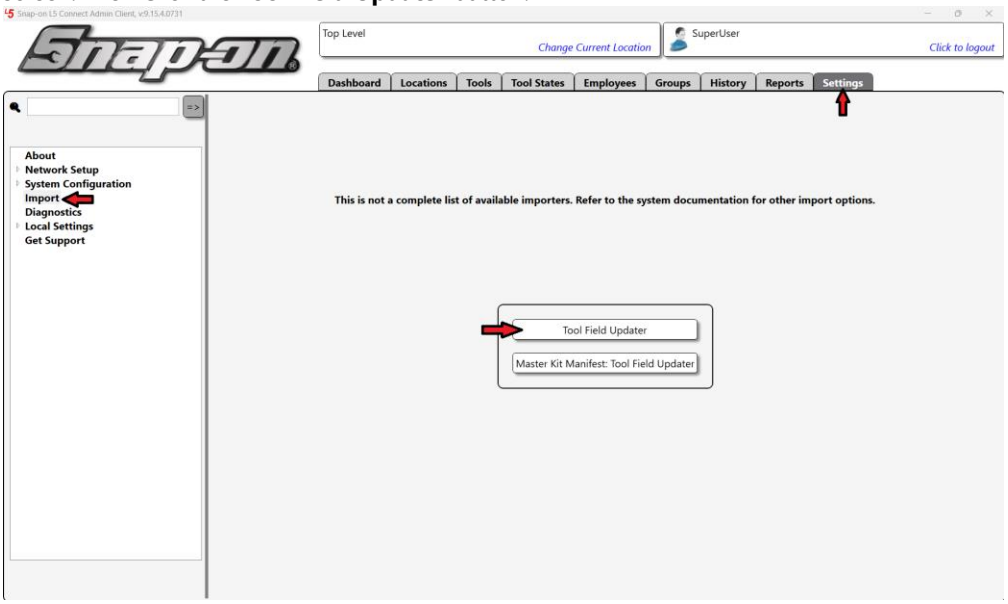
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Importing Tool Updates

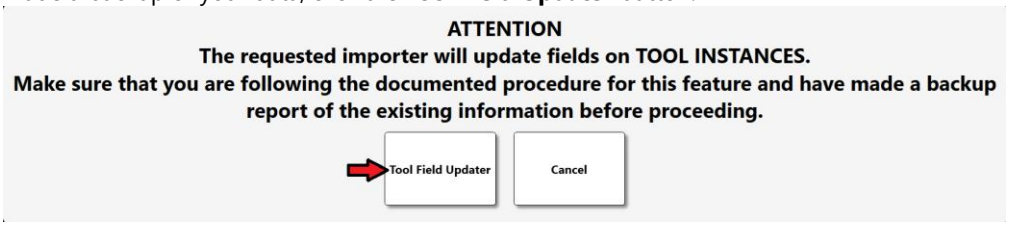
Once you have your updated tool data in your spreadsheet, you are ready to import it into the L5 Connect system.

NOTE: Make sure that any devices containing the tools being updated are online before attempting to perform the update!

1. Go to the **Settings** tab of the Admin application and select the **Import** list item on the left-hand side of the screen. Then Click the **Tool Field Updater** button.

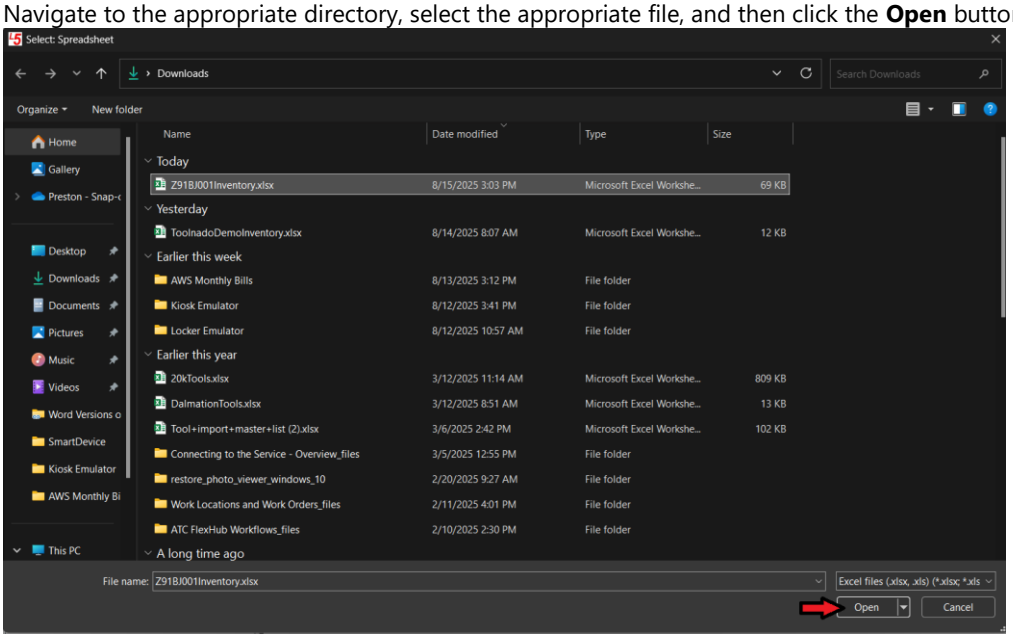


2. When prompted with the warning that the updater will change fields on tool instances, having previously made a backup of your data, click the **Tool Field Updater** button.

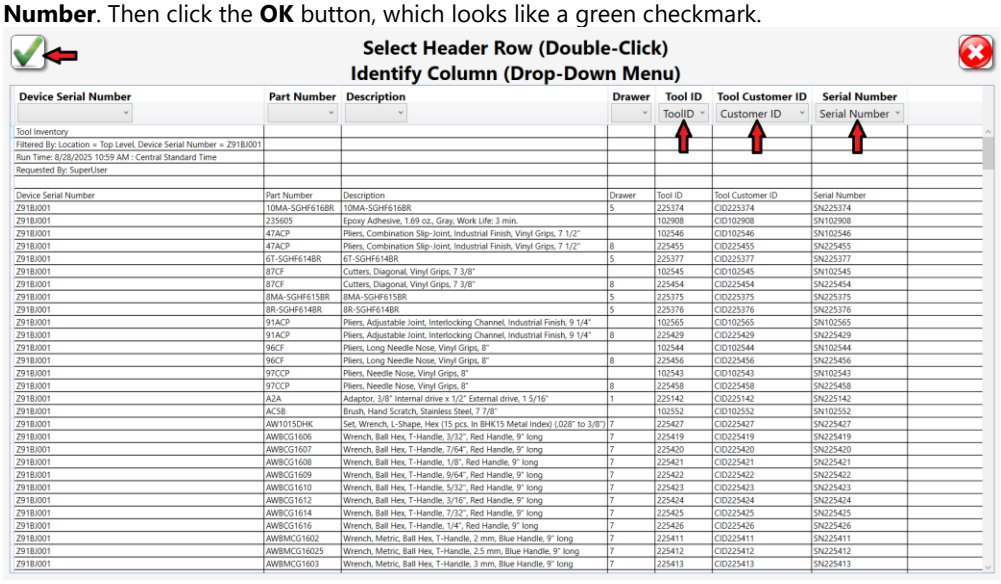


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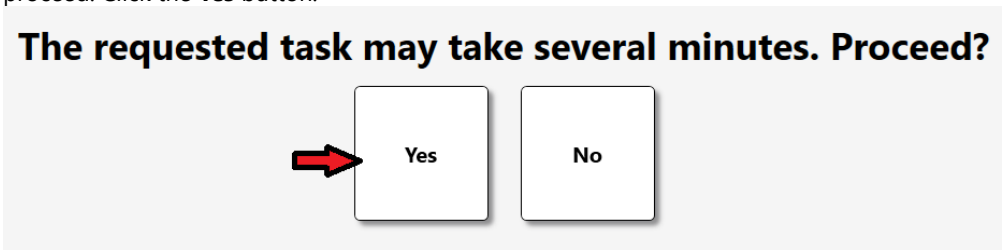
3. You will then be presented with a file dialog window to select the Excel spreadsheet with the import data. Navigate to the appropriate directory, select the appropriate file, and then click the **Open** button.



4. Map the columns in your spreadsheet to the proper importer fields of **ToolID**, **Customer ID**, and **Serial Number**. Then click the **OK** button, which looks like a green checkmark.

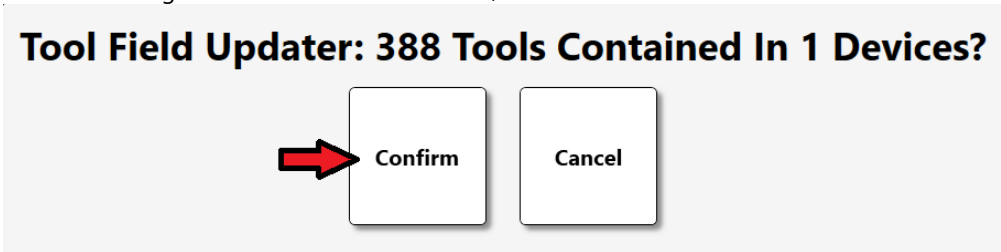


5. You will then see a window warning you that the task may take several minutes asking if you wish to proceed. Click the **Yes** button.

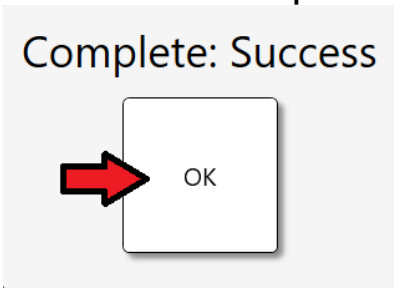


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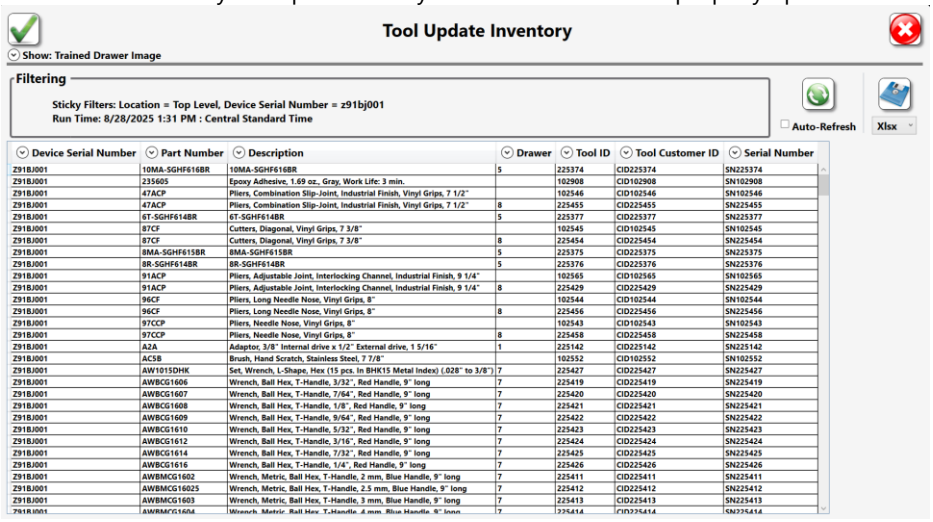
6. You will then get one more window confirming the number of tools and devices. If any of the devices are offline, the importer will update the devices that are online but fail to update any devices that are offline. After confirming that all the devices are online, click the **Confirm** button.



7. You should then see a **Complete: Success** window. Click the **OK** button.



8. You can then re-run your report to verify that all the fields were properly updated.



Device Serial Number	Part Number	Description	Drawer	Tool ID	Tool Customer ID	Serial Number
Z91BJ001	10MA-SGHF616BR	10MA-SGHF616BR	5	225374	CID225374	SN225374
Z91BJ001	235605	Epoxy Adhesive, 1.69 oz., Gray, Work Life: 3 min.		102908	CID102908	SN102908
Z91BJ001	47ACP	Pliers, Combination Slip-Joint, Industrial Finish, Vinyl Grips, 7 1/2"		102546	CID102546	SN102546
Z91BJ001	47ACP	Pliers, Combination Slip-Joint, Industrial Finish, Vinyl Grips, 7 1/2"	8	225455	CID225455	SN225455
Z91BJ001	6T-SGHF614BR	6T-SGHF614BR	5	225377	CID225377	SN225377
Z91BJ001	87CF	Cutters, Diagonal, Vinyl Grips, 7 3/8"		102545	CID102545	SN102545
Z91BJ001	87CF	Cutters, Diagonal, Vinyl Grips, 7 3/8"	8	225454	CID225454	SN225454
Z91BJ001	8MA-SGHF615BR	8MA-SGHF615BR	5	225375	CID225375	SN225375
Z91BJ001	8R-SGHF614BR	8R-SGHF614BR	5	225376	CID225376	SN225376
Z91BJ001	91ACP	Pliers, Adjustable Joint, Interlocking Channel, Industrial Finish, 9 1/4"		102565	CID102565	SN102565
Z91BJ001	91ACP	Pliers, Adjustable Joint, Interlocking Channel, Industrial Finish, 9 1/4"	8	225429	CID225429	SN225429
Z91BJ001	96CF	Pliers, Long Needle Nose, Vinyl Grips, 8"		102544	CID102544	SN102544
Z91BJ001	96CF	Pliers, Long Needle Nose, Vinyl Grips, 8"	8	225456	CID225456	SN225456
Z91BJ001	97CCP	Pliers, Needle Nose, Vinyl Grips, 8"		102543	CID102543	SN102543
Z91BJ001	97CCP	Pliers, Needle Nose, Vinyl Grips, 8"	8	225458	CID225458	SN225458
Z91BJ001	A2A	Adaptor, 3/8" Internal drive x 1/2" External drive, 1 5/16"	1	225142	CID225142	SN225142
Z91BJ001	ACSB	Brush, Hand Scratch, Stainless Steel, 7 7/8"		102552	CID102552	SN102552
Z91BJ001	AW1015DHK	Set, Wrench, L-Shape, Hex (15 pcs. In BHK15 Metal Index) (.028" to 3/8")	7	225427	CID225427	SN225427
Z91BJ001	AWBCG1606	Wrench, Ball Hex, T-Handle, 3/32", Red Handle, 9" long	7	225419	CID225419	SN225419
Z91BJ001	AWBCG1607	Wrench, Ball Hex, T-Handle, 7/64", Red Handle, 9" long	7	225420	CID225420	SN225420
Z91BJ001	AWBCG1608	Wrench, Ball Hex, T-Handle, 1/8", Red Handle, 9" long	7	225421	CID225421	SN225421
Z91BJ001	AWBCG1609	Wrench, Ball Hex, T-Handle, 9/64", Red Handle, 9" long	7	225422	CID225422	SN225422
Z91BJ001	AWBCG1610	Wrench, Ball Hex, T-Handle, 5/32", Red Handle, 9" long	7	225423	CID225423	SN225423
Z91BJ001	AWBCG1612	Wrench, Ball Hex, T-Handle, 3/16", Red Handle, 9" long	7	225424	CID225424	SN225424
Z91BJ001	AWBCG1614	Wrench, Ball Hex, T-Handle, 7/32", Red Handle, 9" long	7	225425	CID225425	SN225425
Z91BJ001	AWBCG1616	Wrench, Ball Hex, T-Handle, 1/4", Red Handle, 9" long	7	225426	CID225426	SN225426
Z91BJ001	AWBMCG1602	Wrench, Metric, Ball Hex, T-Handle, 2 mm, Blue Handle, 9" long	7	225411	CID225411	SN225411
Z91BJ001	AWBMCG16025	Wrench, Metric, Ball Hex, T-Handle, 2.5 mm, Blue Handle, 9" long	7	225412	CID225412	SN225412
Z91BJ001	AWBMCG1603	Wrench, Metric, Ball Hex, T-Handle, 3 mm, Blue Handle, 9" long	7	225413	CID225413	SN225413

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Importing Tool Updates from MKM

The L5 Connect system supports importing tool updates from a master kit manifest(MKM) file. This is the file created when laying out an L5 Connect toolbox. This allows a customer specific identifier to be mapped straight from the MKM into the L5 Connect system for the tools in an optical toolbox. This would typically be mapped into the Customer ID or serial number field. You can have one or both fields mapped but at least one must be mapped.

Multiple Object Edit Permission

This feature requires that the user have the permission to edit multiple items at once. Additional setup information can be found in the Multiple Ojbect Edit Permission section of the Importing Updates to Existing Tool Instances document.

Obtaining an MKM File

The MKM file is created by the Snap-on sales representative while working with the customer to create the desired tool list and tool layout in foam. This file is used to create the actual foam layers that are inserted into the toolbox drawers and to create the foam files used to train the toolbox. You will need access to your MKM file to continue with this procedure.

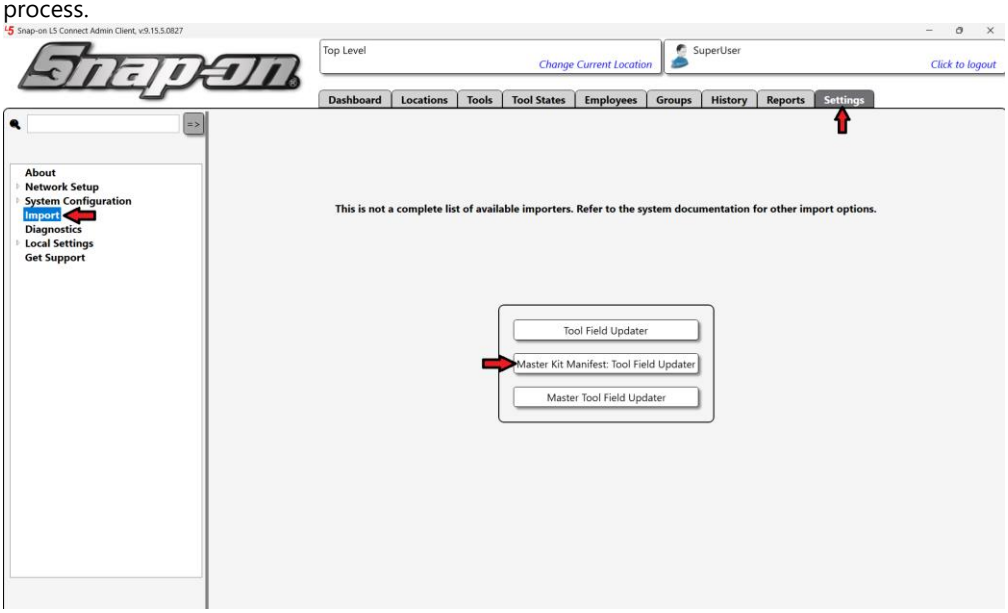
Creating a Data Backup

Because updating tools in bulk could potentially make multiple unintended changes to the tools in your L5 Connect system, it is highly recommended that before you begin the tool updating procedure you should run a report to capture all the information related to these tools. This will allow you to have a record of the tool information prior to updating the tool fields in case something goes wrong.

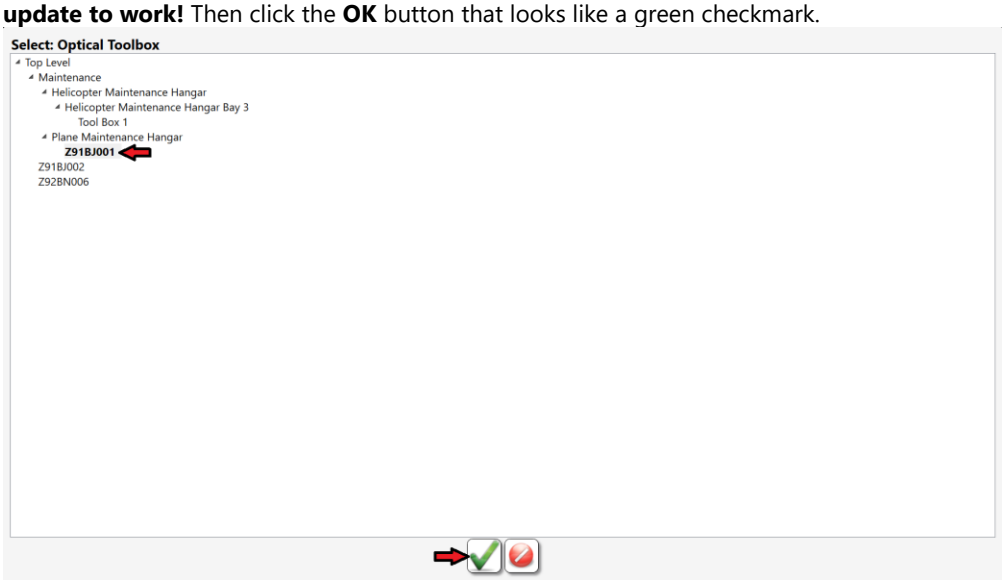
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Importing Tool Updates

1. Open the Admin application, select the **Settings** tab, and then click the **Import** listbox item on the left-hand side of the screen. Then click the **Master Kit Manifest: Tool Field Updater** button to begin the update process.



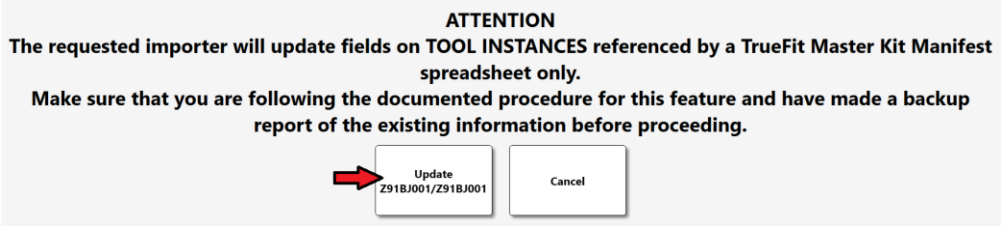
2. You will be prompted with a window asking you to choose the optical toolbox for which you would like to update tools. Select the desired toolbox from this list. **NOTE: The device must be online for the tool update to work!** Then click the **OK** button that looks like a green checkmark.



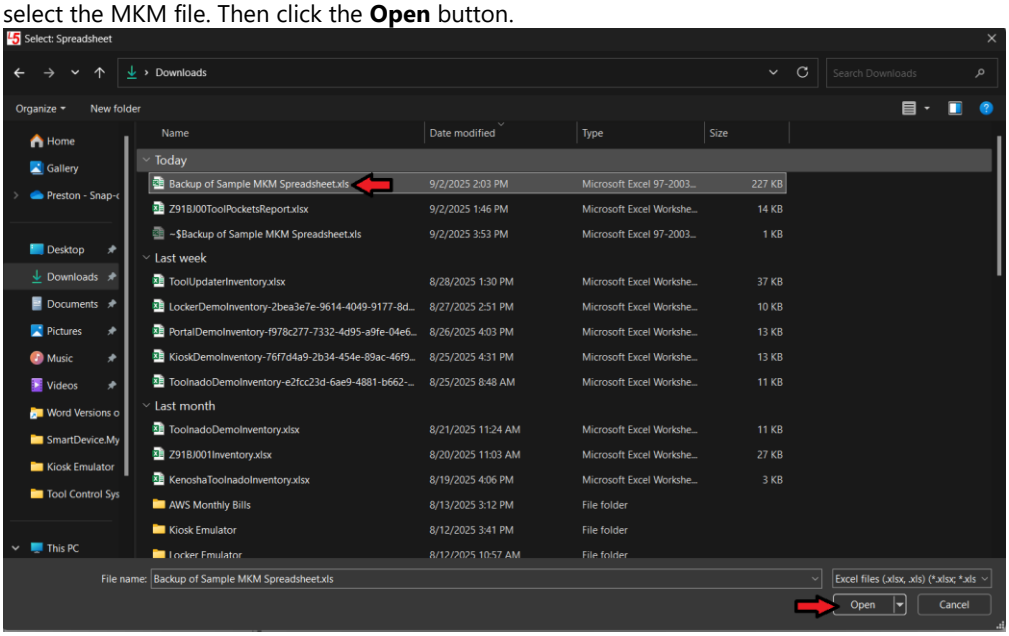
3. You will be prompted that you can only perform this type of update from an MKM spreadsheet and to make sure you have created a backup of the pertinent data before continuing. Once you have confirmed you have

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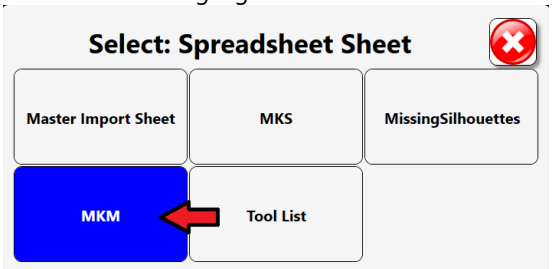
the MKM and have made a data backup, click the **Update** button.



4. You will be prompted to select the MKM file with a file dialog window. Navigate to the proper directory and select the MKM file. Then click the **Open** button.

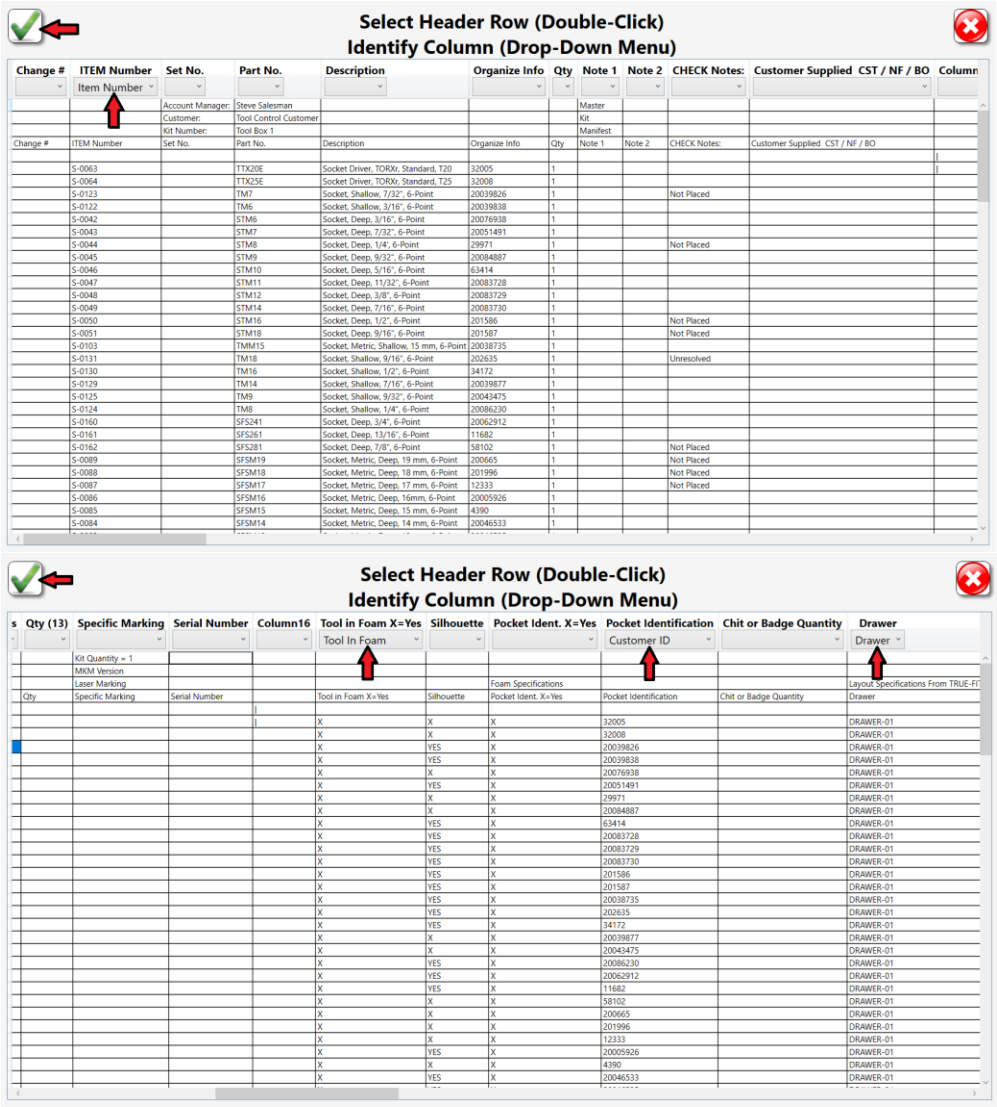


5. The Importer will then prompt you to select the proper sheet of the spreadsheet. It will highlight the MKM sheet. Click that highlighted **MKM** button.

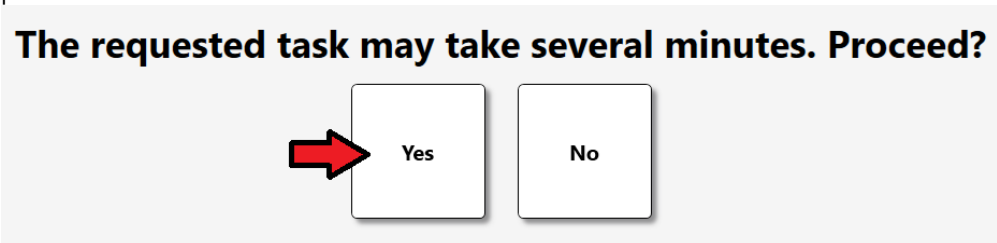


6. You will now see the importer window with the MKM data presented in it and be asked to map the columns that should be used for updating. At a minimum, you should map the **ITEM Number**, **Tool in Foam X=Yes**, and **Drawer** columns as well as mapping either one or both of the L5 Connect **Customer ID** and **Serial Number** columns to a column in the MKM data. For this example, you will map the **Customer ID** column to the **Pocket Identification** column of the MKM. **NOTE: the L5 Connect Customer ID field has a unique constraint on it.** There are a lot of columns in the MKM, and you will have to scroll to the right to find all the columns you need. Once you have mapped all the appropriate columns, click the **OK** button, which looks like a green checkmark in the upper left-hand corner of the screen.

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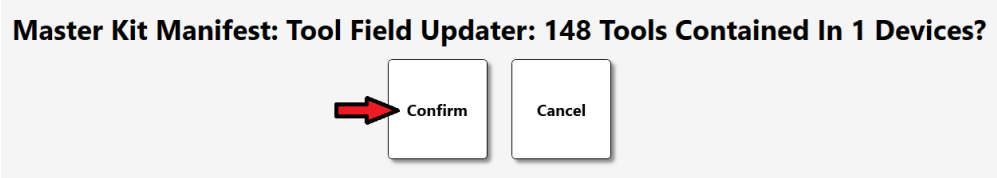


7. You will then be prompted to let you know the update could take a few minutes and ask if you want to proceed. Click the **Yes** button.

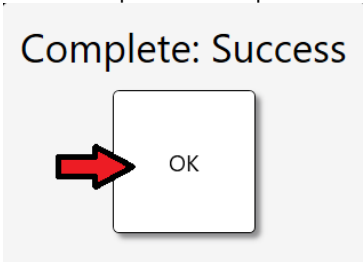


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8. You will then be prompted to confirm that you really want to update the specified number of tools. Click the **Confirm** button.



9. Once the update is complete click the **OK** button to conclude the updater process.



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Importing Master Tool Updates

The L5 Connect system supports the ability to bulk update the part number and description of master tools from an Excel spreadsheet. This article will explain the proper procedure for this process.

Multiple Object Edit Permission

This feature requires that the user have the permission to edit multiple items at once. Additional setup information can be found in the Multiple Object Edit Permission section of the Importing Updates to Existing Tool Instances document.

Creating the Spreadsheet/Data Backup

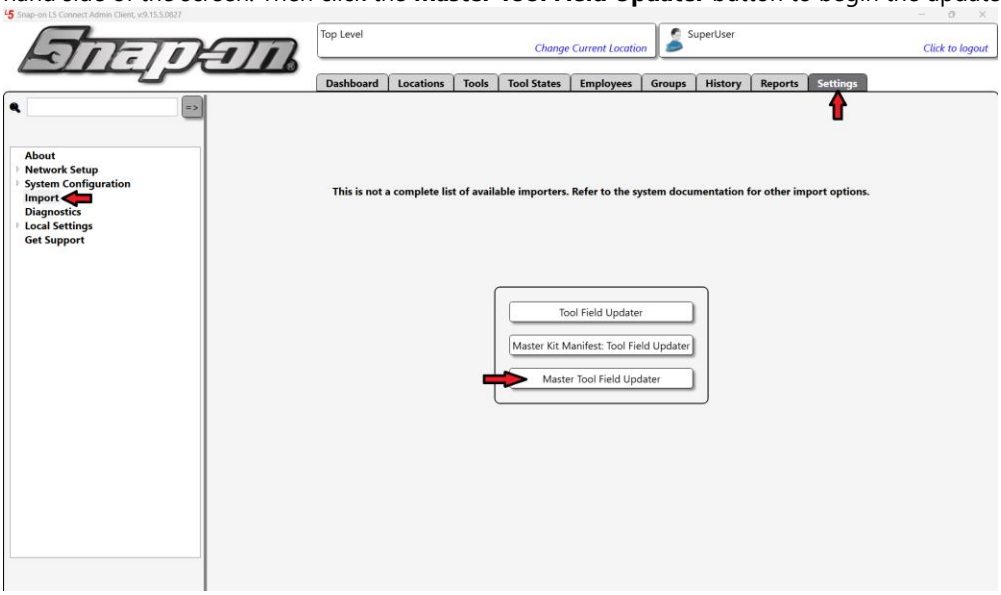
Before mass importing the master tool data, you will need to create a spreadsheet with the new data. It is also highly recommended that you create a backup of the original data before updating. You can accomplish both tasks by running a **Master Tool Inventory** report in the Admin application. Exporting this report to an Excel spreadsheet format can provide you with the fields you need for the updater, **Master Tool ID** and **Part Number**, and/or **Description**, as well as a backup of the original data. For more information on how to create and run custom reports see L5 Connect™ Reports.

1. The first thing you will need to do is go to the **Reports** tab of the Admin application and modify the **Master Tool Inventory** report to include the **ID** field in the **Master Tool Fields**.
2. Then run that report and export the results to an Excel spreadsheet.
3. Save a version of that spreadsheet with the original data as your backup file in case you wish to restore the original data.
4. Then modify the part numbers and descriptions as desired and save that version of the spreadsheet to use with the importer.

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Importing Master Tool Updates

1. Open the Admin application, then go to the **Settings** tab, and then click the **Import** listbox item on the left-hand side of the screen. Then click the **Master Tool Field Updater** button to begin the update process.

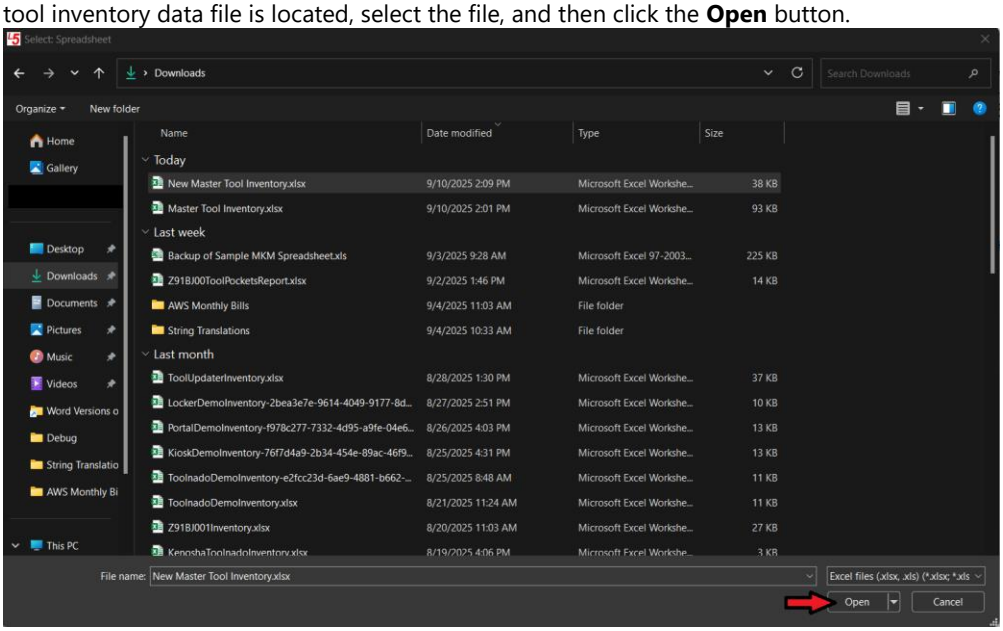


2. When prompted with a warning that you will be updating fields on master tools, click the **Master Tool Field Updater** button.

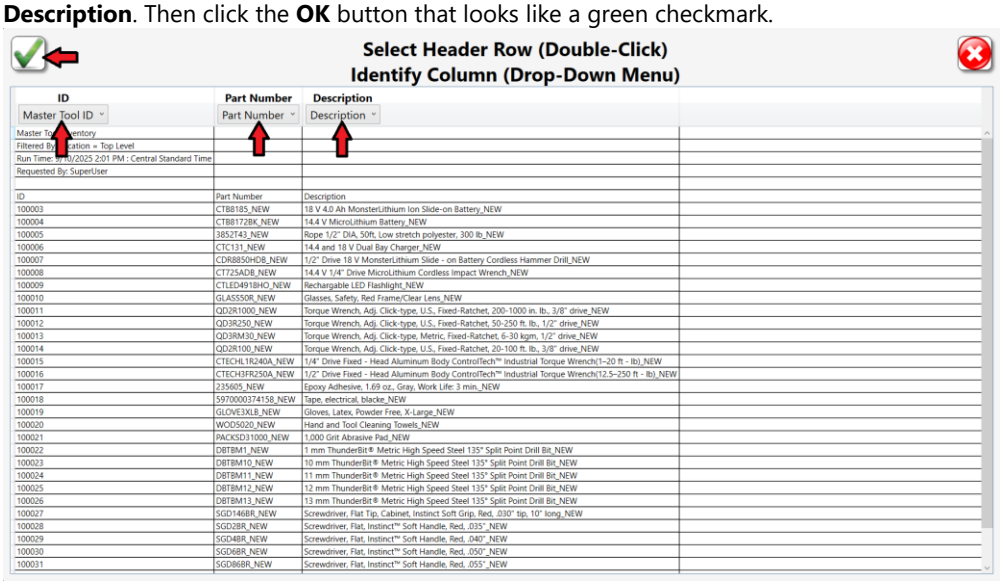


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3. Next you will be presented with a file dialog window. Browse to the directory where your updated master tool inventory data file is located, select the file, and then click the **Open** button.

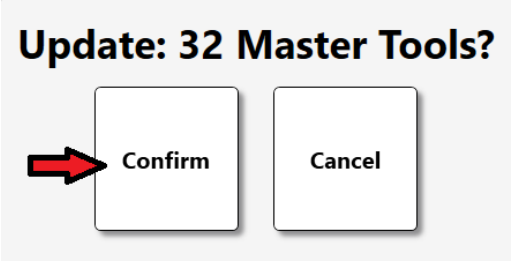


4. Now the importer window will be displayed. You will need to select the appropriate column header for the columns you wish to map. You will require the **Master Tool ID** column and at least one of **Part Number** and **Description**. Then click the **OK** button that looks like a green checkmark.



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5. You will be prompted to confirm that you wish to update the listed number of master tools. Click the **Confirm** button.



6. Once the updater is finished you should see the window with a **Complete: Success** message. Click the **OK** button to close this window and the master tools should be updated in your system.

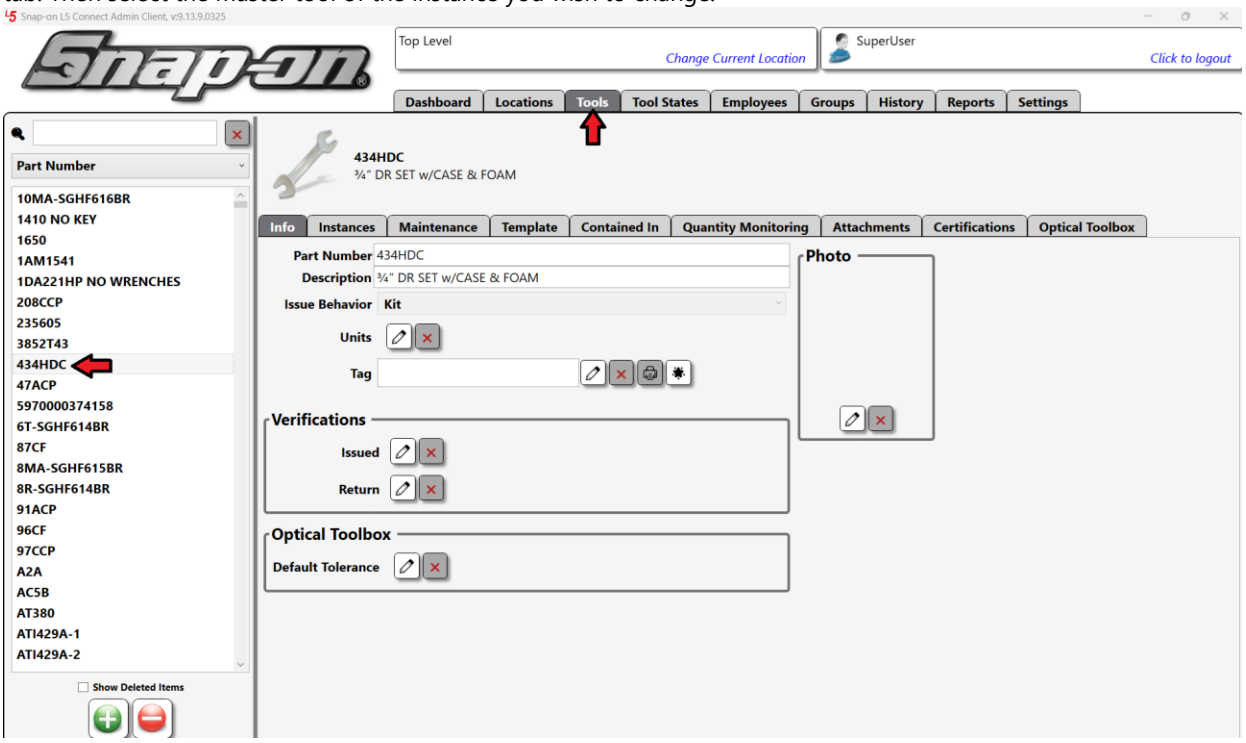
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Changing the Master Tool of a Tool Instance

In some instances, it may be desirable to change the master tool of a tool instance. For instance, you have a set of Allen wrenches in a case that is defined as a single tool in your system, and you decide to make the case a kit and add the individual Allen wrenches as tools in the system. In this case you would create a new kit master tool and transfer the case to that. Then you could set up the individual wrenches and add them to the new kit. Another case where you might want to change the master tool of a tool instance is if part of your organization had stricter requirements for verifications than the rest of the organization. You could create a new master tool for the location that has the stricter requirements. The additional required verifications would be added to that new master tool. All the instances of that tool type in the applicable area could then be changed to the new master. Those modified tool instances would then inherit the required verifications.

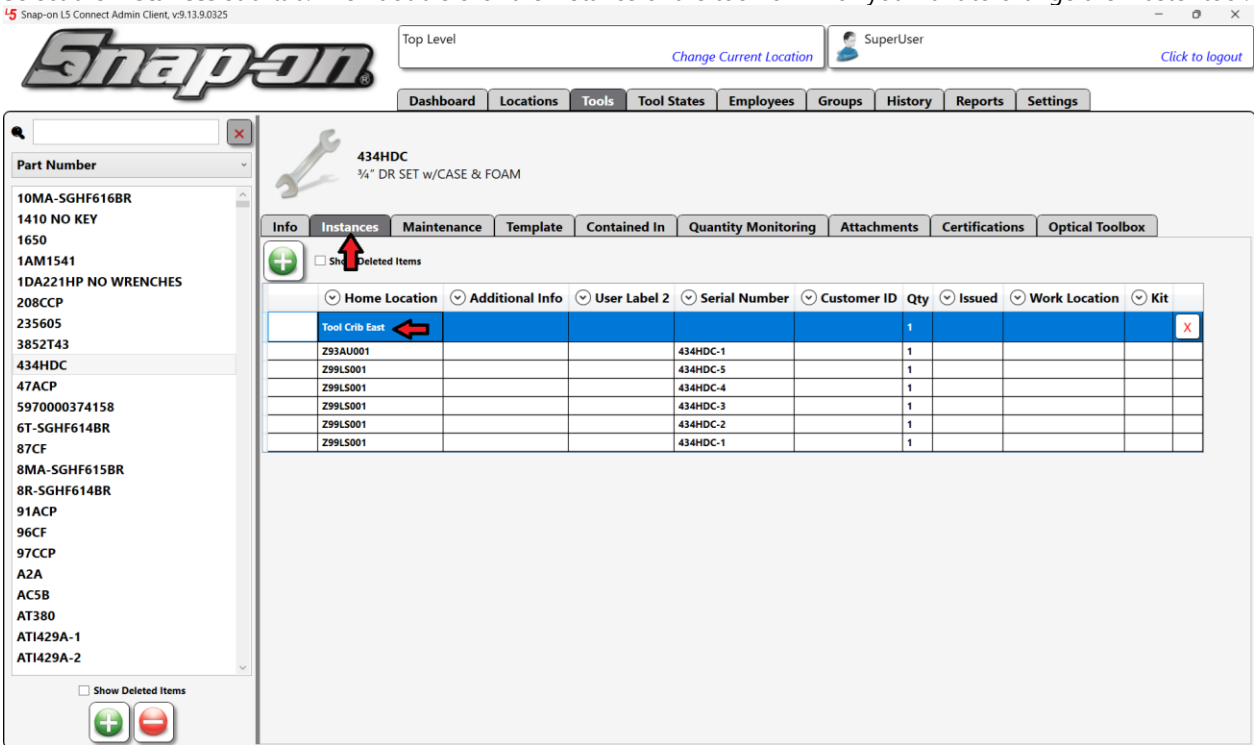
Procedure

We will assume that the new master tool already exists for this case. Open the Admin application and go to the **Tools** tab. Then select the master tool of the instance you wish to change.

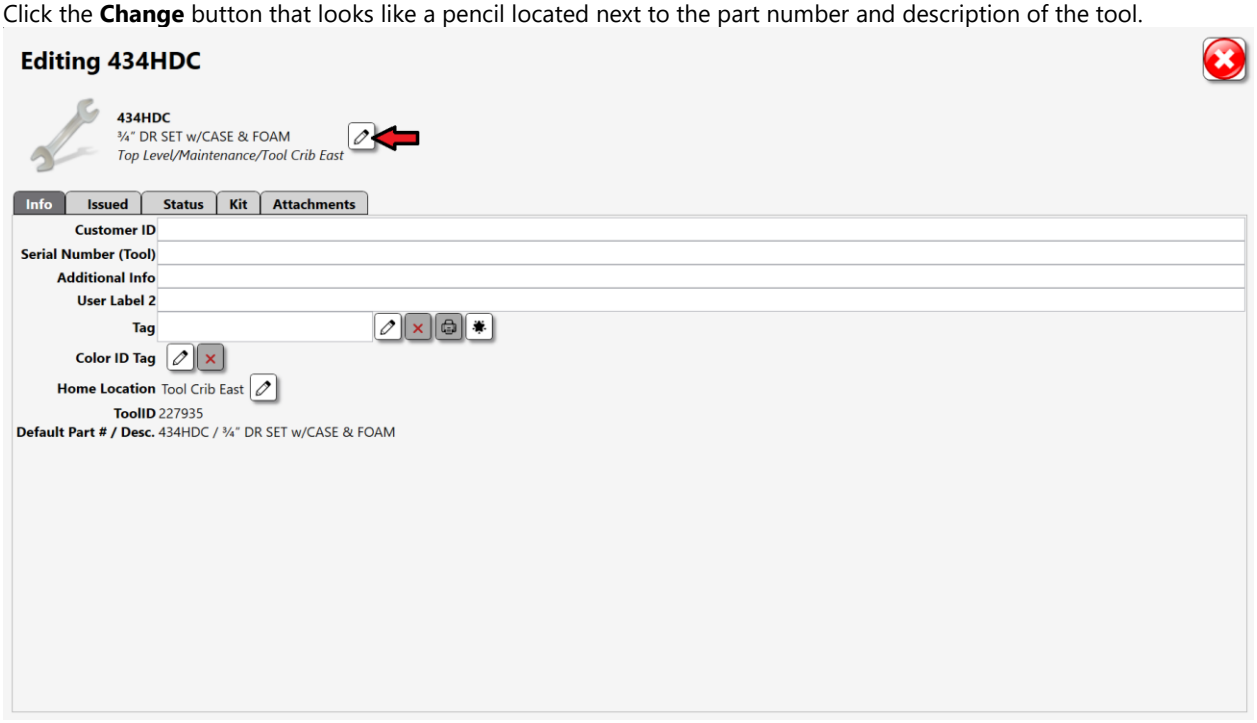


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Select the **Instances** sub-tab. Then double click the instance of the tool for which you want to change the master tool.

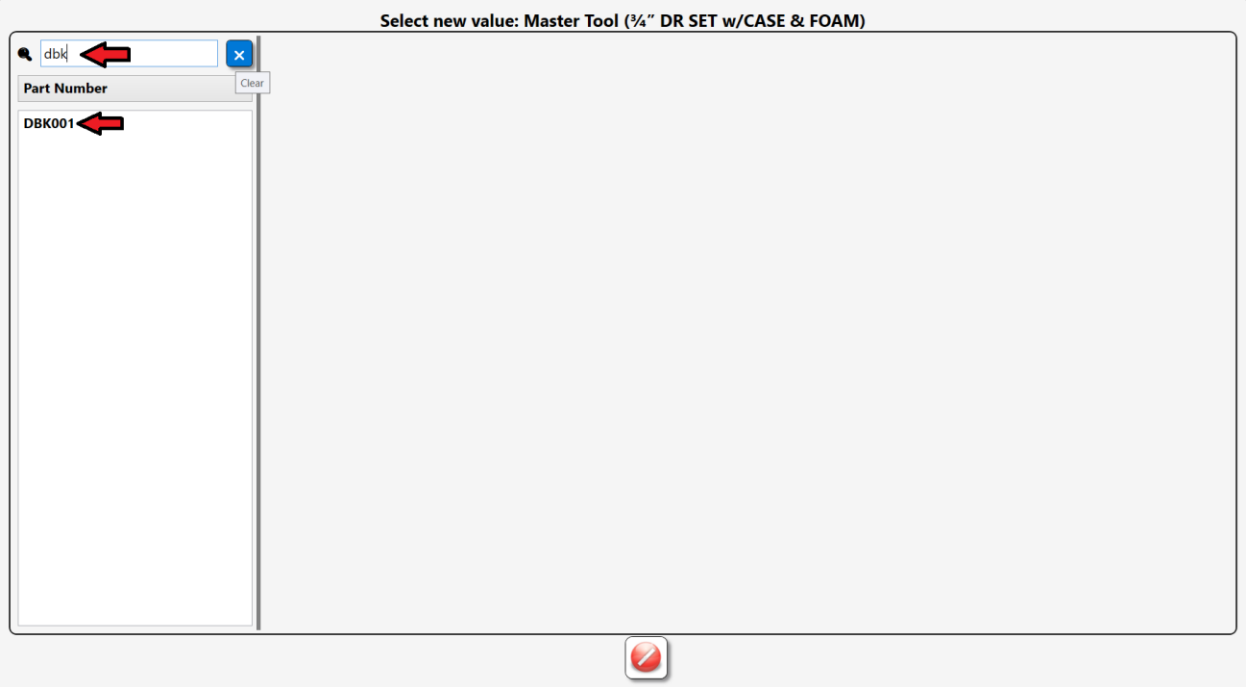


Click the **Change** button that looks like a pencil located next to the part number and description of the tool.

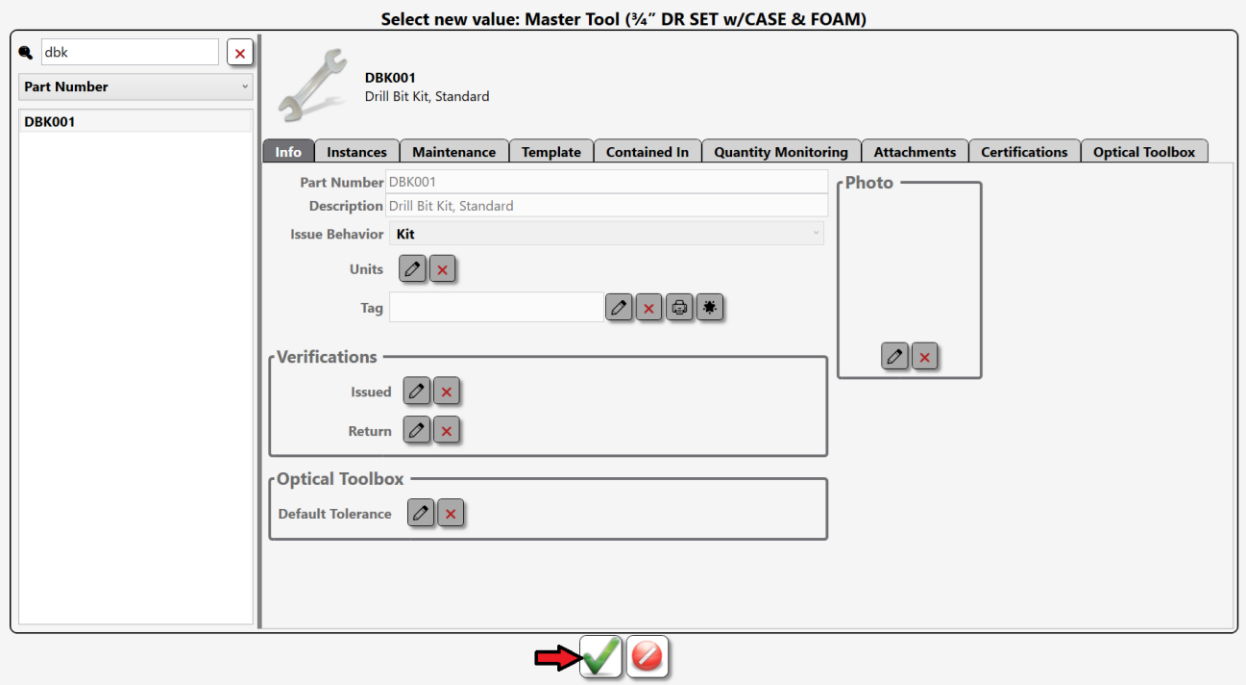


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Now you can select the new master tool for your tool instance. The search box can be helpful to find the one you want.



Once you have selected the new master tool, click the **OK** button that looks like a green checkmark.



Now your tool instance has a new master tool!

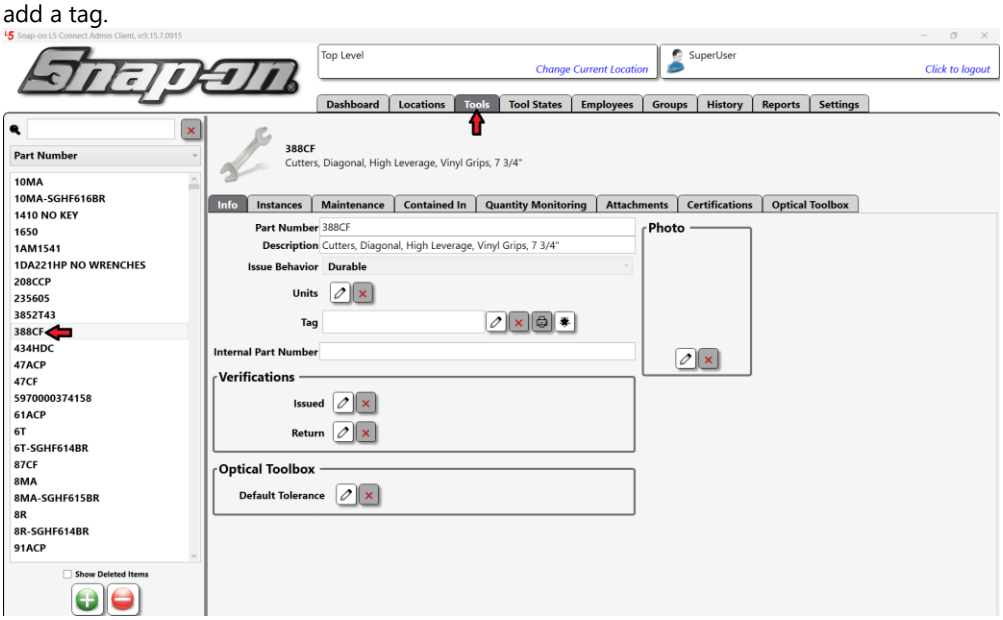
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Master Tool Tags

The L5 Connect system supports assigning a tag field to a master tool. This could be used to assign a tag to a bin in a True-Crib that contains a quantity of non-serialized durable tool instances of the master tool type. The system could print a bar code of the tag value to be attached to the bin. Then the crib attendant could just scan the barcode to issue a tool instance from the bin or return one as well. **NOTE: These tag values must be unique. Master tools tags must not match any other tag (tool, work location, etc.) in the L5 Connect system.**

Creating a Master Tool Tag

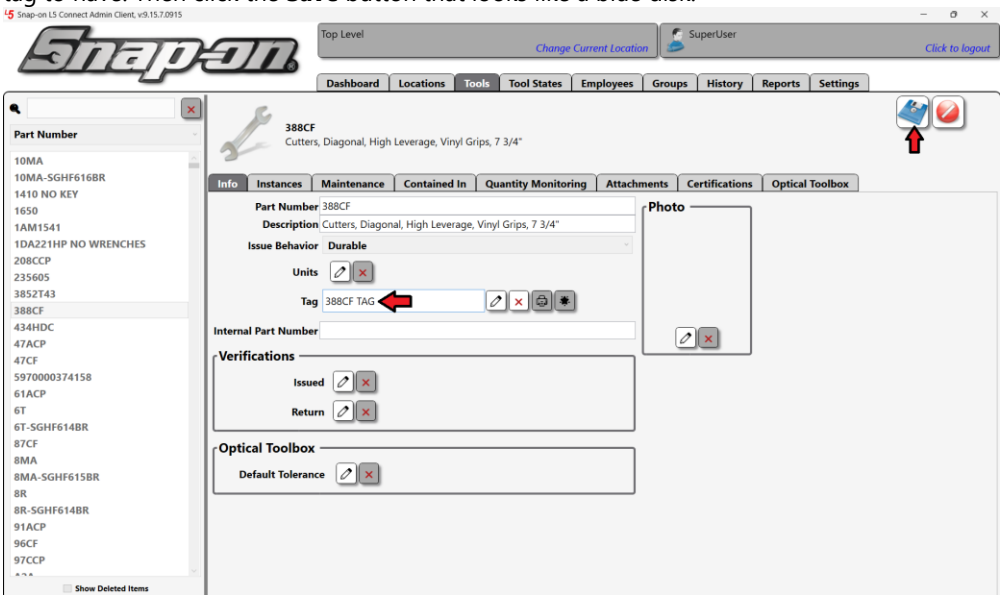
1. Start the Admin application and go to the **Tools** tab. Then select the master tool to which you would like to add a tag.



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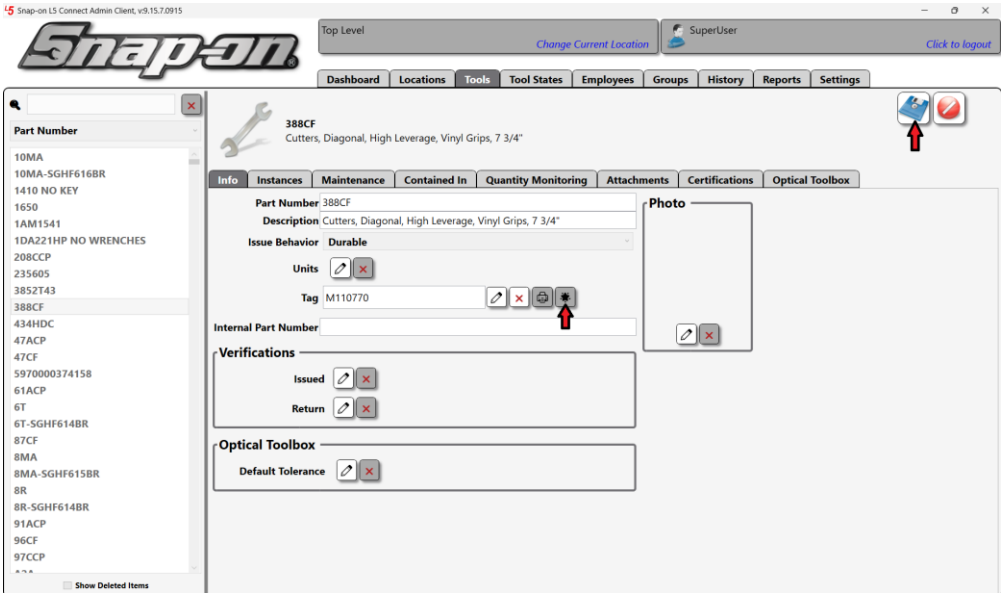
Manually Assigning the Tag

1. To manually assign the tag, click the text box next to the **Tag** label. then type in the value you would like the tag to have. Then click the **Save** button that looks like a blue disk.



Auto Generating the Tag

1. To have the system generate a tag value for you, click **Auto generate value** button, then click the **Save** button that looks like a blue disk.



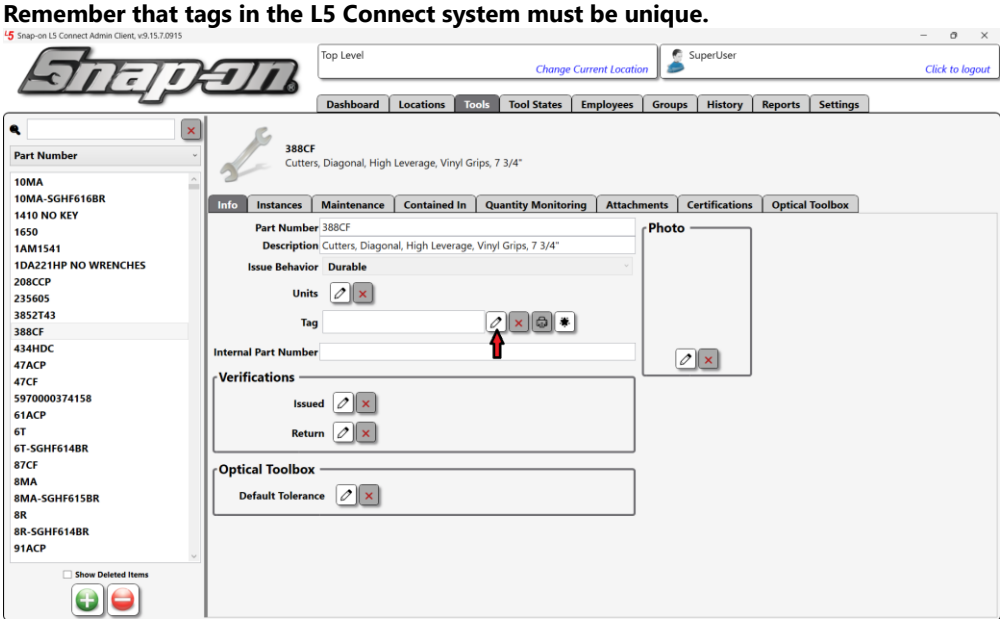
Using an Existing Barcode

1. You can scan an existing barcode to assign the tag value. To do this you will need an L5 Connect approved barcode scanner attached to the Admin PC. You will also need to install your L5 Connect barcode scanner.

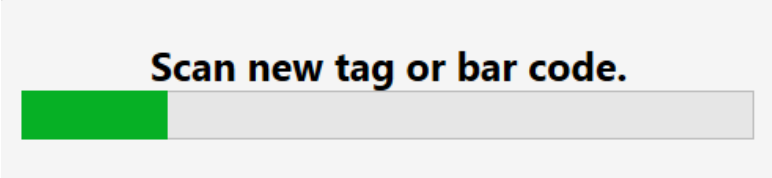
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See the Setting up a Zebra DS2208 Wired & DS3678 Wireless Bar Code Scanner in L5 CONNECT™ document for more details.

2. Once your barcode scanner is set up, click the **Scan the tag** button, which looks like a pencil. **NOTE: Remember that tags in the L5 Connect system must be unique.**



3. You will then be prompted to scan the tag with your barcode scanner.

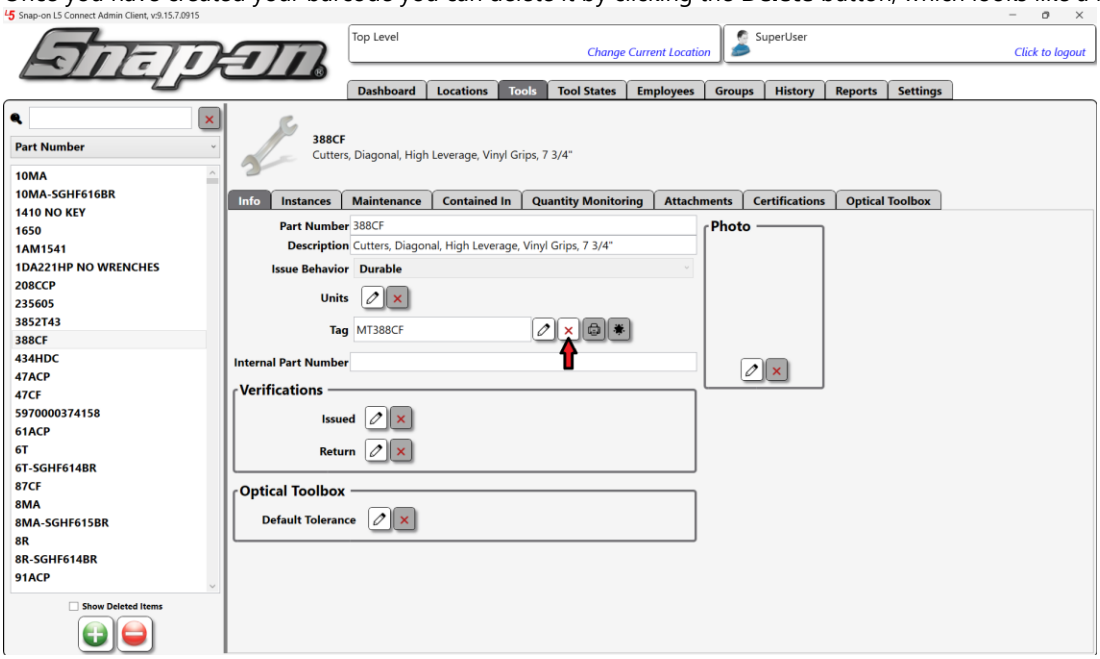


4. Scan the barcode and then click the **Save** button that looks like a blue disk.

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Deleting a Master Tool Tag

Once you have created your barcode you can delete it by clicking the **Delete** button, which looks like a red X.

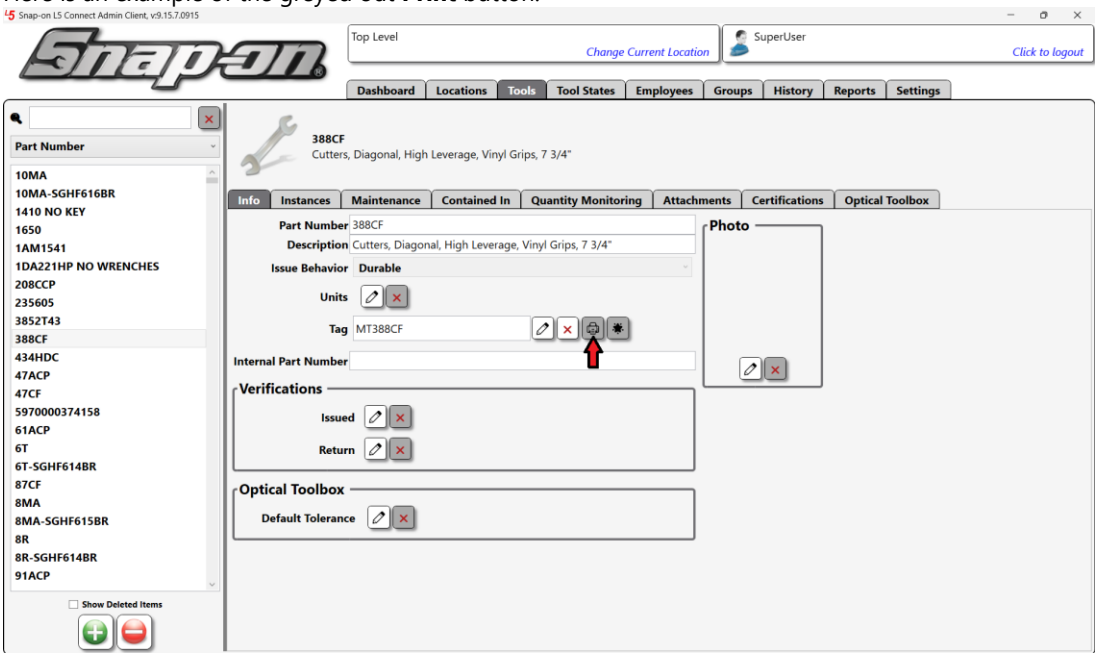


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Printing a Master Tool Tag

If you have an L5 Connect approved label printer connected to the computer on which you are running the Admin app, and it has been properly configured, you can print a barcode label of the master tool tag. **NOTE: If the bar code printer has not been properly set up, the Print button will be greyed out. See the Setting up the Label Printer in L5 CONNECT™ TRUE CRIB™ and Administration App document for more details.**

Here is an example of the greyed out **Print** button.



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Mass Deactivation of Master Tools

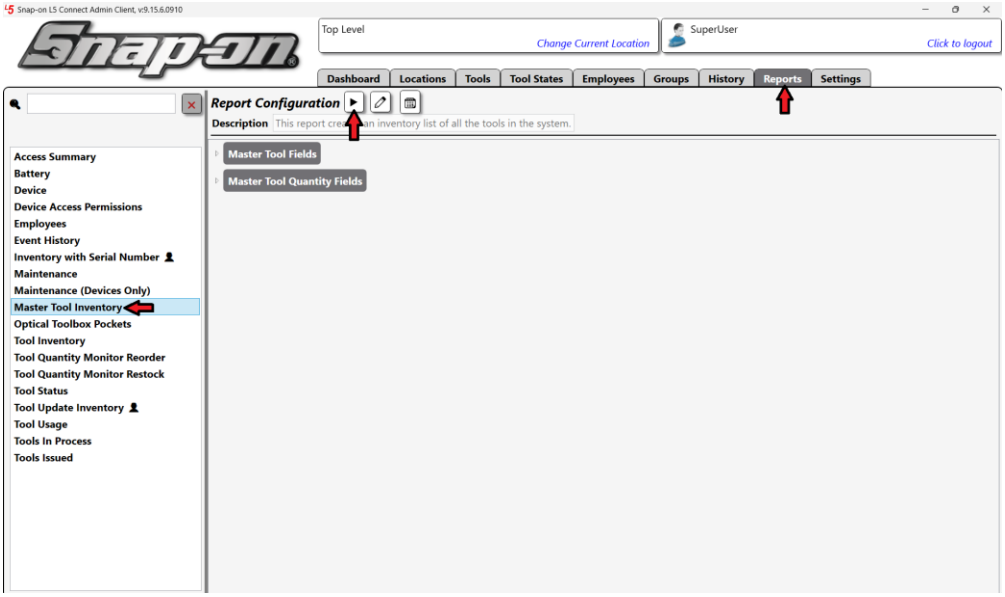
The L5 Connect system now supports the ability to deactivate multiple master tools at once. This document will describe the process to do this. This should be done with care as it will not be easy to restore a large number of master tools that were unintentionally deactivated. In order to be able to deactivate a master tool, there must not be any tool instances of that master tool currently active in the L5 Connect system.

Multiple Object Edit Permission

This feature requires that the user have the permission to edit multiple items at once. Additional setup information can be found in the Multiple Object Edit Permission section of the Importing Updates to Existing Tool Instances document.

Bulk Deactivating Master Tools

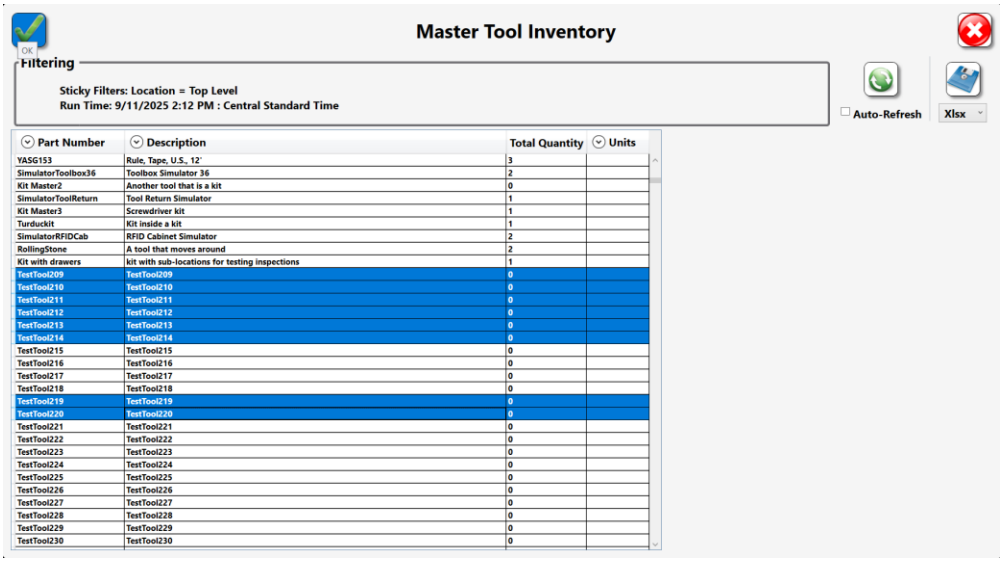
1. Open the Admin application and go to the **Reports** tab. Then select the **Master Tool Inventory** report and click the run button.



2. Select the master tools in the report that you would like to deactivate. Be sure to check that the **Total Quantity** column shows zero instances active in the system, otherwise you will only be able to deactivate the

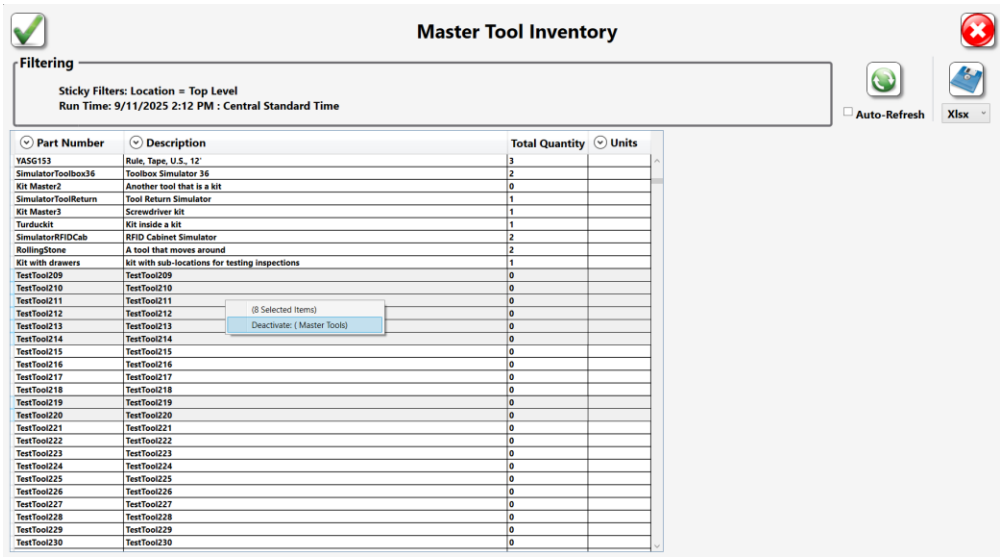
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tools that have no active instances.

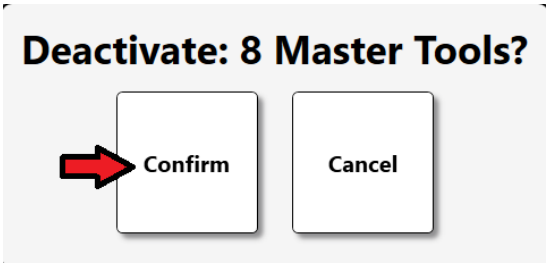


Part Number	Description	Total Quantity	Units
YASG153	Rule, Tape, U.S., 12'	3	
SimulatorToolbox36	Toolbox Simulator 36	2	
Kit Master2	Another tool that is a kit	0	
SimulatorToolReturn	Tool Return Simulator	1	
Kit Master3	Screwdriver kit	1	
Turduckit	Kit inside a kit	1	
SimulatorRFIDCab	RFID Cabinet Simulator	2	
RollingStone	A tool that moves around	2	
Kit with drawers	kit with sub-locations for testing inspections	1	
TestTool209	TestTool209	0	
TestTool210	TestTool210	0	
TestTool211	TestTool211	0	
TestTool212	TestTool212	0	
TestTool213	TestTool213	0	
TestTool214	TestTool214	0	
TestTool215	TestTool215	0	
TestTool216	TestTool216	0	
TestTool217	TestTool217	0	
TestTool218	TestTool218	0	
TestTool219	TestTool219	0	
TestTool220	TestTool220	0	
TestTool221	TestTool221	0	
TestTool222	TestTool222	0	
TestTool223	TestTool223	0	
TestTool224	TestTool224	0	
TestTool225	TestTool225	0	
TestTool226	TestTool226	0	
TestTool227	TestTool227	0	
TestTool228	TestTool228	0	
TestTool229	TestTool229	0	
TestTool230	TestTool230	0	

3. Then right-click on one of the selected tools and choose **Deactivate: (Master Tools)** from the context menu.

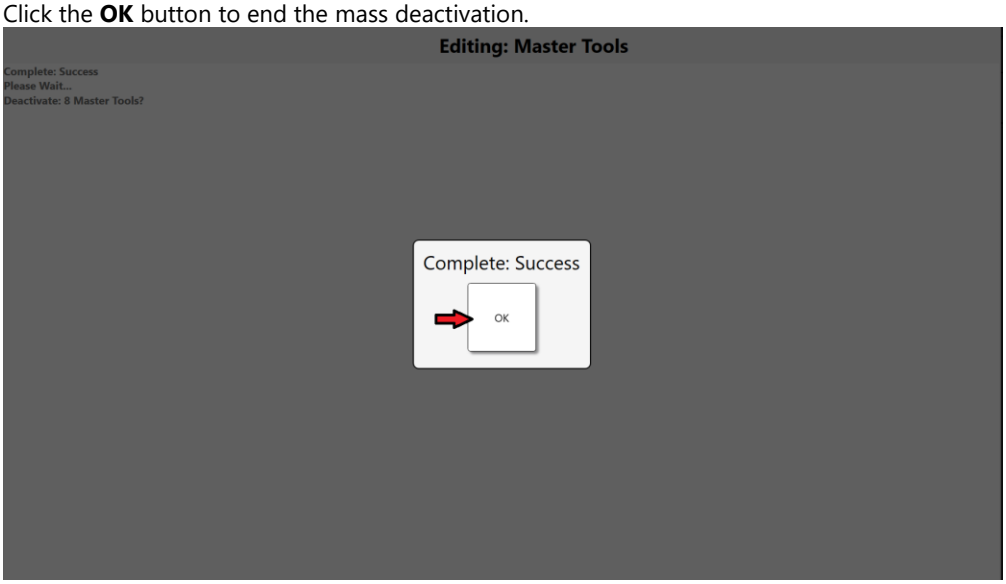


4. You will then be prompted to confirm the deactivation of the number of selected tools. Click the **Confirm** button.



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5. Click the **OK** button to end the mass deactivation.



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Reports

The L5 Connect™ system comes with an easy-to-use reporting tool that you can use when you need to get detailed information about your tools and the L5 Connect™ system. These reports can be generated with the **L5 Connect™ Admin Client** or the Admin Mode within **True-Crib™**.

You will be working within the L5 Connect™ Admin Client for this section. Still, the method of generating reports in **True-Crib™** client is identical.

The L5 Connect™ Reporting engine uses three types of reports:

- **Built-in** – these are the pre-configured, hard-coded reports that come preloaded into the system.
- **Personal** – these reports are custom modifications to the Built-in Reports. Only the Employee who creates the Report can use them unless they share it.
- **Shared** – These are Personal Reports that an employee has shared so that anyone with report access can run the Report.

The Icons beside them also represent the type of the Report.

- If there is not an icon that represents a Built-In Report – Report that came preloaded with the system.
- Represents Personal Report – This Report can only be used by the Employee who created it.



- Represents Share Report – Anyone who has access to run reports can run this one.

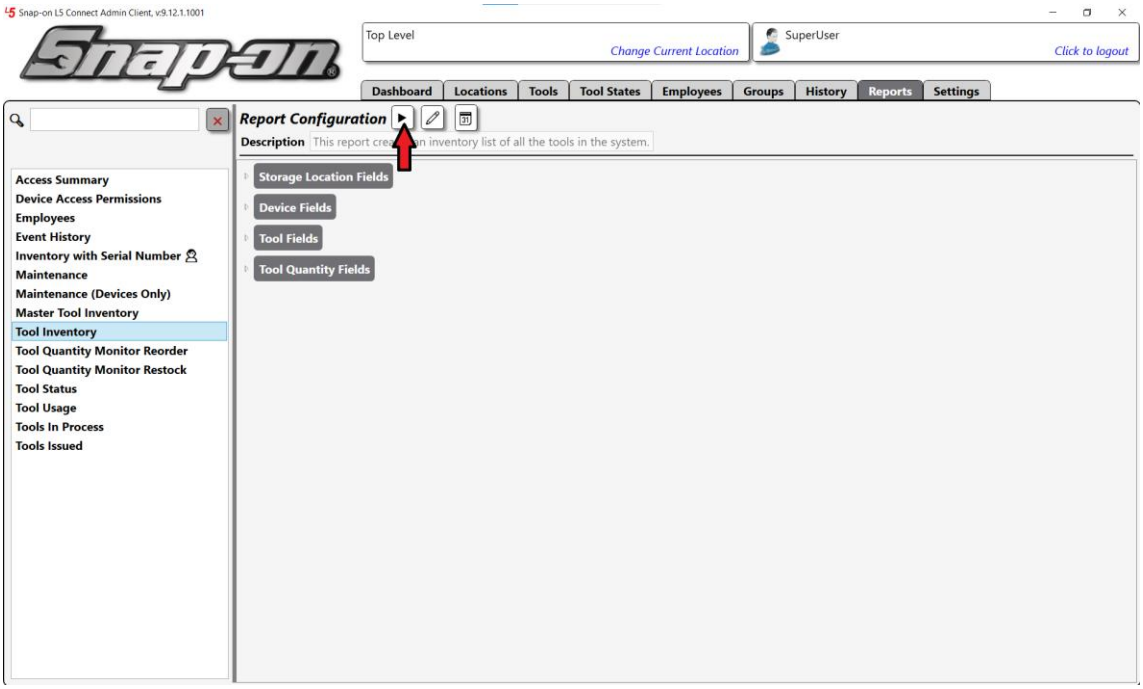


All Personal and Shared Reports are created based on one of the Built-in Reports. When you select one of these Built-in reports, you will then see the Report Customization Sub-screen. On this screen, you can modify the Report presets to customize the Report to fit your needs, then save it as a Personal Report that you can then share. All reports can be printed or exported. The supported formats for export are PDF, XLSX, and RTF.

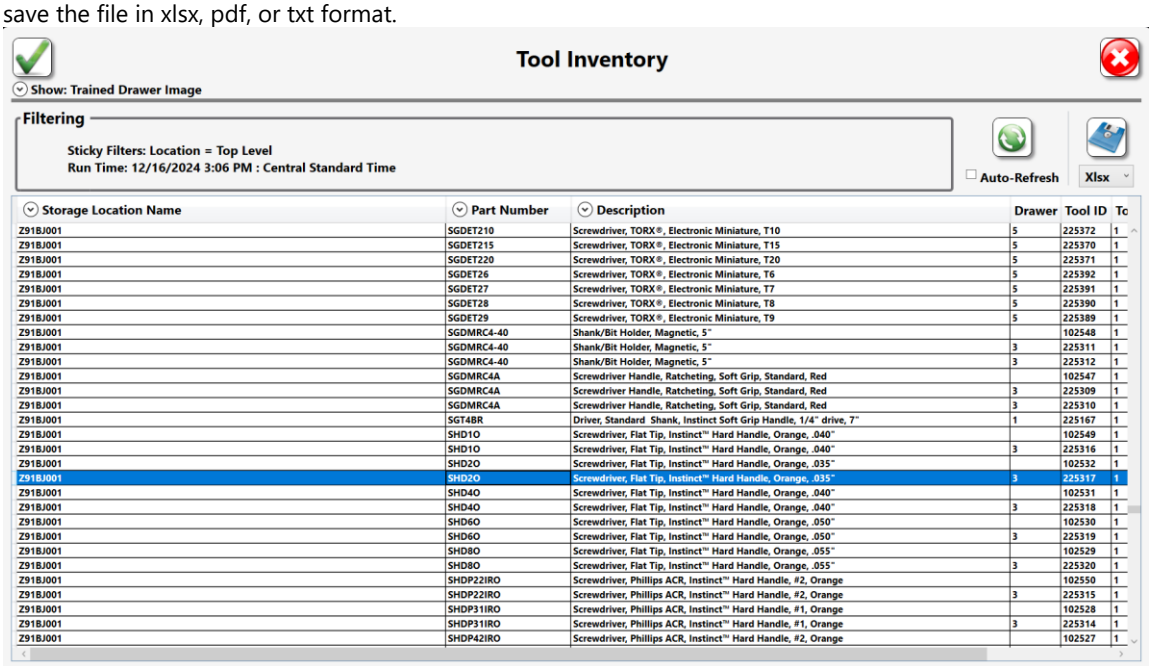
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Running a Report

1. To generate a report, you simply need to select which available report you want to run and click the ► button.



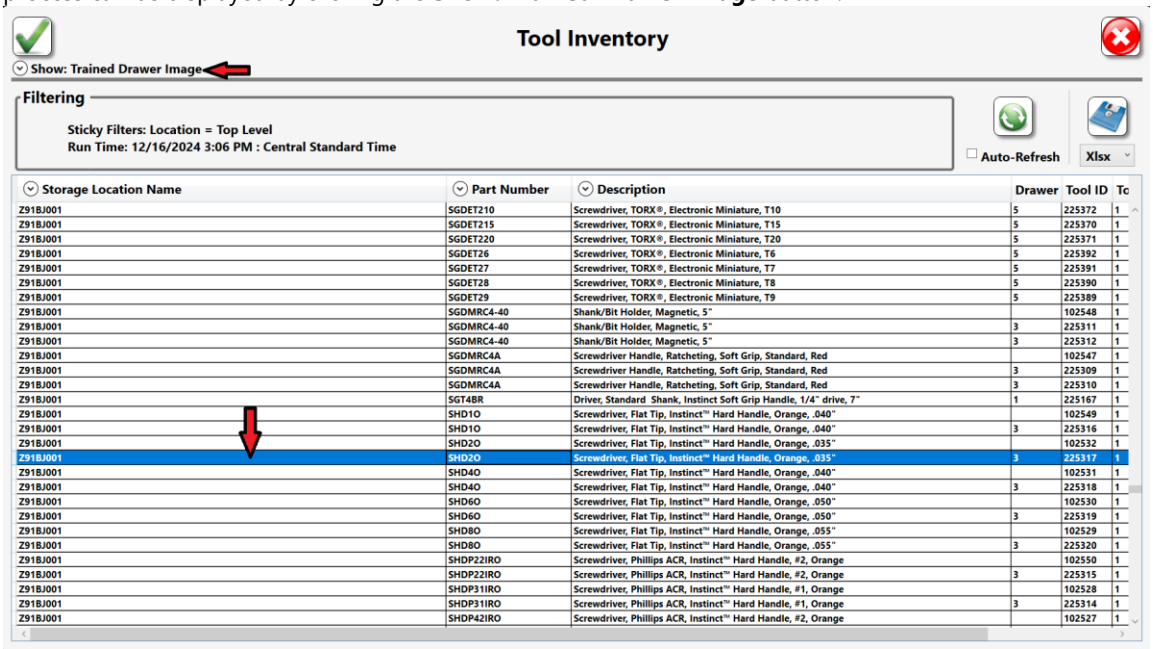
2. This will display the results of the desired Report. This report viewer window has the same look and functionality as the screens in the **Tool States** tab. You can filter columns based on string text and you can save the file in xlsx, pdf, or txt format.



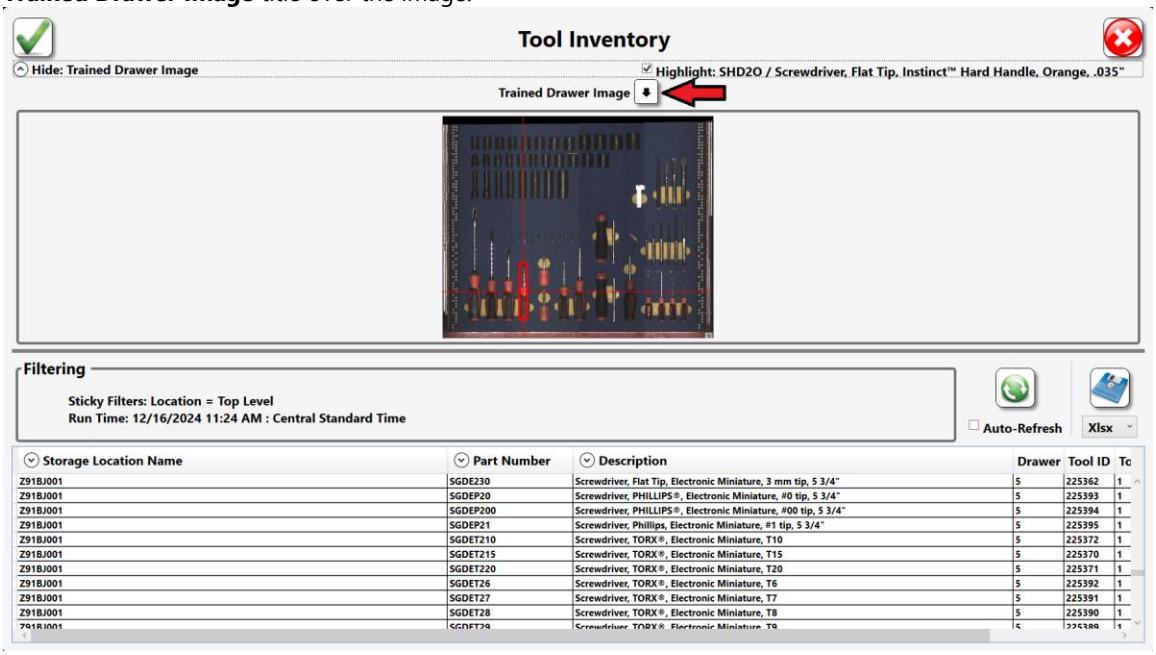
Storage Location Name	Part Number	Description	Drawer	Tool ID	Tc
Z91BJ001	SGDET210	Screwdriver, TORX®, Electronic Miniature, T10	5	225372	1
Z91BJ001	SGDET215	Screwdriver, TORX®, Electronic Miniature, T15	5	225370	1
Z91BJ001	SGDET220	Screwdriver, TORX®, Electronic Miniature, T20	5	225371	1
Z91BJ001	SGDET26	Screwdriver, TORX®, Electronic Miniature, T6	5	225392	1
Z91BJ001	SGDET27	Screwdriver, TORX®, Electronic Miniature, T7	5	225391	1
Z91BJ001	SGDET28	Screwdriver, TORX®, Electronic Miniature, T8	5	225390	1
Z91BJ001	SGDET29	Screwdriver, TORX®, Electronic Miniature, T9	5	225389	1
Z91BJ001	SGDMRC4-40	Shank/Bit Holder, Magnetic, 5"		102548	1
Z91BJ001	SGDMRC4-40	Shank/Bit Holder, Magnetic, 5"	3	225311	1
Z91BJ001	SGDMRC4-40	Shank/Bit Holder, Magnetic, 5"	3	225312	1
Z91BJ001	SGDMRC4A	Screwdriver Handle, Ratcheting, Soft Grip, Standard, Red		102547	1
Z91BJ001	SGDMRC4A	Screwdriver Handle, Ratcheting, Soft Grip, Standard, Red	3	225309	1
Z91BJ001	SGDMRC4A	Screwdriver Handle, Ratcheting, Soft Grip, Standard, Red	3	225310	1
Z91BJ001	SGT4BR	Driver, Standard Shank, Instinct Soft Grip Handle, 1/4" drive, 7"	1	225167	1
Z91BJ001	SHD1O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .040"		102549	1
Z91BJ001	SHD1O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .040"	3	225316	1
Z91BJ001	SHD2O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .035"		102532	1
Z91BJ001	SHD2O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .035"	3	225317	1
Z91BJ001	SHD4O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .040"		102531	1
Z91BJ001	SHD4O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .040"	3	225318	1
Z91BJ001	SHD6O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .050"		102530	1
Z91BJ001	SHD6O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .050"	3	225319	1
Z91BJ001	SHD8O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .055"		102529	1
Z91BJ001	SHD8O	Screwdriver, Flat Tip, Instinct™ Hard Handle, Orange, .055"	3	225320	1
Z91BJ001	SHDP22IRO	Screwdriver, Phillips ACR, Instinct™ Hard Handle, #2, Orange		102550	1
Z91BJ001	SHDP22IRO	Screwdriver, Phillips ACR, Instinct™ Hard Handle, #2, Orange	3	225315	1
Z91BJ001	SHDP31IRO	Screwdriver, Phillips ACR, Instinct™ Hard Handle, #1, Orange		102528	1
Z91BJ001	SHDP31IRO	Screwdriver, Phillips ACR, Instinct™ Hard Handle, #1, Orange	3	225314	1
Z91BJ001	SHDP42IRO	Screwdriver, Phillips ACR, Instinct™ Hard Handle, #2, Orange		102527	1

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3. Certain report types support viewing of additional image information. For example, when a tool from an optical toolbox is selected in the Tool Inventory report, the drawer image captured during the training process can be displayed by clicking the **Show: Trained Drawer Image** button.

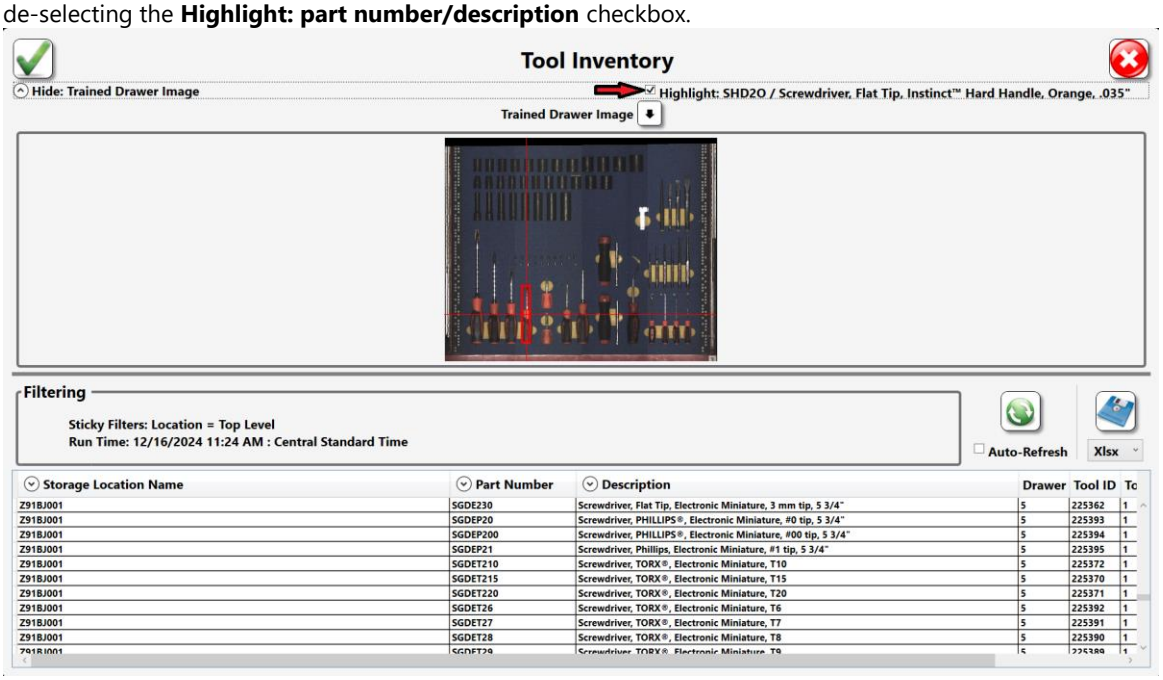


4. You can also save a copy of this image by clicking the button with the downward arrow on it next to the **Trained Drawer Image** title over the image.



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5. The red box and crosshairs to help find the specific tool selected can be toggled on and off by selecting or de-selecting the **Highlight: part number/description** checkbox.



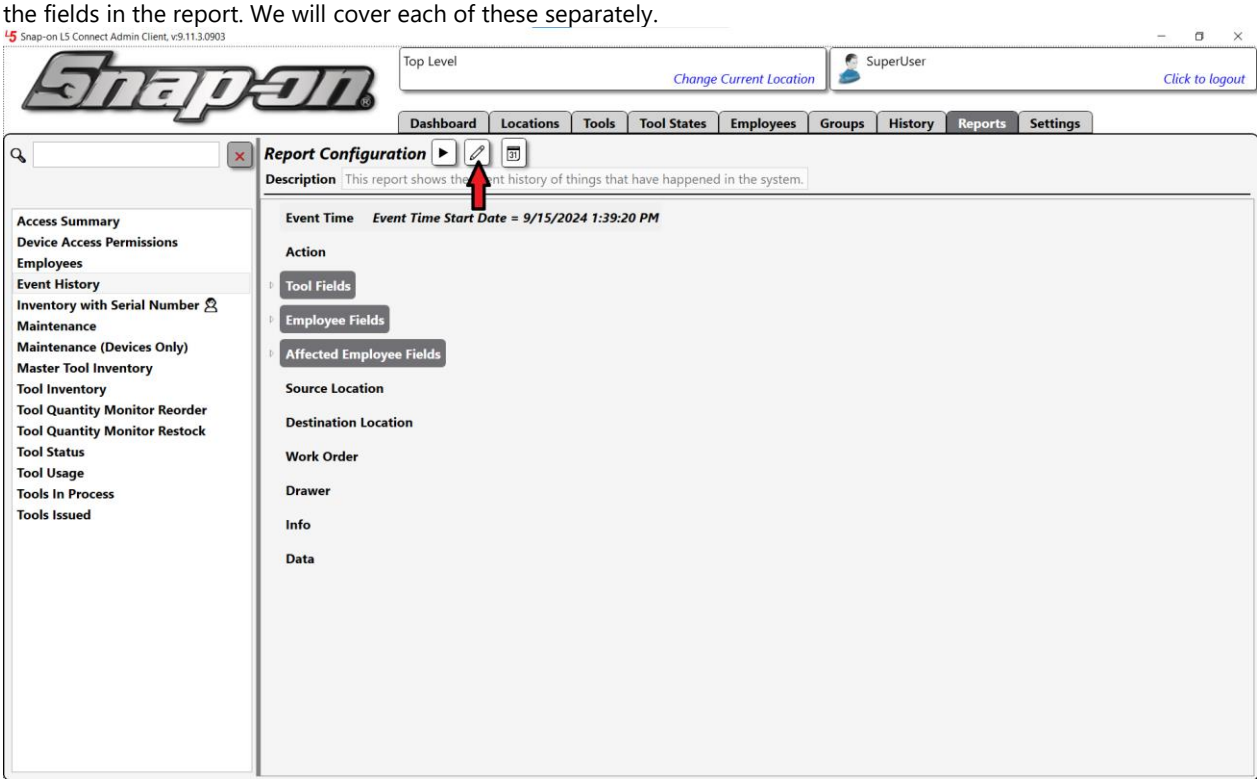
NOTE: The results of the Report are dependent on the current Location. So, if you want to see all the issued tools for R&D Lab, you should set the current Location to R&D Lab and run the issue tools report.

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Creating a Personal Report

Sometimes the built-in reports may not precisely fit your needs. You can customize these reports so that they can. These modifications are saved as new Personal Reports. **NOTE: Custom reports are not supported on the TrueCrib application.**

To create a personal report, click the **Change** button, which looks like a pencil to enable report configuration. You can then do things such as add or remove fields from the report, filter a field, change the width of a column, and reorder the fields in the report. We will cover each of these separately.

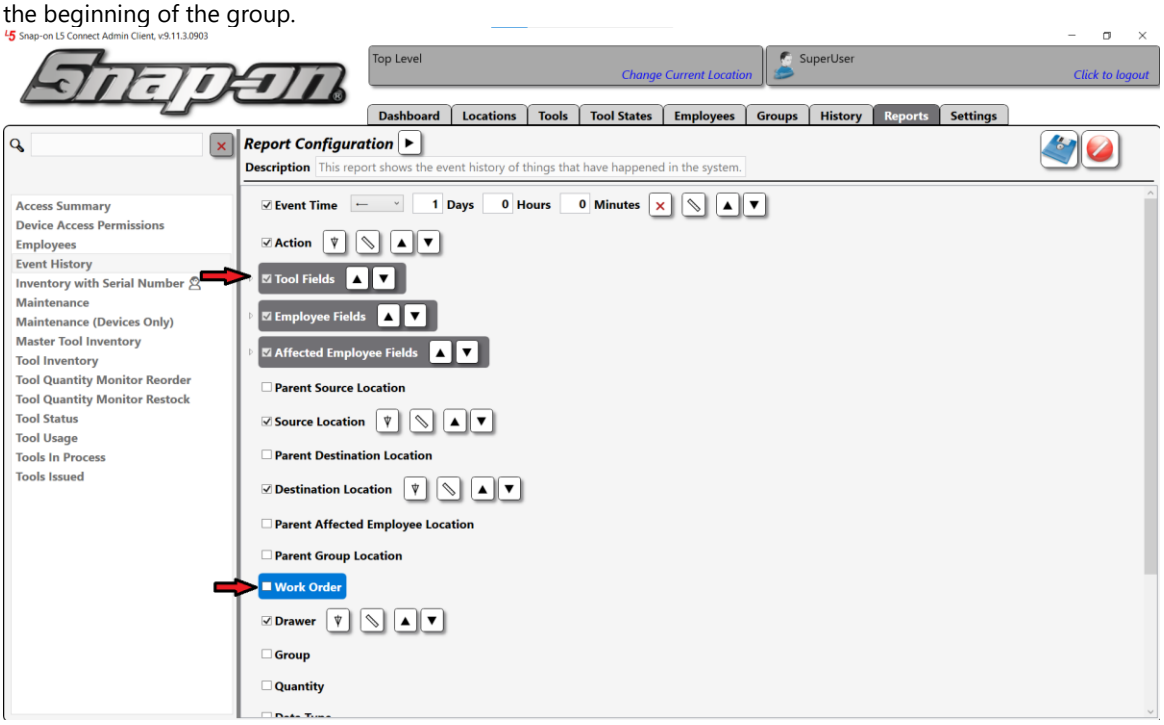


Add/Remove Fields from a Report

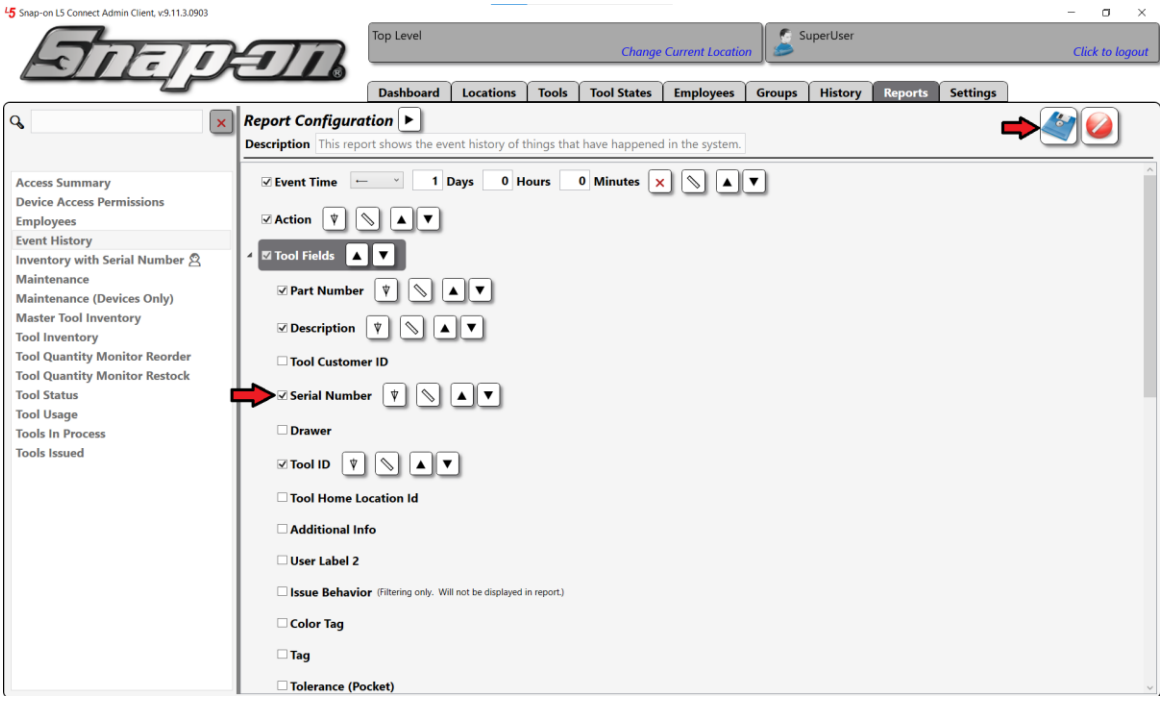
1. Let's say that you want your event history report to include tool serial numbers, and you don't use work orders, so you want to hide that column. To hide the **Work Order** column, you would uncheck the checkbox at the beginning of that field. Then expand the **Tool Fields** group of fields by clicking the expander carat at

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the beginning of the group.



2. Select the checkbox for the **Serial Number** field to add that to the report and then click the blue **Save** button that looks like a disk.



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Filter a Field in a Report

Suppose you wanted this report to pull all the events for a tool with a specific serial number over the last 30 days. To do this you would add filtering to the **Serial Number** and the **Event Time** columns. To add a filter to a column, click the filtering button. 

Date/Time Filtering

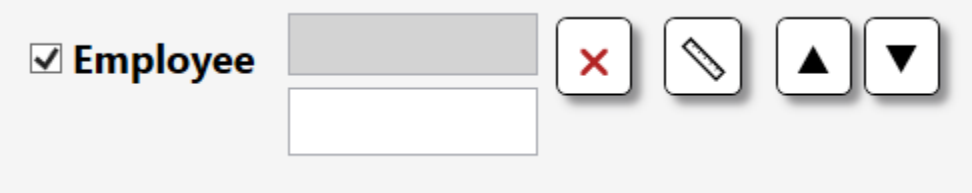
There are three types of filtering options for date/time filter types.
<---> Between Dates
<--- In the Last X Days
---> In the Next X Days

So, for the event time filter you would set the filter type to **<---** and set the **Days** value to 30 to go back 30 days into the eventlog history.



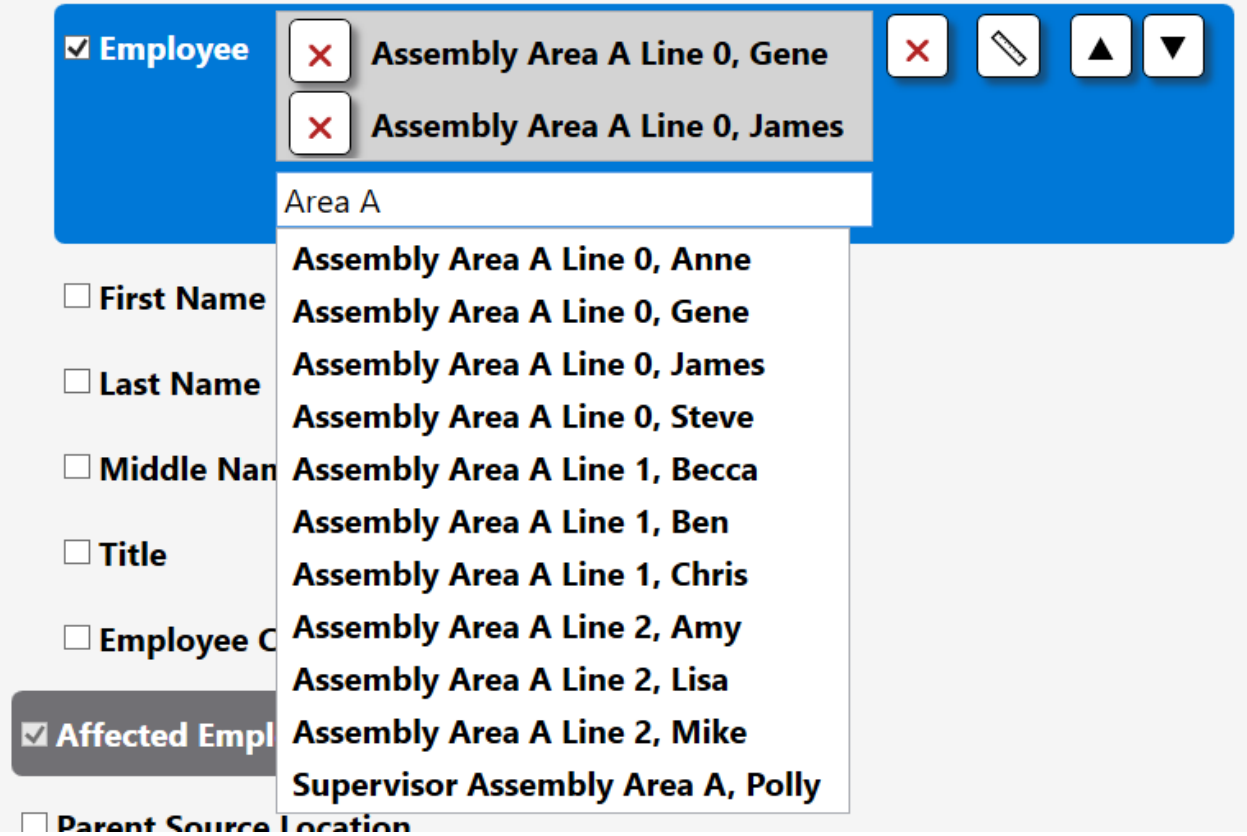
Listbox Filtering

Certain types of fields use listbox filtering. An excellent example of this is the **Employee** field. This field is a combination of **First Name**, **Middle Name**, **Last Name**, and **Title**. To filter by an employee, you would click the **Select New Filter Settings** button, which will display a list box filter.



The top box will display the employees that have been selected. By clicking in the bottom box, it will open the listbox which contains the list of employees from which the user can choose. You can either scroll through the list and select an employee or you can type in the lower box and the list will be filtered by the string typed in the box. This will help to shorten the list from which you need to choose. In this manner you can all multiple choices from the list to the filter until you have it like you want it.

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String Filtering

String columns will have a text box into which you can type the string you want to match. Any event where that column contains the string in the filter box will be added to the report. So, to filter the report for a specific **Serial Number**, you click the filter button on that column and input the desired serial number value into the text box.

Numeric Filtering

Columns that contain numeric values such as **Quantity** use a numeric filter. There are 5 options for numeric filters.
< - Less than filter
<= - Less than or equal to filter
= - Equal to filter
>= - Greater than or equal to filter
> - Greater than filter

Change the Width of a Column

You can manually adjust the width of any column by clicking on the **Set column width** button, which looks like a ruler. This will expand the information shown for that column to include the default width of the column in a text box which you can modify.

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You can then run the report without saving it to see what difference your change has made and tweak the width until it is where you would like it to be.

Reorder Report Fields

Each of the selected fields will be shown on the report in the order they appear in the list, with the top selected field first in the report and the last selected field in the last column. You can change the order of these columns, with some exceptions. Some fields are grouped together such as **Tool Fields** and **Employee Fields**. These groups cannot be separated, however the fields in the group can be reordered inside the group.

To move a field within the list of fields you would use the **Move up** and ** Move down** arrows at the end of the field.

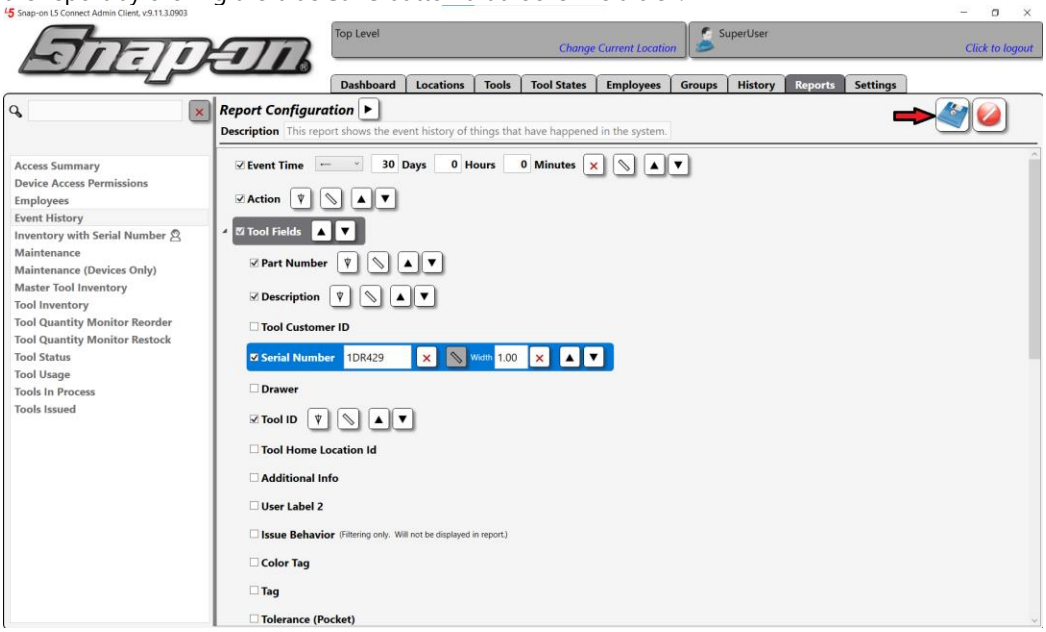


Using these buttons, you can rearrange the columns into the order you wish for your custom report.

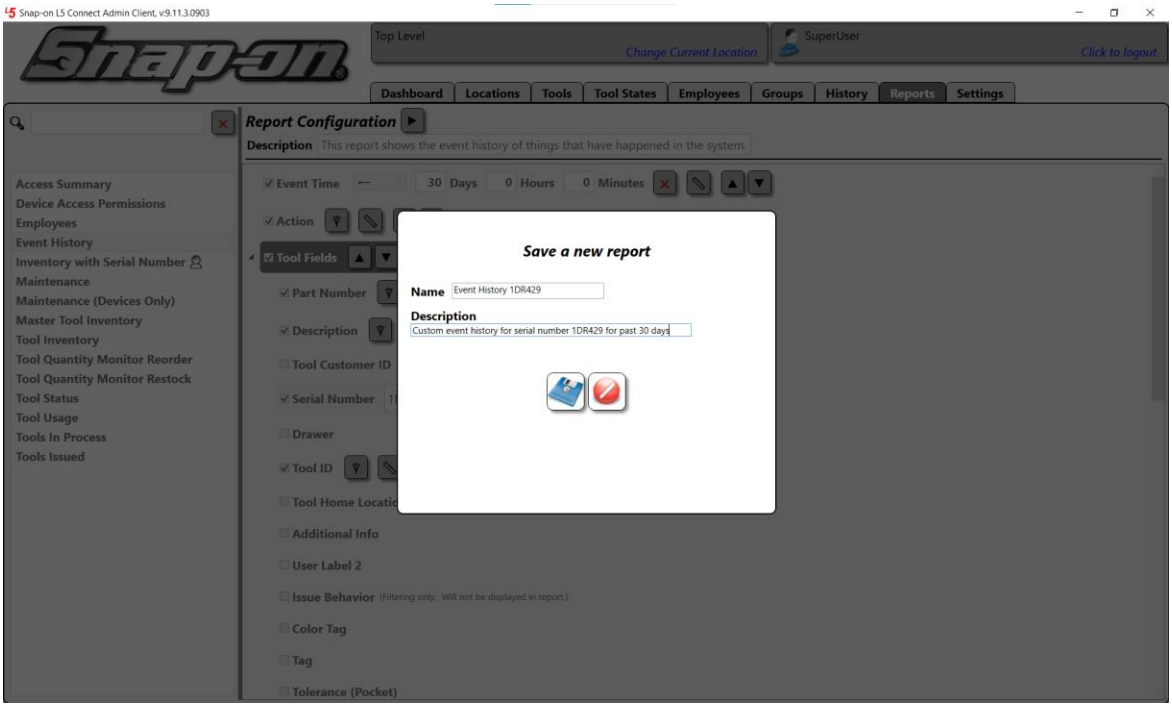
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Saving a Personal Report

Once you have made all the customizations you need to make and the report looks like you want it to, you can save the report by clicking the blue **Save** button that looks like a disk.

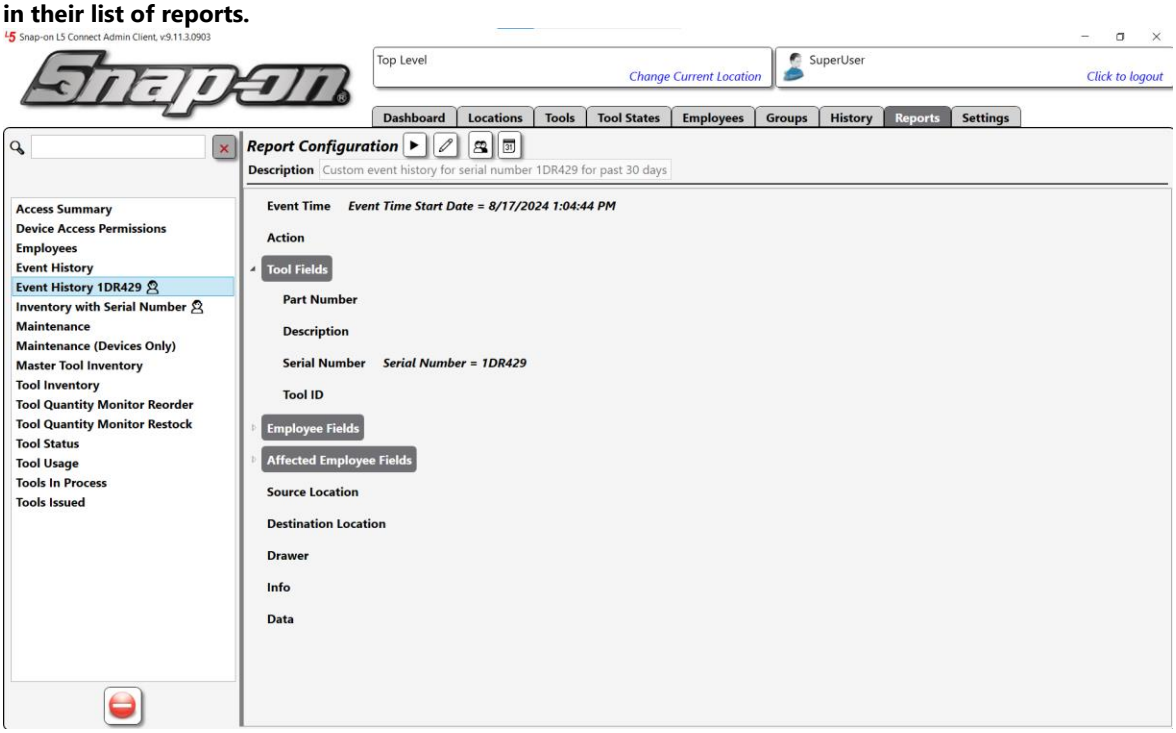


You will be prompted to provide a name and description for your new personal report. Enter the information and click the blue **Save** button.



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Now your new custom personal report shows up in the list of reports. **NOTE: Other people will not see this report in their list of reports.**

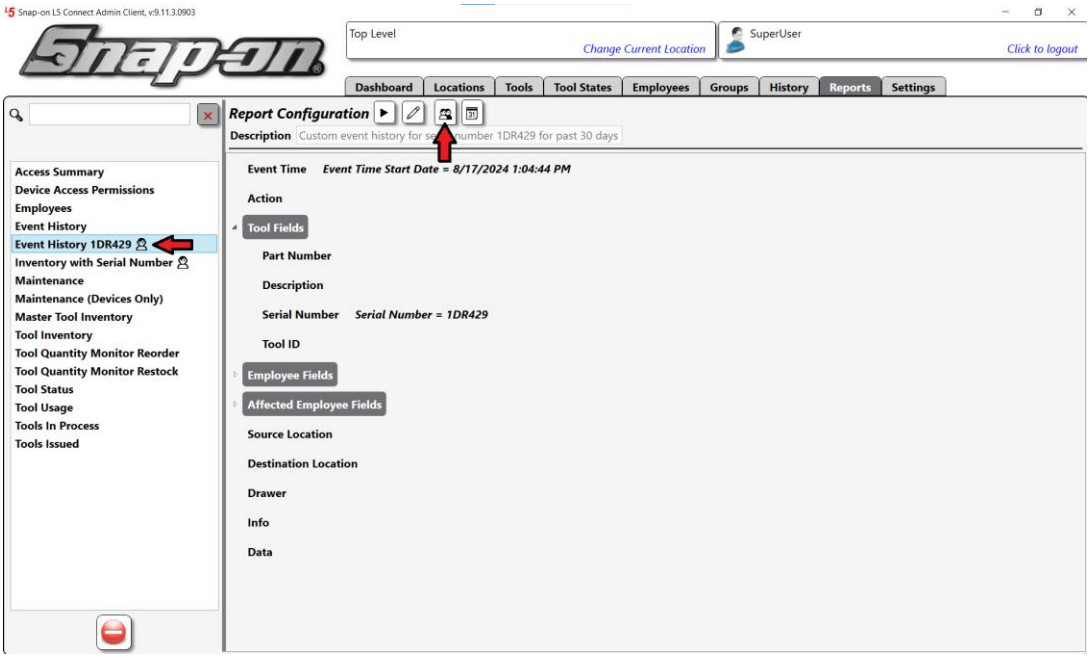


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Sharing a Personal Report

If you decide that you would like other users to be able to run your report as well, you can share your report. This will cause it to be seen in the list of reports for anyone who logs into the admin with permission to run reports.

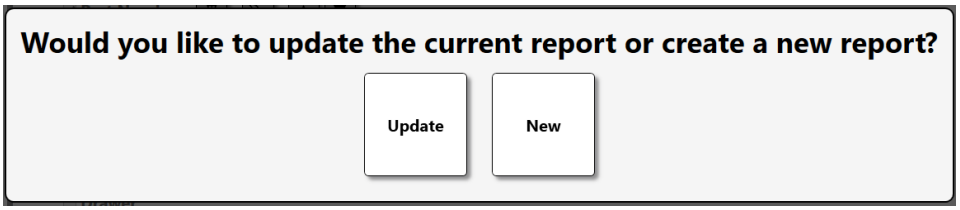
To share your personal report, select the report and then click the **Share report** button.



You will see a message telling you that this will allow other users to run the report. Click the **OK** button to continue and then click the blue **Save** button.

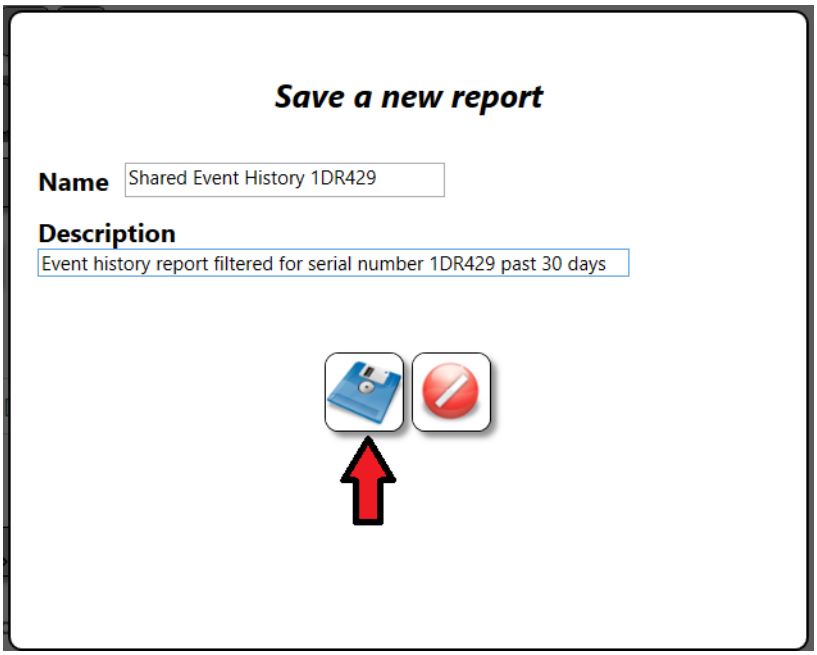


You will now be prompted to update the current report or create a new report. Choosing **Update** will change the current personal report to a shared report. Choosing **New** will cause a copy of the personal report to be saved as the shared report and the user will still have his personal report as well.

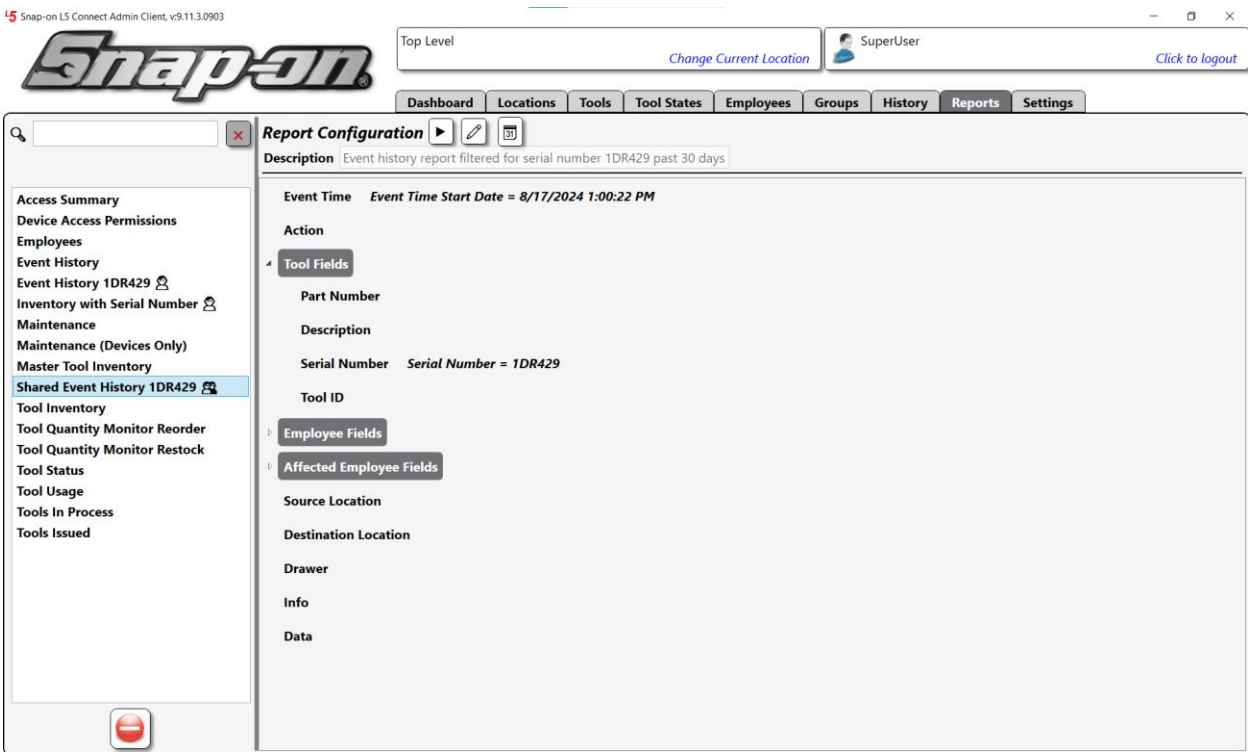


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For this example, we will choose **New**. You will then be prompted to give this new report a name and description just as you had to do when creating the personal report. Input the requested information and click the blue **Save** button.



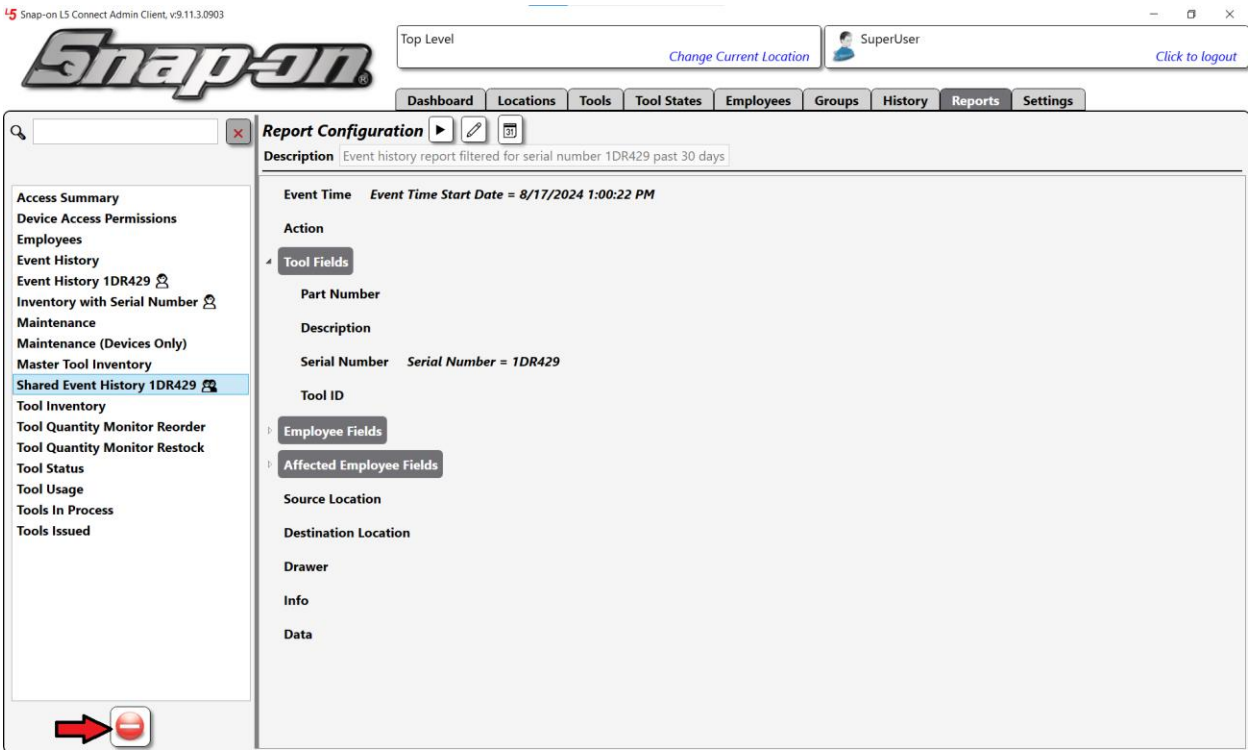
You can now see that your personal report, which only you see, is there as well as the freshly created shared version of the report.



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Deleting a Report

You can delete personal or shared reports, however the built-in reports cannot be deleted. To delete a personal or shared report, simply select it in the list and click the **Delete** button at the bottom of the list of reports.



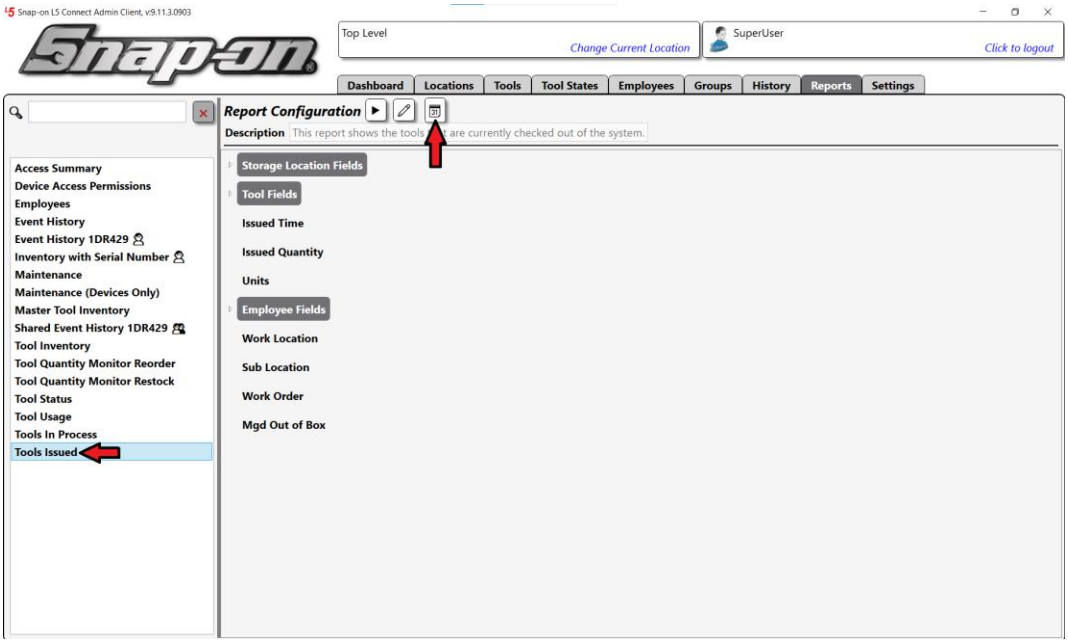
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Scheduling a Report

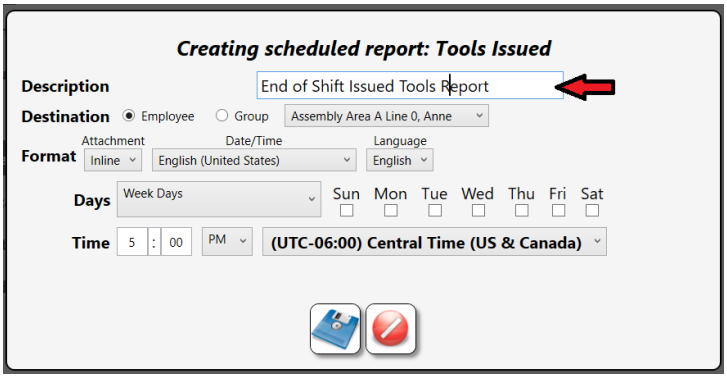
You can schedule a report to automatically be run at a specific time and sent to the appropriate users. For example, you want a report each day that lets you know what tools are still issued at the end of the workday. You can schedule the **Tools Issued** report to run each day at 5 PM. You can then assign the report to be delivered to each of the supervisors so they can take any action if needed.

NOTE: You will need to have set up the SMTP settings and email addresses of the intended recipients beforehand, as these reports are emailed. See the SMTP Configuration document for more details.

To schedule this report, you would select the **Tools Issued** report and then click the **Schedule Report** button, which looks like a calendar.

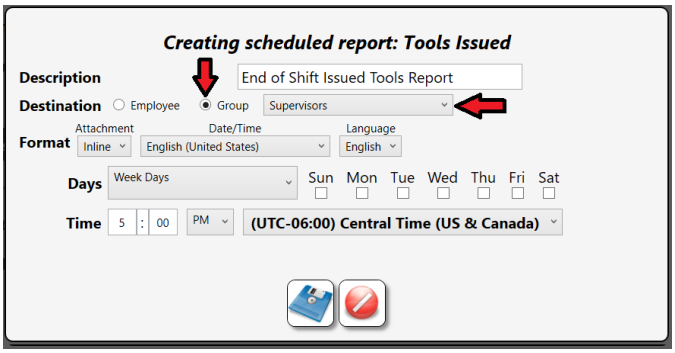


This will open the report scheduling window. You will need to provide the information necessary to schedule the report. Start by adding a description of the report.

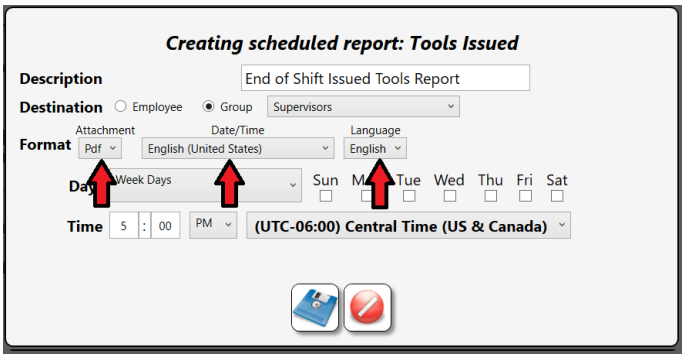


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Next, you will need to provide the destination. It can be either an individual employee or a group of employees. For this case we would choose the **Group** radio button and then select the **Supervisors** group from the pull-down menu that will list all the groups available.

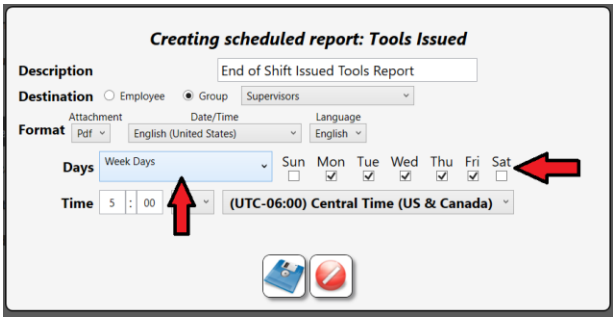


Next, we need to choose the Format for the report. The first thing we need to set is the **Attachment** type. The report can be a PDF, Xlsx, or an Rtf file attachment, or it can be put right into the body of the email itself with the **Inline** option. For this case we will select a PDF attachment to the email. You also need to select the **Date/Time** format that should be used in the report. This will make sure the dates in your report are presented in a format to your liking. And you will also want to set your **Language** for the report from the pull-down menu.



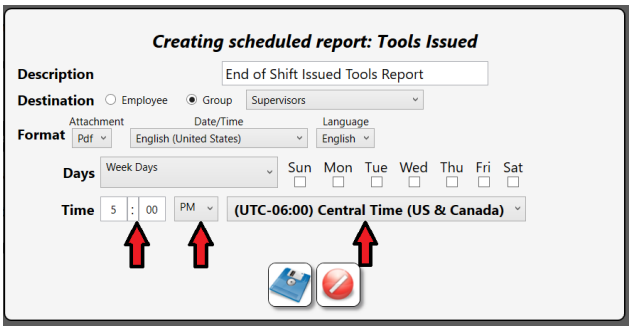
The next thing you need to configure is when the report will be run. The **Days** pull-down has three options.

- Week Days - Whatever days are selected in the individual day checkboxes
- Day of Month - A specific day of the month selected from an accompanying pull-down
- Last Day of Month - The last day of each month

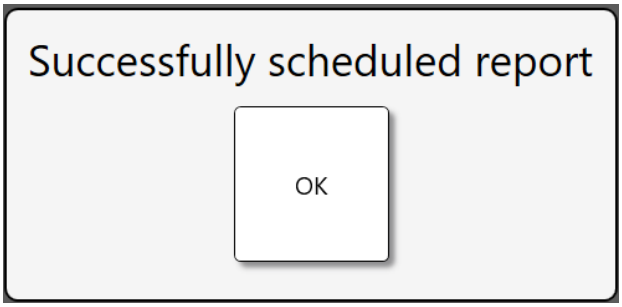


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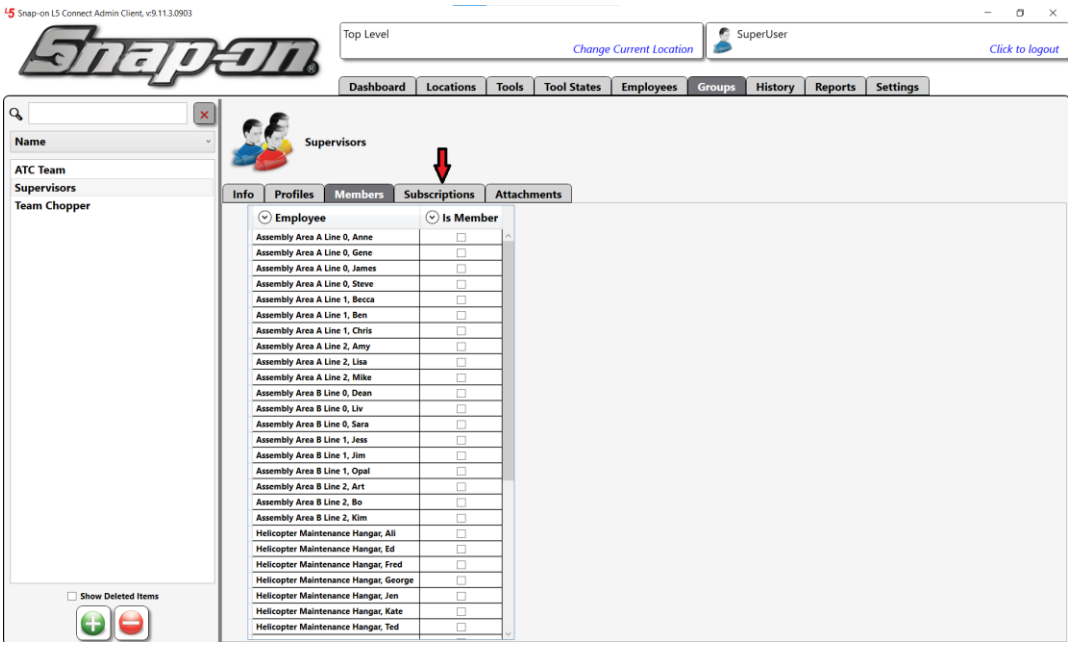
Now we have the days the report should be run set but we still need to add the time on those days that it will be run. Set your time with the **Time** box. Don't forget to also set the AM/PM value in the pull-down menu. And lastly, select your time zone from the time zone pull-down menu.



Once everything is set properly, click the blue **Save** button to schedule your report, then click the **OK** button.

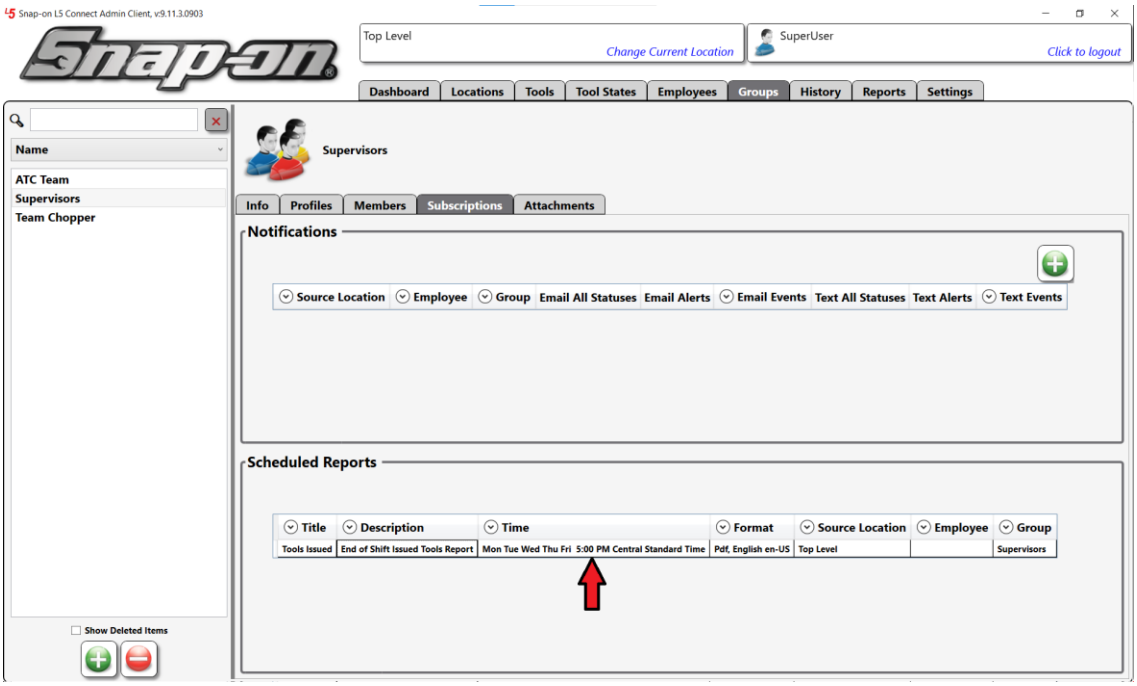


This has created a scheduled report "Subscription" for the Supervisors group. To verify that this is the case, you can go to the **Groups** tab and select the **Supervisors** group. Then click on the **Subscriptions** sub-tab.

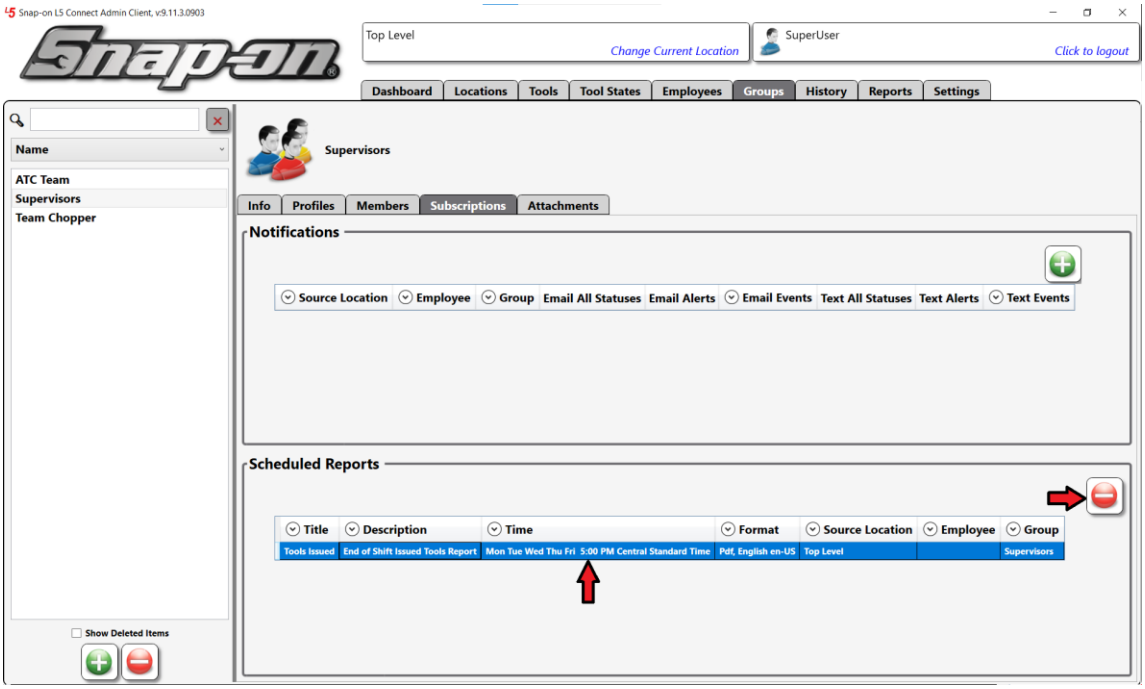


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You can see your scheduled report listed in the **Scheduled Reports** section.



If you would like to delete this subscription, select the report, and then click the **Delete** button.

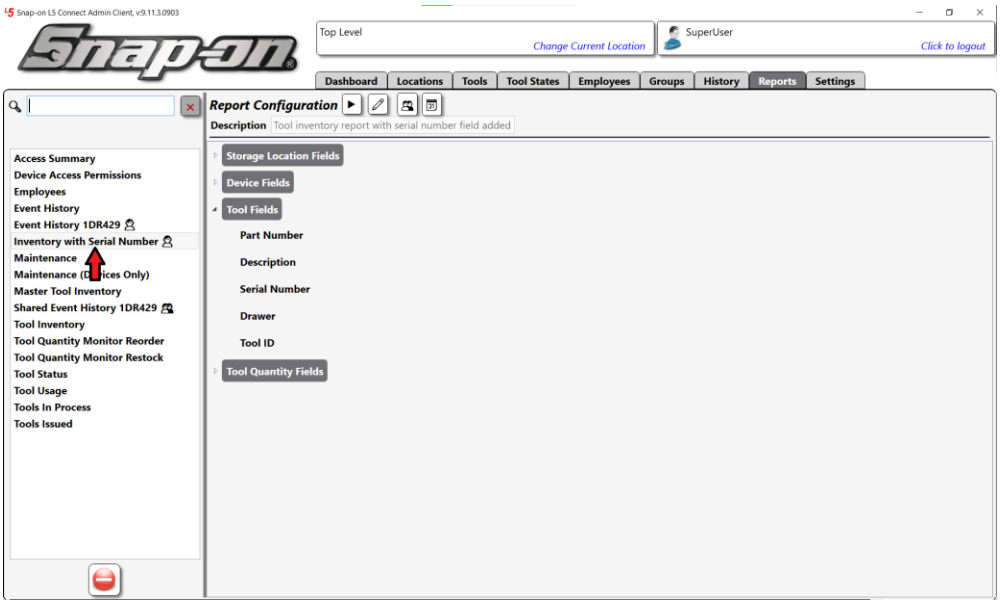


NOTE: For the employees to actually receive the scheduled report they must have an email address configured in their employee info and the system must be configured with an SMTP server as previously noted.

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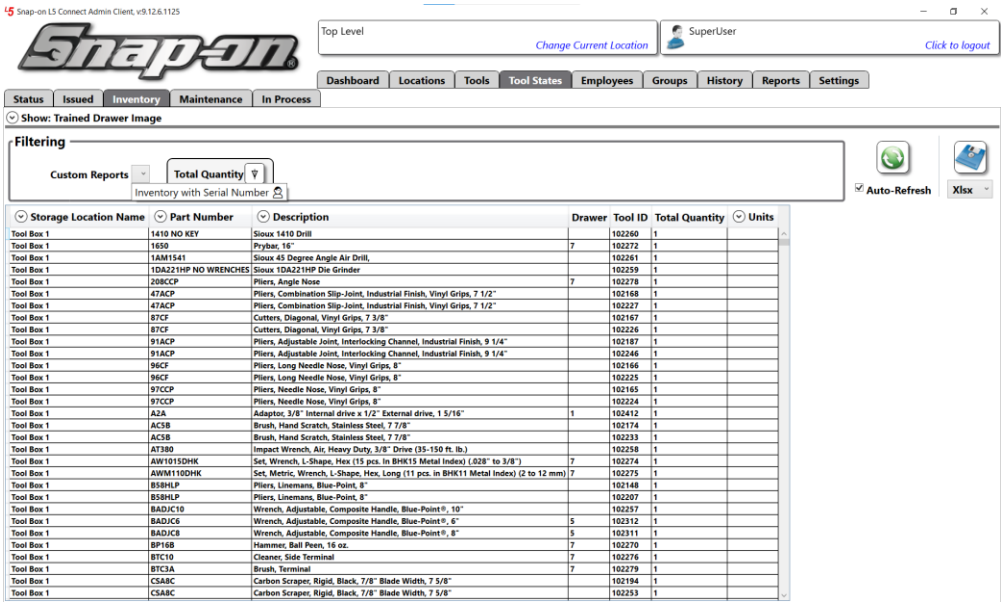
Tool States Tab

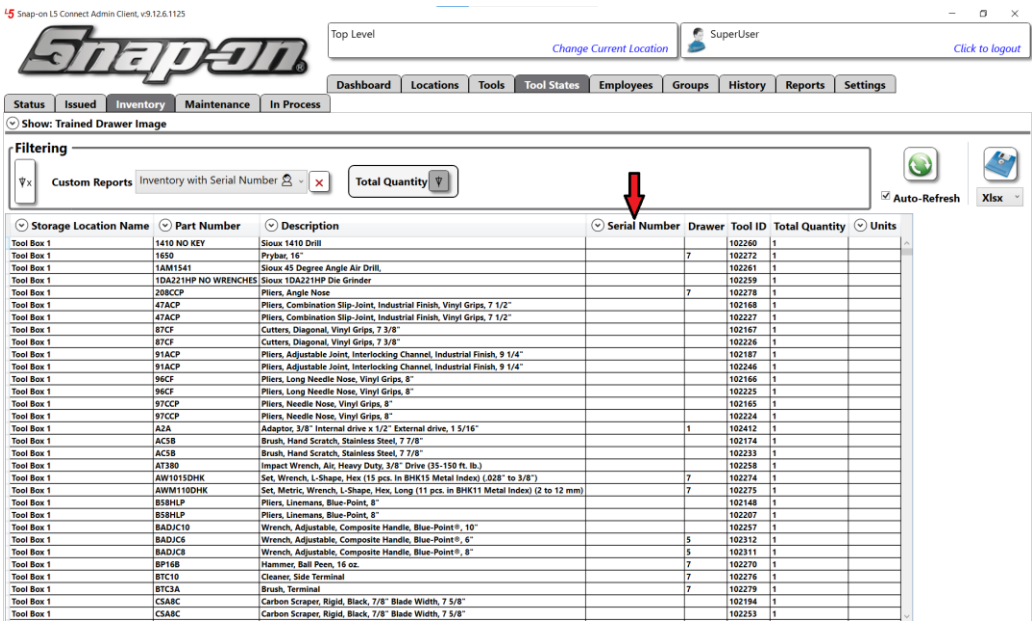
Since the **Tool States** tab is powered by the reports engine, you can create custom reports and use them to customize your **Tool States** displays. Let's say you wanted to have the **Serial Number** field displayed on the **Tool Inventory** sub-tab of the **Tool States** tab. First you would create a custom report where you added the **Serial Number** field to that report and save it.



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Then you would go to the **Tool States** tab and select the **Inventory** sub-tab. In the **Filtering** area at the top of the screen you would use the **Custom Reports** pull-down menu to select your newly created report, and you will have the serial number column added to the screen.





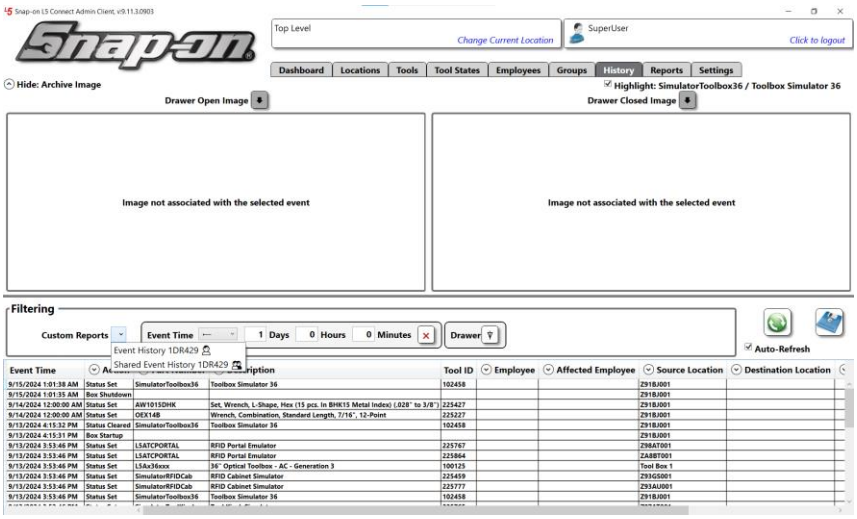
NOTE: Certain report types support viewing of additional image information. For example, when a tool from an optical toolbox is selected in the Tool Inventory report, the drawer image captured during the training process can be displayed by clicking the Show: Trained Drawer Image button.

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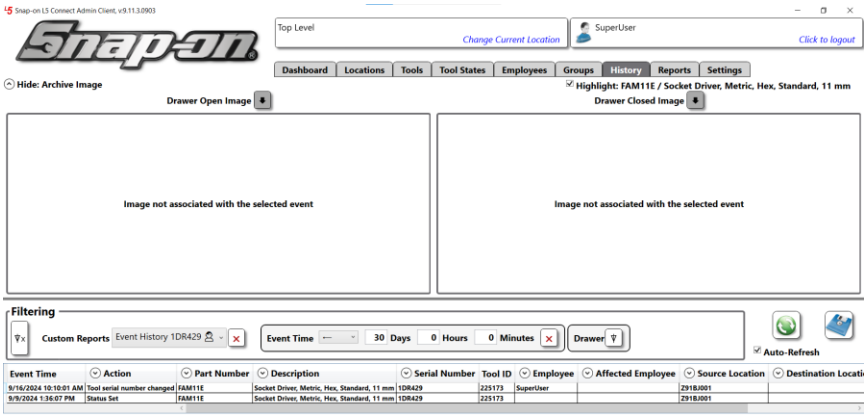
Reports and the History Tab

In the past there have been many requests to be able to customize the display of the events on the history tab. Software version 9.11.4.x and higher will support custom report functionality on the Administration Client history tab as described below, which will allow such customization.

The new **History** tab will be powered by the reporting engine allowing customization of the eventlog display grid. The first step is to go to your **Reports** tab and create a custom **Event History** report. Then go to the new **History** tab. You will notice in the **Filtering** section of the screen that there is a **Custom Reports** pull-down menu. From this you can select your custom **Event History** report, and your event history display will change to your desired layout.



Notice the **Serial Number** column has been added, and the **Work Order** field has been removed based on the custom report we created earlier. Additionally, the displayed data is filtered by the serial number "1DR429" and the previous 30-day date range. Also note that the shared version was available for selection too.



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Dashboard Setup

The dashboard is the home screen of the admin client. It provides a customizable, real-time display of your L5 Connect system. data of all your L5 Connect™ Device's statuses and alerts. The True-Crib and ATC Portal also have dashboards as well. This document will discuss how to customize your dashboards to suit your business needs.

Widgets

The building blocks of the dashboard are widgets. Widgets are pre-made self-contained panes that show different aspects of the L5 Connect system such as device status, or a graph of the top employees with tools out.

By default, the Dashboard displays seven widgets:

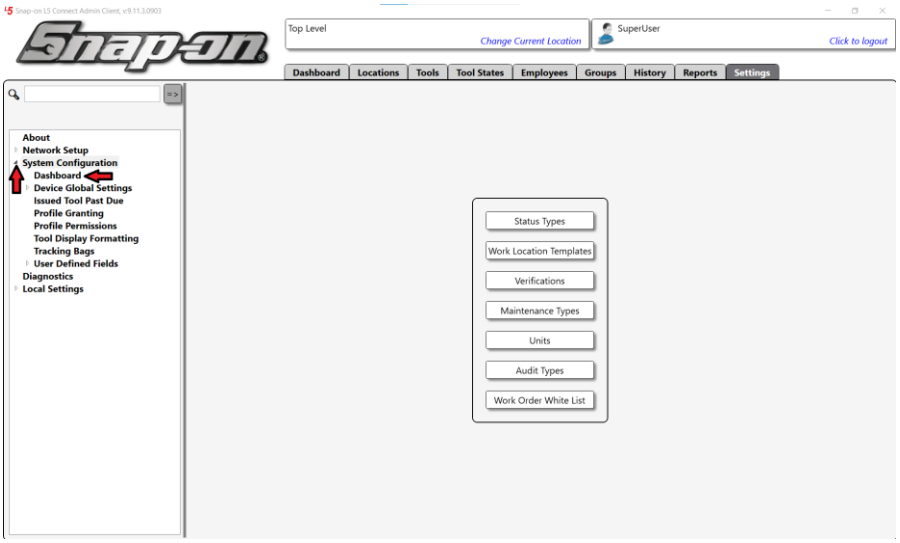
1. System Status – Displays the total number of objects in the system and the total in the current view.
2. Device Status – Displays all L5 Connect™ Devices in the current view and their status.
3. Work Location Status – Displays all Work Locations in the current view and their status.
4. Top Employees with Issued Tools – Displays the Employees with the most issued tools.
5. Top Work Locations with Issued Tools – Displays the Work Locations with the most issued tools.
6. Top Devices with Issued Tools – Displays the L5 Connect™ Devices with the most tools issued.
7. Recent Events – Displays a list of events since the user logged into the client.

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Dashboard Editor

The dashboard editor provides a way to customize your dashboard. You can change which widgets are displayed and where they are on the screen. You cannot edit the widgets themselves, however.

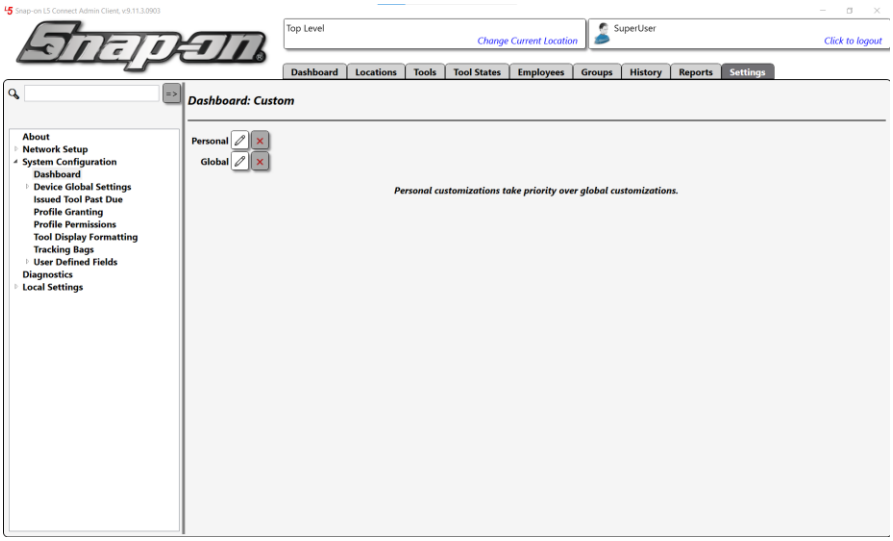
To access Dashboard Editor, you need to go to **Settings** tab and expand the **System Configuration** item. Then select the **Dashboard** sub-item.



You will have the option to create a personal custom dashboard or a global custom dashboard. As noted on the screen, personal customizations take priority over global customizations. The process for creating the custom dashboard is the same for either type.

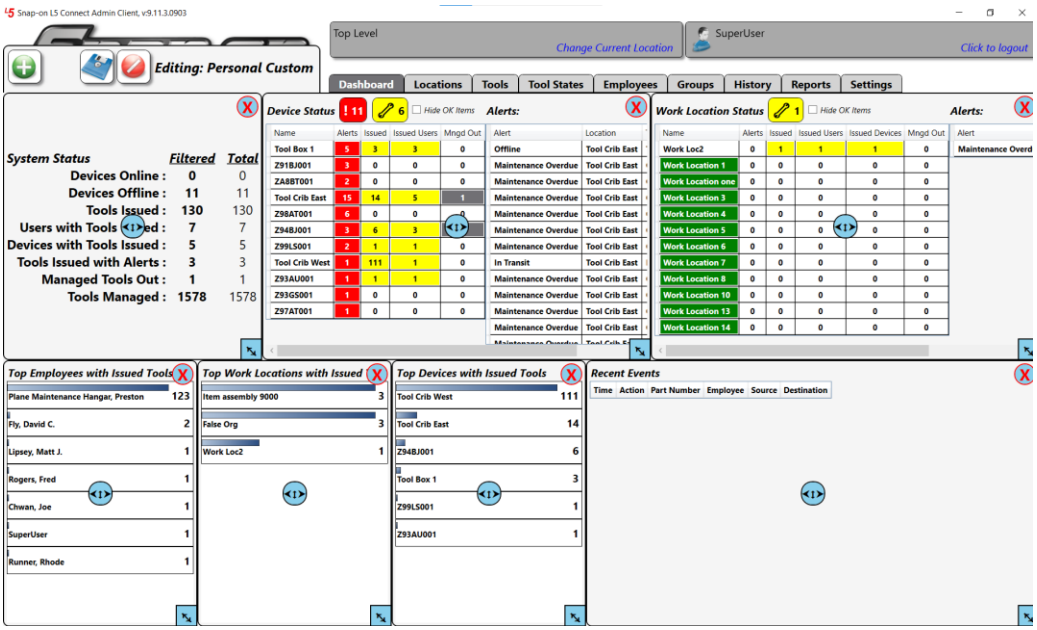
NOTE: To create a global custom dashboard, you will need an admin login with the **Organizational Location Edit** permission.

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Click the **Change** button, which looks like a pencil, for the **Personal** dashboard. You are taken to an editable version of the dashboard. The dashboard controls are located in the top left corner of the screen.

- **Add a Widget (green plus)** – This allows you to pick from the Widget library and add one to the screen.
- **Save Current Layout (blue disk)** – saves current layout and exits the editor.
- **Cancel Changes (red slash)** – discards change and exits the editor.
- **Current Layout** – displays the current mode you are editing.



Each widget in the Dashboard Editor has three controls to modify its Location on the screen:

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 Resizes the Widget

 Moves the Widget

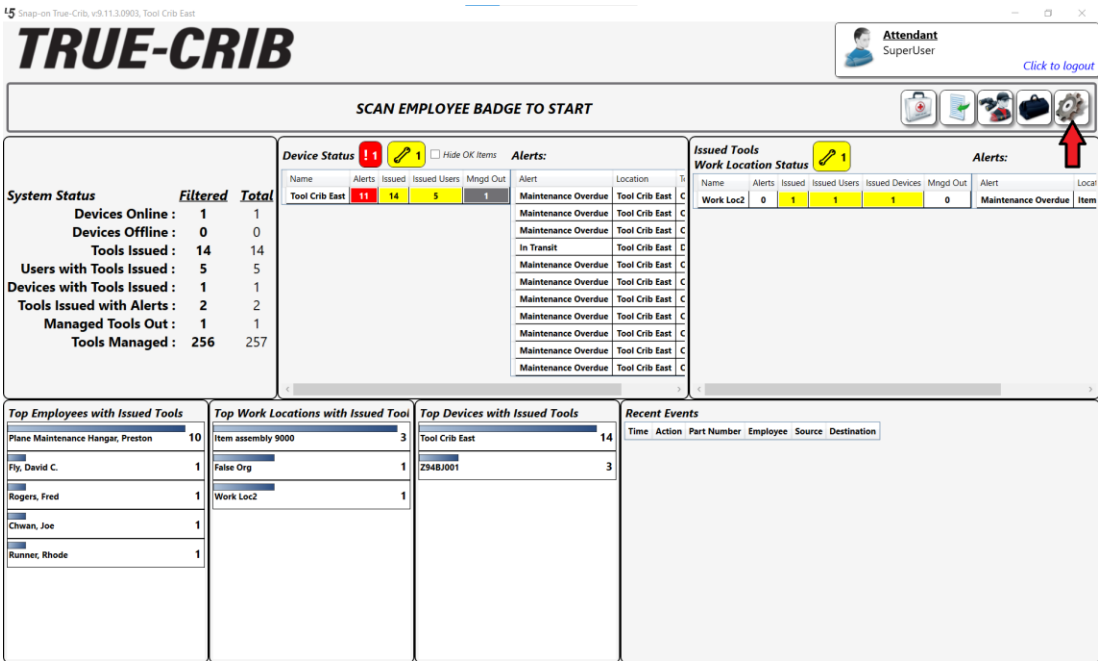
 Removes the Widget

Using these controls, you can add or remove widgets, resize widgets, and relocate widgets to get the screen like you want it. Besides the seven widgets that are on the default screen, there is also a custom report widget which allows you to add a widget with a custom report to the screen.

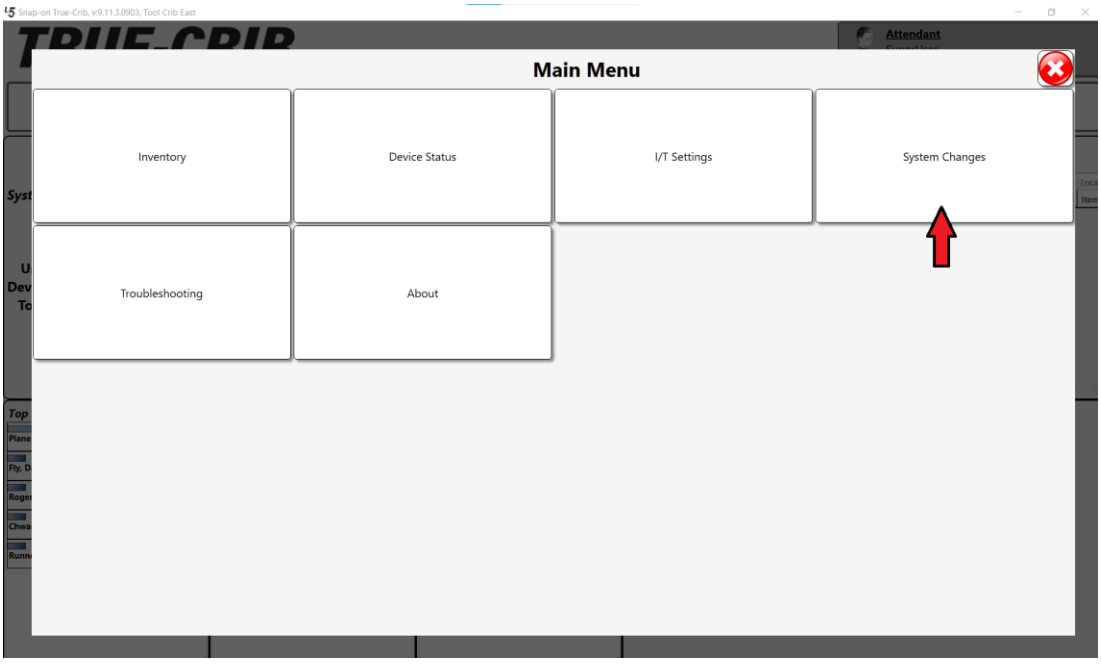
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True-Crib Dashboard

The True-Crib dashboard can be customized in the same manner as the admin dashboard. To customize the dashboard log into the crib as an attendant, and then click the **Main Menu** button, which looks like a gear.

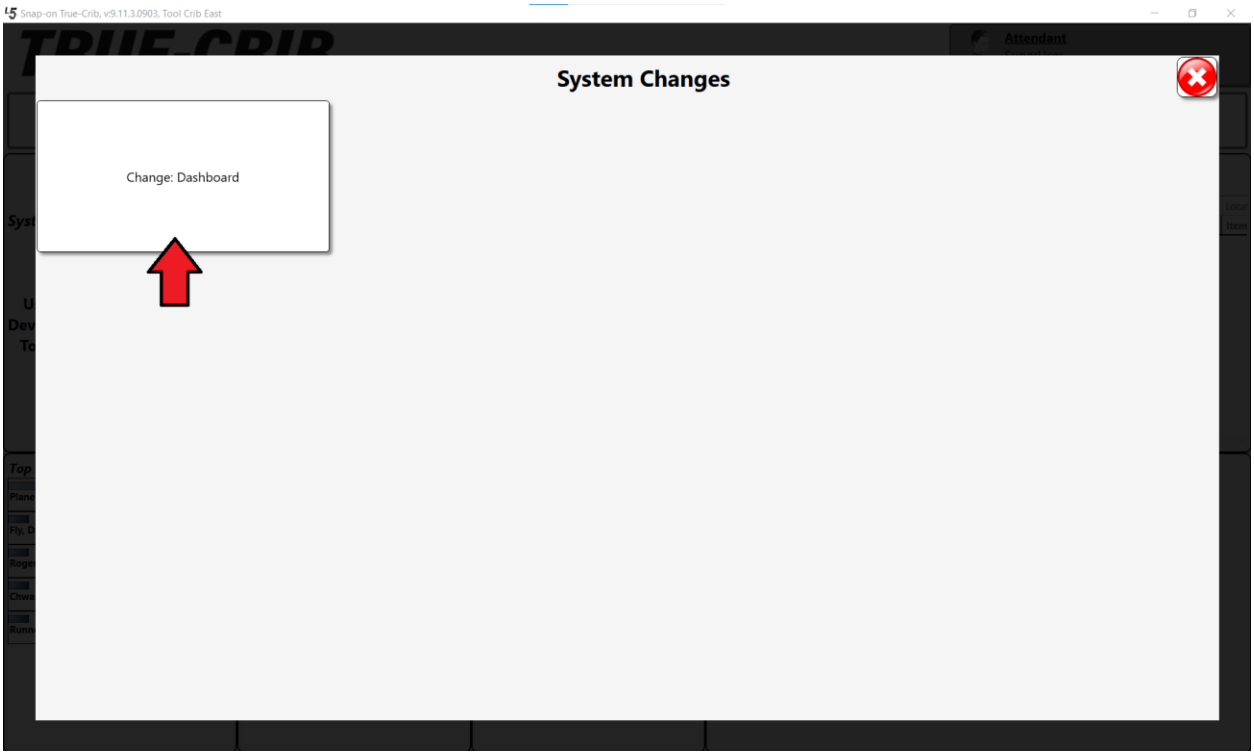


Then click the **System Changes** button on the **Main Menu** window.

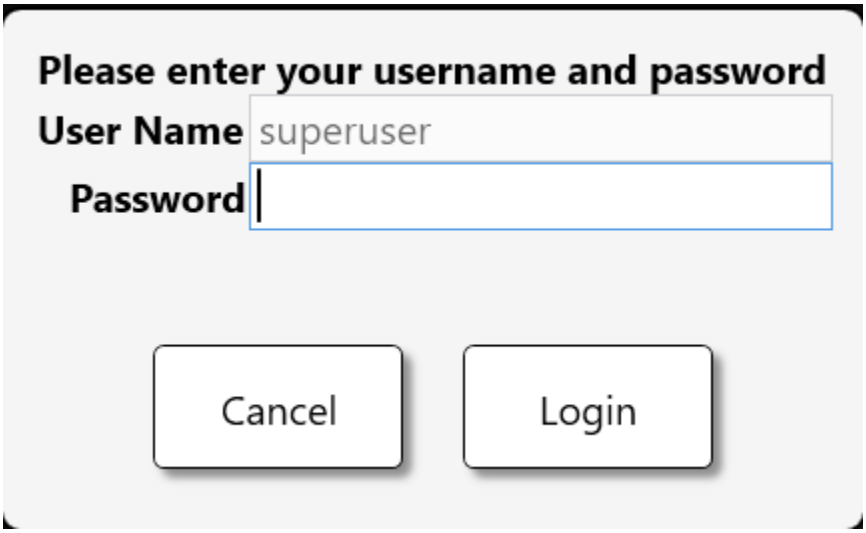


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Then click the **Change: Dashboard** button.

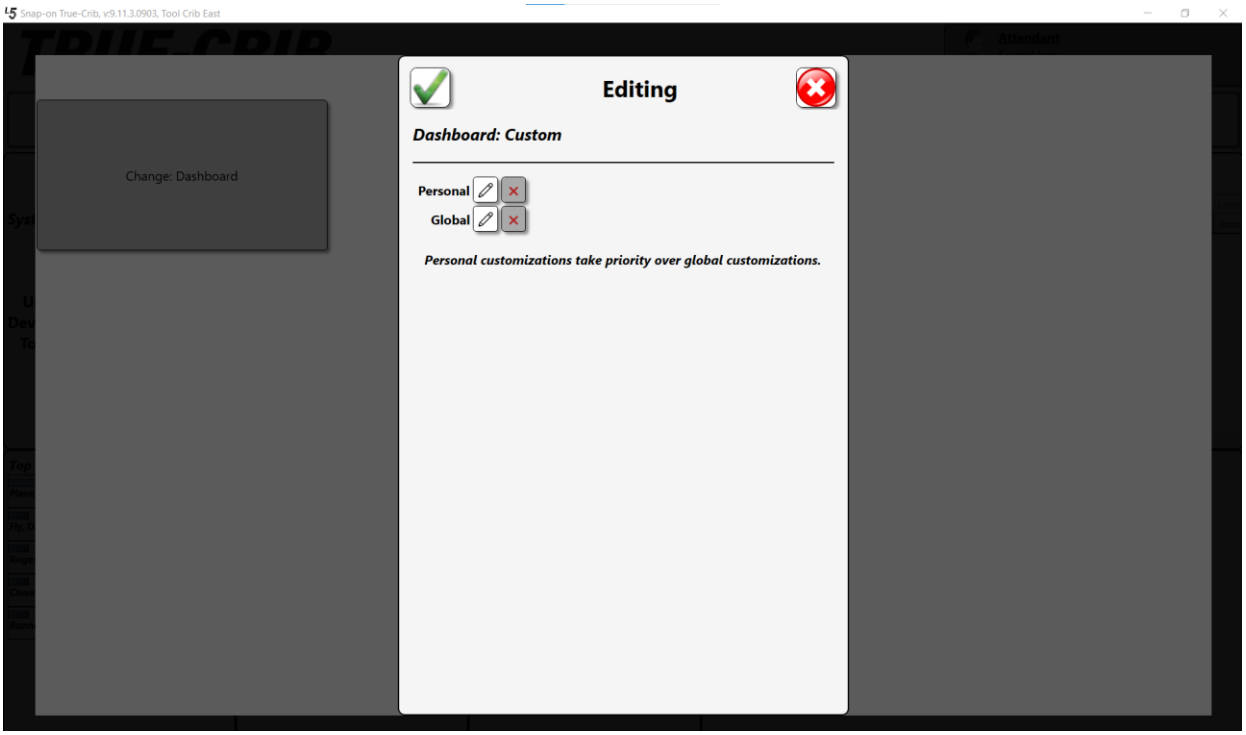


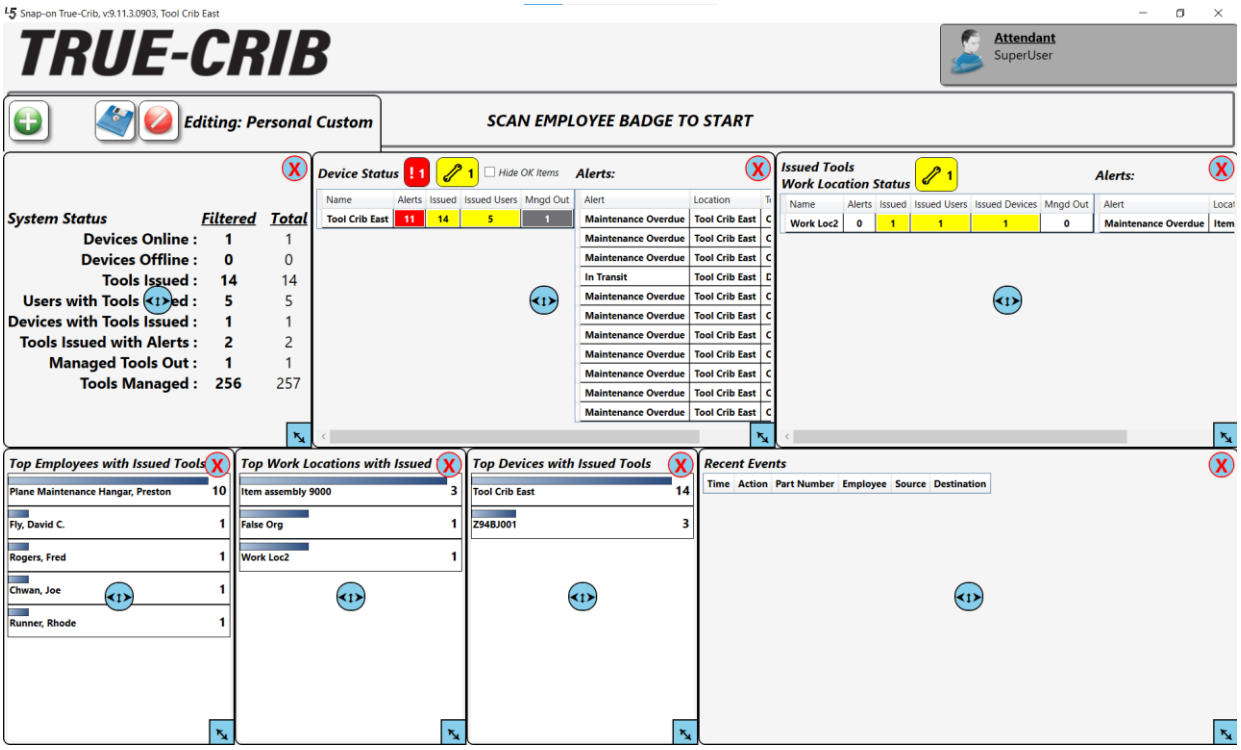
Provide your admin **User Name** and **Password** to authenticate.



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From this screen you can select a **Personal** or **Global** customization and then you will be at the dashboard editing screen just like with the admin dashboard.

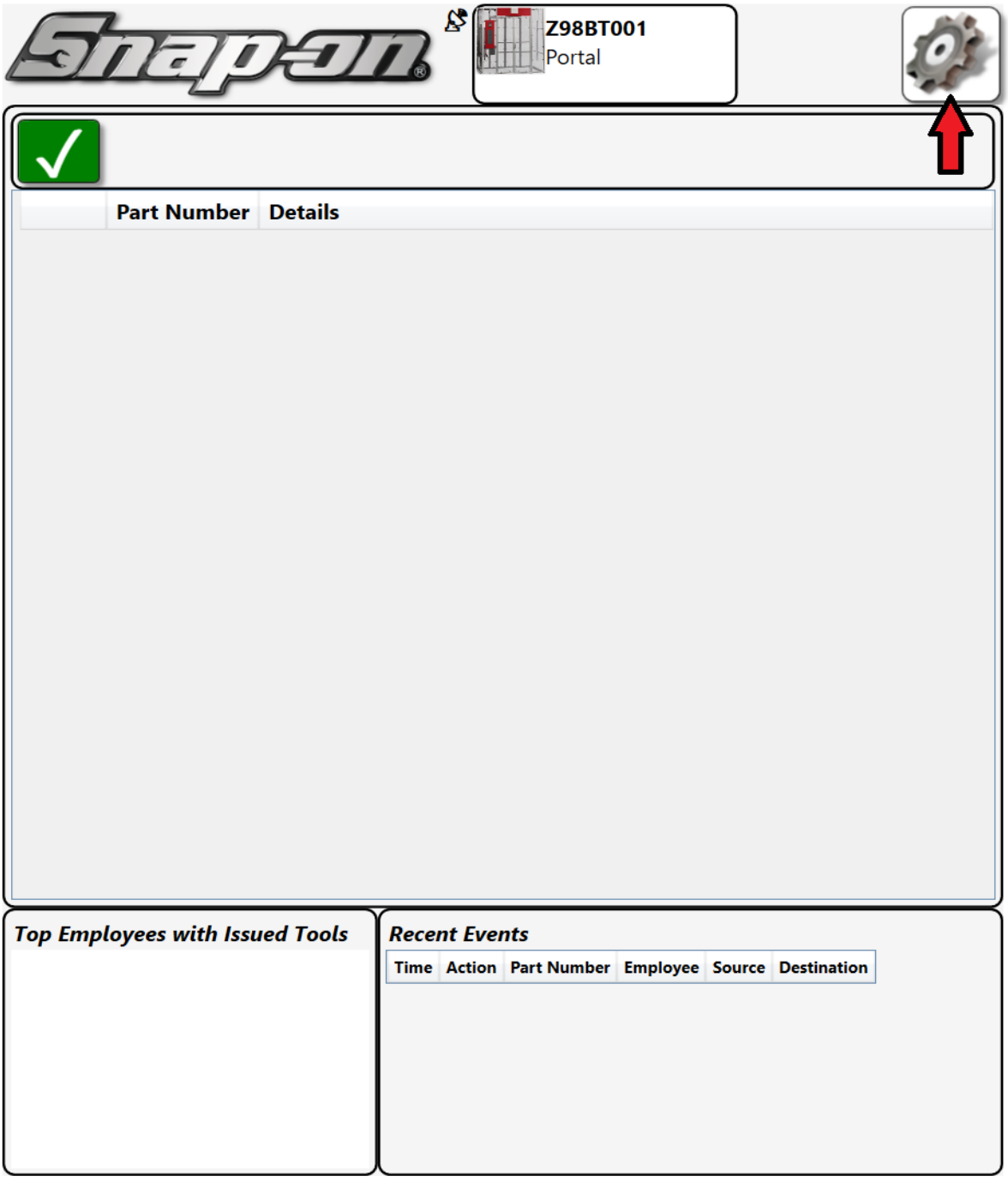




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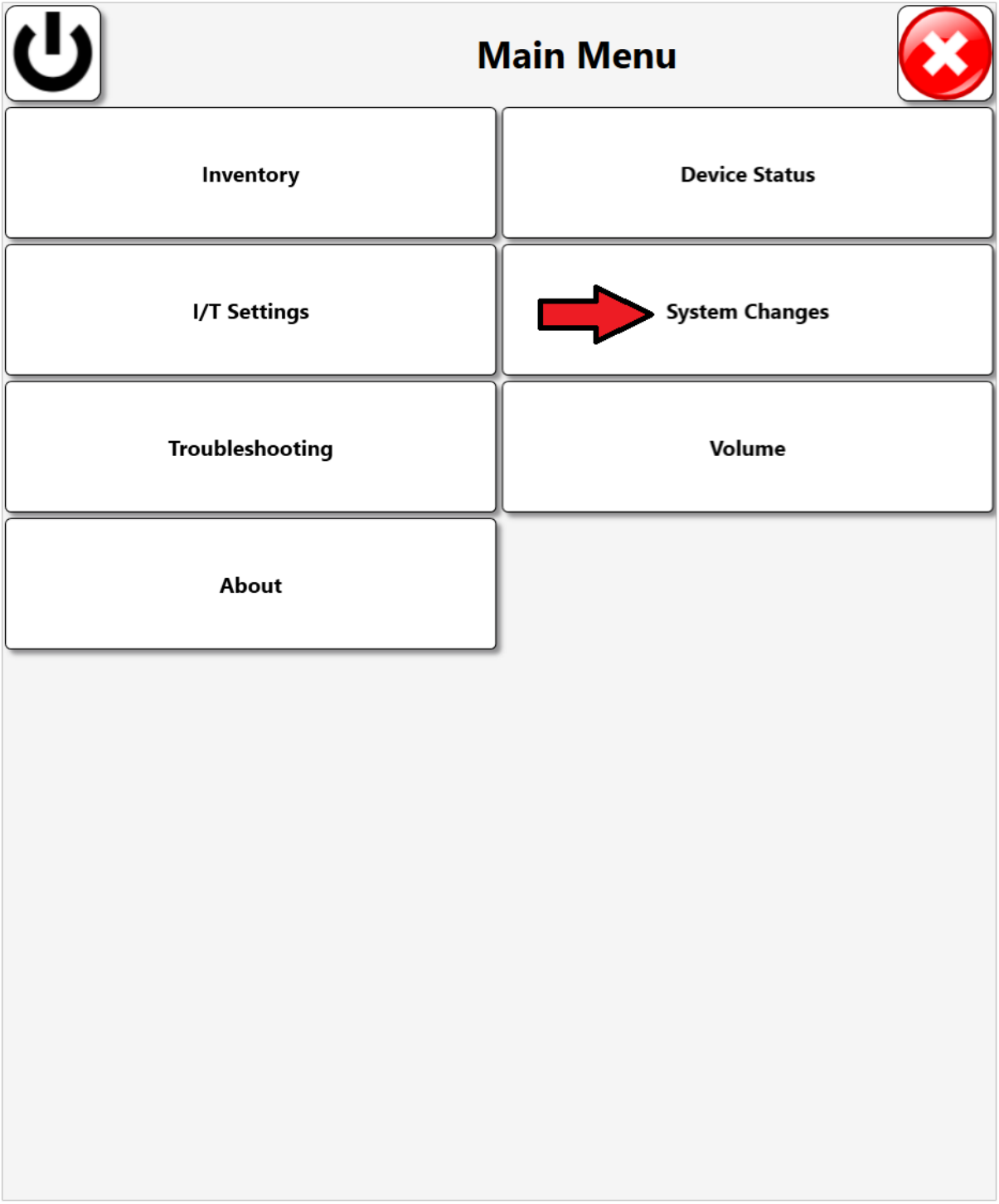
ATC Portal Dashboard

The portal dashboard can also be customized in the same manner as the admin dashboard. To customize the portal dashboard, make sure nobody is logged into the portal and click the **Main Menu** button, which looks like a gear.



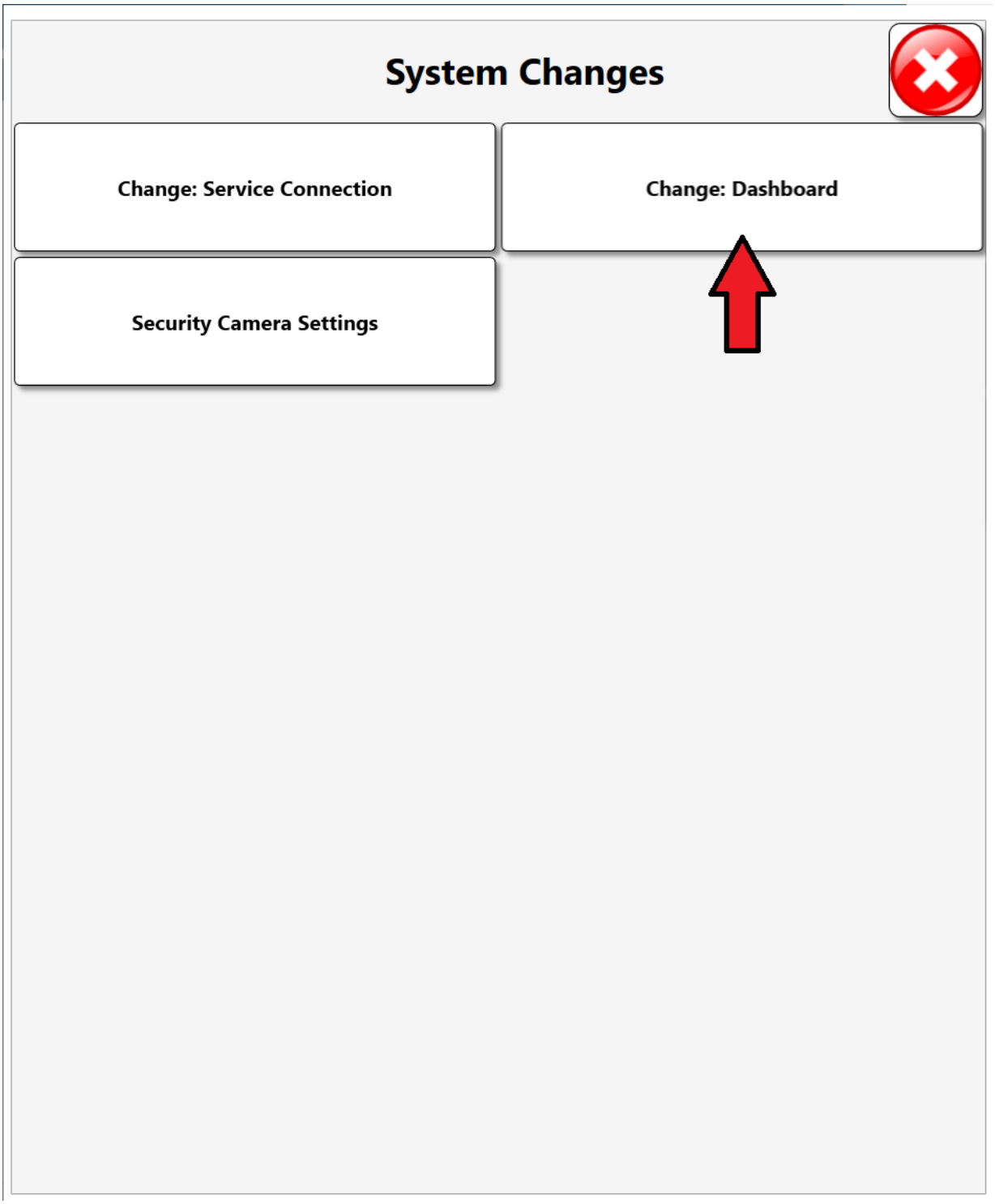
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Then click the **System Changes** button on the **Main Menu** window.



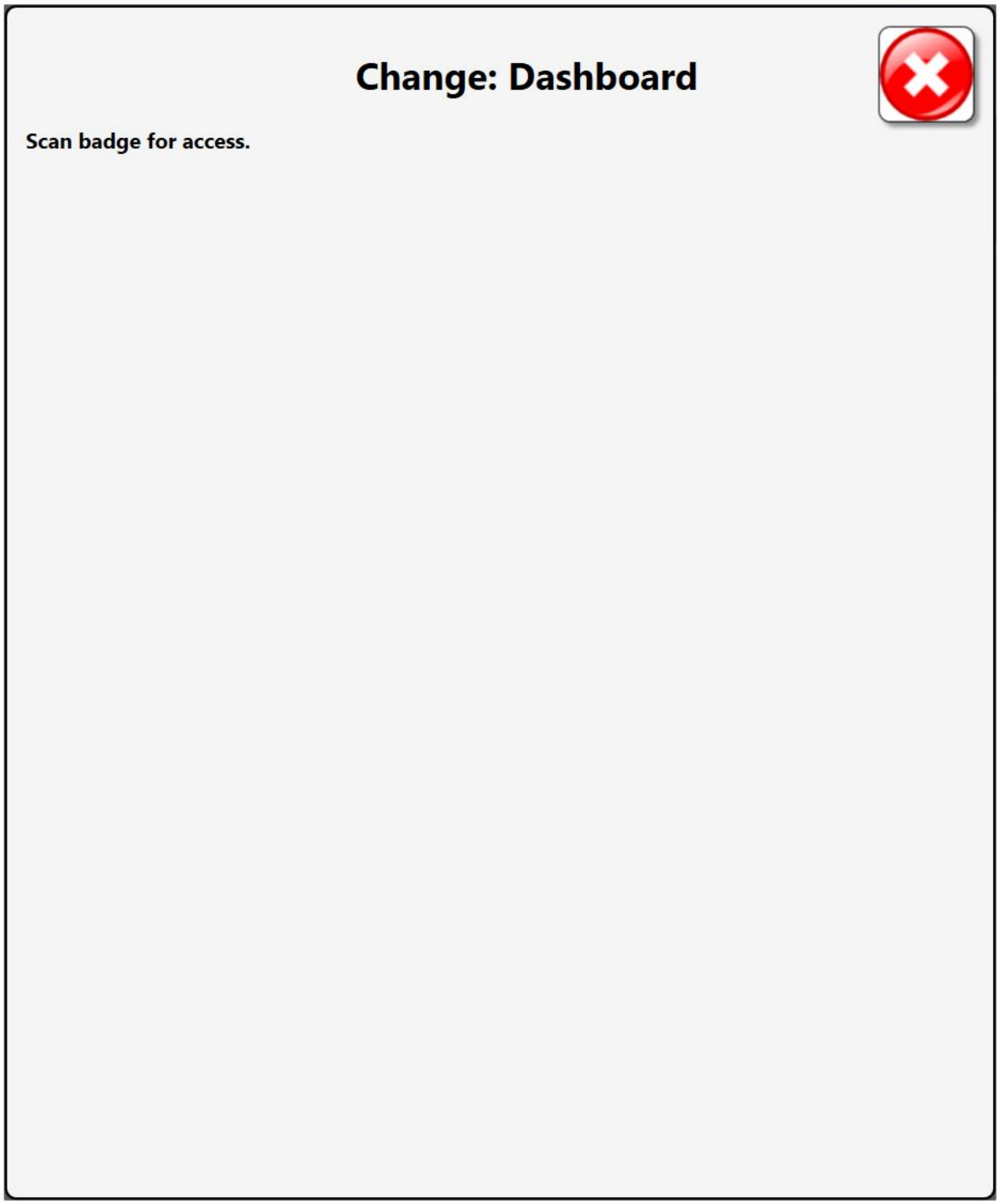
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Then click the **Change: Dashboard** button.



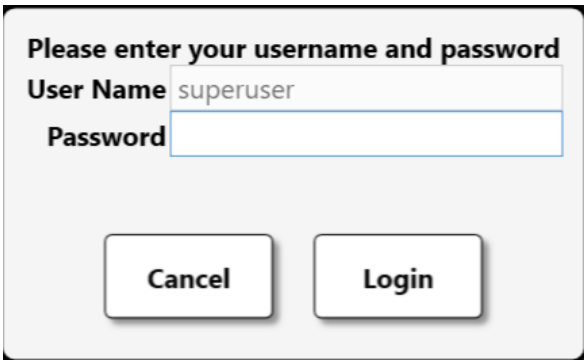
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You will then be prompted to scan your badge for access.

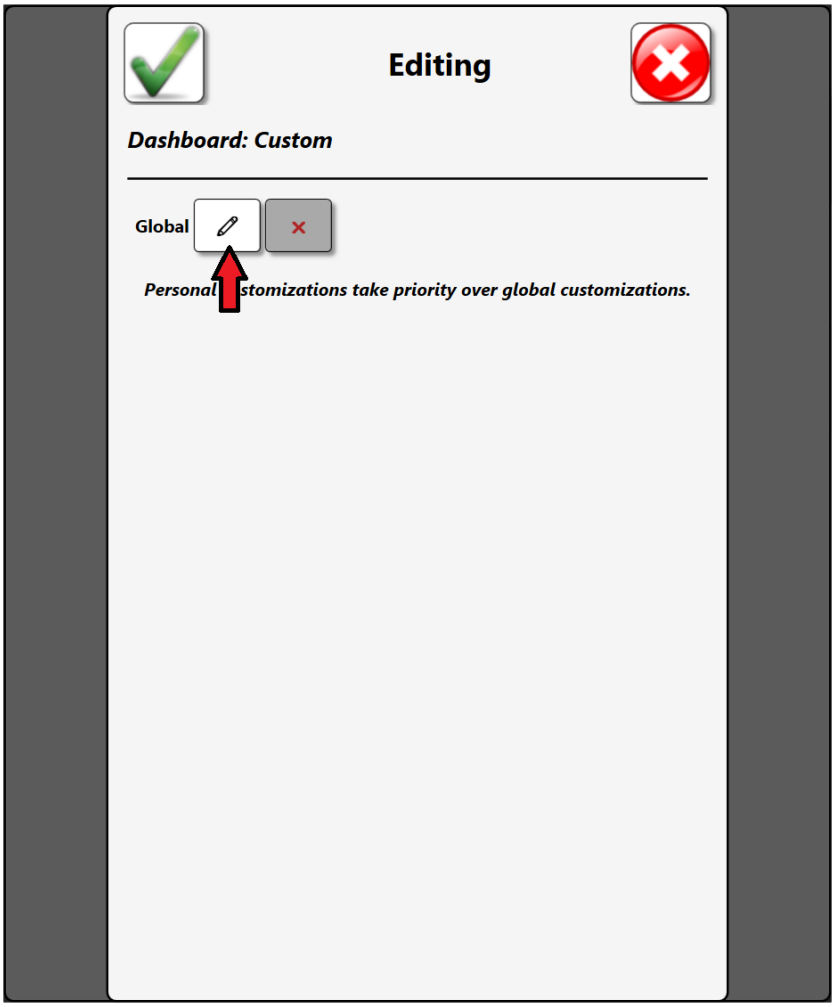


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After scanning your badge, you will be prompted to input your admin credentials to authenticate.

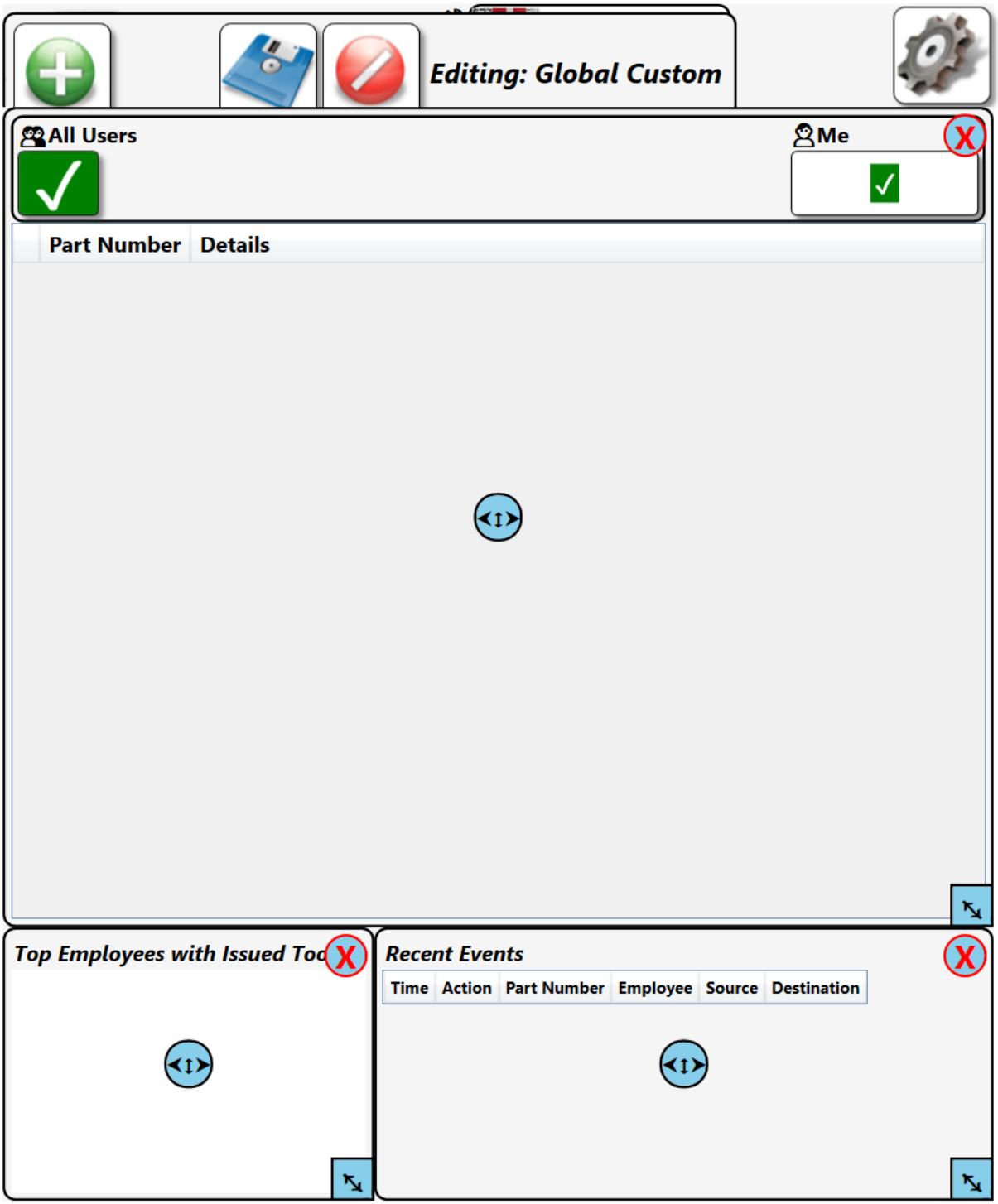


Now you will be prompted to select the type of custom dashboard you wish to create. There is only a global dashboard option, however, since the dashboard is only displayed when no user is logged into the portal. Click the **Change** button, which looks like a pencil.



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You are now back to the editable dashboard, just as before on the admin and tool crib applications. You can customize and save the dashboard as you would like it to be displayed when no users are logged into the portal.



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Attachments

Sometimes you may have documents or links that it would be helpful to attach to a tool or employee in the L5 Connect™ system. For example, you might wish to attach an instruction manual document or a record of calibration to a specific tool. Or perhaps you would like to keep a record of a link to a course certification for employees to perform specialized maintenance. You can easily do this with the L5 Connect admin application.

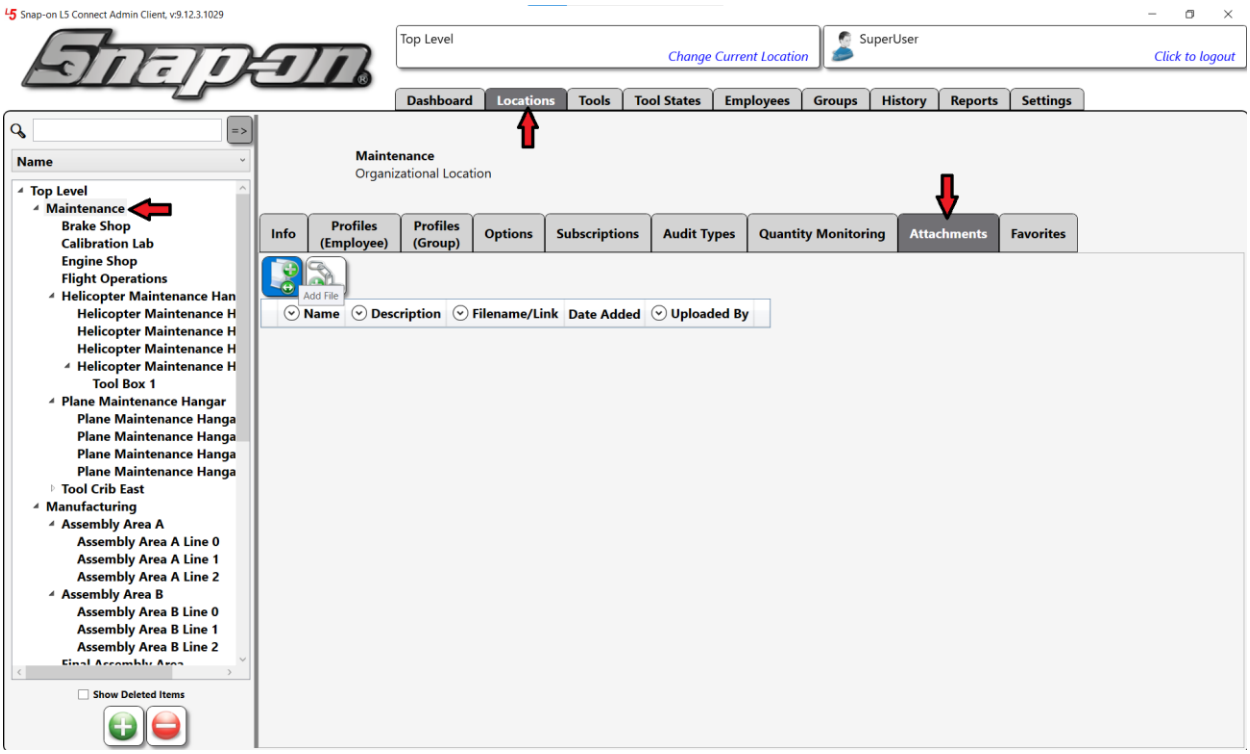
When you save an attachment in the L5 Connect™ system, the attachment will be stored by the service in its defined file server location. Then, when someone wants to retrieve the attachment for viewing, it will be downloaded to whatever admin application instance they are running.

NOTE: The maximum file size of attachments is 4MB.

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Adding an Attachment to a Location

In the admin application, go to the **Locations** tab and select the location to which you would like to add the attachment. Then select the **Attachments** sub-tab.

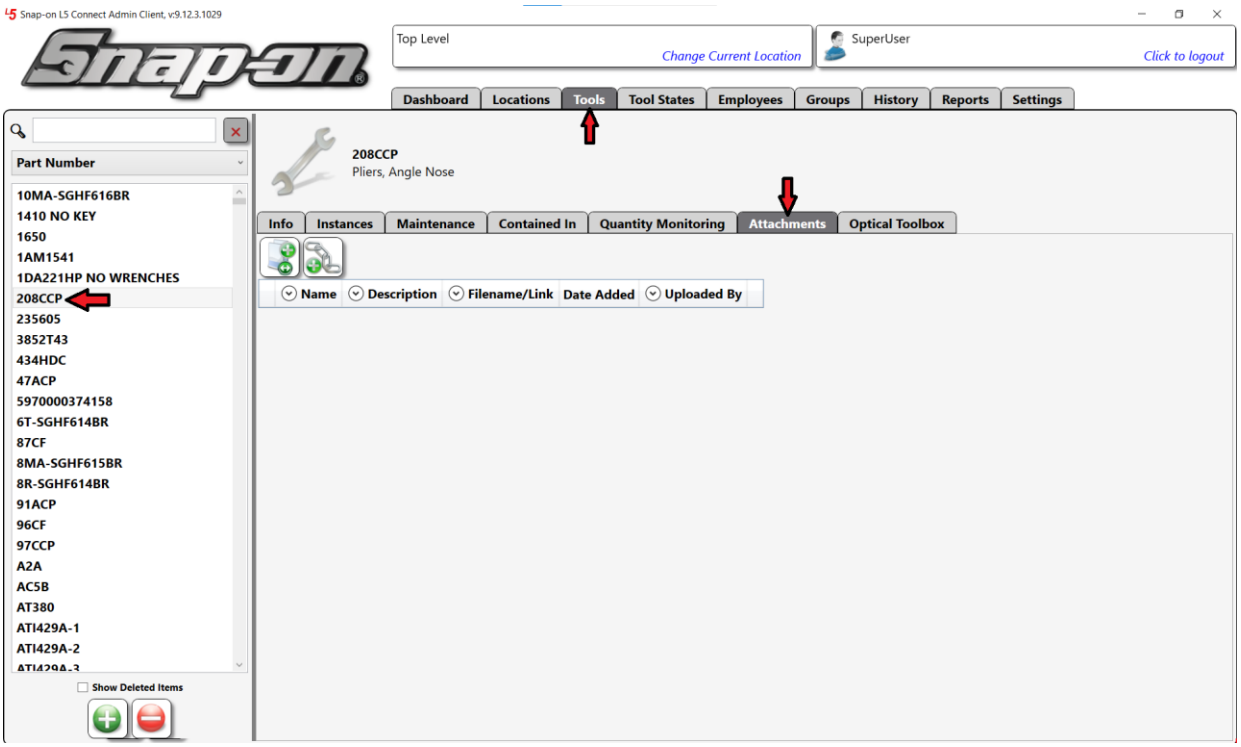


Skip to the Adding the Attachment section to continue.

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Adding an Attachment to a Master Tool

In the admin application, go to the **Tools** tab and select the master tool to which you would like to add the attachment. Then select the **Attachments** sub-tab.

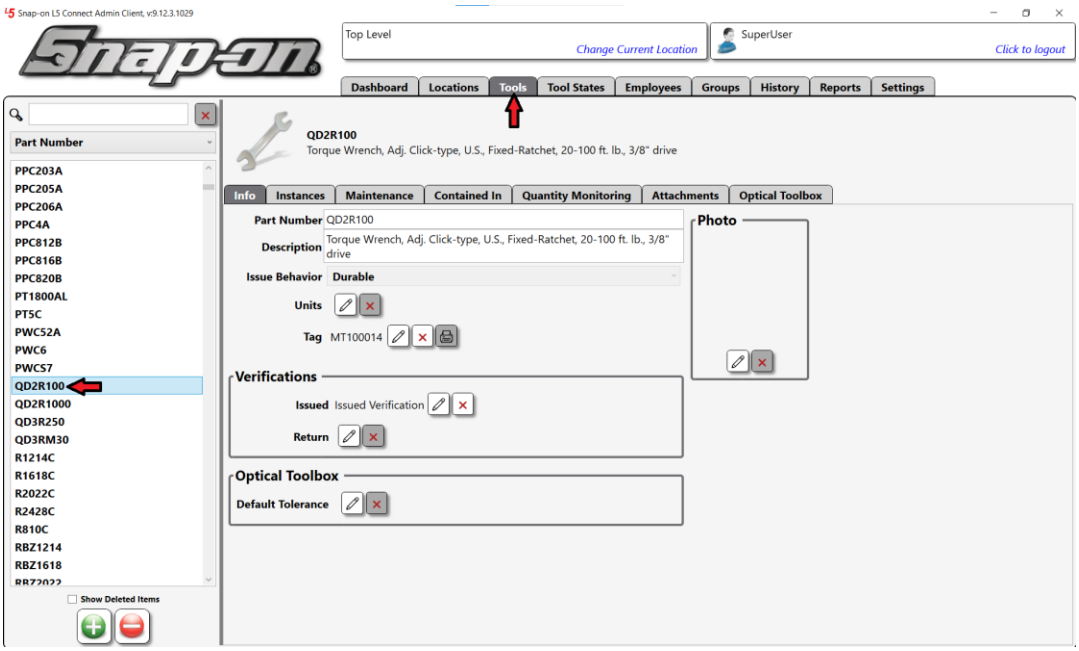


Skip to the Adding the Attachment section to continue.

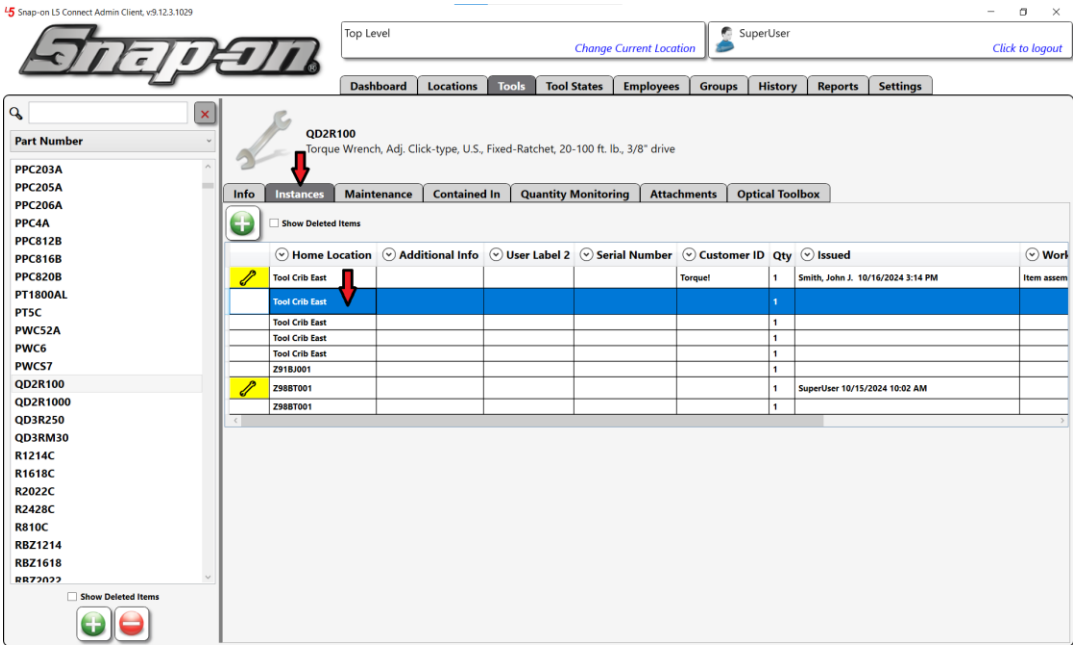
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Adding an Attachment to a Tool Instance

In the admin application, go to the **Tools** tab and select the master tool to which you would like to add the attachment.

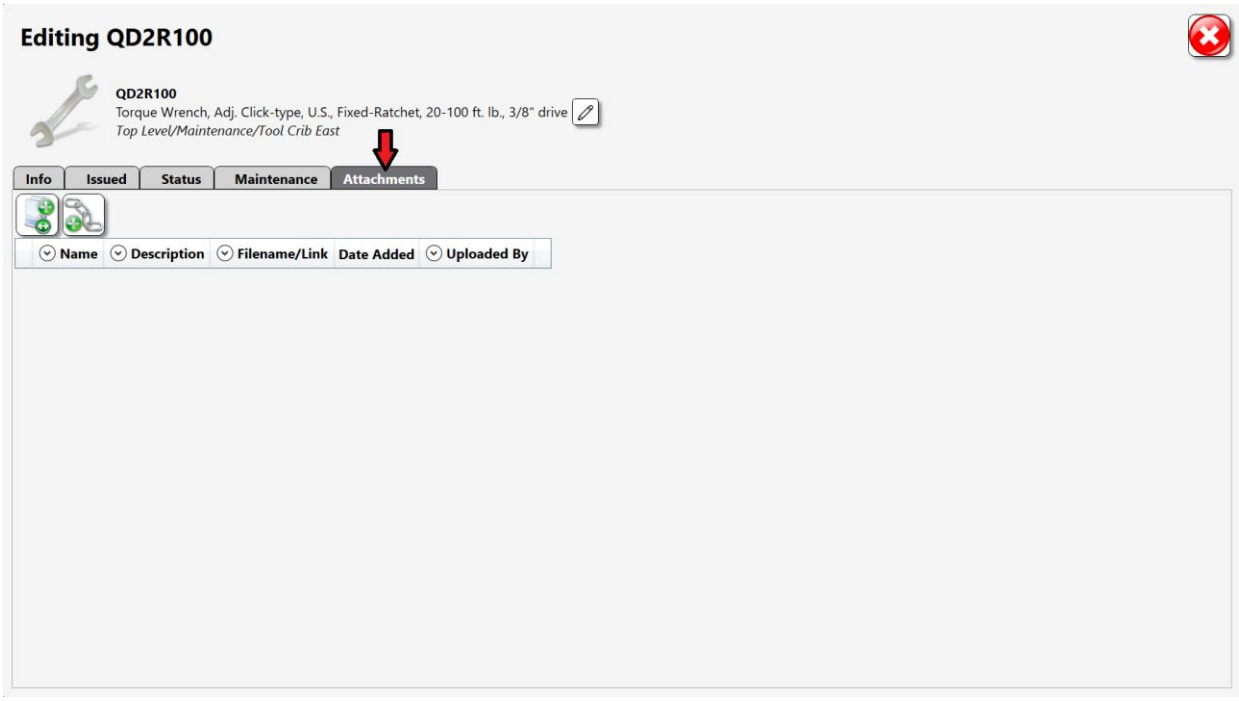


Select the **Instances** sub-tab. Then double click the tool instance to which you would like to add the attachment.



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This will bring up the tool details window. Select the **Attachments** sub-tab.



Skip to the Adding the Attachment section to continue.

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Adding an Attachment to an Employee

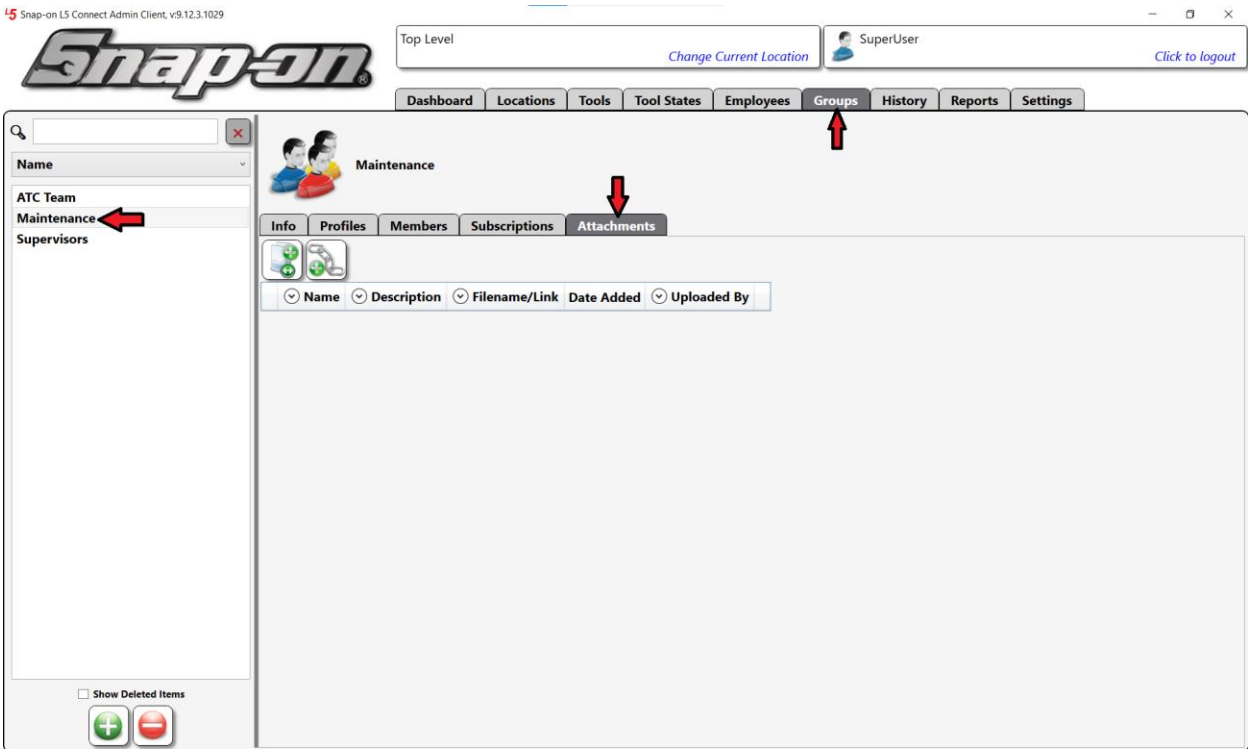
In the admin application, go to the **Employees** tab and select the employee to which you would like to add the attachment. Then select the **Attachments** sub-tab.

Skip to the Adding the Attachment section to continue.

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Adding an Attachment to a Group

In the admin application, go to the **Groups** tab and select the group to which you would like to add the attachment. Then select the **Attachments** sub-tab.



Skip to the Adding the Attachment section to continue.

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Adding the Attachment

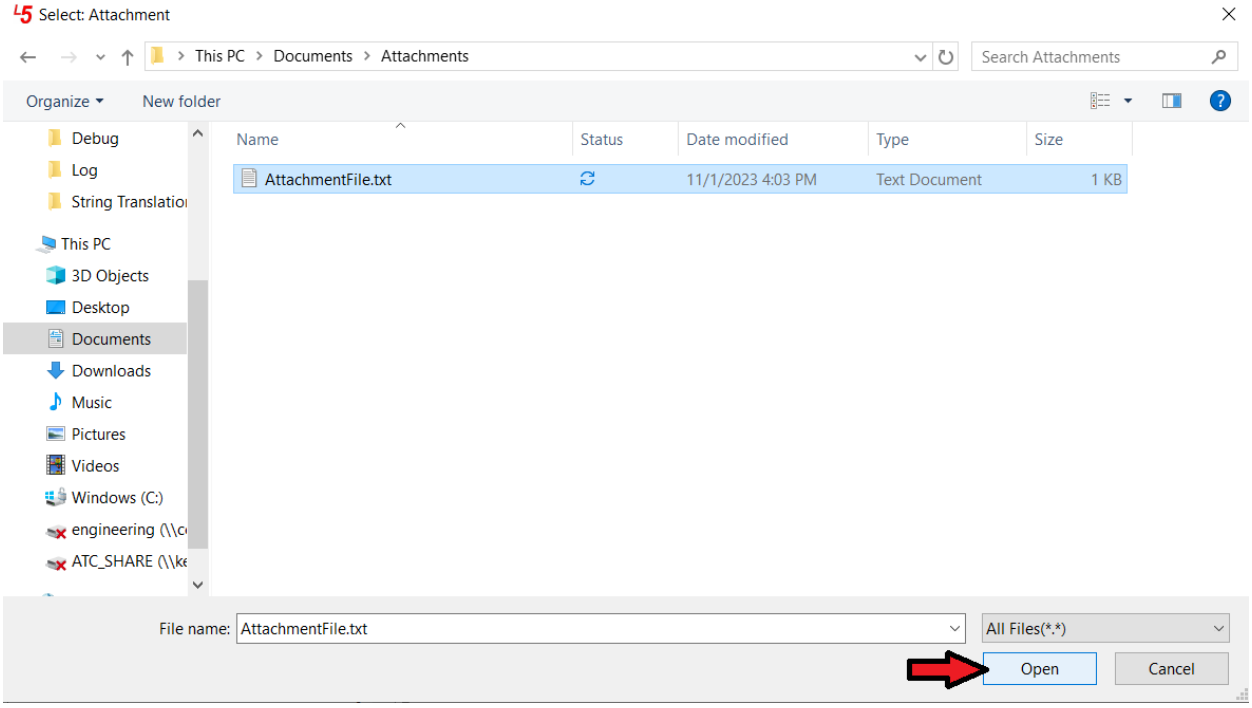
There are two types of attachments that can be added, files and hyperlinks.

Attaching a File

To attach a document, click the **Add File** button.

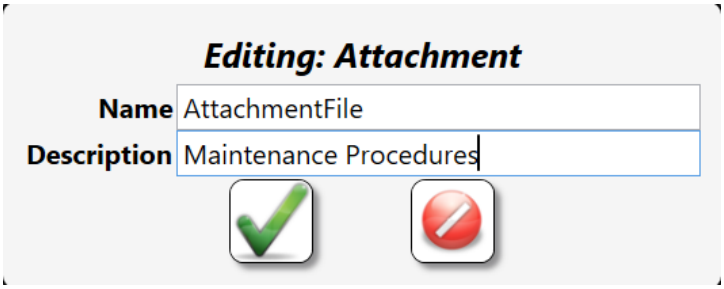


This will open a file dialog window asking you to select the file that you wish to attach. Navigate to the proper directory and select the file you wish to upload. Then click the **Open** button.

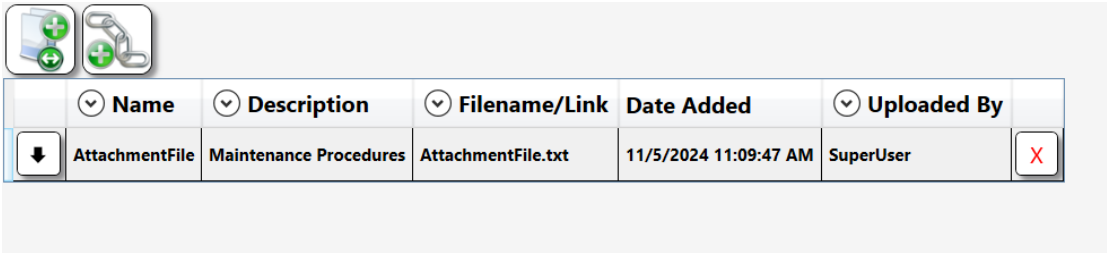


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You will then have the opportunity to add a **Description** of the file. Add a short informative description and then click the green **OK** button.



You have now created a file attachment.

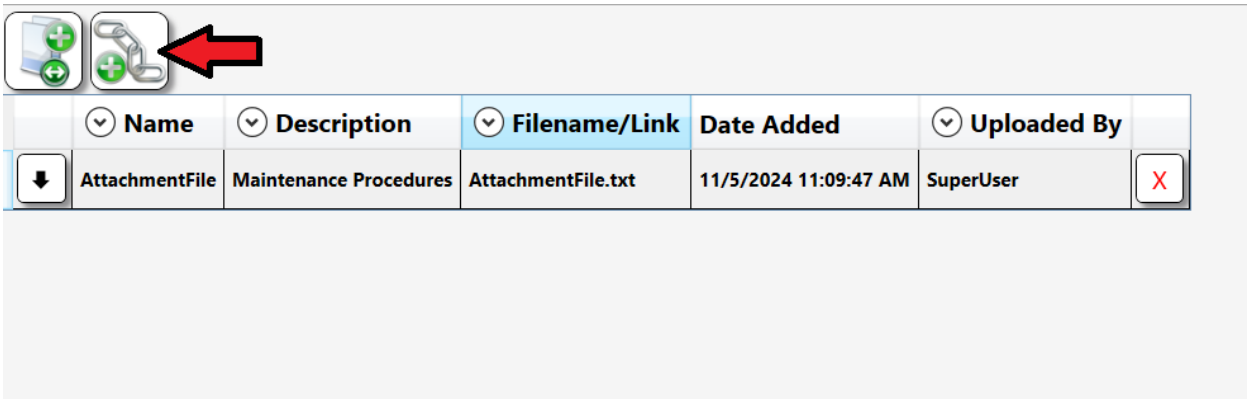


To view the attachment, you would click the **Save** button at the beginning of the attachment line. This will open a file dialog asking you to provide a location to save the file. Select the directory in which you wish to save the file, and then click the **Save** button to download it.

Attaching a Hyperlink

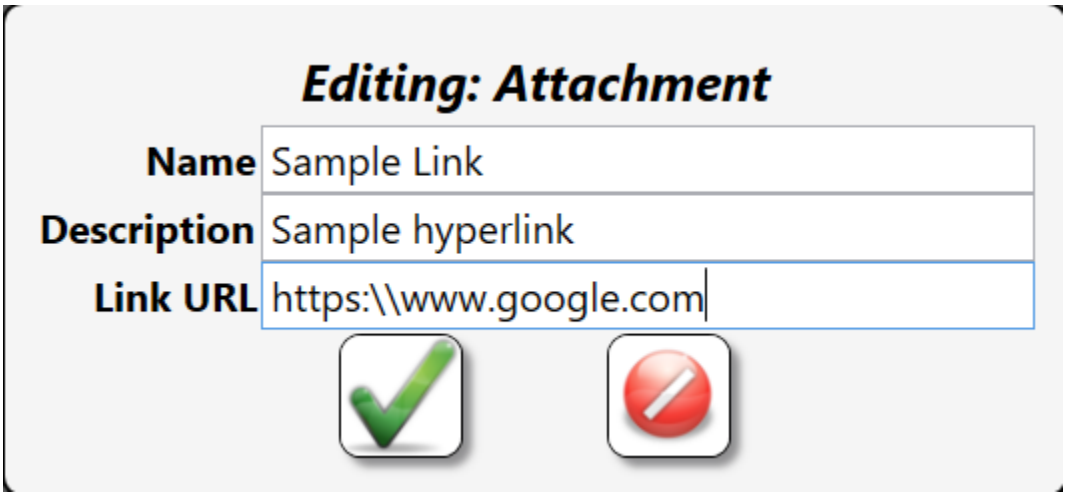
You can also attach a hyperlink with a valid URI format. Common examples are an https: based web page, a file: server and path file definition, or a mailto: electronic mail address.

To attach a hyperlink, click the **Add Link** button.

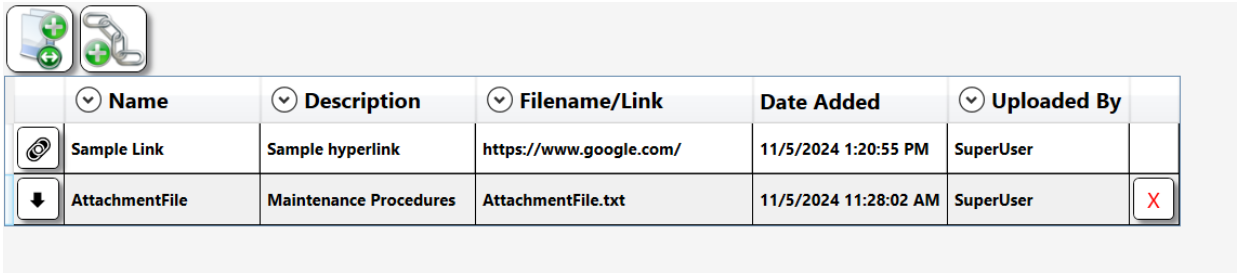


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You will now be prompted to provide a **Name**, **Description**, and **Link URL** value for the attachment. Add this information and then click the green **OK** button.



You have now created a hyperlink attachment.

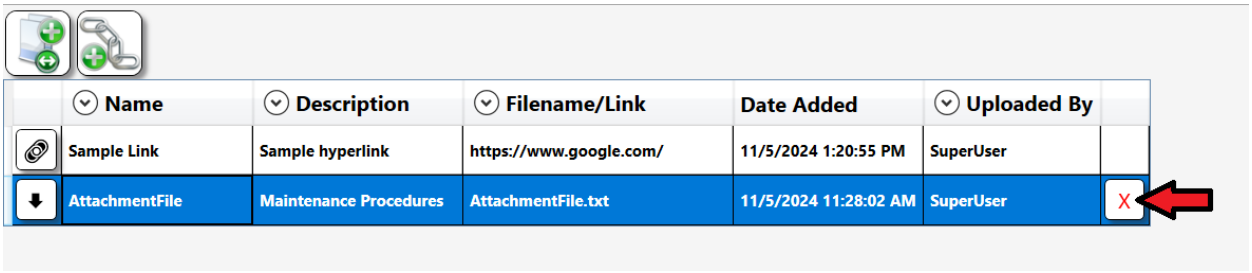


Name	Description	Filename/Link	Date Added	Uploaded By	
Sample Link	Sample hyperlink	https://www.google.com/	11/5/2024 1:20:55 PM	SuperUser	
AttachmentFile	Maintenance Procedures	AttachmentFile.txt	11/5/2024 11:28:02 AM	SuperUser	X

You can open the hyperlink attachment by simply clicking the **Open** button at the beginning of the attachment line. This will open the link in your default web browser.

Deleting an Attachment

To delete an attachment, click the attachment to select it. Then click the **Delete** button at the end of the attachment line.



Name	Description	Filename/Link	Date Added	Uploaded By	
Sample Link	Sample hyperlink	https://www.google.com/	11/5/2024 1:20:55 PM	SuperUser	
AttachmentFile	Maintenance Procedures	AttachmentFile.txt	11/5/2024 11:28:02 AM	SuperUser	X

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Importing Attachments

To make adding many attachments easier, the L5 Connect system supports the ability to import attachment links for master tools, tools (a.k.a. tool instances), and employees. You can import multiple of these types of attachments in the same import file if desired.

NOTE: The only attachment types supported for import are links. Attachment file imports are not currently supported.

Creating Your Import Spreadsheet

The first step is to create an Excel spreadsheet with your data in the proper format for import.

The easiest way to start creating your spreadsheet is by running a custom report to get the object ID (Tool ID, Master Tool ID, or Employee ID), and perhaps an identifier like part number or employee name and any other field that might be helpful in building your spreadsheet. Once you have your report created you will run that and then export it as a spreadsheet. Then you can edit that spreadsheet to add the other fields required by the importer. For more information on how to run a report see the L5 Connect™ Reports document

Once you have created your spreadsheet, you will need to add pertinent information about your attachments so that the import engine will be able to successfully import them. Here are the fields that the attachment importer will be looking for in your import spreadsheet.

Object ID - This is the unique identifier for the object to which the attachment will be added. For tools this would have to be Tool ID. For Master tools it would be the master tool ID. For employees it would be the employee ID.
Object Type - This tells the importer which of the three types available for attachments is being targeted. For tool instances this would be "Tool", for master tools it would be "MasterTool", and for employees it would be "Employee".
Name - This is the name for the attachment link.
Description - This is a description of what the attachment link is.
Link URL - This is the URL of the link.

NOTE: The Name and Description fields are optional.
NOTE: The Object Type field will default to match the import launch point if not included in the spreadsheet.

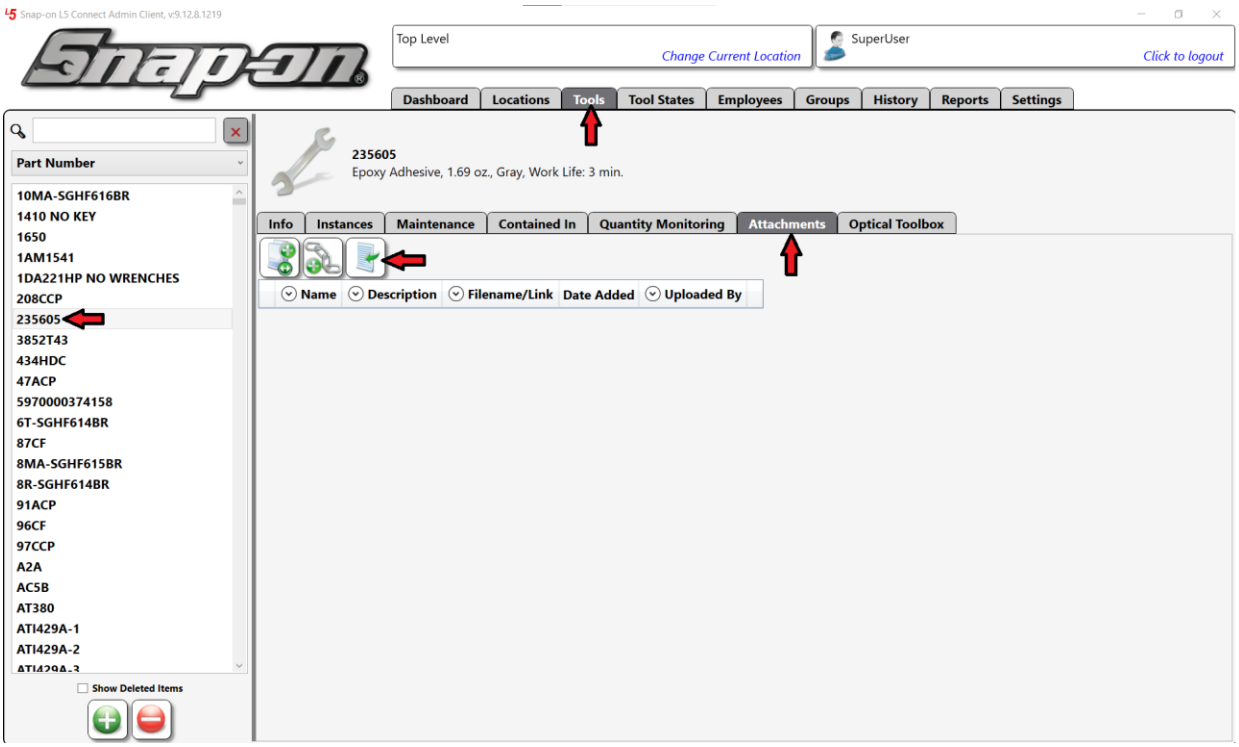
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Launching the Import Process

NOTE: Even though the Import process is launched from the selection of a single Master Tool, Tool Instance, or Employee, attachment links for many objects can be included in the same import spreadsheet.

Master Tool Attachments

To import master tool attachments, go to the tools tab, select any master tool, and then click the **Attachments** sub-tab. Finally, click the **Import** button to start the attachment import process.

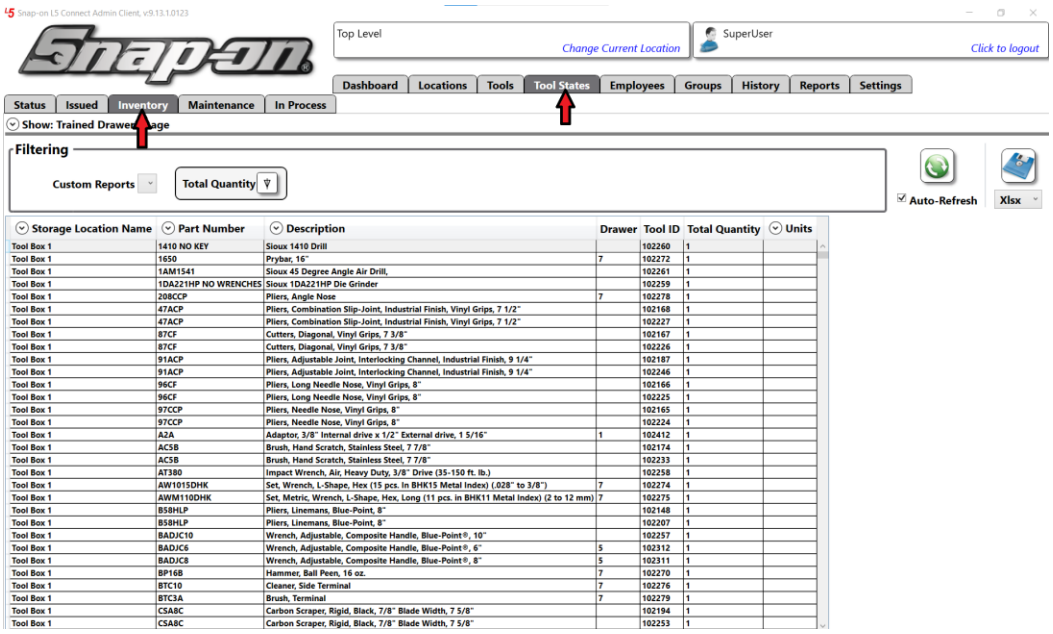


Proceed to the Importing the Attachment Spreadsheet section to continue.

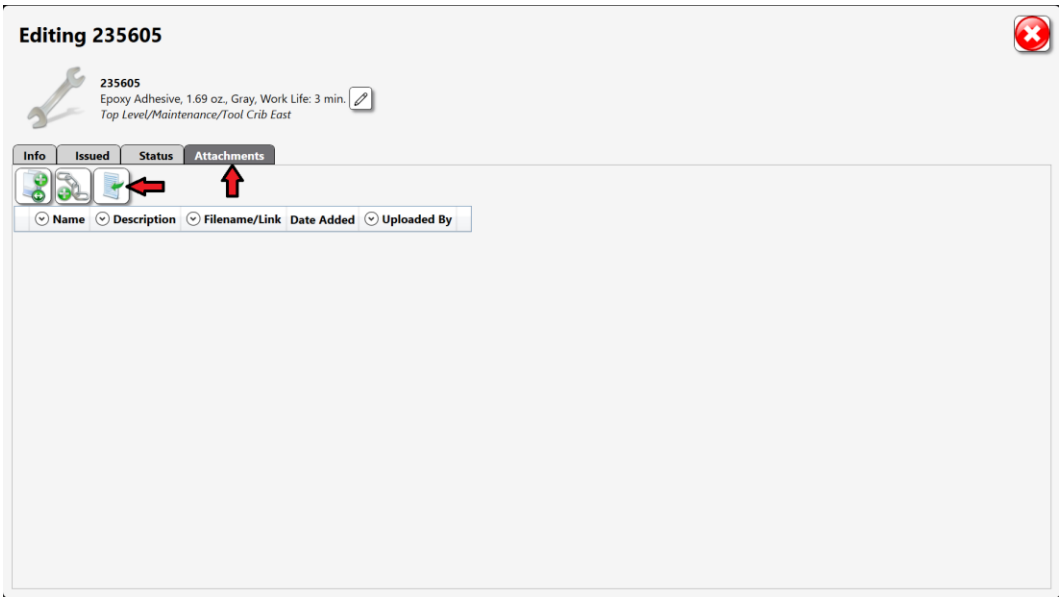
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Tool Instance Attachments

To import tool instance attachments, go to the **Tool States** tab, select the **Inventory** sub-tab, double click one of the tool instances.



Then double click a tool instance in the list to open the tool details. Select the **Attachments** sub-tab and finally, click the **Import** button to begin the attachment import process.

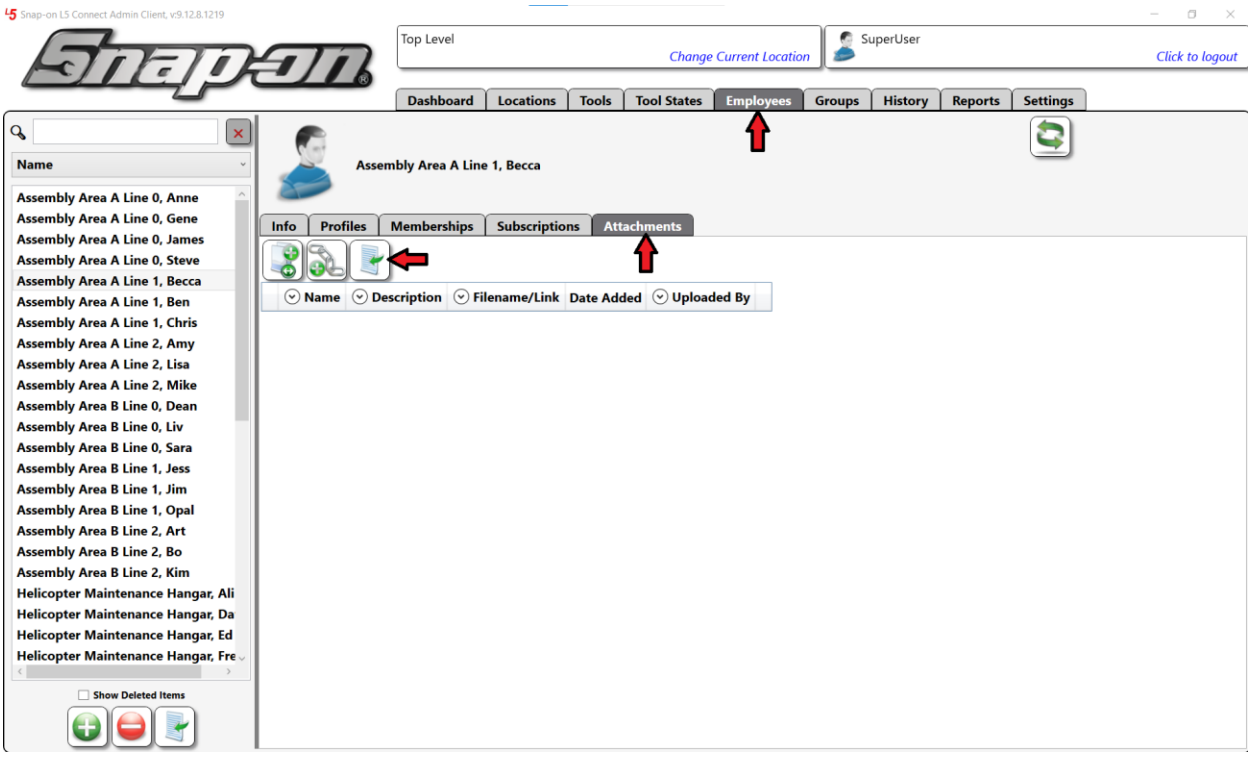


Proceed to the Importing The Attachment Spreadsheet section to continue.

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Employee Attachments

To import employee attachments, go to the **Employees** tab, select any employee, click the **Attachments** sub-tab, and click the **Import** button to begin the import attachments process.



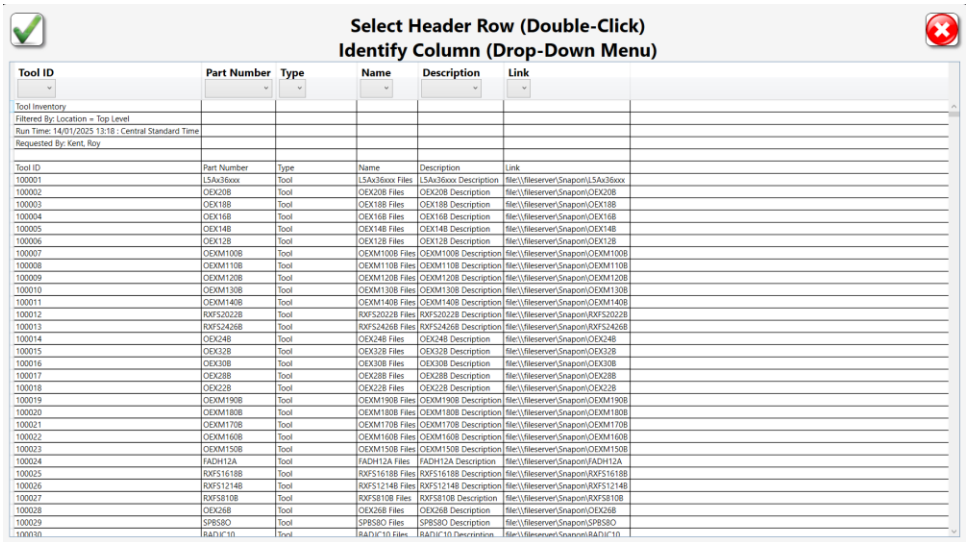
Proceed to the Importing the Attachment Spreadsheet section to continue.

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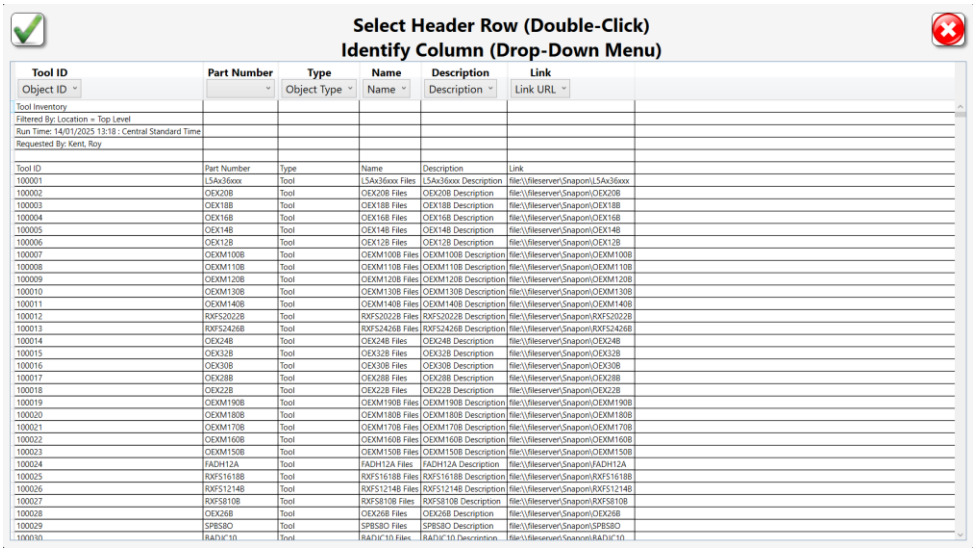
Importing The Attachment Spreadsheet

NOTE: The attachment spreadsheet import process will be the same for any of the different types of objects.

Once you have launched the import process (see appropriate section above), navigate to the spreadsheet file and click the **Open** button to initiate the import window. Here is an example of the import window with a spreadsheet for importing tool attachments loaded.



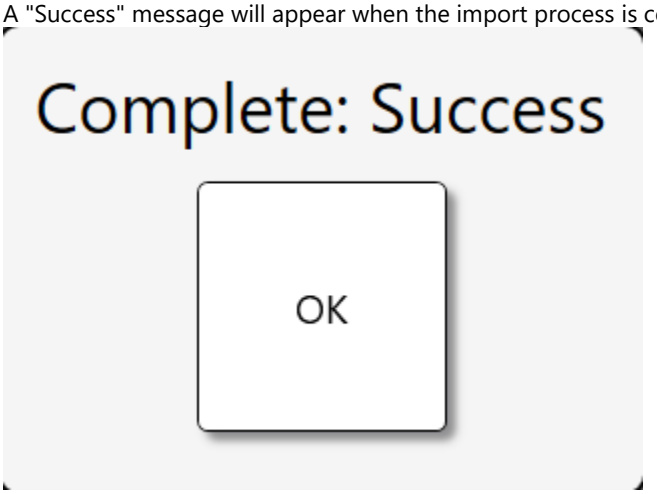
The next step is to map the columns in the spreadsheet to the fields the importer needs. **Tool ID** would be the **Object ID** so you would click the pulldown menu under **Tool ID** and select **Object ID**. The **Type** would be set to **Object Type**. **Name** and **Description** would be mapped to **Name** and **Description** and **Link** would be mapped to **Link URL**. The **Part Number** field was used to help create some of the other fields for this example and does not need to be mapped.



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Once all the fields are mapped properly, you can click the **OK** button that looks like a green checkmark to start the actual importing of the attachments. This may take a while depending on how many attachments are being added.

A "Success" message will appear when the import process is complete.



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Audits

This document will cover everything you need to know about audits in the L5 Connect system. Covering the setup of audits in the admin client, assigning an audit to a location, and performing an audit on a supported device. **Note: The audit feature is currently only supported on the ATC Toolbox, Locker, and FlexHub.**

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Setup Audits within L5 Admin Client

Audits are customizable to meet each individual customers' requirements or audit policies. The process of creating and assigning is very straight forward, accomplished using the L5 Admin Client.

Access Point:

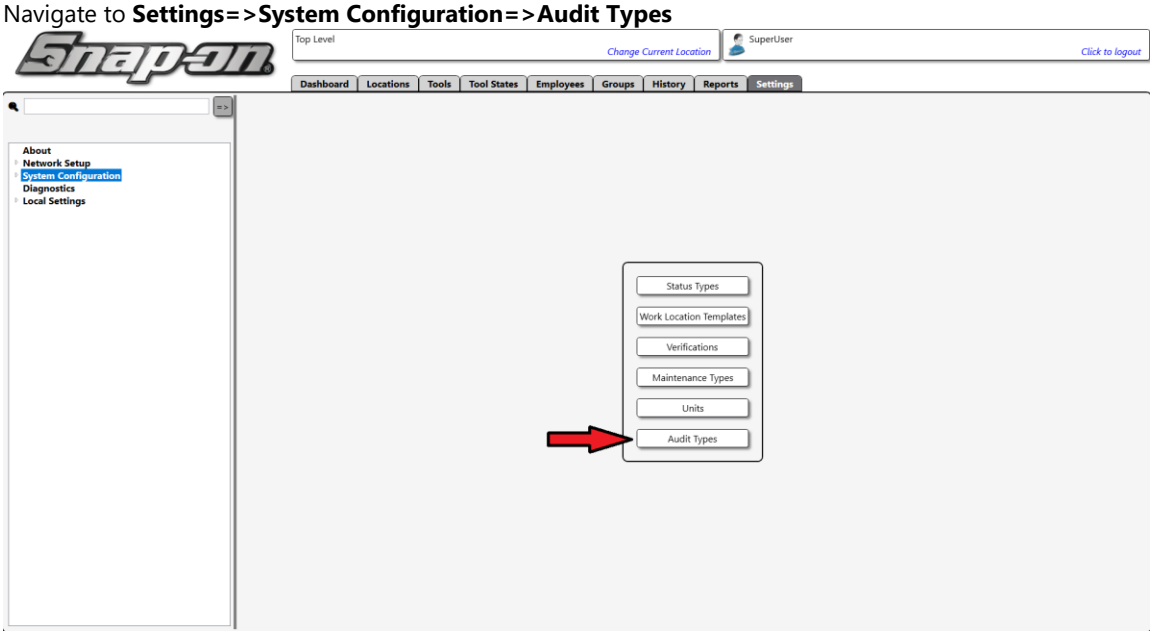
- L5 Connect Admin Client- **Admin Client Dashboard/Settings/Audit Types**

Required Permissions:

- Audit Types Edit

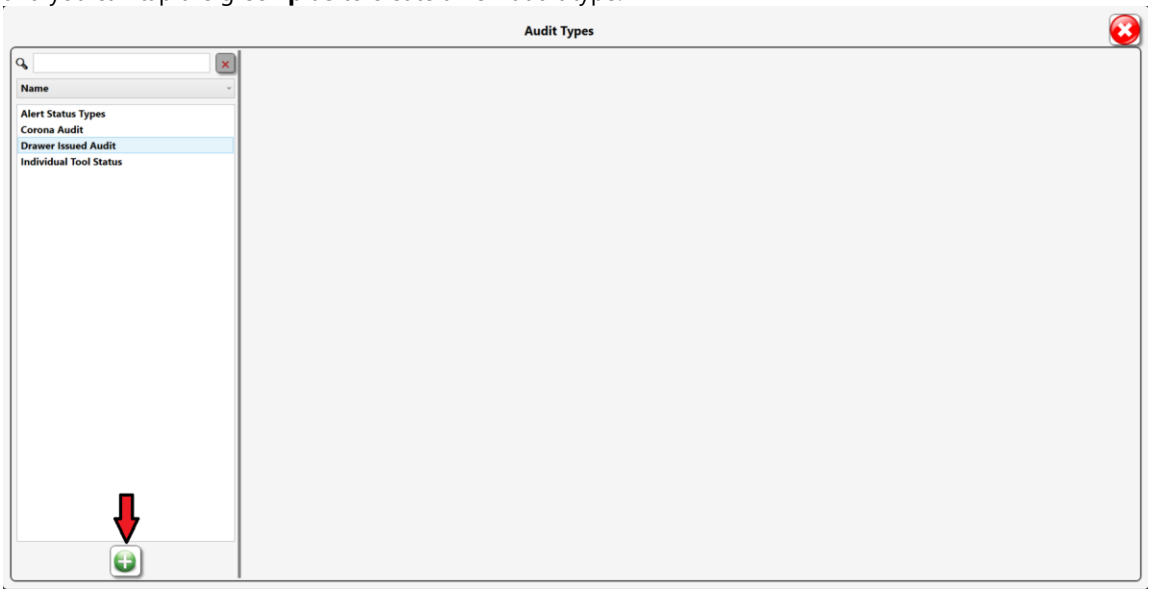
Creating Audits

1. Open the L5 Connect Admin Client, and complete User login.
2. Navigate to **Settings=>System Configuration=>Audit Types**

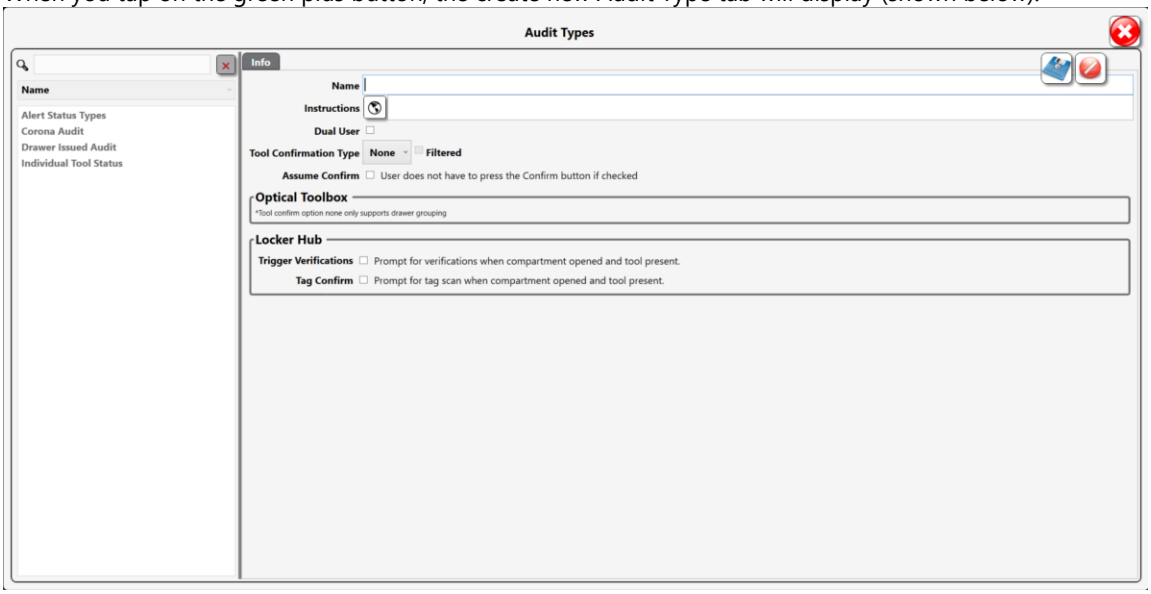


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3. This will bring up the **Audit Types Screen.** You can use the search bar to filter the list for a specific audit, and you can tap the green **plus** to create a new audit type.



4. When you tap on the green plus button, the create new Audit Type tab will display (shown below).



- **Name:** This is the name of the audit. This will show up in the Audit Type List and on the ATC device when assigned.
- **Instructions:** These are the instructions that are displayed to the user during the Audit on the Toolbox
- **Dual User:** If you want to have a second auditor verify the Audit, you will check this box. When checked, the device will require two different users to start and end the Audit on the device.
- **Tool Confirmation Type:** If you want to Audit only specific tools that are in a particular state (None, Issued, Statused, Alerted, and Maintenanced), you can set it here. **Note: currently kit children are NOT included when checking for applicable compartments**
  - None - All compartments, regardless of contents, will be included in the audit.

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- Issued - All inventory compartments will be included in the audit.
  This includes inventory compartments with no assigned tools. This includes issued tools.
  Note: This excludes all "drop off" mode compartments.
- Alerted - All inventory compartments containing tools with an alerted state will be included. This DOES include issued tools. This excludes tools with "managed out" status types applied.
- Statused - All inventory compartments containing tools with ANY applied status will be included. This DOES include issued tools. This DOES include managed out status types.
- Maintenanced - All inventory compartments containing tools with ANY applied maintenance items will be included. This DOES include issued tools.

- **Confirmation Type Options:** If a tool confirmation type is selected the user will also select the confirmation type options listed below. **Note: initial release does not support selection of mode for FlexHub, operation is confined to "Individual" confirmation type**
  - Individual - If any selected individual audit type applies to a compartment, that compartment will be opened and prompted for any applied confirmations. Applied compartments will be opened in order. ALL selected + applied individual confirmations will be executed prior to moving to the next compartment. Once all individual compartments have been confirmed, any applicable Grouped audit confirmations will be triggered. Reopening a previously audited compartment will re-prompt for all applied confirmations.
- **Assume Confirm:** If assume confirm selected the user will not have to click the confirm button, and instead close the door/drawer and the device will assume confirmation.
- **Imaging System:** The imaging system option is only supported on the ATC Toolbox, and can be applied to tools that have been filtered via the Tool Confirmation Type.
- **Trigger Verifications:** If ANY selected audit has verification prompt option enabled, verification prompts will be triggered if a compartment is opened. It doesn't matter if the audit in question applies to that compartment or not.
  - Group confirm audit types will not force opening of a compartment, but if verification prompt is enabled it will trigger if the compartment is opened for another reason.
  - If a tool has a return and an issue verification, both verifications will be prompted.
    Special case: if a tool has the same verification for both issue & return, it will only prompt once
  - Verifications will be prompted EVERY time a compartment is opened.
    (Exception: during a single compartment audit, if the user closes the door but uses the diagnostics menu to request "Reopen Door" prior to completing confirmations, it will not re-prompt verifications.)
  - Verification options will be identical to normal use. If dual badge scan is required to verify, it will also be required if prompted during audit.
  - Declining verification during audit will set status on tool and create event log, but will not cancel an audit in progress.
  - A pending verification prompt will interrupt "auto confirm" behavior.
    If the user completes all verification prompts prior to closing the door, auto confirm will behave as normal.
    If the user closes the door prior to completing the verification prompts, auto confirm will be disabled and the user will have to manually select confirm/exception option.
- **Tag Confirm:** Auditor will be required to scan the tag on the tool as part of the audit of each compartment, when the compartment is opened and the tool is present.

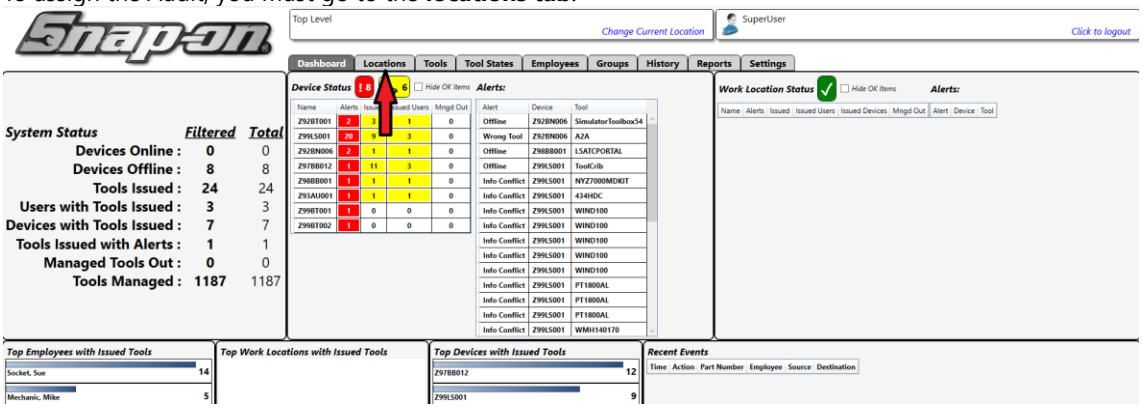
5. Click the save icon in the top right corner to save your new audit type.

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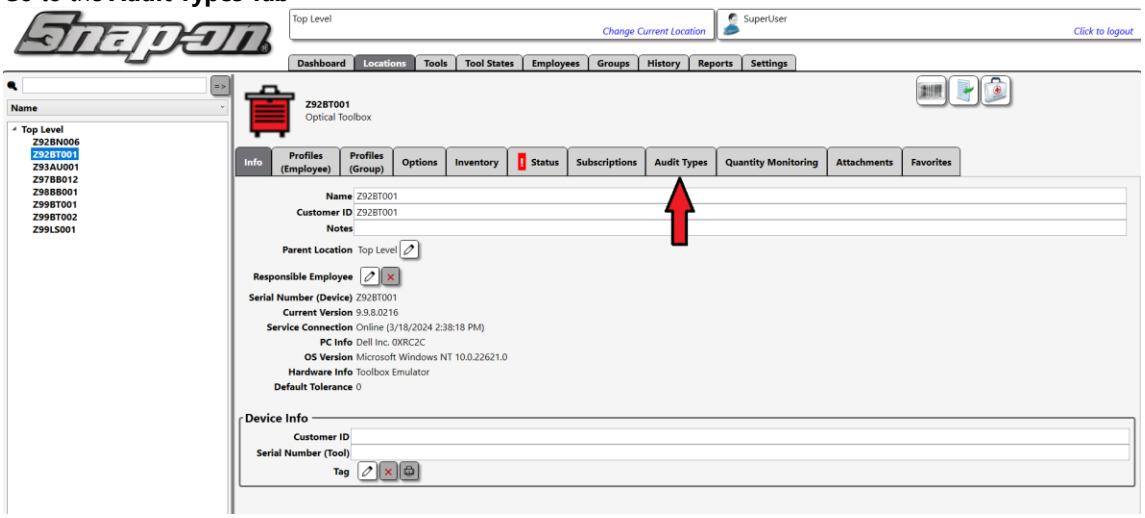
Assigning Audits to a Device

Once you have saved your new audit type, it will show up in the Audit Type List on the left side. You can now assign this audit type to a supported device. You can assign audit types directly on a device, or you can assign it to a location, and all devices in that location will have the Audit assigned.

1. To assign the Audit, you must go to the **locations tab**.

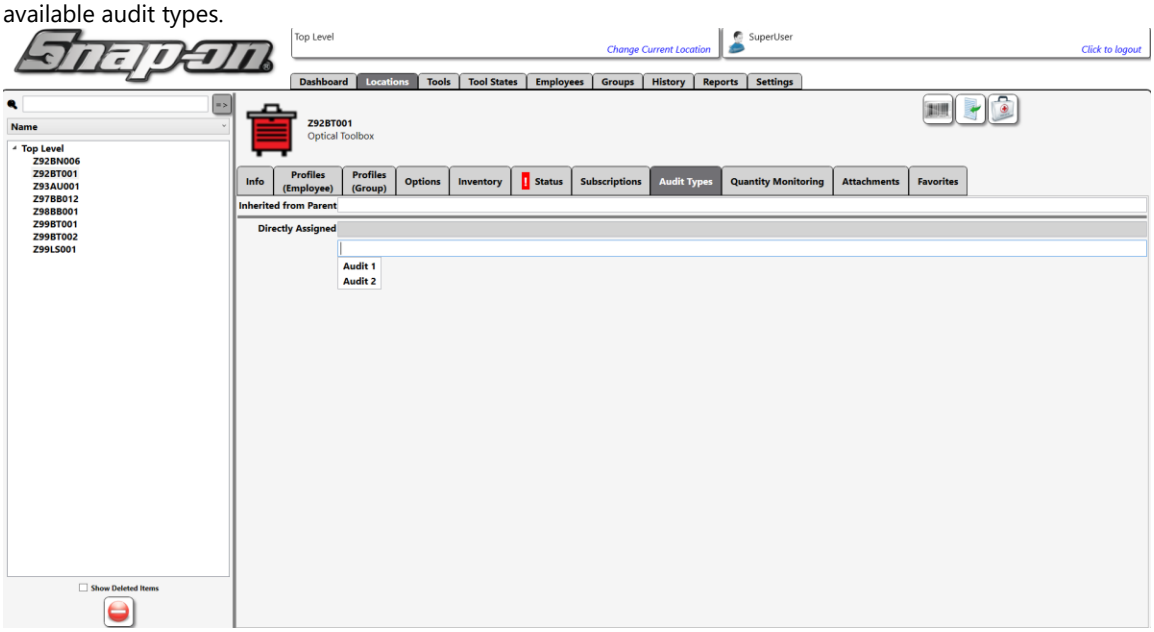


2. Select the device or location where you want the audit to be available.
3. Go to the **Audit Types Tab**

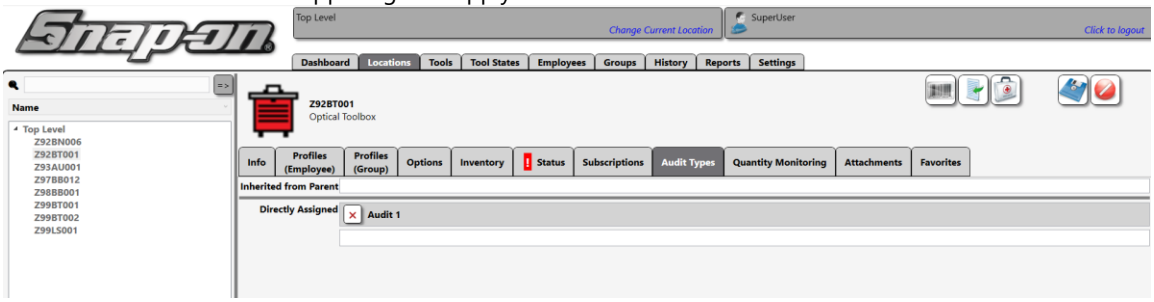


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4. Select the audit type you want to assign. You will need to mouse over the white box to display the list of available audit types.



5. Click the Save Button in the upper right to apply the audit to the box.



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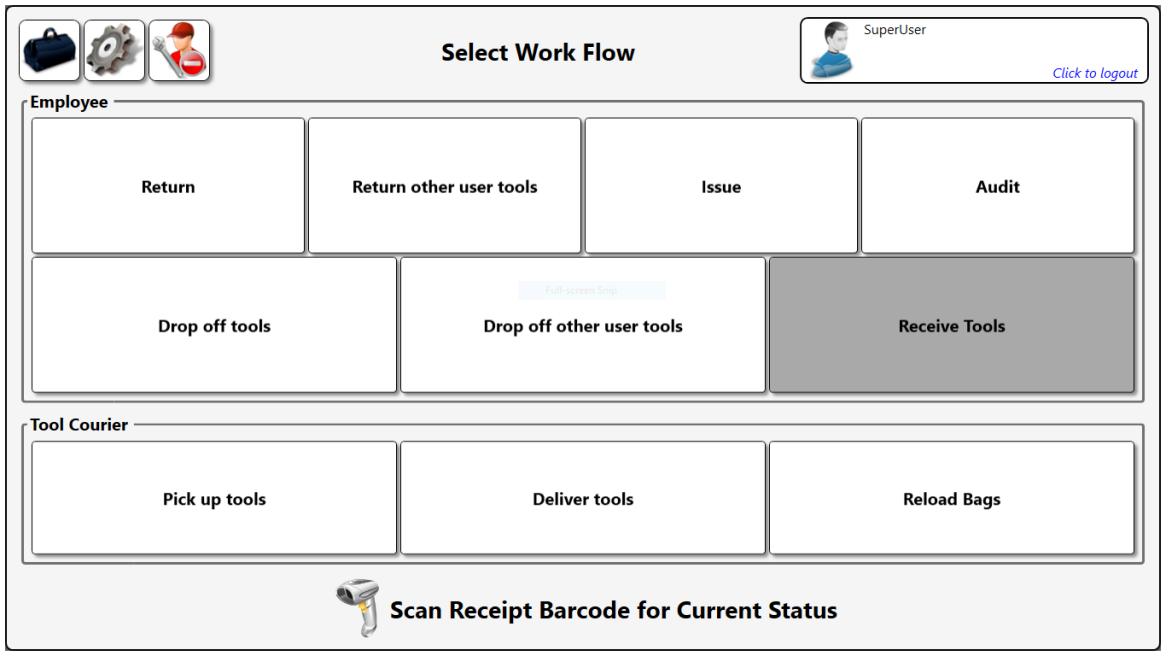
Supported Device by Device Procedure

Required Permissions

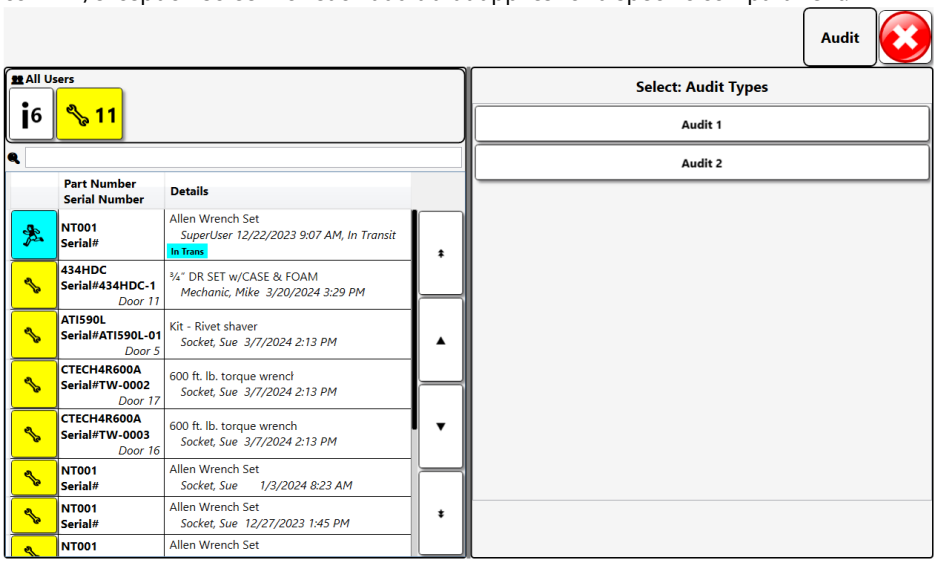
- Audit

ATC FlexHub

1. Login to the FlexHub and select the **Audit** button on the **Select Work flow** screen.

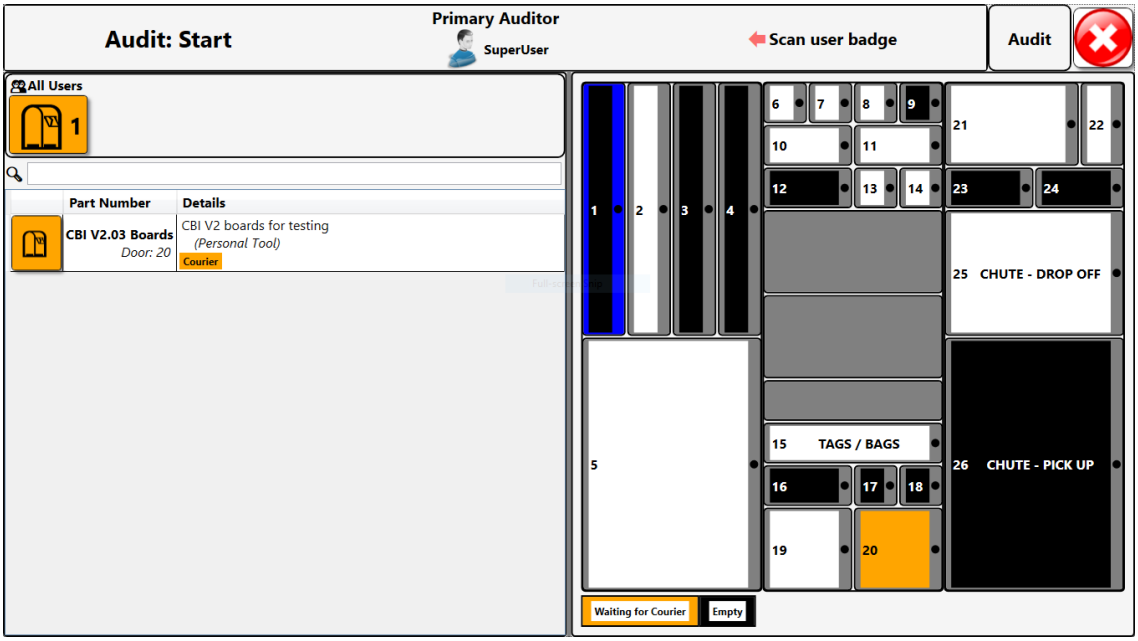


2. When you enter audit mode, you will see a list of available audits you can perform on the right side. Select the Audit, or Audits you want to perform and tap the green checkmark. Auditors will be shown a confirm/exception screen for each audit that applies for a specific compartment.

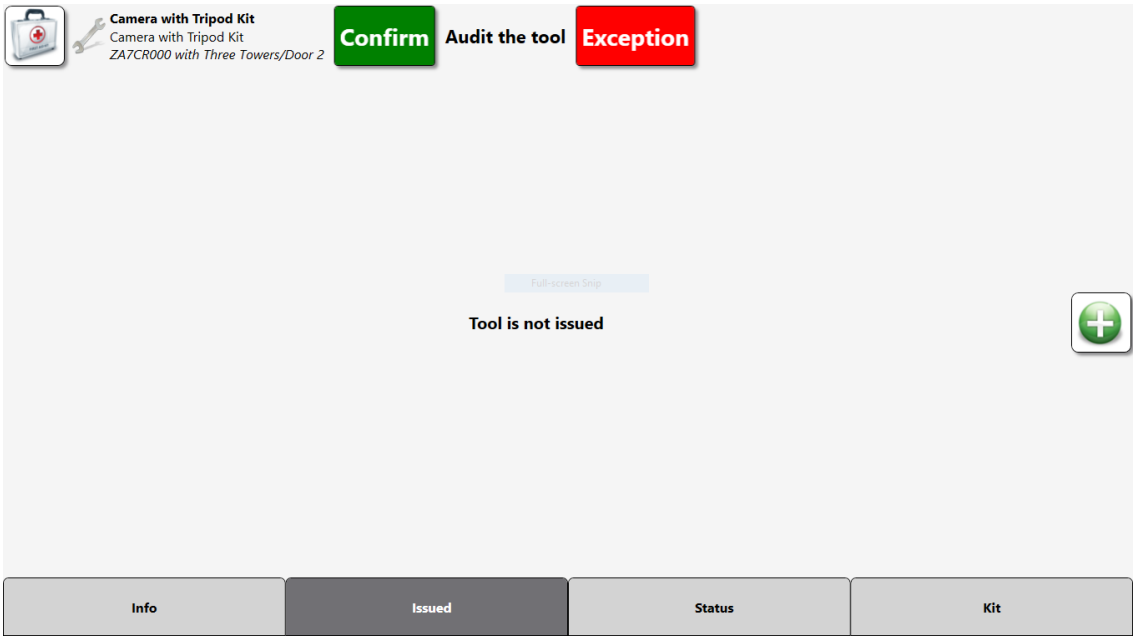


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3. The system will ask for the badge of the Primary auditor, which must be the currently logged in user. If Dual User is enabled on the Audit Type, a second user will also need to swipe their badge to begin.

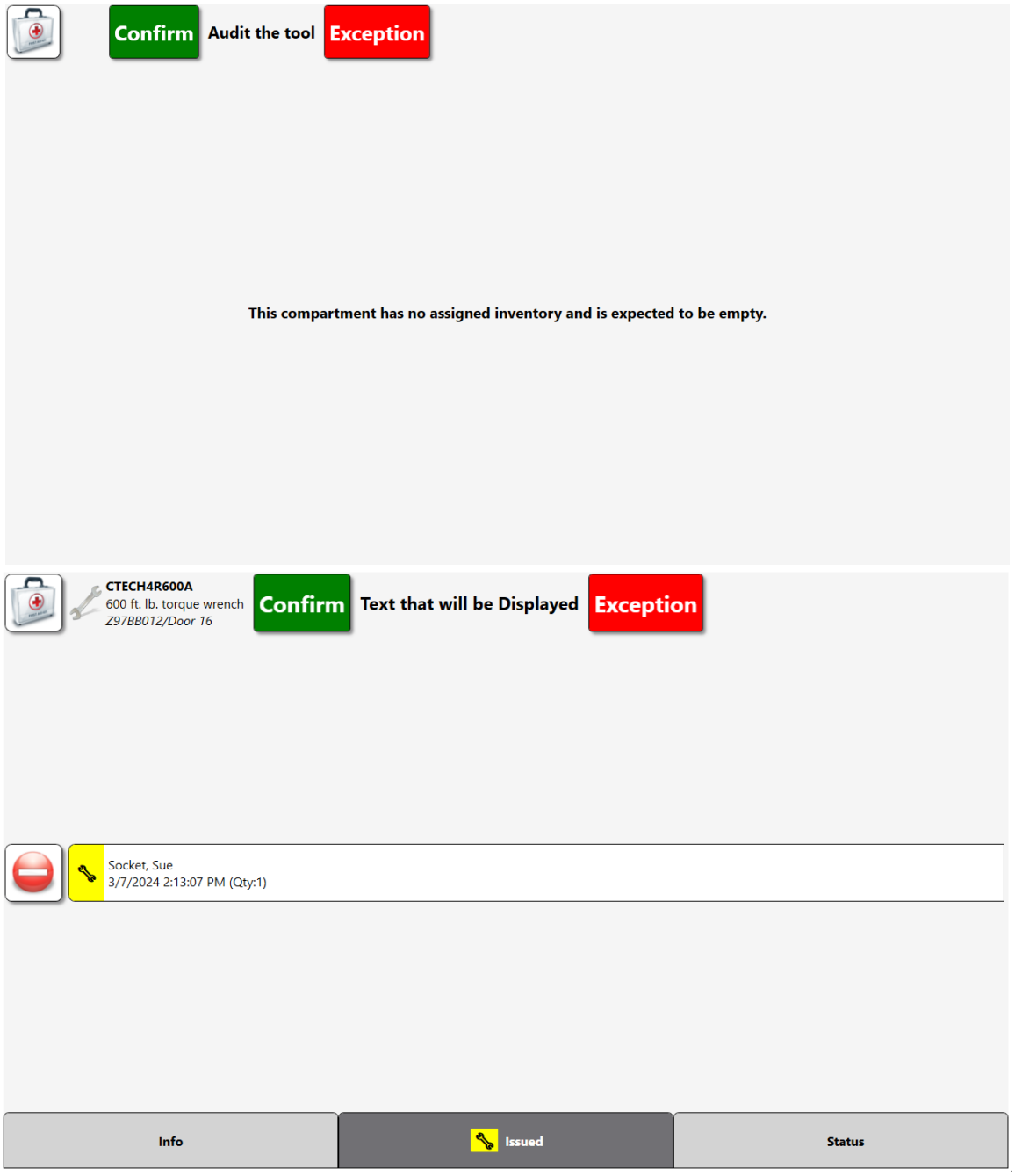


4. Perform the task or check that the instructions describe, scan the tag on the tool if prompted, tap either the Confirm or Exception button to mark if the task or check was completed successfully, then close the door. The next compartment door will not open until the previous door is closed. If the Assume Confirm option is enabled for the Audit type selected, the user does not have to click the Confirm button and can instead shut the compartment door. The system will assume confirm in that case, if an exception is required select the option and then close the compartment door.

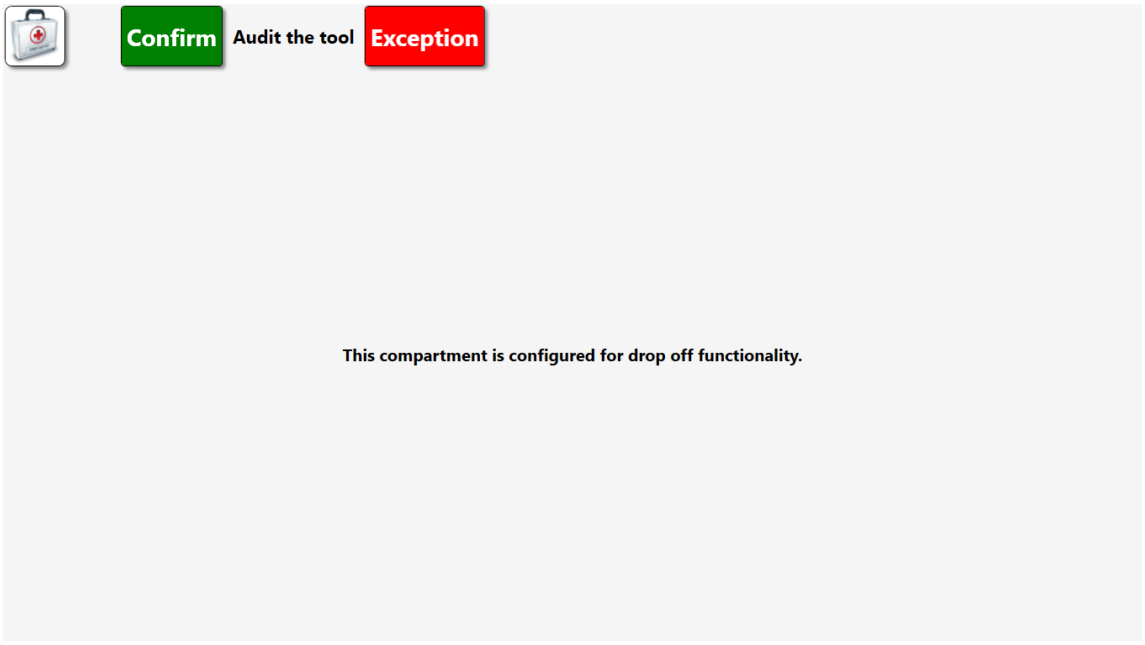


The Auditor can make and save changes to tool issued state, tool statuses, and tool maintenance based on their edit permissions. Any changes must be saved or cancelled to advance the audit.

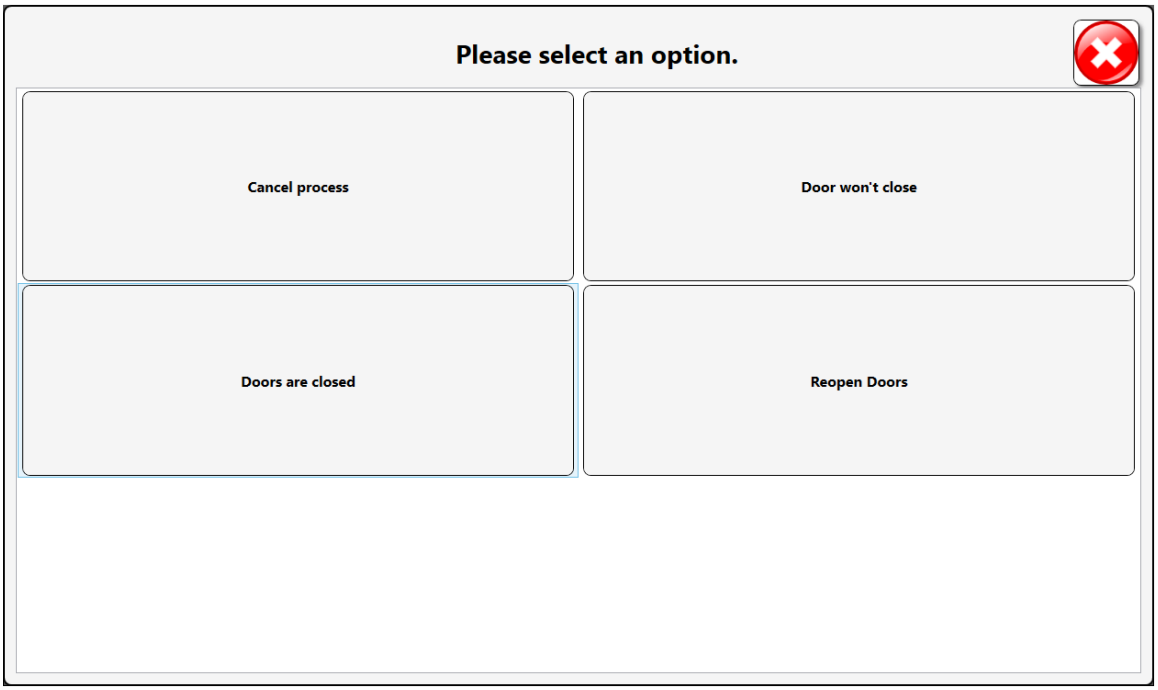
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A message will be displayed onscreen for each compartment door opened; This informs the user of a compartments assigned inventory, compartments issued state, or compartments configuration like shown above.

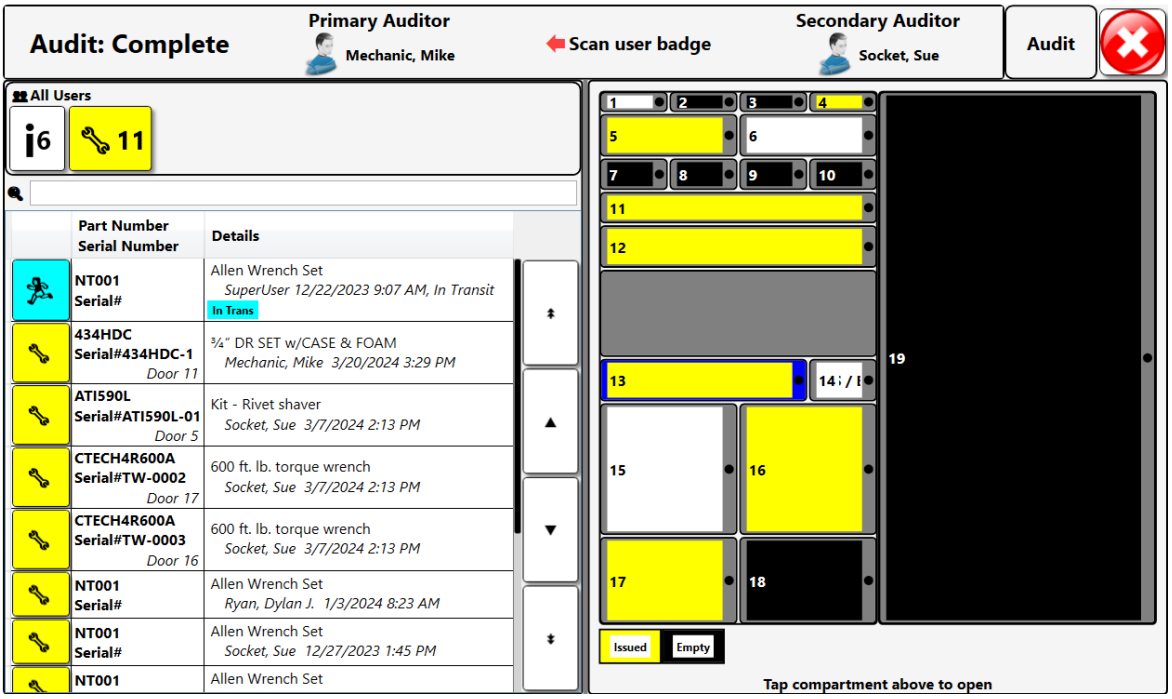


If the user has any issue with the audit or wishes to cancel an audit in progress, click on the diagnostic button in the top left corner. This will give the user the following options to select: Cancel process, Door won't close, Doors are closed, Reopen Doors (shown above).

5. At any point during the audit the auditor can reopen any compartment by pressing the compartment display on the right side of the screen (shown below). Any confirmations/verifications will be repeated for any

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compartment that is reopened.



6. When confirming the last tool, the system will then ask the auditor to swipe their badge to complete the Audit. Remember, if Dual User is enabled on the Audit Type, it will ask for a second user to swipe their badge to complete the Audit.

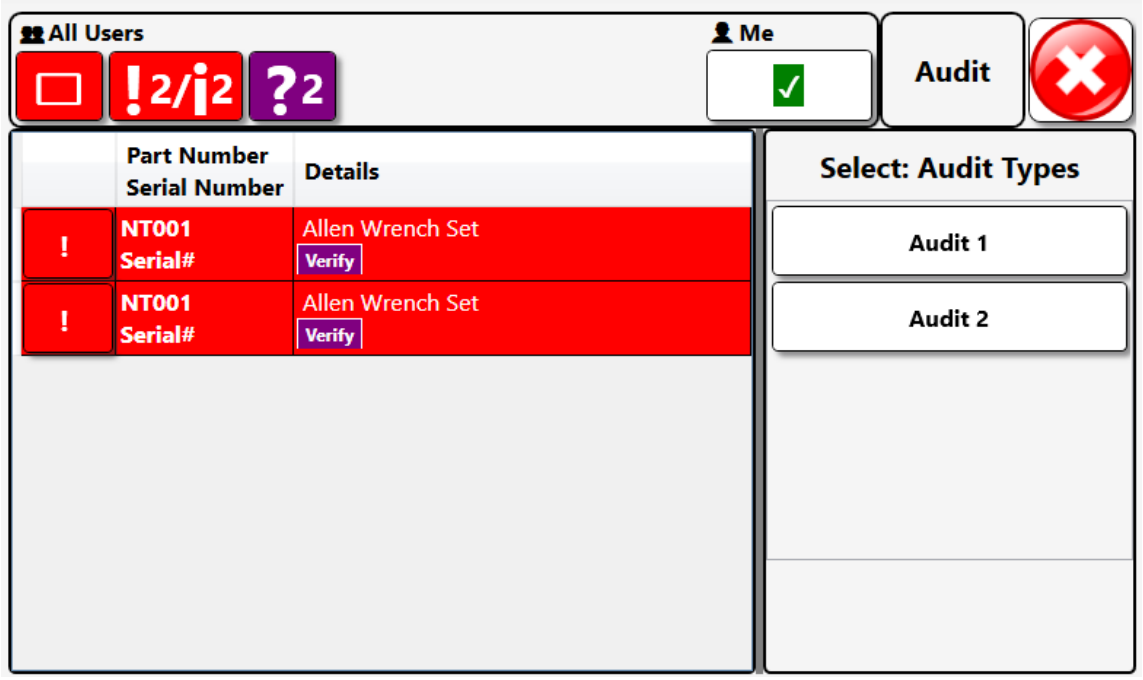
7. Once the auditor has swiped their badge, the system will complete the Audit and preset the success message on the screen.



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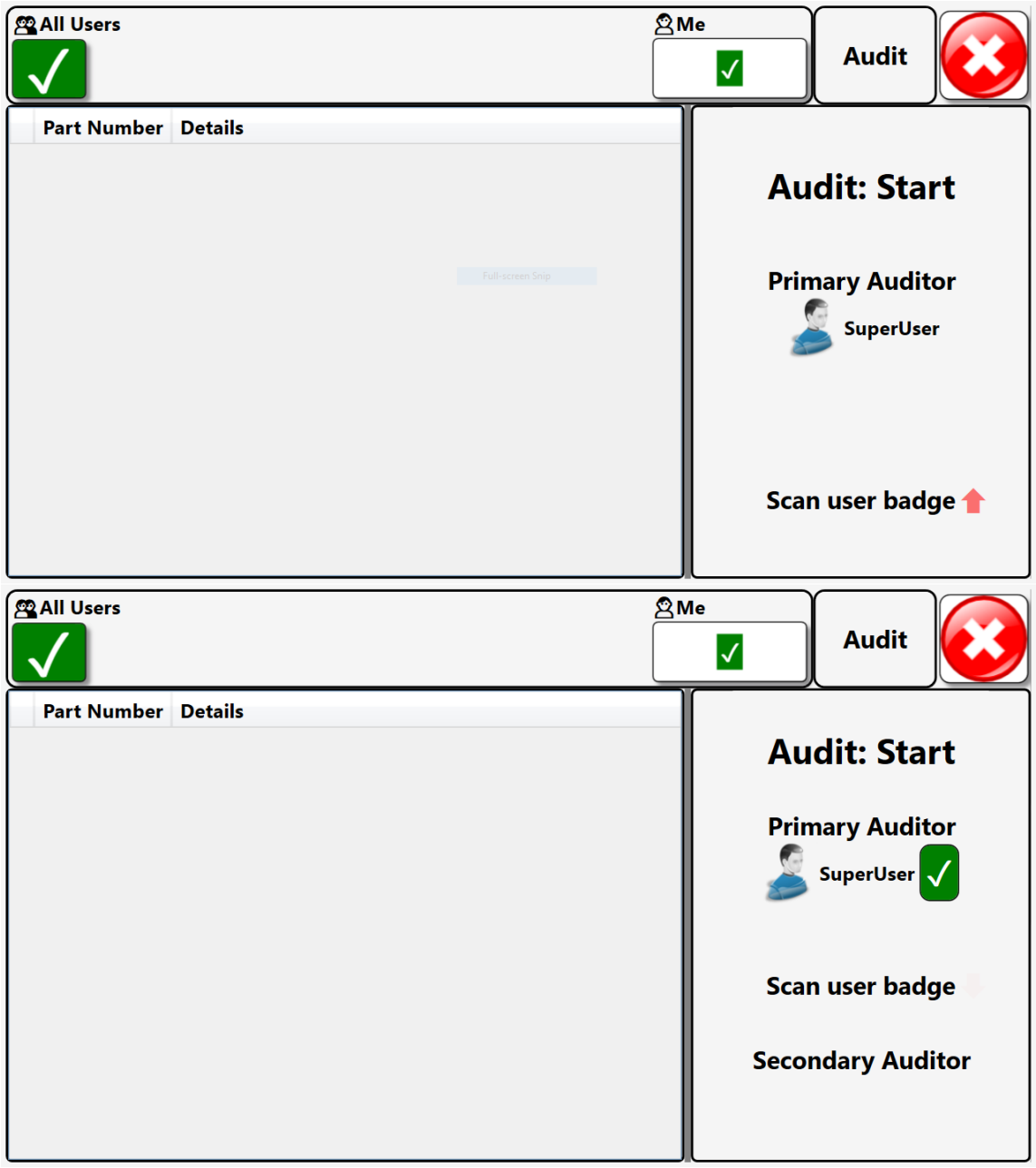
ATC Locker

1. Navigate to **Settings=>Audit** and login to the Locker.
2. When you enter audit mode, you will see a list of available audits you can perform on the right side. Select the Audit(s) you want to perform and tap the green checkmark.



3. The system will ask for the badge of the auditor. If Dual User is enabled on the Audit Type, a second user will also need to swipe their badge to begin.

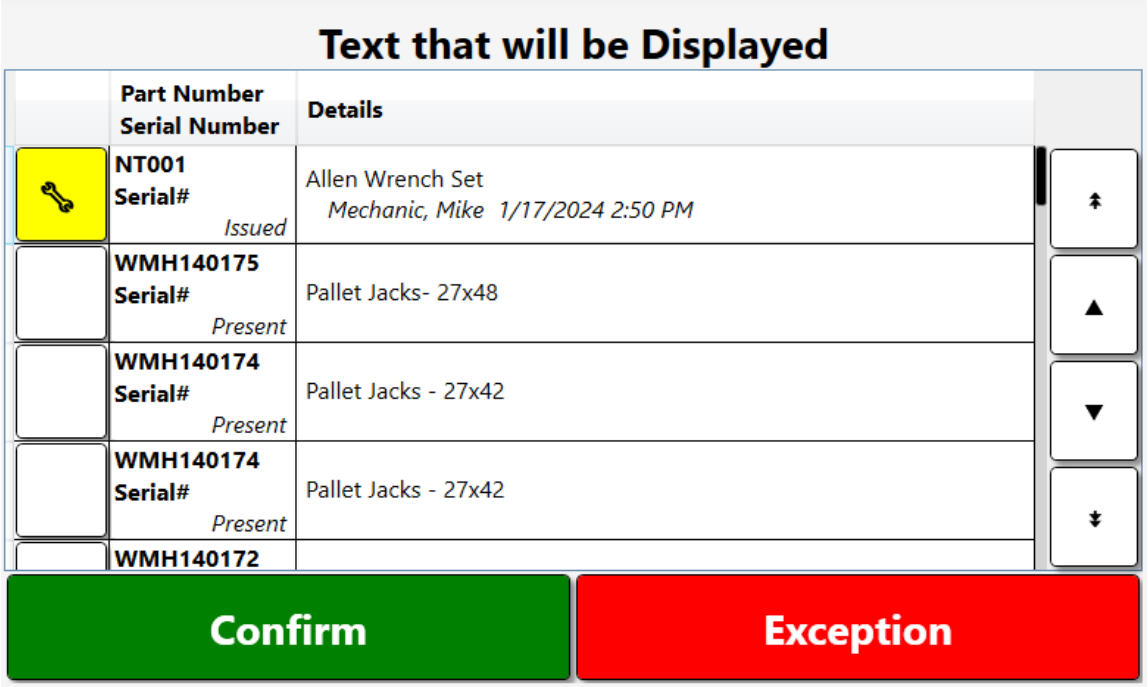
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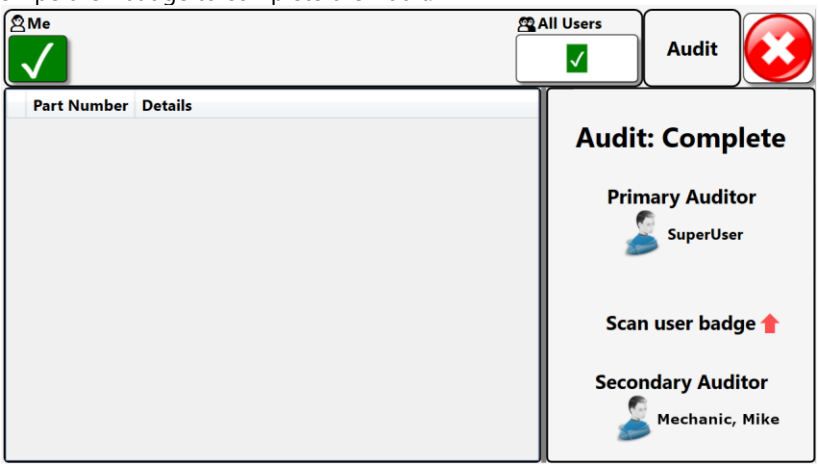
4. The system will display a list of tools in inventory that fit whichever filters in the audit are selected. The Auditor can make and save changes to tool issued state, tool statuses, and tool maintenance based on their edit permissions.

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5. Perform the task or check that the instructions describe, tap either the Confirm or Exception button to mark if the task or check was completed successfully, then close the door.



6. After the closing the door to the locker, the system will then ask the auditor to swipe their badge to complete the Audit. Remember, if Dual User is enabled on the Audit Type, it will ask for a second user to swipe their badge to complete the Audit.

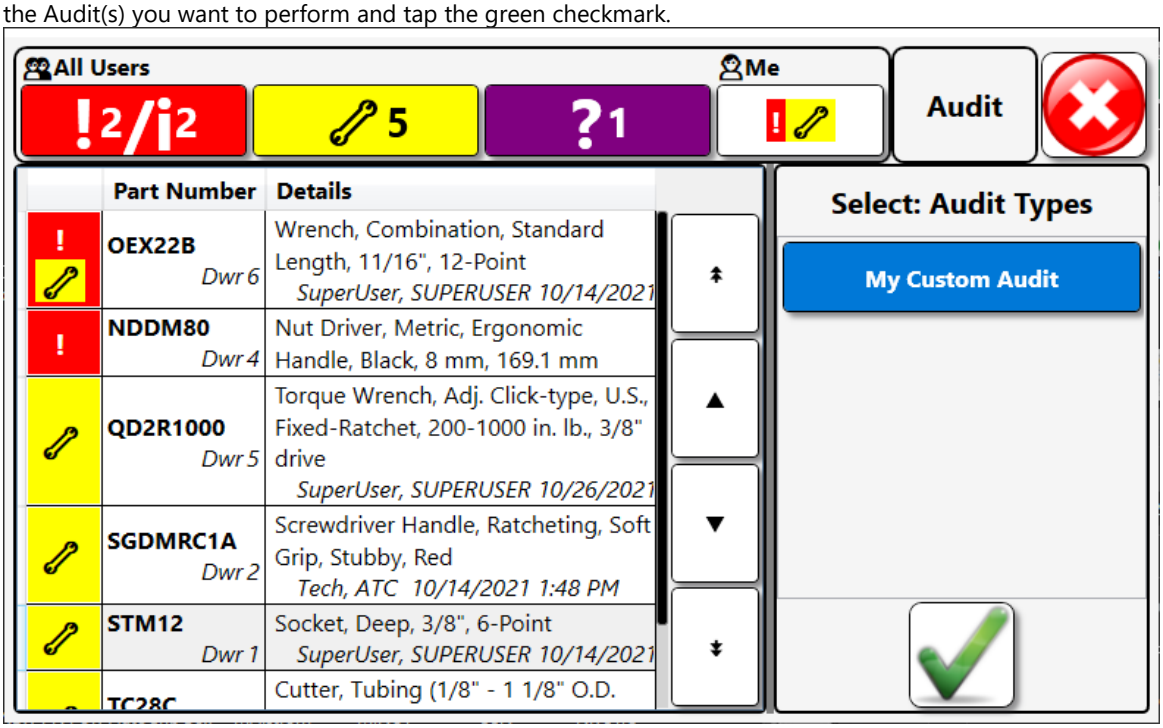


7. Once the auditor has swiped their badge, the system will complete the Audit and preset the success message on the screen.

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ATC Toolbox

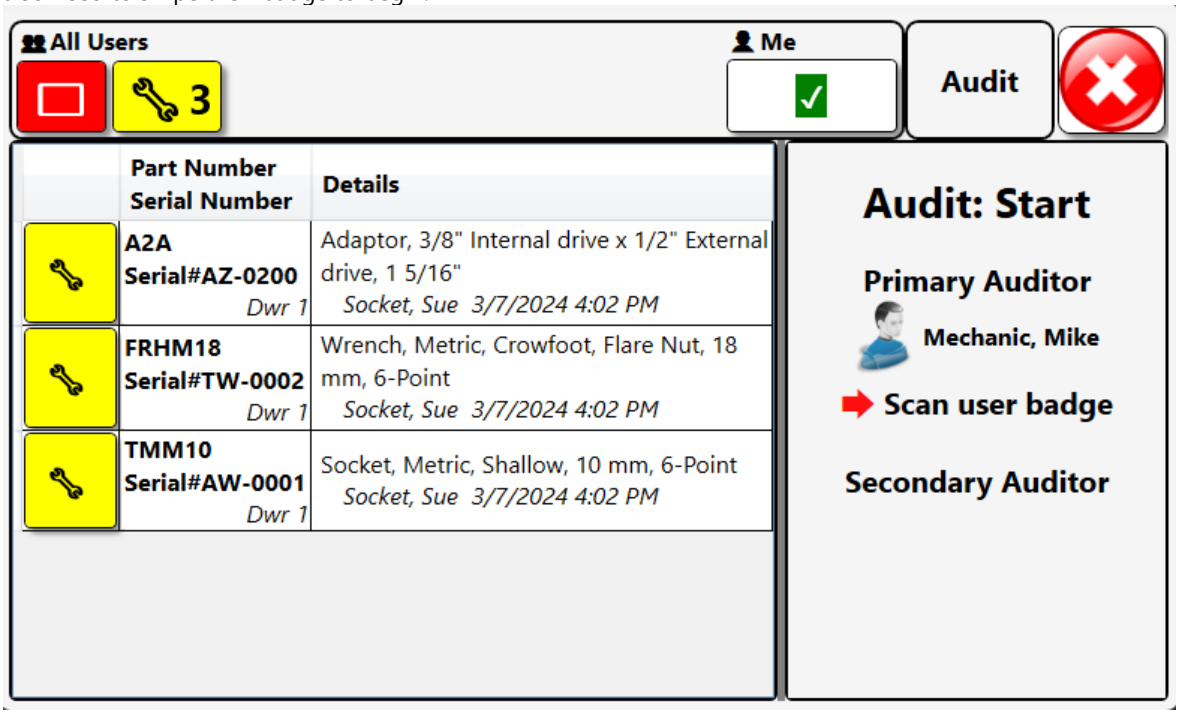
1. Navigate to **Settings=>Audit**
2. When you enter audit mode, you will see a list of available audits you can perform on the right side. Select the Audit(s) you want to perform and tap the green checkmark.



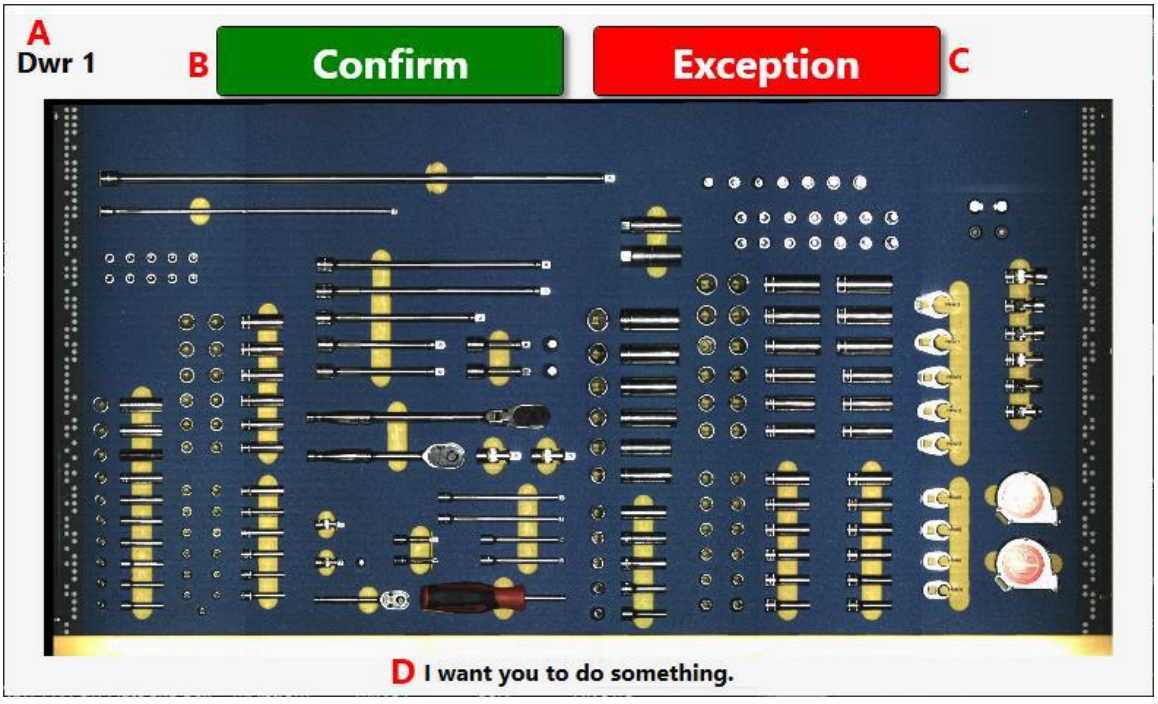
The system will ask for the badge of the auditor. If Dual User is enabled on the Audit Type, a second user will

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also need to swipe their badge to begin.



3. The system will then display all the drawers with a RED and BLACK banner to indicate that the Audit has not been performed on the drawer. Open one of the drawers, and you will be presented with the Audit Confirmation Screen.

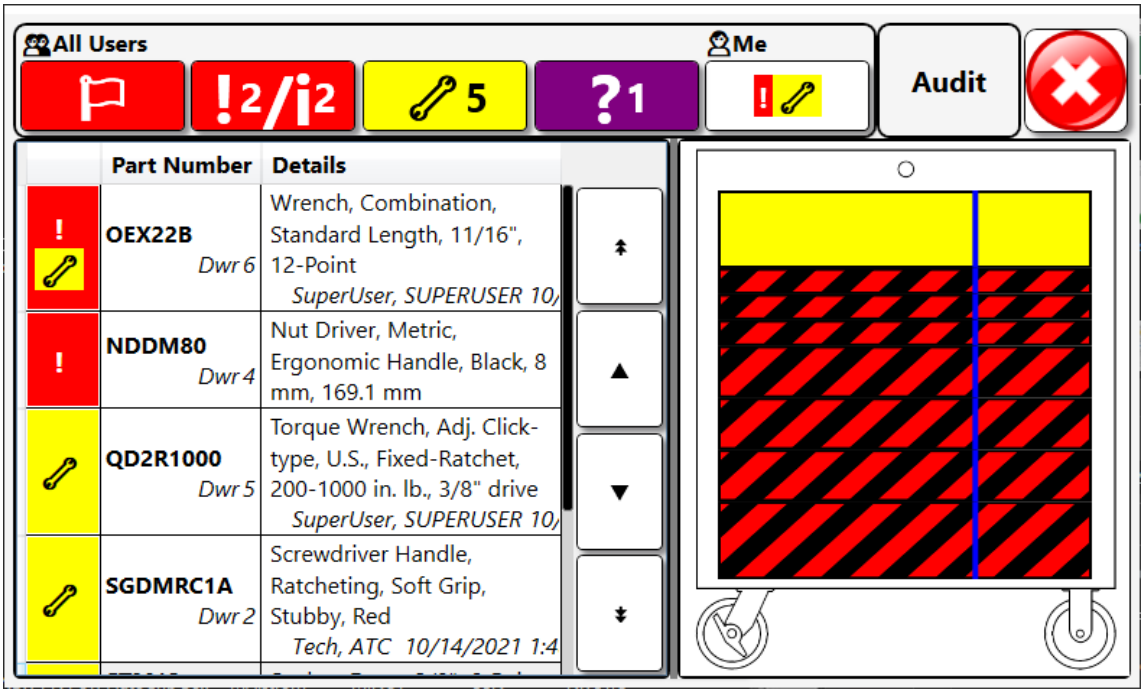


- **A.** Drawer ID – Current Drawer that is being Audited

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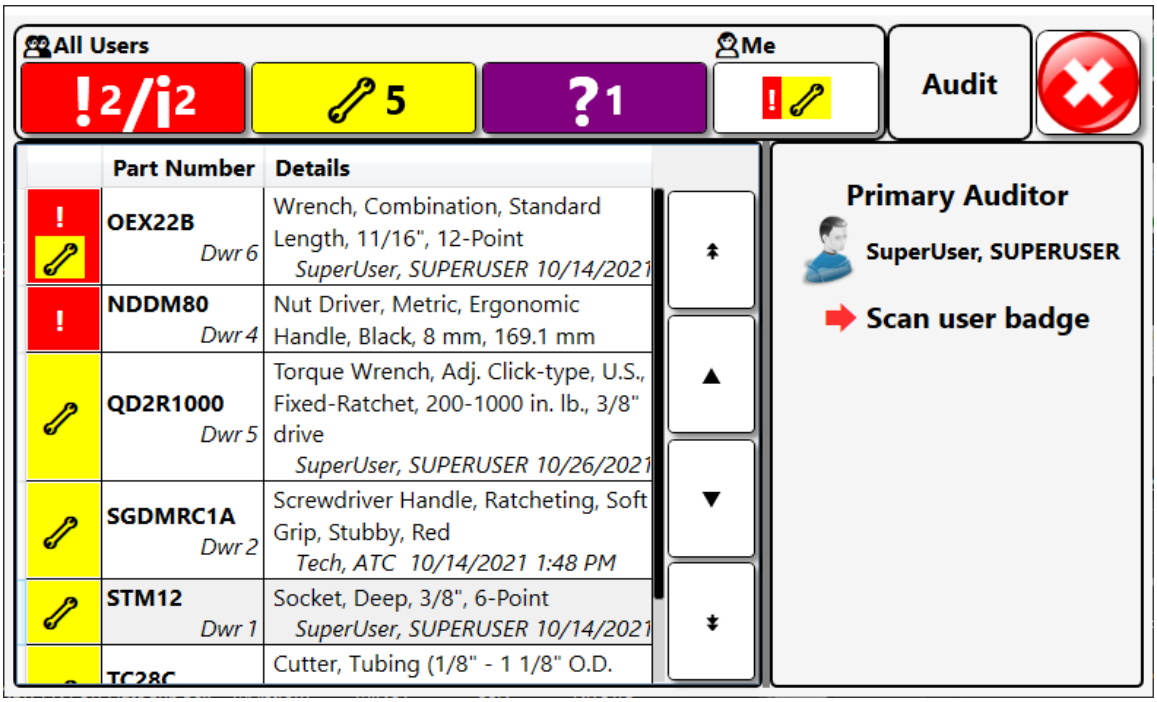
- **B.** Confirm Button – Confirms Audit Pass or an action such as cleaning was performed, you would tap this button.
- **C.** Exception Button – If an item failed the Audit or the action such as cleaning was not performed for some reason, you would tap this button.
- **D.** Audit Instructions – Displays what the user needs to do or check.

4. Perform the task or check that the instructions (D) describe, tap either the Confirm (B) or Exception (C) button to mark if the task or check was completed successfully, then close the drawer. The RED and Black bar is then removed from the drawer.



5. Repeat this task until you have completed all drawers. When you close the last drawer, the system will then ask the auditor to swipe their badge to complete the Audit. Remember, if Dual User is enabled on the Audit Type, it will ask for a second user to swipe their badge to complete the Audit.

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Once the auditor has swiped their badge, the system will complete the Audit and preset the success message on the screen.

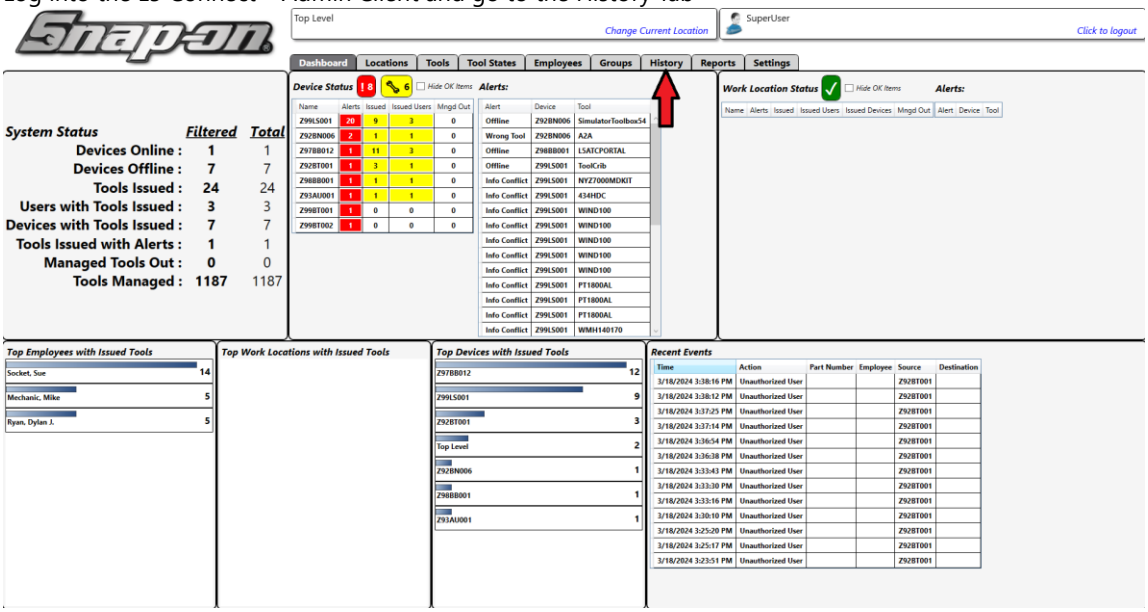


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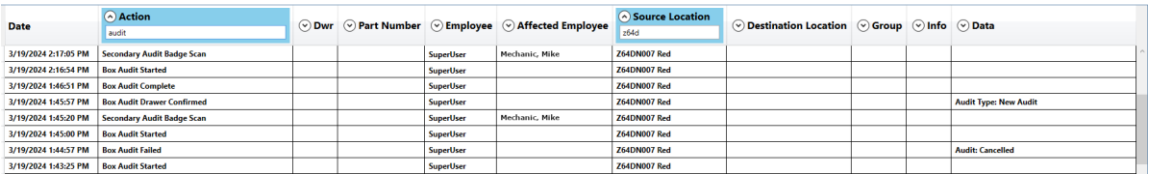
Event Log

After you have completed the Audit on the device, you can view the results of the Audit in the L5 Connect™ Admin Client History tab.

1. Log into the L5 Connect™ Admin Client and go to the History Tab



2. Filter the Action Column to Audit



Date	Action	Dwr	Part Number	Employee	Affected Employee	Source Location	Destination Location	Group	Info	Data
3/19/2024 2:17:05 PM	Secondary Audit Badge Scan			SuperUser	Mechanic, Mike	Z64DN007 Red				
3/19/2024 2:16:54 PM	Box Audit Started			SuperUser		Z64DN007 Red				
3/19/2024 1:46:51 PM	Box Audit Complete			SuperUser		Z64DN007 Red				
3/19/2024 1:45:57 PM	Box Audit Drawer Confirmed			SuperUser		Z64DN007 Red				Audit Type: New Audit
3/19/2024 1:45:20 PM	Secondary Audit Badge Scan			SuperUser	Mechanic, Mike	Z64DN007 Red				
3/19/2024 1:45:00 PM	Box Audit Started			SuperUser		Z64DN007 Red				
3/19/2024 1:44:57 PM	Box Audit Failed			SuperUser		Z64DN007 Red				Audit: Cancelled
3/19/2024 1:43:25 PM	Box Audit Started			SuperUser		Z64DN007 Red				

   - The Action Box Audit Start is the beginning of an Audit on a device, and Box Audit Complete is the end of the Audit.
   - Each drawer result will be listed between the Start and Complete actions.
   - The Name of the Audit that was being performed will be listed in the Data column.

To generate an audit report, you will need to create a custom Event History report.

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Certifications

Certifications allow you to mark certain tools so they can only be issued to employees who have been certified to use them. This document will cover how to set up certifications for your L5 Connect system. It will walk through setting up the certifications with the Admin application and then the process of issuing tools with certifications from a device.

NOTE: Certifications are currently only supported by the FlexHub device.

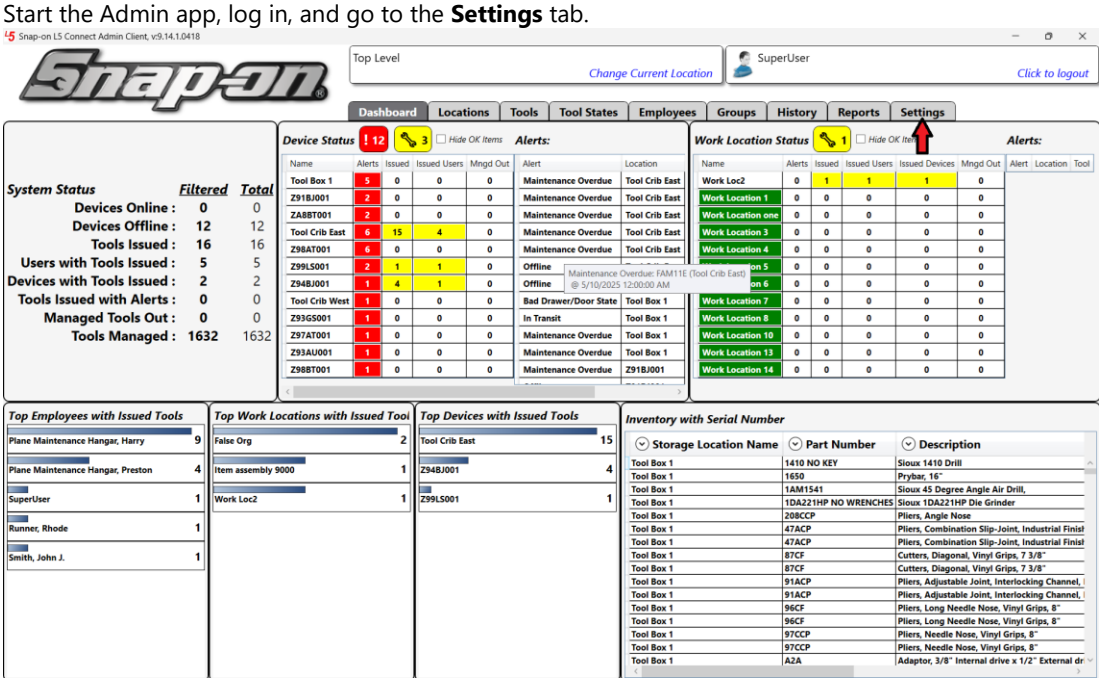
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Creating Certifications

The first step in setting up certifications in your L5 Connect system is to create a certification. This is done with Admin application.

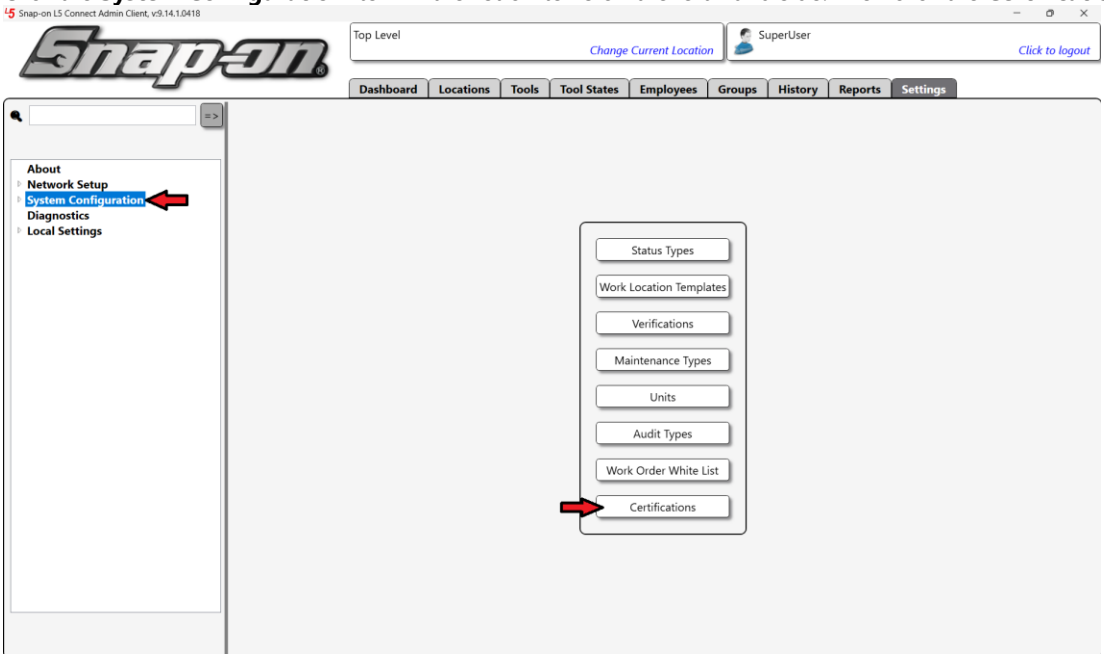
Basic Certification

Start the Admin app, log in, and go to the **Settings** tab.



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Click the **System Configuration** item in the list of items on the left-hand side. Then click the **Certifications** button.

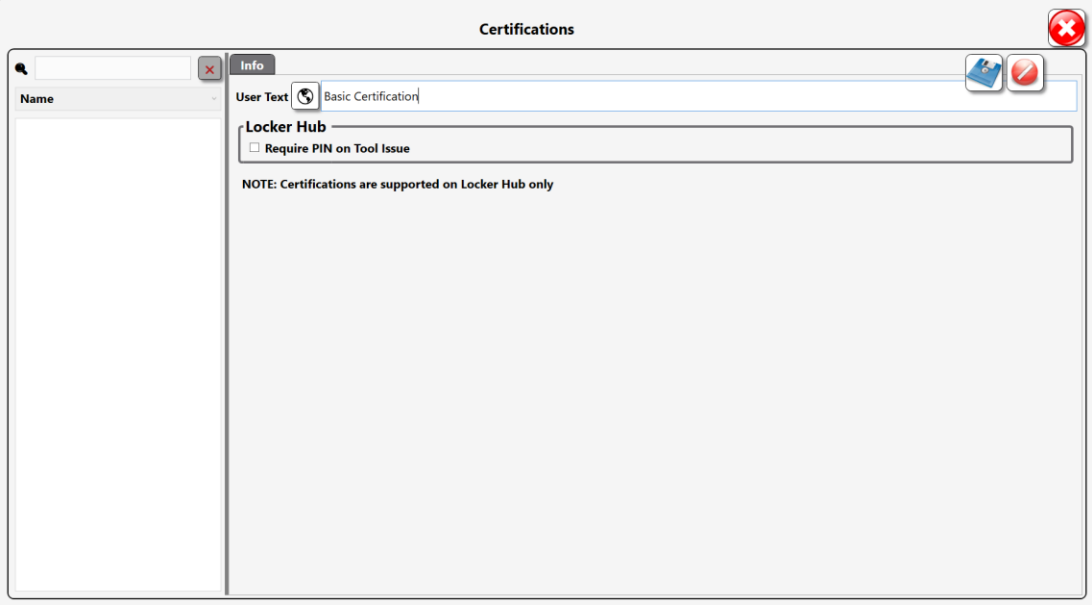


Click the **New** button to create a new certification.

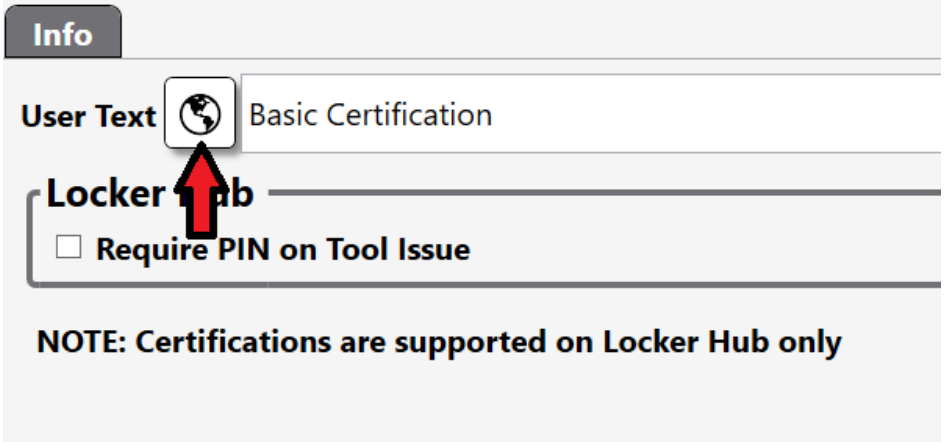


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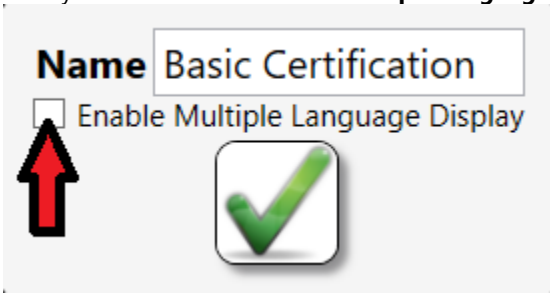
To give your certification a name, type it into the **User Text** field. For this case we will create a certification called **Basic Certification**.



Note that you can provide translation into other languages supported by the L5 Connect system by clicking the **Edit Multiple Languages** button, which looks like a globe.



Then you will check the **Enable Multiple Language Display** checkbox.

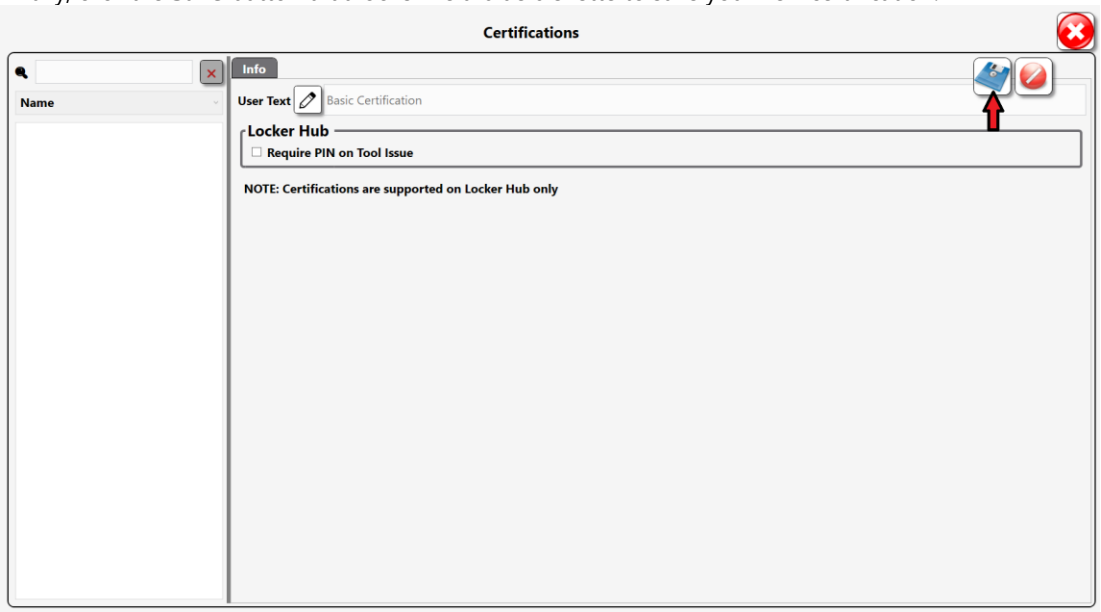


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Provide translations of your certification name for any required languages and then click the **OK** button that looks like a green checkmark.



Finally, click the **Save** button that looks like a blue diskette to save your new certification.

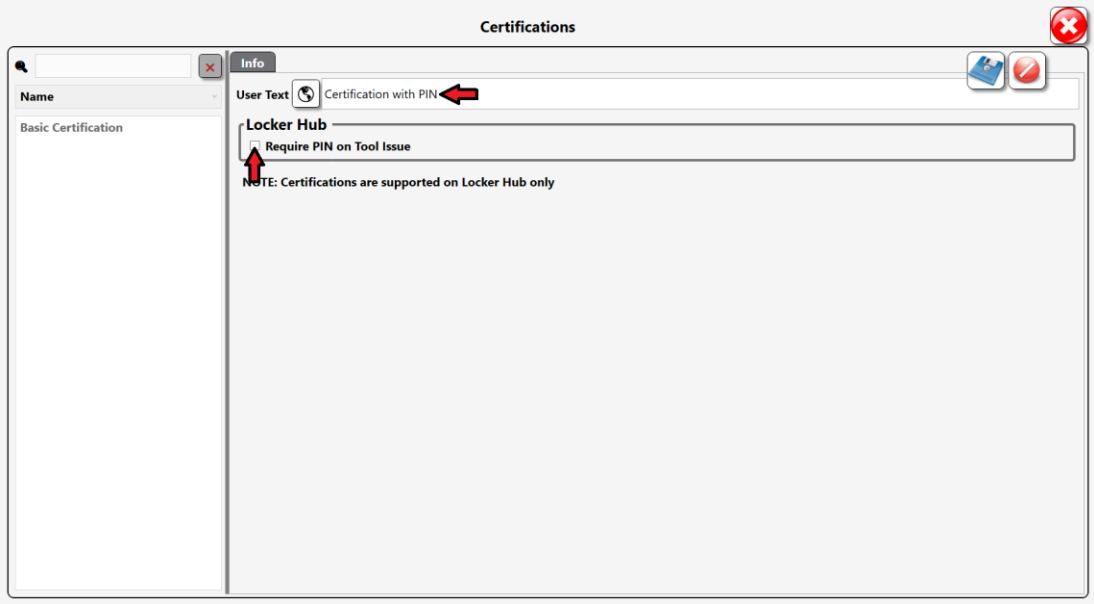


Certification Requiring a PIN on Tool Issue

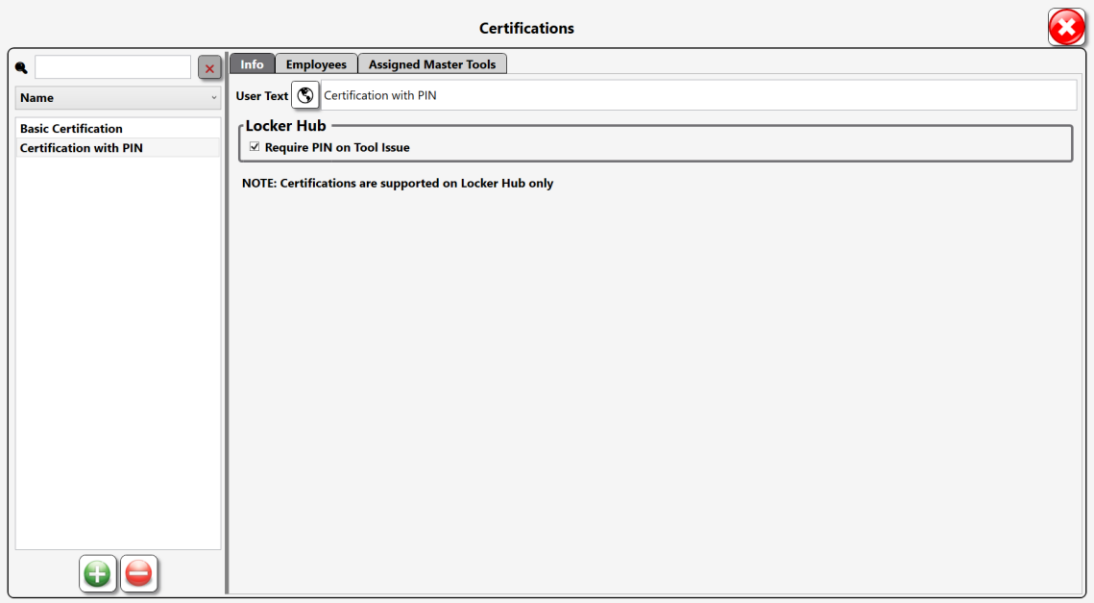
The L5 Connect system also provides the ability to require a PIN to be input to allow the issue of a tool with a certification.

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To create a certification requiring a PIN, you would click the **New** button on the certification page to start a new certification. Then provide a name in the **User Text** field and check the **Require PIN on Tool Issue** checkbox.



After clicking the **Save** button that looks like a blue diskette you will have created two new certifications to use, with one requiring an additional PIN.

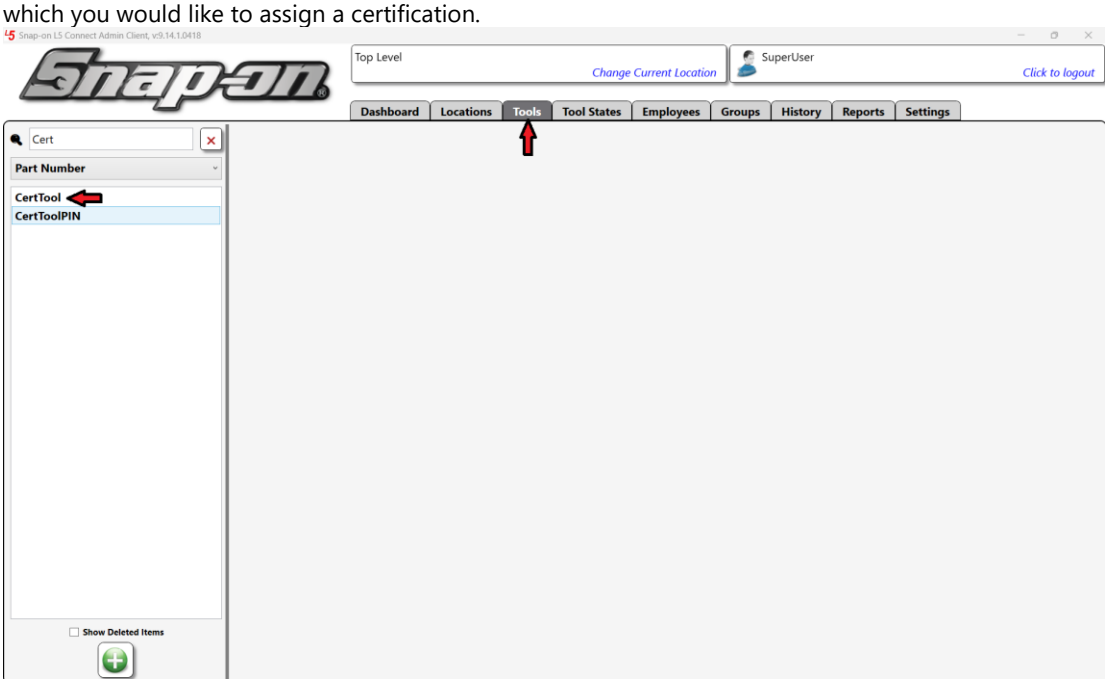


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Assigning Certifications

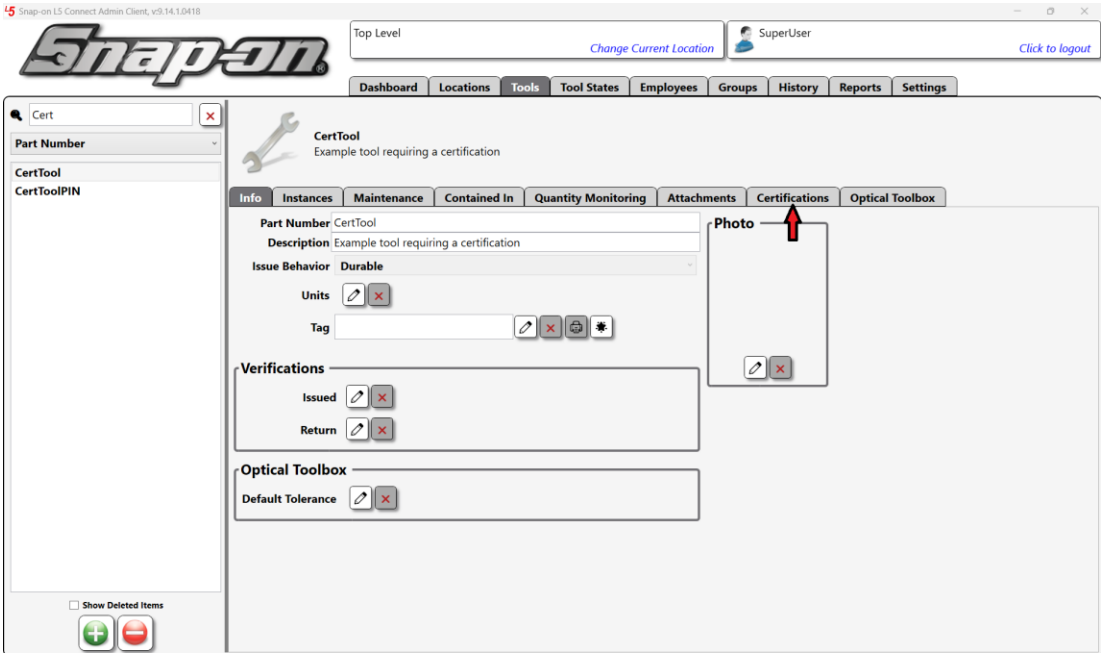
To Tools

Once you have created some certifications you need to assign those certifications to tools that should only be issued if the employee has been certified to use them. Go to the **Tools** tab of the Admin application and select the tool to which you would like to assign a certification.

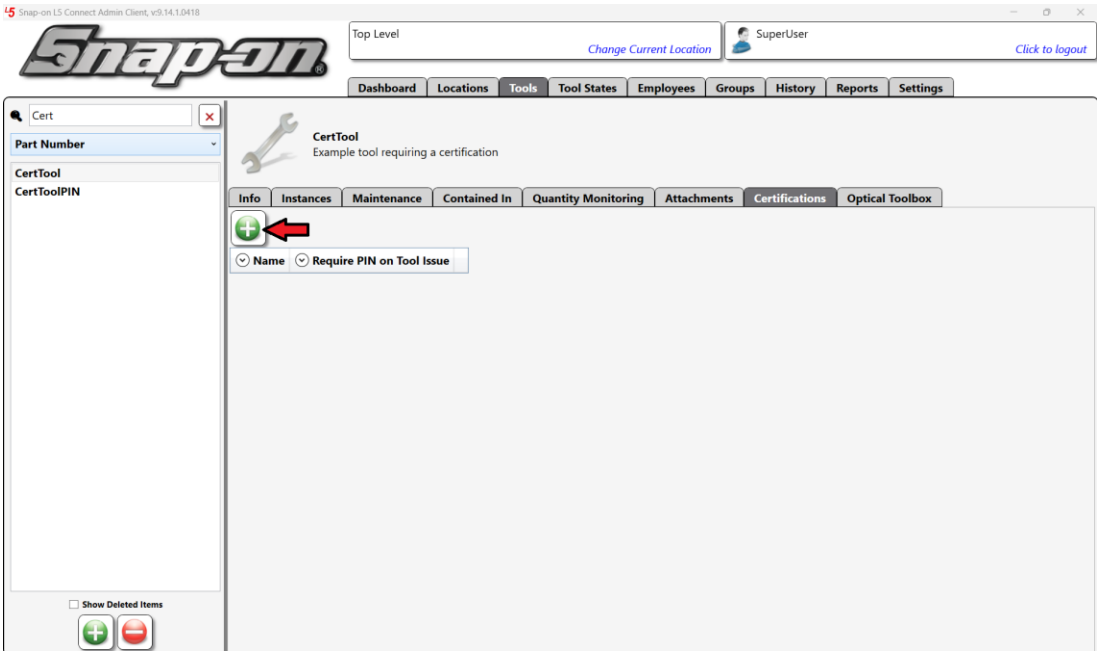


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Then select the **Certifications** sub-tab.

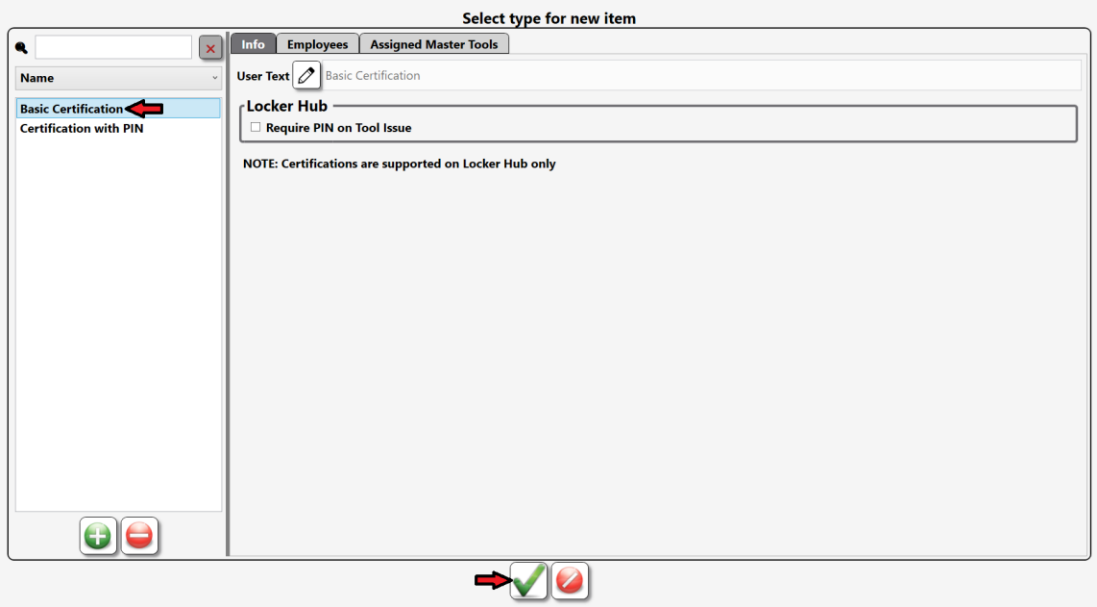


Click the **New** button to add a certification to this tool.

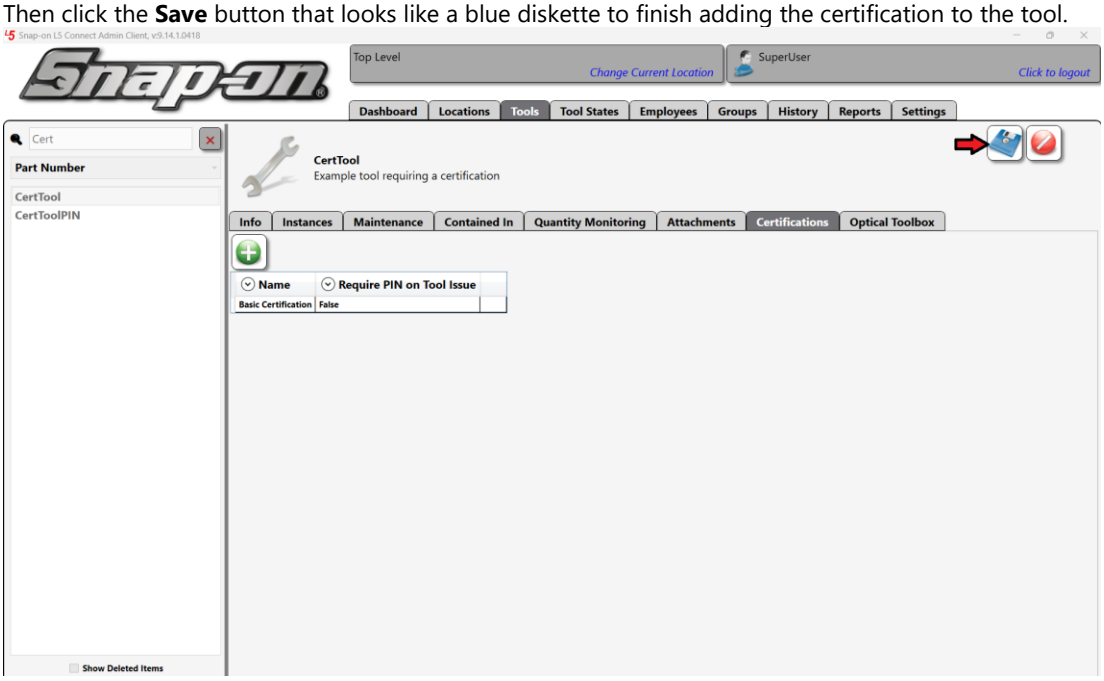


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Now select the certification you wish to add to the tool and then click the **OK** button that looks like a green checkmark.



Then click the **Save** button that looks like a blue diskette to finish adding the certification to the tool.

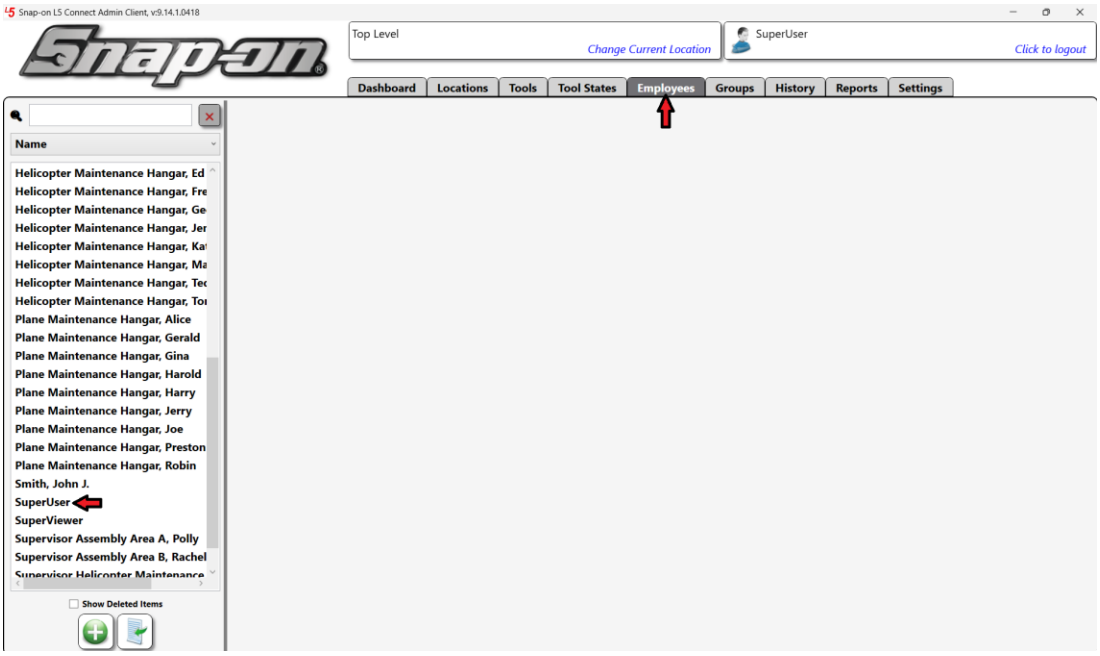


We will then repeat this process to add the certification requiring a PIN to the **CertToolPIN** tool for illustrating the issuing tools with certifications section.

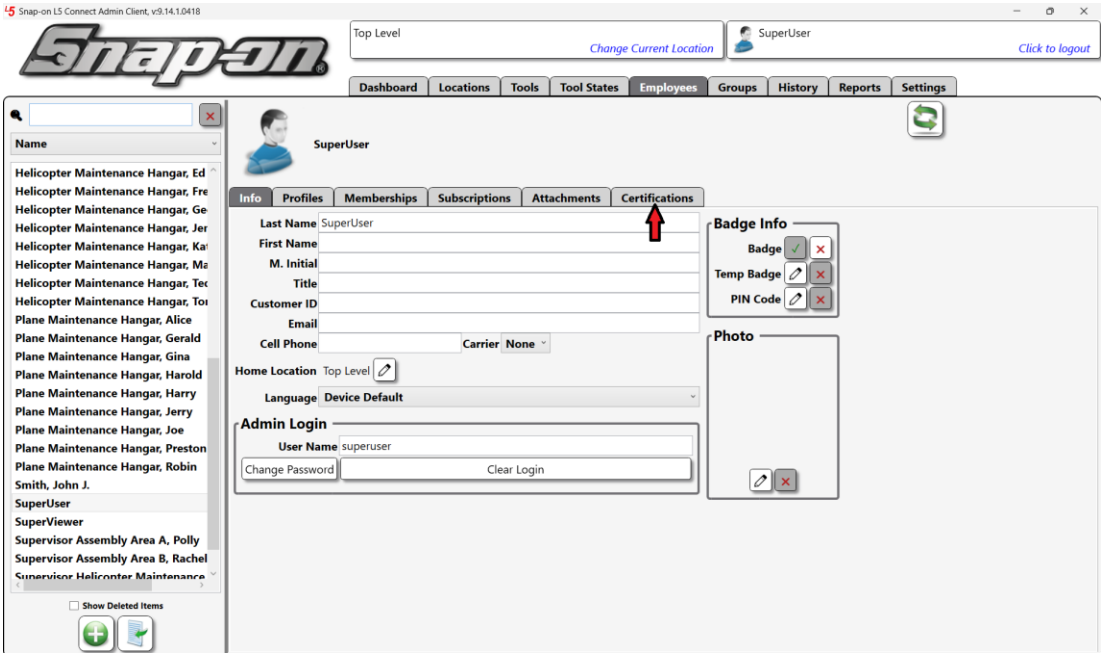
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To Employees

To issue a tool with a certification, an employee will need to have that certification assigned to them. To do this you will need to go to the **Employees** tab of the admin and select the employee to whom you wish to assign a certification.

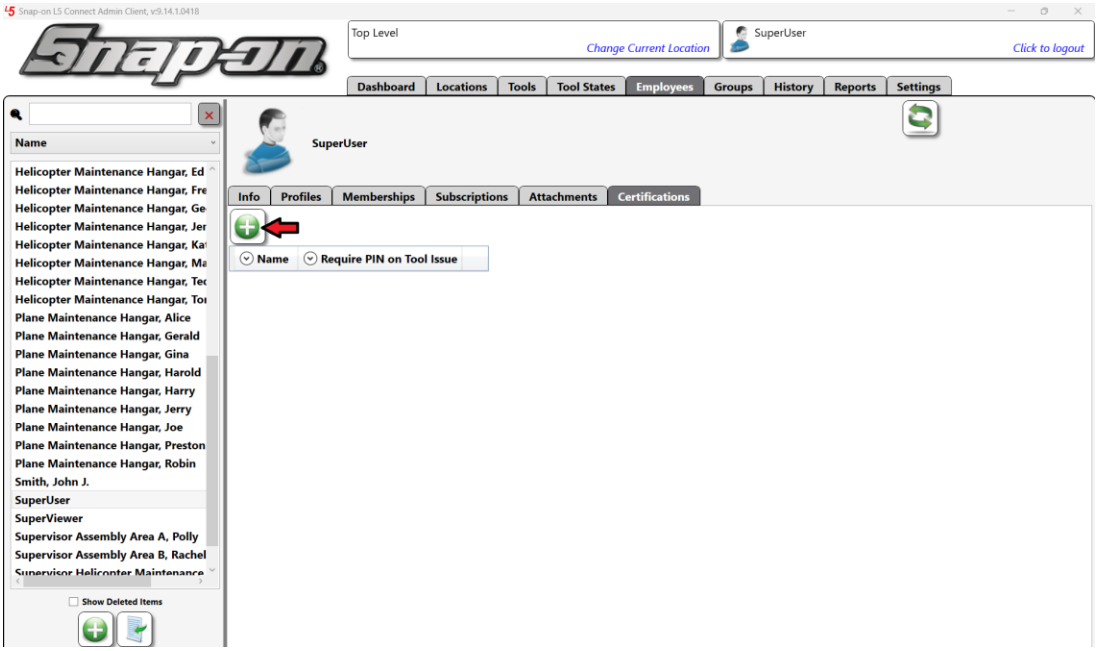


Select the **Certifications** sub-tab.

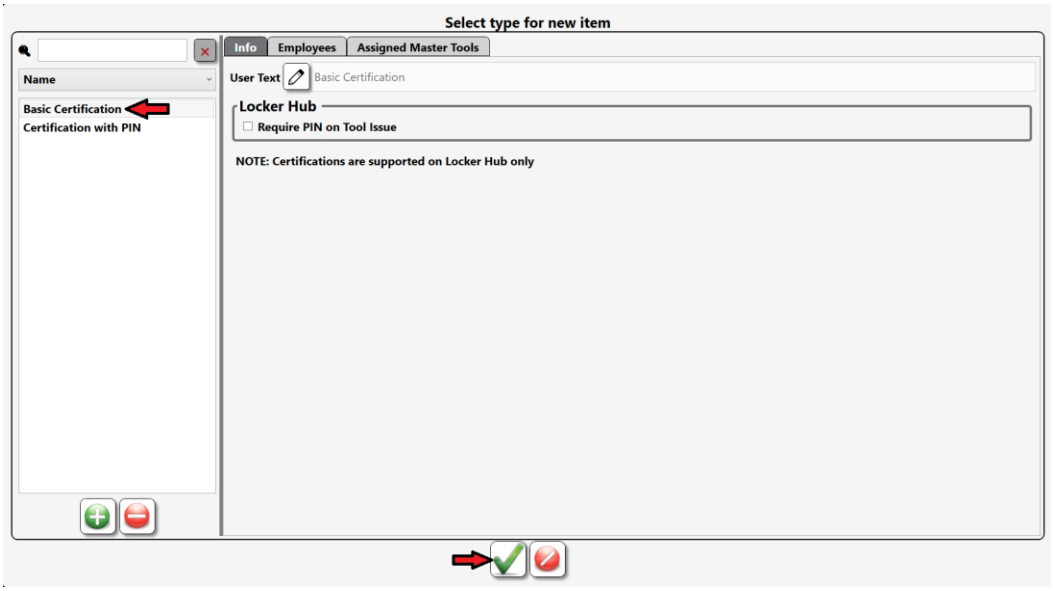


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Click the **New** button.



Select the certification you would like assigned to the employee and click the **OK** button that looks like a green checkmark.



Then we will repeat this process to add the **Certification with PIN** certification to the **Superuser** employee as well.

Now, because one of the certifications requires a PIN code, we need to assign a PIN code to the employee as well. For more information on how to assign a PIN code, review the PIN code section of the Employee Badges document.

At this point you have set up everything you need to restrict the issue of tools to those who have been certified to use them.

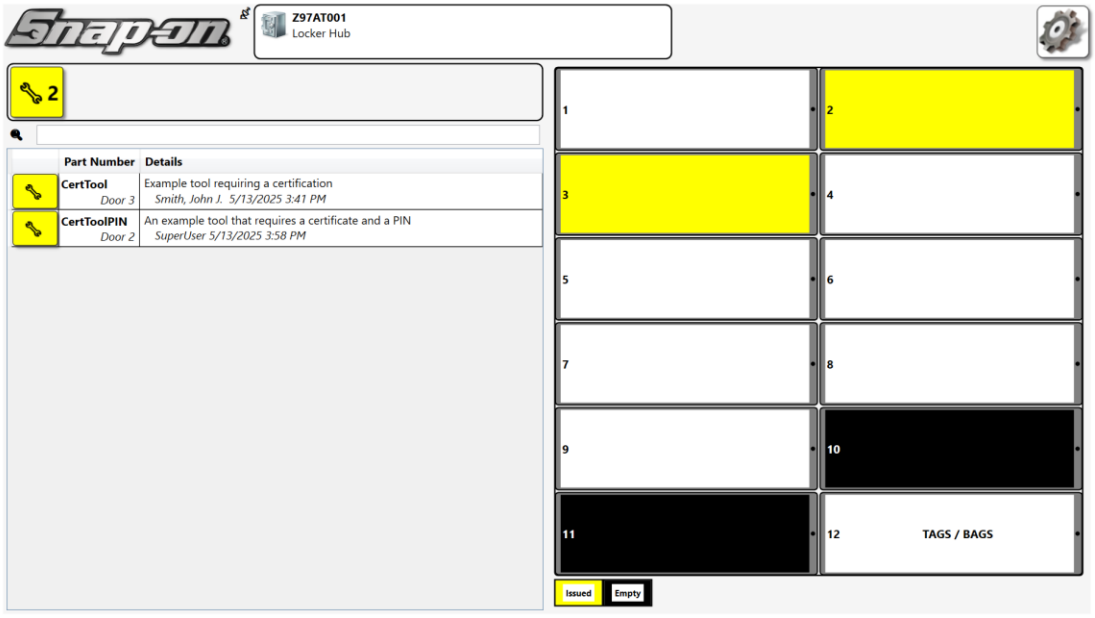
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Issuing Tools with Certifications

If an employee who has the proper certification attempts to issue the tool it will be issued just as it normally would after the system verified that the employee had the proper certification. The employee will be prompted to enter his PIN code if required by the certification.



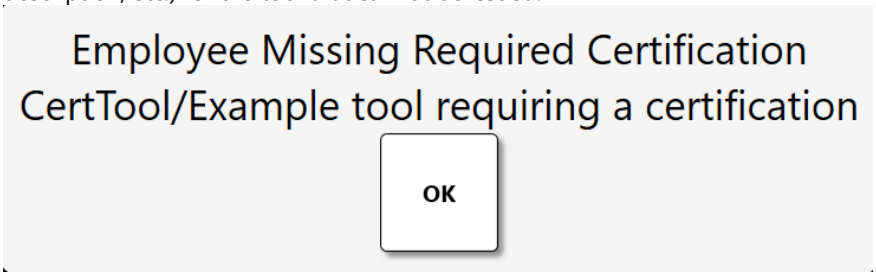
After successfully inputting their PIN code, the employee will be issued the tool just as he normally would.



When an employee who doesn't have all of the certifications required attempts to issue a tool, he will receive the following pop-up window and not be issued the tool. The pop-up window shows information (part number,

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description, etc.) for the tool that cannot be issued.



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L5 Connect API

The L5 Connect™ system is built on top of a carefully designed relational database to provide data integrity, flexibility, and extendibility. The API reflects this design in the layout of the objects it provides for reading and updating. This document will help to explain the design philosophy behind the layout of the API and the typical use case for how customers manage data through the API.

Detailed information about how to use the L5 Connect API can be found at https://l5connectapi.com/api/.

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Device Setup and Operation

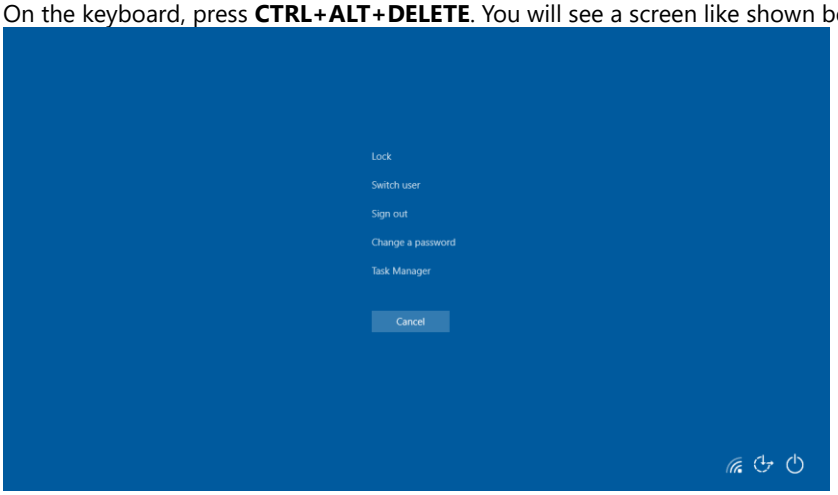
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Wireless Network Connection Process for ATC Devices

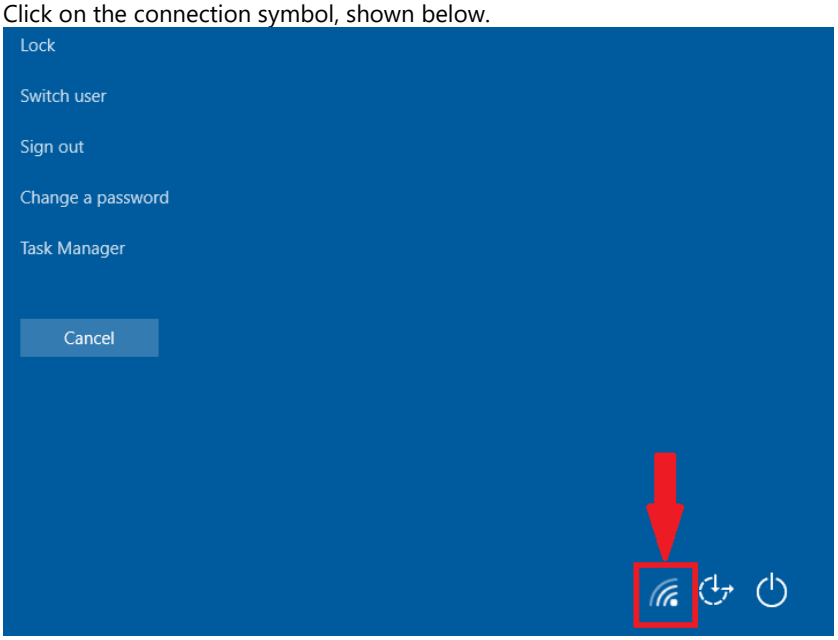
This document will cover the recommended method of connecting your ATC device to a wireless network. **NOTE: You will need a keyboard and mouse for this procedure.**

Procedure

1. Plug in a keyboard and mouse into an open USB Port(s) on the ATC Device.
2. On the keyboard, press **CTRL+ALT+DELETE**. You will see a screen like shown below.

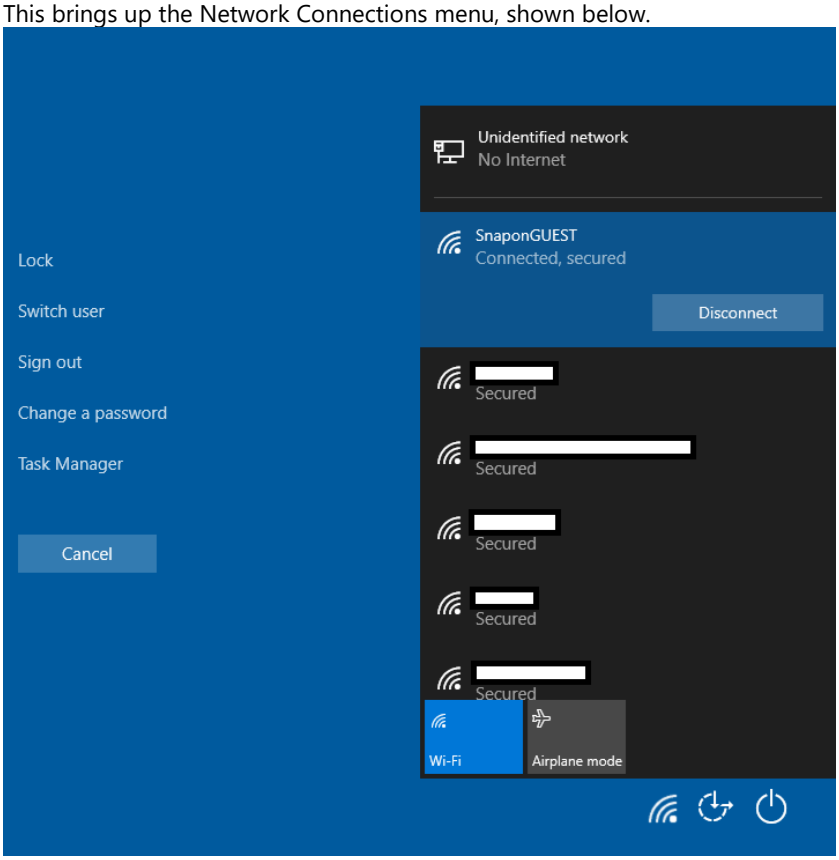


3. Click on the connection symbol, shown below.



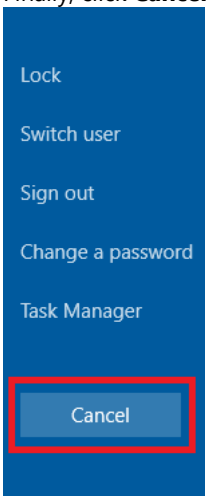
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4. This brings up the Network Connections menu, shown below.



5. Select the Network to which you wish to connect the ATC Device. Enter the Network password and click on the **Connect** button.

6. Finally, click **Cancel**



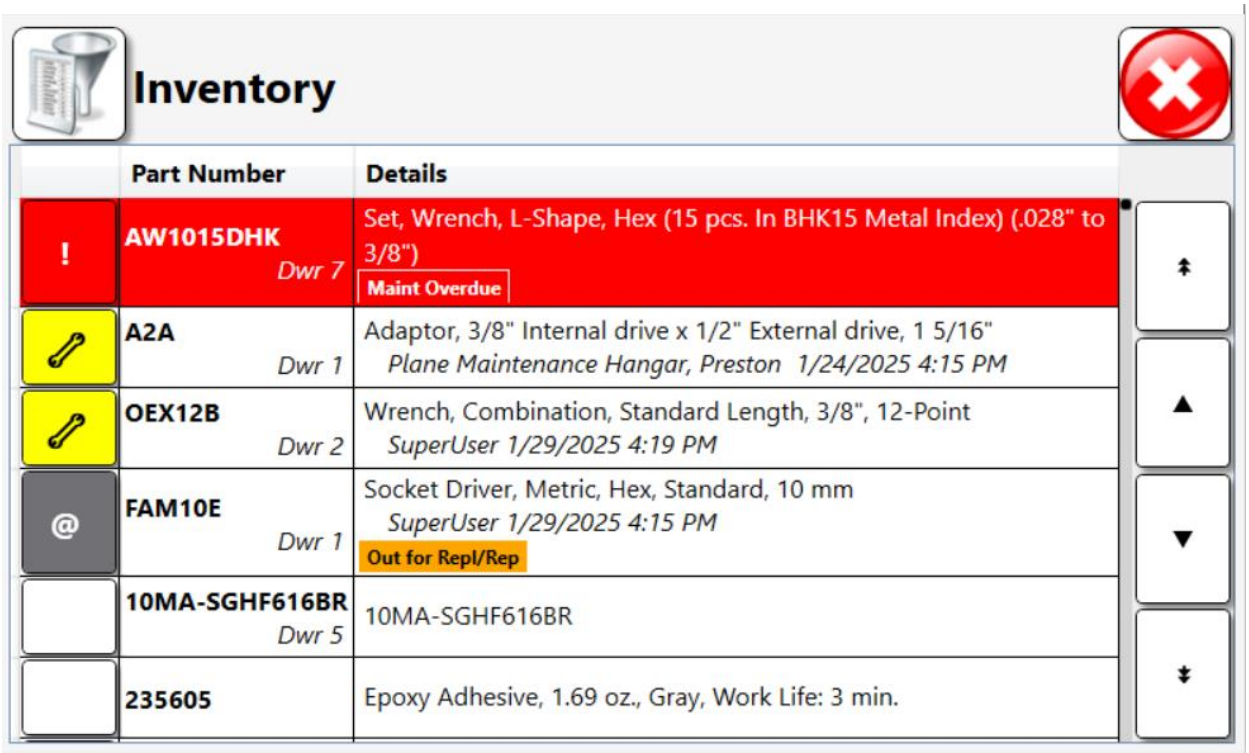
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Device Inventory List with Condition Info

The purpose of this document is to detail the functionality of the main screen inventory condition controls and the inventory screens of L5 Connect system devices. Each device has a portion of the main screen devoted to the display of any tools with conditions that might be of interest, such as tools with alerts or issued tools. There is also a tool inventory screen that uses a similar grid to display all the tool inventory for the device. This document will explain the features of these screens and how to find inventory related information.

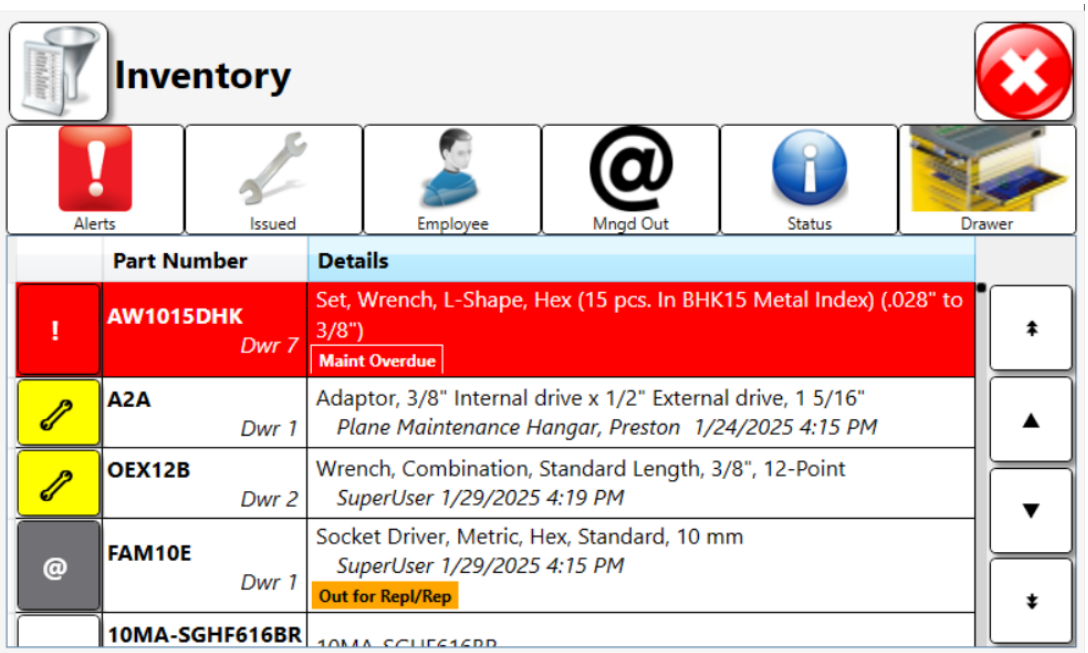
Inventory Screen

The basics of the inventory screen are very similar for all the devices with just a couple of differences. The inventory screen can be accessed by clicking the **Menu** button that looks like a gear and then clicking the **Inventory** button. This will show the list of tools in the device, sorted to show tools with a condition at the top of the list. The tool inventory screen can also be accessed by clicking the buttons on the condition control on the main screen. This will present a filtered view of the inventory.

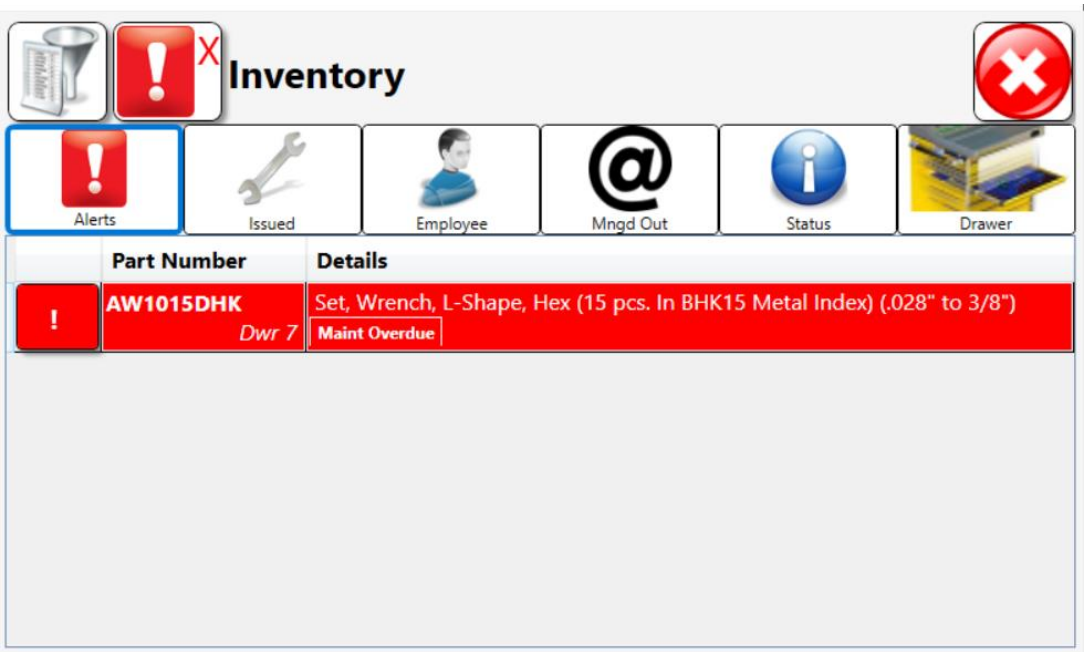


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To help you find a specific tool, this screen provides the ability to add filters to the tool list. Click the **Filter** button that looks like a list and a funnel in the top left corner.

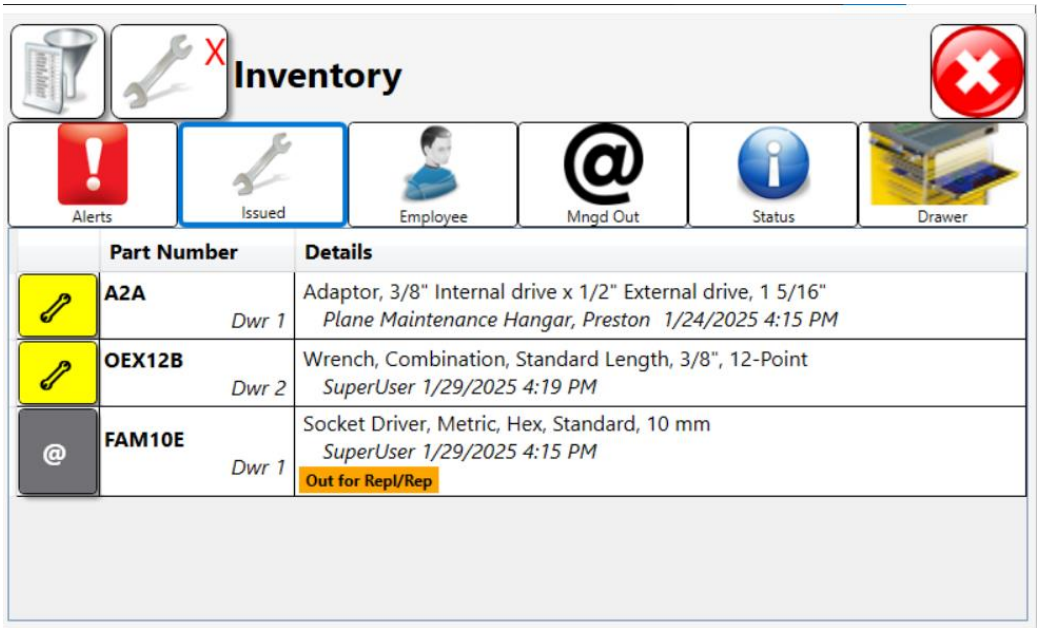


You will now see a row of buttons that will allow you to add different types of filtering to the list. The **Alerts** button will filter the list to show only tools with alerts. Notice how there is now a button next to the filtering button that can be used to cancel this alerts filter.

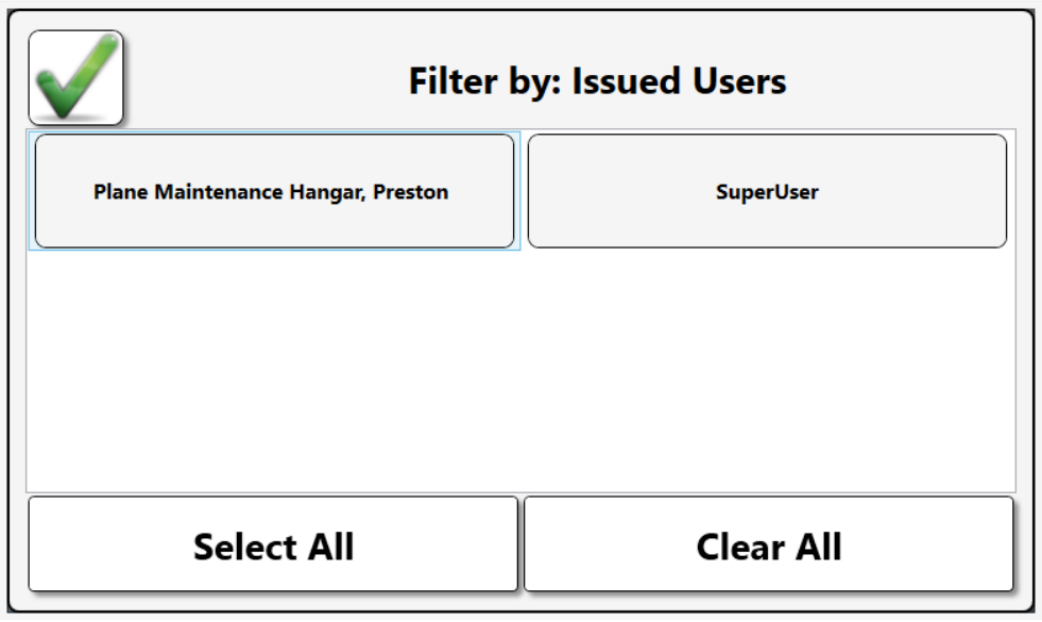


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If you click that button and cancel the alerts filter the list will return to the full list of tools. If you then click the **Issued** button, the list will show only issued tools and a new button next to the filtering button will allow you to cancel this filter.

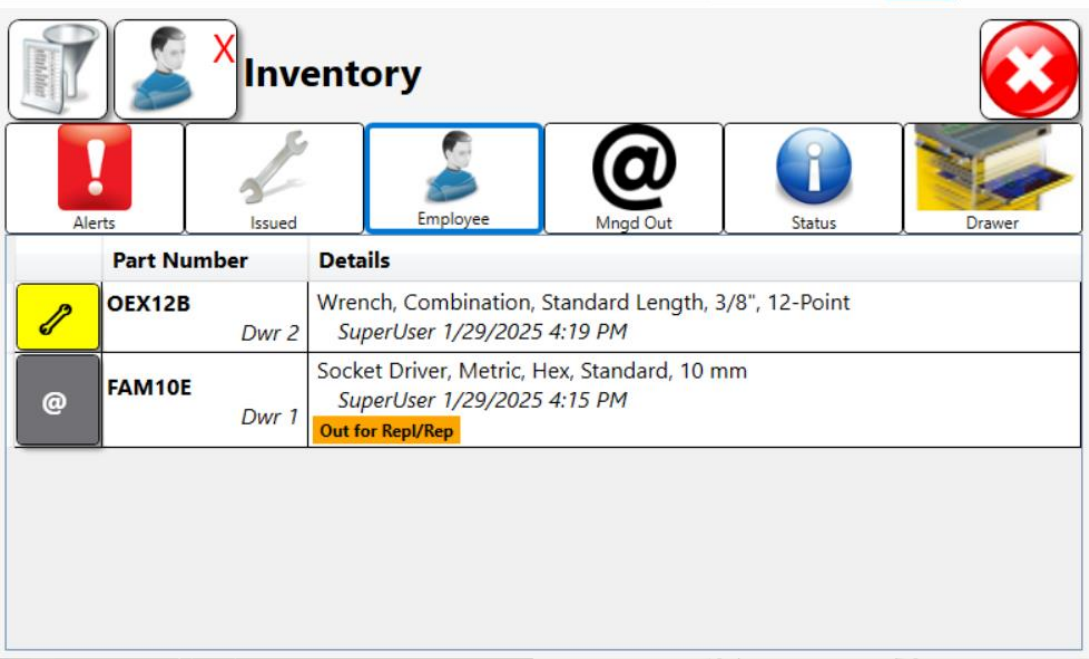


If you want to see the list of issued tools for a specific user or set of users, you can click the **Employee** button. This will then open a new window that allows you to select the employees for whom you would like to see their issued tools. The list of employees it shows is restricted to only showing employees who actually have tools issued from the device. There are also buttons to allow you to select all the employees or clear all selected employees.

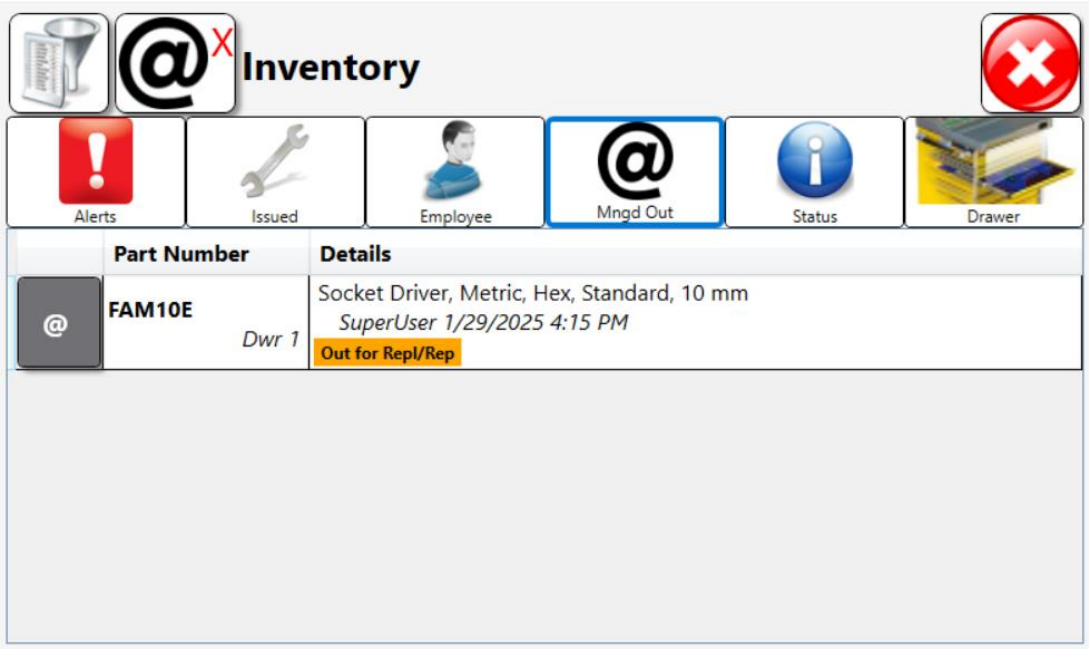


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Once you have selected the appropriate employees, click the green checkmark button and the list will be filtered to show only tools issued to these employees and there will be a new button to allow that filter to be canceled.

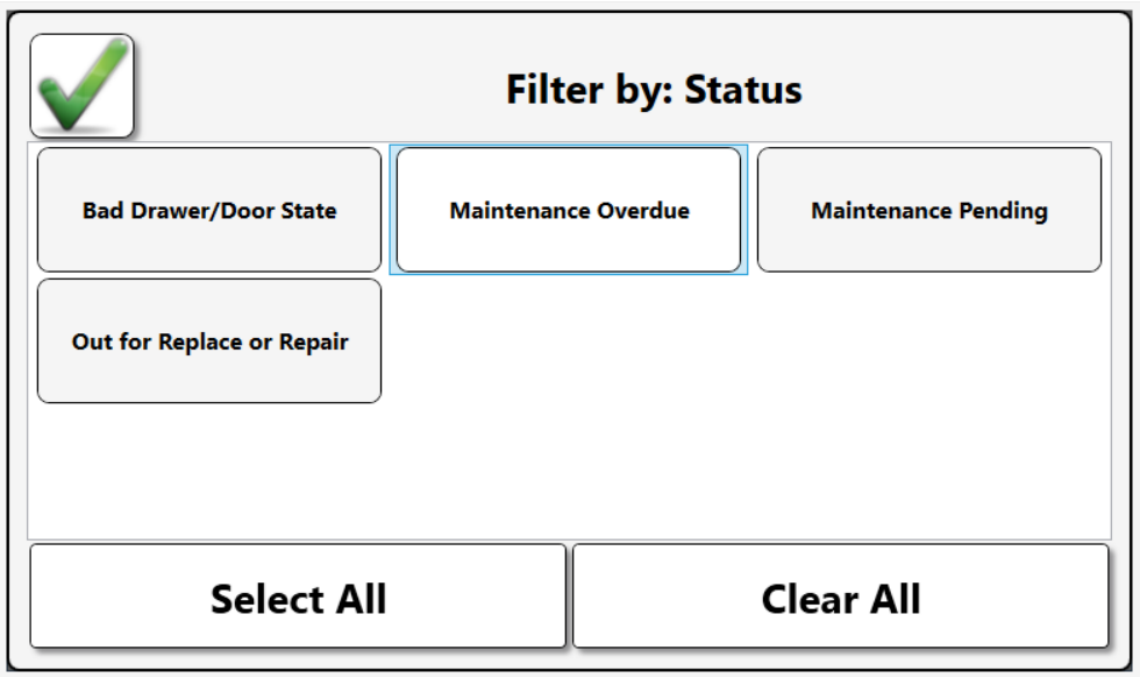


The **Mngd Out** filter button will filter the list of tools to only show tools that have been marked with a status that is defined to be a managed out of box status. That is configured through the Admin application. See the Tool Statuses document for additional details.

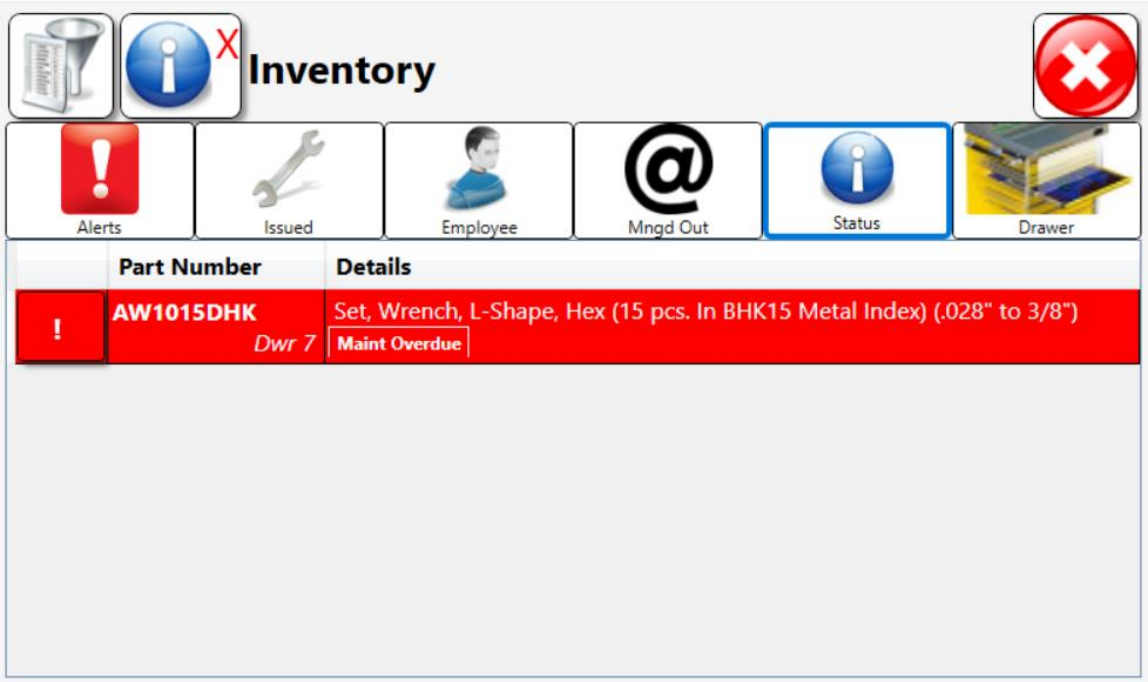


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The **Status** filter button will present you with a screen listing all the statuses currently applied to the device or any of its tools. You can select the statuses in which you are interested.

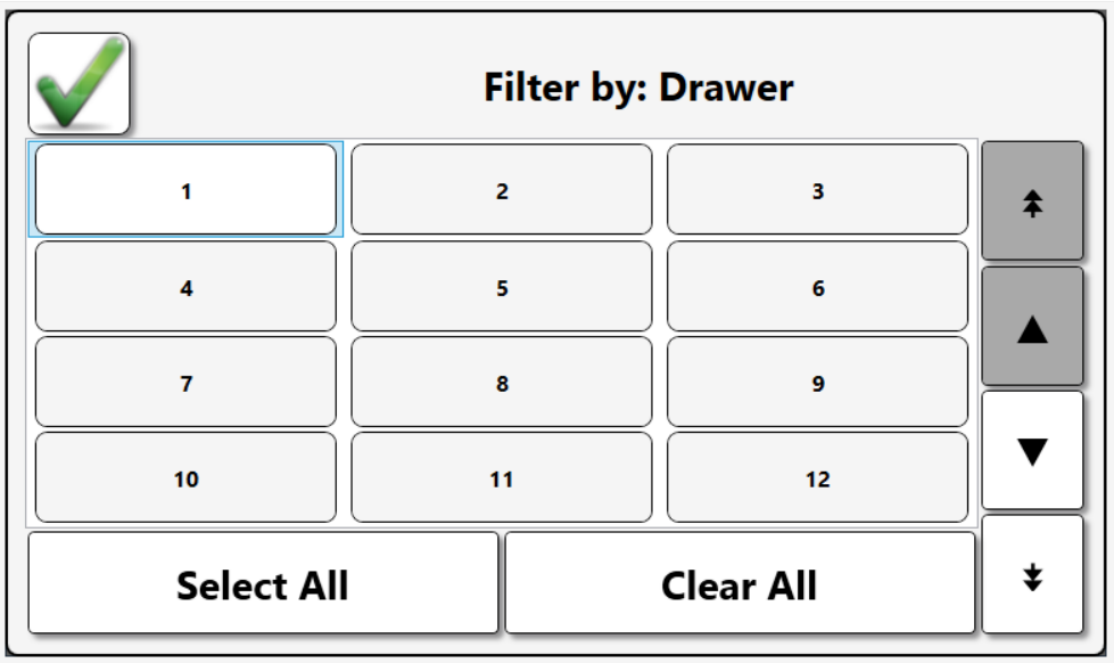


Then click the green checkmark and the list will be filtered to show only the tools with the statuses you selected.

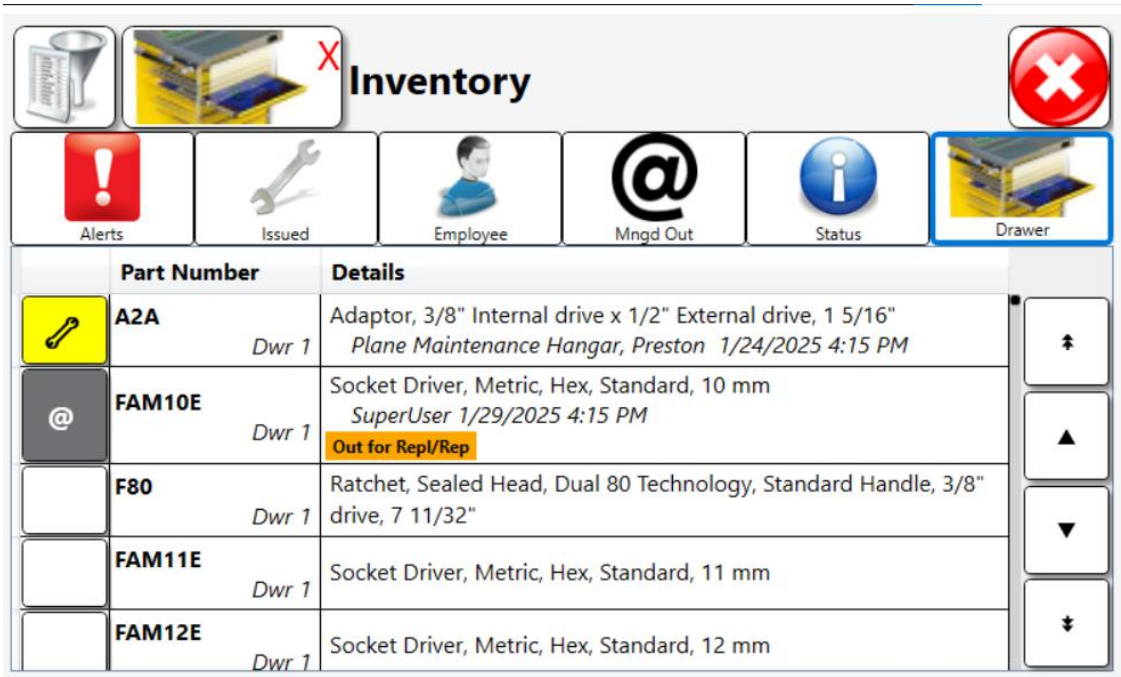


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For optical toolboxes, there will also be a **Drawer** button. Clicking this **Drawer** filter button will show a new screen with a list of all the drawer numbers in the toolbox. You can then select the drawers for which you would like to see the tools.

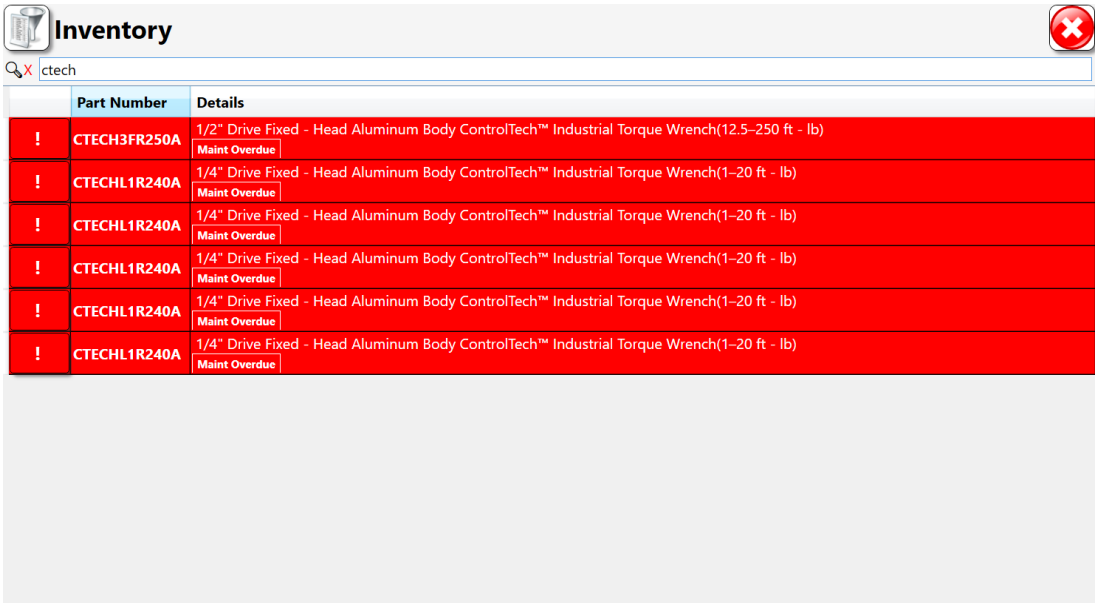


Then click the green checkmark button and the list will be filtered to only show tools in the selected drawers.



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Devices that come equipped with a large monitor and keyboard will have a text-based search bar on this screen as well as the other filtering options. This search bar will filter any tools that don't contain the string in the part number, description, storage sub-location, or issued to information.



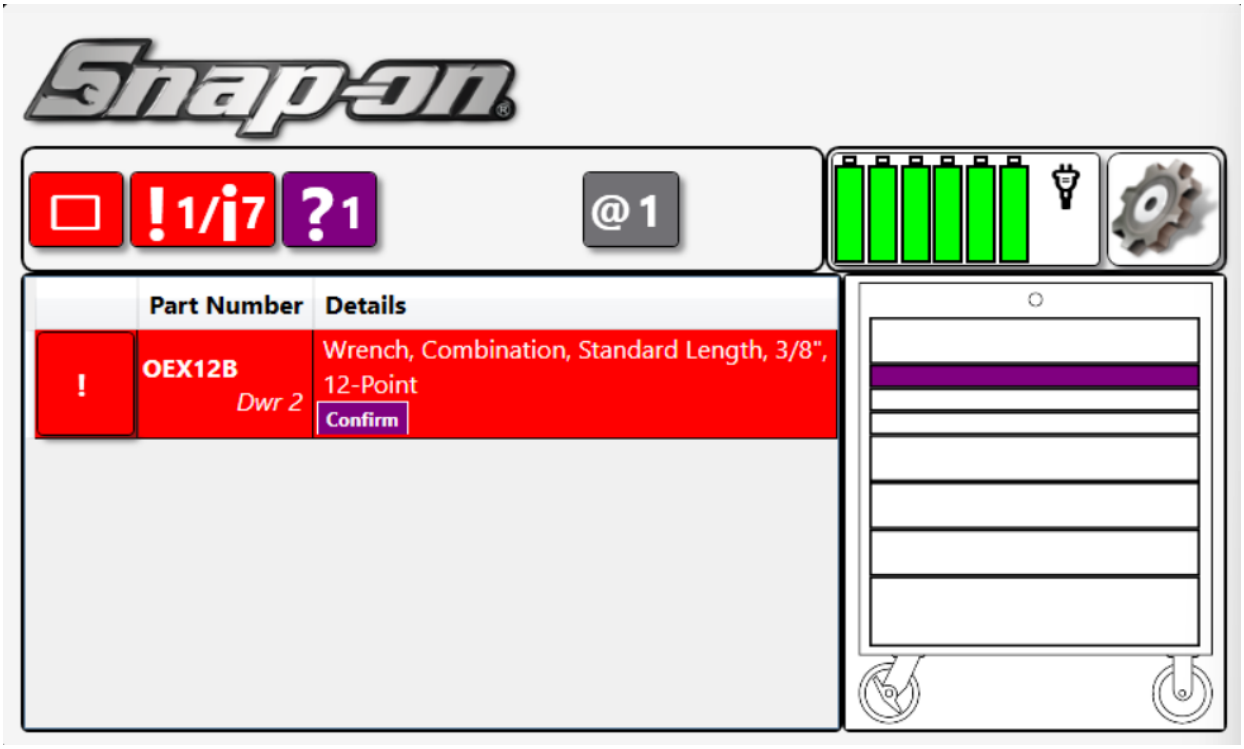
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Main Screen Condition Control

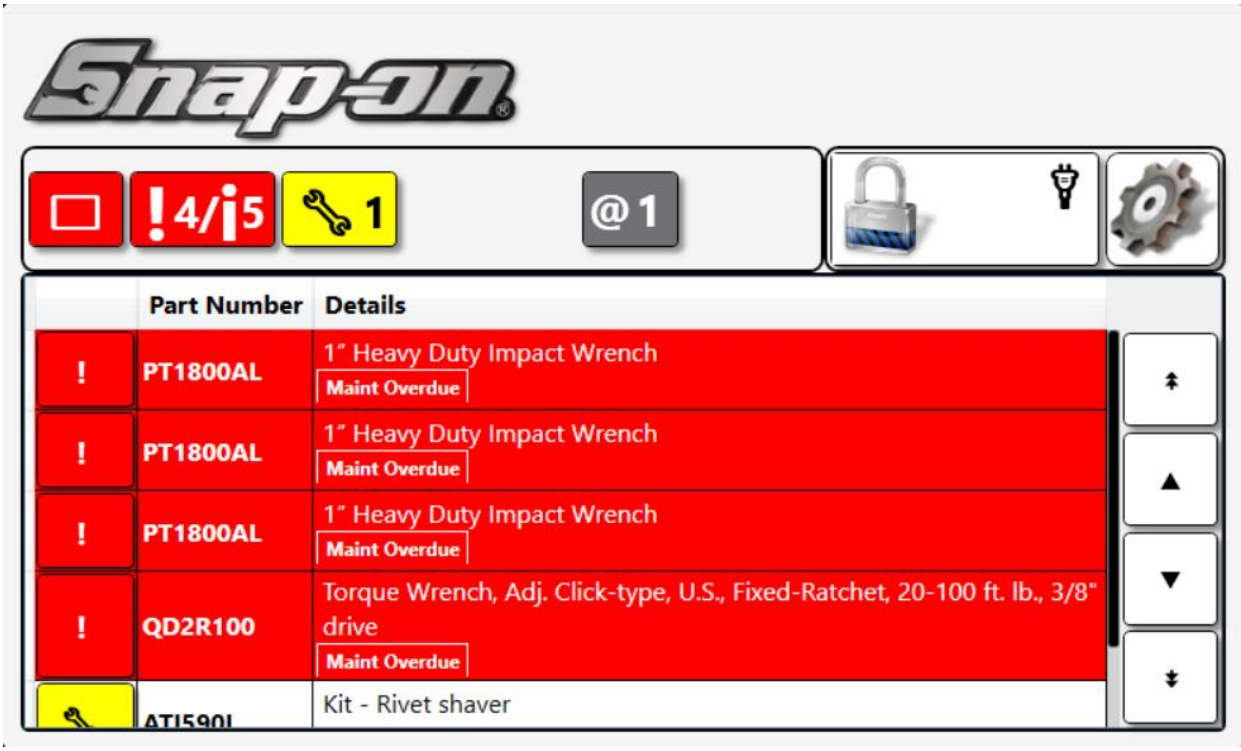
The other location you can find a form of the device inventory list with condition info is on the main screen of the devices. The layout of the screen formatting may be slightly different due to some displays being larger or smaller and portrait vs. landscape, however, they will all have the same basic functionality with some exceptions.

NOTE: The tool crib uses a main screen dashboard similar to the admin application and does not have a logged-out inventory list. The session based logged-in tool list will be discussed in its own separate section below.

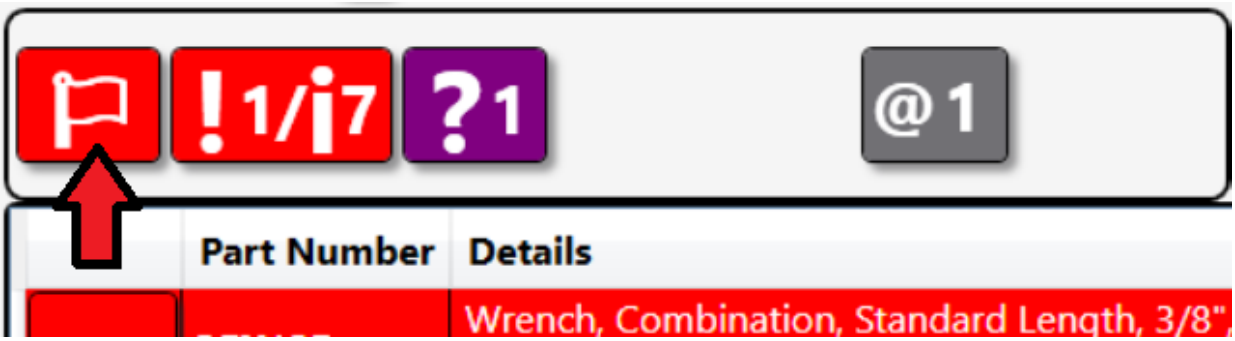
Here are the front screens for the toolbox and the locker. Notice that they both have an area that displays a list of tools with a bar of symbol buttons, above that toggle what is shown in the list.



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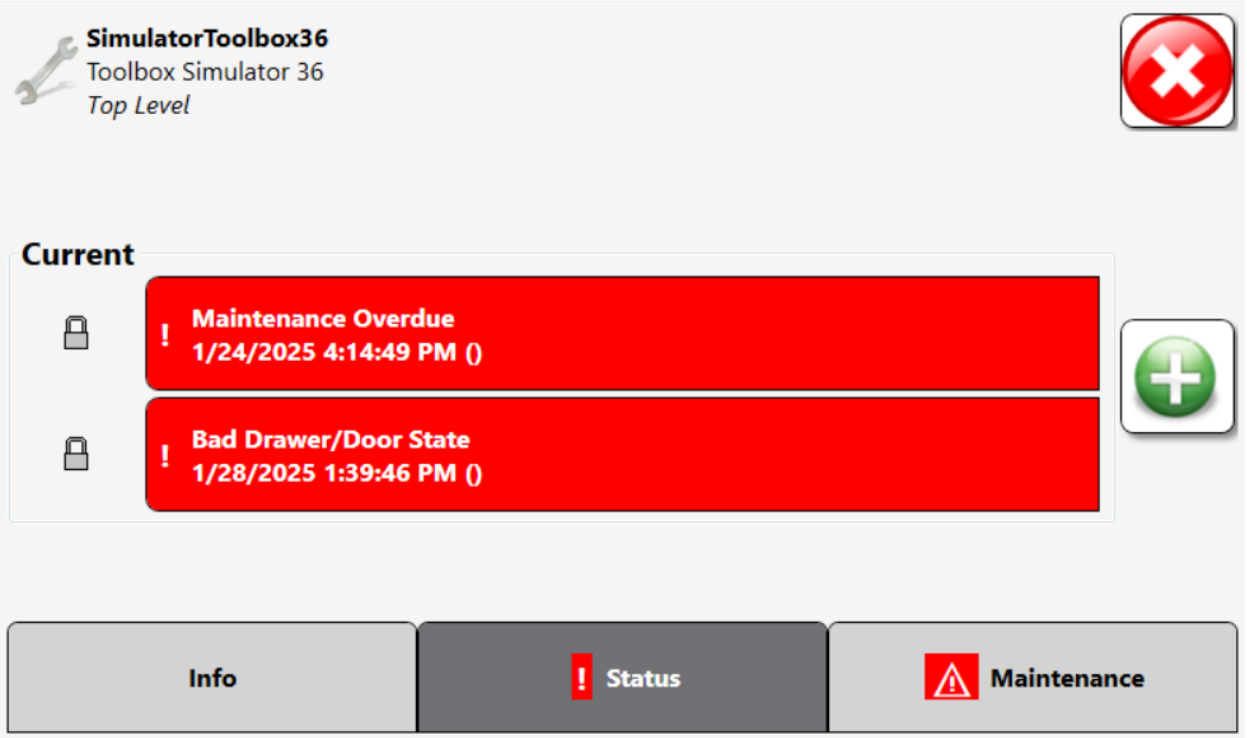


Notice the flag button on the condition summary bar of the screen.



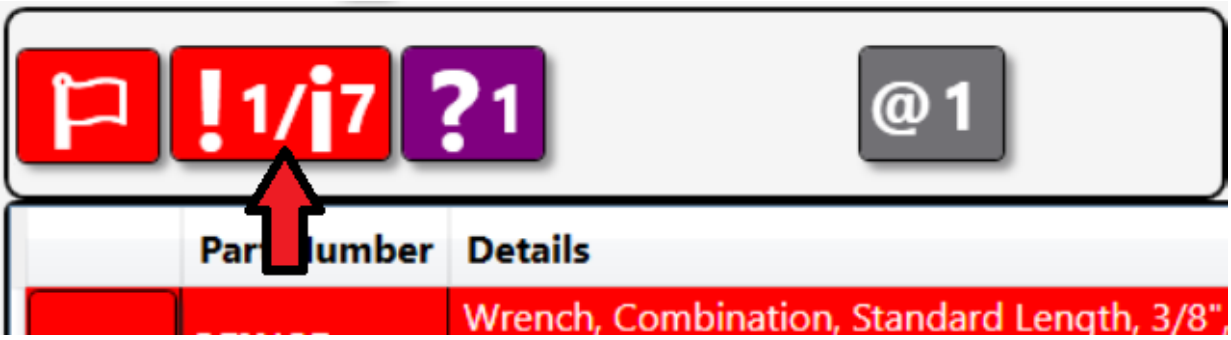
This button alerts you that there is an issue with the device. Clicking this button will take you to the status screen for the device. The device can have statuses attached to it just like any other tool in the system.

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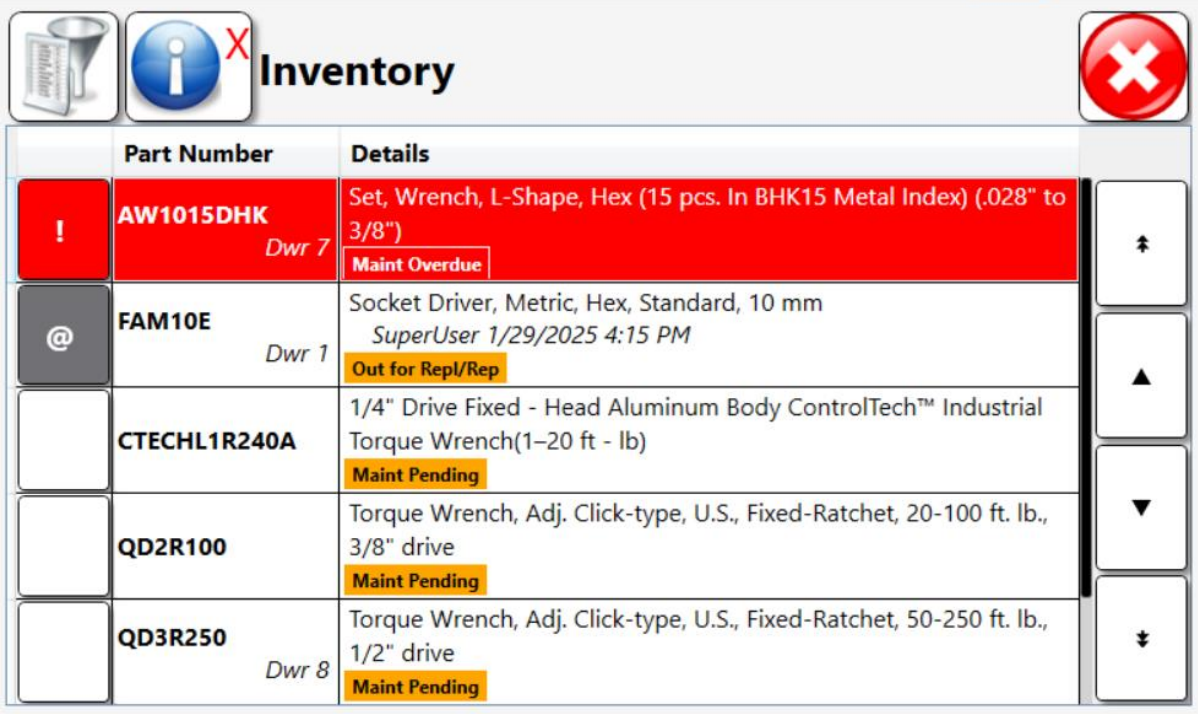
We can see that the device has an overdue maintenance and a bad drawer state status as well. This is one of the ways the system alerts you that there are issues that need to be addressed.

Back on the main screen, the red exclamation button on the condition summary area shows the tools with statuses assigned to them. The number on left side of the slash is the number of tools with alert statuses and the number on the right side of the slash is the total number of tools with any status (not just alert statuses).

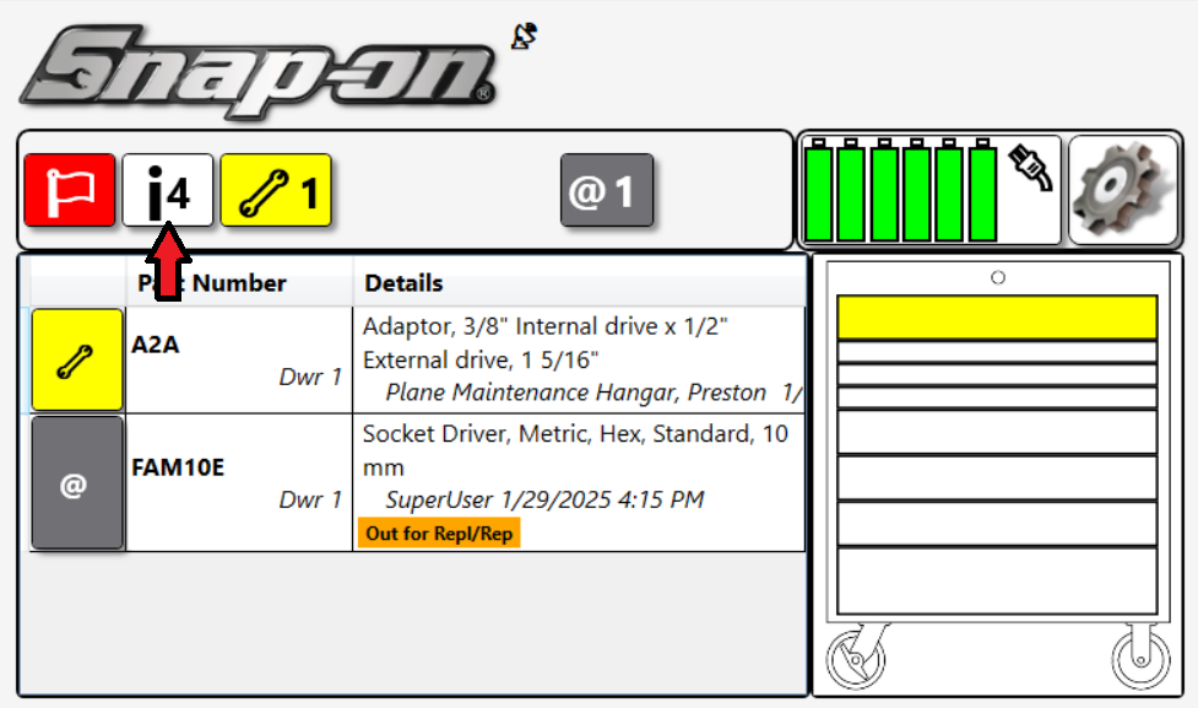


Clicking this button will take you to the tool inventory screen with the list of tools filtered to show all tools with statuses, sorted so that alerts at the top.

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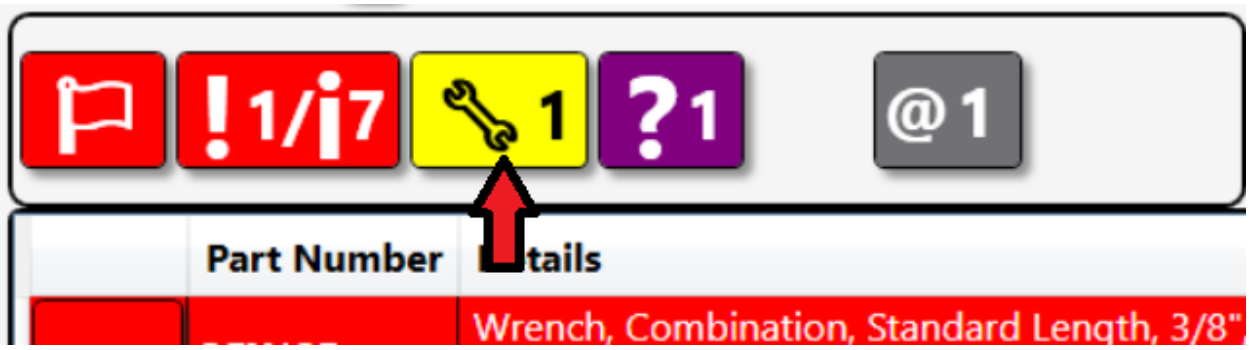


A white button will show the count of tools that have informational or warning level statuses. This button will only appear if the alerts button is not currently showing.

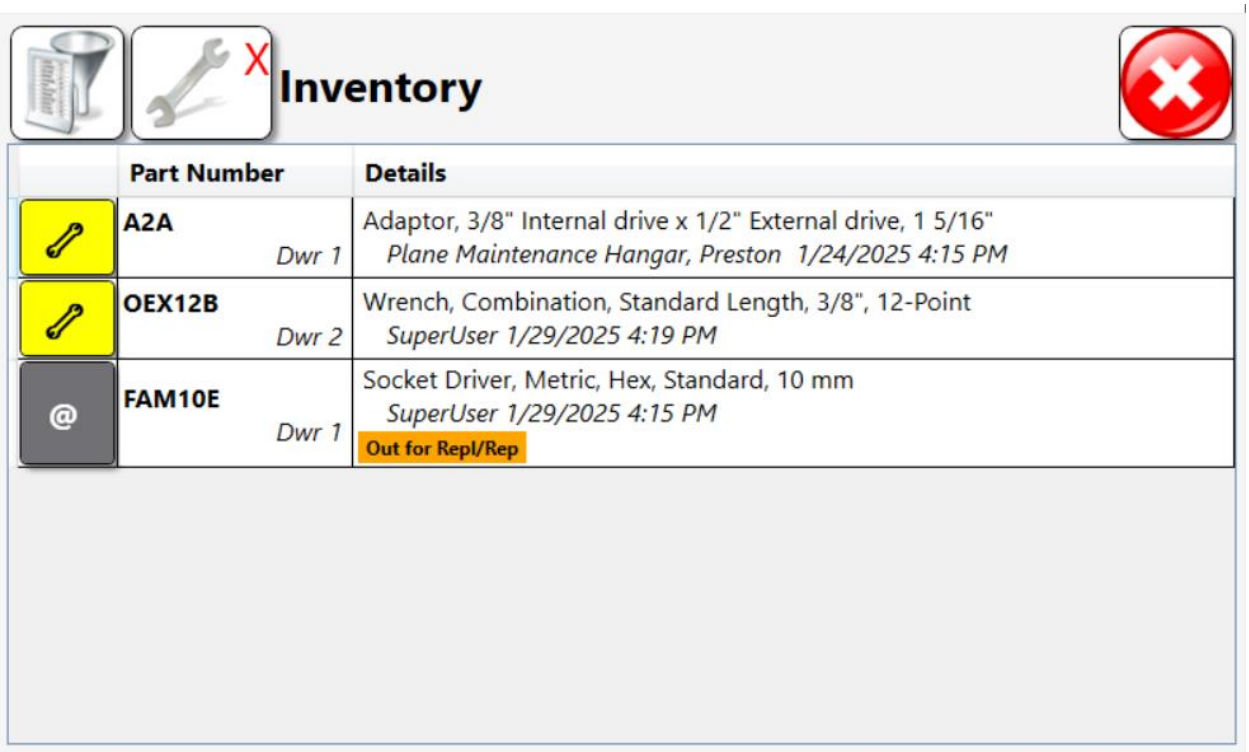


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Also from the main screen condition summary, we can click the yellow tools issued button. This button has a wrench icon on it and a number which is the number of tools issued to the currently selected user. In this case it is the number of issued tools for all users.



Clicking this button will take you to the tool inventory screen with the list of tools filtered to show issued tools.

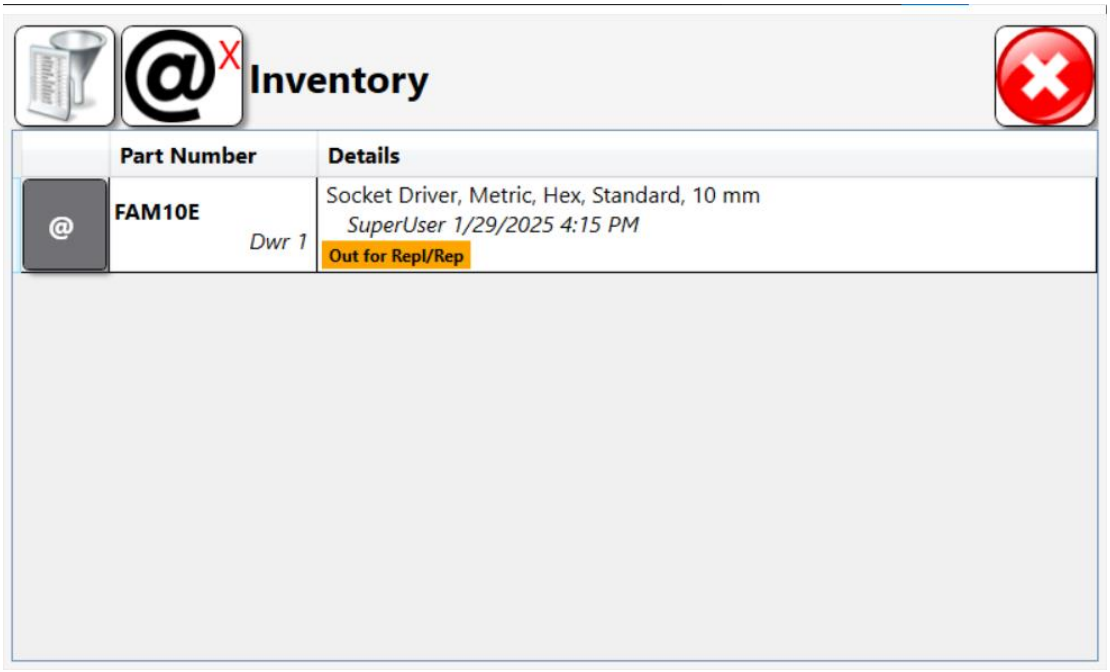


On the condition summary bar of the main screen there can also be a grey button with an ampersand symbol and a number. This shows when there are tools that are currently being managed out of the box, for example, a tool sent to the calibration lab. Even though these tools are issued, they aren't counted as issued tools on the issued tool button because they are accounted for in the system.

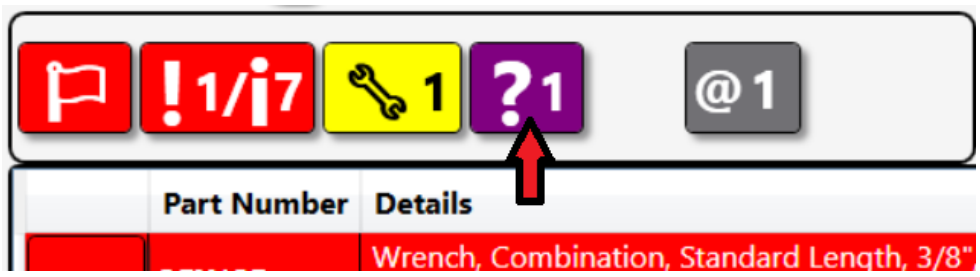
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Clicking this button will take you to the tool inventory screen with the list of tools filtered to show only tools managed out of the box.

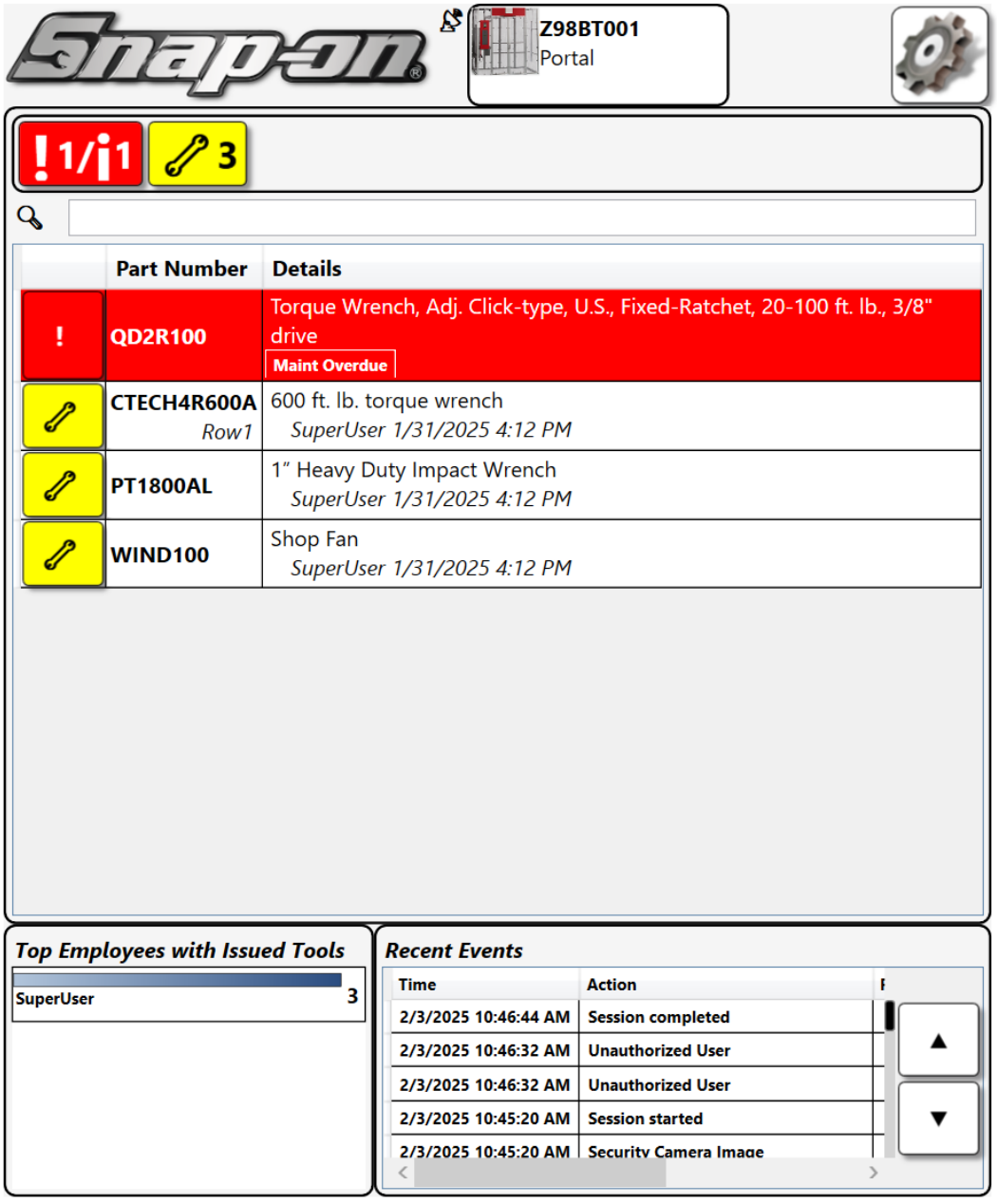


There is also a purple button that can show up because a user did not confirm a verification when requested. Alternatively, the system can be configured so that a user must confirm that they are returning another user's issued tool. If they do not confirm this tool return, the tool will be marked with a confirm declined status and the purple button will appear. More information about verifications can be found in the Verifications document.



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Devices that come equipped with a large monitor and keyboard will have a text-based search bar on the Main Screen Condition Control. This search bar will filter any tools that don't contain the string in the part number, description, storage sub-location, or issued to information.



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When a user begins a session by logging into a device, the Main Screen Condition Control will be replaced by device specific workflow or modified to show the status of the current session. The sections below will describe the modified session display/behavior for the relevant devices.

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ATC Toolbox/Locker Session

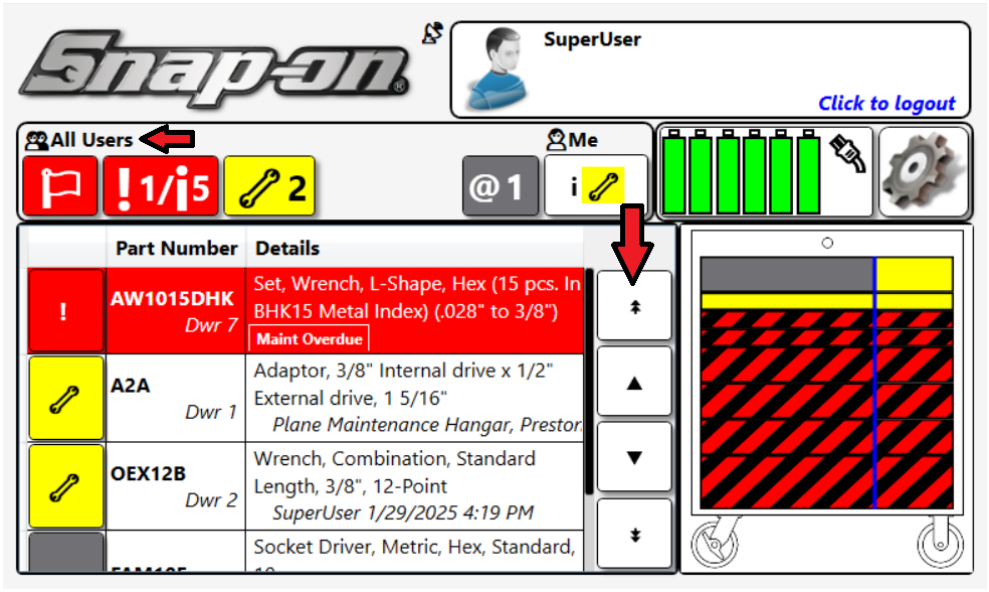
When a user is logged into an ATC Toolbox/Locker, the system will filter the information to show only his tool data. This is shown by the **Me** icon.



The system provides the ability for that user to toggle between this view and the view for all users' information. To do this, click the **All Users** button.



This will switch the display to show all user tool conditions. Notice that the icon showing the current display filter shows **All Users**. To switch back the user could click the **Me** button. You can also see that there are more tools in the tool list than before. For instance, there is a tool issued to a different user than the logged in user. You can see that if the list takes up more than the whole screen, the system will automatically add scroll buttons to move up and down the list of tools to the right side of the tool list.

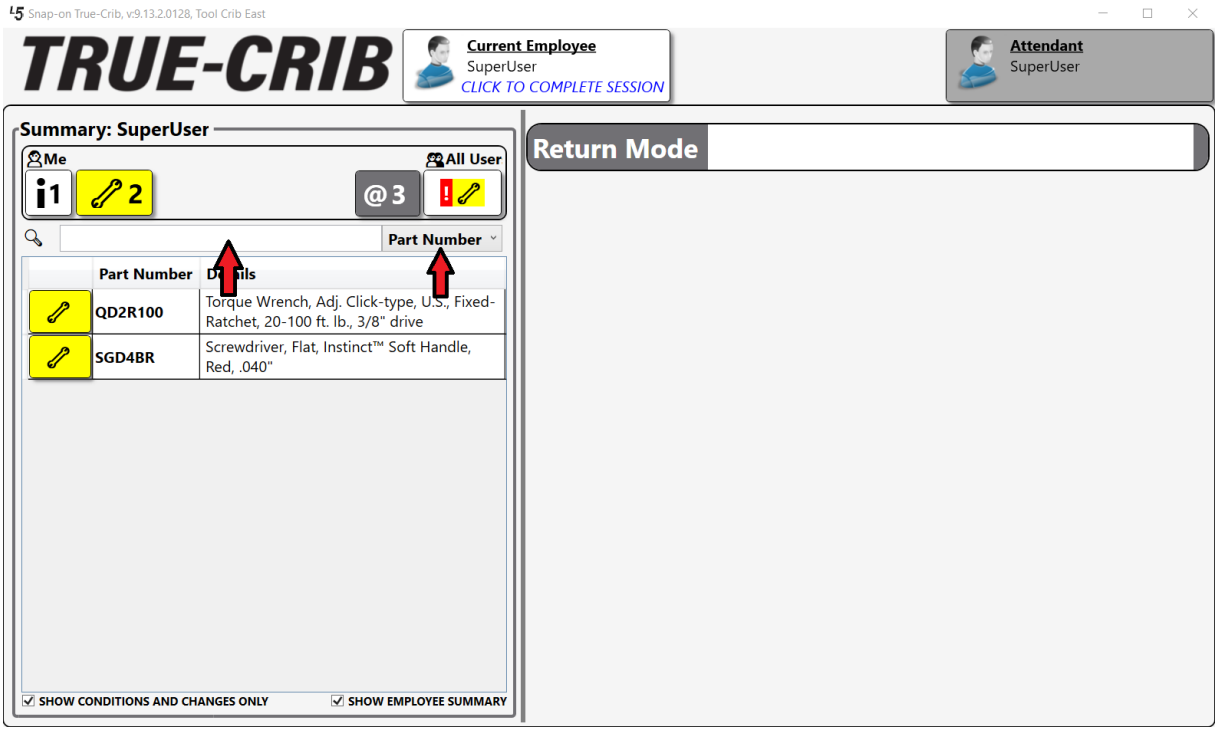


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Tool Crib Session Inventory Control

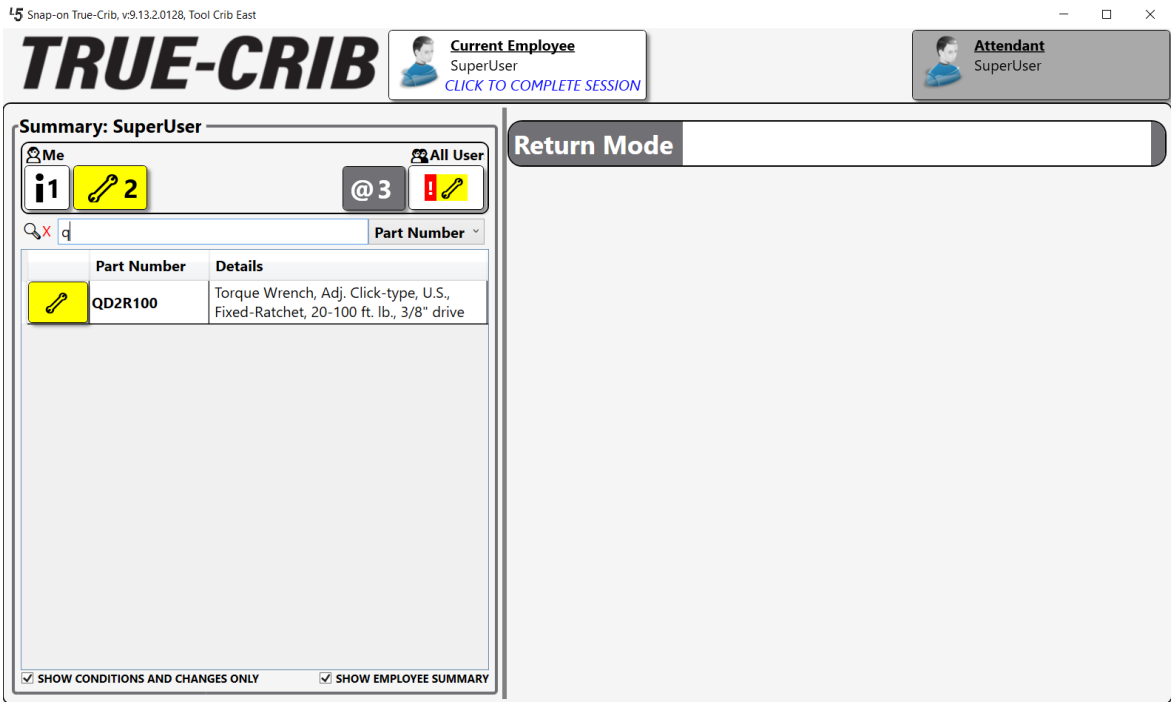
The tool crib uses a main screen dashboard like the Admin application and does not have a logged-out inventory list. To get to the tool condition control, a user has to begin a session by scanning their badge with an attendant logged in or the crib configured for non-attendant mode.

At the beginning of the session the main screen will show the tool condition list with the same condition summary bar above it as was explained for the toolbox. There are a couple of additional features, however. Sandwiched between the condition summary bar and the tool condition list is a search bar with a field selector.

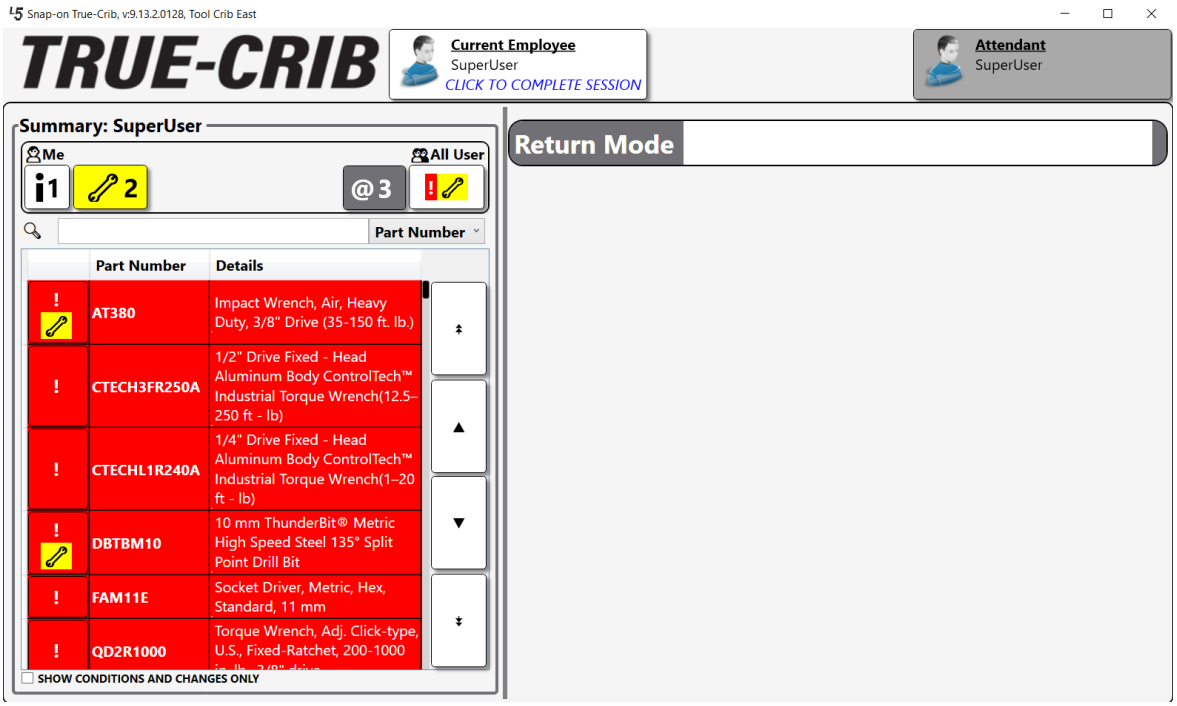


You can select the tool field on which you would like the search to be based, and then as you start typing, the list will be filtered based on the text compared to the field you selected. **NOTE: The characters are not case sensitive.**

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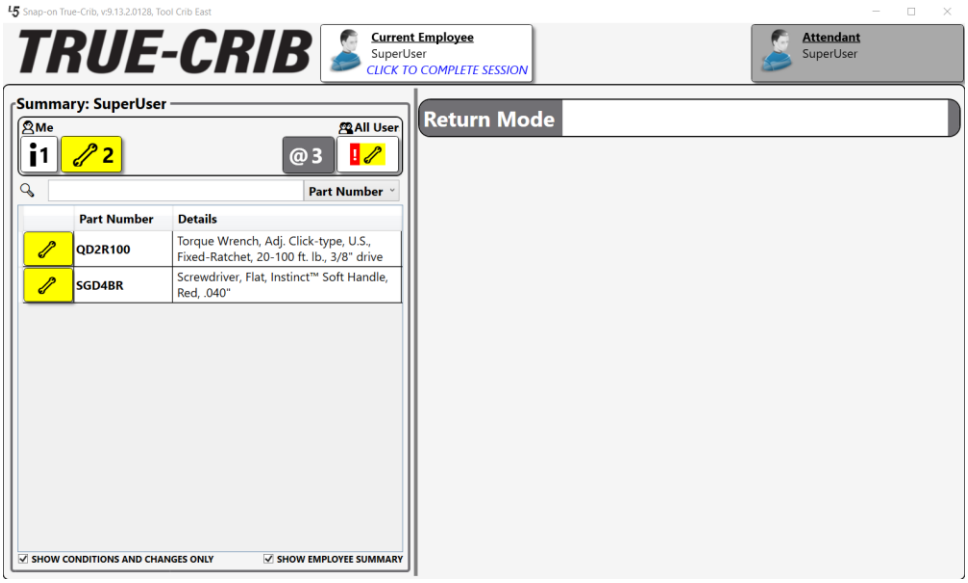


At the bottom of the list there are two checkboxes. The **SHOW CONDITIONS AND CHANGES ONLY** checkbox will toggle between showing only the tools with a condition such as a status or a change, such as a tool being issued. If you toggle this checkbox, all tools in the device will be listed, sorted by tools with conditions and changes at the top.

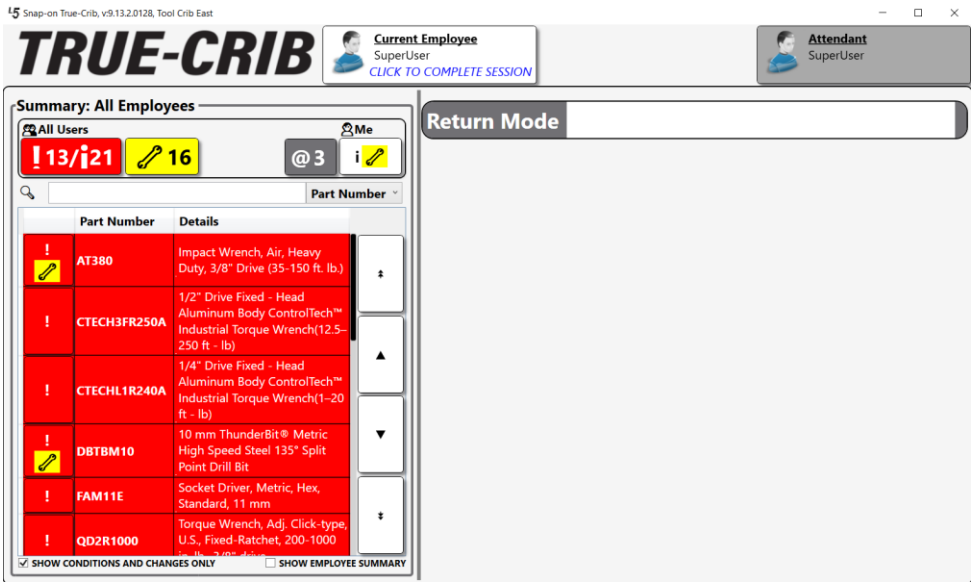


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Notice that even though the list was filtered for the session user, the complete list of tools in the device is shown. If we re-check the **SHOW CONDITIONS AND CHANGES ONLY** checkbox, the system returns to showing only the tools with conditions or changes filtered to the session employee.



Now if we uncheck the **SHOW EMPLOYEE SUMMARY** checkbox, this has the same effect as if you clicked the button on the condition summary to toggle between all users and the current session user. The complete tool list will be shown sorted with the tools with condition or changes at the top.



Notice that the condition summary changed to show **All Users** instead of **Me**. If you either recheck the **SHOW EMPLOYEE SUMMARY** checkbox or click the **Me** button, it will toggle back to showing just the tools for the session employee.

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Batteries

Some of the devices in the L5 Connect™ system use batteries. This document will provide a central location for all information related to managing these batteries for your L5 Connect™ system.

Battery Info and Safety Information

Information and safety data for the smart batteries used in the toolboxes and RFID cabinets can be found in the Battery Information document.

Devices with Batteries

L5 Connect toolboxes and lockers contain internal smart batteries for their UPS and some of the boxes also come with a 6 bay battery pack of smart batteries. These systems are designed to warn you when the system is low on power and eventually shut the system down in a controlled fashion if remaining power gets to a critical point.

Optical Toolbox

The toolboxes have two battery configurations. All toolboxes Gen3 or higher have an internal UPS battery to ensure data is not lost if power is lost to the box. Some models of toolboxes also have six external swappable batteries so that the toolbox can be used in a cordless environment for up to 16 hours.

RFID Cabinets

RFID cabinets contain an internal UPS battery to ensure data is not lost if power is lost to the cabinet.

Domestic Portals and FlexHubs

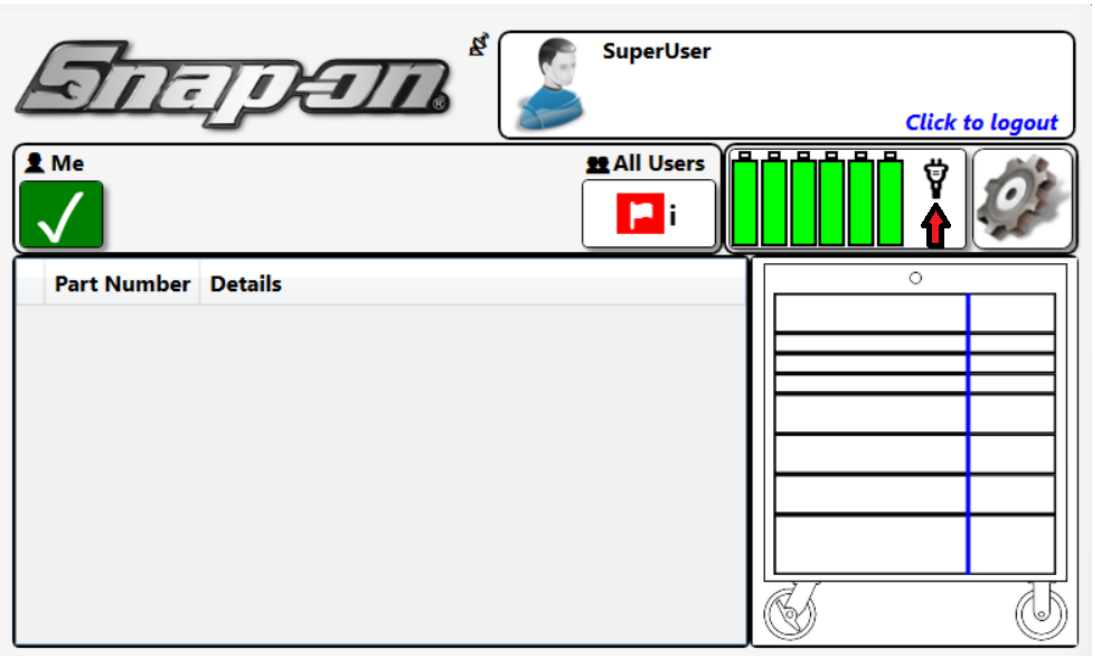
These devices contain an internal UPS. However, the software does not display any status information related to the UPS on these devices.

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On Screen Battery Indicators

Optical Toolbox

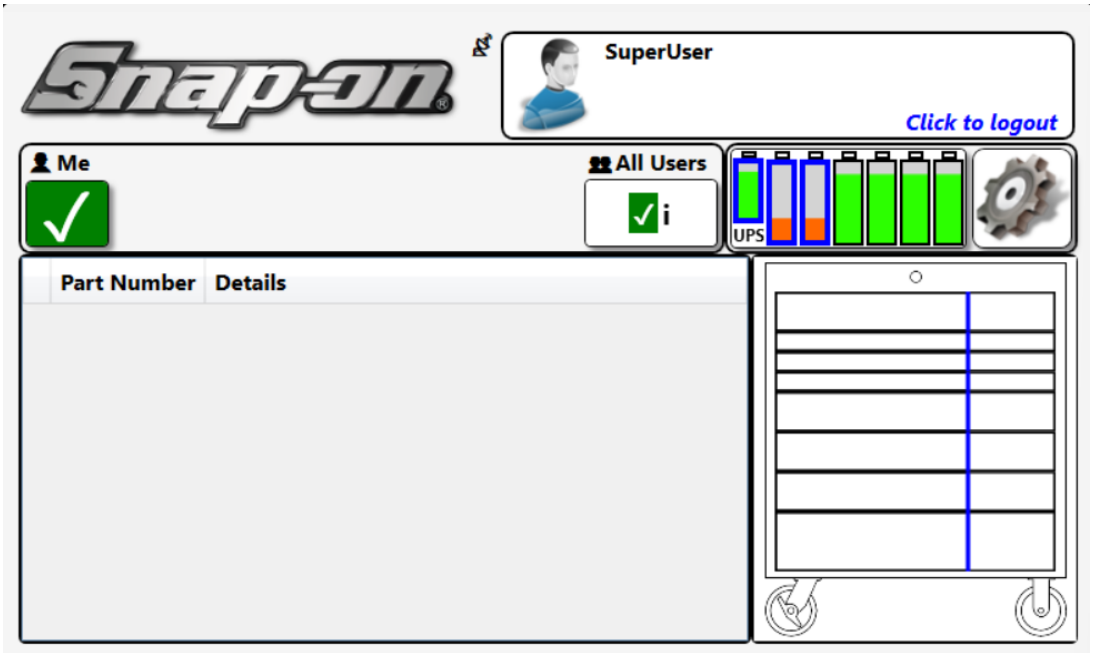
The main screen of the toolbox will show the basic status of the batteries. Here is an example of a toolbox that is currently plugged into an AC power outlet with the batteries fully charged. The Green color of the batteries and the lack of a lightning bolt shows that they are fully charged. The power plug symbol to the right of the batteries signifies that the system is currently running on AC power.



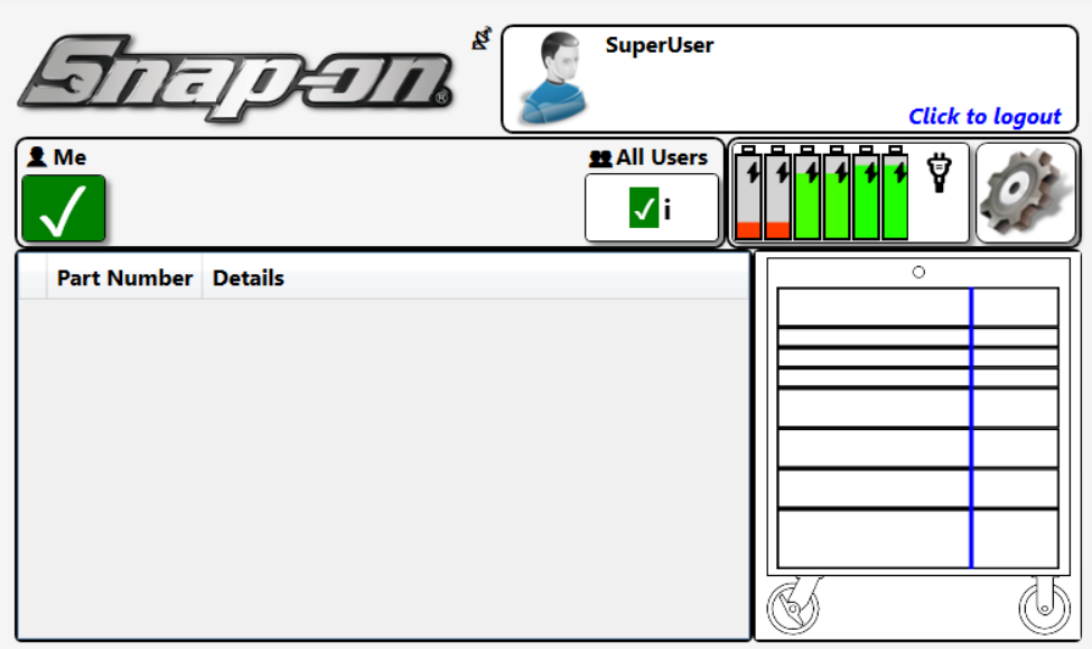
Once the system is removed from AC power it will begin to discharge the batteries, starting with the UPS battery. It will discharge the UPS battery to 85% and then switch to discharging the other batteries to 85%. Once this happens it will switch to discharging the regular batteries two at a time until they are discharged. This discharge pattern is designed to help prevent batteries from losing the ability to properly discharge and recharge after being connected to AC power for a long period of time. As the batteries get lower on power the color of the battery displays will

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change to highlight the level of charge in them.

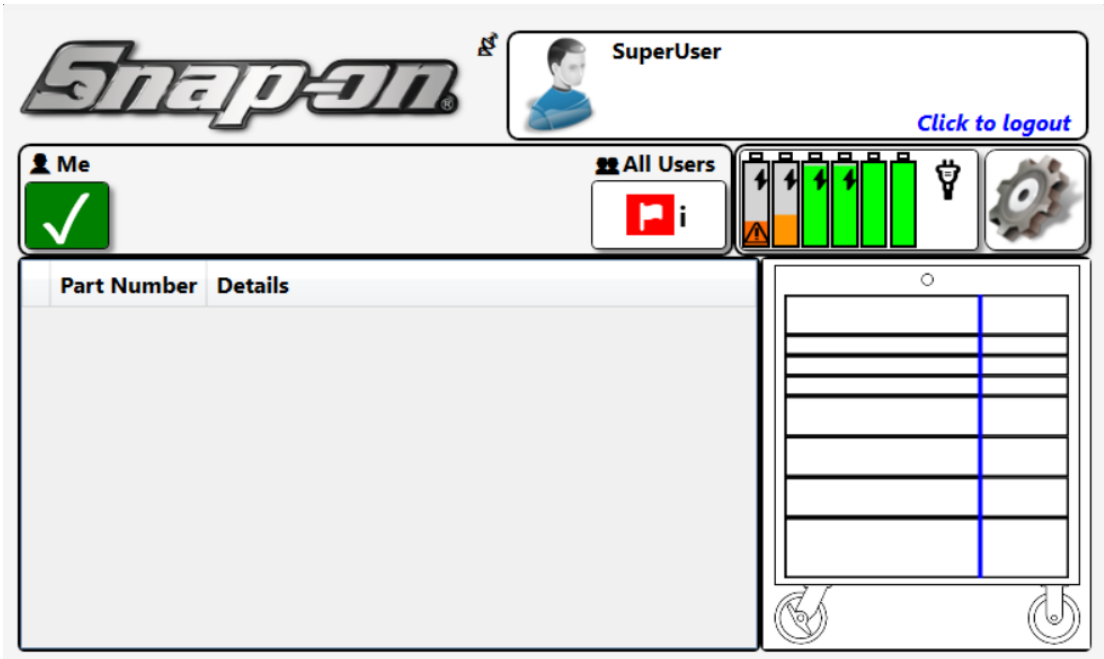


Once the toolbox is plugged into a power outlet you will see the charging symbol on the batteries to let you know they are charging. The power plug symbol also returns.

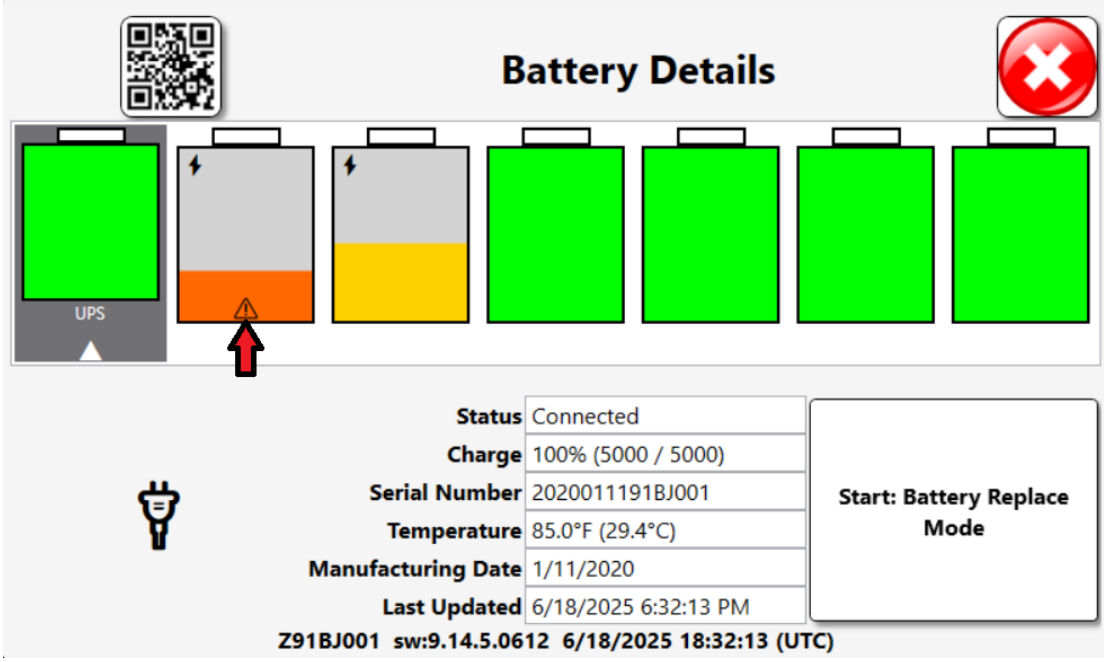


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If one of the batteries gets an error, you will see a warning symbol displayed on that battery.

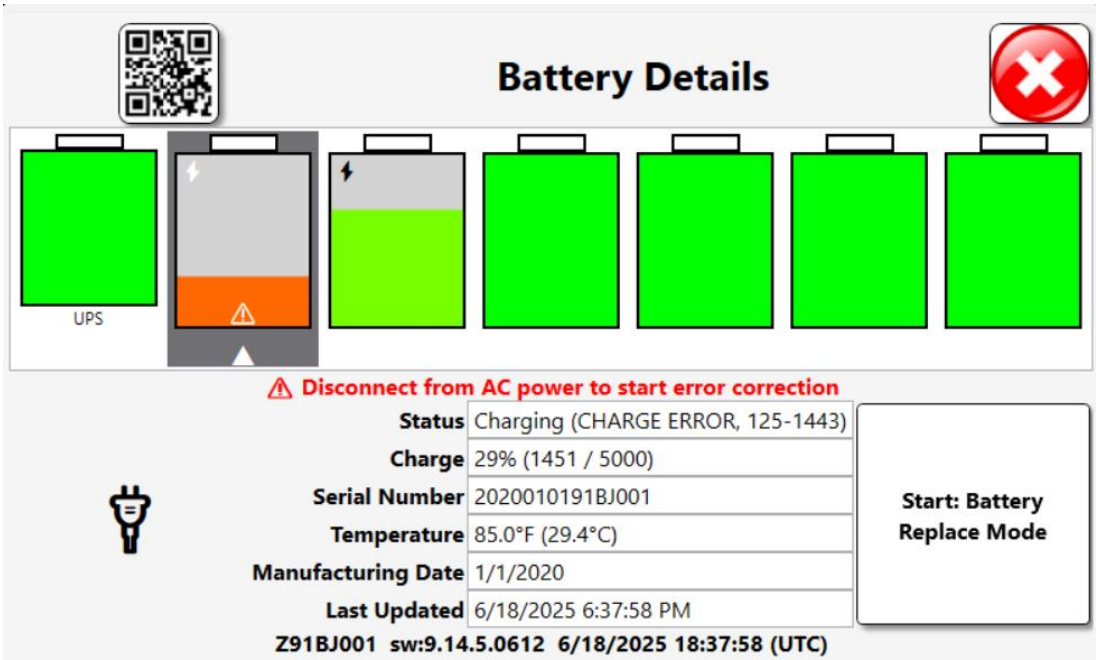


To get more information about that error you can click on the battery display portion of the screen. This will bring up the **Battery Details** screen. You can then click on the battery with the issue to see more details about that battery.

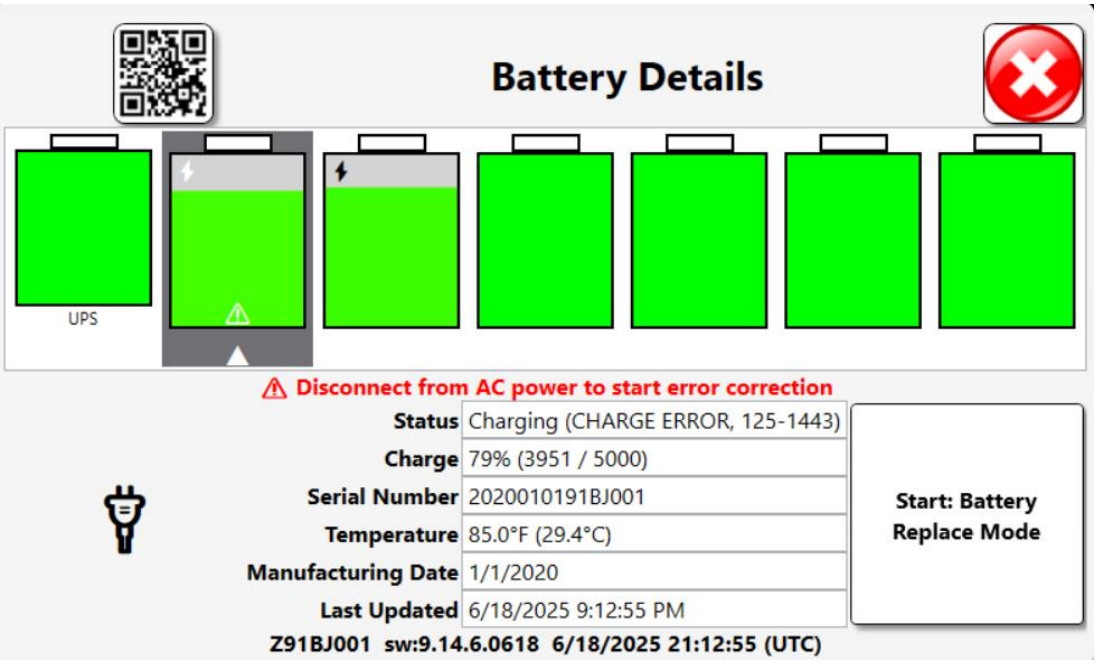


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Then you can see that this battery has a charge error and how to correct this error.



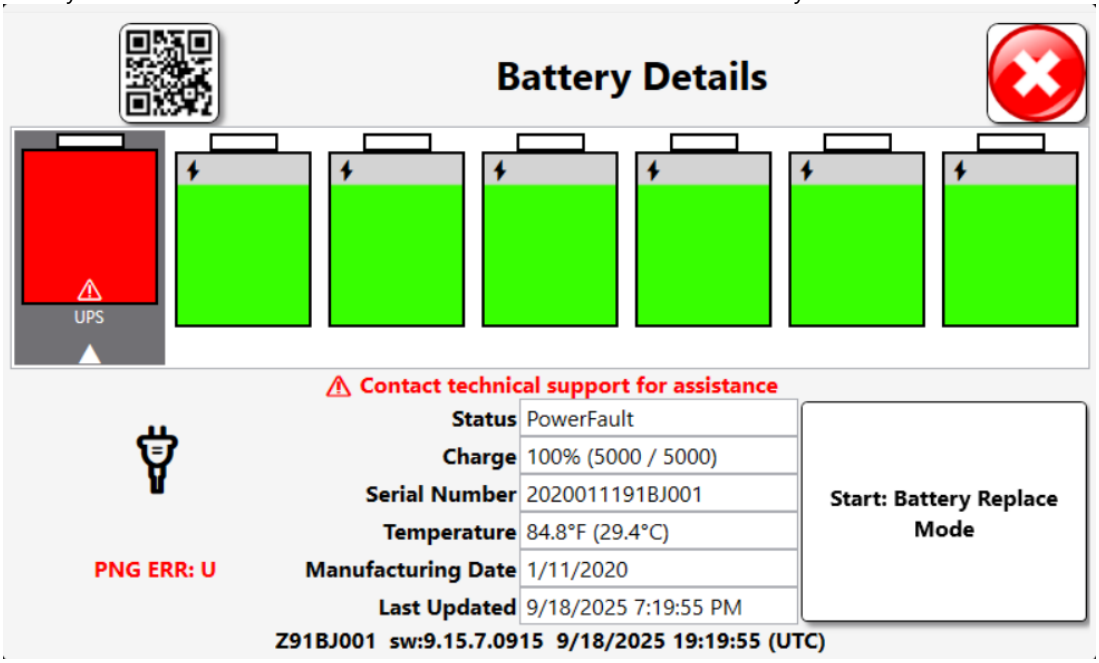
Disconnecting the box from AC power will cause the recovery process to begin.



This will drain the batteries down and should clear the charge error. The system can then be restored to AC power.

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You may also see a power fault on one or more of your batteries. This can happen even if the box is an AC unit or a battery box with the batteries removed because there is still the UPS battery in either case.



You can see under the AC power cord symbol a PNG(Power Not Good) error. The code corresponds to the following options.

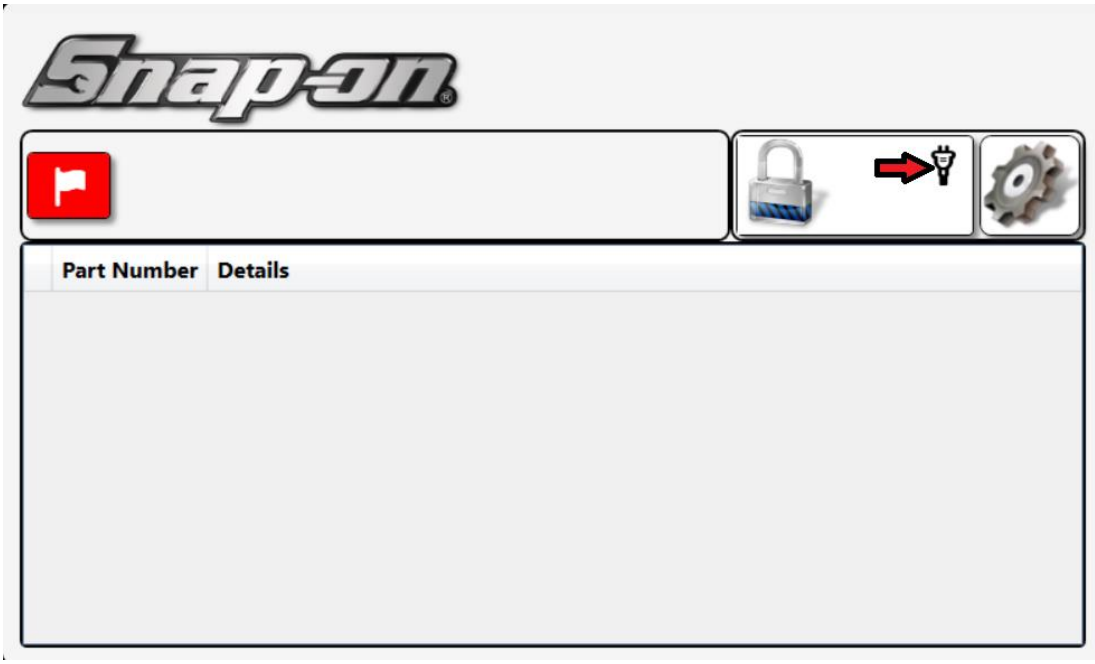
- U - UPS battery
- 1 - First pair of batteries
- 2 - Second pair of batteries
- 3 - Third pair of batteries

**NOTE: When you see this error you should contact Pro Services for assistance.

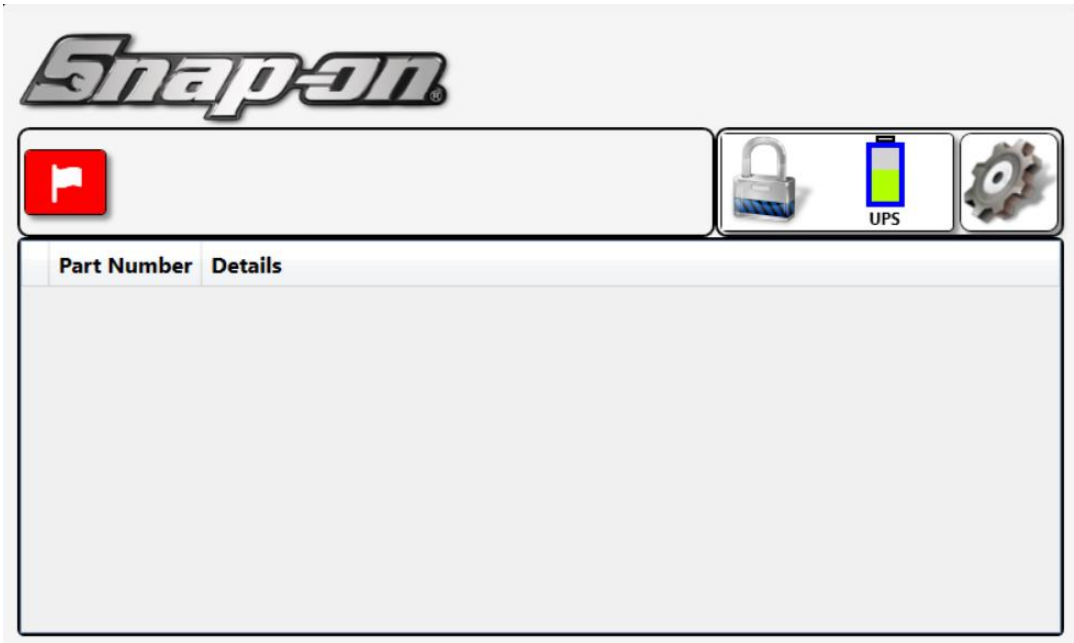
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RFID Cabinet

The tool locker devices only have an internal UPS battery. The Main screen shows the power plug symbol when the system is plugged into AC power.

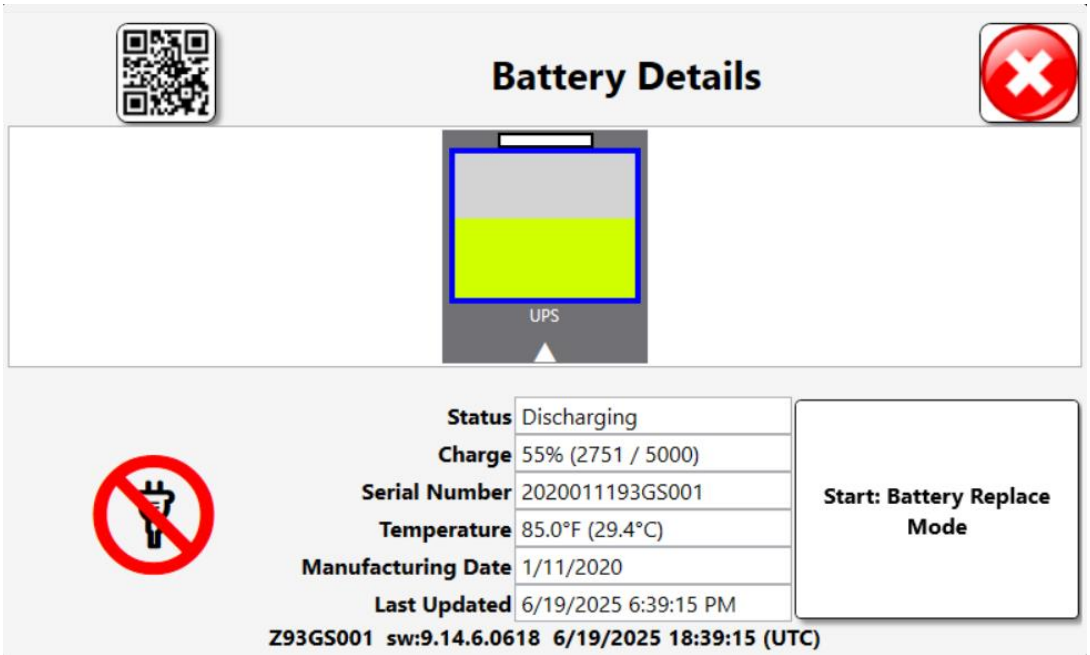


Unplugging the device from AC power will cause the main screen to show an image of the UPS battery with the color filling the battery changing and shrinking as it loses charge.



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At any time, you can tap the area of the screen where the plug or battery are shown to see the battery details.

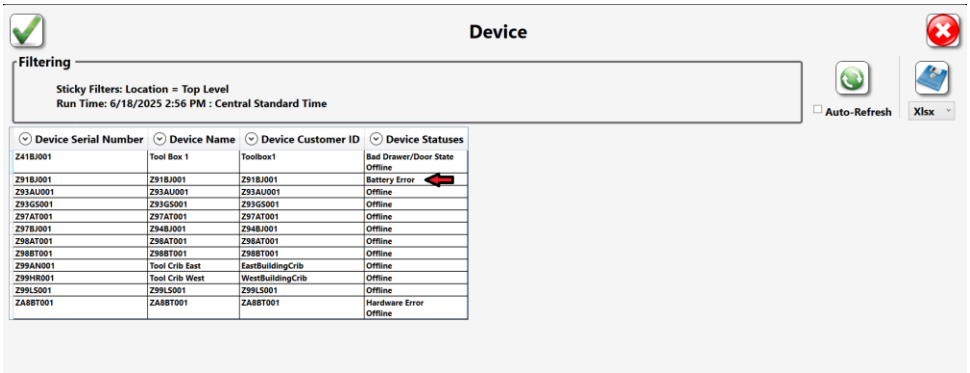


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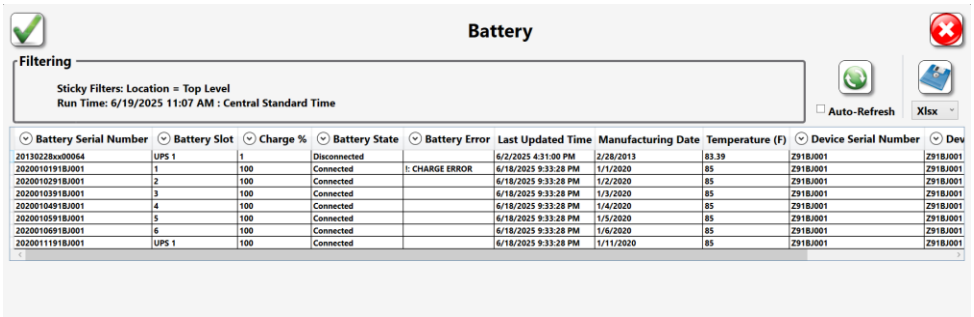
Battery Report

The L5 Connect system provides built-in reports that will help you to monitor the status of your devices that rely on batteries. There is a device report which can tell you if any of your devices have battery errors. When you run the device report make sure that you have included the **Device Statuses** column. If this column isn't checked in the default report, you can find more information on how to customize reports in the following the following link.
L5 Connect Reports

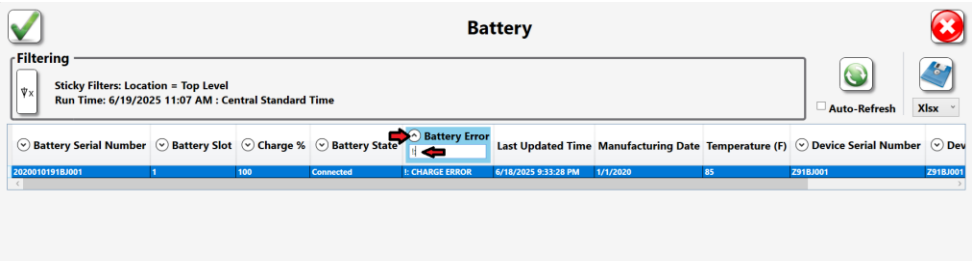
Including device statuses in this report will show you any of your devices that currently have a **Battery Error** status.



Once you have identified that there are battery errors, you can get more information about these errors by running the **Battery** report. This report includes a great deal of information about the batteries in your devices, including a **Battery Error** column that tells you what kind of error the battery has.



The types of errors you could potentially have for a battery are **!: CHARGE ERROR**, **!: POWER FAULT**, or **!: BATTERY FAILED**. If you want to filter the report to only show batteries with an error, just click the **Filter** pull down button and enter "!:" into the text box.



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Battery Subscriptions

The L5 Connect system provides ways for you to regularly monitor the state of your batteries by using subscriptions. We recommend monitoring your batteries closely to maintain their health and functionality.

Status Notifications

You can configure the L5 Connect system to alert you with a text message or email when a **Battery Error** status occurs. To make that work, you would need the contact information configured in your employee profile, your L5 Connect system configured to support an SMTP mail server (for email delivery), and then the notification itself configured. Notification set up information can be found in the Notifications document.

Scheduled reports

You can also configure the L5 Connect system to schedule the previously mentioned device and battery reports to be run and sent to you on a periodic basis. Then all you have to do is check your email to see a report of the current state of your devices and their batteries. Scheduled report setup information can be found in the Scheduled Reports document.

Best Practices for Battery Maintenance

The Battery Maintenance Best Practices document contains the best practices for keeping your batteries performing at peak performance.

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Error Codes

124-1443 (DATA ERROR)

- Battery is unable to communicate
- Caused by poor connection to battery OR a **BATTERY FAILED** that was never removed from the device
- Poor connection can be addressed mechanically.
    - Eject the battery and verify the contacts are clean and undamaged.
    - Reinsert the battery.
    - Verify the securing tab is seated in the slot on top of the battery bay
    - If the error persists, contact Snap-on Technical Support for additional information.
        - Please provide the following information.
            - Toolbox serial number
            - Battery serial number
            - A description of when the error started and how often it occurs

125-1443 (CHARGE ERROR)

- Battery is unable to charge
- Caused by not being discharged for long periods of time (common in devices always connected to AC Power)
- An audio message will play regularly when a CHARGE ERROR has been detected
- Recovery Process
    - Disconnect from AC power
    - Wait until all CHARGE ERRORS have been cleared
    - Continue to wait until all batteries have been discharged to a level of 85% or below
    - Reconnect AC power

126-1443 (BATTERY FAILED)

- Battery is unable to discharge or charge
- Caused by an uncorrected CHARGE ERROR (see above)
- Battery is most likely not recoverable and will need to be replaced.

134-1443 (NEEDS CHARGE)

- Battery charge level is extremely low.
- Caused by long shelf storage durations.
- Battery should recover through normal charging process.

POWER FAULT

- Battery is unable to discharge
- Caused by charger safety shutoff (most likely due to current spike)
- Contact Snap-on Technical Support for additional information.

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- Please provide the following information.
  - Toolbox serial number
  - Battery serial number
  - A description of when the error started and how often it occurs

DEVICE WILL NOT POWER ON

- No lights or sounds visible
- Possibly caused by POWER FAULT on all battery circuits
- Contact Snap-on Technical Support for additional information.
  - Please provide the following information.
    - Toolbox serial number
    - Battery serial number
    - A description of when the error started and how often it occurs

BATTERY DISPLAY BLANK

- No battery information visible on front or battery details screen



- Contact Snap-on Technical Support for additional information.
  - Please provide the following information.
    - Toolbox serial number
    - Battery serial number
    - A description of when the error started and how often it occurs

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ATC Toolbox

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ATC OP Guide

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SAFETY INFORMATION

For your safety, read this manual thoroughly before the installation of the equipment.

Installation is intended to be performed by properly trained technicians. The safety messages presented here are reminders to the installer to exercise extreme caution during installation and training on the system.

There are many variations in procedures, techniques, tools, and parts for installation due to varied shop configurations.

Because of the vast versatility of installation, the manufacturer cannot possibly anticipate or provide advice or safety messages to cover every situation. It is the technician's responsibility to be knowledgeable of the equipment to be installed. It is essential to use proper service methods and perform installation in an appropriate and acceptable manner that does not endanger your safety, the safety of others in the work area, the end-user, or the equipment being serviced.

It is assumed that, prior to the installation of the system, the operator has a thorough understanding of Automated Tool Control Systems in general. In addition, it is assumed they have the proper hand and power tools necessary to perform the installation, operation, and training in a safe manner.

These safety precautions should always be followed, including:

1. Read all instructions.
2. Care must be taken as burns can occur from touching hot parts.
3. Do not operate power tools or equipment with a damaged power cord or if the equipment has been dropped or damaged until it has been examined by a qualified serviceman.
4. Do not let the cord hang over the edge of the table, bench, or counter or come in contact with hot manifolds or moving fan blades.
5. If an extension cord is necessary, a cable with a current rating equal to or more than that of the equipment should be used. Cords rated for less than the equipment may overheat. Care should be taken to arrange the cable so that it will not be tripped over or pulled.
6. Always unplug equipment from the electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
7. Let equipment cool entirely before putting it away. Loop cord loosely around equipment when storing.
8. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids, such as gasoline.
9. Adequate ventilation should be provided when working on operating internal combustion engines.
10. Keep hair, loose clothing, fingers, and all parts of the body away from moving parts.
11. To reduce the risk of electrical shock, do not use it on wet surfaces or exposed to rain.
12. Use the device only as described in this manual. Use only the manufacturer's recommended attachments.
13. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact-resistant lenses. They are NOT safety glasses.
14. Know and understand the proper operating procedures for all power tools used.
15. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
16. Danger: Mirror could have sharp edges, be careful of cuts along the edge of the glass when cleaning!!!

IMPORTANT!! SAVE THESE INSTRUCTIONS DO NOT DISCARD!!

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WARNING!

SAFETY INSTRUCTIONS
IMPORTANT!! SAVE THESE INSTRUCTIONS



Risk of electrical shock.

- Do not operate equipment with a damaged power cord or if the equipment has been dropped or damaged until it has been examined by a qualified service person.
- If an extension cord is necessary, a cable with a current rating equal to or greater than that of the equipment should be used. Lines rated for less present than the equipment can overheat.
- Unplug equipment from the electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
- Do not expose the equipment to rain. Do not use it on wet surfaces.
- Plug the unit into the correct power supply.
- Do not remove or bypass the grounding pin.
- Do not use a replacement main power cord that does not meet the power rating of the original cable. SJTW 18/3 105°C, 10', 10A/125-240~VAC

Contact with high voltages can cause death or severe injury.



Risk of electrical shock. High voltages are present within the console unit.

- Service on the unit must be performed by qualified personnel.
- Do not open any part of the control shelf other than the noted areas.
- Turn the power switch off and unplug the unit before servicing.

Contact with high voltages can cause death or severe injury.





Units can tip or strike you.

- Do not open more than one loaded drawer at a time.
- Keep children away
- Close lid and lock drawers and doors before moving.
- Apply brakes on locking casters when not moving unit.
- Do not step in or on drawers.
- Secure units together with fasteners.
- Read the instruction manual.

Tipping of storage unit or unit striking you can cause injury.





Unit's edges can cut or pinch.

- Do not pull unit; push to move.
- Wear gloves when lifting by edges.
- Keep feet and fingers clear of edges when stacking hanging or moving units.

Unit's edges can cause injury.





Do not dispose a landfill.

- The unit contains electronics that must be disposed of within the bounds of EN 50149.
- Dispose of lithium-ion batteries (where applicable) in accordance with local laws.
- For more information, call 1-800-424-9300 for North America or 1-703-527-3887 for International.

SAVE THESE INSTRUCTIONS

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Device Overview

Optical Toolbox

The ATC Optical Toolbox works at the speed you do. A user opens the box, gets the tools, and goes to work. Other systems require additional steps to scan or log activity. We do it automatically, so you don't waste time, and you don't need to depend on other measures to ensure accurate results.

Advanced Technology that Makes Tracking Tools Simple.

With advanced digital imaging technology and proprietary software, the Toolbox scans the tool drawer and records which tools are removed and replaced in real-time. So, you know where everything is always at without slowing the technicians for even a second. The system is also aware of broken tools, allowing you to replace or repair them right away. It's tool control that works hard to keep technicians working at their best.

Features and Benefits

- No individual tool scanning required
- No RFID tags to install or replace
- No limit on tool size – If it fits in the drawer, it works
- Intuitive touchscreen interface
- Audible voice confirmation of tool removal and replacement
- Automatic locking
- Audio feedback on issued and returned tools and alerts
- 10.1" Widescreen 16:9 LED Resistive touchscreen
- Optional Black Powder Coated Paint top vs. Stainless Steel
- Dual wireless antennas for improved connectivity
- Hardware – 64-bit processors with 8GB RAM
- Uninterruptable power supply – 30 minutes of backup power

AC and Rechargeable Platforms available:

- 36" single bank roll cab, approximate capacity 450 tools
- 54" single bank roll cab, approximate capacity 750 tools
- 6, 7, and 8 Drawer mobile and Stationary
- Custom drawer configurations available
- Stainless or Black Powder coated tops

Features and Specifications

- One year Manufacturer's warranty
- One, Two, and Three-year Manufacturers Contracts Available
- Unlimited number of assigned users
- Networking through Ethernet or wireless

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RFID Cabinet

The ATC RFID Cabinet provides automated asset tracking to irregularly shaped items, like extension cords, tools kitted in plastic or fabric carrying cases, and personal protective equipment. In addition, the RFID Cabinet makes tracking large and awkward-sized tools and assets easy.

Features and Benefits

- The RFID Cabinet powered by advanced RFID technology and proprietary software can track Critical Industry workplace assets in real-time.
- Track serialized items like torque wrenches, multi-meters, micrometers, and more.
- Heavy-duty metal shelves with foam bear the weight of larger tools and assets
- Onboard AC power strip allows for secure recharging and storage of power tools
- Intuitive touchscreen interface
- Audible voice confirmation of tool removal and replacement
- Automatic locking
- Audio feedback on issued and returned tools and alerts
- 10.1" Widescreen 16:9 LED Resistive touchscreen
- Dual wireless antennas for improved connectivity
- Hardware – 64-bit processors with 8GB RAM
- Uninterruptable power supply – 30 minutes of backup power

Specifications

- One year Manufacturer's warranty
- One, Two, and Three-year Manufacturers Contracts Available
- Unlimited number of assigned users
- Networking through Ethernet or wireless
- Available in a variety of colors

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Maintenance Guide

Introduction

Thank you for your purchase of a L5 Connect™ ATC Device. This guide will inform you of basic upkeep and maintenance actions used to keep your ATC device functioning at peak performance.

This guide's first section will introduce you to your device and some essential operation and maintenance tips to keep your Device in working order for many years to come.

If at any time you require technical support for your ATC device, you can contact Snap-on® Technical Support at:

E-mail: **INDPROSERVICES@snapon.com**

Our technical support agents are standing by, ready to assist you with any questions or issues you may have.
Once again, thank you for your purchase, and welcome to the L5 Connect™ family.

General Instructions

Regular operation requires common sense care of the L5 Connect™ Device. Below are some specific dos and don'ts to follow.

Do	Don't
• Close drawers in a normal fashion	• Slam drawers closed
• Clean tools before replacing into foam cutouts	• Place objects into drawers that do not have cutouts
• Keep toolbox clean	• Allow the foam to get dirty
• Respect the ATC system for what it is intended to do for you	• Use in the rain or in wet conditions
• When touching the touch screen do so with clean hands	• Reach inside drawer to retrieve tools beyond camera view
• Keep touch screen clean	• Place tools directly onto foam, place tools in their cutout
• Use only your fingers on the touch screen	• Modify cutouts
• Keep box locked when not in use	• Plug unit into a voltage source other than that specified
• Logout when not present at the box	• Strike or beat on box
• Lock wheels when in use	• Attempt to open the box top
• Make sure all drawers are closed before moving box	• Plug any device into box USB ports
• Only move box with attached handle	• Step onto or into open drawers
• Use only Snap-on approved RFID tags and follow install instructions in the L5 RFID Tag catalog	• Turn off power switch before shutting down the ATC system through the touch screen interface first
	• Expose toolbox to direct sunlight, the toolbox should not be positioned in such a way that sunlight can hit the drawers. Sunlight may cause incorrect drawer scans which can result in Incorrect or Wrong tool errors.

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Device Specific Maintenance

ATC Toolbox

The cameras, mirror and the dot strips in the drawers are the functional components of the ATC toolbox imaging system.

Inspect and Clean the Mirror

- The mirror is positioned at 45° above the front of the top drawer. To visually inspect the mirror, view it from underneath and look for grease or oil smears, dirt or dust. In older units, look for etching and defects in the surface.
- You may need to view it from both left and right side.
- Alternatively, mirror defects can be viewed in the images called up in the calibration routine.

Note: The ATC mirror is a front surface mirror and requires special care when cleaning.

Cleaning

- If the mirror surface is dusty, use a microfiber cloth with water, otherwise clean the mirror using only a microfiber lens cleaning cloth.
- To remove grease or oil, wipe excess material from the surface with a soft cloth, then clean the mirror with a soft microfiber cloth and Isopropyl Alcohol
- **Note: Use Isopropyl Alcohol sparingly. Cleaning too frequently with ISO Alcohol can result in damage to the reflective surface**
- DO NOT use any other chemical or glass cleaner on the mirror. It will damage the mirror and may void the warranty!

Inspect and Clean Dot Strips

- Use a flashlight to periodically inspect all dot strips for presence of shiny spots and defects caused by contaminants or surface damage. Shiny defects may saturate the camera pixels and interfere with proper operation of the system.
- Ensure there are no foreign materials or obstructions extending onto the strips.
- Use a soft cloth and mild cleaning solution to wipe down dot strips inside each drawer.

Care and Cleaning of Tool Foam and Base Layer

- Clean all objects prior to returning them to the appropriate silhouette.
    - If the items are not cleaned, oil, grease, and other contaminants are transferred from the item to the blue foam edge and the bottom yellow layer.
    - The presence and absence determination depends largely on the yellow color in the base layer. If it changes too much due to transferred contaminants, it will affect the performance of the ATC imaging system.
- Periodically clean the blue foam silhouette edges and bottom yellow layer with a commercially available detergent cleaner / degreaser.
- *Note that the hex bit pockets are particularly susceptible to contamination and color change*. If your ATC system issues excessive wrong tool warnings on hex bits, Snap-on offers the kit HEXPLUGS100, a package of 100 yellow plugs specifically designed to fit into the bottom of the hex bit silhouette.

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Inspecting LED's

The LED's are very bright, do not stare at them for extended length of time
ATC units assembled prior to April 2023 have a set of LED's in the front and two sets of LED's mounted on the camera beam in the rear. For units assembled from April 2023 and after, all LED's are mounted on the camera beam.

- Use the mirror to inspect the rear LED's by viewing them much the same as inspecting the mirror.
- Look for burned out or missing LED's
    - You may need to view it from both left and right side.
- To inspect the front LED's, open a lower drawer and the LED's illuminating the lower drawers will come light up.
-

In all cases, **look for dead or burned-out LED's**. If any LED's are out replace the LED strips.

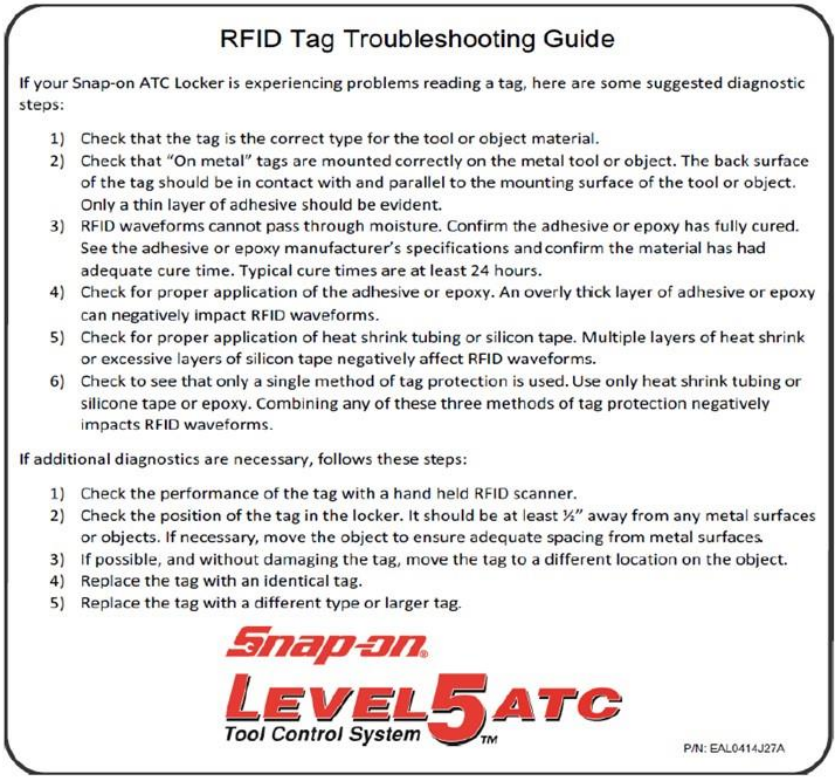
ATC RFID Locker

RFID Tag Installation - BEST PRACTICES

The proper performance of your Snap-on RFID Locker depends on many factors. One of the most important of these is the proper mounting of the Tag to the asset. Best Practices for correctly mounting tags on tools is covered in the document **"TL5331J00B4 RFID Tag Catalog."**

A copy of the RFID Tag Catalog is included in the literature pack of each locker.

RFID Tag Troubleshooting guide



RFID Tag Troubleshooting Guide

If your Snap-on ATC Locker is experiencing problems reading a tag, here are some suggested diagnostic steps:

1) Check that the tag is the correct type for the tool or object material.
2) Check that "On metal" tags are mounted correctly on the metal tool or object. The back surface of the tag should be in contact with and parallel to the mounting surface of the tool or object. Only a thin layer of adhesive should be evident.
3) RFID waveforms cannot pass through moisture. Confirm the adhesive or epoxy has fully cured. See the adhesive or epoxy manufacturer's specifications and confirm the material has had adequate cure time. Typical cure times are at least 24 hours.
4) Check for proper application of the adhesive or epoxy. An overly thick layer of adhesive or epoxy can negatively impact RFID waveforms.
5) Check for proper application of heat shrink tubing or silicon tape. Multiple layers of heat shrink or excessive layers of silicon tape negatively affect RFID waveforms.
6) Check to see that only a single method of tag protection is used. Use only heat shrink tubing or silicone tape or epoxy. Combining any of these three methods of tag protection negatively impacts RFID waveforms.

If additional diagnostics are necessary, follows these steps:

1) Check the performance of the tag with a hand held RFID scanner.
2) Check the position of the tag in the locker. It should be at least ½" away from any metal surfaces or objects. If necessary, move the object to ensure adequate spacing from metal surfaces.
3) If possible, and without damaging the tag, move the tag to a different location on the object.
4) Replace the tag with an identical tag.
5) Replace the tag with a different type or larger tag.

Snap-on
LEVEL 5 ATC
Tool Control System™

P/N: EAL0414J27A

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RFID Antenna test

- A process to check operation of the RFID antennas is available to administrator and maintenance users in the Maintenance menu.
- Call Technical Support at 1-800-940-2397 to obtain procedures to access the Antenna test function.

All Devices

LED Touchscreen Display

- If the LED display screen requires cleaning, spray window cleaner on a soft lint-free cloth and wipe down, making sure no liquids drip into the edges of the screen. Do not spray any cleaner directly onto the touch screen.
-

Recommended Monthly Battery Maintenance

- Inspect the Battery Details screen and address any detected battery errors.
- Models Z1x, Z3x, Z5x, and Z7x
    - Disconnect from AC power until all batteries (including the internal UPS battery if present) are at 85% or lower.
        - This should take approximately 4 hours to complete.
    - Connect to AC power until all batteries (including the internal UPS battery if present) are at 95% or higher
        - This should take approximately 4 hours to complete.
    - If any batteries fail to discharge to 85% or fail to charge to 95% please contact Snap-on Technical Support for assistance.
- Models Z4x, Z6x, and Z8x
    - Disconnect from AC power until the internal UPS battery is at 85% or lower.
        - This should take approximately 30 minutes to complete.
    - Connect to AC power until the internal UPS battery is at 95% or higher
        - This should take approximately 30 minutes to complete.
    - If the internal UPS battery fails to discharge to 85% or fails to charge to 95% please contact Snap-on Technical Support for assistance.

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Electrical Specifications

Connect to a grounded (Earthed) electrical outlet using a detachable cord set. The electrical outlet must be readily accessible. The maximum cord length is 3 meters.

Optical Toolbox

- Without External Batteries
  - AC Input: 100-240~, 3A Max, 60-50 Hz (+10%/-6%), 1-Phase
- With External Batteries
  - AC input: 100-240~, 5-3A, 60-5 Hz.(+10%/-6%), 1-Phase.

RFID Cabinet

NOTE: RFID Cabinet current rating includes customer devices connected to internal power outlets

- Americas / Japan:
  - AC Input: 100-120~, 15A, 60 Hz (+10%/-6%), 1-Phase.
- EU / Asia / Oceania
  - AC Input: 220-240, 10A, 50 Hz (+10%/-6%), 1-Phase

Internal Power Supply

- AC Input: 100-240~, 4-2A, 60-50 Hz. 1-Phase

Environmental Operating Specifications:

- Indoor Use Only
- Temperature Range: 0-50 °C
- Humidity Range: Maximum relative humidity 80% for temperatures up to 31 °C, decreasing linearly to 50% relative humidity at 40 °C
- Altitude Range: 0-2000 Meters
- Pollution Degree: 2
- Overvoltage Category: II
- Ingress Protection: IP20

Sound Pressure Level:

- On the drawer (operator) side @ 1 meter distance = 59.4 dBA
- On the back side @ 1 meter distance = 62.5 DBA

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Dimensions and Weight

- 54″ Toolbox
  - 54.14″ Wide
  - 33.04″ Front to Back
  - 57.80″ Tall
  - 550 lbs. (No Tools)
- 36″ Toolbox
  - 35.50″ Wide
  - 33.04″ Front to Back
  - 56.30″ Tall
  - 450 lbs. (No Tools
- RFID Locker
  - 36″ Wide
  - 33.11″ Front to Back
  - 75.23″ Tall
  - 550 lbs. (No Tools)

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Battery Info

! WARNING !



Only use Snap-on battery P/N: **2-04805A**.

The use of any other battery will void the manufacturer's warranty and could potentially damage the unit and/or inflict bodily harm. Batteries should only be charged by placing the batteries in a toolbox with the AC plugged into an electrical outlet or with an approved Snap-on Battery Charger model **L5A0298J21A**.

Battery Classification and Type

4.1 Battery Classification - SANYO Lithium-Ion Battery
4.2 Battery Type - 4UR18650A-3

Items		Specifications	Notes
5.1 Rated Capacity (Minimum)		5850 mAh	1290mA discharge at 20° C
5.2 Nominal Capacity (Minimum)		6000 mAh	1290mA discharge at 25° C
5.3 Nominal Capacity (Typical)		6300 mAh	Reference only
5.4 Nominal Voltage		14.4V	1290mA discharge at 25° C
5.5 Discharge End Voltage		12.0V	
5.6 Charging Current (Std.)		3.0V	0 ~ +45° C
5.7 Charging Voltage		16.44 +0.12/-0.12V	
5.8 Charging Time (Std.)		3.0 hours	Approx
5.9 Continuous Discharge (Max)		6.0A	0 ~ +60° C
5.10 Internal Resistance		less than 160Ω	AC Impedance 1 kHz
5.11 Weight		less than 920 g	
5.12 Operating Temperature	Charge	0 ~ +45° C	
	Discharge	-20 ~ +60° C	
5.13 Storing Conditions	less than 1 month	-20 ~ +50° C	Percentage of recoverable capacity 80% *
	less than 3 months	-20 ~ +40° C	
	less than 1 year	-20 ~ +20° C	

*Percentage of recoverable capacity = (Discharge time after storage / Initial discharging time) x 100. The discharging time is measured by the discharge current of 1290mA until 12.0V of end voltage after the battery is fully charged at 25º C.

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Battery Safety Instructions

Prohibited Instructions

The battery contains flammable objects such as organic solvents. If the battery is mishandled, it may cause fire, smoke, or an explosion, and the battery's functionality will be seriously damaged. Please read and check the following prohibited actions.



!Danger!

Immersion
"Do not immerse the battery in a liquid such as water, seawater, or soda."
If the protection circuit in the battery is exposed to liquid, the battery cannot be protected and may catch on fire, smoke, explode, or generate heat by the unexpected electrical load.

High temperature
"Do not use or place the battery near fire, a heater, or a high temperature (more than 80°c)."
The battery's polyolefin separator may get damaged from the heat and could cause an internal short circuit. This may cause the battery to catch on fire, smoke, explode, or cause heat generation.

Charger and charge condition
"Do not use unauthorized chargers."
If the battery is charged under unacceptable conditions (for example: outside of restricted temperature ranges, overvoltage, or over current with unauthorized chargers), the battery may catch on fire, smoke, explode, or generate heat.

Reverse polarity
"Do not force a reverse-charge or a reverse-connection."
The battery has the correct polarity. If the battery doesn't fit easily, please check the battery's orientation and do not force it into the battery compartment. If the battery is forced to attach to a Device with reversed polarity, the battery may catch on fire, smoke, explode, or generate heat.

Direct connection
"Do not connect the battery with ac plug (outlet) or car plugs."
The battery requires a specific charger. If the battery connects with the outlet directly, the battery may catch on fire, smoke, explode, or generate heat.

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Inappropriate use with other equipment
"Do not adapt the battery to unspecified applications. "
If the battery is used for unspecified applications or systems, the battery may get damaged or catch on fire, smoke, explode, or generate heat.

Incineration and heat
"Please keep the battery away from heat and fire."
The battery materials will get damaged and may catch on fire, smoke, explode, or generate heat.

Short-circuit
"Do not apply a short-circuit. "
Do not connect positive (+) and negative (-) terminals with conductive material. Do not carry or store the battery with metal objects (such as wire, necklace, or hairpins). If the battery is in a short circuit, an excessively large current will flow and may catch on fire, smoke, explode, or generate heat.

Impact
"Avoid unnecessary impact to the battery."
An unnecessary impact may cause the battery to leak, generate heat, smoke, catch on fire or explode. Also, the protection circuit may break, and that will lose the function of the battery's protection system.

Penetration
"Do not penetrate with a nail or strike with a hammer."
The battery cell may get destroyed or damaged. And the battery's protection circuit may get damaged and cause an internal short-circuit. Additionally, the battery may catch on fire, smoke, explode, or generate heat.

Soldering
"Do not directly solder the battery."
The insulator could melt, or the gas release vent might get damaged from the heat. Additionally, the battery may catch on fire, smoke, explode, or generate heat.

Disassemble and reconstruction
"Do not disassemble the battery."
If the protection circuit gets damaged, the battery will not be protected. Then, the battery may catch on fire, smoke, explode, or generate heat.

Charge near high temperatures
"Do not charge the battery near high temperatures."
If the battery is charged near high temperatures, the battery may not be able to charge due to the activation of the protection circuit. In these conditions, the protection circuit may break, and the battery may catch on fire, smoke, explode, or generate heat.

! WARNING !

Ingestion
"Keep away from infants."
The battery should be kept away from infants. In case of swallowing the battery, see a doctor immediately.

Storing
"Do not put the battery in the microwave or other cooking appliances."
The battery may catch on fire, smoke, explode, or generate heat due to the heat or the electrical impact from the microwave.

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Mixed-use
"Do not mix the battery with other batteries."
The battery should not be used with other batteries having a different capacity, chemistry, or manufacturer. Do not connect with other batteries or mix with other batteries. The battery may catch on fire, smoke, explode, or generate heat.

Rust, changing color, and deformities
"Do not use abnormal batteries."
Please stop using the battery if there are noticeable abnormalities such as abnormal smell, heat, deformities, or discoloration. The battery may have a defect and may catch fire, smoke, generate heat or explode if used continuously.

Charging time
"Stop charging if the charging process cannot be finished."
If the battery cannot finish the charging process within the specified time, please stop the charging process. The battery may catch on fire, smoke, explode, or generate heat.

Leakage
"Do not use a leaking battery near flames."
If the battery or liquid leaking from the battery has a pungent odor, the battery should be kept away from flames. The battery may ignite and explode.

"Do not touch a leaking battery."
If the liquid leaking from the battery gets into the eyes, it will cause significant damage. If the leaking liquid gets into your eyes, please flush your eyes immediately with pure water. Please consult a physician immediately. If the liquid remains in the eyes, it will cause significant damage.

Transport
"Pack the battery tightly during transport."
To prevent short-circuit or damages, please tightly pack the battery into a case or a carton box.

! CAUTION !

Use under direct sunlight
Do not use or leave the battery in excessive heat, such as in a car under direct sunlight. The battery may catch on fire, smoke, explode, or generate heat. Also, it might also deteriorate the battery's characteristics and life.

Static electricity
The battery pack has a protection circuit. Do not use the battery where it generates static electricity (more than 100V) that might damage the protection circuit. If the protection circuit is broken, the battery may catch on fire, smoke, explode, or generate heat.

Charging temperature range
The charging temperature range is regulated between 0°c and 45°c. Do not charge the battery out of the specified temperature range. Otherwise, it may cause heat generation, leakage, or serious damage. Also, it might cause deterioration of the battery's characteristics and battery life.

Manual
Please read the manual before use. Please save the manual for future reference.

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Charging method
Please read the charger's manual for the proper charging method.

First-time use
Please contact the supplier if the battery has an unusual odor, heat generation, or rust during the initial use.

Use by children
Parents must explain how to use the system and the battery. Please check back periodically to ensure children are using the system and the battery correctly.

Inflammable materials
Please keep the battery away from flammable materials during the charge and the discharge. It may catch on fire, smoke, explode, or generate heat.

Leakage
If an electrolyte leak from the battery comes into contact with the skin or clothes, immediately flush it with water. Otherwise, it may cause skin irritation.

Insulation
If lead wires or metal objects come out from the battery, please seal, and insulate them completely.
Otherwise, the battery may cause a short circuit and catch on fire, smoke, explode, or generate heat.

Recycle
Please recycle the battery according to local rules or regulations after use.

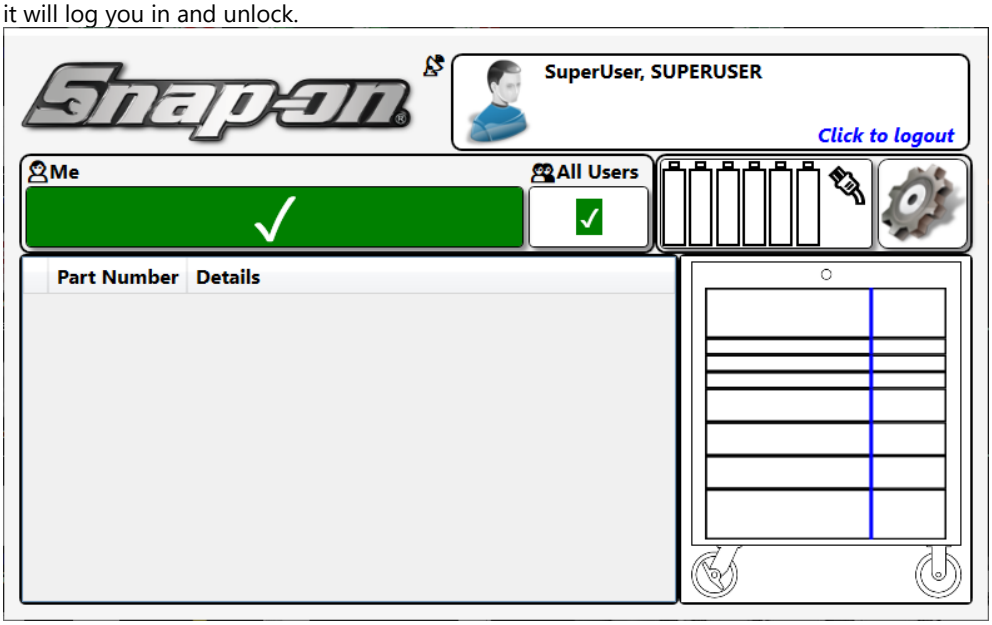
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ATC Toolbox Basic Operation Issue & Return

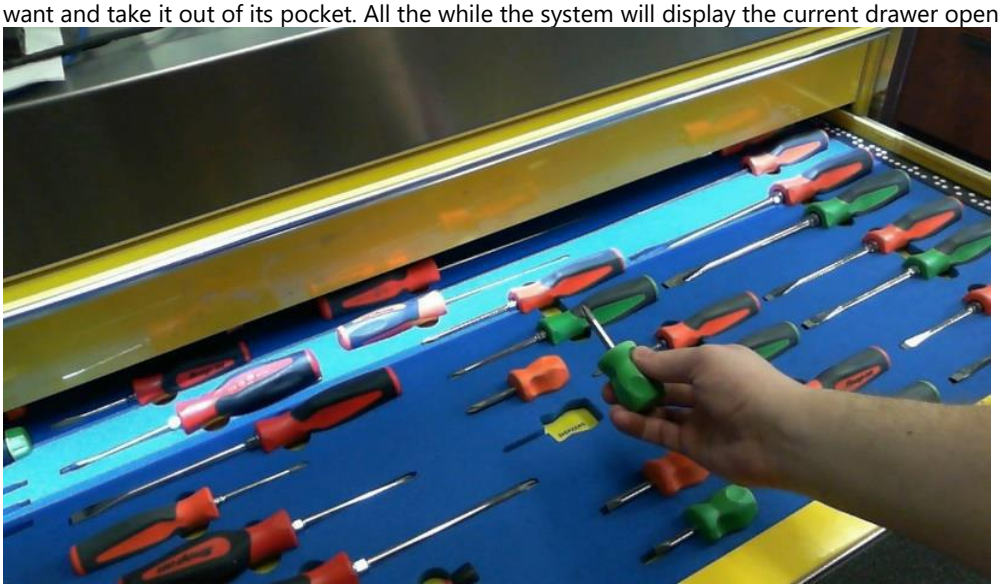
This document will cover basic operation of the ATC Toolbox. The ATC Toolbox is designed for ease of use and quick response. The following is the standard workflow for issuing and returning tools from an ATC Toolbox.

Issue

1. Wave your badge near the card reader on the front of the toolbox. If you have permission to access this box, it will log you in and unlock.

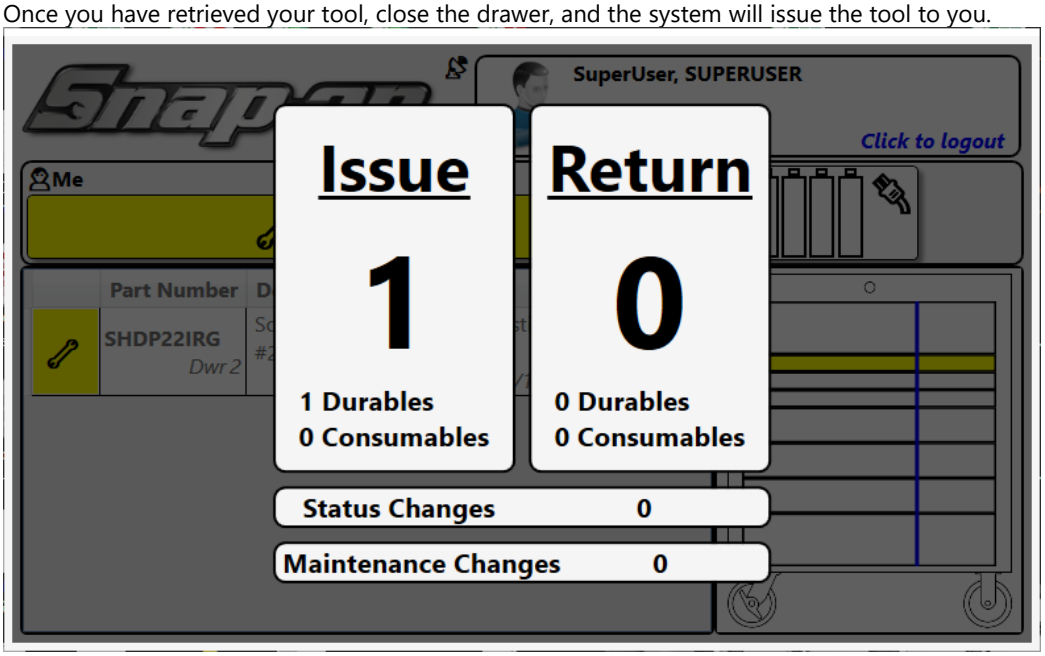


2. Select the drawer that contains the tool you wish to retrieve and open it. Once opened, find the tool you want and take it out of its pocket. All the while the system will display the current drawer open onscreen.

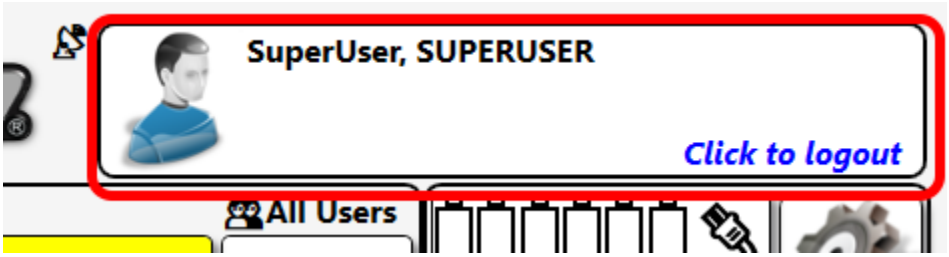


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3. Once you have retrieved your tool, close the drawer, and the system will issue the tool to you.



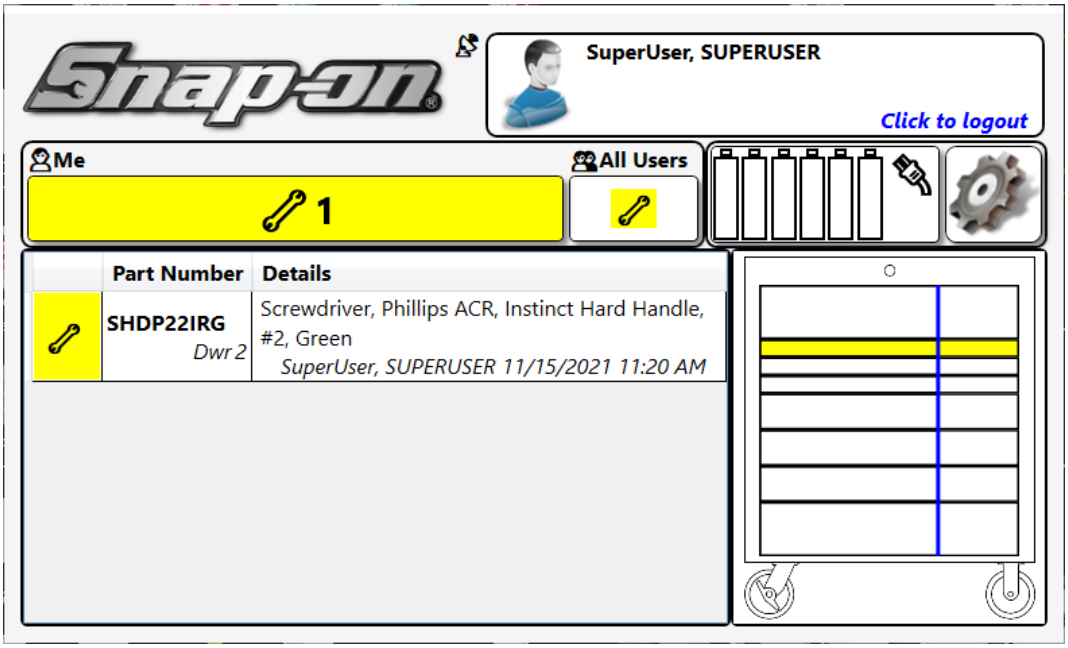
4. You can tap the screen to clear the summary. To log out, tap the User frame in the top right corner of the screen.



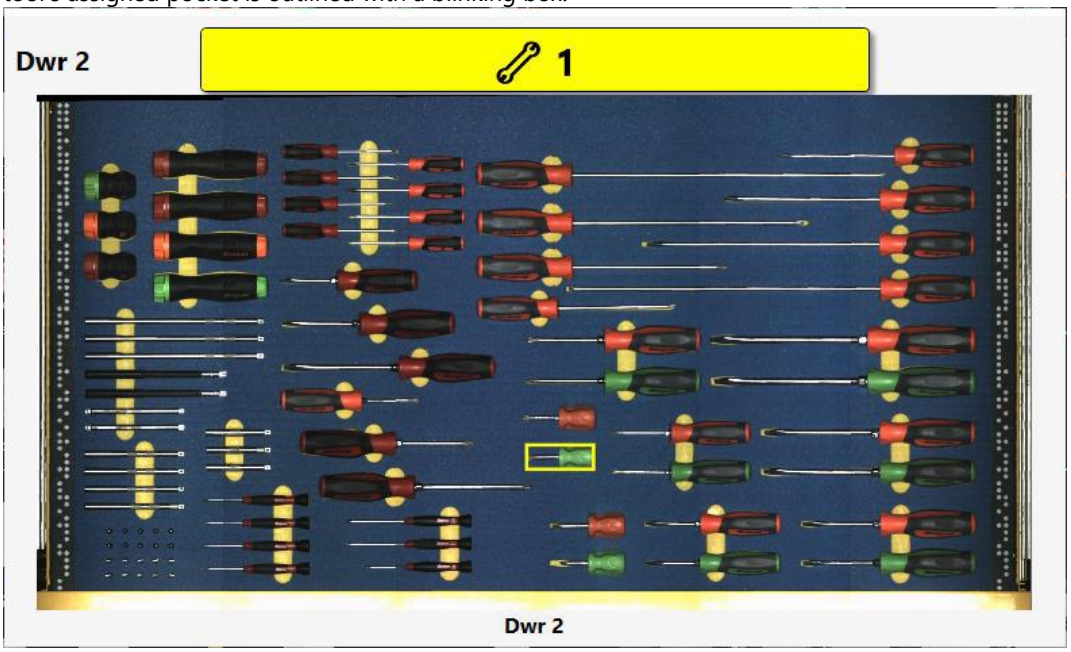
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Return

1. To return a tool, you will follow a similar process. First wave your badge near the card reader on the front of the toolbox. If you have permission to access this box, it will log you in and unlock.
2. When the system logs you in, the screen displays a list of tools issued to you and their status. It will also show the drawer from which the tool came from.

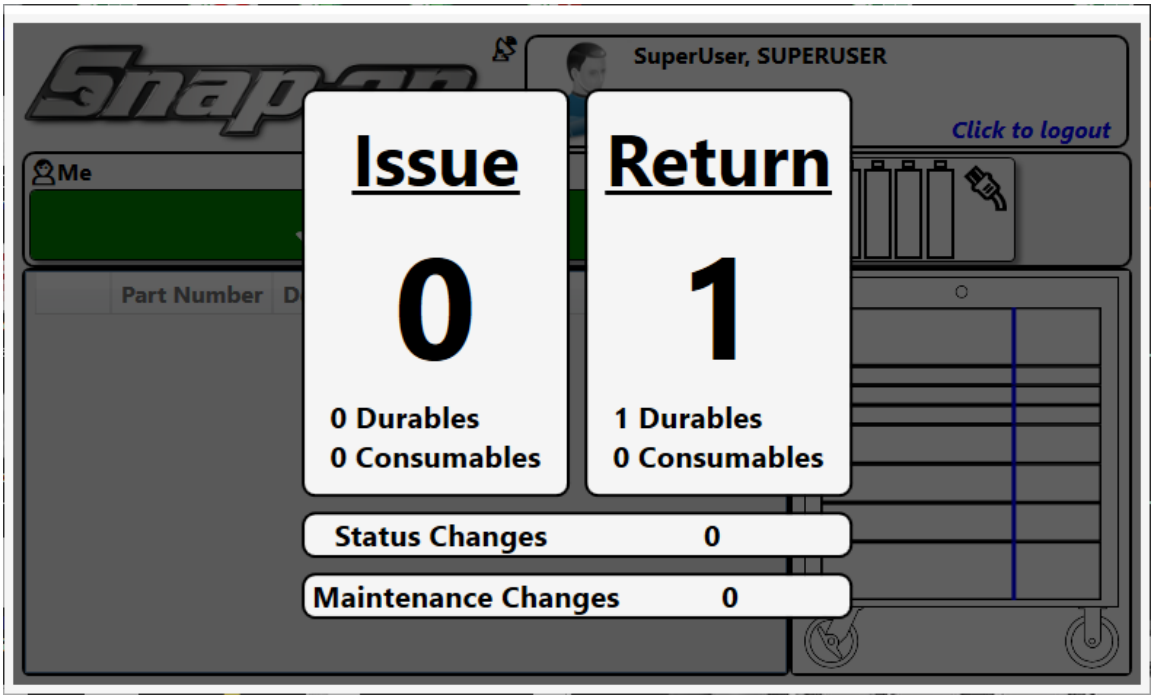


To return the issued tool, open the drawer it belongs to, the screen displays an image of the drawer, and the tool's assigned pocket is outlined with a blinking box.

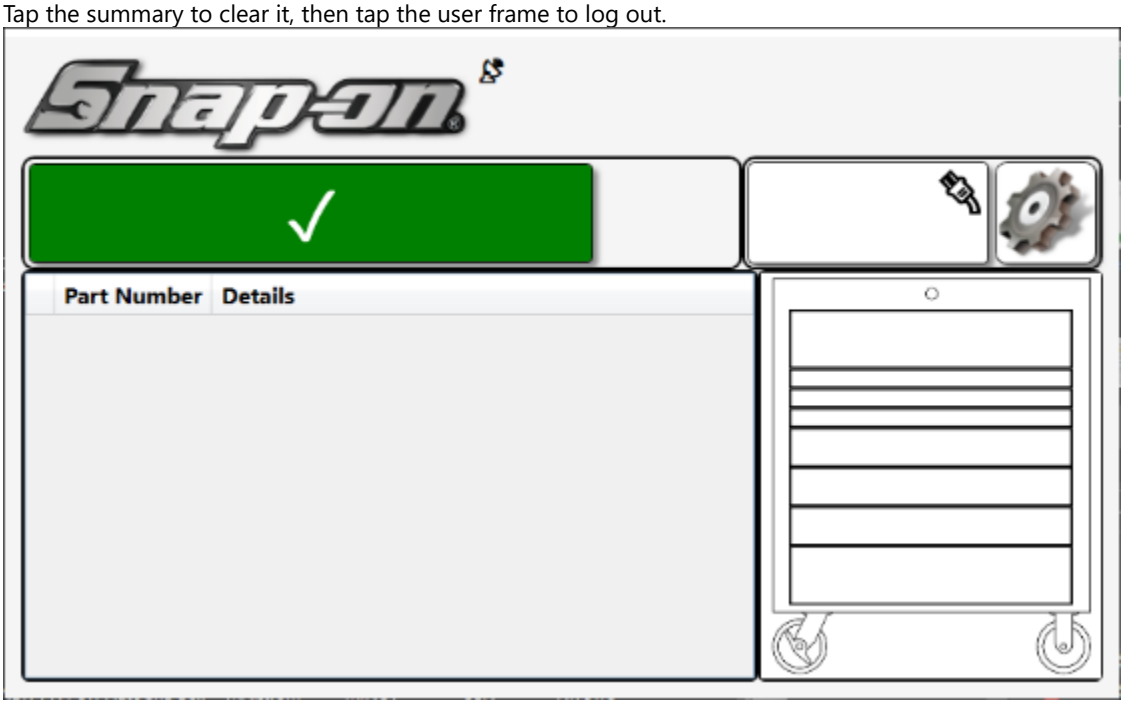


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3. Place the tool in its assigned pocket, then close the drawer. A summary of the transaction will display on the screen.



4. Tap the summary to clear it, then tap the user frame to log out.

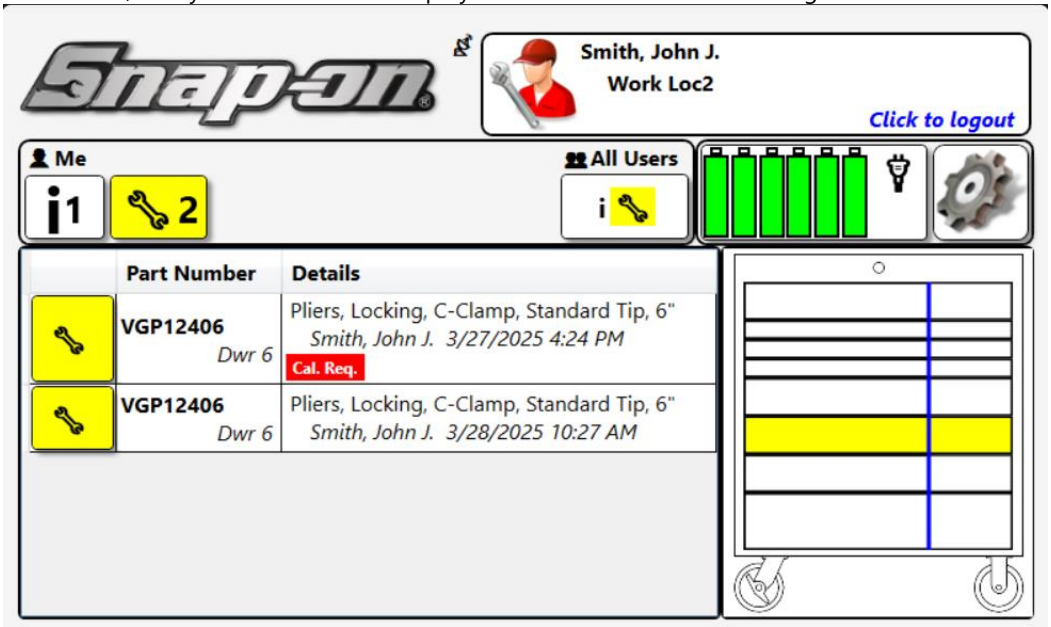


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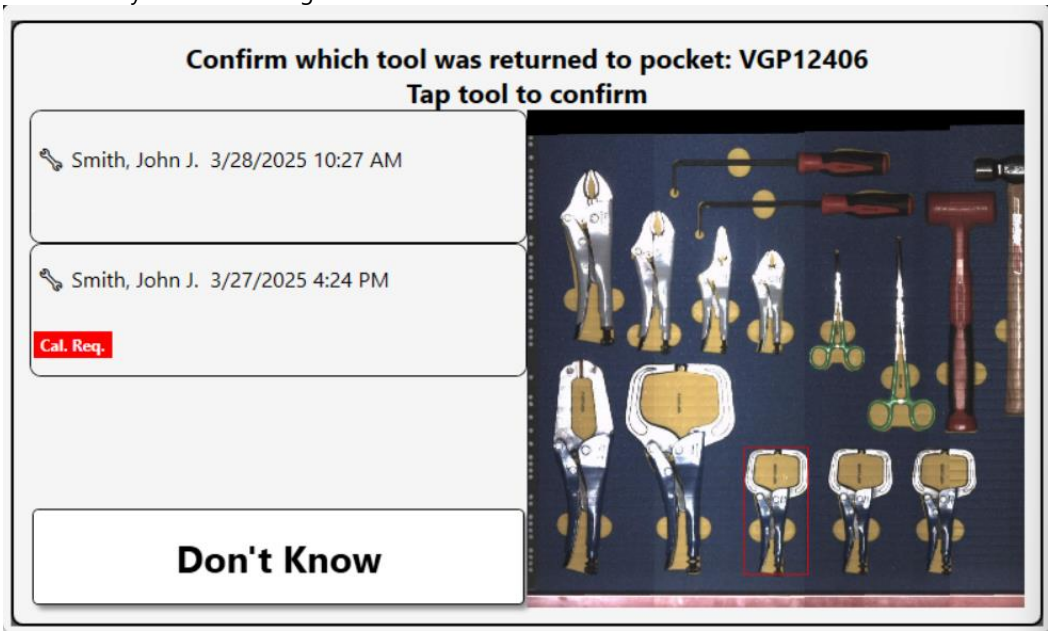
Returning Current Employee's Tools

Multiple Unique Choices (Tool Status, Customer ID, etc.)

If you have multiple instances of the same tool issued to you, and one of them has something that makes it different, like a status, the system will need an employee to confirm which tool is being returned.

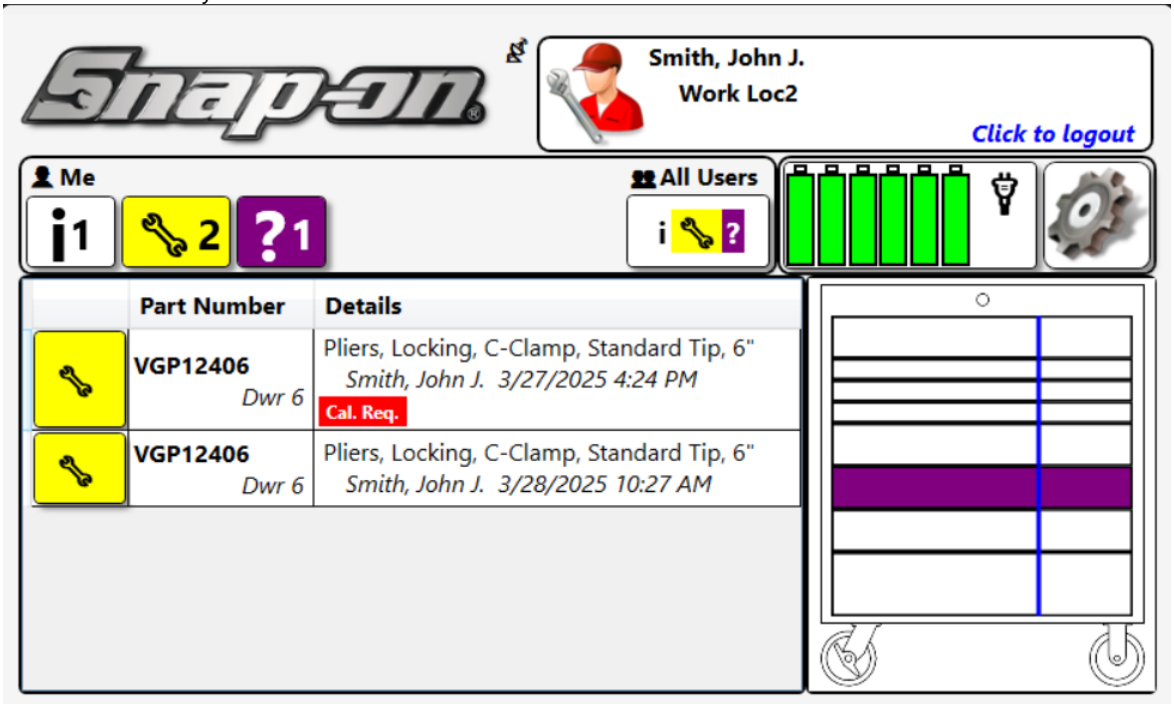


Since one has a status, these two tools are no longer interchangeable, and the system needs more information to handle the situation. When you return one of these tools you will be prompted with the following screen asking which of the tools you are returning.

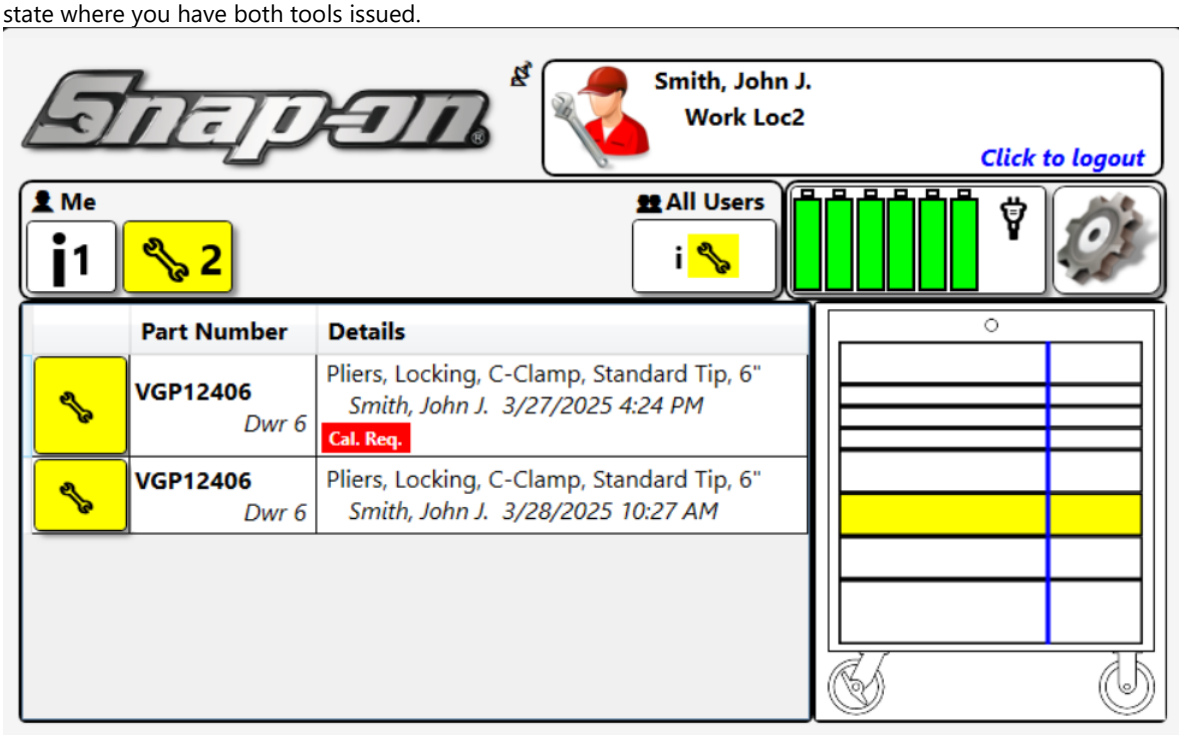


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If you select one of the tools in the list that tool will be returned as normal. If you select **Don't Know**, the system will make its best guess at which tool should be returned and return that tool. It will also mark the drawer with a purple color to show that you have a tool in the drawer that needs confirmation.

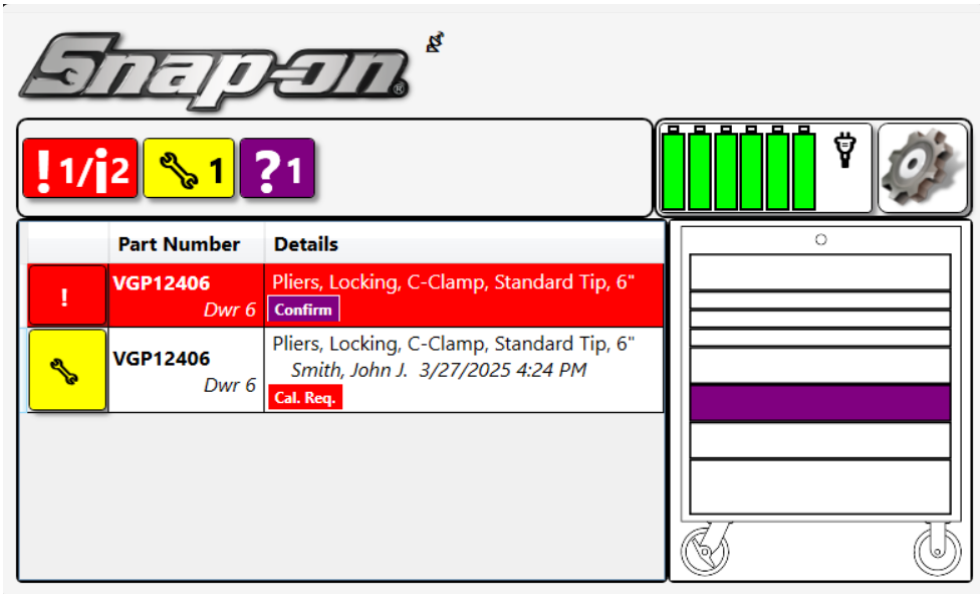


If you have not logged out yet, you can reopen the drawer and remove the tool, and the system will return to the state where you have both tools issued.



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If you log out with the tool still in the box in a returned state with the purple notification that the system still needs clarification, the system will set a **Needs Confirmed** status on this tool and the purple color will remain to show this status.



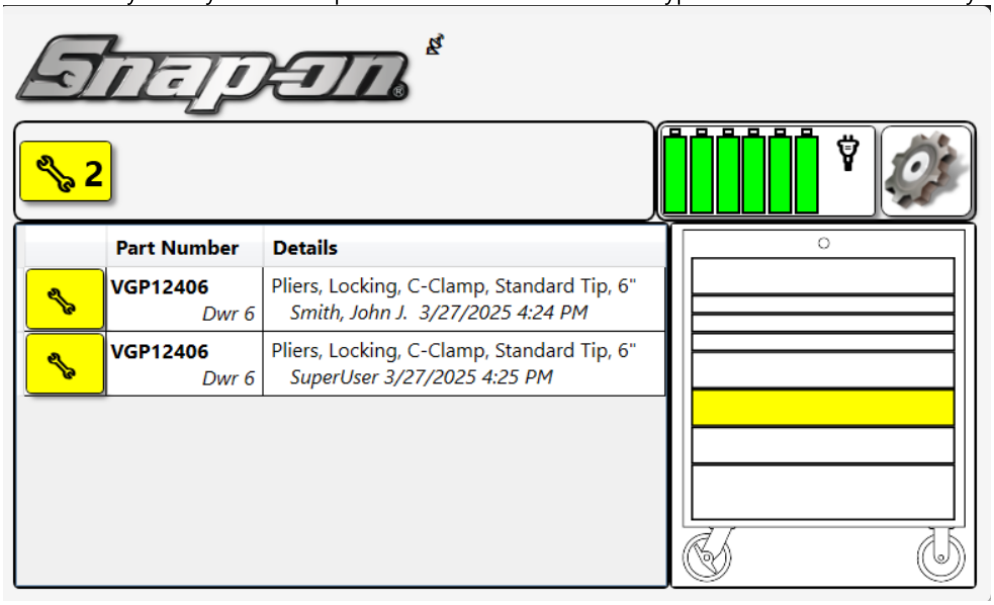
Clearing this status will require someone with the **Needs Confirmed Clear** permission in their profile. The built-in profiles, **Maintenance** and **Administrator** both have this permission.

NOTE: Tools with ZoomID tags can be individually identified by the system so the system would not need to prompt a user for clarification.

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All Non-Unique Choices

Sometimes you may have multiple instances of the same tool type in a drawer issued all to you.



If you have multiple instances of the same tool and they have no unique characteristics, the system will just pick one of them and return it without a prompt.

NOTE: The system will always assume that you are returning the tools that are currently issued to you. This is true even if you return the tool to a pocket different from the pocket the tool was issued from. (Assuming that both pockets hold a tool of the same Master Tool type.)

Returning Other Employee's Tools

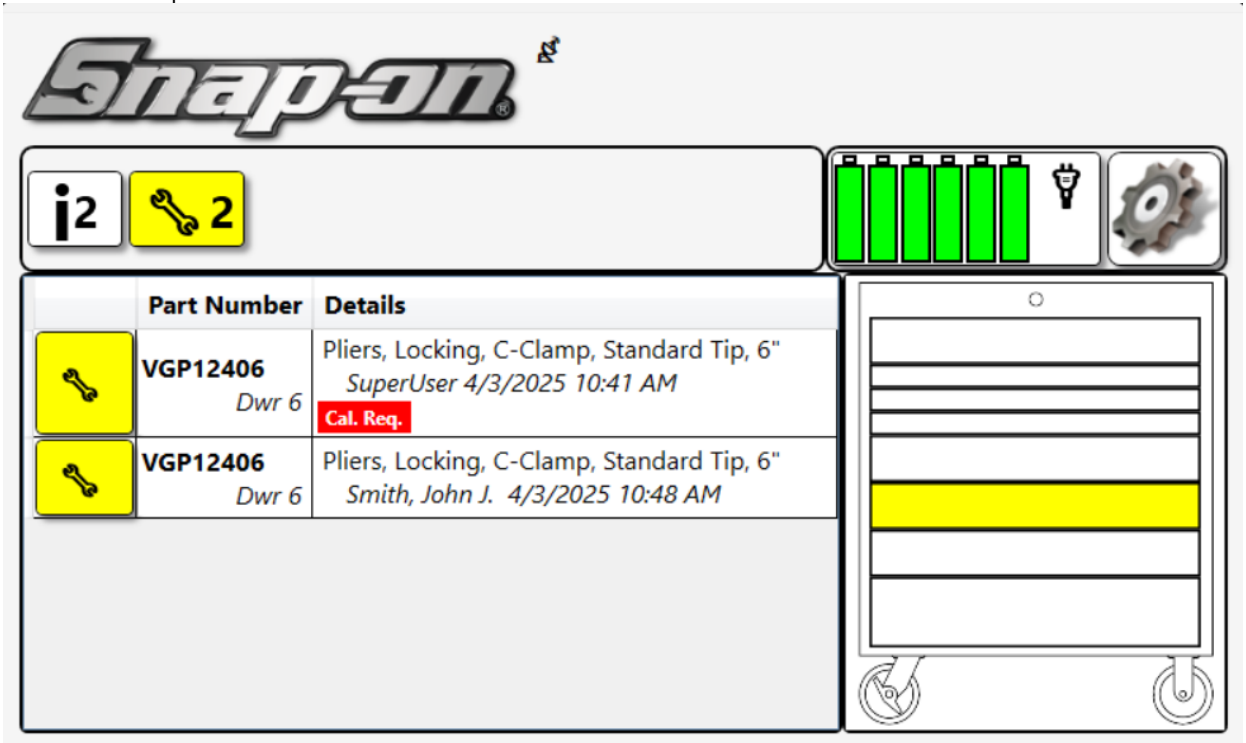
The ATC system allows employees to return tools that were issued to other employees. However, the return behaviors are slightly different for this use case.

Multiple Unique Choices (Issued To, Tool Status, Customer ID, etc.)

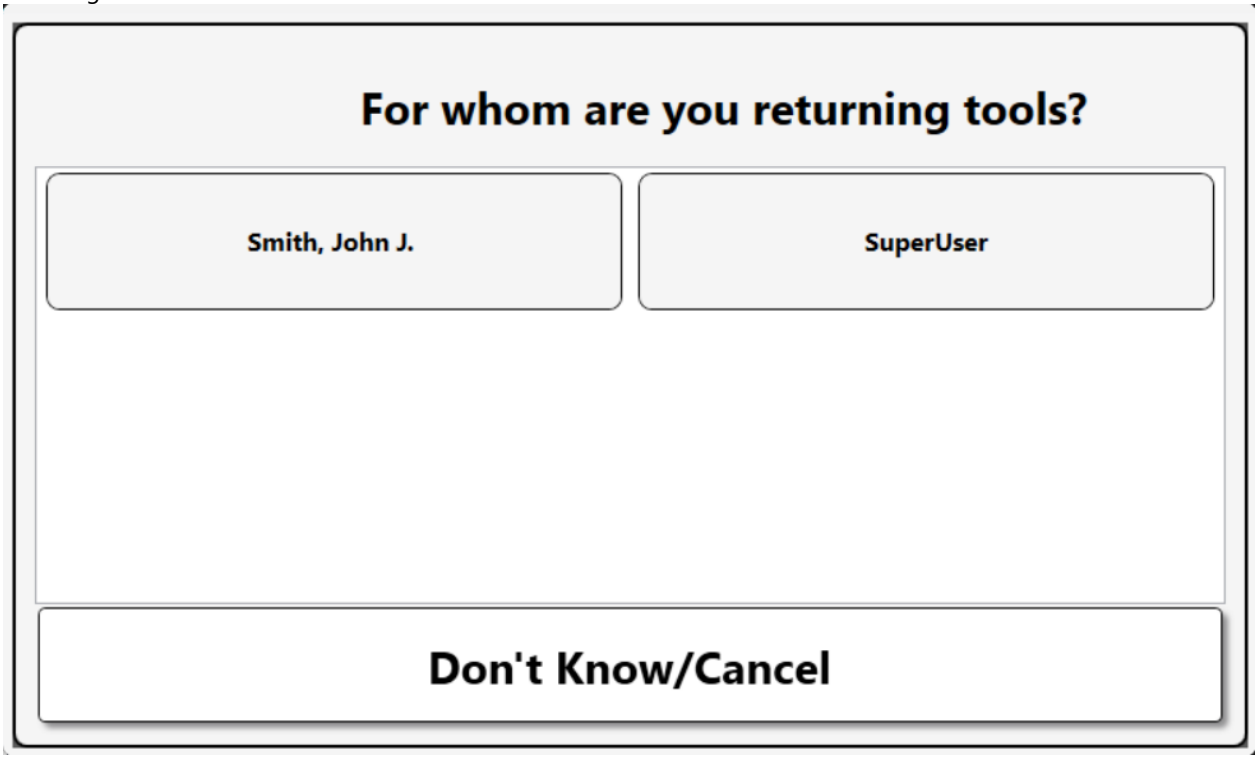
When there are multiple instances of a Master Tool type issued that are unique, the system will need to prompt the user to select which tool(s) are being returned and to where. This might be because otherwise identical tools are checked out to multiple other users, or because one of the tools has a status set on it.

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Here is an example of two tools issued to different users.



If a third user tries to return one of these tools, the system needs to prompt him to determine for which user he is returning the tool.



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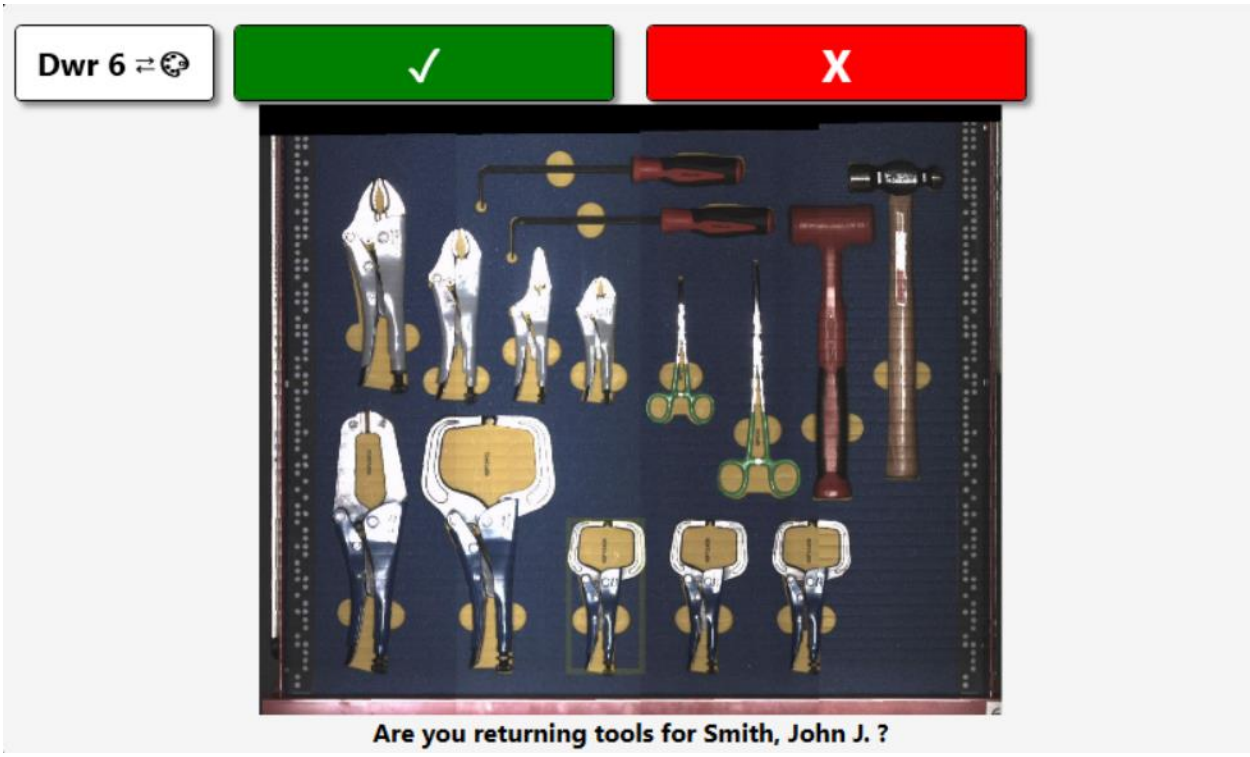
He would then need to select the user to let the system know which tool to return. If he chooses the **Don't Know/Cancel** button and leaves the tool in the drawer and logs out, the system will mark the tool with a **Needs Confirmed** status as discussed earlier in the document.

All Non-Unique Choices

When you return a tool that is currently issued to another user with no other unique choices, the system will (by default) return the tool just like if the tool was issued to you. However, the device can be forced to prompt the employee requesting confirmation that they are returning another employee's tools. See the Force Prompt to Check in Another Employee's Tools section below for more details.

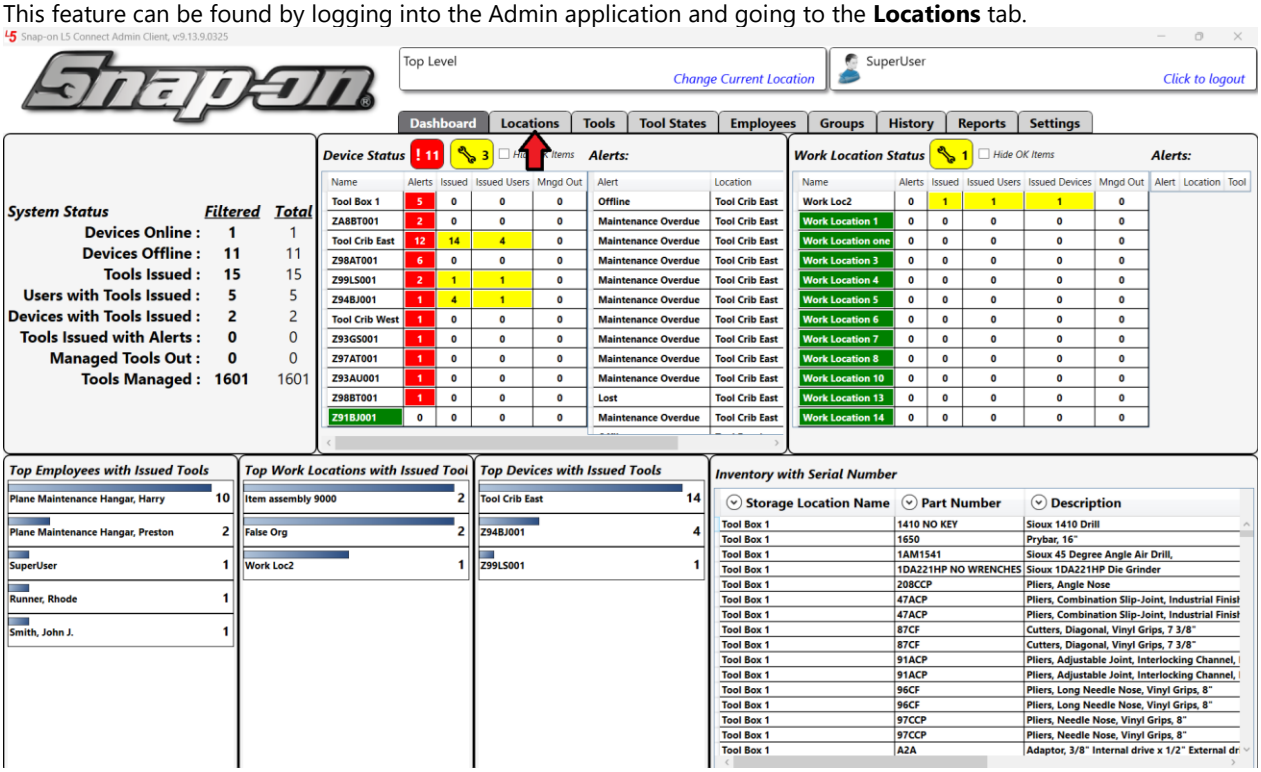
Force Prompt to Check in Another Employee's Tools

An employee may accidentally return their tool to an incorrect device (different from the device it was issued from). A prompt to the returning employee could help them realize and correct their mistake. If the **Prompt to check in another user's tools** option is enabled, the "incorrect" box can detect and report that its issued tool is issued to an employee different from the current user.

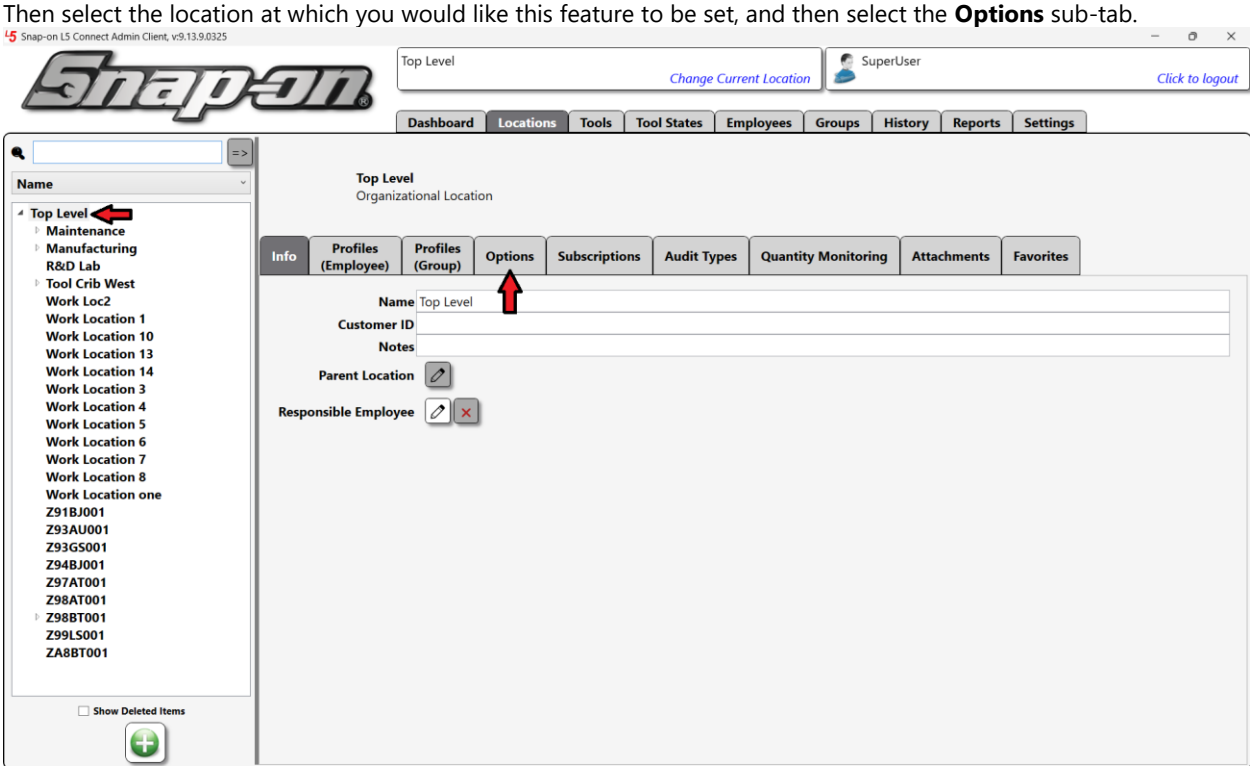


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This feature can be found by logging into the Admin application and going to the **Locations** tab.

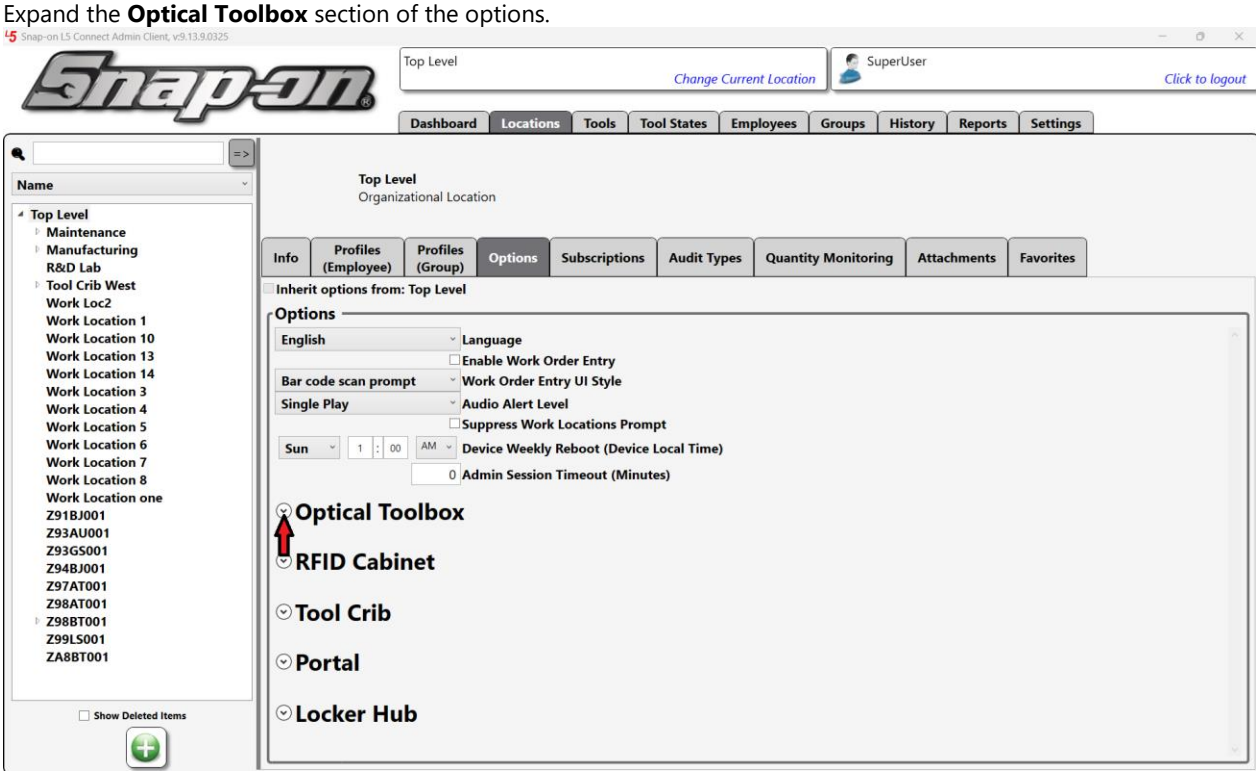


Then select the location at which you would like this feature to be set, and then select the **Options** sub-tab.

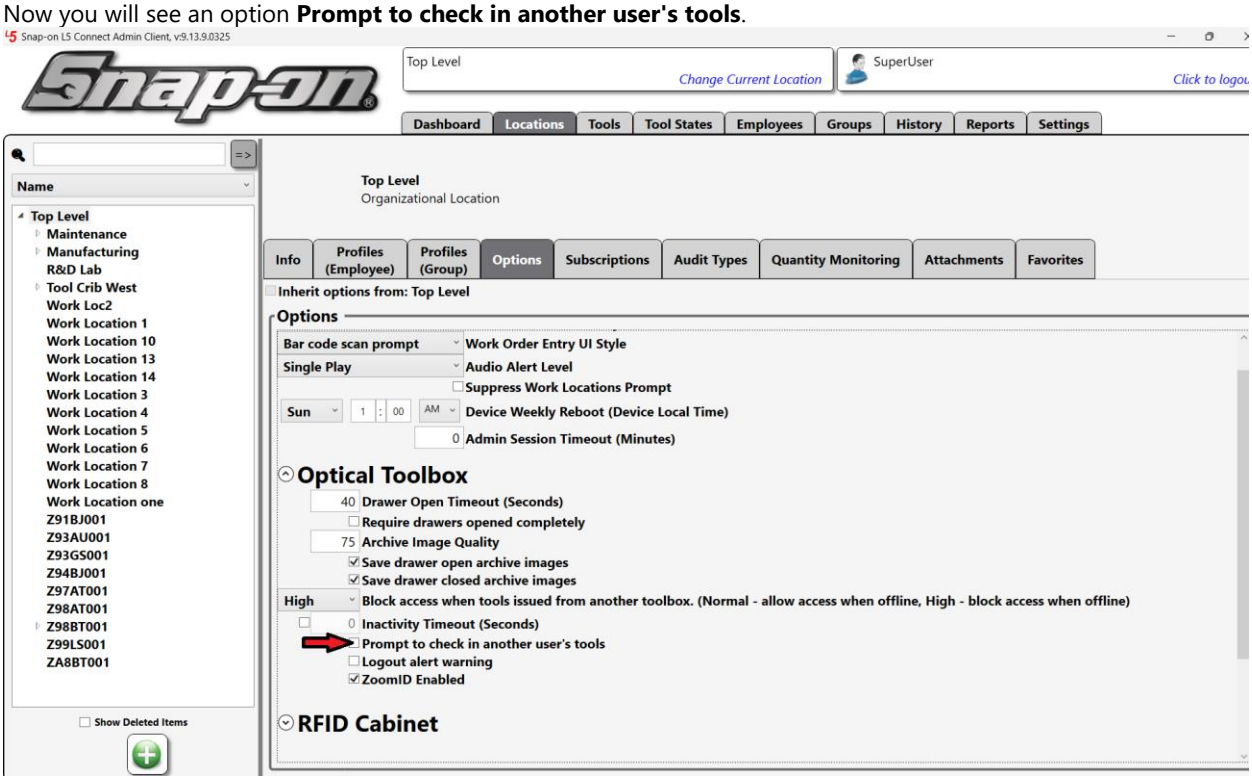


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Expand the **Optical Toolbox** section of the options.



Now you will see an option **Prompt to check in another user's tools**.



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ATC Toolbox Drawer Retraining Procedure

This document will cover the different drawer retraining options that are available on the ATC Toolbox: Full, Present, Absent, and Single Tool.

Required Permissions

- Tool Training - Drawer
- Tool Training - Single

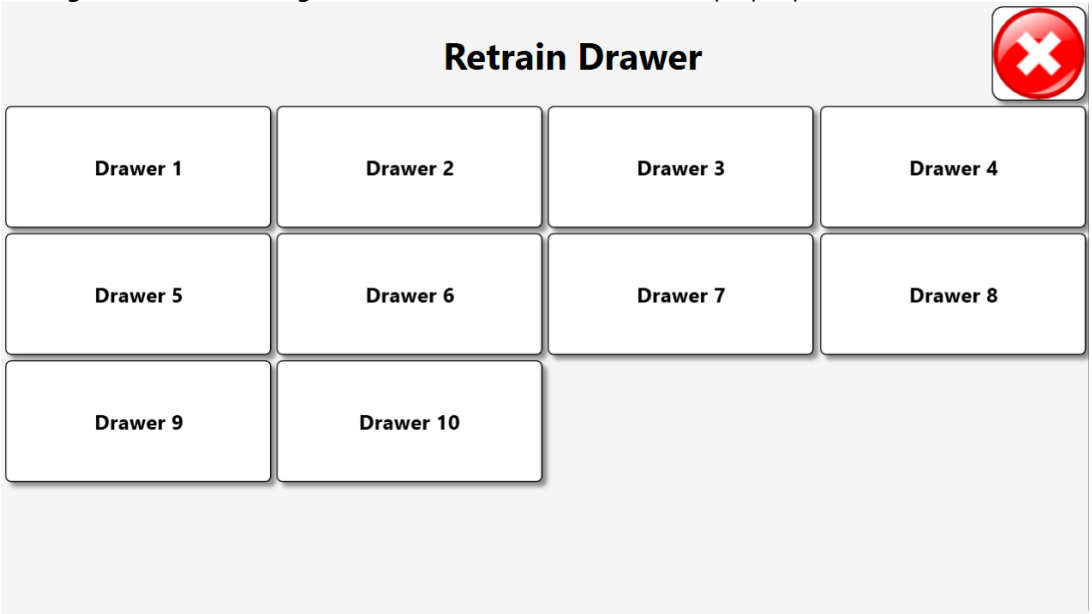
NOTE: This document does not apply to a drawer foam change. If the drawer foam has been altered contact Pro-Services for assistance.

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Full Training

If you have any Tool Detection Issues such as the Wrong Tool message, conduct a Full drawer training on the effected drawer.

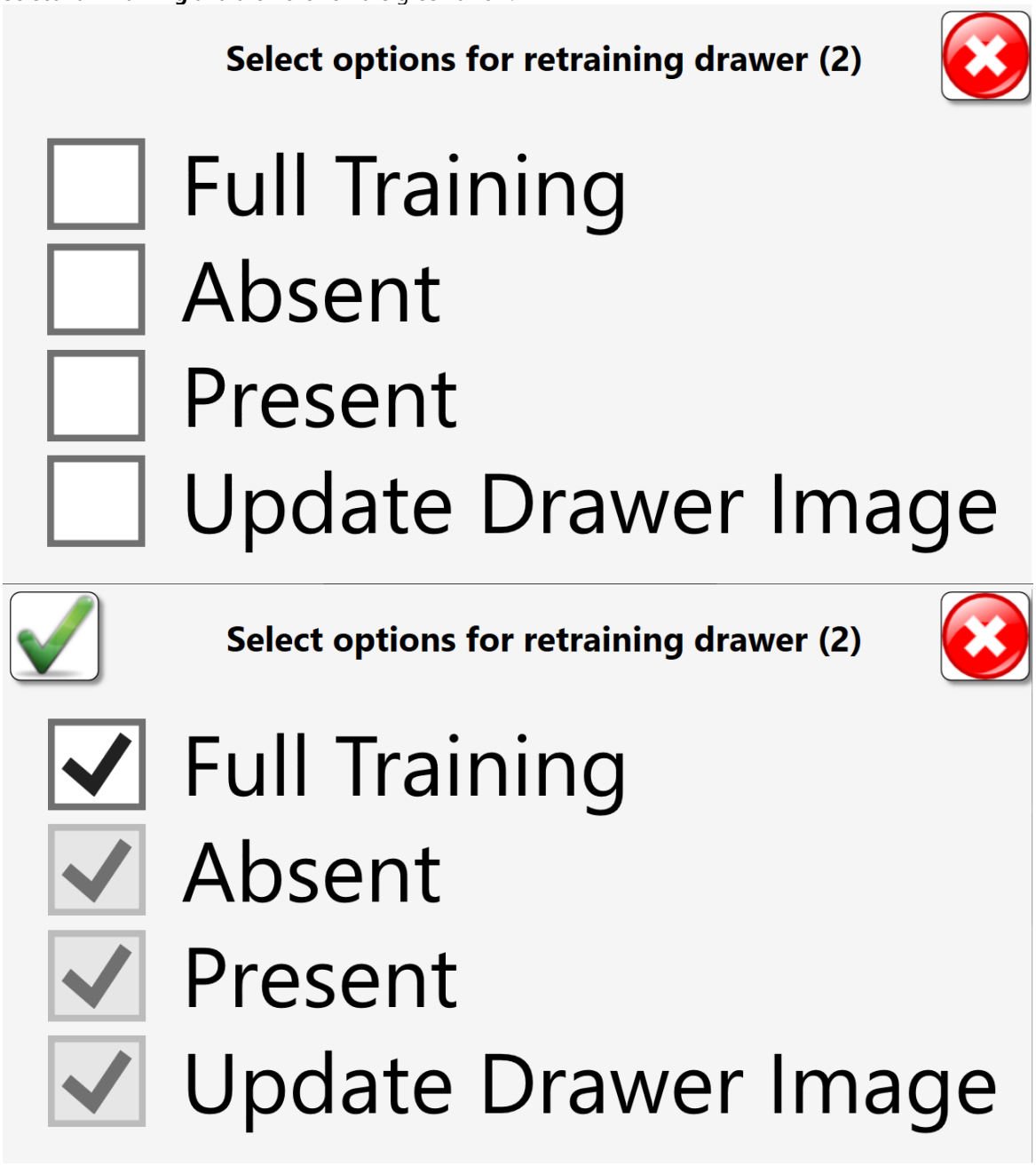
1. Log into the toolbox using the badge scanner. From the Toolbox dashboard navigate to **Settings=>Troubleshooting=>Retrain Drawer**. You will need the proper permissions to access this menu.



2. Select the drawer you wish to retrain.

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3. Select **Full Training** and then click on the green arrow.



4. Follow the onscreen prompts to complete the full drawer training.

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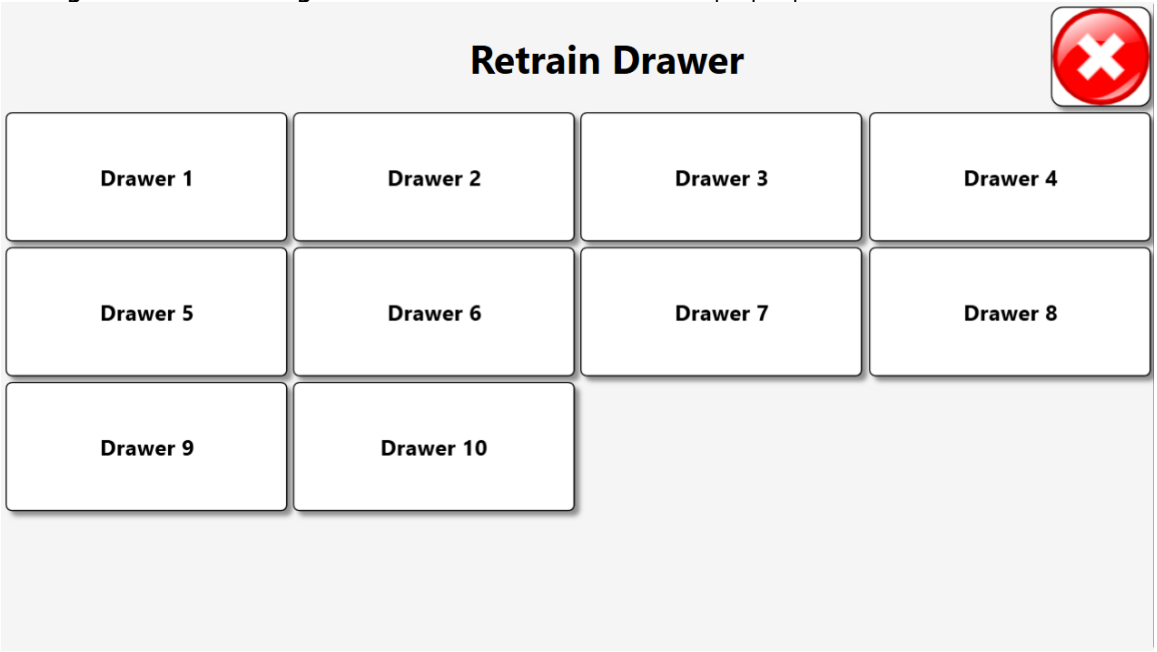
Present & Absent

Absent and Present training only refresh certain portions of the ATC Toolbox training process. **WARNING: Only conduct Present or Absent Training if instructed by Snap-on® Technical Support.**

Update Drawer Image

If you wish to have a different image displayed when you open a drawer, select the Update Drawer Image option.

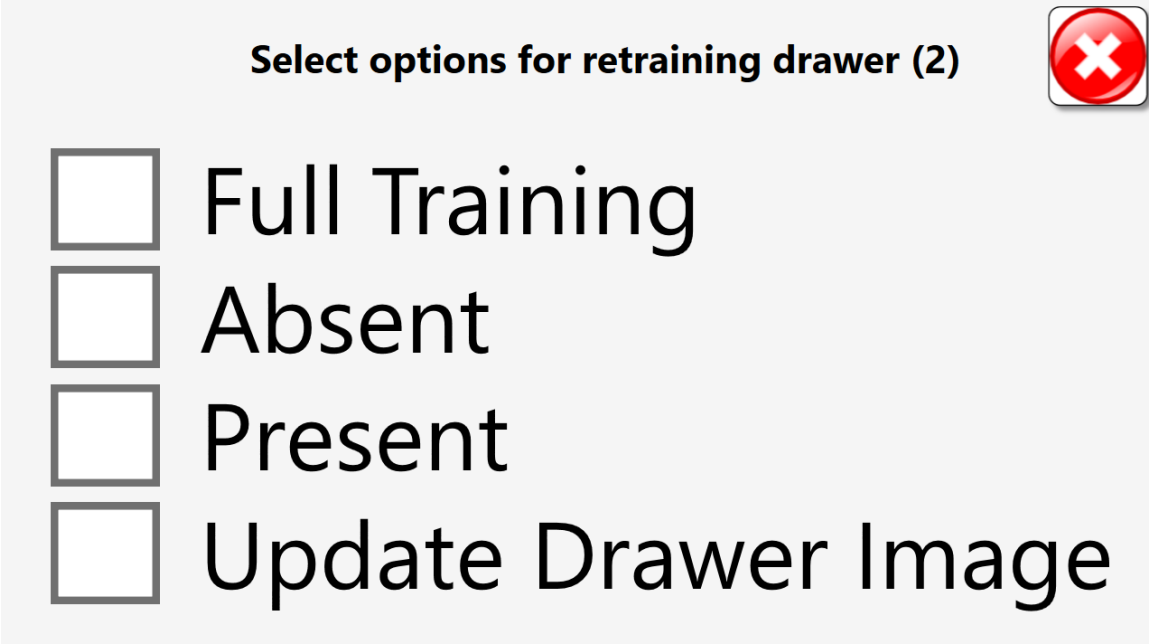
1. Log into the toolbox using the badge scanner. From the Toolbox dashboard navigate to **Settings=>Troubleshooting=>Retrain Drawer**. You will need the proper permissions to access this menu.

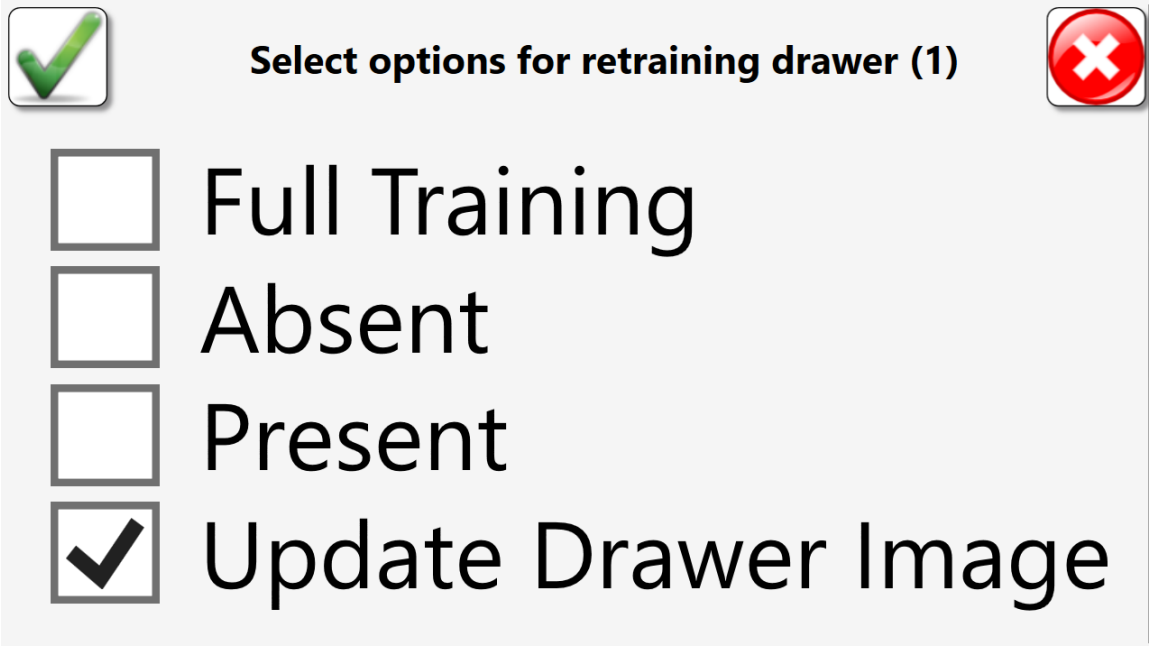


2. Select the drawer you wish to Update the Drawer Image on.

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3. Then select **Update Drawer Image**





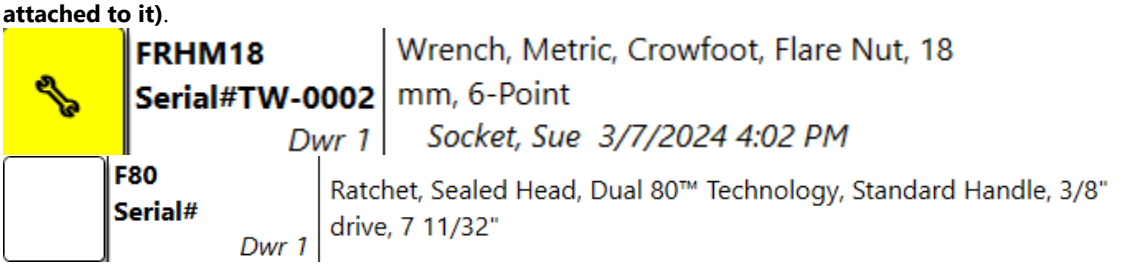
4. Follow the onscreen prompts to Update the Drawer Image.

Single Tool

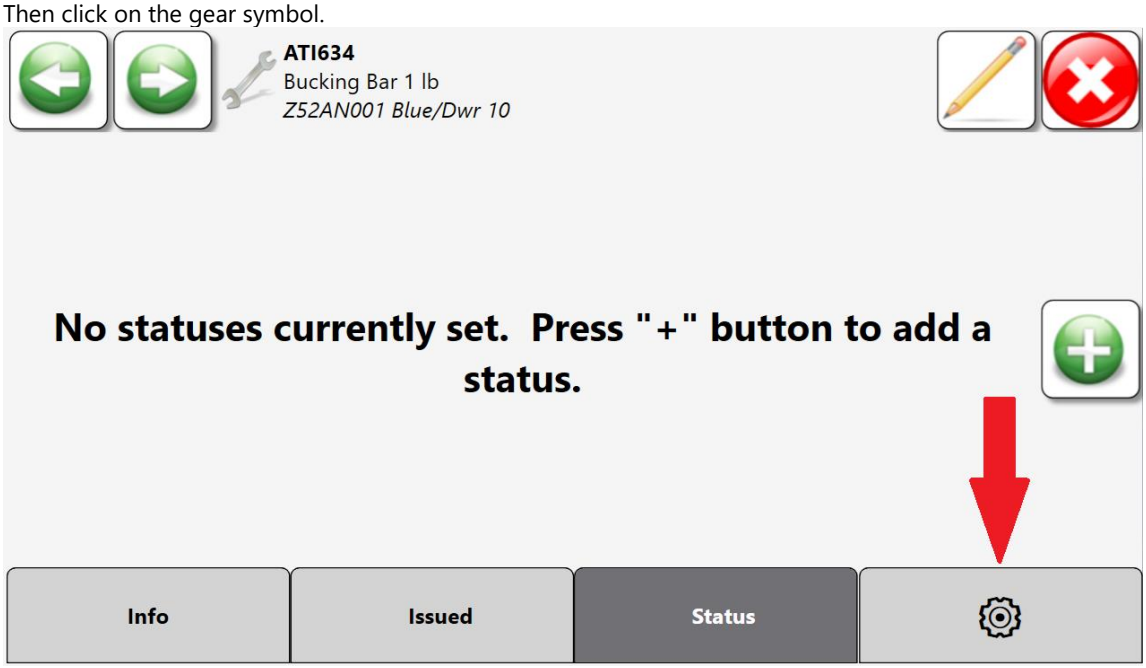
Single tool retraining allows you to retrain a singular tool within a drawer. This allows you to replace a tool in a drawer without training the entire drawer or if a tool's color profile has changed since its initial training.

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1. Log into the toolbox using the badge scanner. There are two ways to perform a single tool retrain; either by navigating to the device inventory menu screen (**Settings=>Inventory**) or via the device dashboard **(Note: A tool will only be shown on the dashboard if Issue/Returned or if a status such as wrong tool is attached to it)**.

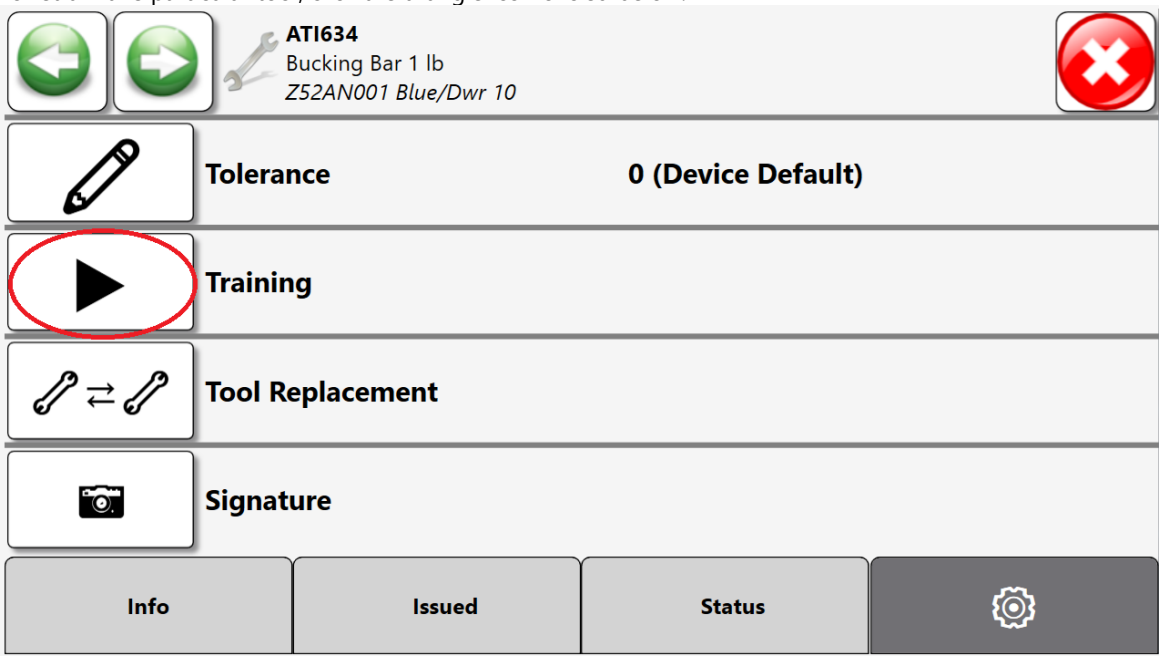


2 Double click the tool in the inventory or dashboard. You will see a similar screen to that pictured below. Then click on the gear symbol.



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2. To retrain this particular tool, click the triangle icon circled below.



3. You will be shown an image of the drawer where the tool selected for retraining is highlighted. Click the green check mark and follow the onscreen prompts to train this tool.

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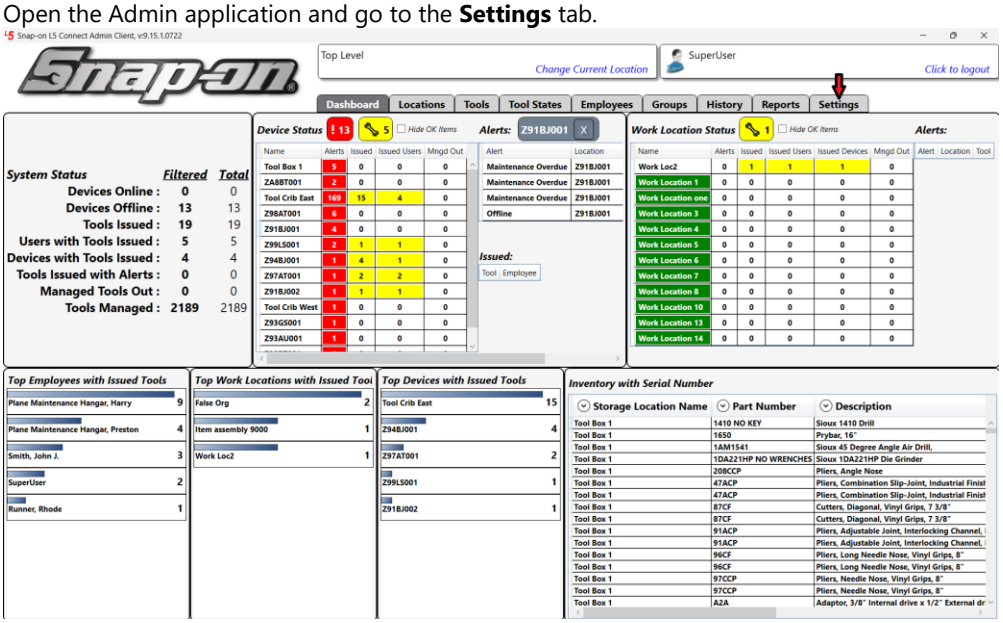
Optical Toolbox Issued Tool Lockout Feature

The L5 Connect System has a feature that allows you to lock employees out of other L5 Connect optical toolboxes if they have tools issued from a different L5 Connect optical toolbox. This feature had been requested as a way to help prevent employees from accidentally returning tools to the wrong toolbox.

Profile Configuration

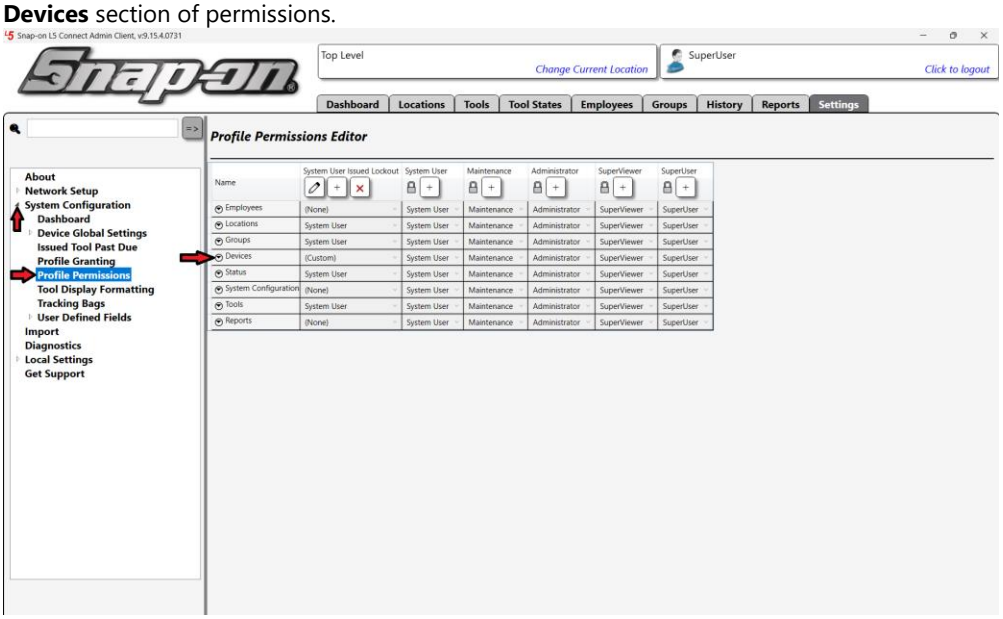
To prevent any changes to previously deployed L5 Connect systems, this feature is disabled by default. It can be easily configured in the Admin application by setting up a custom profile.

1. Open the Admin application and go to the **Settings** tab.

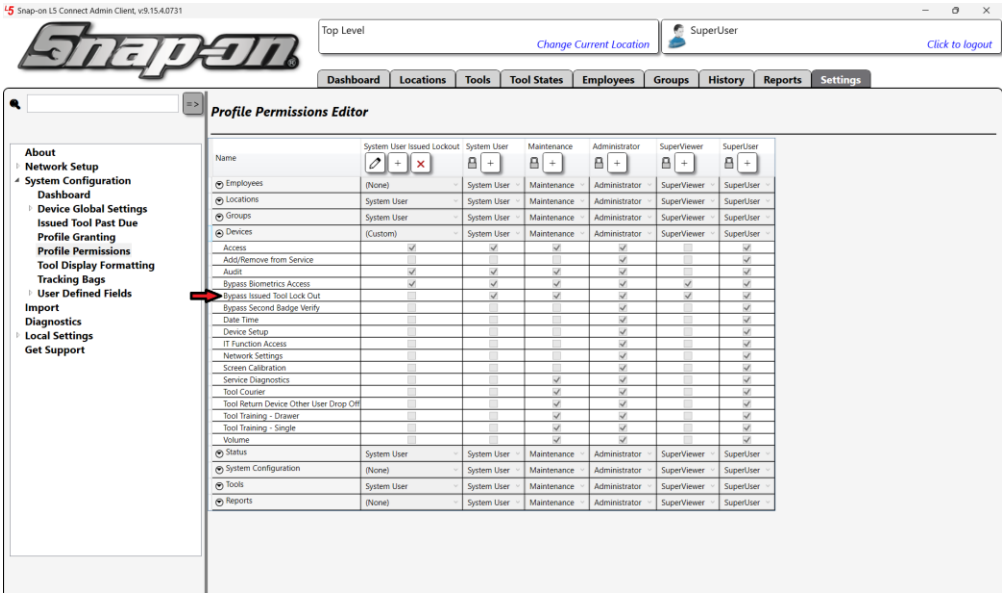


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2. Expand the **System Configuration** list item. Then select the **Profile Permissions** list item. Then expand the **Devices** section of permissions.



3. You will see the **Bypass Issued Tool Lock Out** permission is selected for all the built-in permission profiles. To enable this feature, you will need to create custom profiles for the employees/groups for which this feature should be applied. For example, if most of your technicians have the **System User** profile you could create a custom profile based on the **System User** profile and replace their current profile with the new custom one. This profile would uncheck the **Bypass Issued Tool Lock Out** permission. **NOTE: It is important to note that if an employee receives permissions from multiple location or group profiles, if any of them give them the power to bypass this feature they will not be blocked from accessing other toolboxes.** See the How to Create Custom Profiles document for more details.

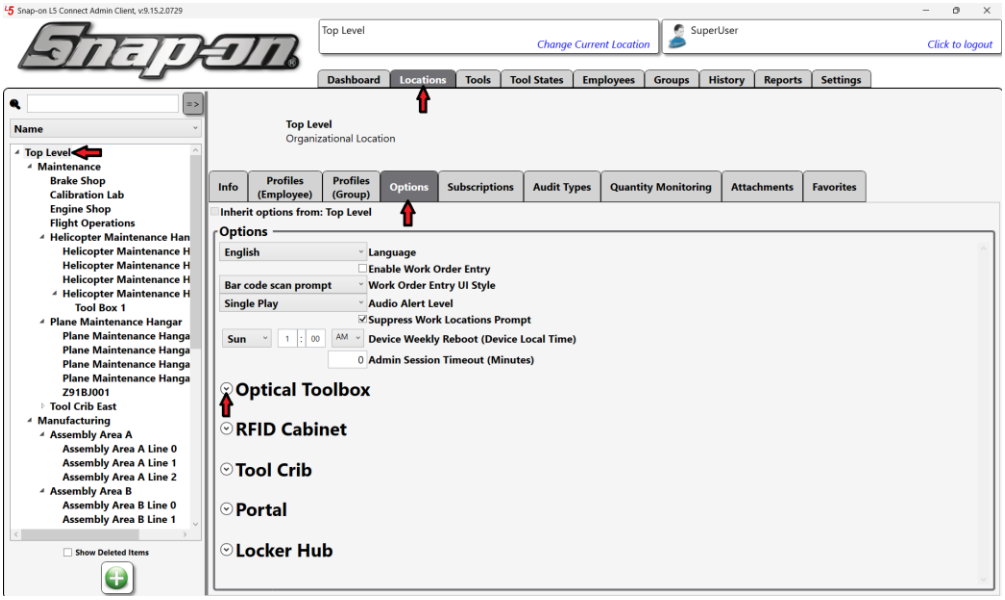


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Configuration of the Feature Option

Now that you have setup permission profiles to pay attention to the issued tool lock out feature, you need to set the feature to the proper setting.

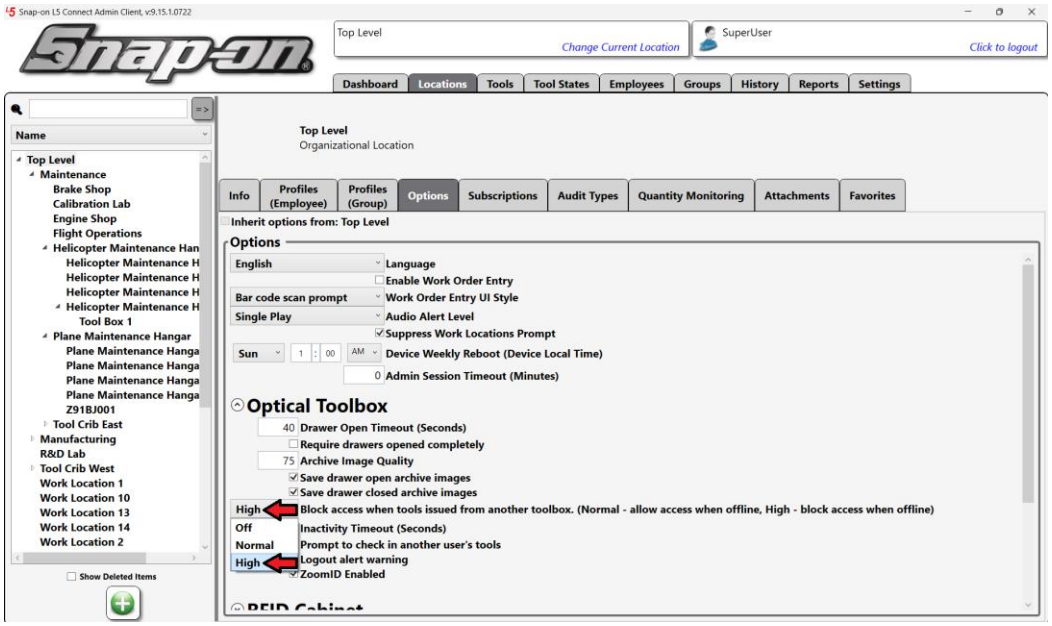
1. Go to the locations tab of the Admin application and then select the location at which you wish to apply this feature. For this example, we will choose the **Top Level** location. This will ensure that the feature is configured for the entire L5 System. If you wish to set this for only a specific area, such as the maintenance area, you can simply select that location instead. Then click the **Options** sub-tab and expand the **Optical Toolbox** section.



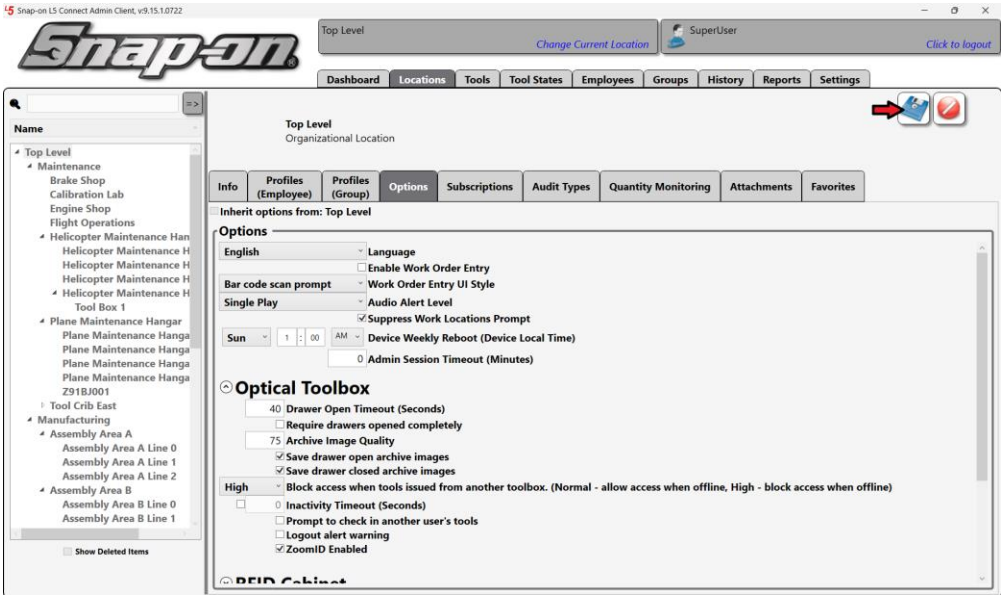
2. Expand the pull-down menu for the **Block access when tool issued from another toolbox** item and select the desired option. More details on how these options will cause the system to behave can be found in the **Toolbox Behavior** section.

- **Off**
- **Normal**
- **High**

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1. Click the **Save** button that looks like a blue disk.



You should now have the system setup to properly handle blocking users from accessing other toolboxes when they have tools issued from a different toolbox.

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Toolbox Behavior

Notes

- The toolbox will always allow the employee to log in if they have tools to return locally.
- This feature applies only to toolbox tools. Other device types are not affected by and have no effect on this feature.

Offline Behavior

Normal Mode

When the system is set to **Normal**, an employee will always be granted access to an offline box. The Normal mode does not deny access if the issue tool state cannot be checked on other toolboxes.

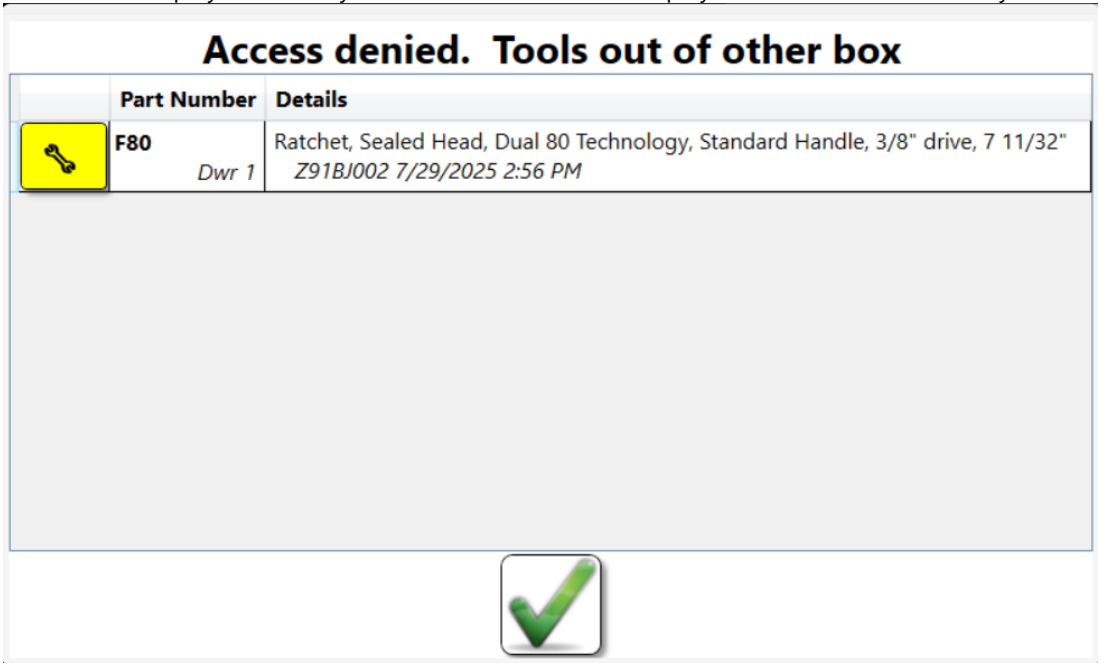
High Mode

When the system is set to **High**, an employee will be denied access to an offline toolbox. High mode requires the device to be online to check for issued tools from other toolboxes. However, an employee will always be allowed access if that employee has tools to return locally.

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Online Behavior

In both **Normal** or **High** modes, an employee will be denied access if that employee has tools issued from another toolbox. An audio prompt and on-screen display (see below) will explain why the employee is being denied access. However, an employee will always be allowed access if that employee has tools to return locally.



Managed Out of Box Behavior

If an employee has a tool issued from another box but that tool has a status on it that causes the tool to be managed out box, he will be allowed into other boxes in both **Normal** and **High** modes.

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RFID Cabinet/Locker

ATC OP Guide

See ATC OP Guide section in the ATC Toolbox section above.

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ATC RFID Locker Basic Operation Issuue & Return

This document will the basic operation of the ATC RFID Locker. The ATC RFID Locker is designed for ease of use and quick response. The following is the standard workflow for issuing and returning tools from an ATC RFID Locker.

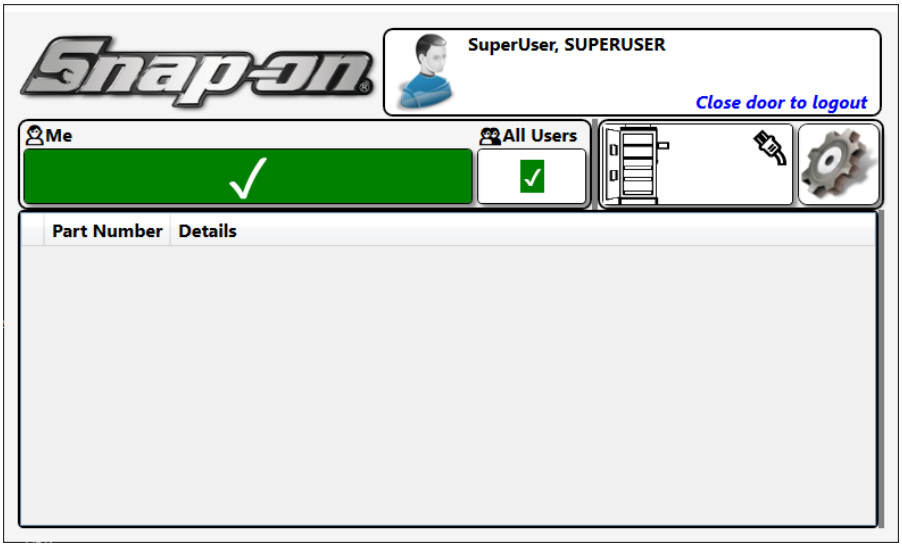
Issue/Return

The workflows for Issuing and Returning tools from the RFID Locker are similar to each other, with the key differences being whether taking or leaving tool(s) and what information is displayed onscreen.

1. To begin, wave your badge in front of the card reader on the right side of the cabinet. If you are an authorized user, you will hear the clicking sound of the door unlocking. This is represented on the screen with the padlock icon.

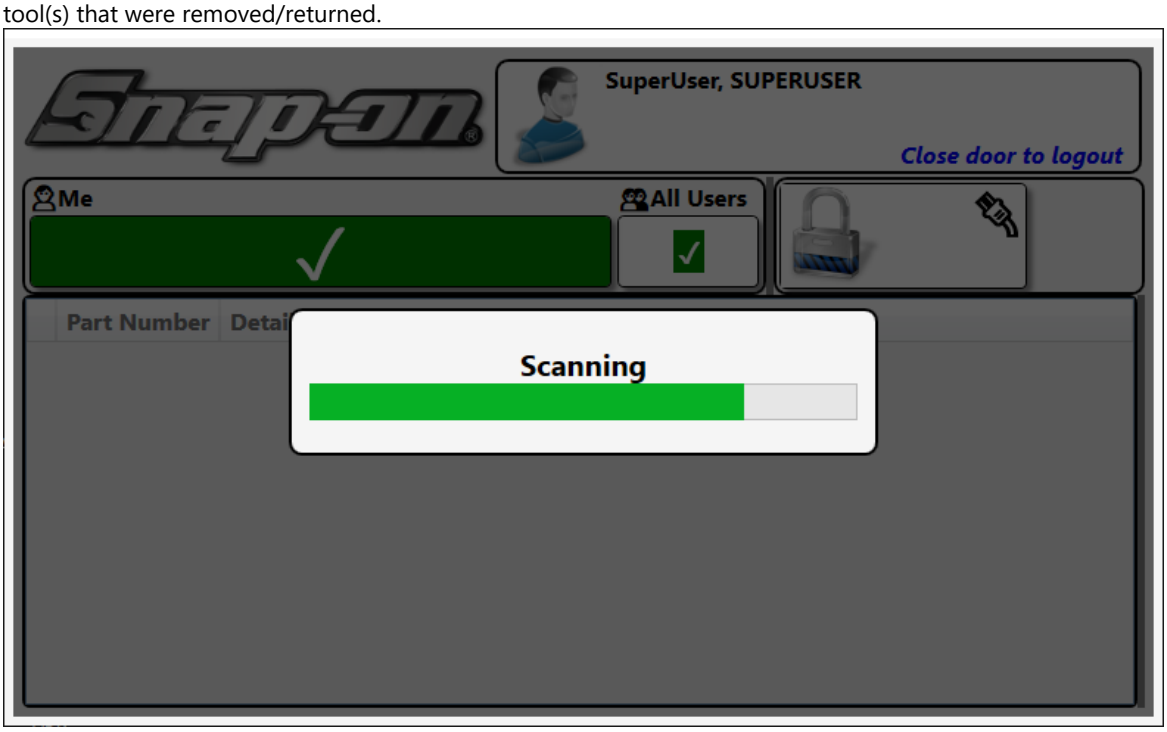


2. Upon opening the door, the system will log you in. You will notice that the padlock icon has now changed to show that the door is open.
NOTE: Sometimes the door may not unlock properly. This may be due to pulling on the door before the locking mechanism engages. Please make sure to wait for the click of the lock before you pull on the door.

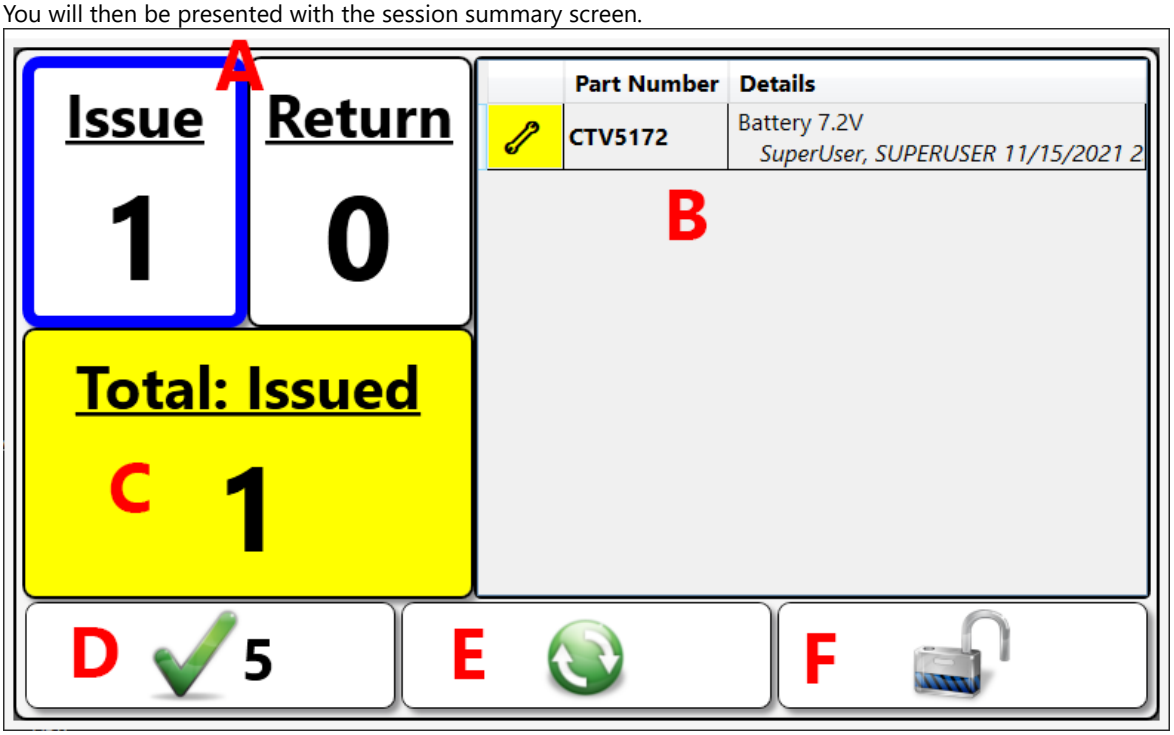


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3. Either return the tool(s) in hand to the RFID Cabinet or find the tool(s) you want and remove them from the RFID Cabinet. Then close the door the system will then perform an RFID scan and issue or return whatever tool(s) that were removed/returned.



4. You will then be presented with the session summary screen.

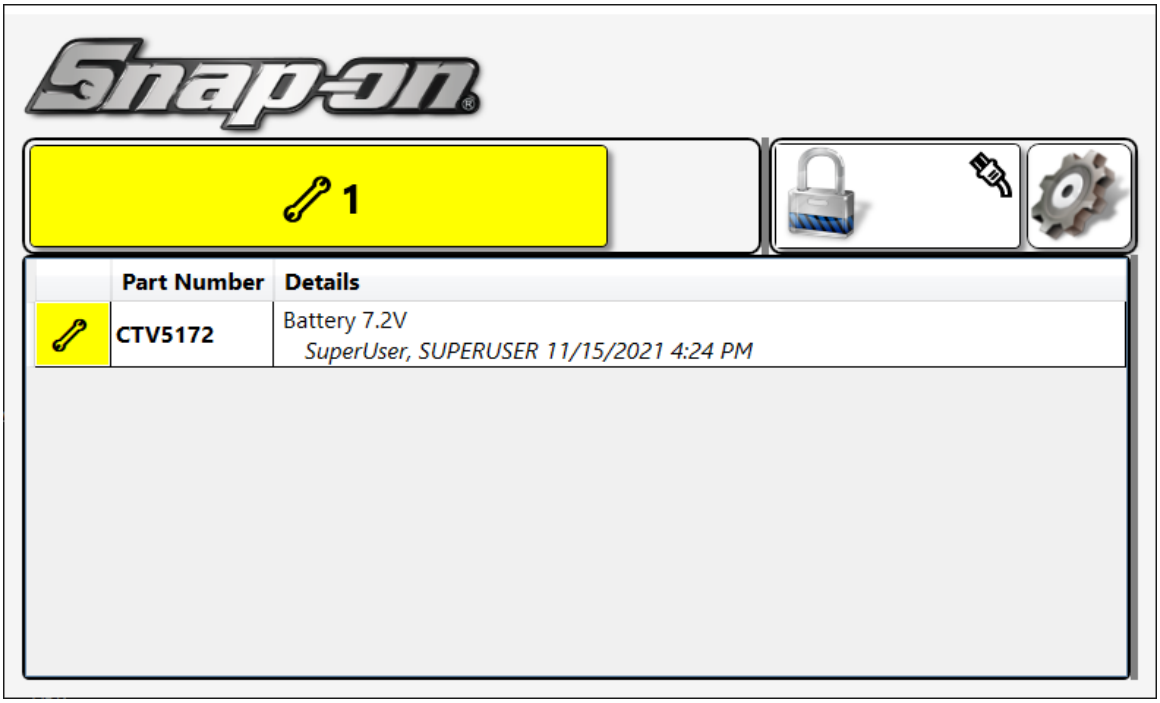


- A. Transaction Summary – These are the number of items that you are being issued or have returned. You can tap each to toggle the List of Tools (B).

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- B. List of Tools – This is the list of the currently selected tools. You can toggle it to show the list of tools being issued and tools being returned by tapping one of the options of the Transaction Summary (A).
- C. The number of Issued tools this session – Displays the number of tools that are being issued to the user.
- D. Confirm – Confirms and completes the transaction. If no input is made in 5 sec, this is automatically executed.
- E. Rescan – Forces the RFID Cabinet to rescan for RFID Tags.
- F. Unlock the door – Aborts the transaction and unlocks the door.

5. You can either tap the Confirm button or wait 5 sec, the tool(s) will be issued/returned to you, and the locker will return to the home screen.



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True-Crib

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True Crib Work Flows

The purpose of this wiki is to document the work flows for the True-Crib device. This document will focus on the True-Crib specific portions of the device.

Setting Up Attendants

True-Crib requires an Attendant to unlock the software before any tools can be issued or returned. An employee with special permissions is required to perform this action. To set a user as an attendant, you must use the L5 Connect™ Administration Client.

1. In the admin client, select the user you want to set as an attendant.

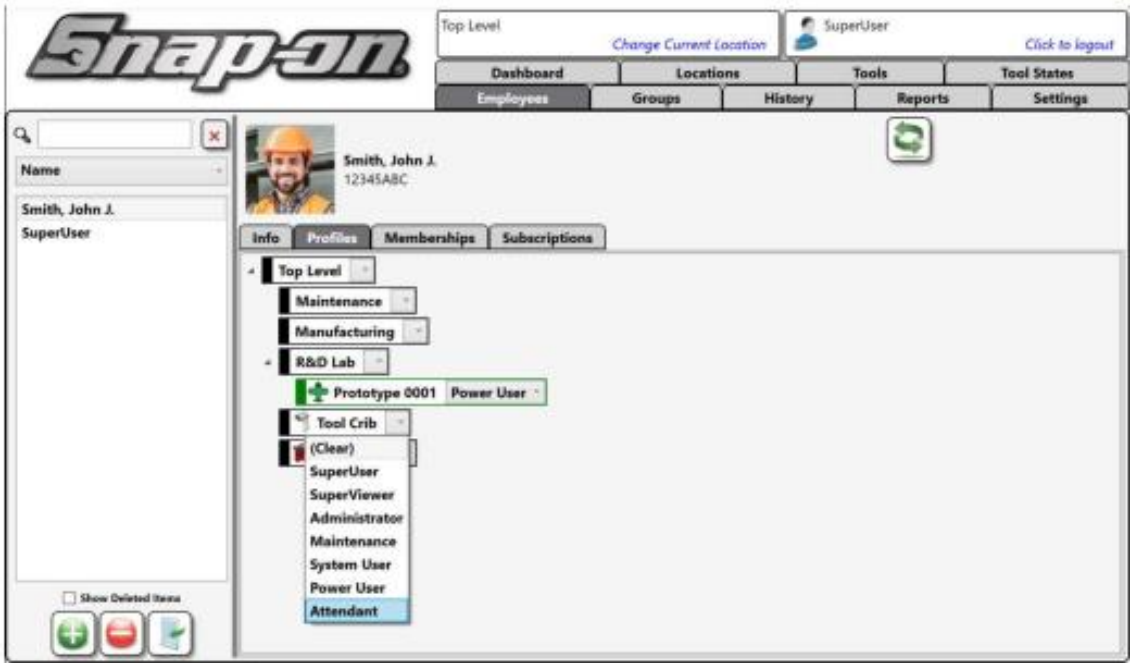


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2. Go to the **Profiles Tab** and select the **Tool Crib**.



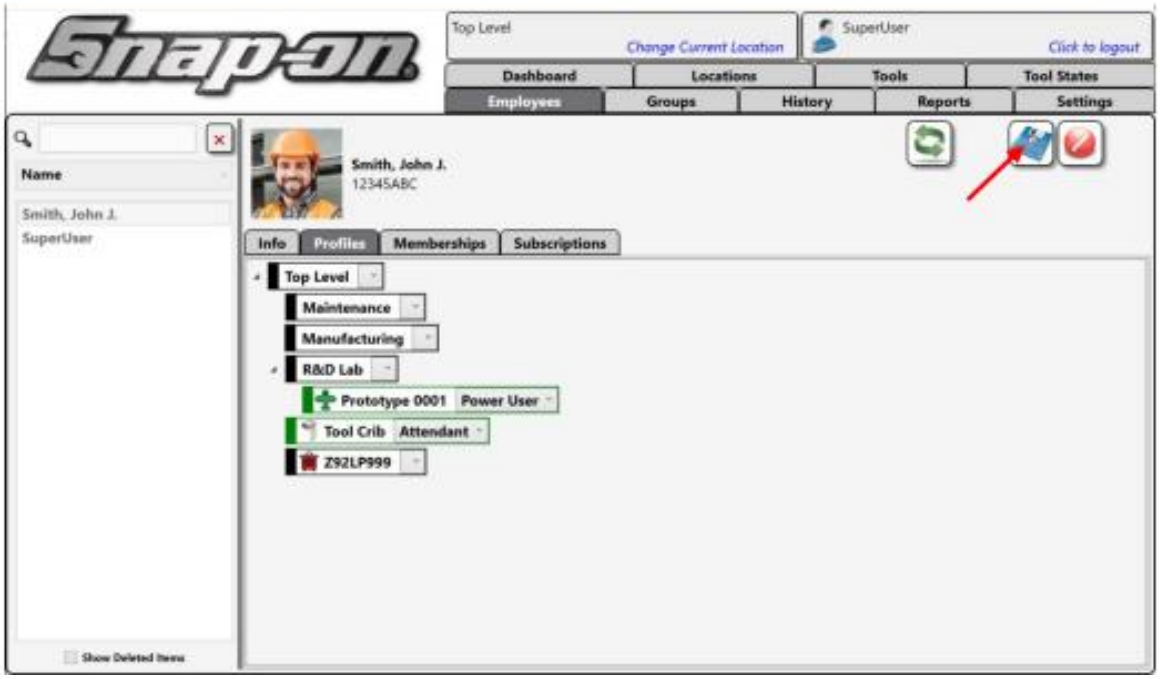
3. Use the pull-down and select the **Attendant Profile**.



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4. Click **Save** in the Upper right Corner. The Employee can now log in as an attendant.

Click Save in the Upper right Corner. The Employee can now log in as an attendant.



NOTE: Attendant is a custom profile. You must first create the profile before you can assign it to a user. In this case, it is a System User Profile with the added permission Location/Tool Crib Attendant.

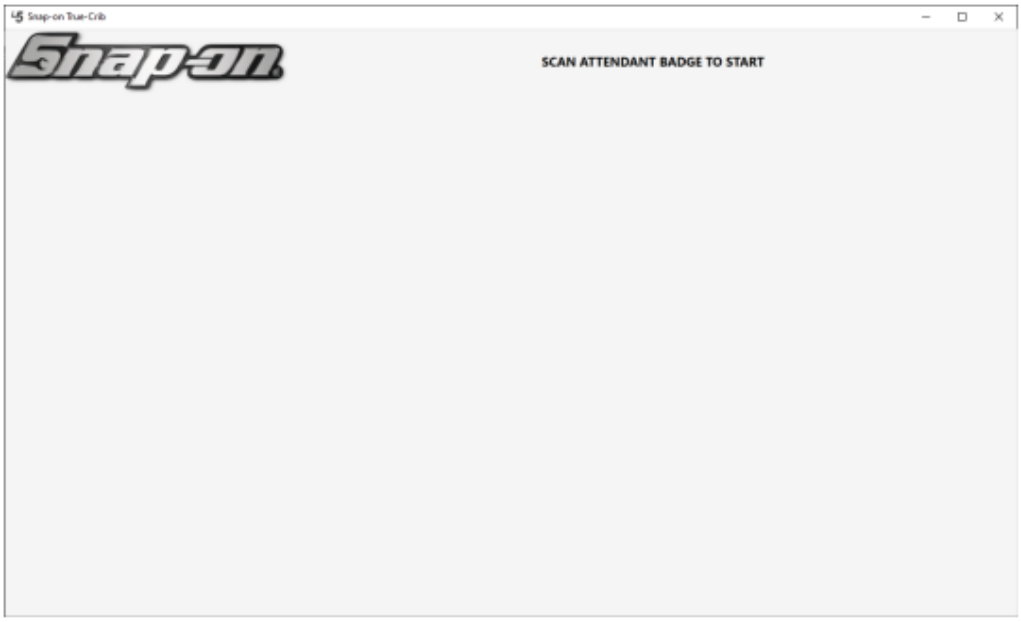
For more information and instructions on how to create custom profiles, please see the Profiles Section of the L5 Connect™ Administration Guide.

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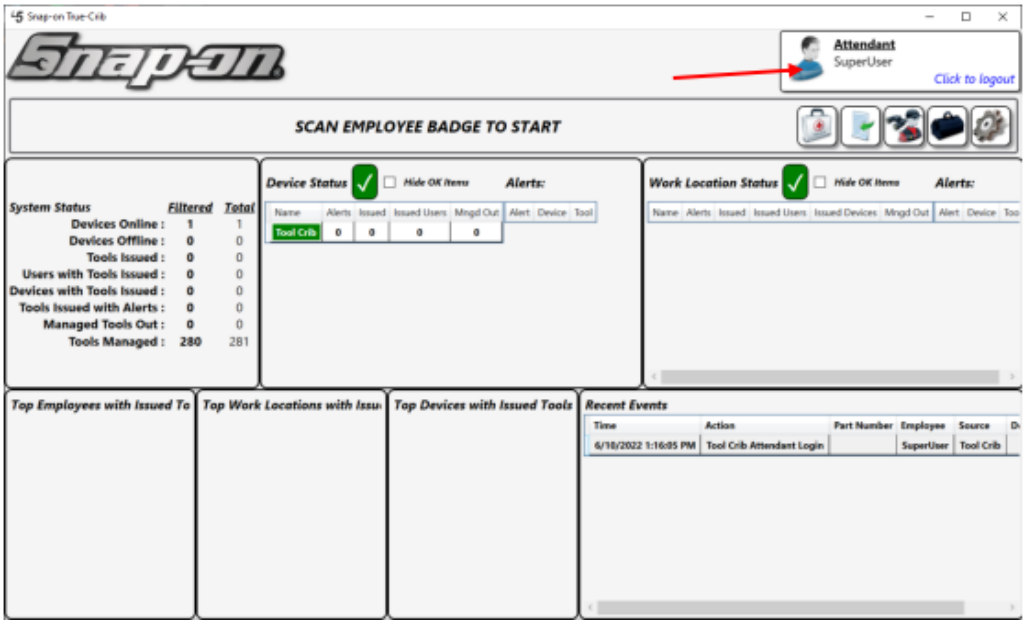
Accessing the Crib

When you start the True-Crib™, you will be prompted to sign in as an attendant. This is the Employee who will be responsible for the Crib. You will need to have the Tool Crib Attendant permission granted to you beforehand to log in as an attendant.

1. To log in, scan your Badge with the RFID card reader.



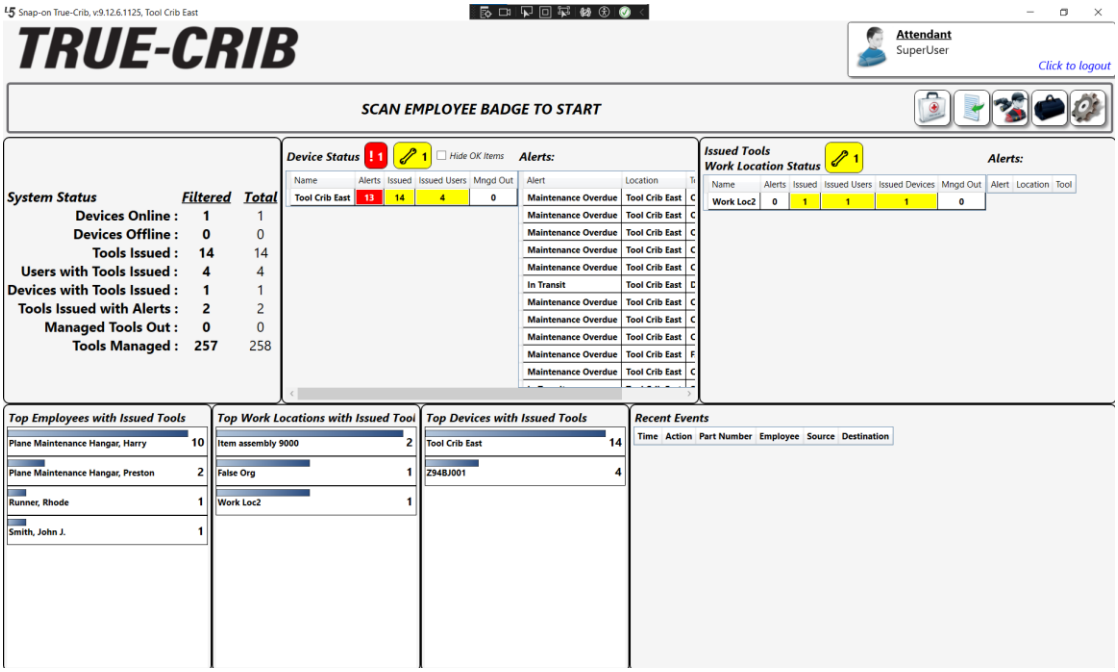
2. Once you have scanned your Badge, you will be at the Attendant Dashboard. To log out, tap the Current Attendant button on the upper right-hand side of the screen.



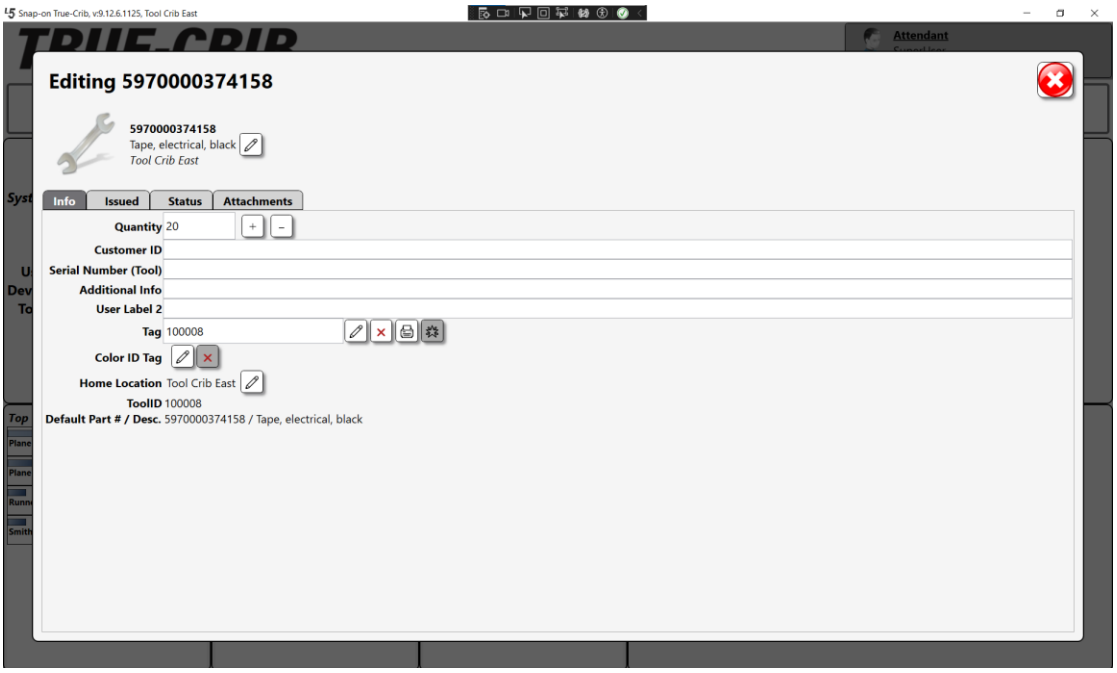
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Scan Tag for Tool Options

In cases where there is an attendant logged in and there are no other overlay windows currently open, you can scan the tag of a tool to open the tool options screen for that tool.



From this screen, simply scan the tag of a tool in the crib with an approved L5 Connect barcode scanner.



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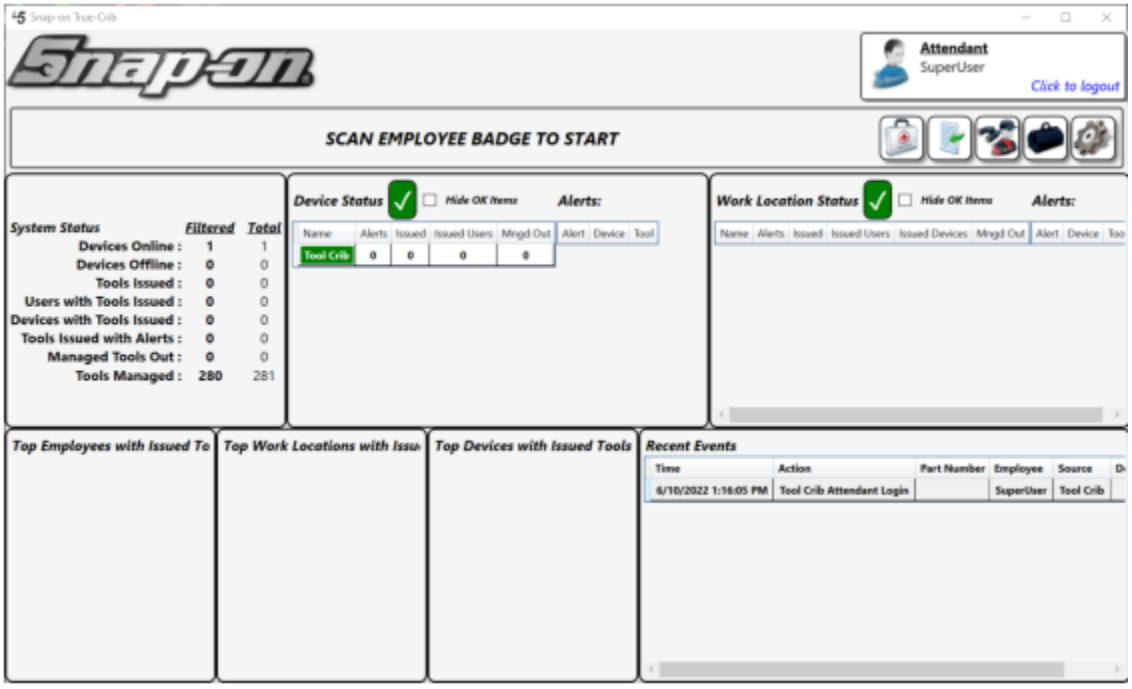
Issuing and Returning Tools

Once an attendant has signed into the True-Crib™, they can then begin to issue and return tools. All tool exchanges are done manually by the Crib Attendant. Employees authorized to utilize the tool crib must have permission to the tool crib for the attendant to issue and return tools to them.

When the Employee scans their Badge, it starts a session in which they can check out and return tools simultaneously. All transactions are saved when the session is closed. The Employee will then be
presented with a summary screen letting them know how many tools were issued and returned during the session.

Issue a Tool

1. To issue a tool, an attendant must log in to unlock the system. While on the True-Crib™ Dashboard, an employee must scan their Badge to start the process.

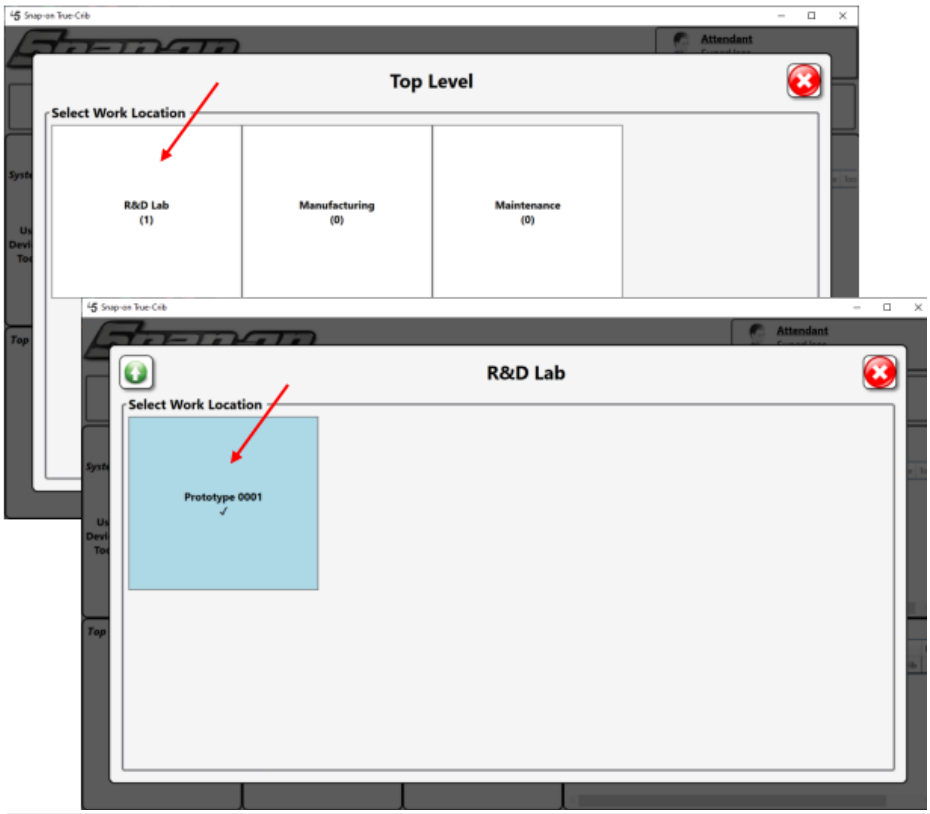


2. Once True-Crib™ scans the Badge, it will prompt you to select a Work Location if one is present. If there are no work locations in the system, this prompt will not display.

Note: More information about Locations can be found in the L5 Connect™ Administration Guide.

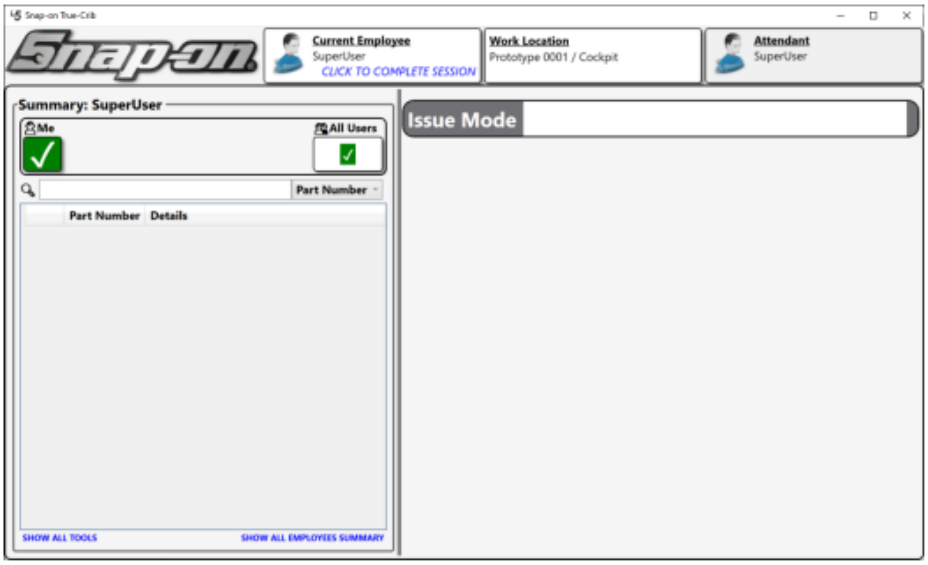
The example below shows three locations with the R&D Lab location containing 1 Work location. First, select R&D and then select Prototype 0001 as the work location to assign the tool.

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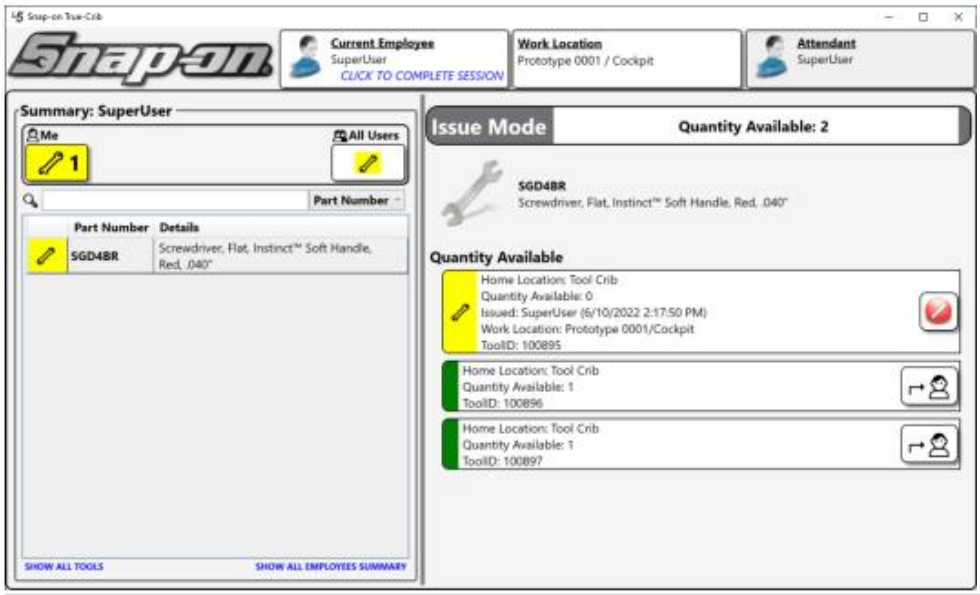
NOTE: Even though you can navigate the entire Location Tree, you will only see work locations that the employee has access to.

3. Once you have selected a Work Location (if available), you will be presented with the tool issue and return screen.



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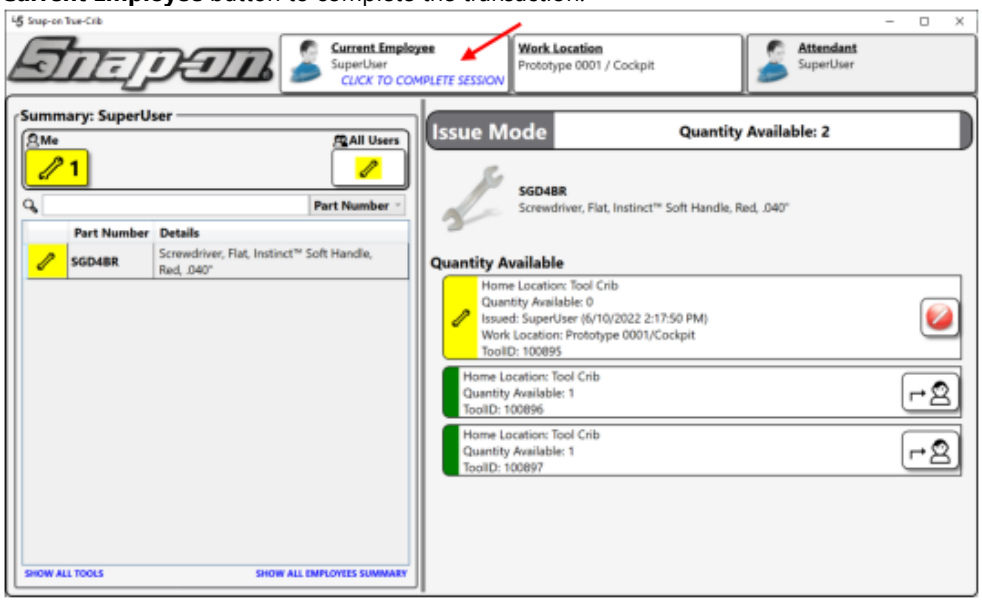
4. True-Crib™ can utilize barcode tags that can be scanned to issue and return tools quickly. For example, scan the barcode for a **.040" Flat-head Screwdriver**. Once you do, the system will find the chosen tool and select one instance of that tool to be issued if there is one available.



NOTE: If there are not Tool Instances available to Issue, you will receive an error via audio feedback. For more information about tools and Instances, please read the Tools section of the L5 Connect™ Administration Guide.

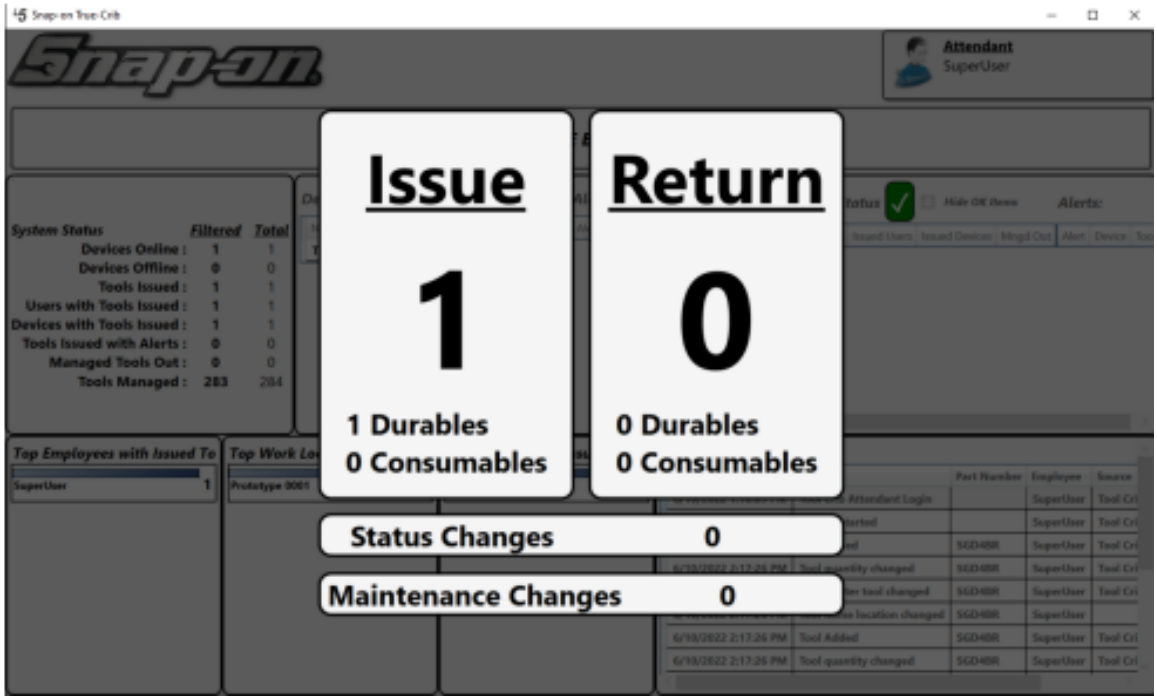
If the wrong tool instance is selected accidentally, you can clear your selection by clicking on the cancel button.

5. Now that you have scanned the tool and selected an available instance, you are ready to end the session and issue the tool to the Employee. The Employee will need to either swipe their badge again or click on the **Current Employee** button to complete the transaction.



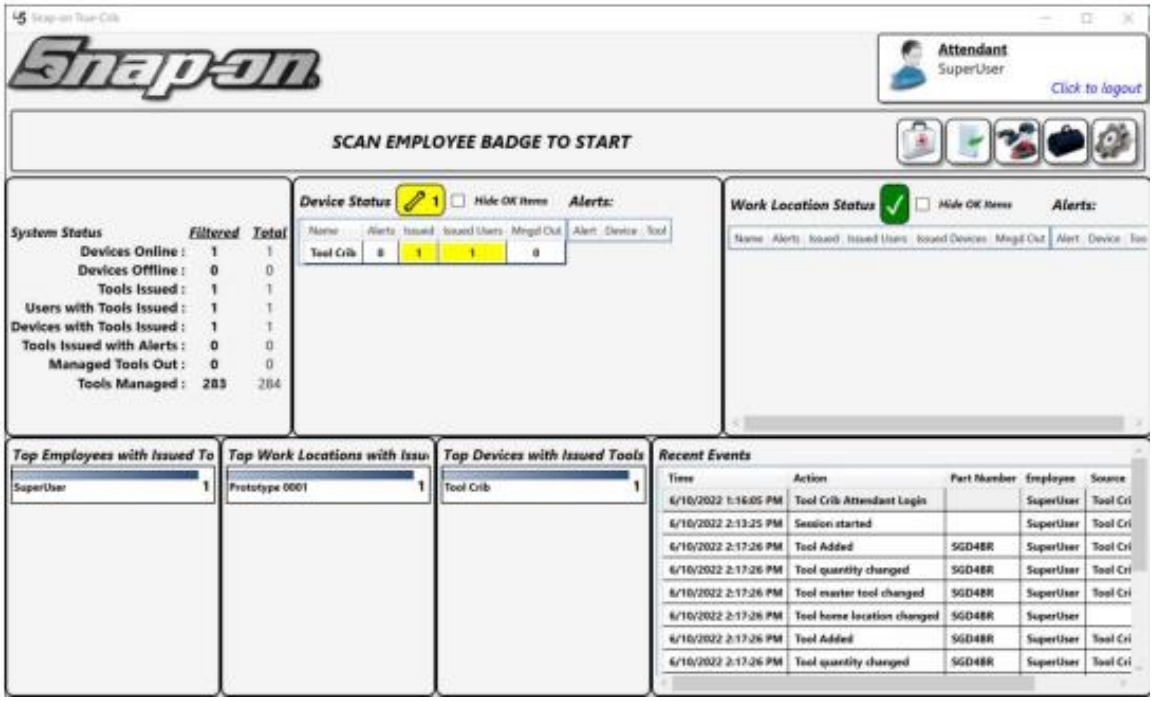
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6. You will then be presented with a transaction summary that displays the number of tools issued/returned during the session.



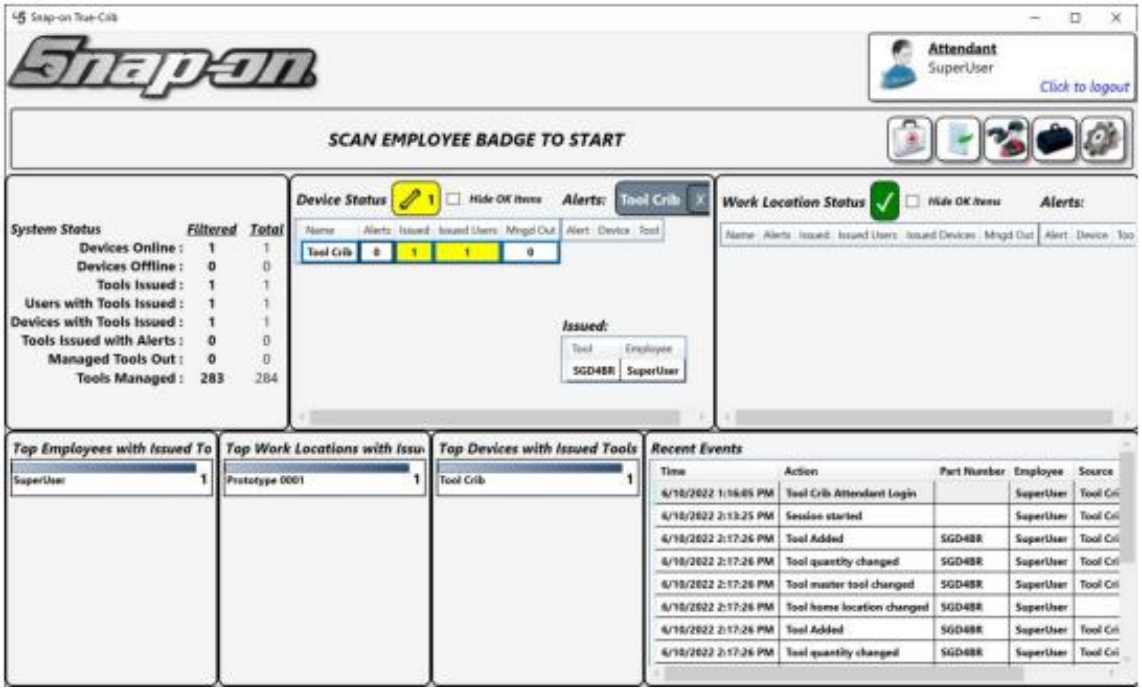
The tool is now issued to the Employee.

7. You will now notice that the Dashboard has been updated to reflect the new status of the tool that was just issued.



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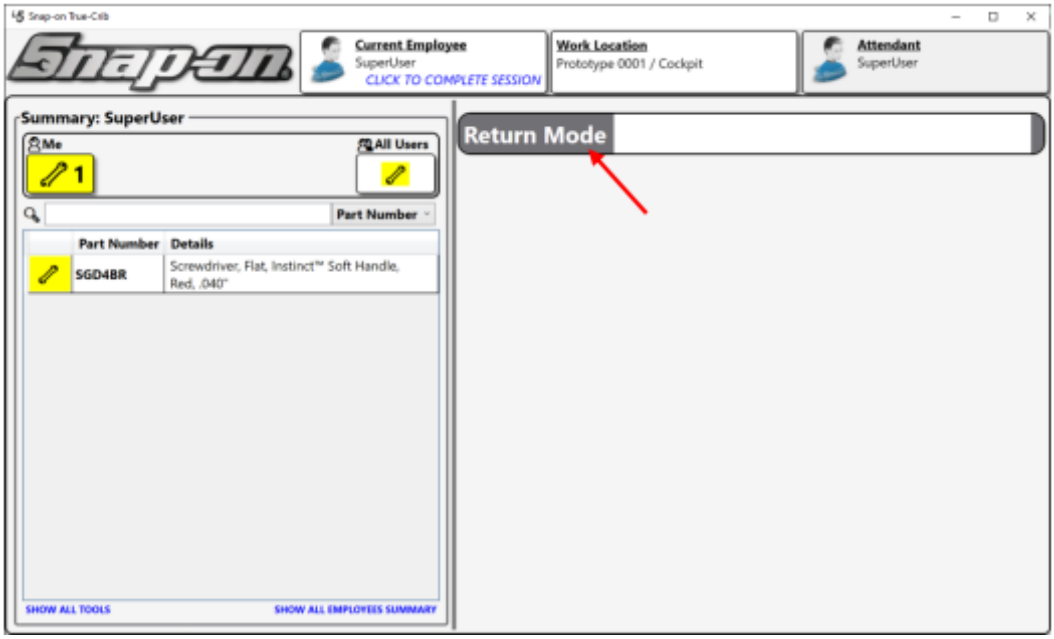
8. Suppose you click on the device with the status, you will get the tool-issued information. You can click on the X to clear the tool info from the screen.



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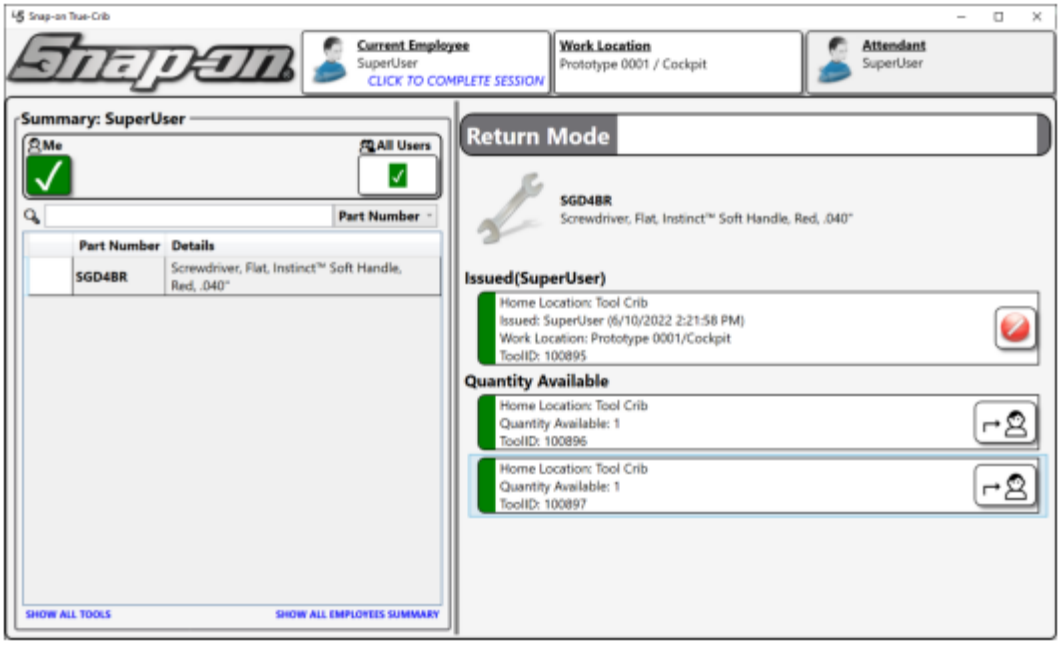
Return a Tool

1. Returning a tool follows a similar process to issuing a tool. First, an attendant will unlock the system. Then, the Employee will use their Badge to start a session and select a **Work Location** (if available). This time when they do, since they have tools checked out, the system will default to a **Return Mode** instead of **Issue Mode**. You can switch between these modes by clicking on the **Mode Toggle** button.



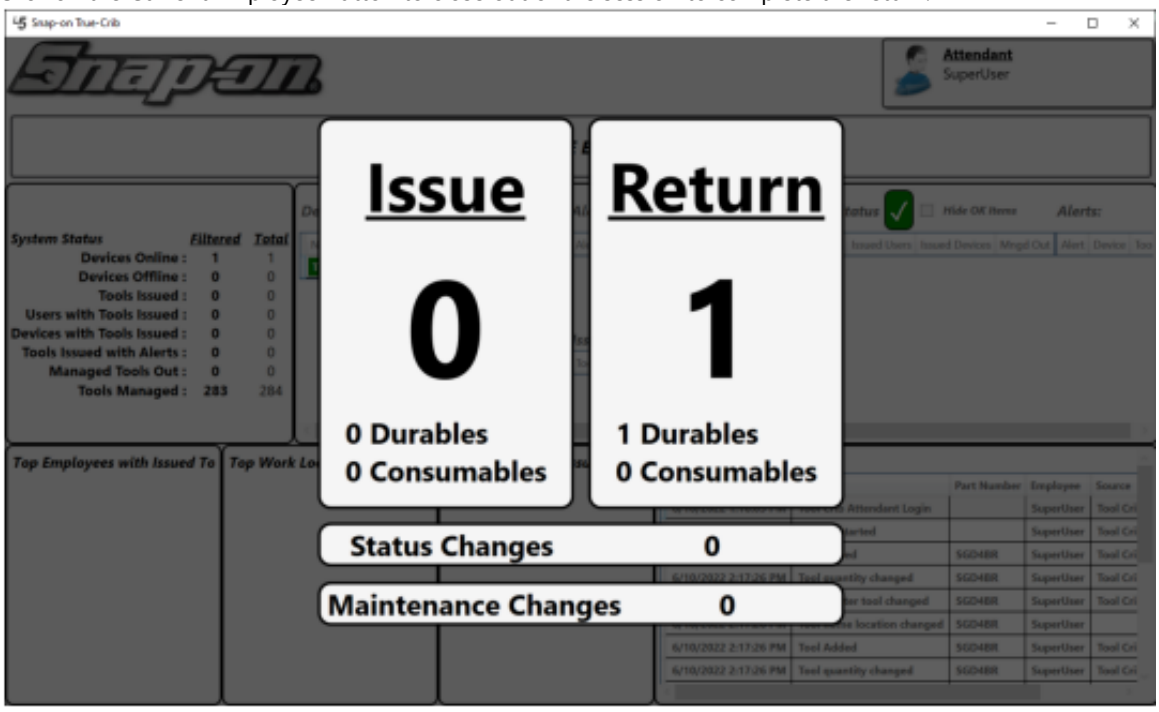
Switching between these two modes during a session will allow you to check-in and out tools within the same session. You can also press **I** or **R** followed by **Enter** on the keyboard to switch modes quickly.

2. In **Return Mode**, scan the barcode for the tool to be returned. When you do, the assigned instance will be marked for return.

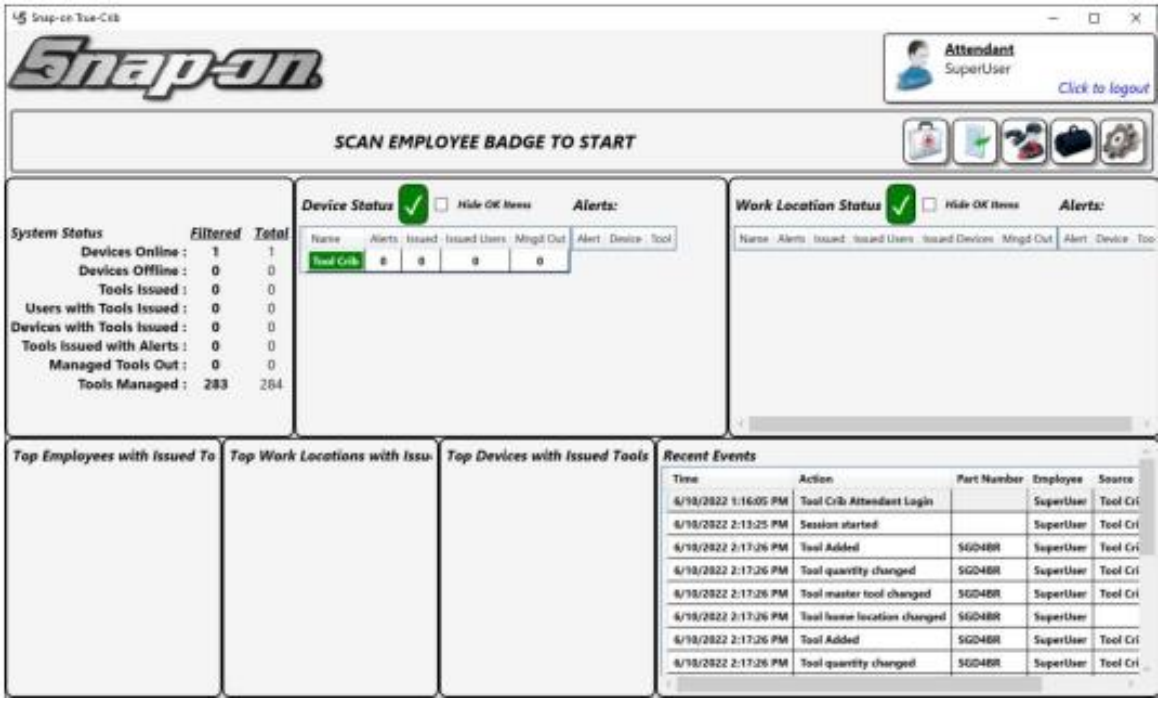


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3. Click on the Current Employee Button to close out of the session to complete the return.



4. The tool has been returned to the Crib, and the Dashboard has been updated with the new information.

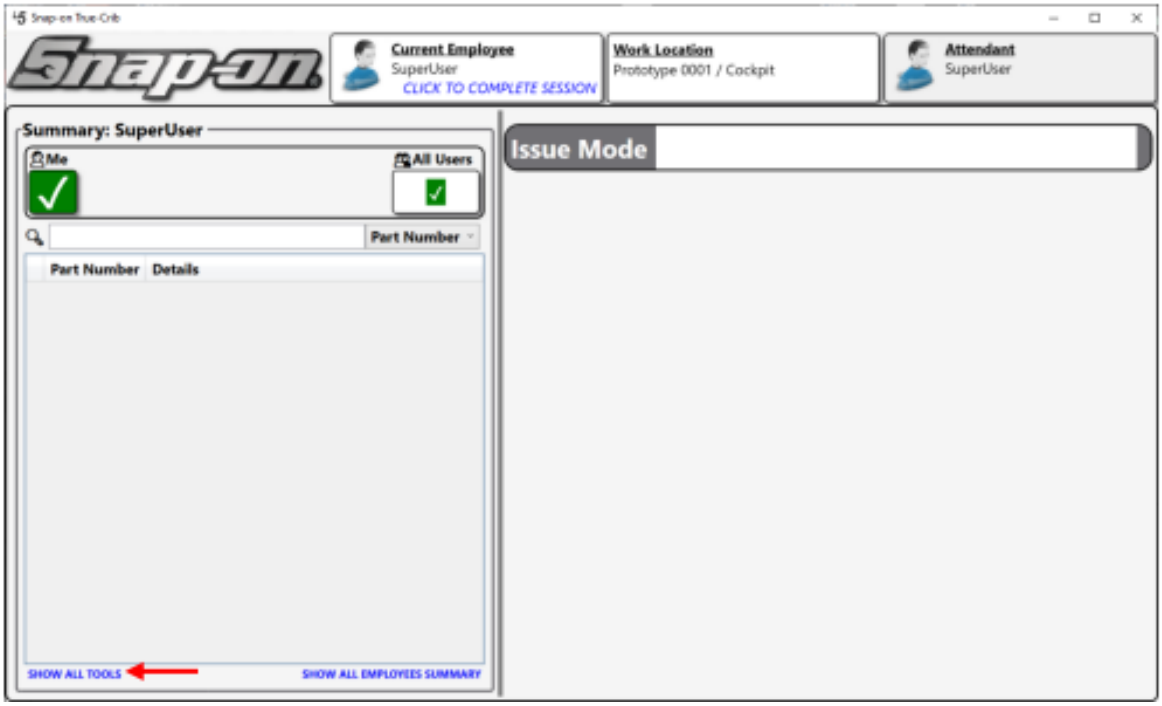


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Tools Without Barcodes

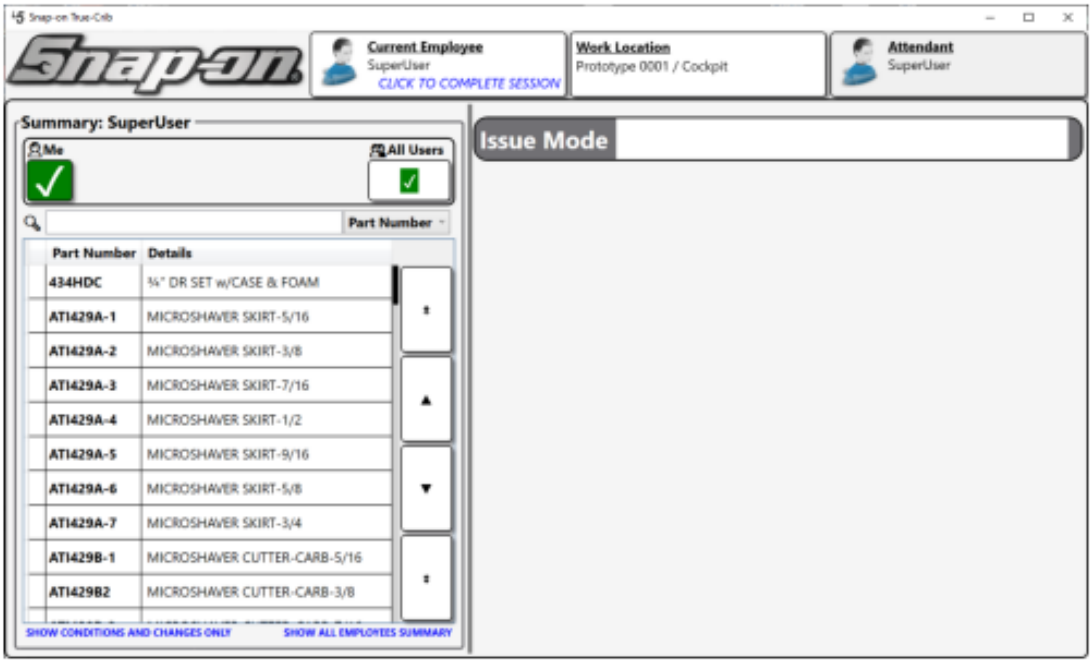
Sometimes, you may have a tool where a barcode has fallen off, becomes unreadable, or is otherwise unavailable. You can still issue and return these tools manually. To do this, you will need to search for it in your tool list.

1. In the default view, you will only see tools currently issued to the Employee. To see all tools, click the **SHOW ALL TOOLS** button in the lower left-hand corner.



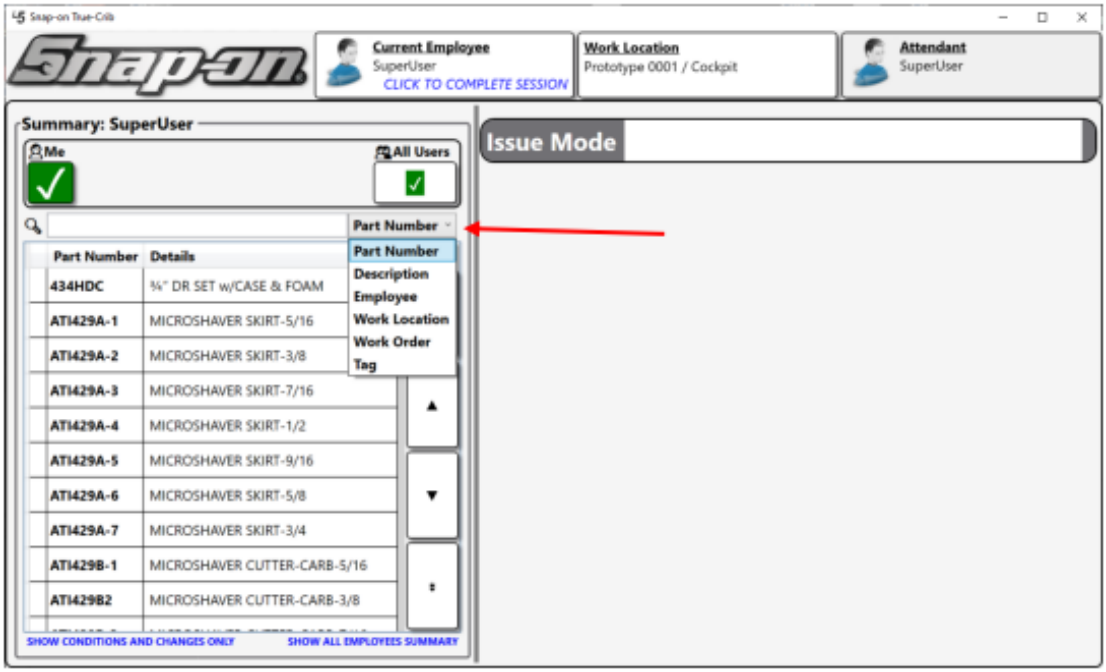
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2. This will list all tools within the Crib.



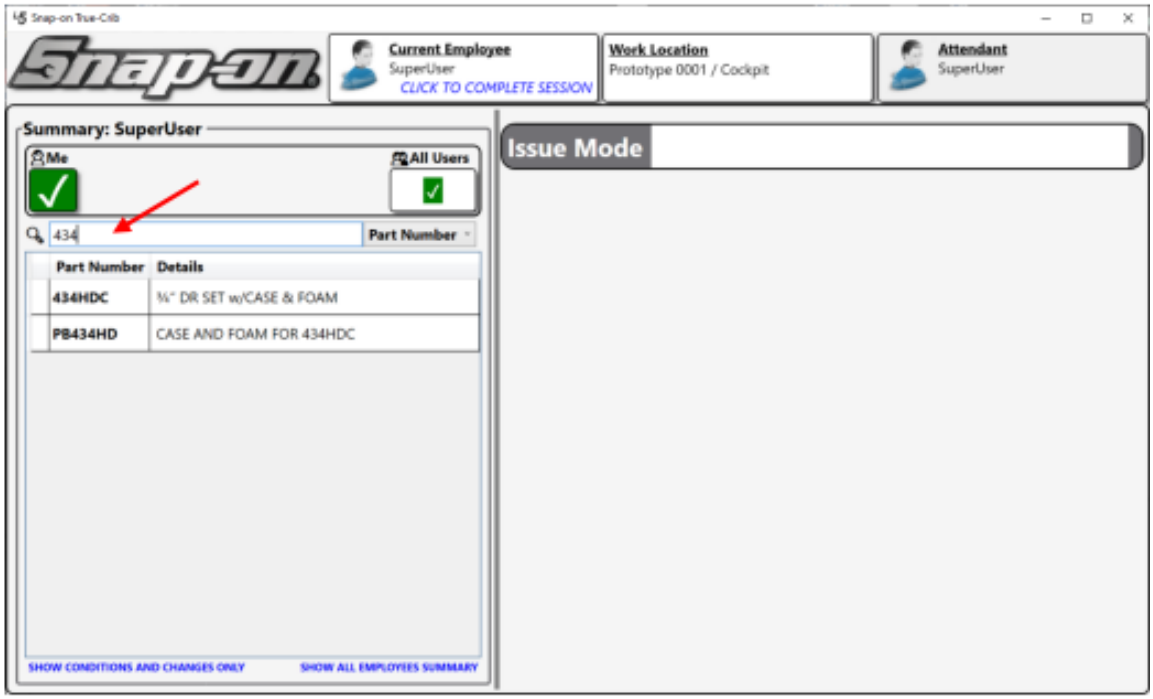
In larger cribs, this list can become quite long. To assist the attendant in finding the correct tool, there is a search feature within the tool list. This search can be used to filter the list. The pull-down by the search box allows you to search by the following:

PART NUMBER – Search based on the tool's internal part number.
DESCRIPTION – Search based on a description of the tool in the system.
EMPLOYEE – Search for the tool to Employee it was issued.
WORK LOCATION – Search for the tool based on the Work Location it was assigned.
WORK ORDER – Search for the tool based on the Work Order used to issue the tool.

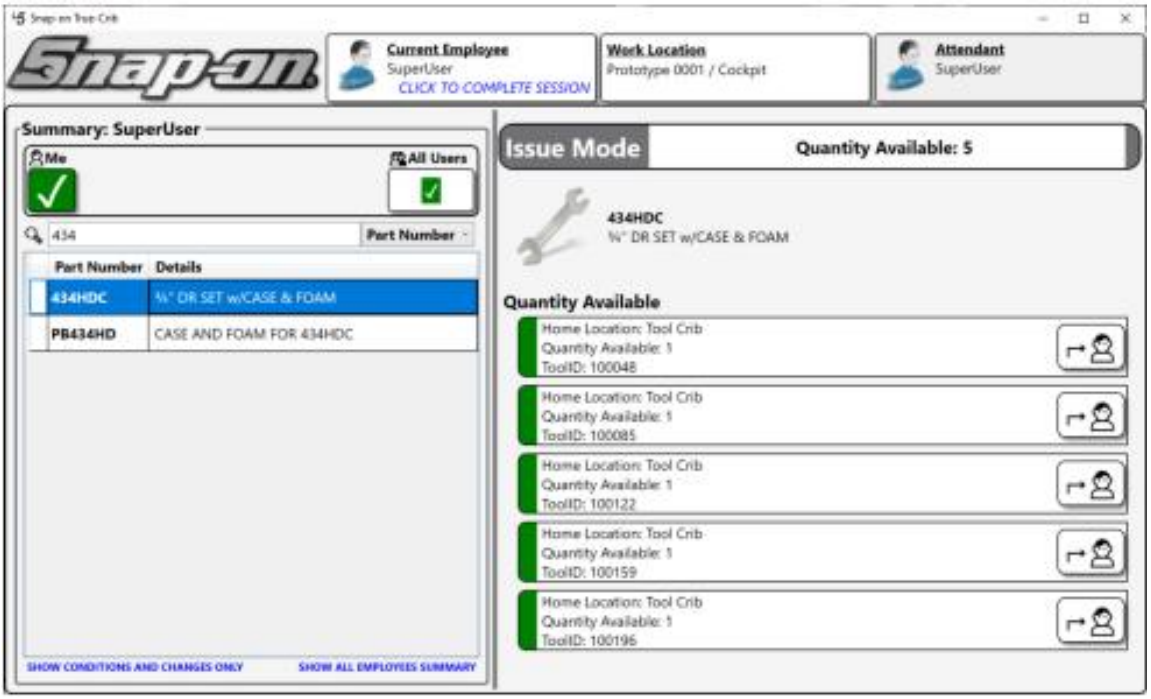


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This search bar is contextual, meaning that it will begin filtering the list as you type.



3. Once you have filtered the list and found the tool you are looking for, click on the tool. You will be given the **Tool Instance** sub-screen. This screen will display all instances of that tool within the Crib.

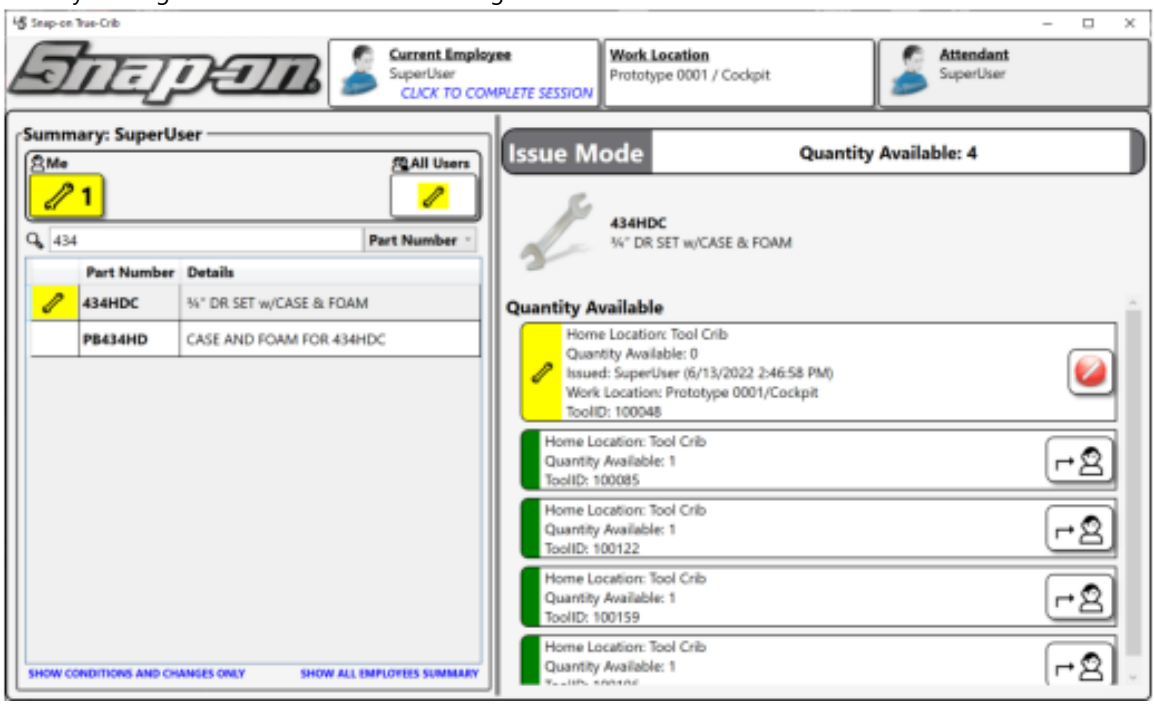


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4. As You can see, this Crib has five DR Sets available. To issue one of these to the Employee, click on the **issue** button on the right side of the tool instance you wish to issue.

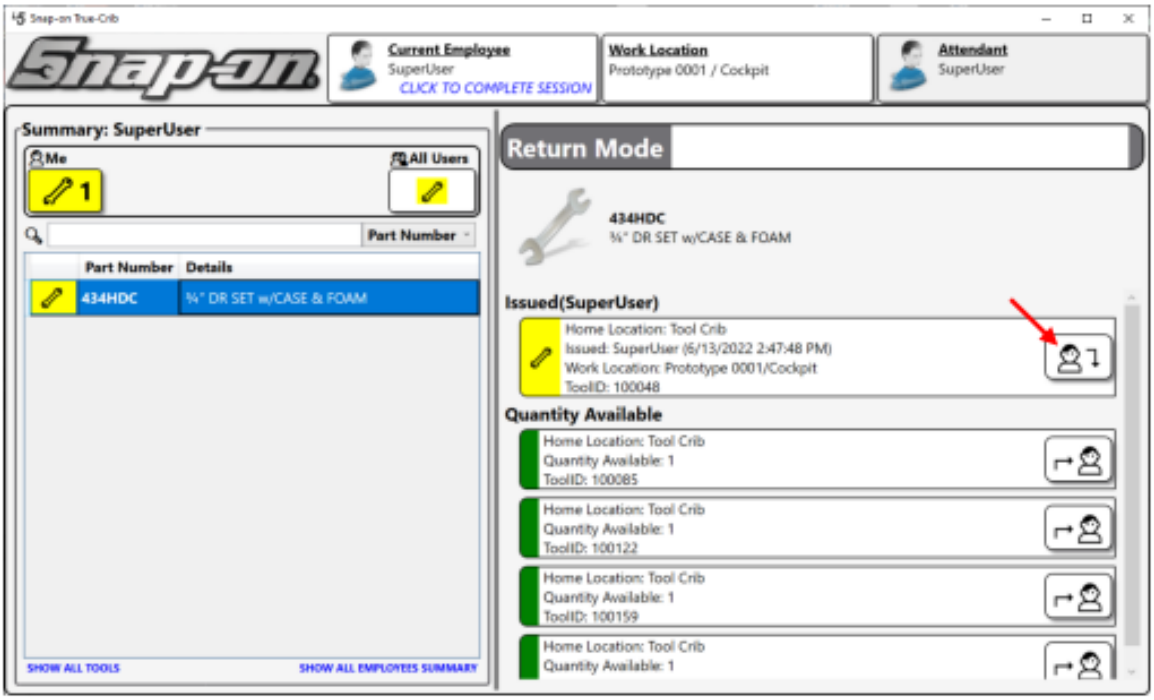


5. Once you click the Issue button, the tool will be marked as a pending issue. You can cancel the pending issue by clicking on the **cancel** button to the right of the selected instance.



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6. If no more tools need to be issued, you will close the session the same way as you normally would. To return a tool manually, an Employee will log in normally. When they do, it will display a list of tools they currently have issued like normal. Simply select the tool from the list and click on the RETURN button to place the tool in a pending return.



7. Once you have all the tools ready to return, the user will log out like normal, and the tools will be returned to the Crib.

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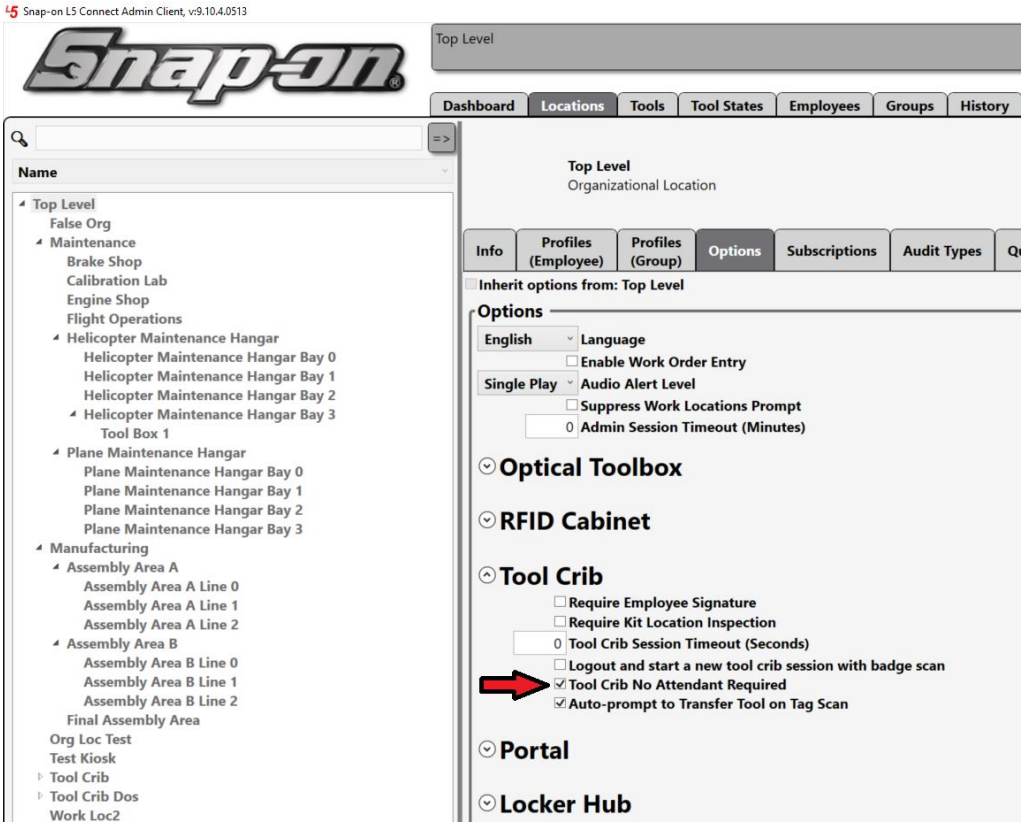
No Attendant Mode

The tool crib can be configured in such a way that an attendant is not required to log on to issue and return tools.

Configuring the No Attendant Mode

1. Using the Admin Client, navigate to the Locations Tab
2. Select the desired location level to implement the option change. (If setting the change at an organizational location make sure that no lower location levels override the Options inheritance)
3. Click on the Options sub-tab
4. Check the box for the Tool Crib No Attendant Required option
5. Click the blue disk in the upper-right to save the change
6. The tool crib must be connected to the L5 Connect service to receive the change
7. You may need to log in and out as an attendant once to update the behavior at the tool crib

Admin Client Screen



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True-Crib Screen

Attendant Required Screen



No Attendant Required Screen



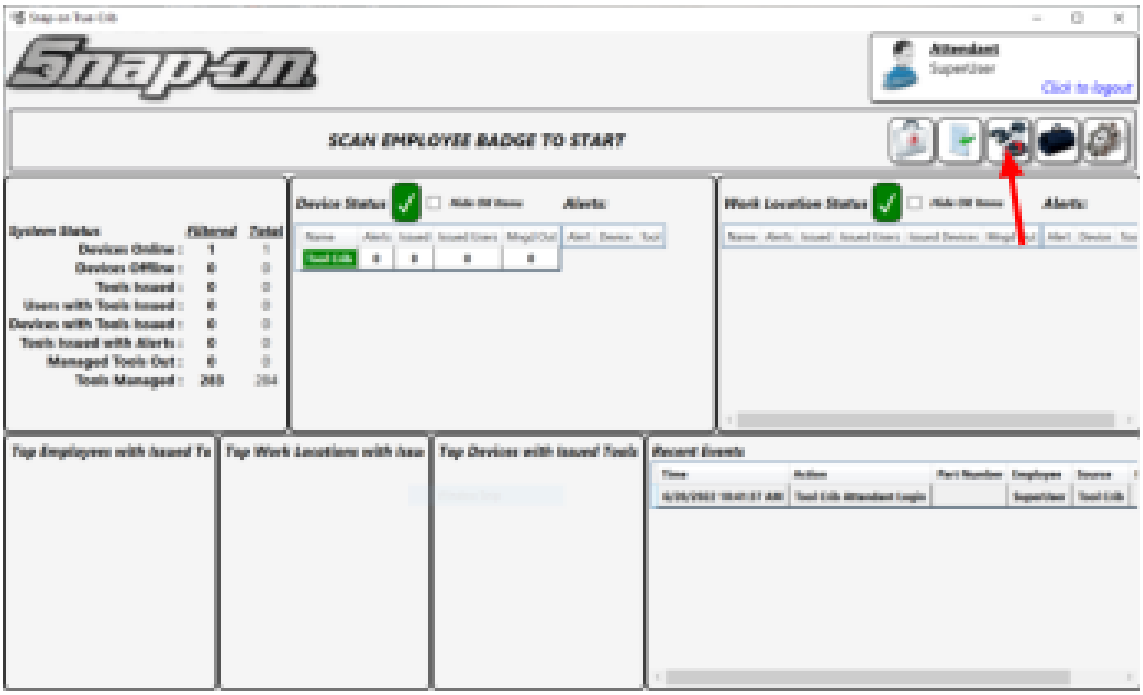
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Admin Mode

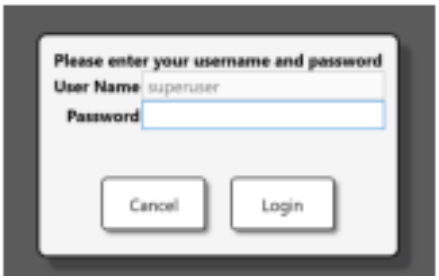
True-Crib™ contains an administrative mode like the L5 Connect™ Administration Client. However, this Mode is limited to just the Crib itself. It doesn't allow you to access any other device or make system-wide changes.

To access the administration mode, you must have an Admin Username and Password and permissions to access the admin functions.

1. You will first need to unlock the Crib as an attendant. Then click on the Admin Mode button.

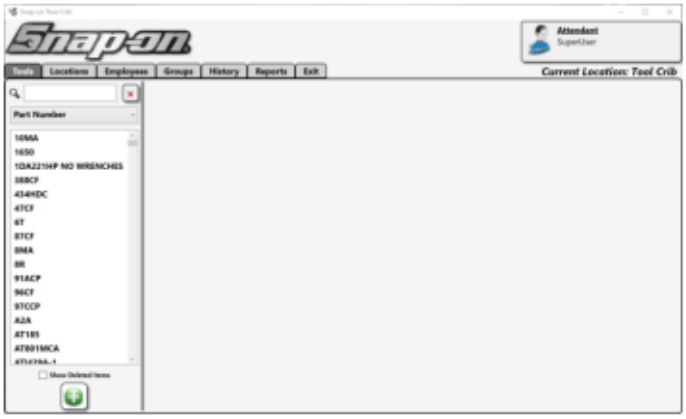


2. You will then need to enter your Admin Password as the username will automatically fill with the username of the currently signed-in attendant (if they have one).



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3. You will now see a screen like the Administration Client that will allow you to change the Tool Crib. Click on the Exit tab to return to the True-Crib™ Dashboard.



Note: For more information about these tabs and how to use them, please see the L5 Connect™ Administration Guide.

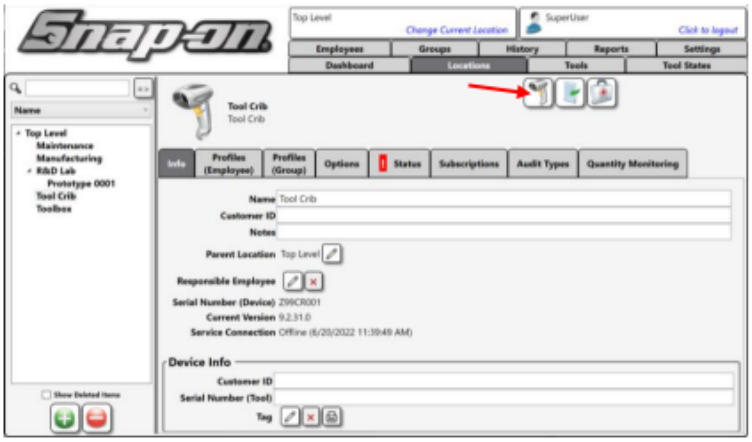
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True-Crib Seats

If you need multiple transaction points (checkout lanes) in a single crib, you can use additional True-Crib™ Seats. True-Crib™ Seats allow users to open a remote terminal session to a True-Crib™ instance using the L5 Connect™ Administration Client.

The number of seats available is determined by the number of seats you purchase with your license. When a seat is not in use, it is part of a pool of seats that can be issued when someone starts a session. When they end a terminal session, the seat returns to the pool. You do not have to assign a seat to a PC statically. This allows multiple people to share seats that are not working simultaneously.

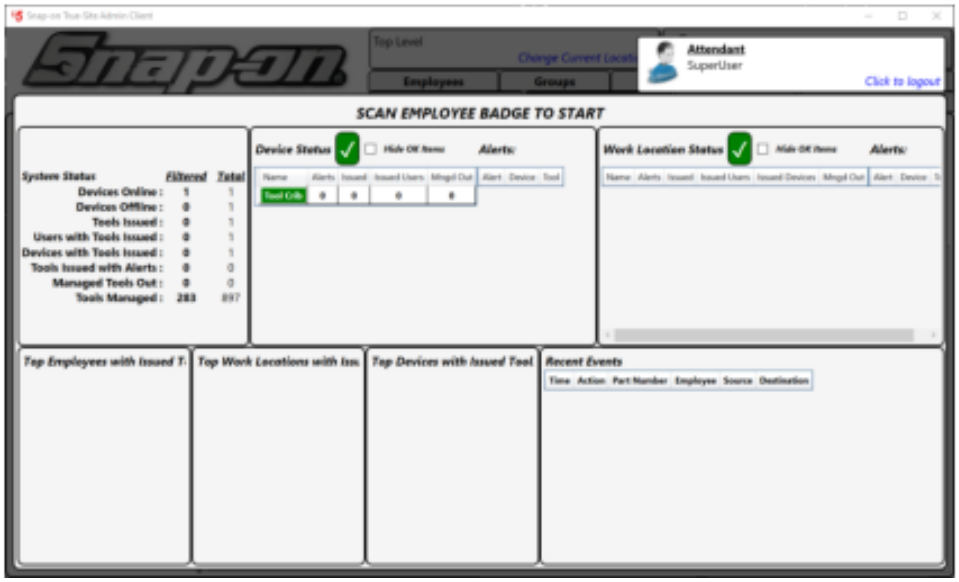
1. To start a Terminal session with a True-Crib™ instance, you must have a Username and Password to log into the L5 Connect™ Administration Client. Once you have logged in, go to the locations tab, and select the True-Crib™ you want to connect. Then click on the Tool Crib Seat button.



NOTE: The True-Crib™ software must be online to connect.

If the True-Crib™ software is not running, you will get a device offline error.

2. This will open the True-Crib Terminal Session in Attendant mode. You can now issue and return tools from the admin client. When you log out of the session, the seat returns to the pool.



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ATC Portal

L5 Connect™ ATC Portal Installation Guide

This guide ships with the ATC Portal product.

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ATC Portal Workflows

This document will walk you through the basic operational workflows of the ATC Portal.

Basic Operation

Issue Items

1. Scan your badge using the external badge scanner. If you have access to the device, you will hear the message **"Access Granted"**. This will allow access into the ATC Portal cage outer door. **Note: The door will shut and lock behind you.**
   NOTE: If someone is already in the Portal, or if something is obstructing the path through the Portal, you will need an Attendant to override and unlock the door to clear the path or wait for the person in the portal to complete their transaction.



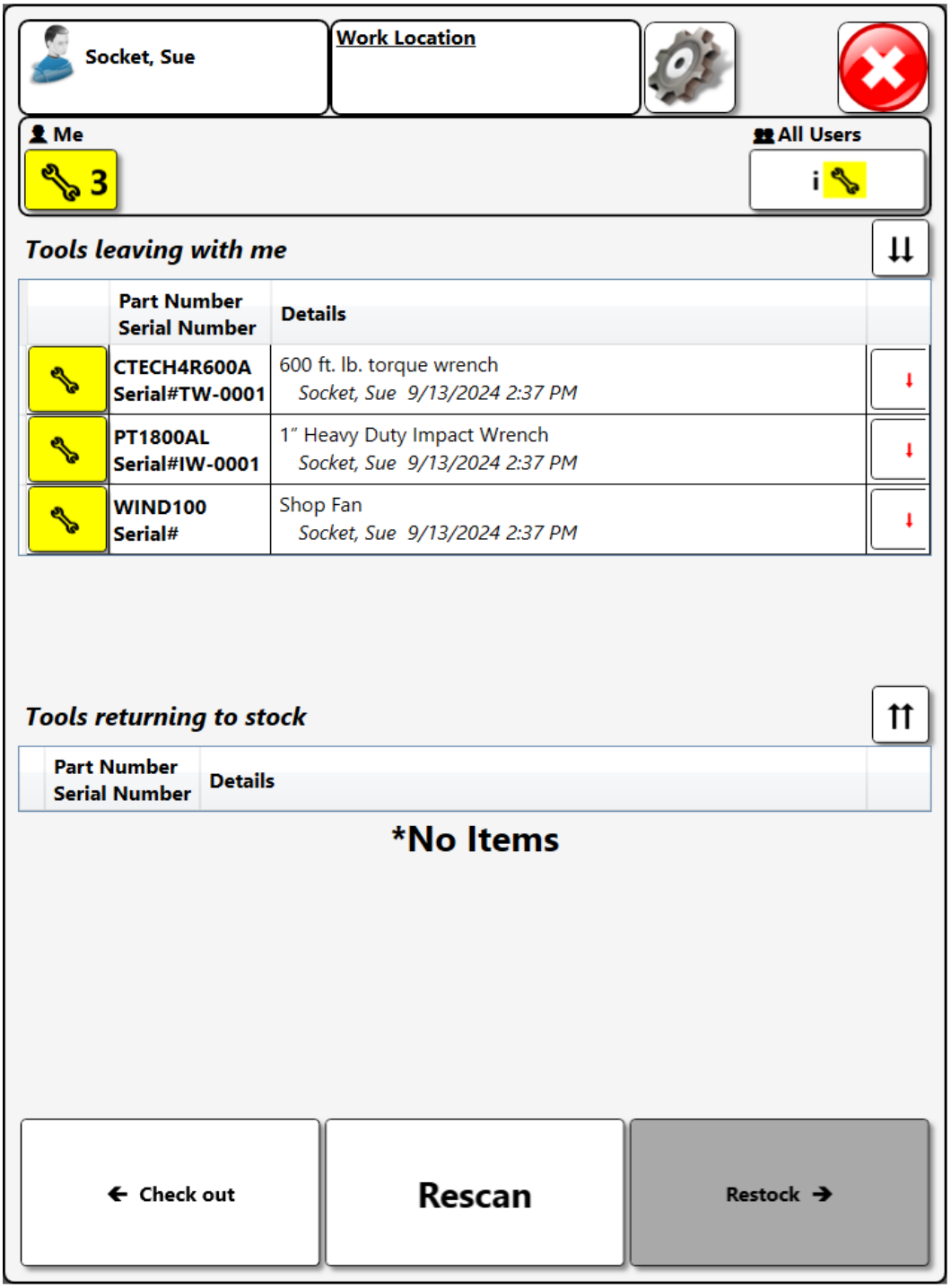
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2. Grab the item(s) you wish to issue from the Tool Storage area and proceed back to the portal cage closing the doors behind you.
3. Scan you badge using the interior badge scanner located above the screen. The portal will then scan for whatever items you have.



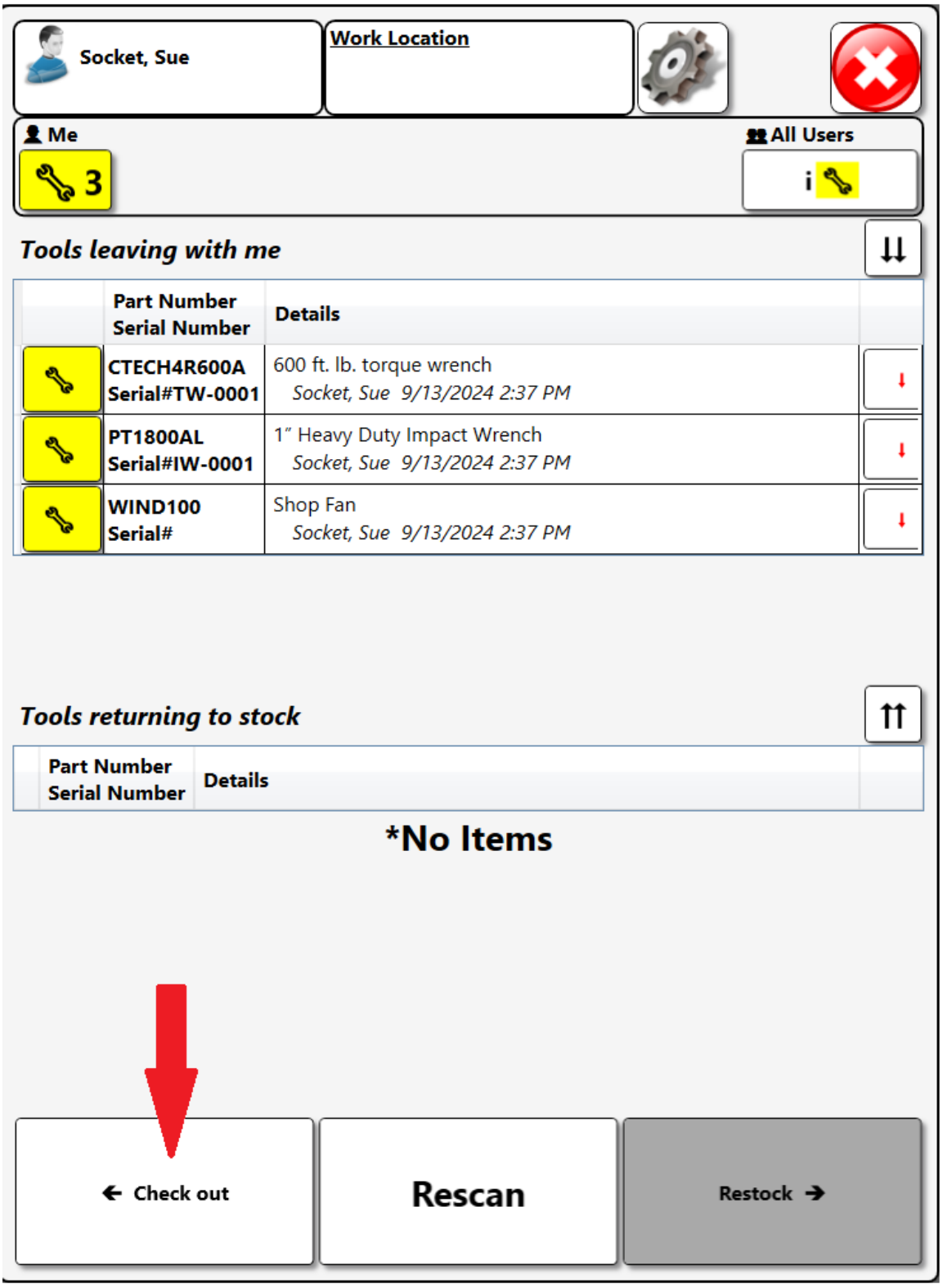
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4. Check to make sure all items were properly scanned by the portal. If all items were not detected by the portal press the **Rescan** button. This will only add new tools and not remove tools that have already been detected.



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5. Then click **Check Out**.



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6. Following successful logout, a summary screen will appear on the display showing total number of tools issued/returned and # of tools with status or maintenance changes applied during the transaction. The Exit door will unlock. **Follow the audible instructions and exit the Portal.** The system will log you out and lock the exit door after you exit. **The selected items are now issued to you.**

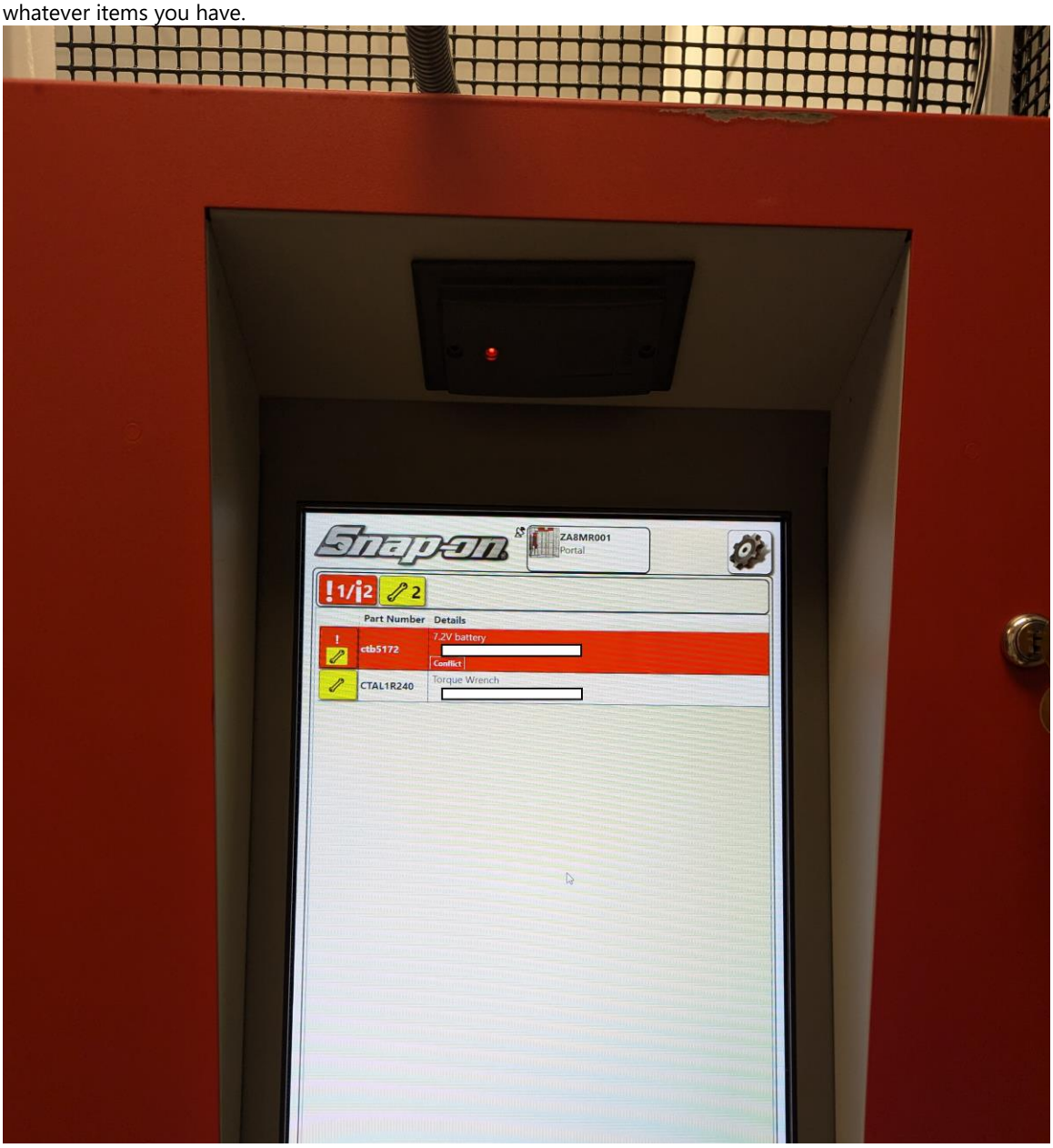
Return Items

1. While in possession of the items you wish to return to the portal, scan your badge using the external badge scanner. If you have access to the device, you will hear the message **"Access Granted"**. This will allow access into the ATC Portal cage. **Note: The door will shut and lock behind you.**



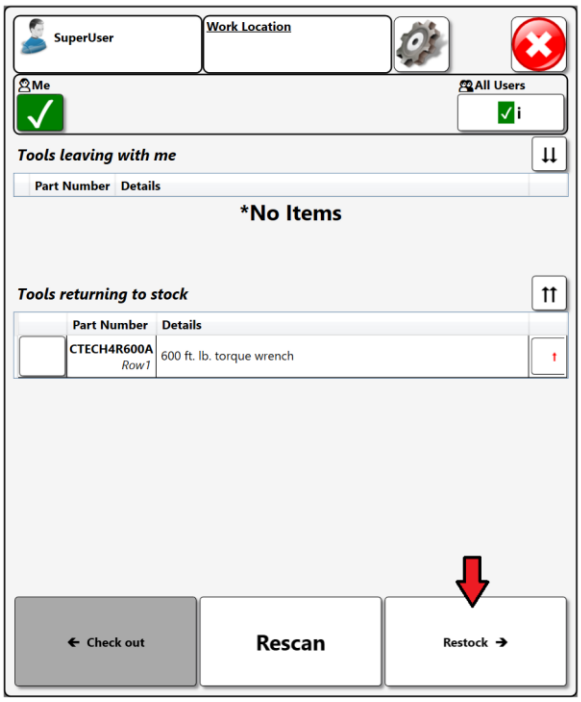
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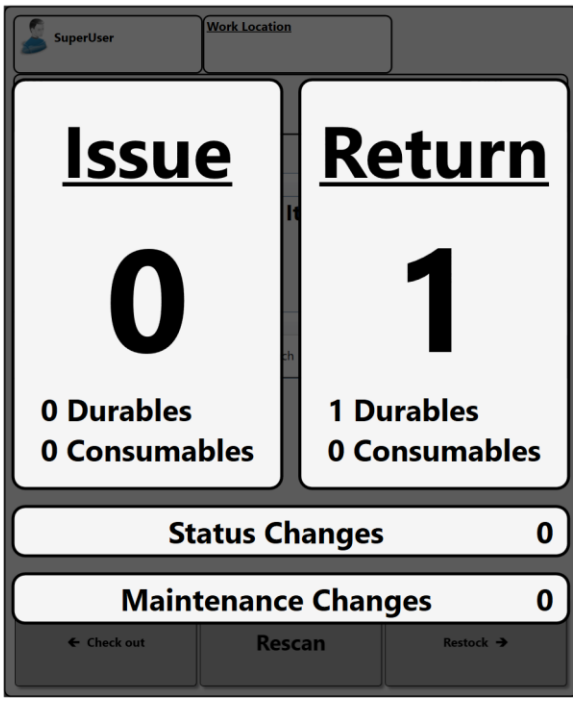
2. Scan you badge using the interior badge scanner located above the screen. The portal will then scan for whatever items you have.



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3. Check to make sure all items were properly scanned by the portal. Tap the **Restock** button at the bottom of the screen. The system will provide you with a transaction summary. **NOTE: This item has a home location of Row1 in the portal. Defining sub-locations for your portal can help make it for employees to know where to return the tool.**





4. Open the door to the Tool Storage area and enter with the items to be returned and deposit them in the appropriate location.
5. Re-enter the Portal from the Tool Storage area and close the door.
6. To Exit the Portal, proceed as if you were issuing out a tool. When the scan is complete and it doesn't find any tools, tap **CHECK OUT**. The summary screen will show 0 transactions.
   NOTE: While leaving the Tool Storage Area, if you need to check out different tools, you have the option to do so while you are leaving the Portal.
7. The exit door will then unlock. You can then exit the Portal, make sure the exit door closes completely. **This Return item transaction is now complete.**

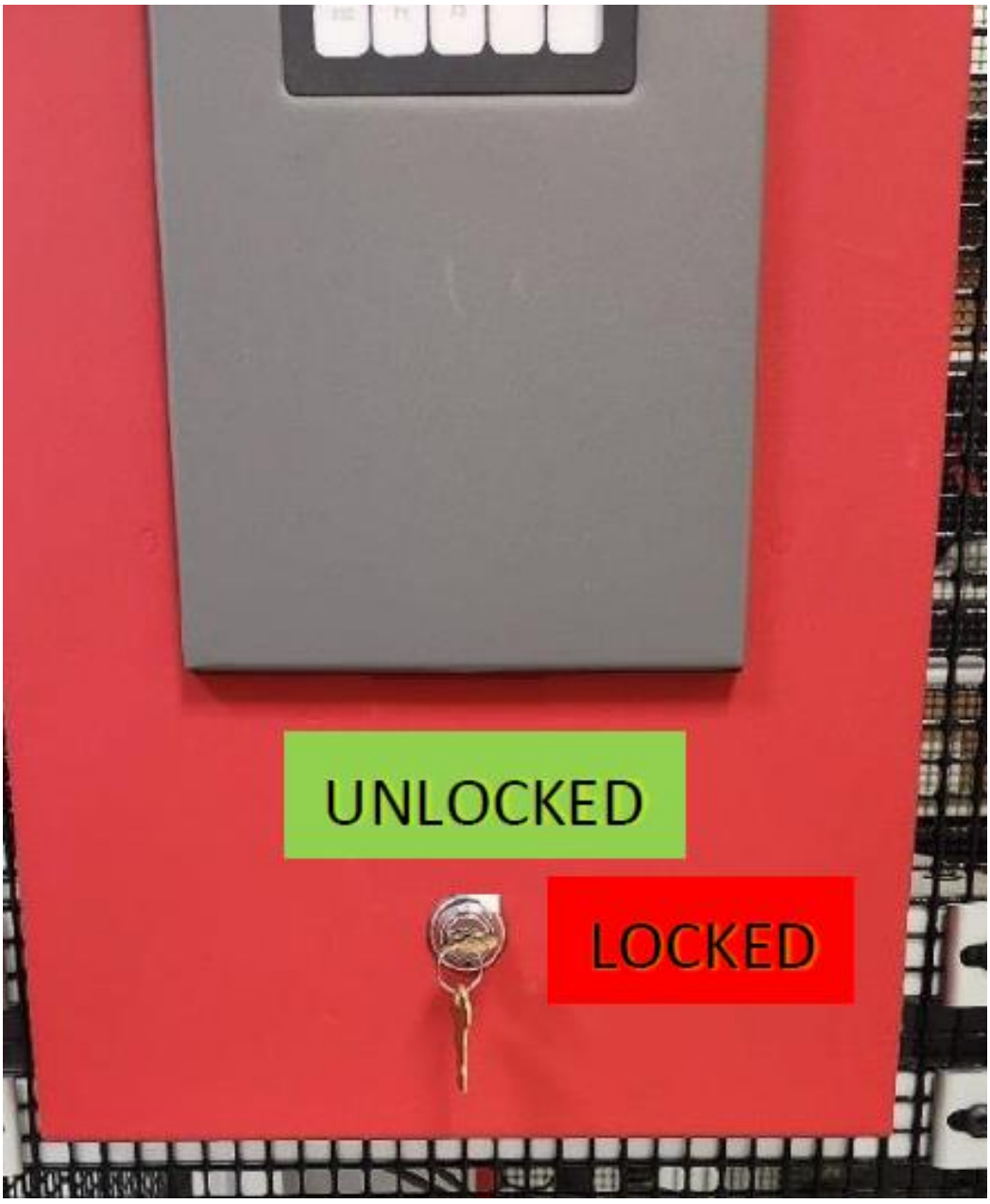
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Physical Keys

The portal is equipped with two physical key locks that can be used to override some functions of the Portal.

Door Lock Override

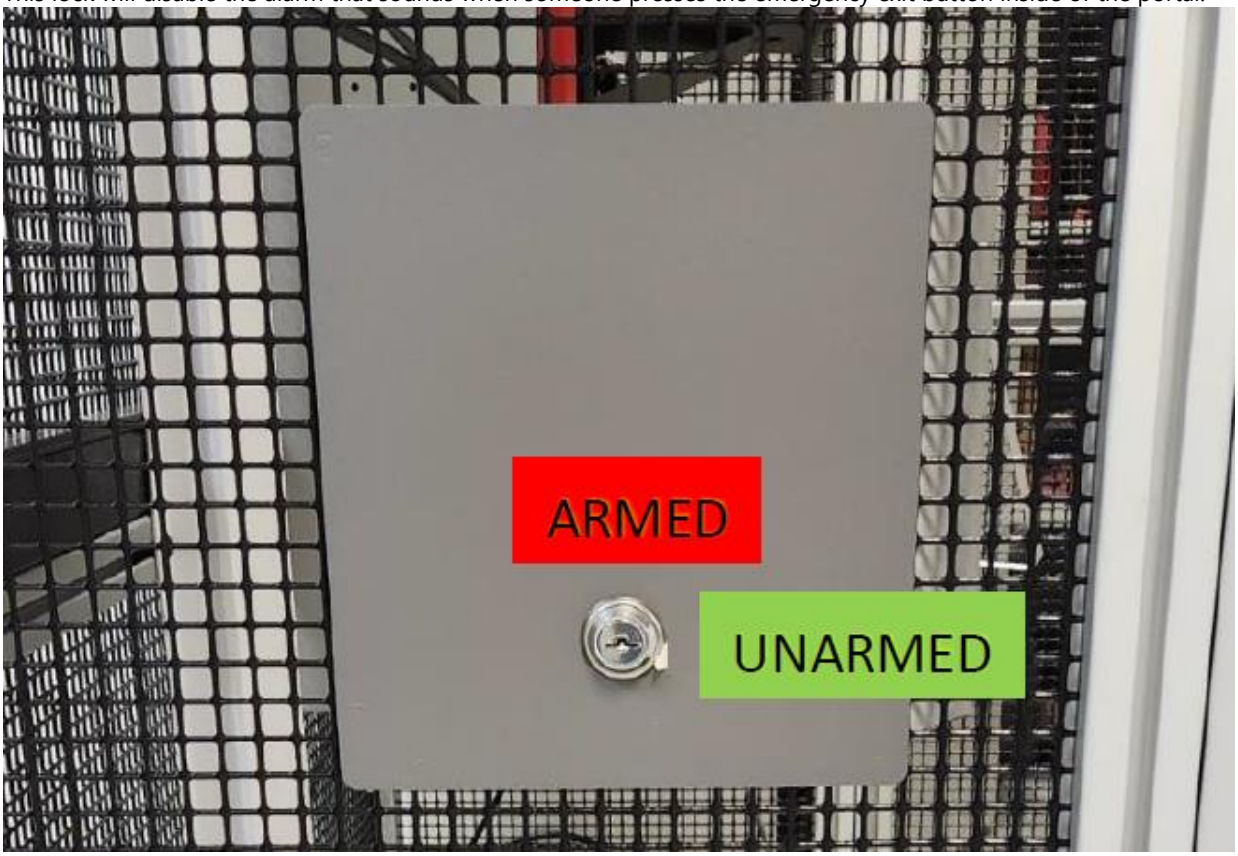
This lock will override the door lock to the portal if you need to enter it and perform maintenance or some other administrative function.



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Alarm Disable Lock

This lock will disable the alarm that sounds when someone presses the emergency exit button inside of the portal.



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ATC FlexHub

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ATC FlexHub Setup

The goal of this document is to lay out the procedure for the setup of the ATC FlexHub system. This should allow the end user to establish the frame configuration, assign inventory/drop off on a compartment-by-compartment basis, as well as editing a compartment after frame configuration.

Frame Configuration

Frame configuration defines the expected physical layout and use cases for electronically controlled compartments in the FlexHub system. If not defined at initialization, the software will prompt the user to jump to the process start screen. The process can also be started by navigating to **Menu/System Changes/Frame Configuration** if changes are made to the configuration after initial setup.

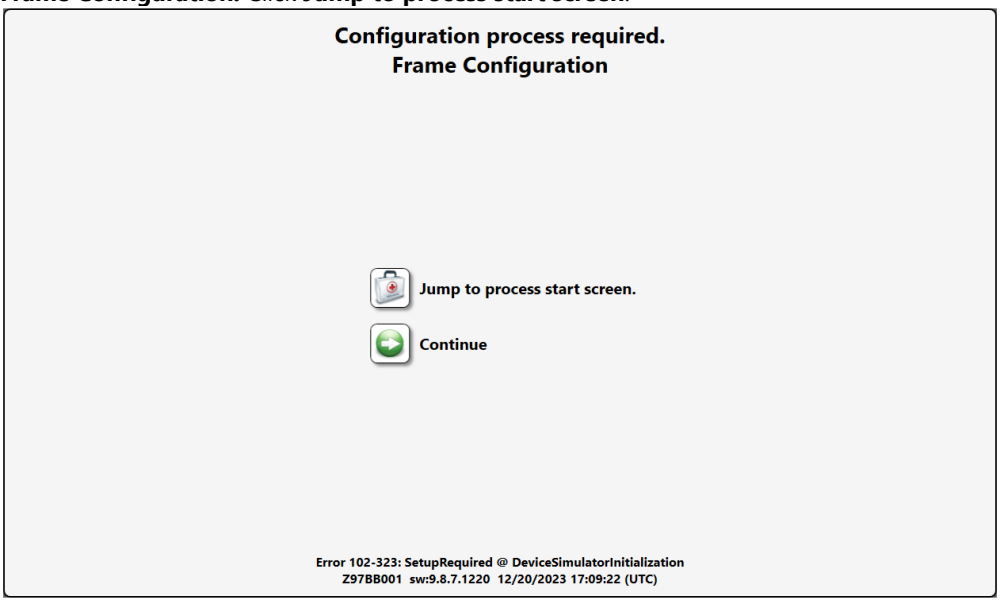
Required permission: Device setup

When to use:

1. Initial device setup during manufacturing (device will auto-prompt to perform process at startup if stored layout is not defined)
2. Electronically controlled compartments are physically added, removed, or rearranged in the system. **NOTE: if electronic latches are replaced but the layout is not changed, use the Door Latch Assignment process instead.**

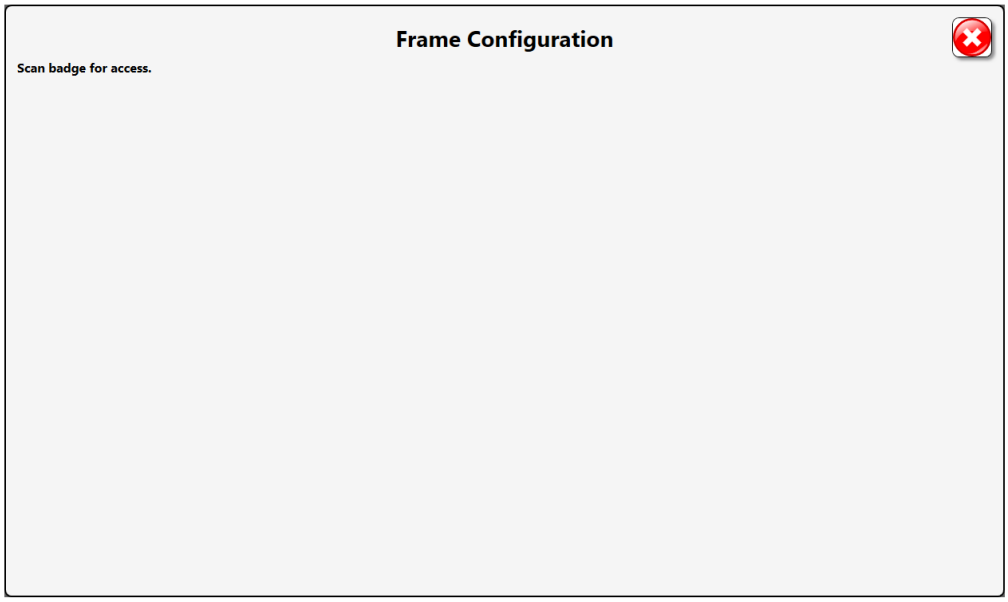
Define Layout

On device start up the user will be prompted with a setup screen with the text **Configuration Process Required. Frame Configuration.** Click **Jump to process start screen**.

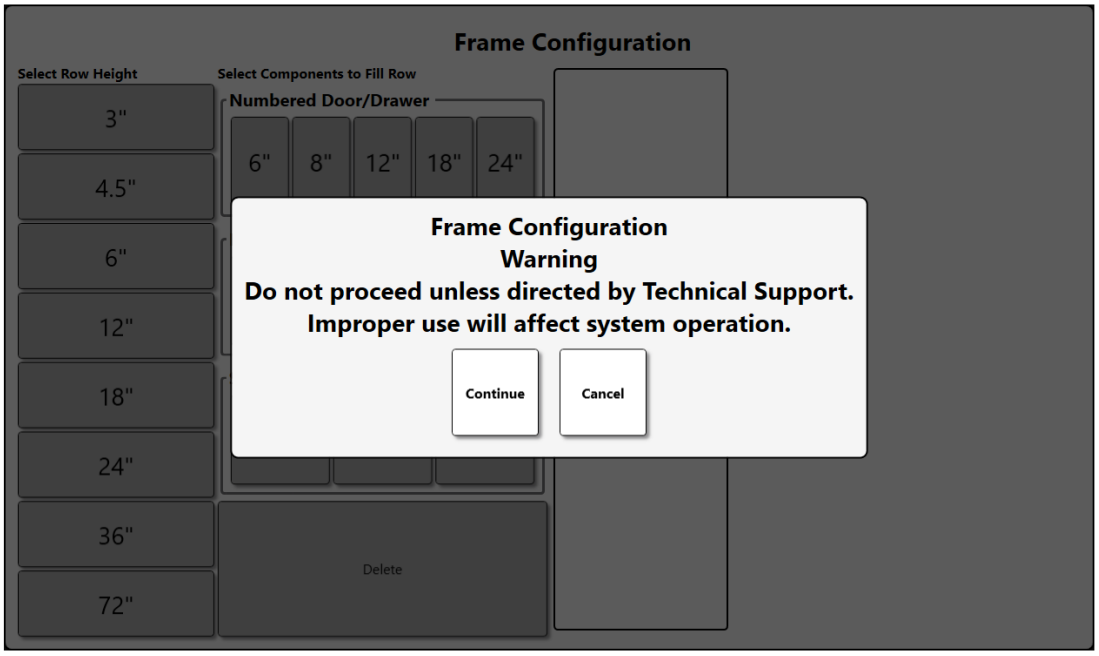


The user will then scan their badge for access.

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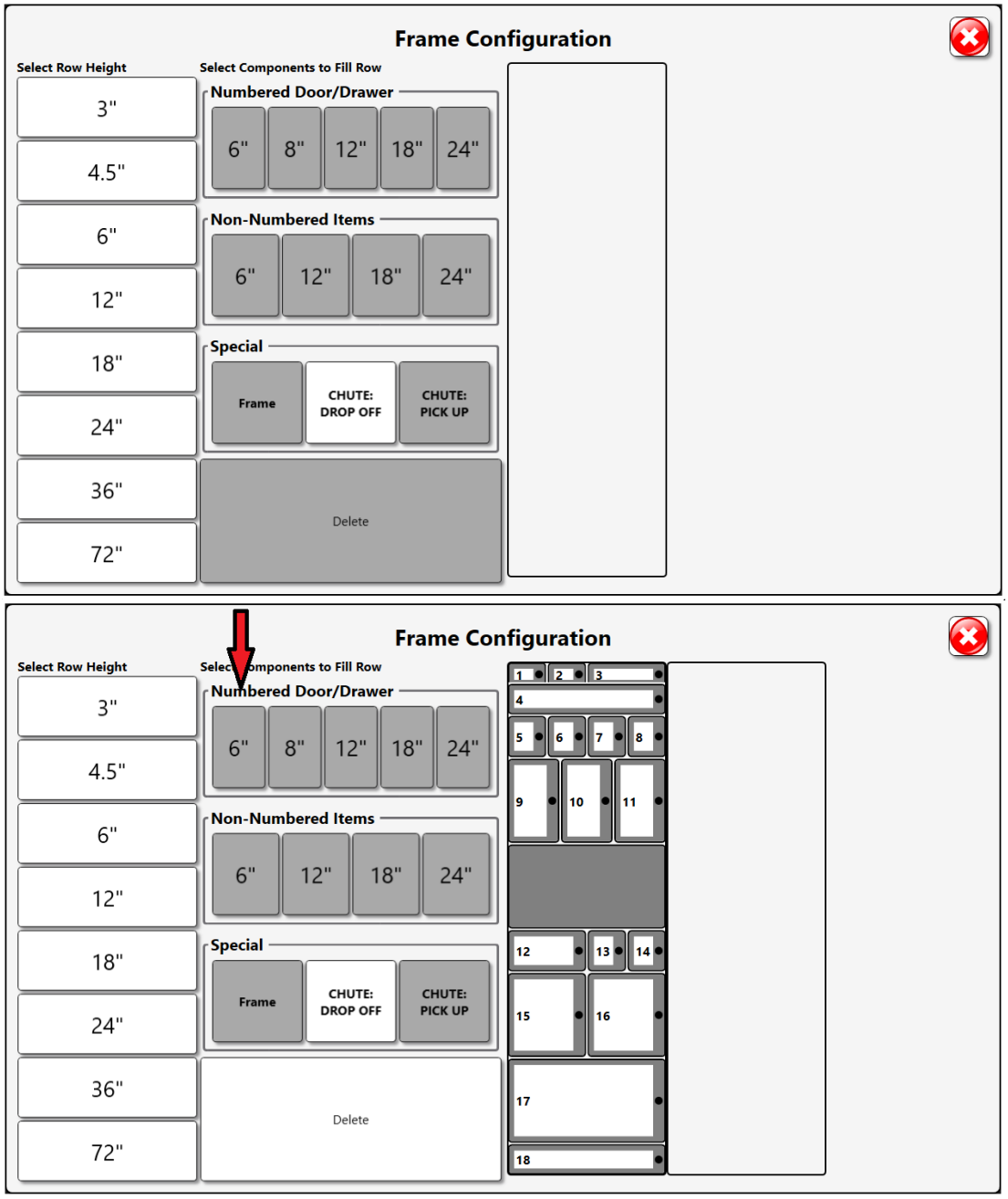


This brings the user to the Frame Configuration screen. A warning message will then be shown to the user warning them not to proceed unless directed by technical support. **Warning DO NOT continue unless directed.** Click **Continue**.



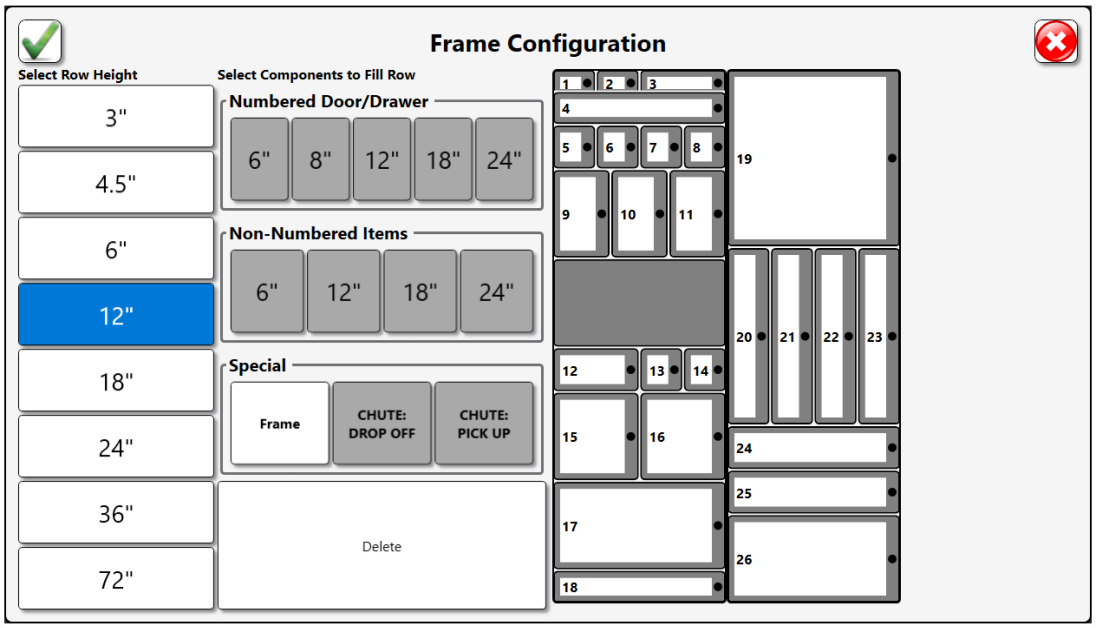
Now select the row height and numbered compartment width from the box shown below. **NOTE: Non-numbered items are used to fill a space in the frame currently occupied by something other than a compartment such as the FlexHub PC**

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This process starts at the top left of the frame, adding compartments from left to right. Once the frame is filled out the user can continue or add another frame by clicking the **frame** button. **NOTE: Any frame added to the configuration must be completely filled out before continuing.**

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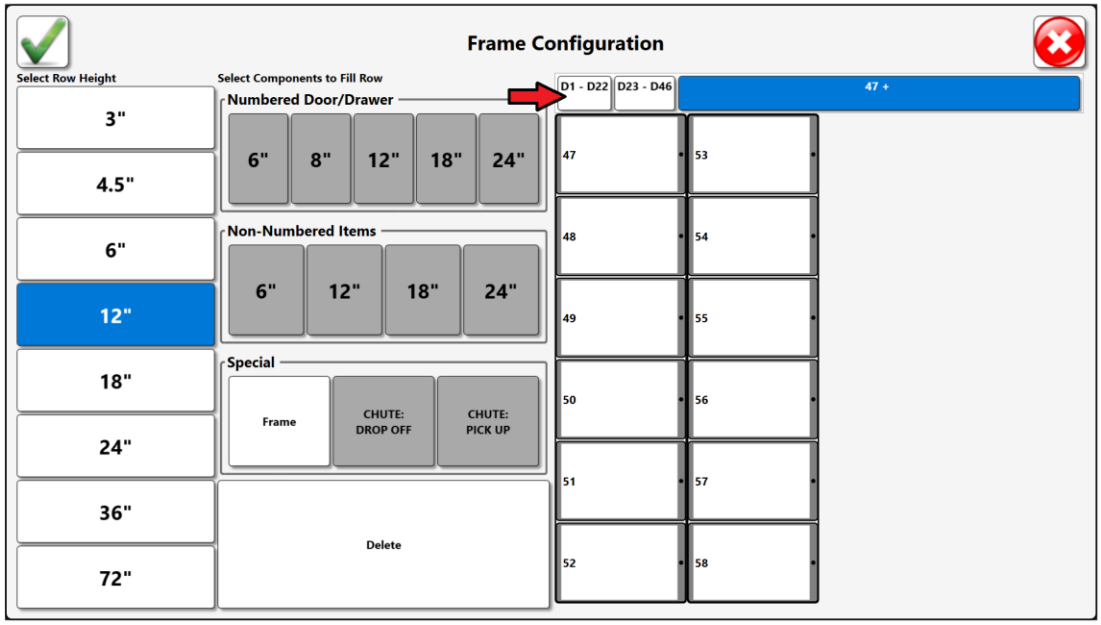
Press the green arrow in the top left corner to continue and select the compartment use case.

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FlexHubs with more than Four Frames

The L5 Connect system supports FlexHub configurations with up to 16 frames. However, if your FlexHub configuration contains more than four frames the GUI will not be able to display them all at once. In this case, the GUI will switch to a tabbed display that allows you to toggle between groups of frames. Here is an example of a ten-frame configuration during layout definition. Notice the buttons at the top of the frame display that allow you to toggle between the frames holding the first twenty-two doors/drawers, the second twenty-four doors/drawers, and the remaining doors/drawers, which are currently displayed.

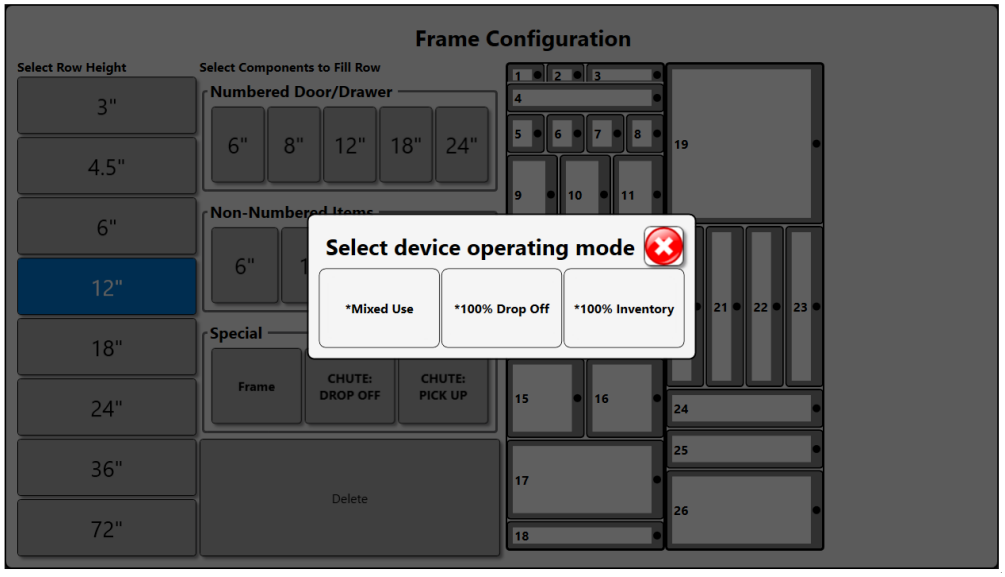
NOTE: FlexHub displays/controls that are not a part of frame configuration process indicate groupings with frame numbers instead of door/drawer numbers. EX: F1-F4, F5-F9, etc…



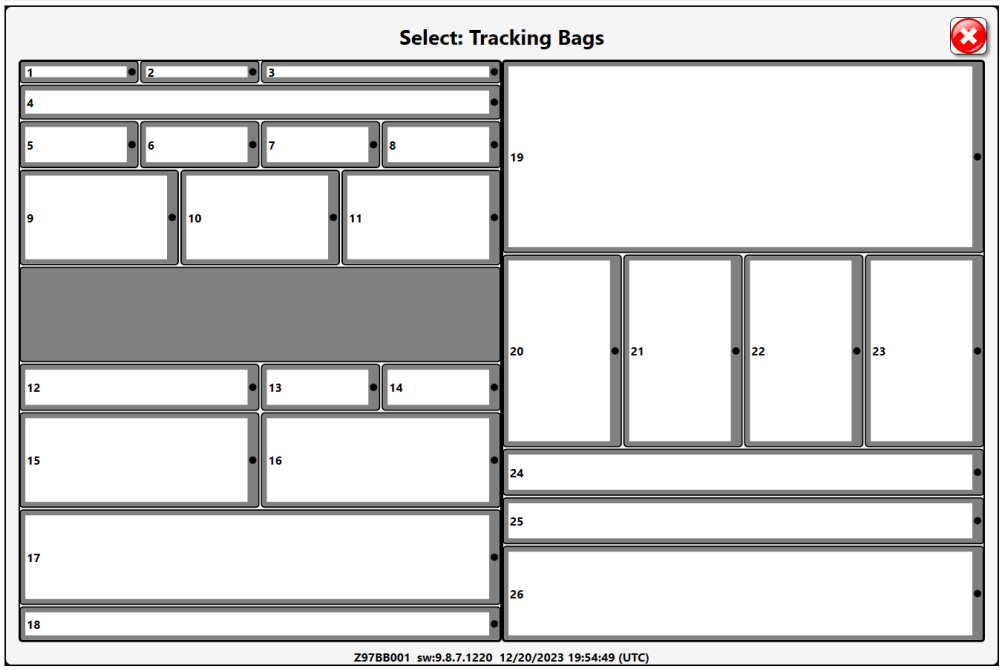
Select Use Case

1. The user will then define how the compartments will be used, with the options: Mixed Use, 100% Drop Off, and 100% Inventory. **NOTE: The 100% inventory option will not be available if the drop chute hardware is selected.** Select whichever mode suits the user best. For this document we will select **Mixed Use.**

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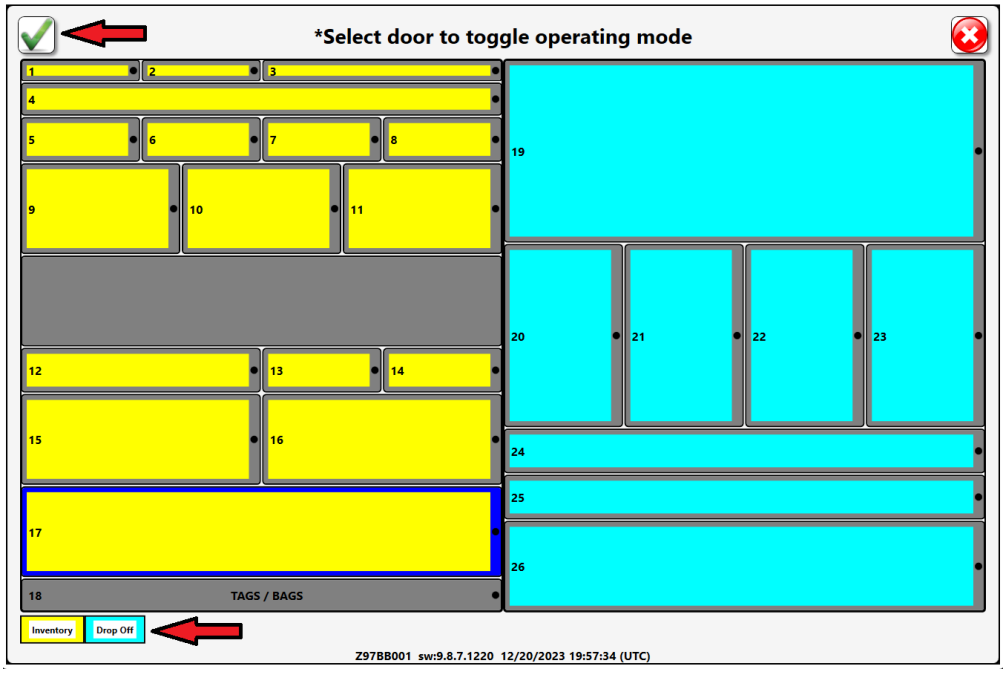
The user will then define a compartment to be used for tracking bags. This drawer will be referenced later anytime the user initiates the Tool Drop-Off workflow. Define the compartment for tracking bags by clicking any available compartment. **NOTE: bag/tag selection is not available if 100% inventory is selected. NOTE: The compartment designated for bag/tag cannot be changed, unless the user reconfigures the frame**



2. After a compartment is defined for the tracking bags, the user will then select the door to toggle the operating mode. **NOTE: The arrow in the image below shows the key for this diagram, with a yellow in the box for inventory and a blue in the box for Drop off.** Once completed click the green arrow in the top left corner. **NOTE: If 100% Inventory or 100% Drop off selected the user will not have to define the**

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use case of each compartment as it will be done automatically.



The system will then determine if the door latch assignment matches the expected number and configuration. If this is not the case, the user will then be prompted to go through the door latch assignment shown in the next section.

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Door Latch Assignment

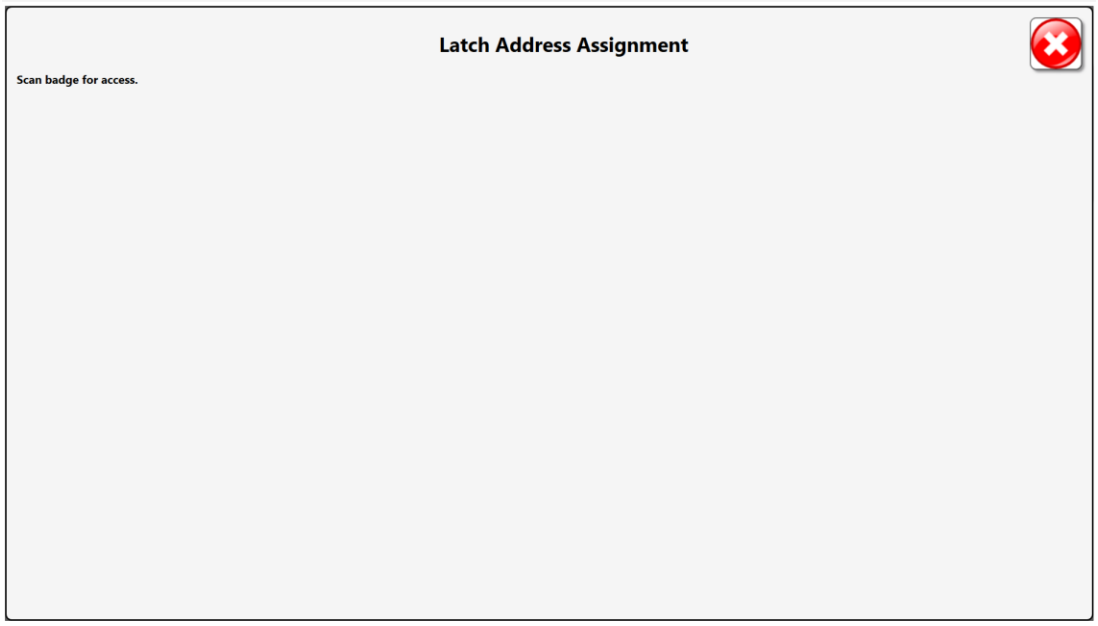
The door latch assignment process is used to associate the correct numbered door address with the hardware electronics. The steps below will be laid out as if following through the frame configuration procedure, however this will only be necessary in cases where the latch assignment does not match the defined layout. As stated, this process may occur towards the end of frame configuration and can also be reached from the settings menu in the following path **Menu/Troubleshooting/Latch Address assignment.** The user may need to navigate to this process if the latch hardware is replaced or if the layout selection completed but the previous attempt to run latch assignments failed.

Required Permissions: Device Setup

When to use:

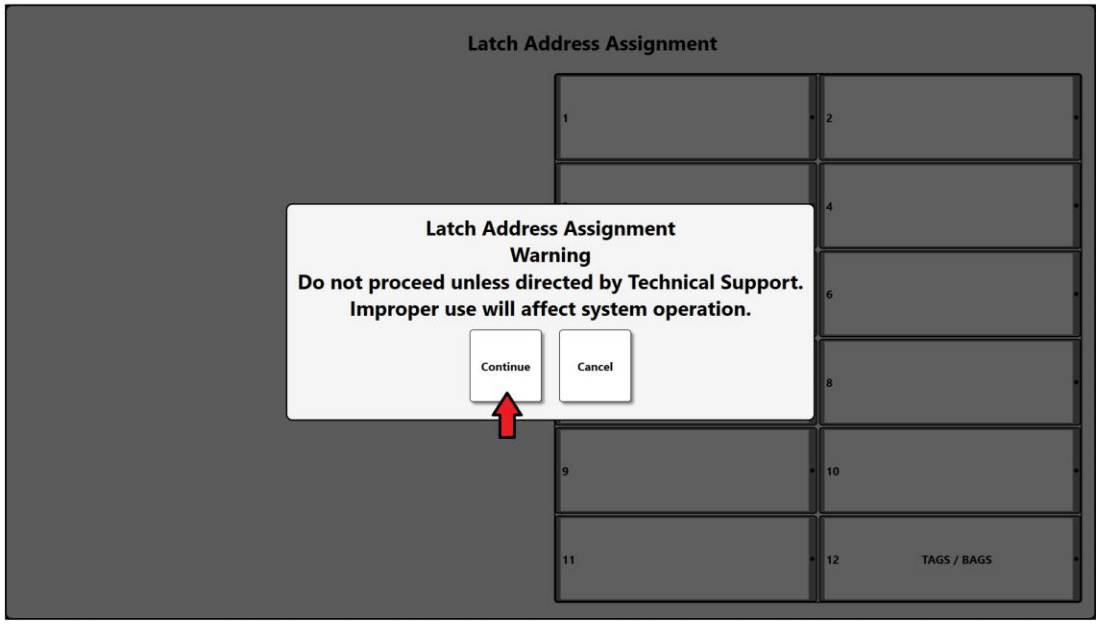
1. Initial device setup during manufacturing after frame configuration is completed (device will auto-prompt to perform process at startup if stored layout is not defined)
2. Electronically controlled compartments or latches are physically added, removed, or rearranged in the system.

Scan your badge to verify you have authority to perform the procedure.

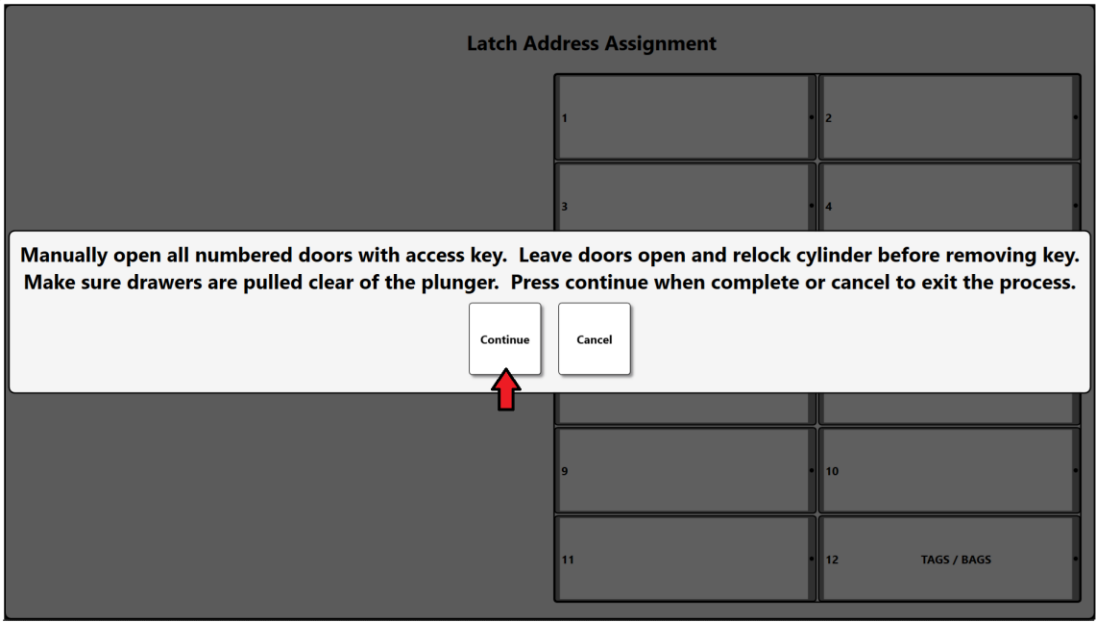


Click the **Continue** button.

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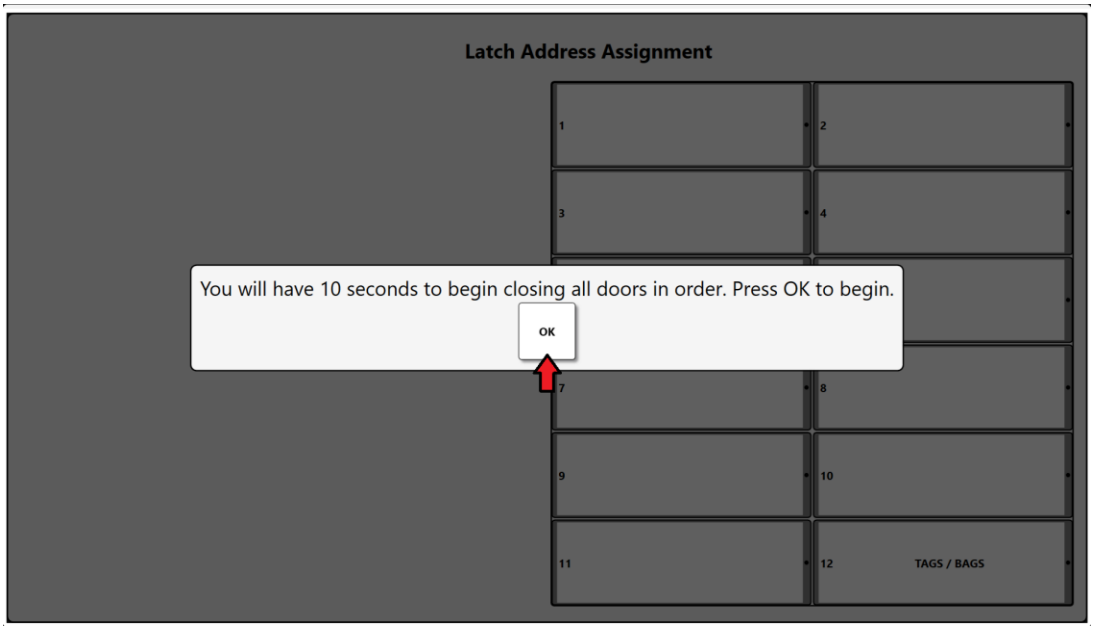


Click continue after carefully reading the instructions in the message.

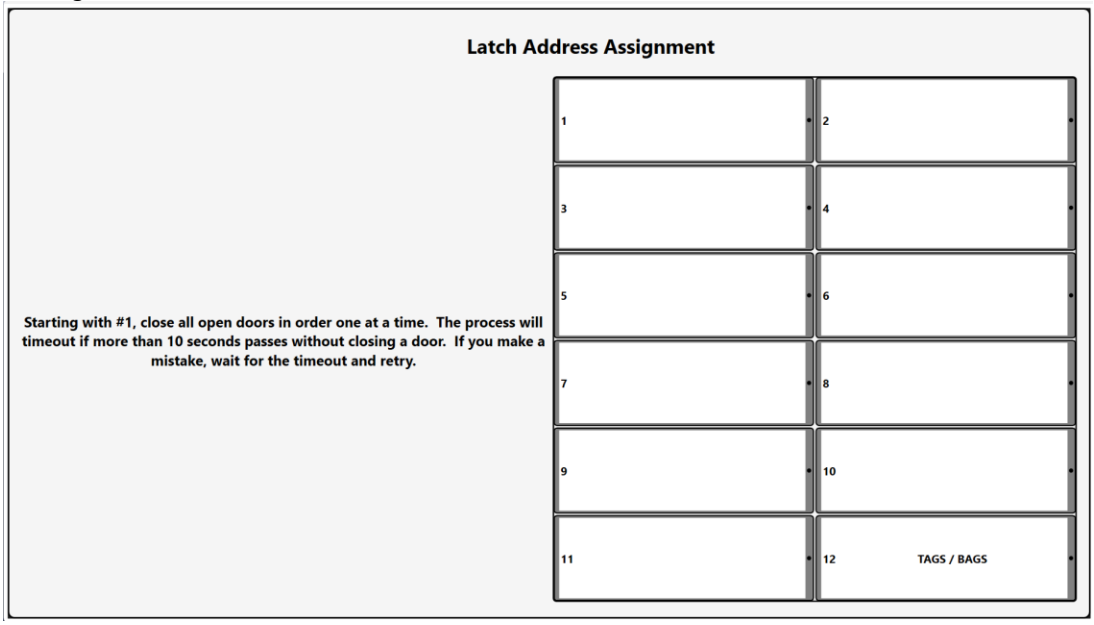


Open each of the doors manually with the key. Be sure to relock the cylinder with the key before removing the key to move to the next door.
Then click the **OK** button to start the process of closing the doors.

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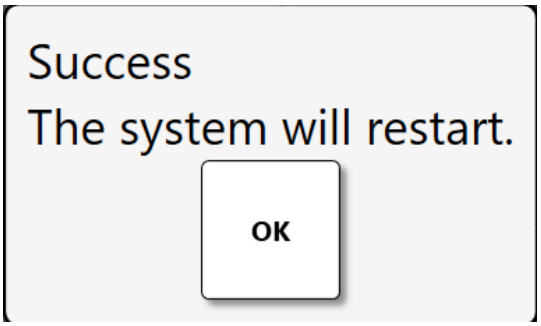


Starting with door number 1, close each door in order, one at a time.



Click the **OK** button when prompted that the system will restart.

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After a restart occurs the FlexHub is ready for use.

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Edit Compartment

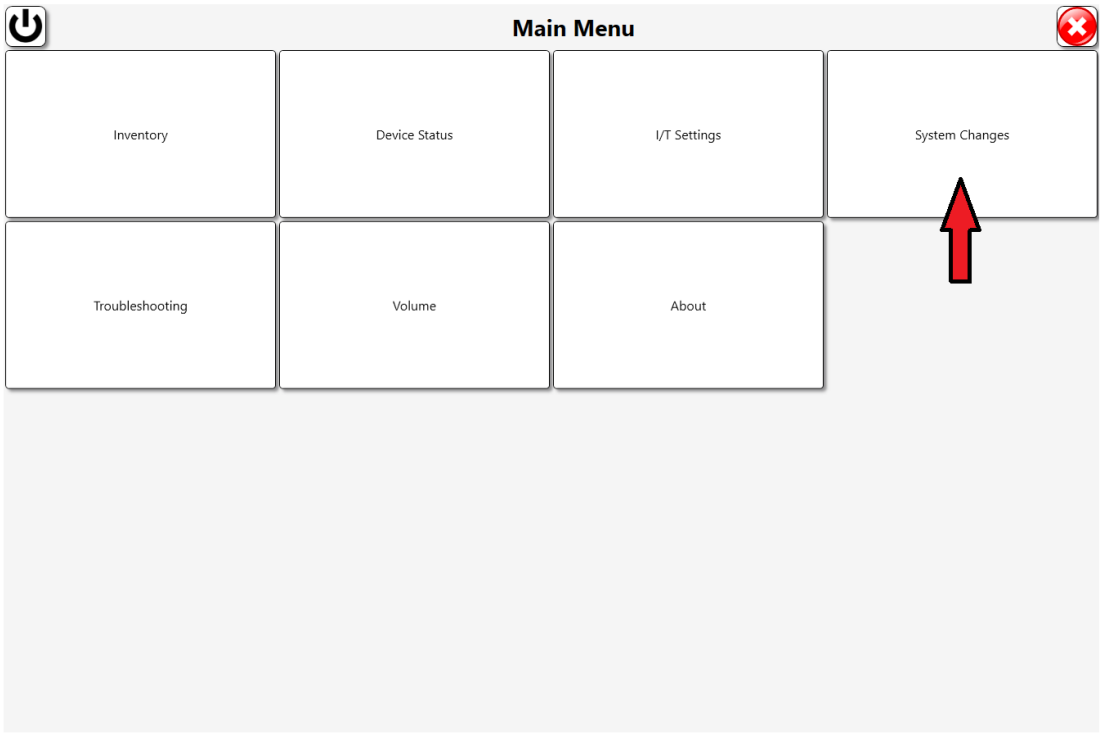
The user may need to edit the use case or inventory of an individual drawer. Follow along with the procedure listed below to navigate to the edit compartment menu. For the sake of this document, we will separate the workflows into three headings: Change Drop-off to Inventory, Change Assigned Inventory, and Change Inventory to Drop-off.

Permission: Device Setup

When to use:

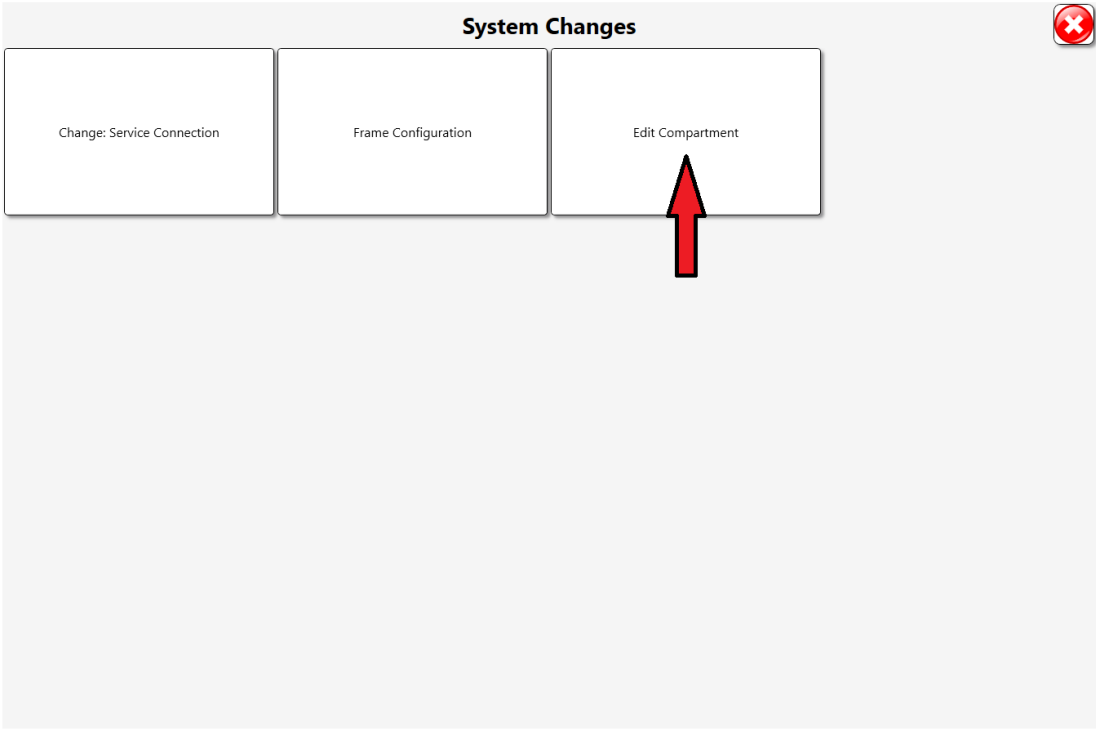
1. If the use case for an individual compartment or the entire frame has changed.
2. If the inventory of a compartment has changed.

Click on the settings menu in the top right corner. Within the settings menu click on the **System changes** button as shown below.

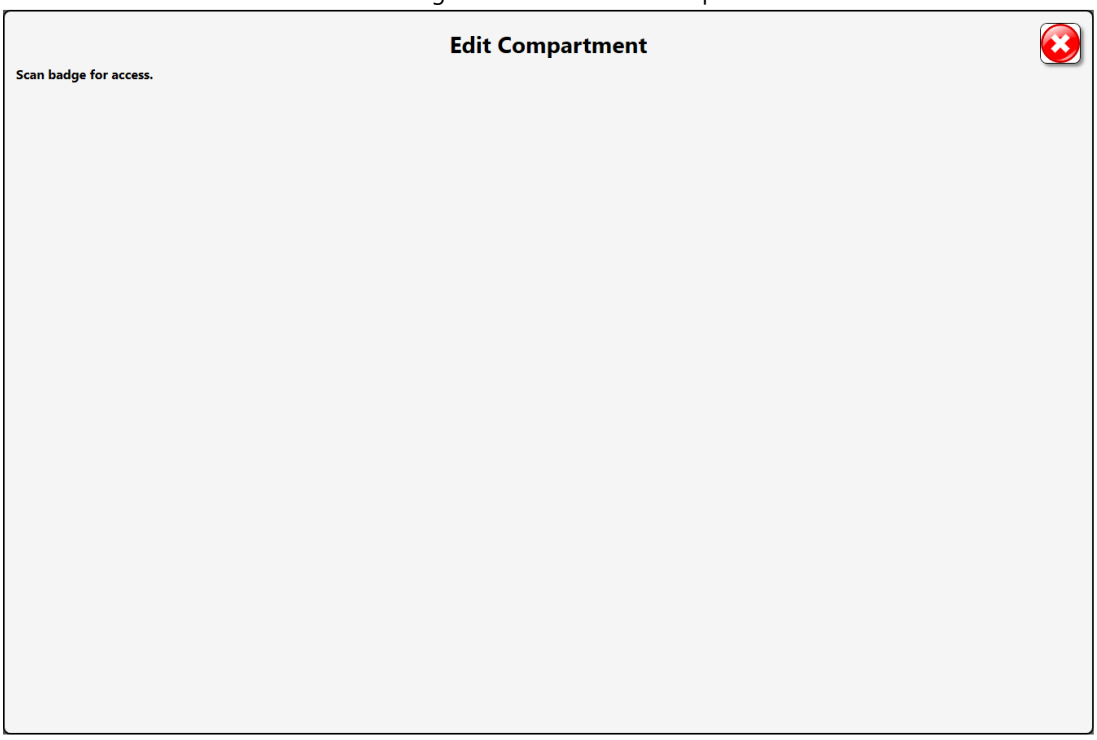


Then click on **Edit Compartment** button.

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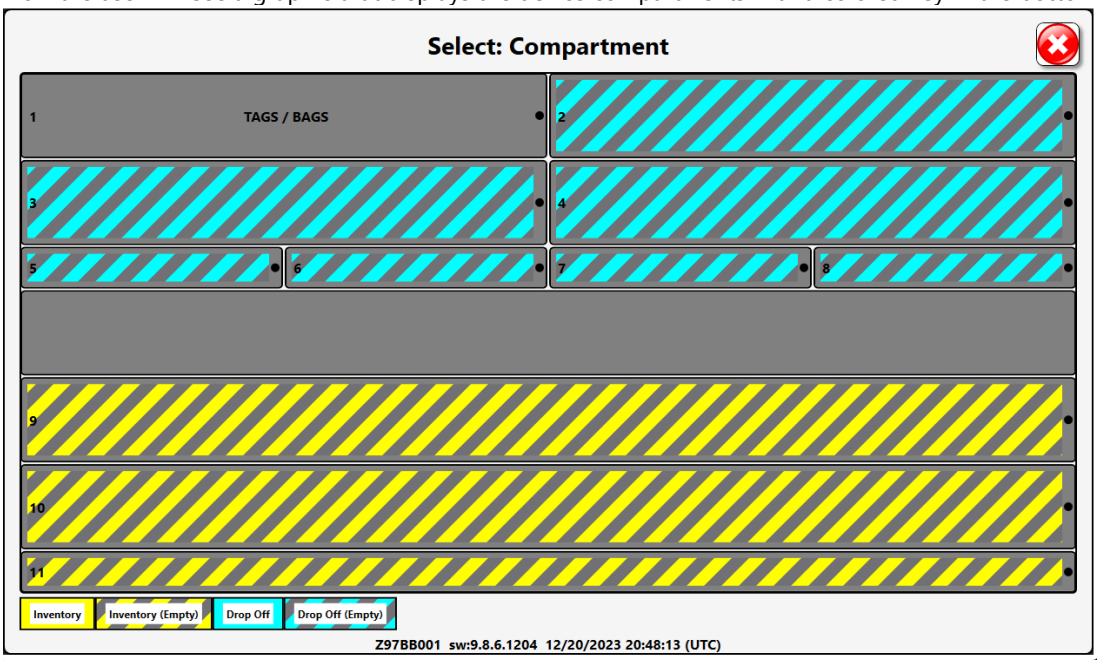


The user will then need to scan their badge to access the edit compartment sub menu.



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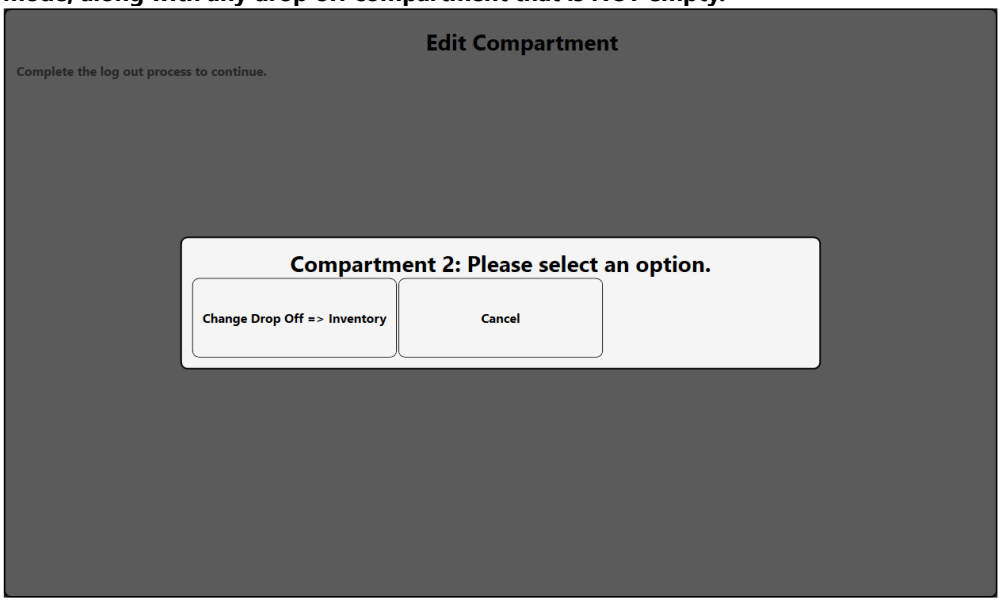
Now the user will see a graphic that displays the device compartments with a colored key in the bottom left.



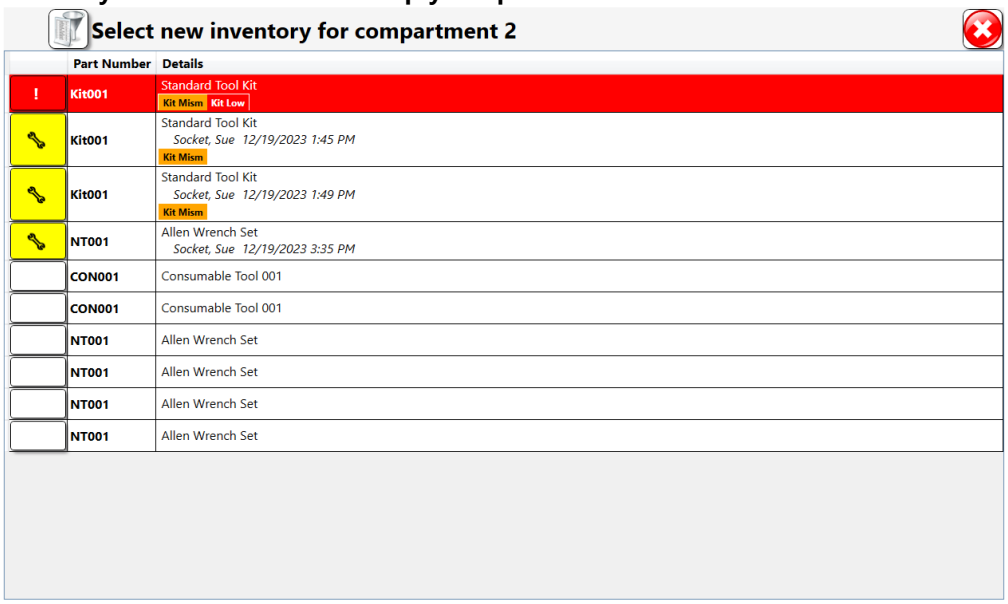
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Change Drop-Off to Inventory

1. To change Drop-off to inventory, click on one of the compartments with either the blue slanted lines or a filled in blue box. The user will be met with a popup menu with the text **Change Drop Off => Inventory. NOTE: The drop off chute and assigned bag/tag compartments cannot be changed to inventory mode, along with any drop off compartment that is NOT empty.**



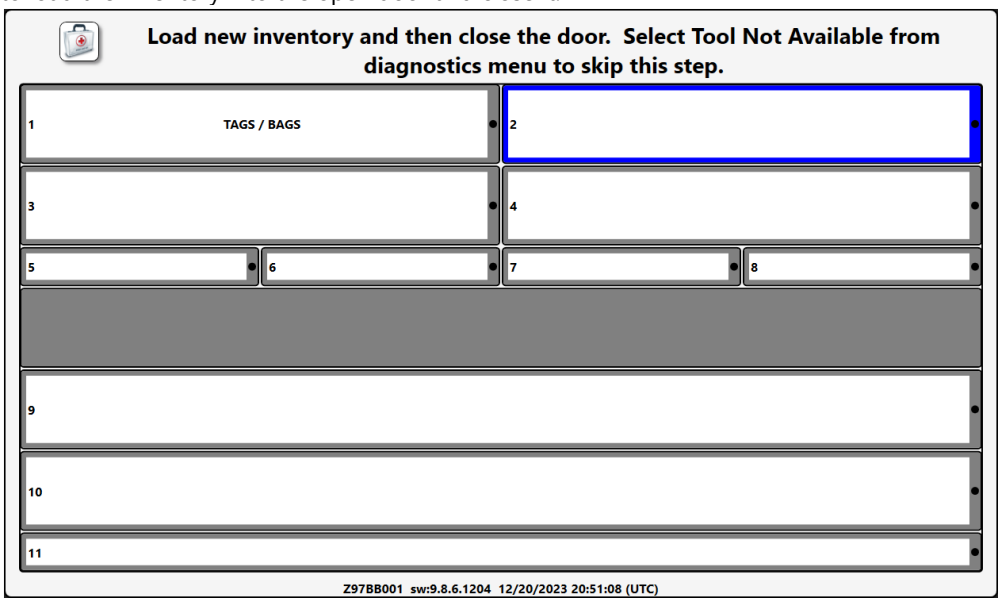
2. Then the user will be asked to select inventory to place within the compartment. **NOTE: This can be skipped by clicking the red X in the top right corner. The compartment will still change its designation to inventory but would show as an empty compartment**.



If inventory for the compartment is selected the user will be shown an additional screen that prompts them

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to load the inventory into the open door and close it.

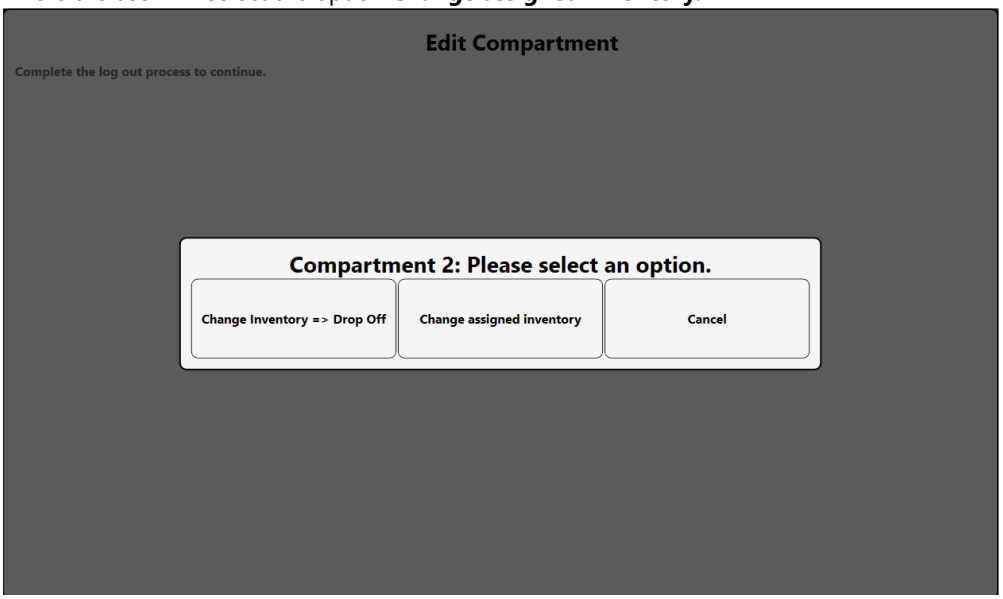


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Change Assigned Inventory

NOTE: Inventory can only be assigned to inventory mode compartments.

1. Following a similar procedure as changing drop-off to inventory, the user will click on the graphic of the compartment in which they wish to change the assigned inventory. A similar list of options will be displayed where the user will select the option **Change assigned inventory.**



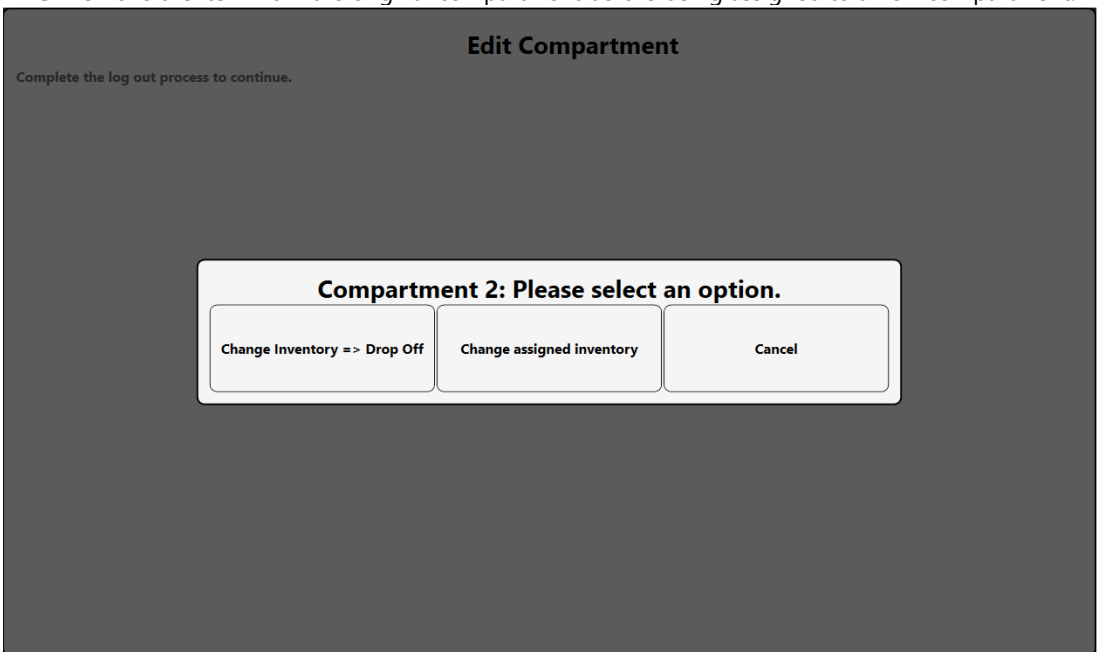
2. Next the user will remove and replace the inventory currently in the compartment.

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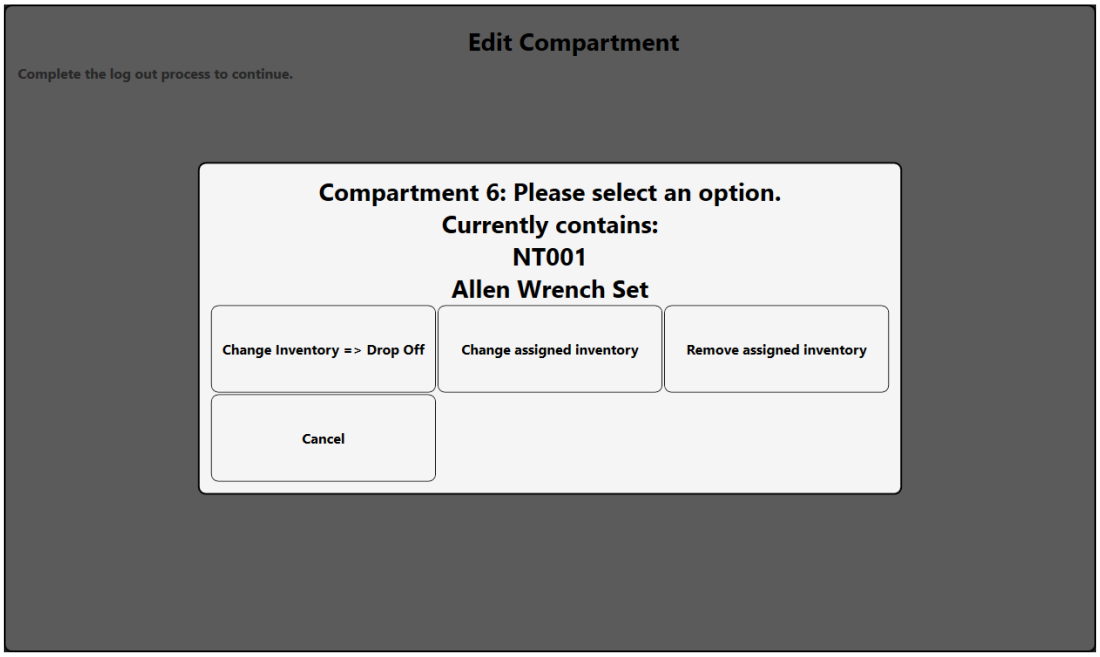
Change Inventory to Drop-off

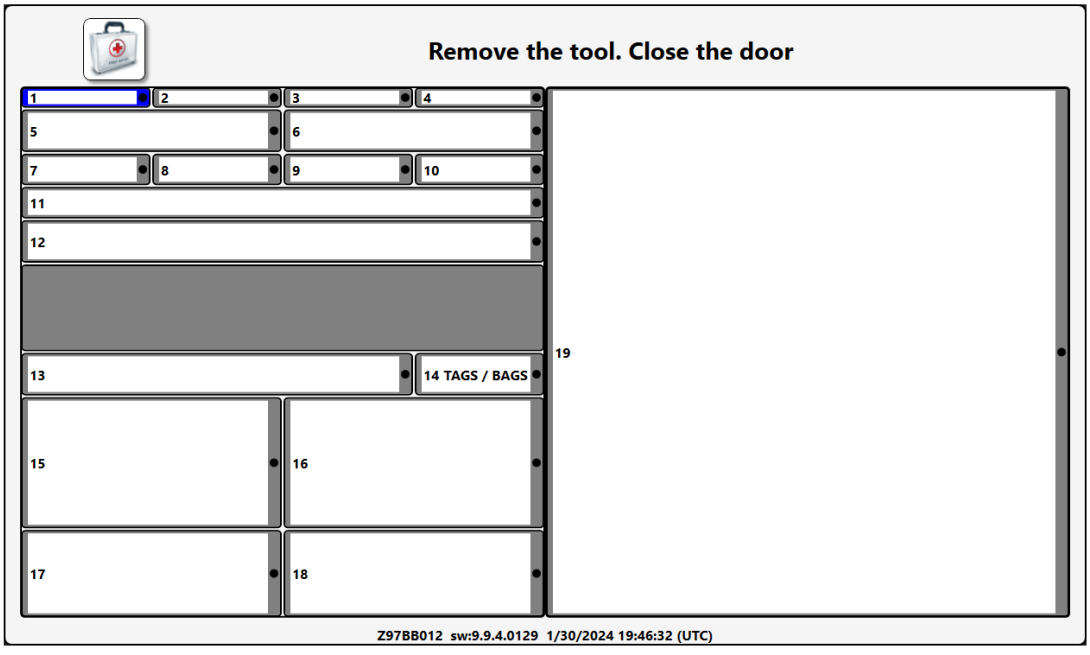
NOTE: An inventory compartment cannot be changed to drop-off mode unless a bag/tag drawer is defined (100% inventory selections would have to complete the frame configuration process to select a bag/tag drawer)

To change a compartment from Inventory to Drop-off we will follow a similar procedure as listed in **Change Drop-off to Inventory**. Click on one of the compartments labeled inventory drop-off, and the user will see a message **Change Inventory => Drop-off**. If a compartment currently holding inventory is selected the user must remove the inventory before the drawer designation is changed. If assigning inventory from one compartment to another the user must **FIRST** remove the item from the original compartment before being assigned to a new compartment.



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ATC FlexHub Workflows

The goal of this article is to document the workflows for the ATC FlexHub. This will cover the workflows of users of the FlexHub as well as Tool Couriers/Tool Administrators.

Door LED Indicators

Each compartment has two LED indicators to the right of the compartment door. The color and the flashing speed indicate device/compartment/tool conditions as described below.

Device Conditions

Device condition indicators apply to the entire ATC FlexHub. All door LEDs will be used to report any detected device conditions. Reporting of individual compartment conditions will be overridden until the device condition is addressed and cleared.

All Good => Green over Green

If any doors have two solid green LEDs, the device has been secured (no logged in user) and has no conditions to report. This condition is synchronized with the "Green Check" that is visible on the device's main screen. All tools that are expected to be present are contained in the device, no tools have alert statuses assigned, no tools are "in process", and the device itself has no alerts. **NOTE: When an issued tool has been assigned a "Managed Out of Box" status, the LED lights for its compartment will be off. This condition is still considered "Good" and will not affect the "All Good" condition for the rest of the device.**

Device Alert => Slow Blink Red over Solid Red

If all doors have a slow blinking red LED over a solid red LED, there is an "alert" status assigned to the device. Examples of device alerts include device offline, hardware error, etc. This condition should be addressed as soon as possible.

Compartment Condition

Compartment condition indicators report the condition of a single compartment. Reporting of these conditions will be overridden by any device condition as described in the section above.

Issued Tool => Amber over Amber

A door with two solid amber LEDs indicates that the assigned tool has been issued. It also indicates that the issued tool has no alerted statuses assigned. **NOTE: This condition will be overridden if a "Managed Out of Box" status has been applied to the tool. In that case, the door LEDs will both be off.**

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Alerted Tool => Red over Fast Blink Red

A door with a solid read LED over a fast-blinking red LED indicates that the tool in the compartment has an alerted status assigned. **NOTE: This condition will be overridden if a "Managed Out of Box" status has been applied to the tool. In that case, the door LEDs will both be off.**

Issued and Alerted Tool => Amber over Fast Blink Red

A door with a solid amber LED over a fast-blinking red LED indicates that the tool normally in the compartment has been issued with an alerted status assigned. **NOTE: This condition will be overridden if a "Managed Out of Box" status has been applied to the tool. In that case, the door LEDs will both be off.**

Tool In Process => Slow Blink Amber over Amber

A door with a slow blinking amber LED over a solid amber LEDs indicates that the tool in the compartment is "In Process". For example, it could be waiting for a courier to pick up or is being delivered to an employee.

Open Door => Fast Blink Red over Fast Blink Amber

During the workflow, any opened doors will have a fast-blinking red LED over a fast blinking amber LED to draw the user's attention.

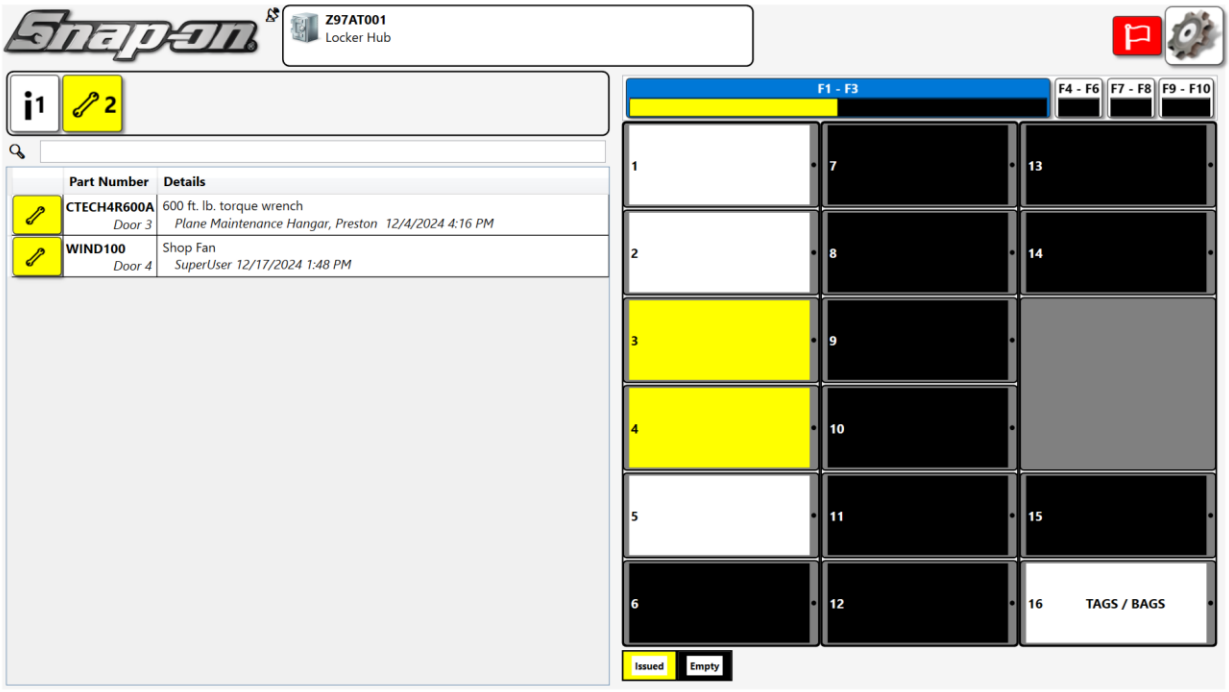
Return Candidates => Slow Blink Amber over Amber

During a return workflow, doors with a slow blinking amber LED over a solid amber LED indicate empty compartments to which the user can return tools.

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FlexHub Graphical Display

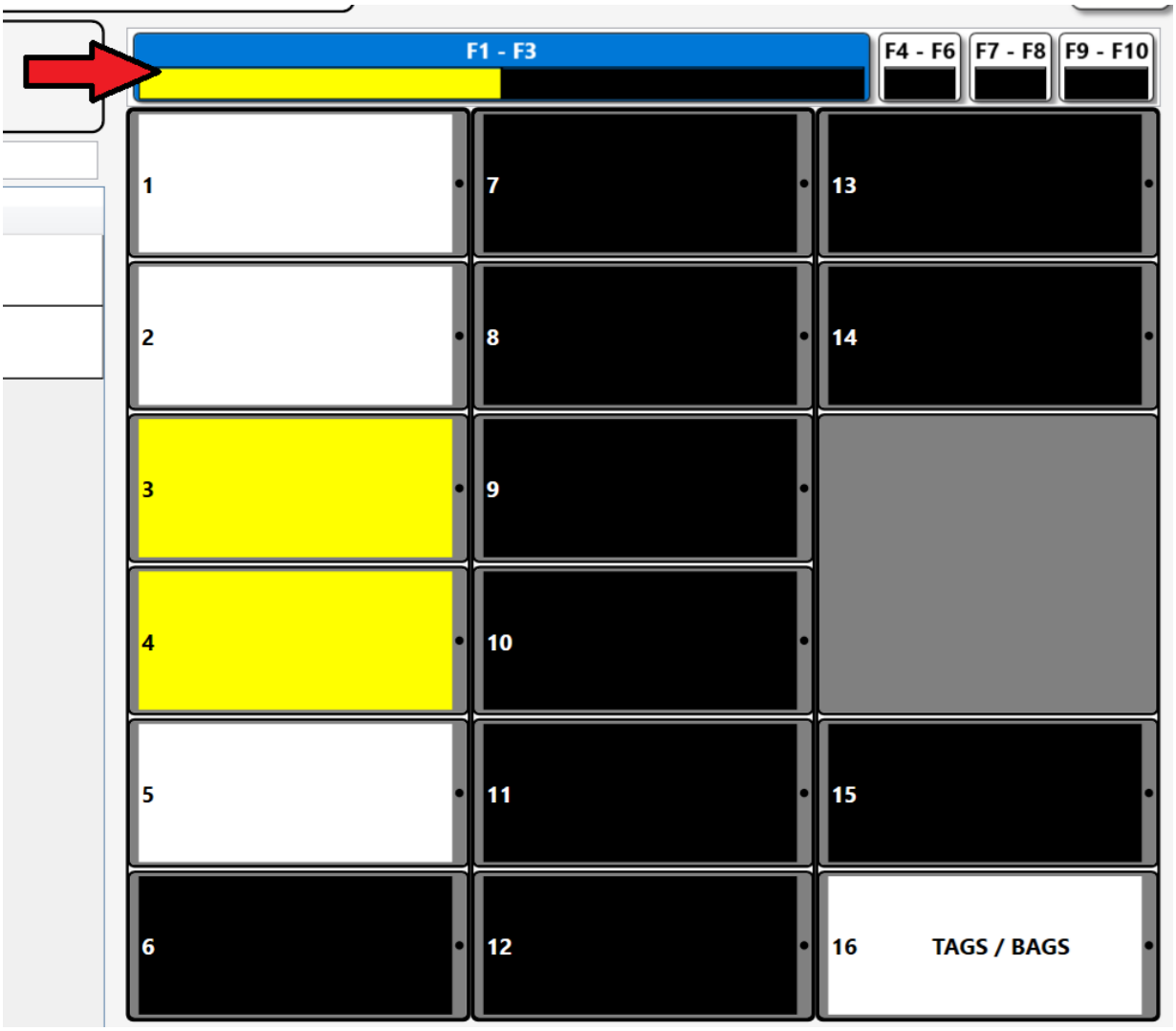
The FlexHub GUI uses a graphical representation of the device's physical layout on multiple screens. This on-screen graphic is used to indicate status and allow door/drawer selection by touch. Each screen contains an explanation of the status colors and/or control use instructions.



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FlexHubs with more than Four Frames

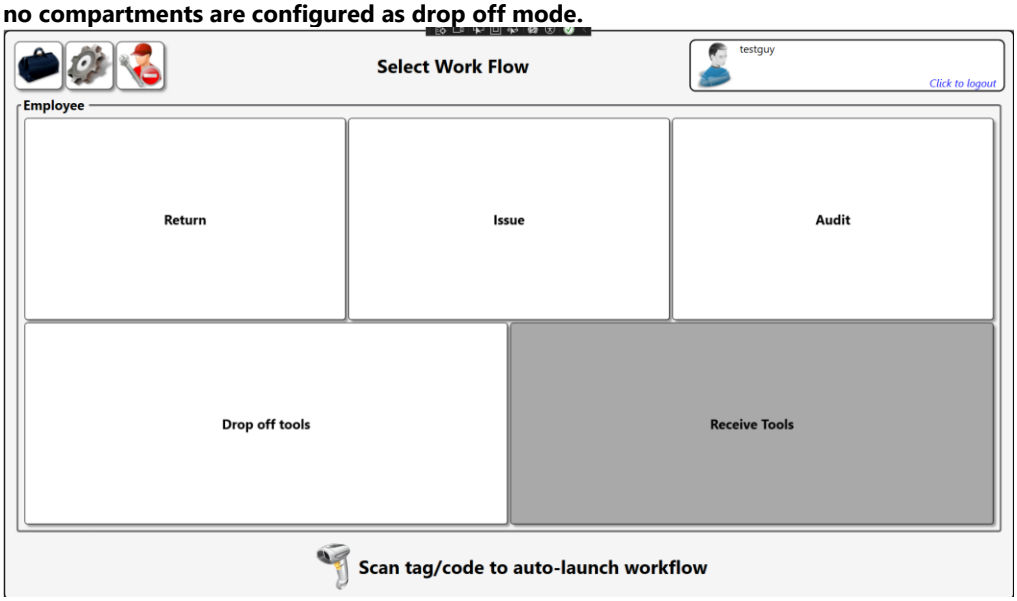
The L5 Connect system supports FlexHub configurations with up to 16 frames. However, if your FlexHub configuration contains more than four frames the GUI will not be able to display them all at once. In this case, the GUI will switch to a tabbed display that allows you to toggle between groups of frames. Here is an example of a ten framed configuration. The frames are divided into groups which can be accessed by selecting the proper button in the row of frame selection buttons above the frame display.



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Employee/User Actions

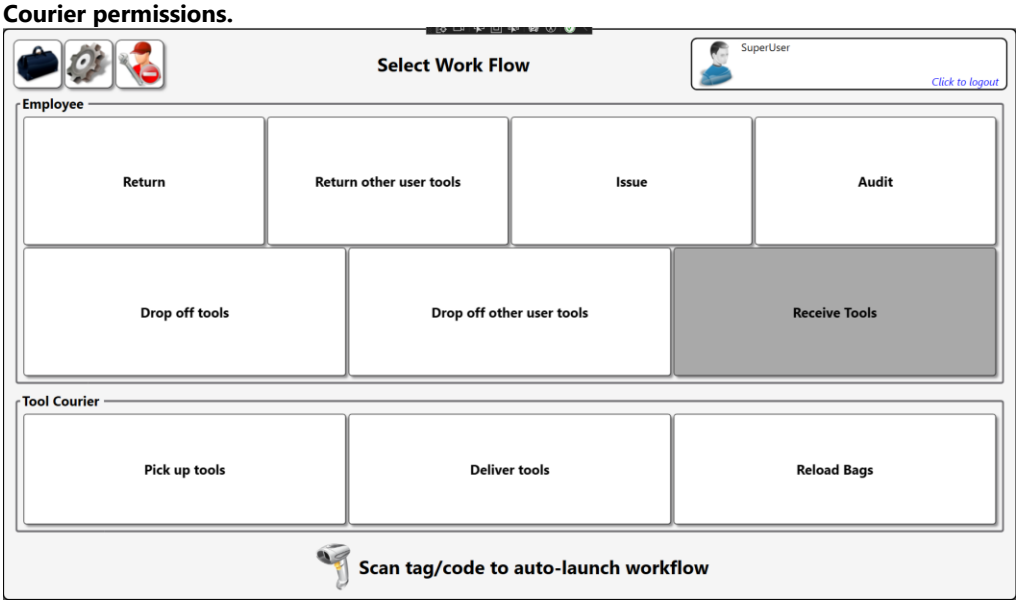
When an employee with device user permissions logs into the FlexHub they will be met with a screen with a variety of options within the bounds of a box labeled "Employee" as shown below. **NOTE: Issue/Return buttons are only shown if at least 1 inventory compartment is defined. Drop Off Tools and Receive tools option is not shown if no compartments are configured as drop off mode.**



When an employee with Admin permissions logs into the FlexHub they will be met with more options than a device user. These workflows are shown below. **NOTE: Issue/Return buttons are only shown if at least 1 inventory compartment is defined. Drop Off Tools and Receive tools options are not shown if no compartments are configured for drop off mode. If no bag/tag drawer is designated the Reload Bags option is not shown. Return other user's tools and drop off other user's tools are not shown if the user doesn't have Tool Return Device Other User Drop Off permissions enabled. The tool courier options will not be shown unless the user has Tool**

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Courier permissions.



Issue Tool

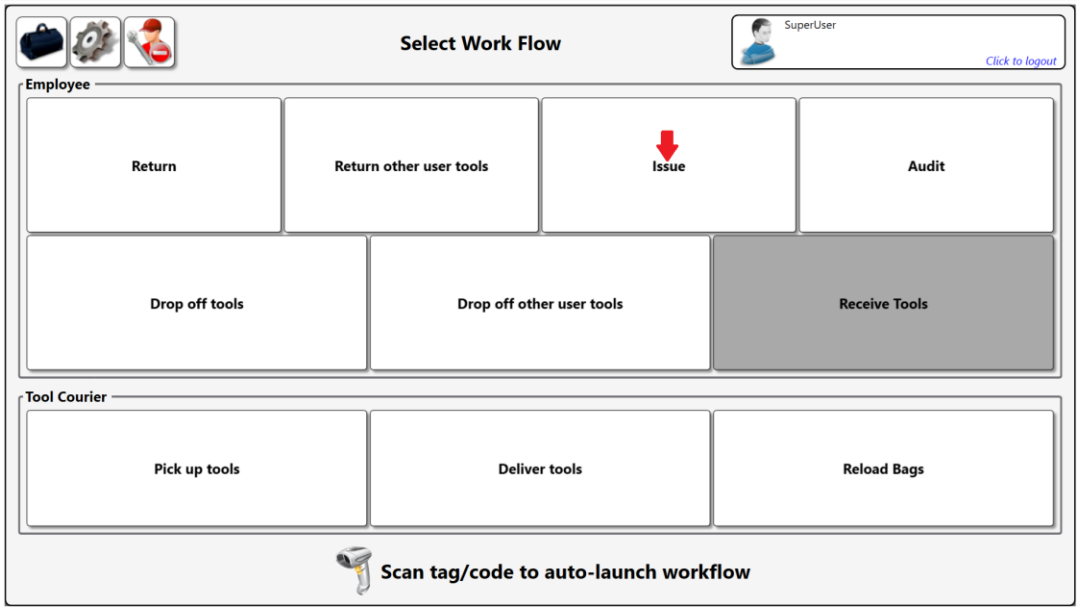
Tool Issue is one of the primary workflows typical of users of the FlexHub. This workflow option will record the tool number issued along with the employee associated, and the date and time of issue. **NOTE: Issue button is only shown if at least 1 inventory compartment is defined**

Access point(s): FlexHub Dashboard after user sign in

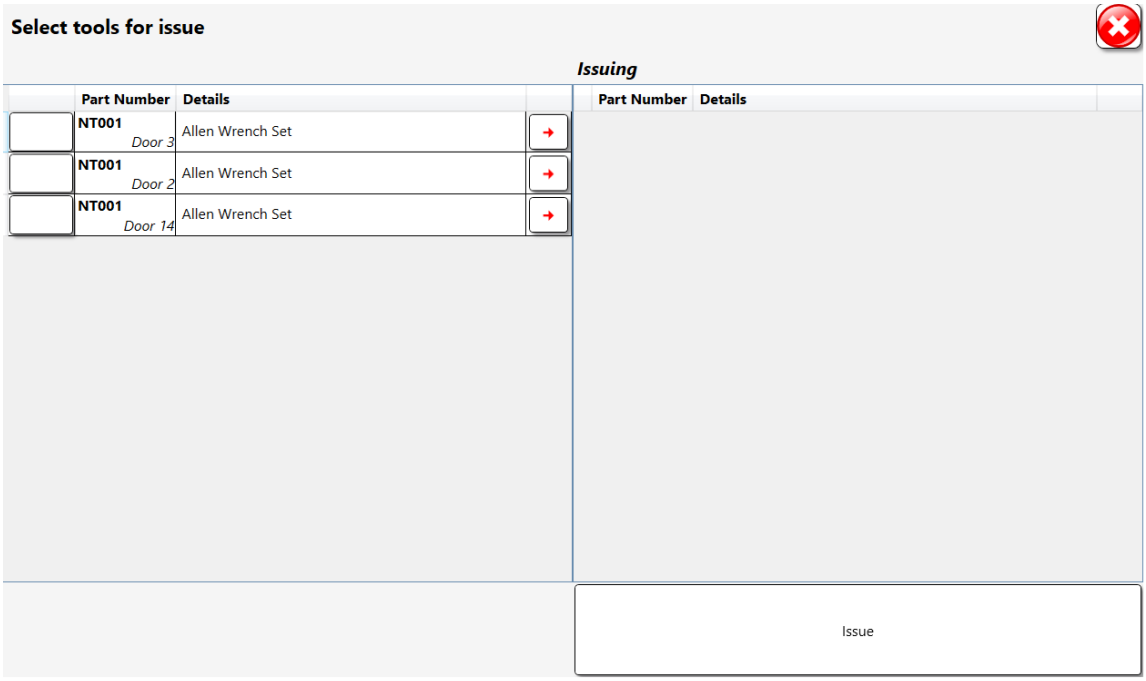
Required Permission: Device User

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1. To issue any tools from the FlexHub, the user must first use their ID badge to sign into the FlexHub. Then the user will select **Issue** within the Employee options list.



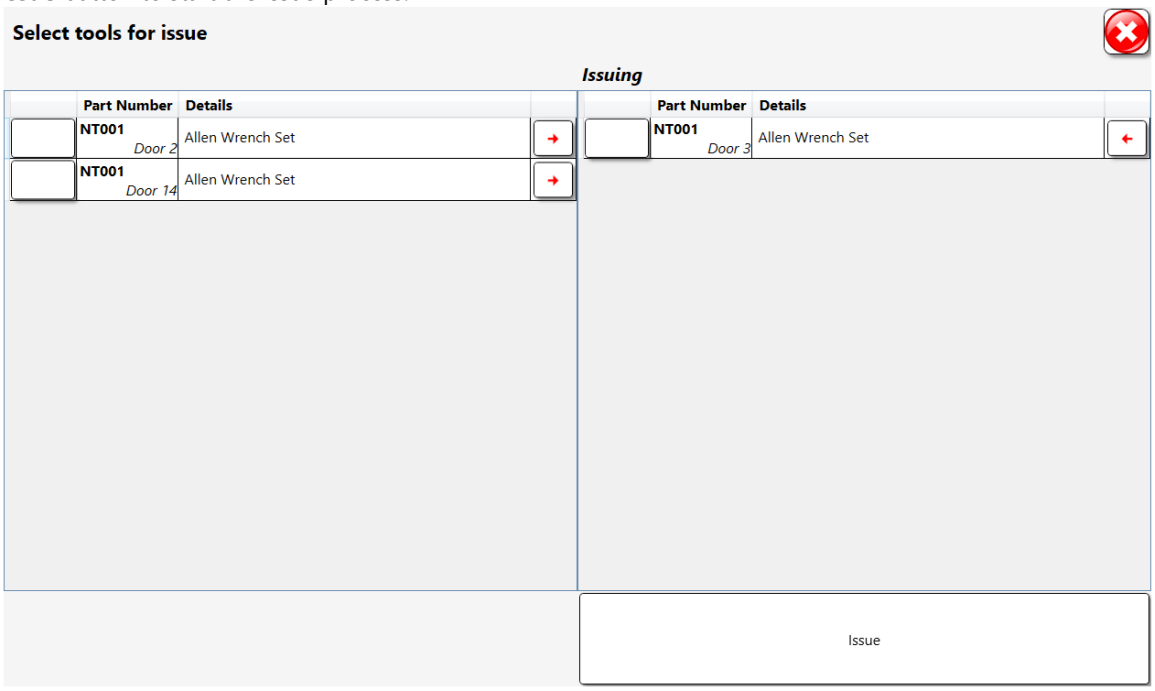
2. Once **Issue** is selected, the user will be met with a screen that will display the inventory currently available to issue.



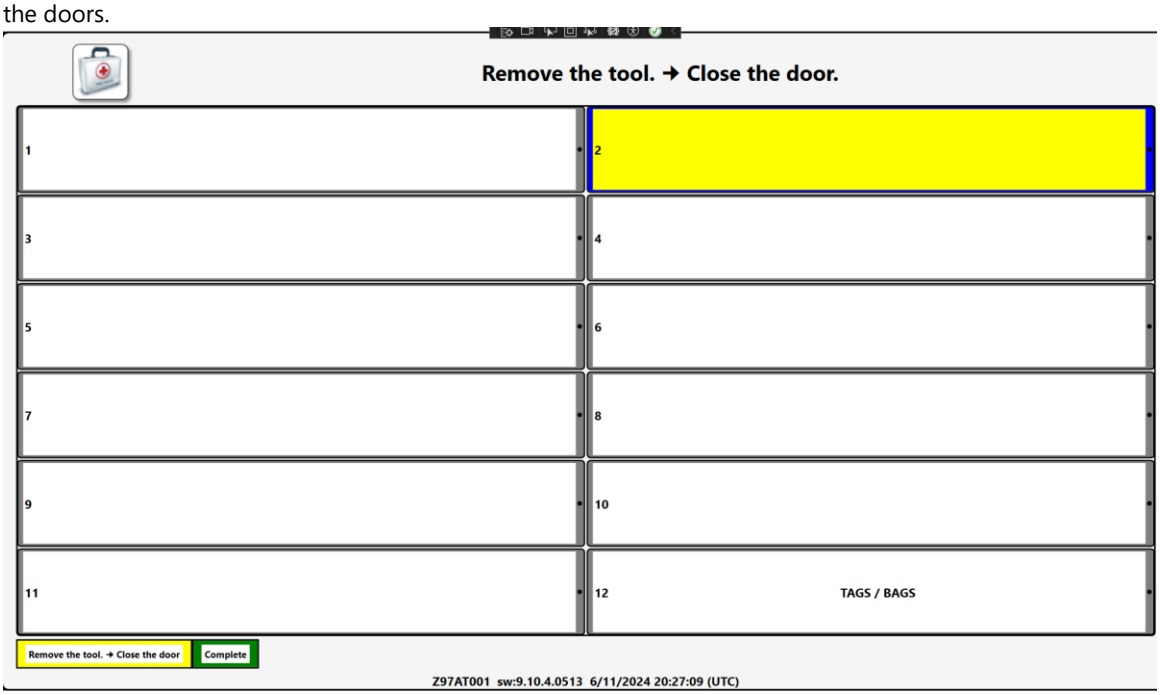
3. The user can move a tool from the left side of the screen to the right side by either clicking the **Red Arrow** button or by scanning the barcode on the door of the compartment containing the target tool. Click the

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Issue button to start the issue process.

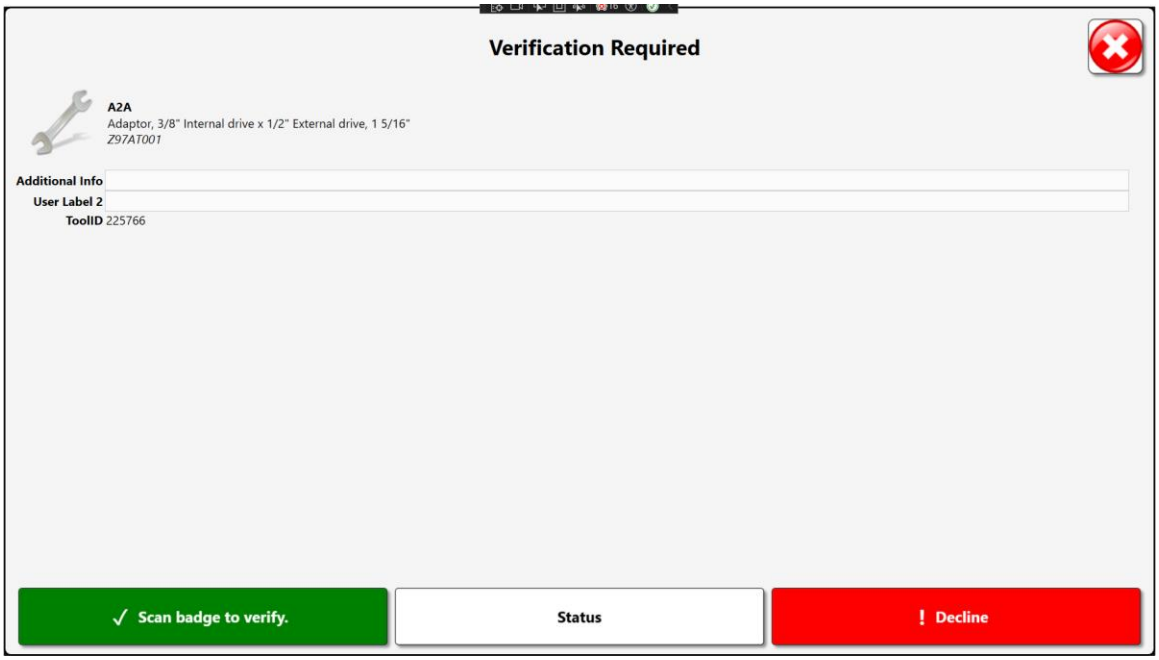


4. If work locations/work order entry is enabled for the FlexHub, the user will be prompted to select a work location and/or enter a work order number after selecting tools for issue.
5. The doors of the compartments will be opened, and the user will be prompted to remove the tools and close the doors.



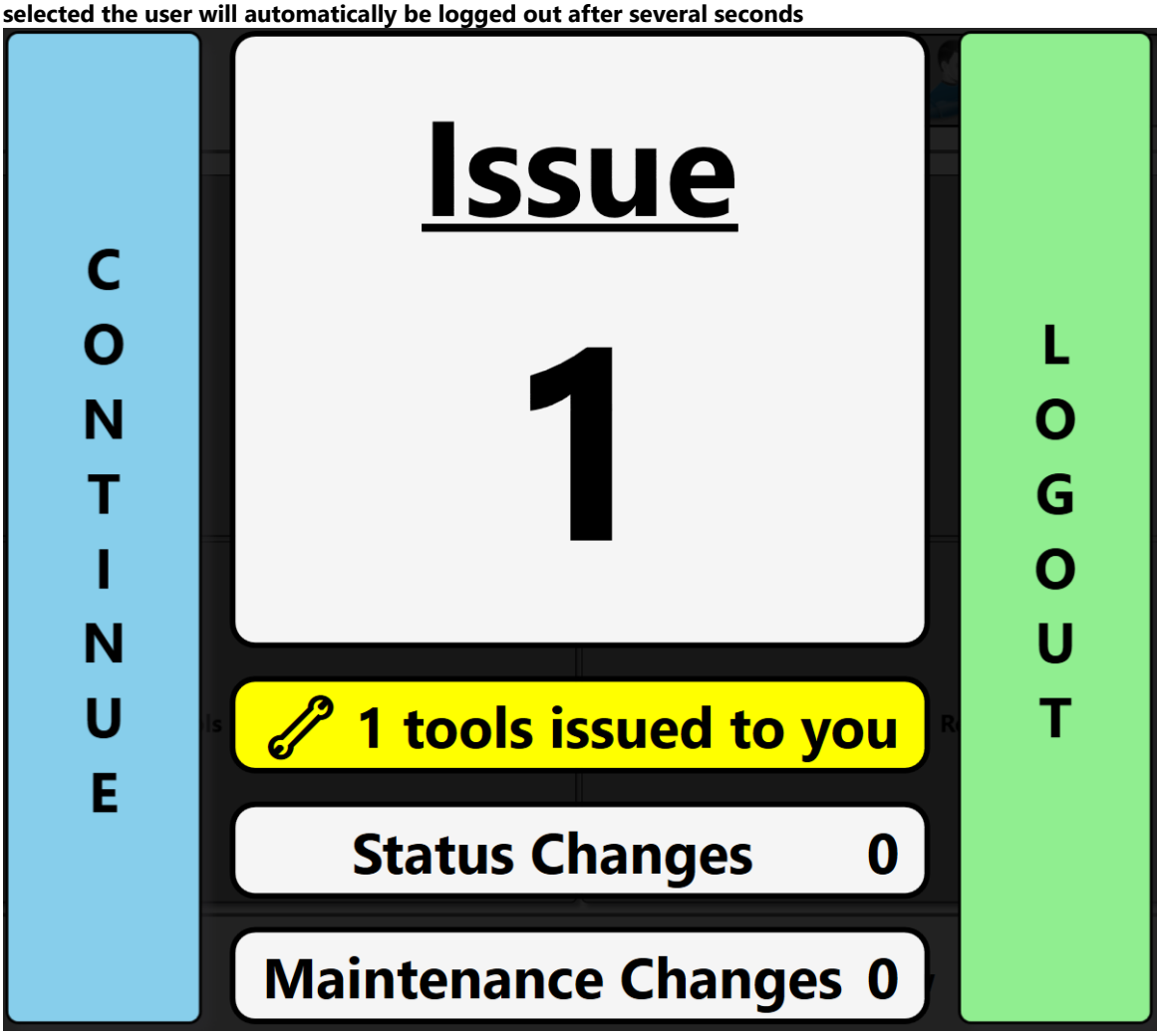
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6. After closing the door to the compartment, the user will be prompted to verify the tool if required for that tool.



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7. After Issuing a tool the user can choose to continue with another workflow or logout of the device, shown below. Click logout to end the session or click continue to select a different workflow. **NOTE: If no option is selected the user will automatically be logged out after several seconds**



Lock Out Tool Issue when Status Is Set

The system can be configured so that when a tool has a specified status, it may not be removed from the FlexHub unless the user has the **Bypass Tool Status Issued Lock Out** permission. For example, if a torque wrench had been tagged with a **Calibration Requested** status, an employee with the **System User** profile would not be able to issue the tool. But someone who is set up to manage tool calibrations, who had the **Bypass Tool Status Issued Lock Out** permission, would be able to issue the tool so that he could take it to be recalibrated.

Configuring the Admin for Lock Out Tool Issue when Status Set Feature

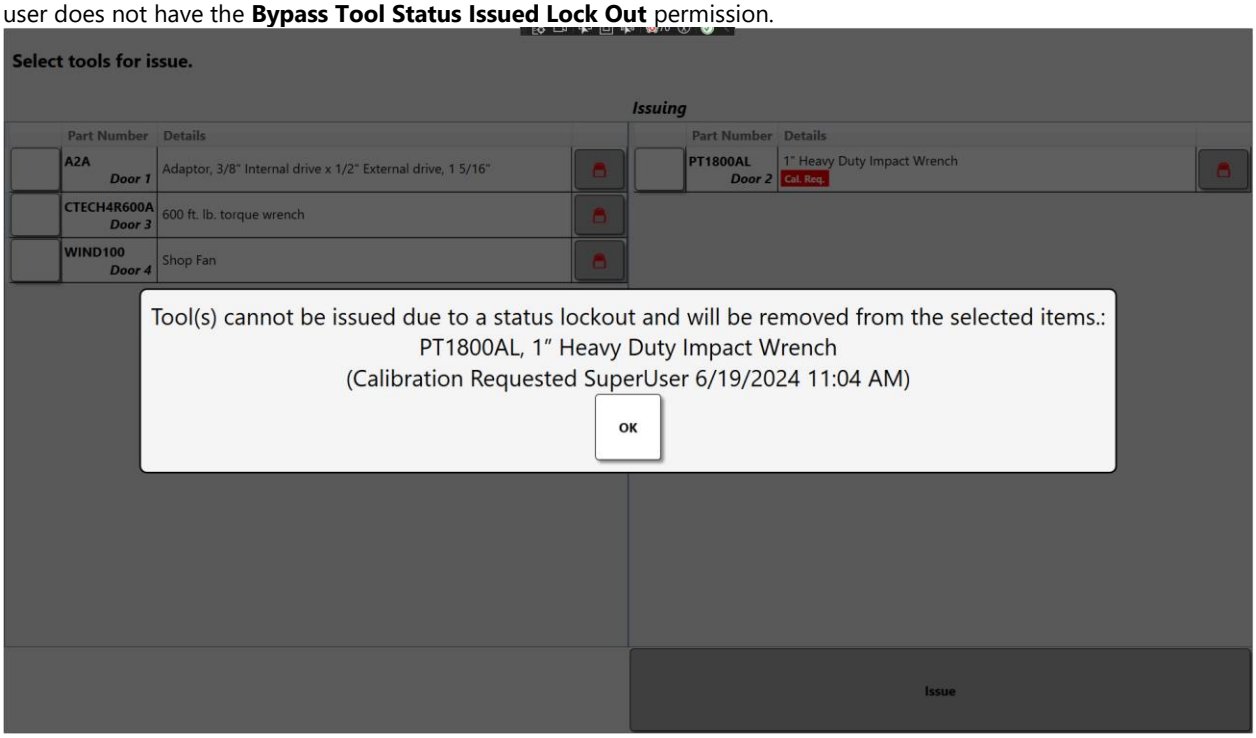
1. Using the admin client, login and navigate to the **Settings** Tab.
2. Select the **System Configuration** item in the list.
3. Click the **Status Types** button.

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4. Select the status which should prevent issue when set.
5. Check the **Locker Hub** checkbox for the **Lock out tool issue when set on these devices:** field.
6. Click the save button in the upper right corner to save your change.

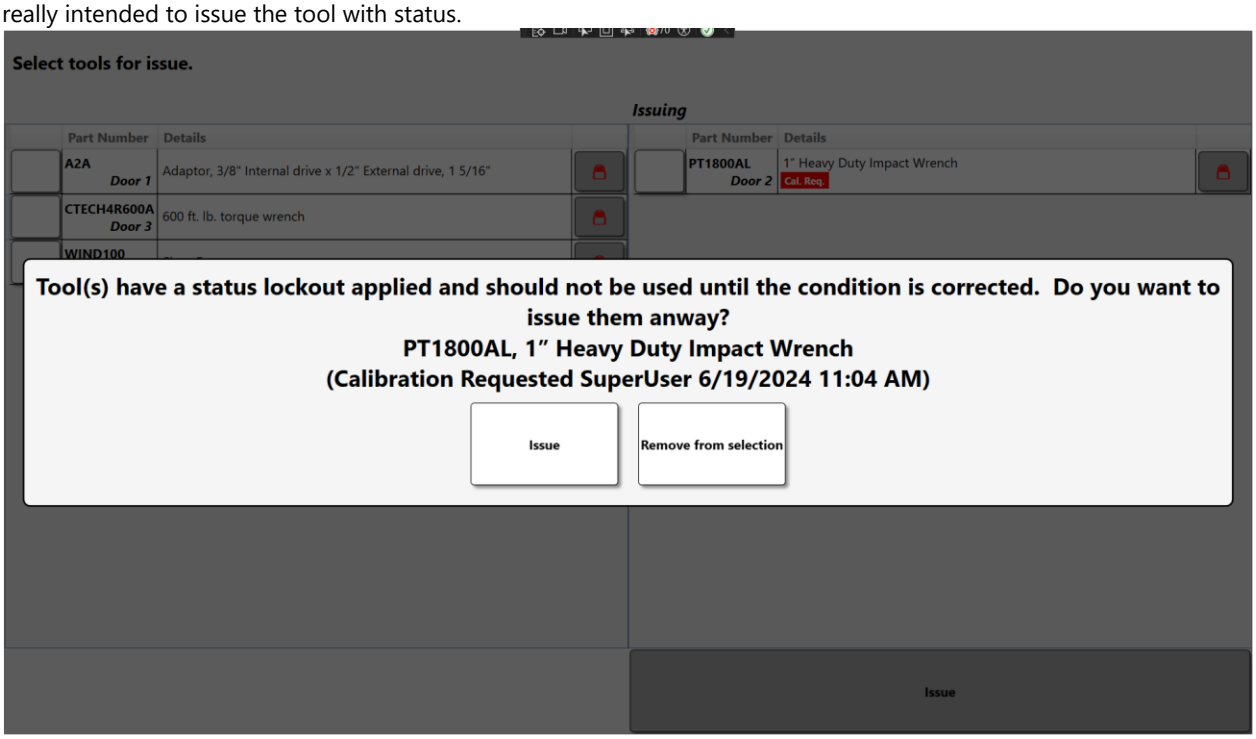
Lock Out Tool Issue when Status Set Behavior

Attempts to issue a tool with a status set that has been flagged for lock out will produce the following message if the user does not have the **Bypass Tool Status Issued Lock Out** permission.



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If the user does have the **Bypass Tool Status Issued Lock Out** permission, they will be prompted to make sure they really intended to issue the tool with status.



Return Tool

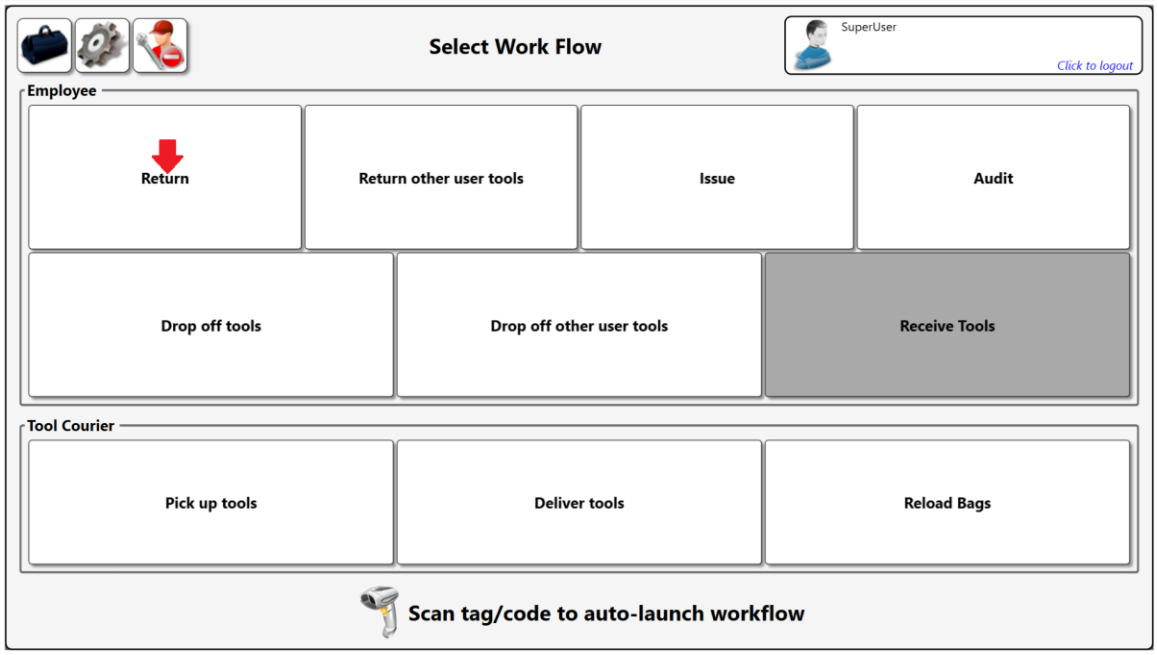
Tool return is one of the primary workflows typical of users of the FlexHub. This workflow option will record the tool number returned along with the employee associated, and the date and time of return. **NOTE: Return button is only shown if at least 1 inventory compartment is defined**

Access point(s): FlexHub Dashboard after user sign in

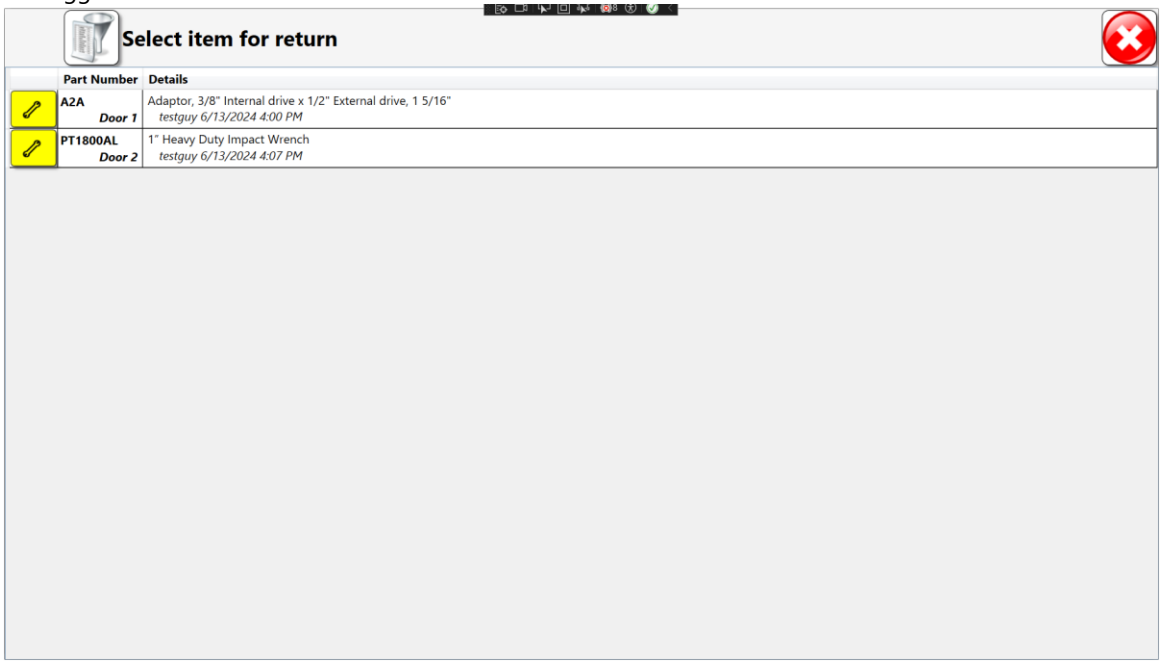
Required Permission: Device User

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1. To return any tools to the FlexHub, the user must first use their ID badge to sign into the FlexHub. Then the user will select **Return** within the Employee options list.

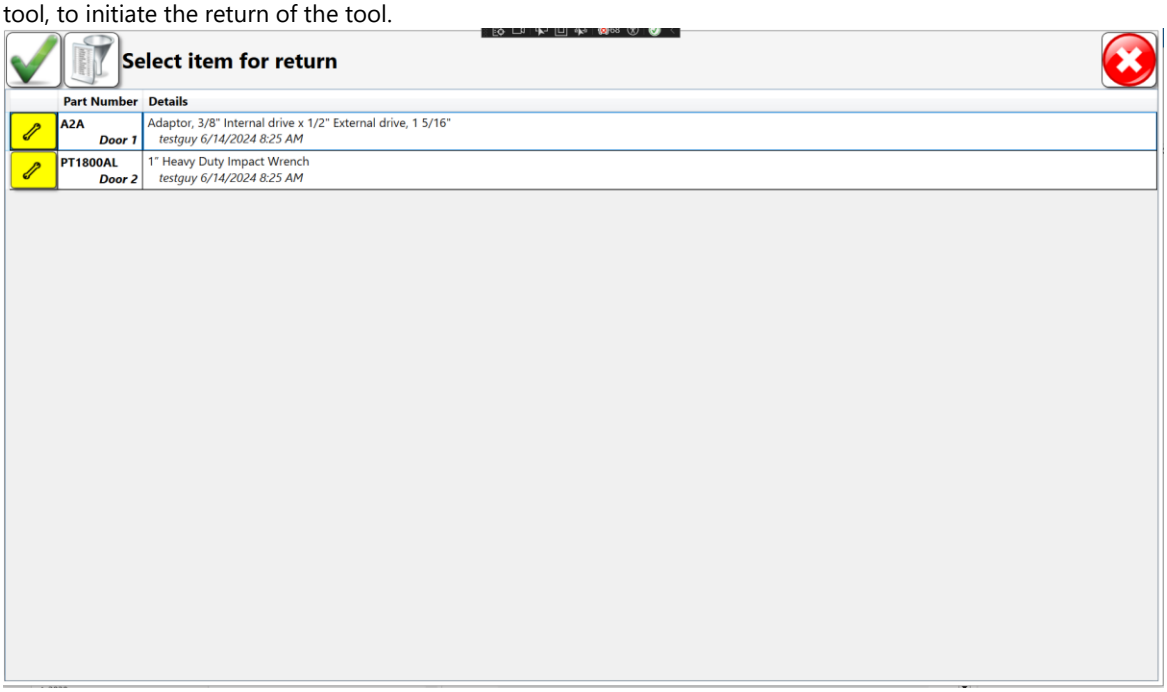


2. Once return is selected the user will be met with a screen that will display the inventory currently issued to the logged in user.

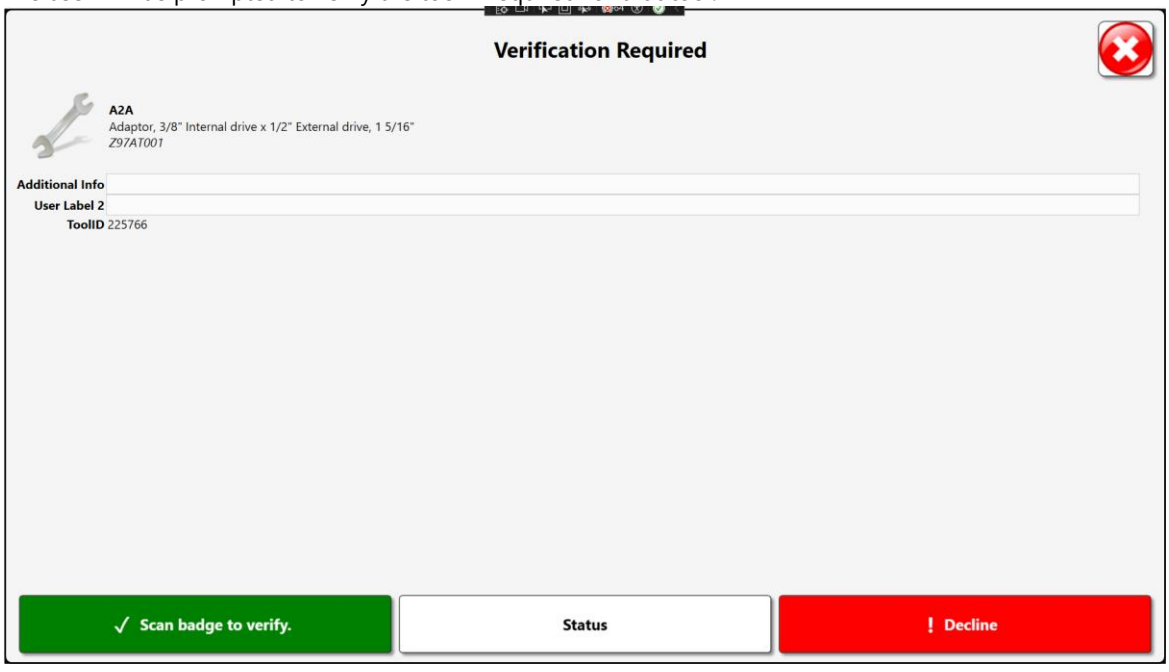


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3. Select the tool to be returned and then click the **Green Checkmark** button or by scanning the tag on the tool, to initiate the return of the tool.

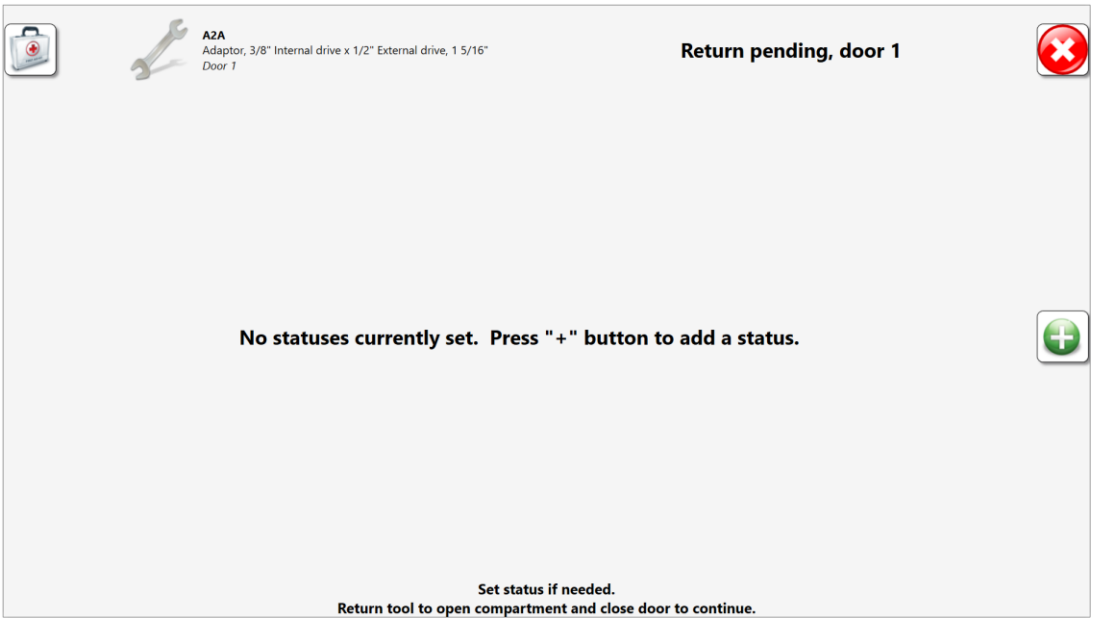


4. The user will be prompted to verify the tool if required for that tool.



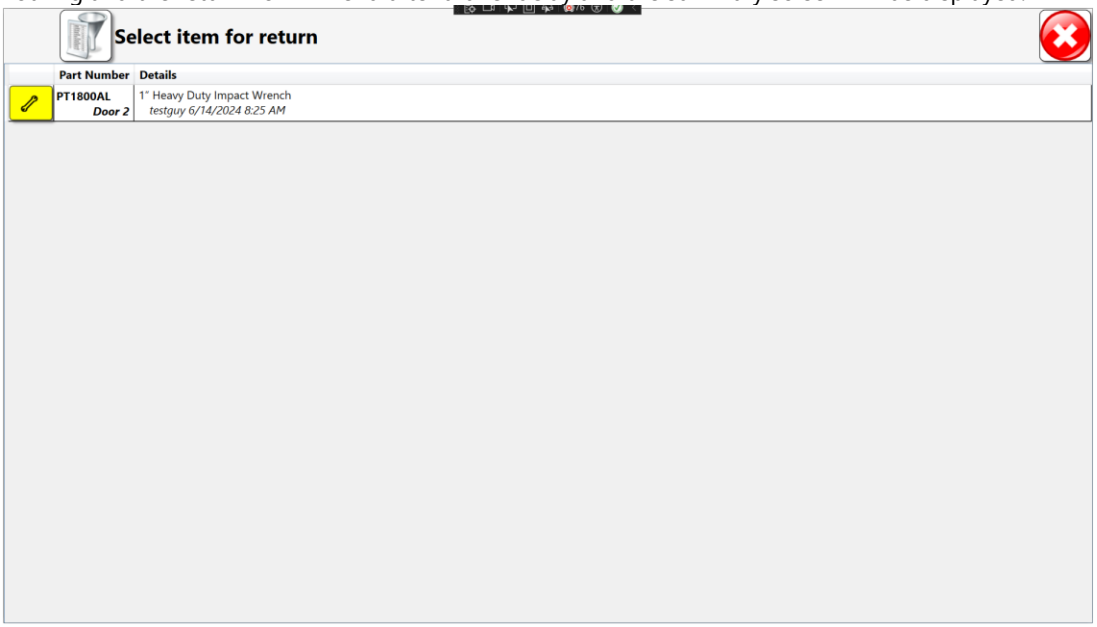
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5. The door assigned to the tool being returned will open and the user will be met with an additional screen where they can attach a status type to the returned tool. Select a status(es) from the right and click the green checkmark, if no status type is required click the green checkmark. **NOTE: If you need to set a status you must do that before closing the door of the compartment after returning the tool. Otherwise, the system will assume you did not want to add a status. You may also cancel the tool return by pressing the Cancel button in the top right corner. If multiple tools are being returned, all remaining tool returns will also be canceled.**



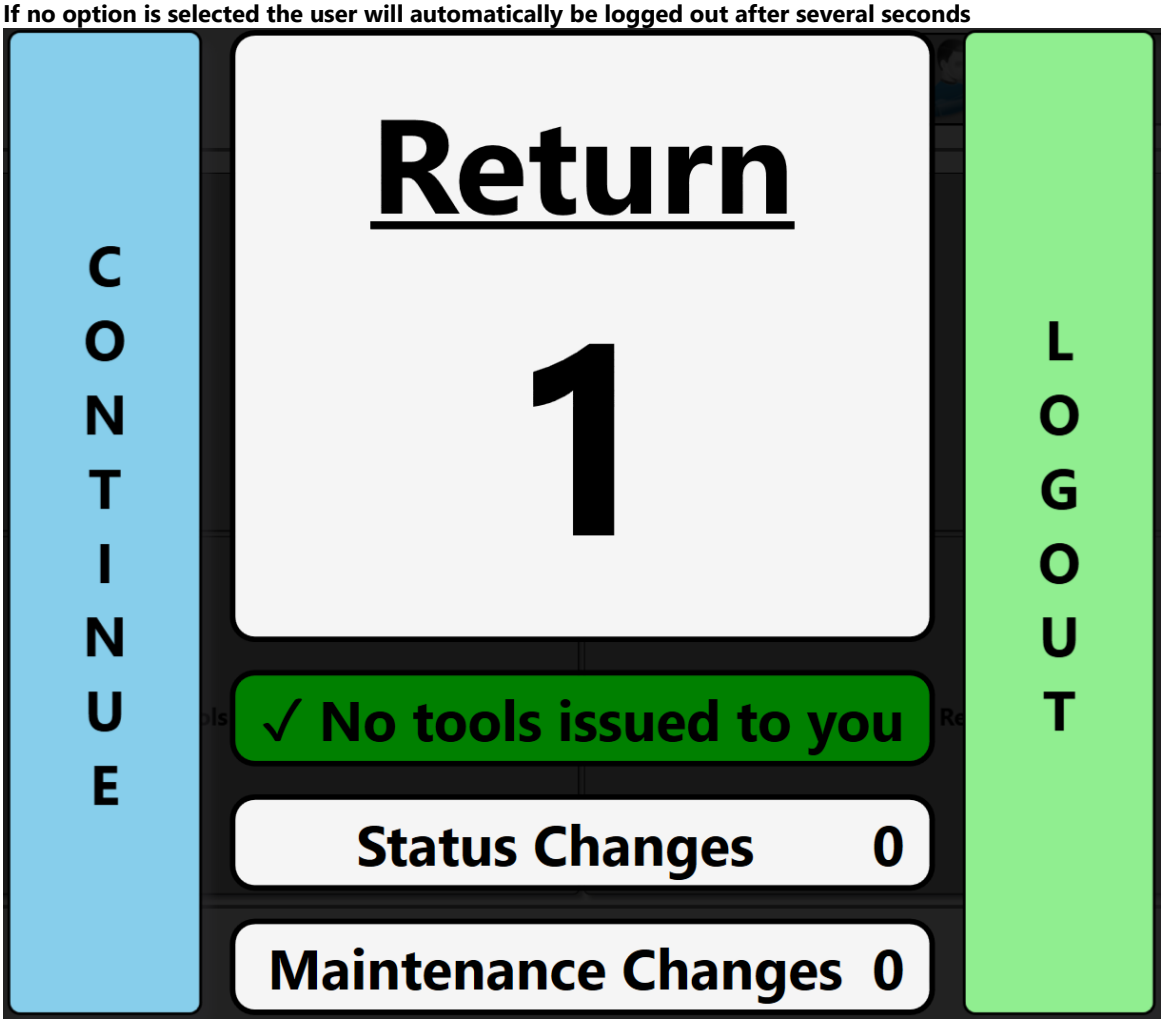
6. The user will return the tool and close the door.

7. The user will then be returned to the screen displaying the list of tools he currently has issued from the FlexHub. He can initiate return of another tool, click the **Red X** button to end the return workflow, or do nothing and the return flow will end after a brief delay and the summary screen will be displayed.



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8. After Issuing/Returning a tool the user can choose to continue with another workflow or logout of the device, shown below. Click logout to end the session or click continue to select a different workflow. **NOTE: If no option is selected the user will automatically be logged out after several seconds**



Scan to Start Issue/Return Tool

The system can be configured to allow the issue or return process to be initiated by scanning a tag. This must be configured with the Admin Client.

Configuring Admin Client for Scan to Start Issue/Return

1. Login and navigate to the **Locations** tab.
2. Select the FlexHub in which you wish to use scan to start issue/return. Then click on **Options**.
3. Look to see if the Options for this device are inherited from another location. If the options are inherited, you will either need to go to that location to change the options or uncheck the checkbox to inherit options to set them for this location.

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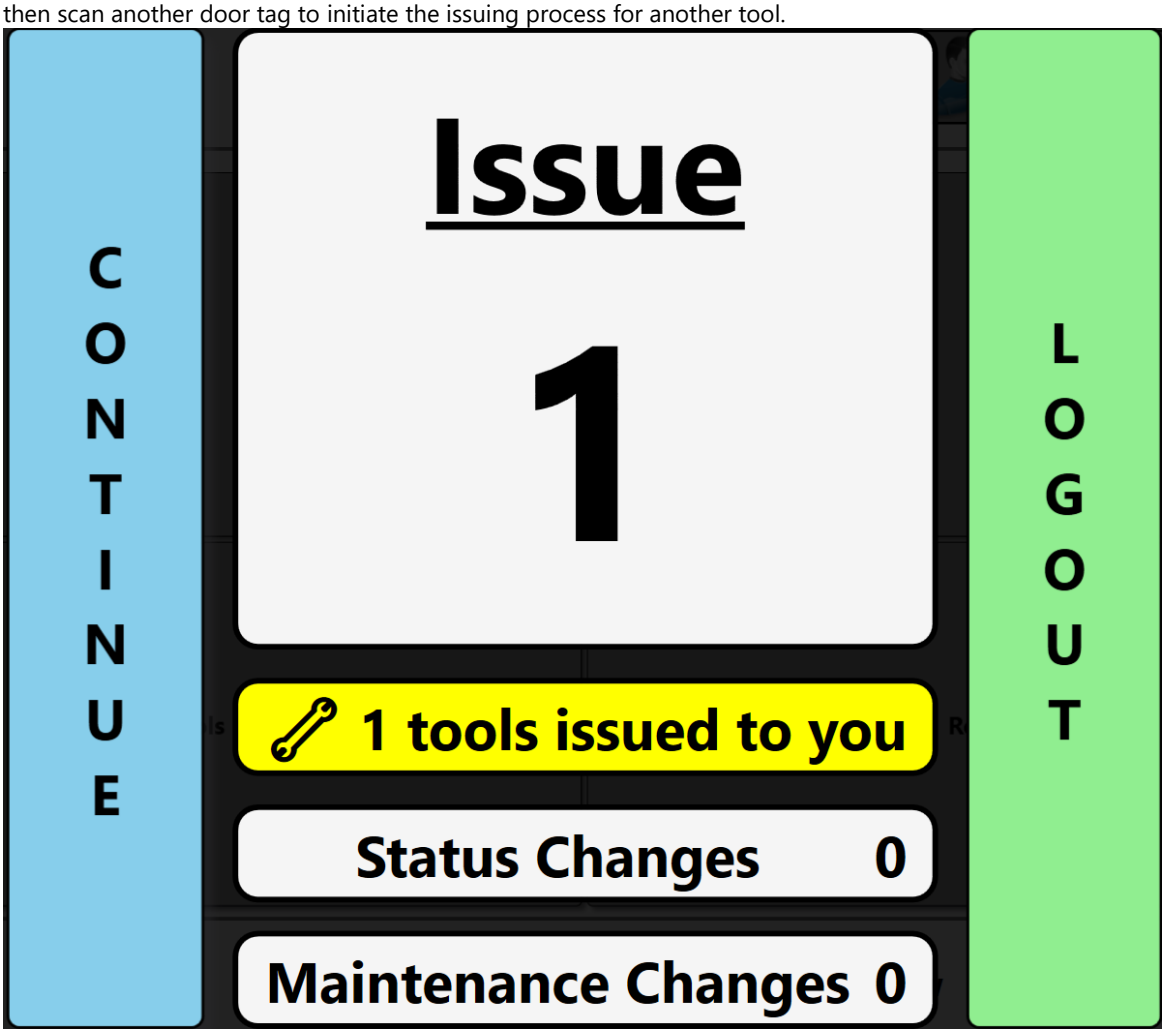
4. Click on the checkbox next to **Auto-start Tool Issue Process on Tag Scan** to enable scan auto-start for tool issue.
    - Since you can't scan a tag on a tool that is in the compartment to issue that tool, you will instead have to scan a tag on the door of the compartment. This will require you to add a set of 2D bar codes to the doors of the compartments of the locker. These can be obtained from the **Pro-Services team**.
5. Click on the checkbox next to **Auto-start Tool Return Process on Tag Scan** to enable scan auto-start for tool return.
6. The user can also configure the system to require a tag scan on tool issue, **Require Tag Scan on Tool Issue**, or tool return, **Require Tag Scan on Tool Return**, if desired.

Scan to Auto-start Tool Issue

1. To issue tools to the FlexHub, the user must first use their ID badge to sign into the FlexHub.
2. Instead of selecting **Issue** within the Employee options list, the user would use the barcode scanner to scan the tag on the door of the compartment containing the tool that they wish to issue.
3. From this point, the issue process would continue as described above in the **Issue Tool** section.

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4. At the end of the issuing process, the user will then be shown a summary screen. At this point the user could then scan another door tag to initiate the issuing process for another tool.

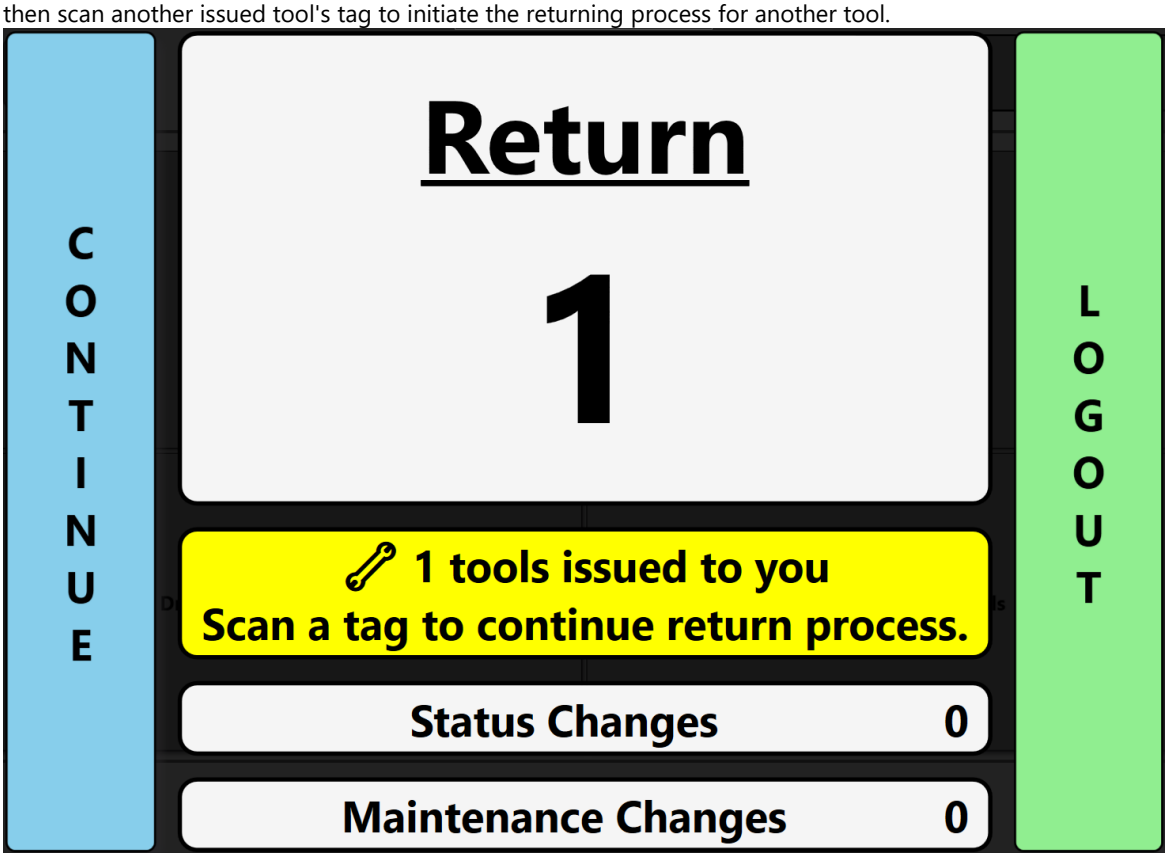


Scan to Auto-start Tool Return

1. To return tools to the FlexHub, the user must first use their ID badge to sign into the FlexHub.
2. Instead of selecting **Return** within the Employee options list, the user would use the barcode scanner to scan the tag on the tool that they wish to return.
3. From this point, the return process would continue as described above in the **Return Tool** section.

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4. At the end of the return process, the user will then be shown a summary screen. At this point the user could then scan another issued tool's tag to initiate the returning process for another tool.



Scan Required for Tool Issue/Return

The FlexHub can be configured to require a tag to be scanned for tool issue and/or tool return.

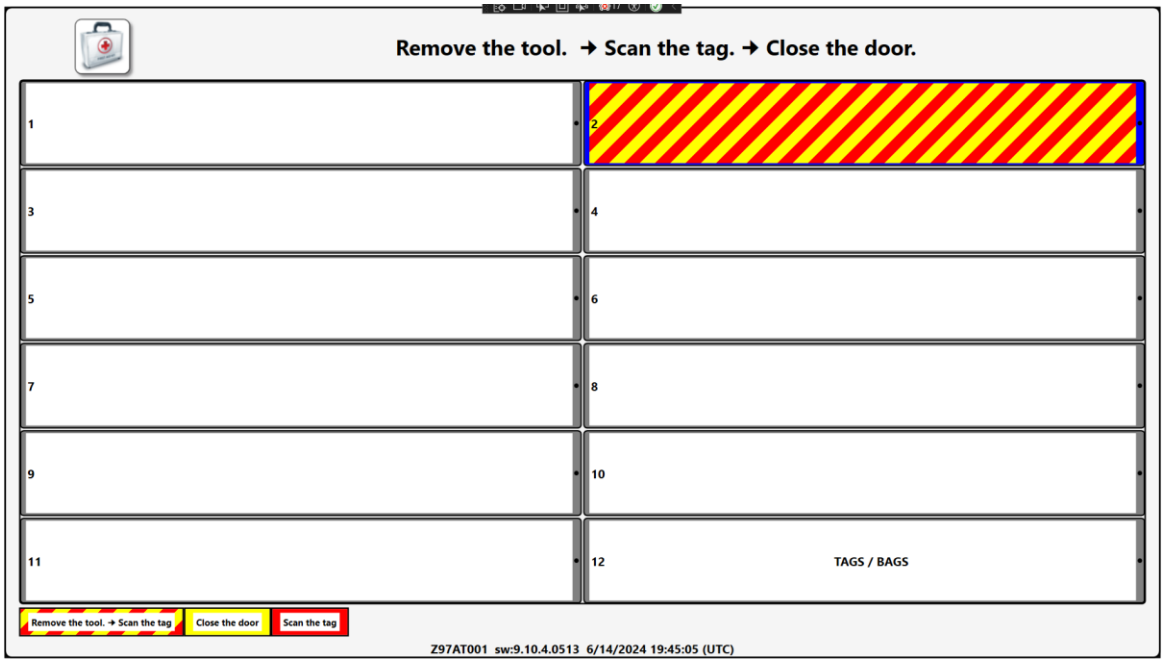
Configuring Scan Required for Tool Issue/Return

1. Follow the first three steps of the procedure in **Configuring Admin Client for Scan to Start Issue/Return** to go to the proper place in the admin client.
2. Check the **Require Tag Scan on Tool Return** checkbox to require the tool tag to be scanned on tool return.
3. Check the **Require Tag Scan on Tool Issue** checkbox to require the tool tag to be scanned on tool issue.
4. Click the **blue save disk** button to save your changes.

Tag Scan Required on Tool Issue

1. Start the issue tool process as normal. Once the tool has been selected to issue the user will be prompted to remove the tool, scan the tag, and close the door.

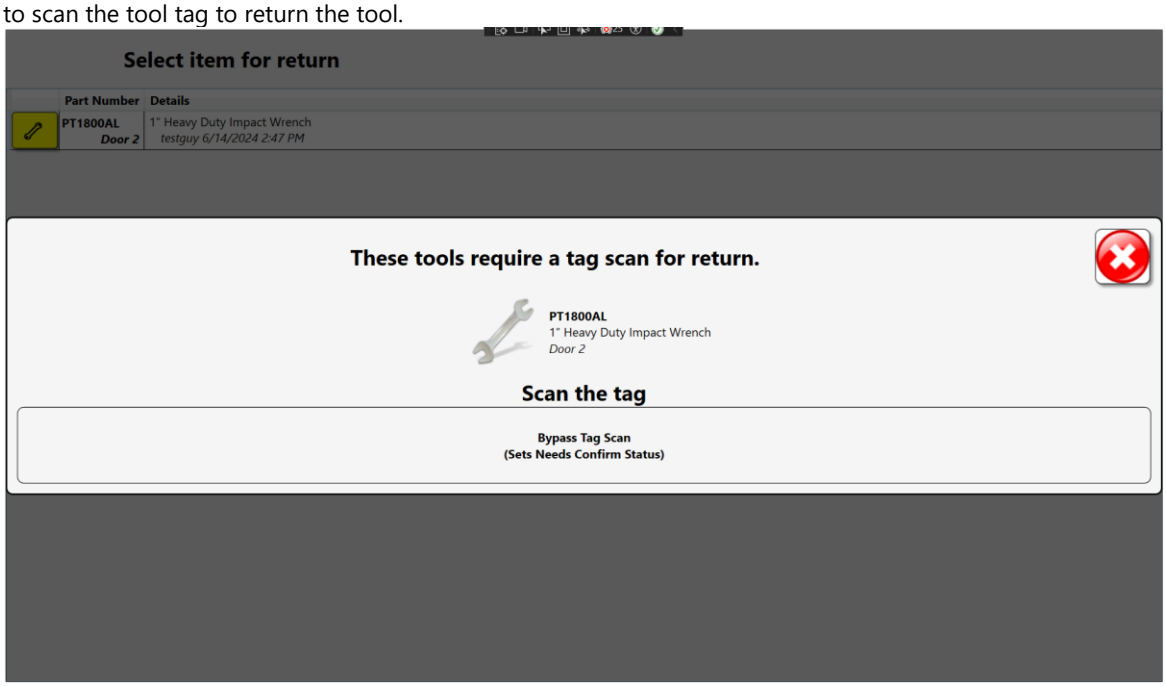
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The process won't proceed until the tool tag has been scanned. Otherwise, the issue process will proceed as previously described in the **Issue Tool** section.

Tag Scan Required on Tool Return

1. Start the tool return process as normal. Once the tool has been selected to return the user will be prompted to scan the tool tag to return the tool.



2. Once the tag has been scanned, the tool return process will proceed as previously described in the **Return Tool** section.

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Multiple Return

The FlexHub allows the return of multiple tools at once versus the standard one tool at a time. This option can be configured with the L5 Admin Client.

Configuring Multi-Select Return in Admin Client

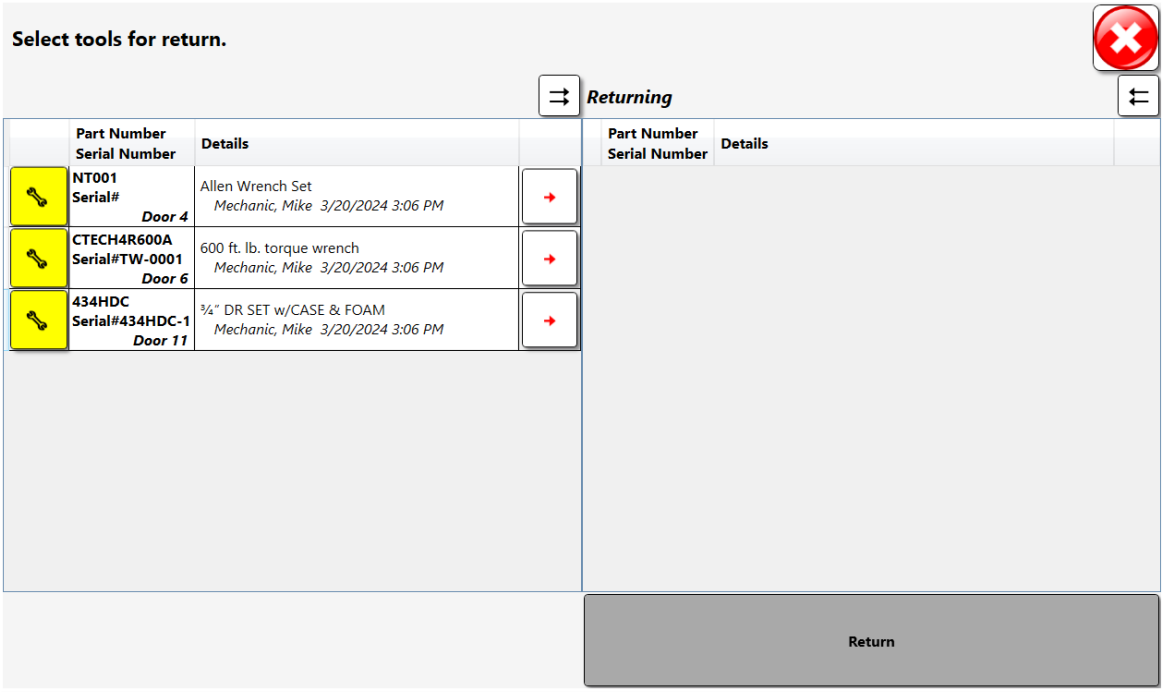
1. To set up multiple return we must open the L5 Admin Client.
2. Login and navigate to **Locations** and select the FlexHub in which you wish to have the multi-select return. Then click on **Options**.
3. Look to see if the Options for this device are inherited from another location. If the options are inherited, you will either need to go to that location to change the options or uncheck the checkbox to inherit options to set them for this location.
4. Click on the checkbox next to **Locker Hub Allow Multi-Select Return** to enable multi-select return.

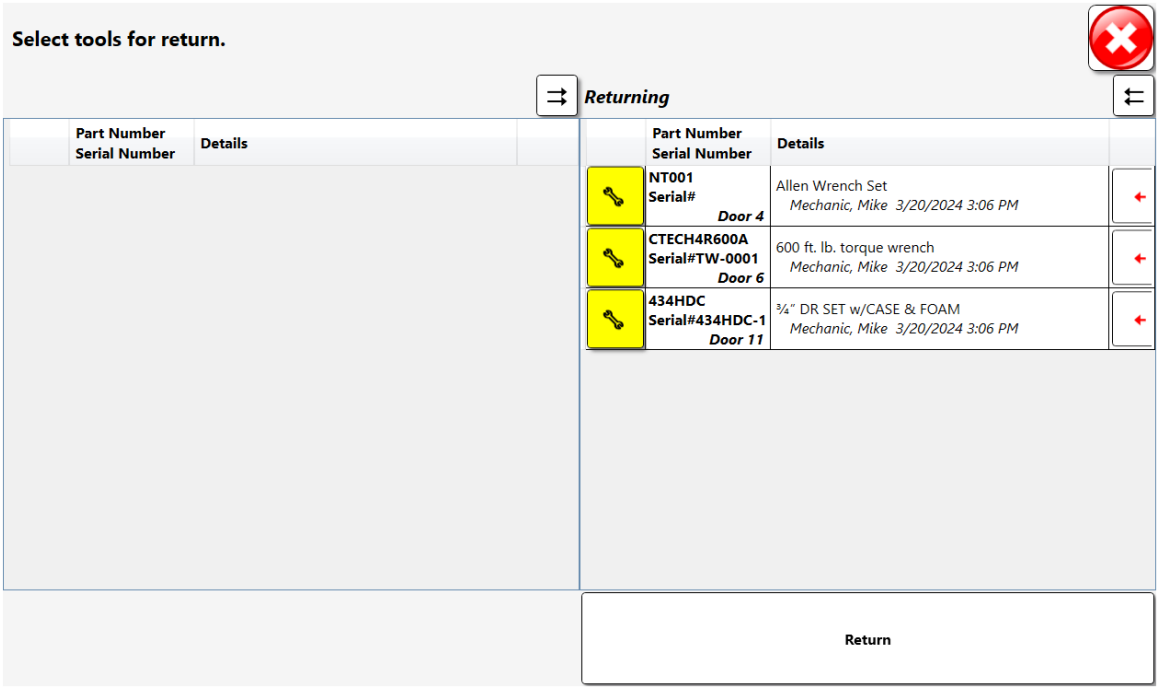
Multi-Select Return Workflow

1. To return multiple tools to the FlexHub, the user must first use their ID badge to sign into the FlexHub. Then the user will select **Return** within the Employee options list.

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2. You will see a list of tools issued to the currently logged in user on the left. Either scan the barcode for the tool or click the **red arrow** for that tool to move the tools you wish to return into the **Returning** column.





3. Click the **Return** button to initiate the return of the tools.
4. At this point the process will continue as described for a single tool return flow serially for each of the tools selected for return.

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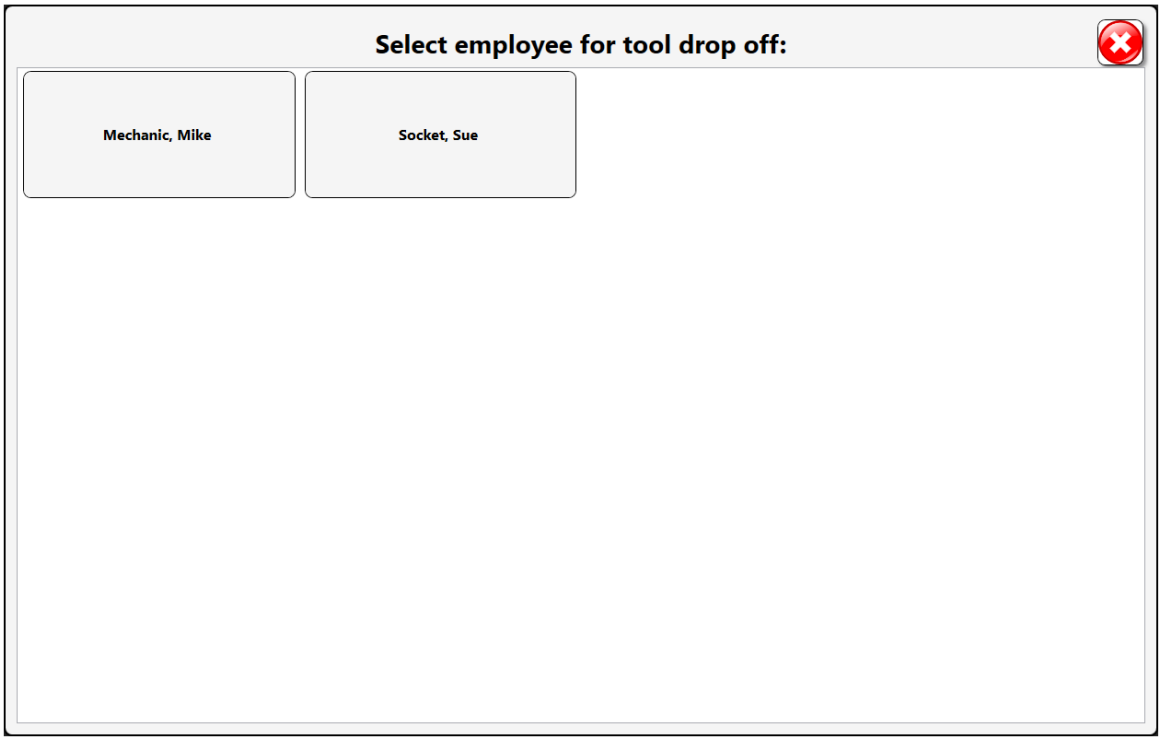
Return Other User Tool(s)

The FlexHub allows a permissioned user to return tools for others within their organization that have been issued from the FlexHub's inventory.

Access point(s): FlexHub Dashboard after permissioned user sign in

Required Permission: Tool Return Other User Device Drop Off.

1. To return another's tools click on the Return other users' tools box within the select workflow screen. Then the user will select which employee they are returning tools for.



2. After an employee's name is selected, a list of all the tools the user has issued from the FlexHub are visible. **NOTE: Only tools the user has issued from the FlexHub show in this list.**
3. Select the tool(s) for return and then follow the normal return procedure.

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Error Recovery Support

The system has support for when things might not go quite as expected during one of the flows. There is a button with a first aid icon that the user can click to use this error recovery support.



There are buttons to

- **Cancel process** if you want to stop in the middle of a flow
- **Reopen Doors** if you accidentally put the wrong tool and need to reopen the door to put the proper tool in, for instance
- **Door won't close** to alert the system that the door is not closing properly
- **Doors are closed** if the door did not open when it should have

---

Drop-off Tools

The FlexHub also allows a user to drop off any tools currently issued to them from any device within the L5 Connect system. Tools will be assigned a "Waiting for courier" status when dropped off at the FlexHub. **NOTE: This option is not shown if no compartments are configured as drop-off mode.**

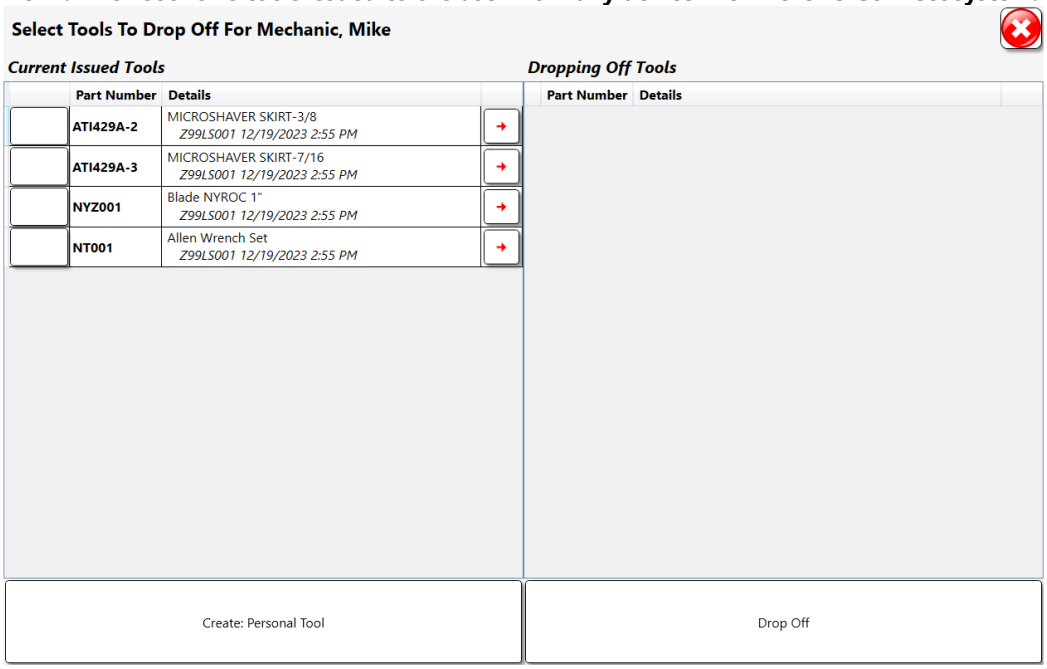
Access point(s): FlexHub Dashboard after user sign in

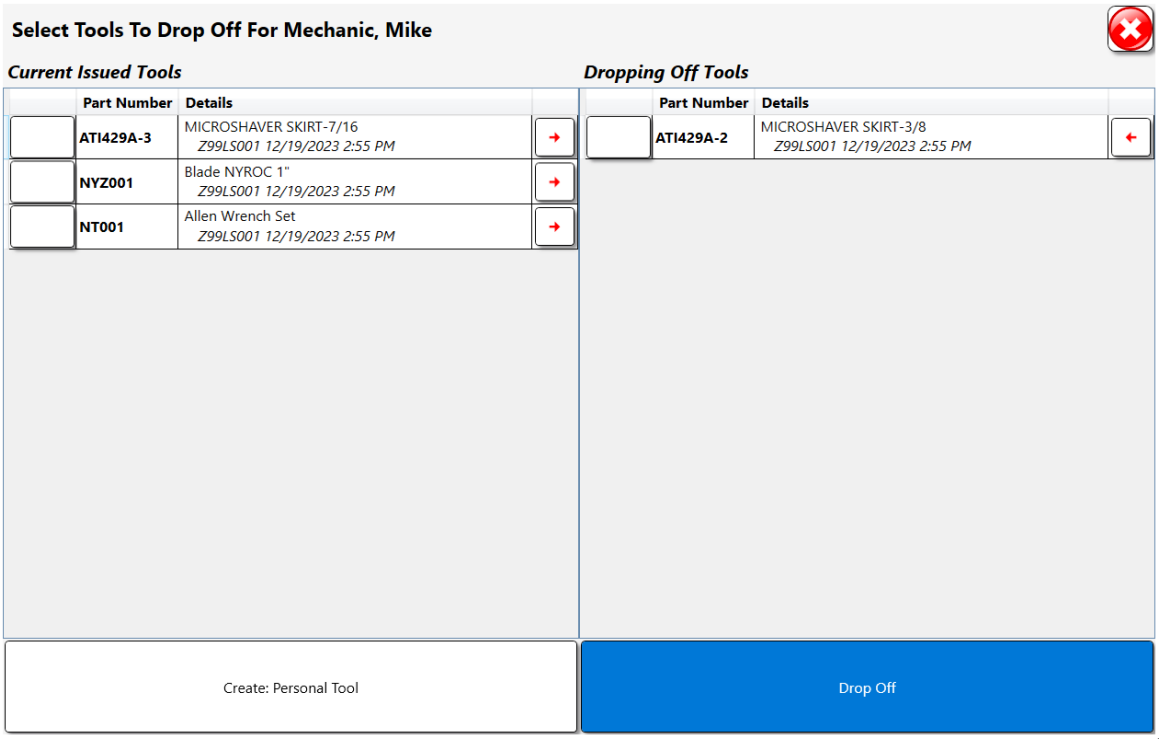
Required Permission: Device User

1. Select **Drop-off Tools** from the FlexHub main screen. **NOTE: If drop off for other user's tools is selected with an admin employee an additional screen will be displayed where the user picks which user they are dropping off for, similar to Return other users tools**
2. Select a tool from the list of issued tool(s) from the left. **NOTE: multiple items can be selected if they are all contained within the same bag. The drop off process must be repeated if the tools should be held in a separate bag.** Once item(s) are selected press the **Drop Off** button and attach a status if necessary.

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NOTE: This list shows tools issued to the user from any device within the L5 Connect system.

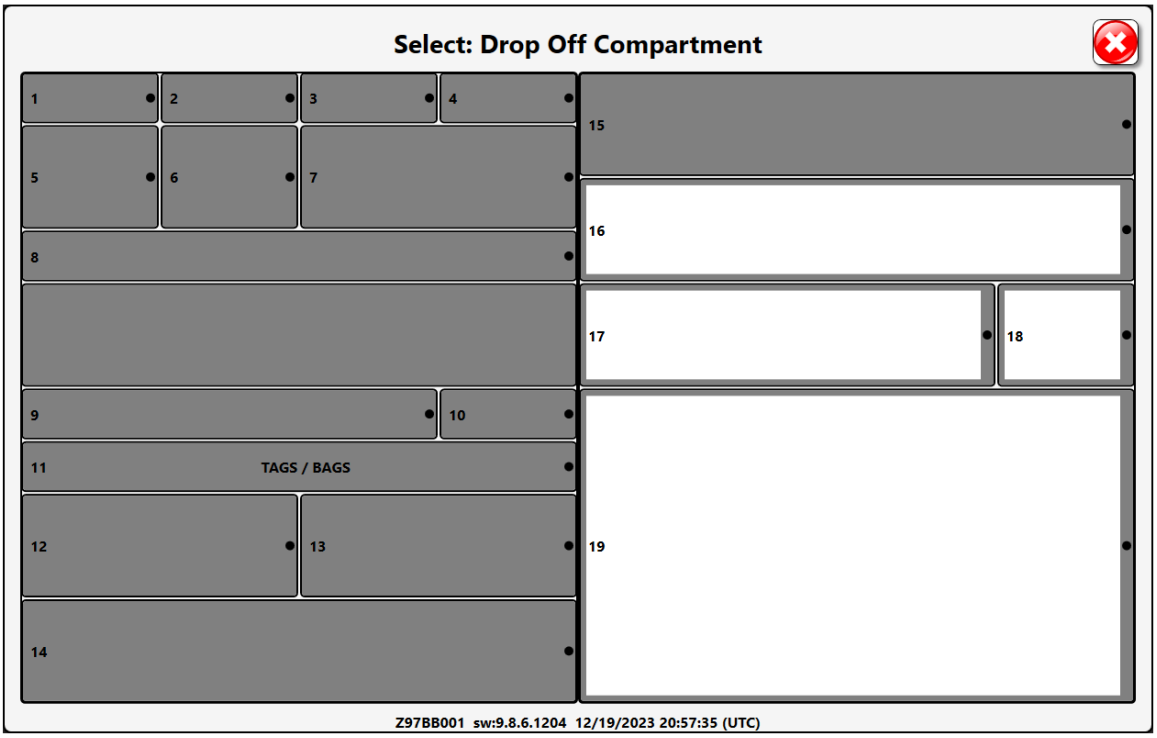




3. Select an open drop-off compartment. These compartments show white if empty and solid grey compartments if full/not assigned for drop-off. After a drop-off compartment is selected, the bag/tag storage compartment will open, and the user will be prompted to take a bag/tag from the compartment and

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close the door. Then scan the new tag or barcode.



4. Place tagged tool or bag in the opened compartment and then close the door.

Create Personal Tool

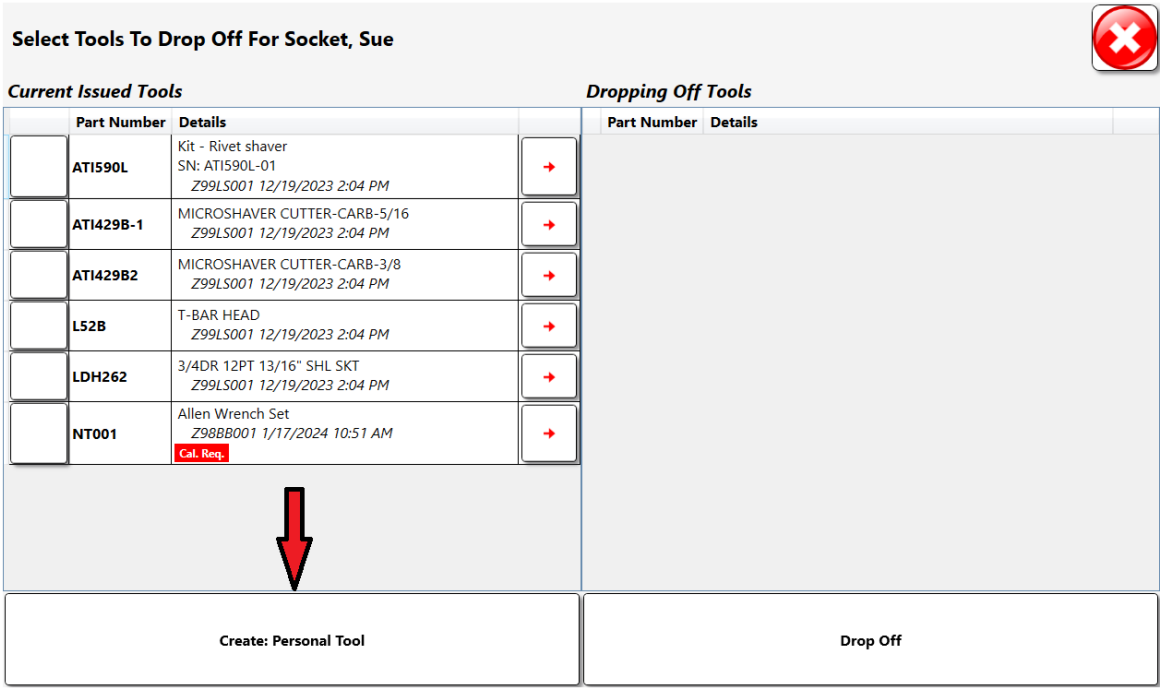
If you have a personal tool, not in the L5 Connect™ system, you can still place it in the FlexHub if you need some maintenance. The process of dropping off a personal tool is very similar to the standard procedure.

Access point(s): Under Tool drop off workflow after user sign in

Required Permission: Device User

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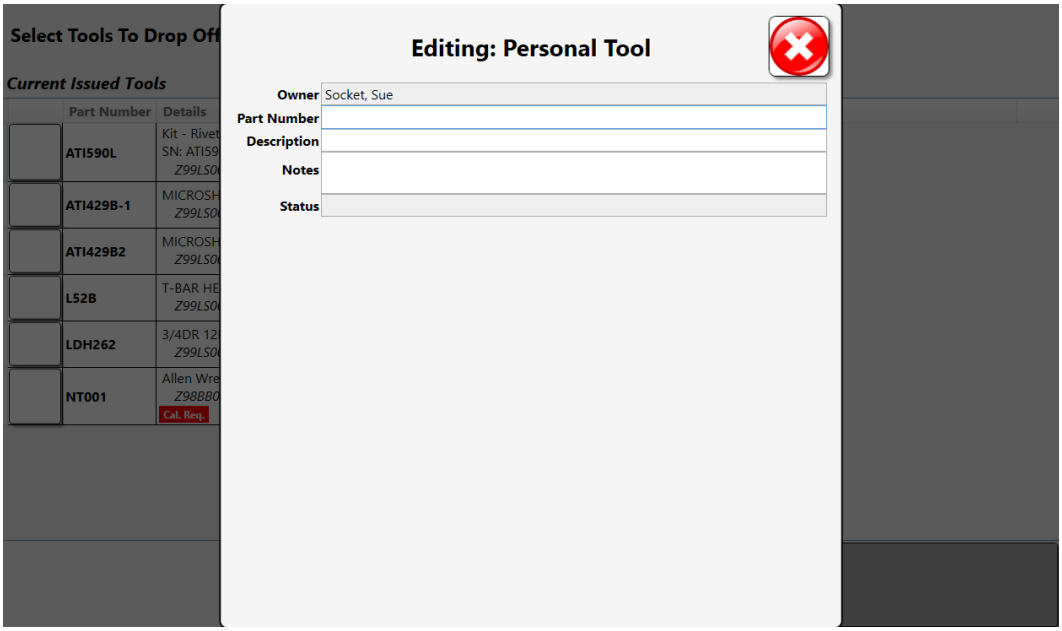
1. When you select Drop off Tools from the Workflow page, you are presented with the Tool Selection page. At the bottom of the page, tap Create: Personal Tool.



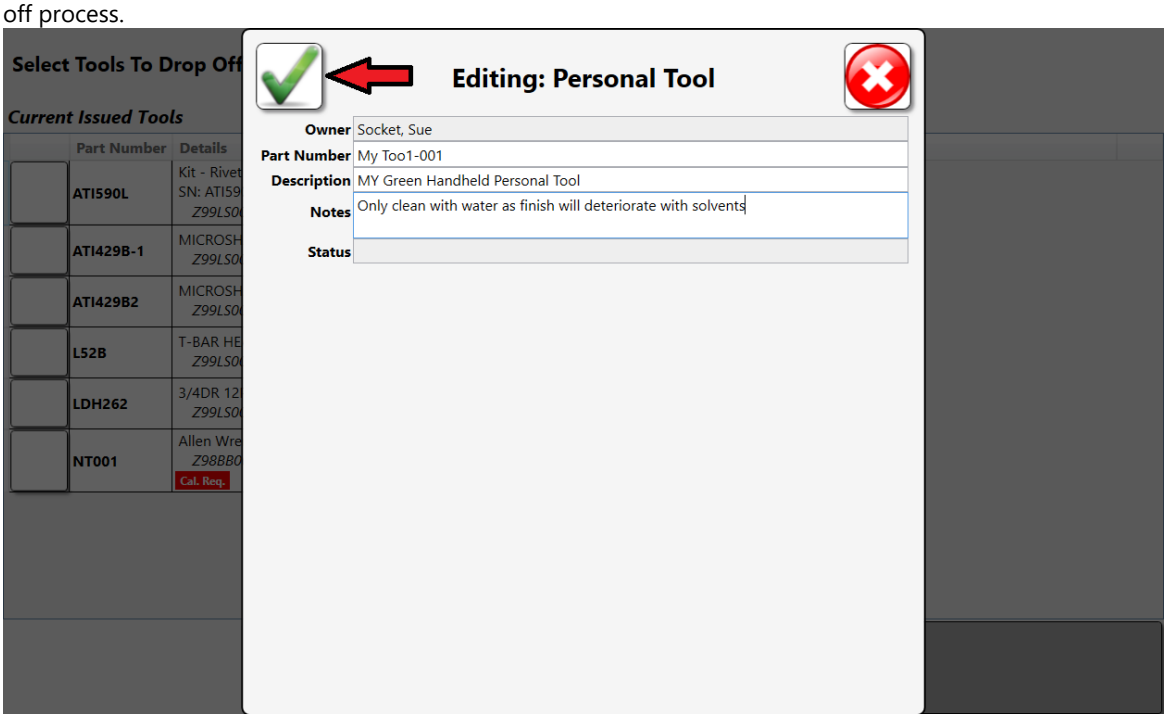
2. The FlexHub will display the Personal Tool creation screen. From this page, you can input the details of the tool:
    - Owner: The Employee that created the tool in the ATR.
    - Part Number: A Number to represent the tool in the L5 Connect™ system.
    - Description: A short description of what the tool is.
    - Notes: Explanation of why you are placing the tool in the ATR and any special instructions.

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- Status: The status of the Tool.



3. Then, tap the ✓ button in the upper left to continue. The rest of the process is identical to the normal Drop-off process.



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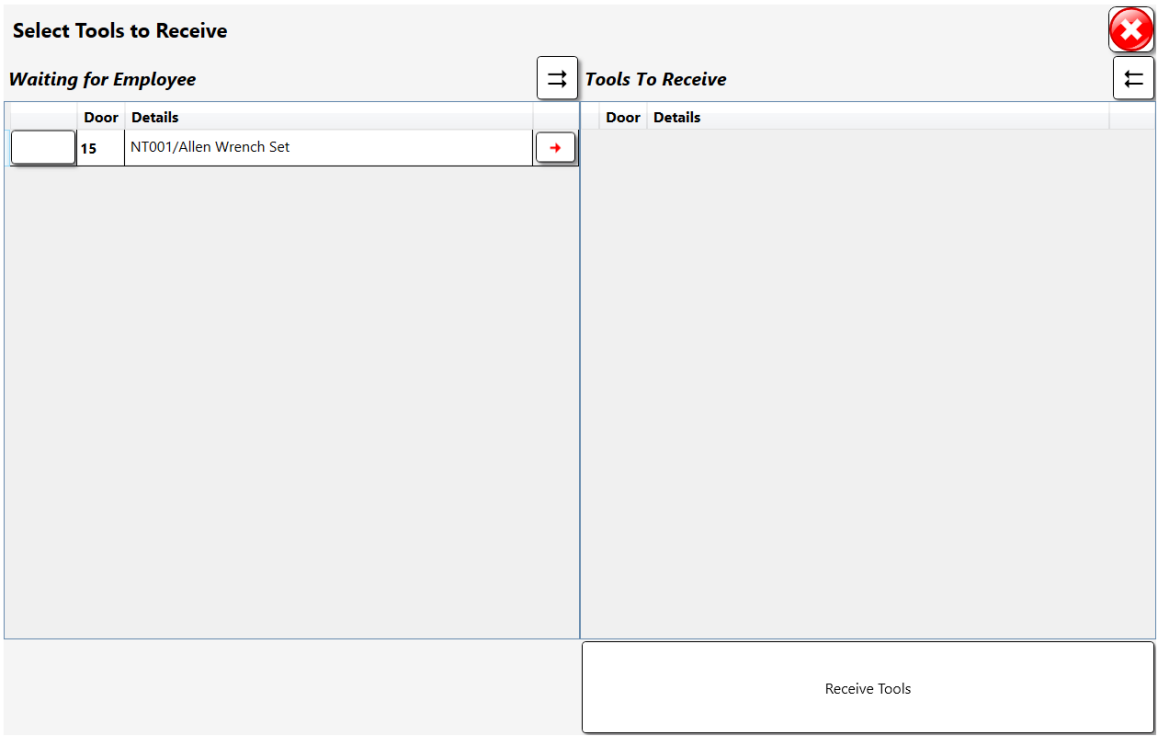
Receive Tools

For a user to receive tools they must first be dropped off by a courier, this information must be initiated within the L5 Connect Admin Client. **NOTE: This option is not shown if no compartments are configured as drop off mode.**

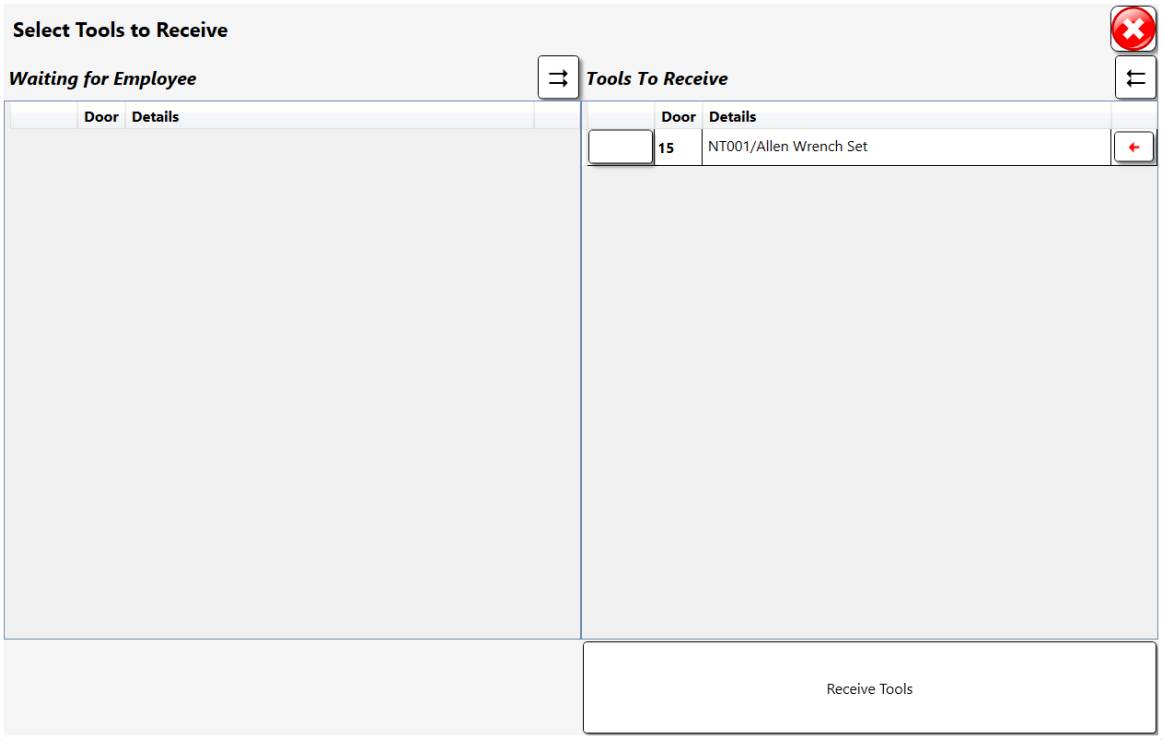
Access point(s): FlexHub Dashboard after user signs in.

Required Permission: Device user (also requires tools delivered off by courier)

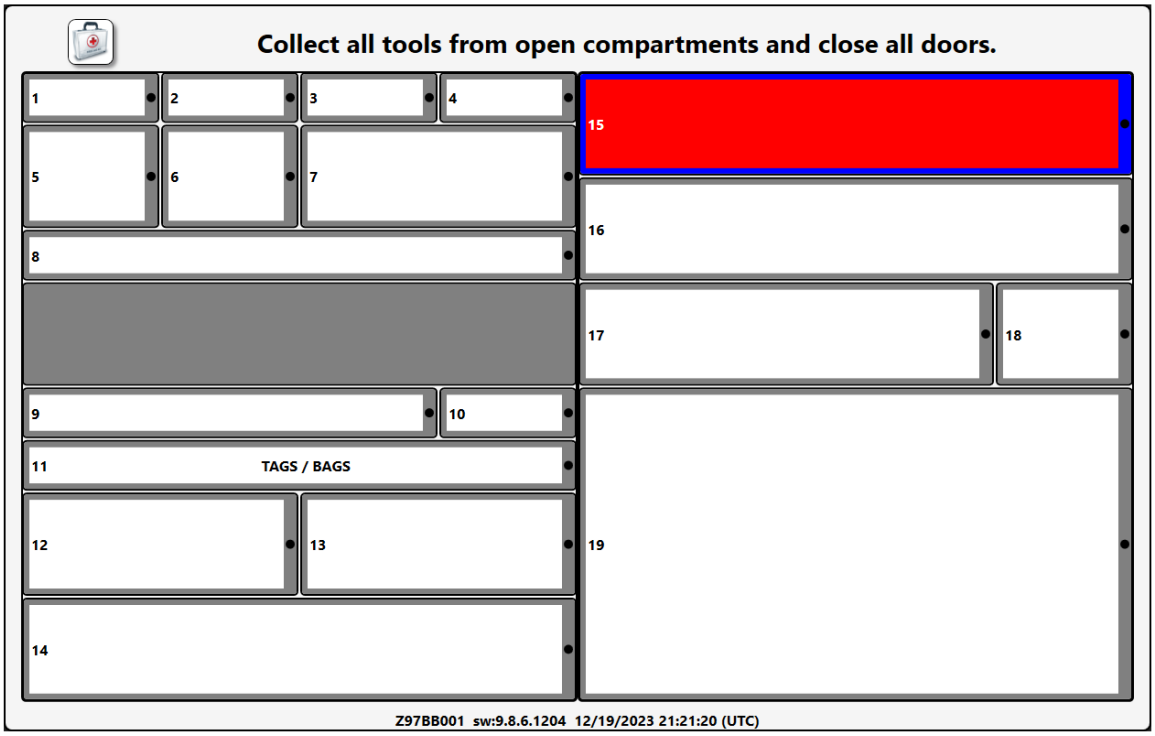
1. Select the **Receive Tools** box from the FlexHub main menu. **NOTE: If the user has no tools to receive the box will be greyed out.** This will bring up a list of tools that have been addressed to the user directly. Select the items from the list and click **Receive Tools**.



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Collect all tools from open compartments and close all doors.



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Tool Courier Actions

NOTE: The device must have an active connection to the L5 Connect Service for Courier functions (drop off/pick up/etc).

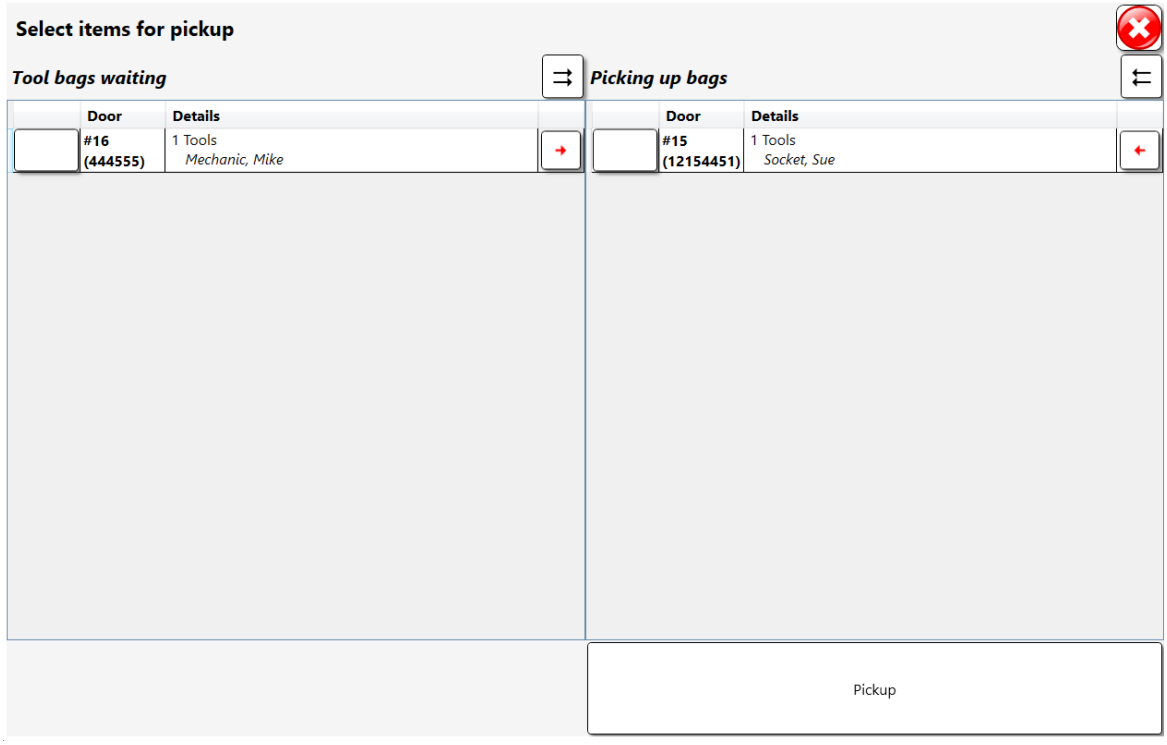
Pick up Tools

A Tool Courier uses this workflow to pick up tools previously dropped off by other users at the FlexHub. Picked up tools will be assigned the "In transit" status and assigned to the courier until they are scanned as received at a Tool Crib."

Access point(s): FlexHub Dashboard after courier user sign in

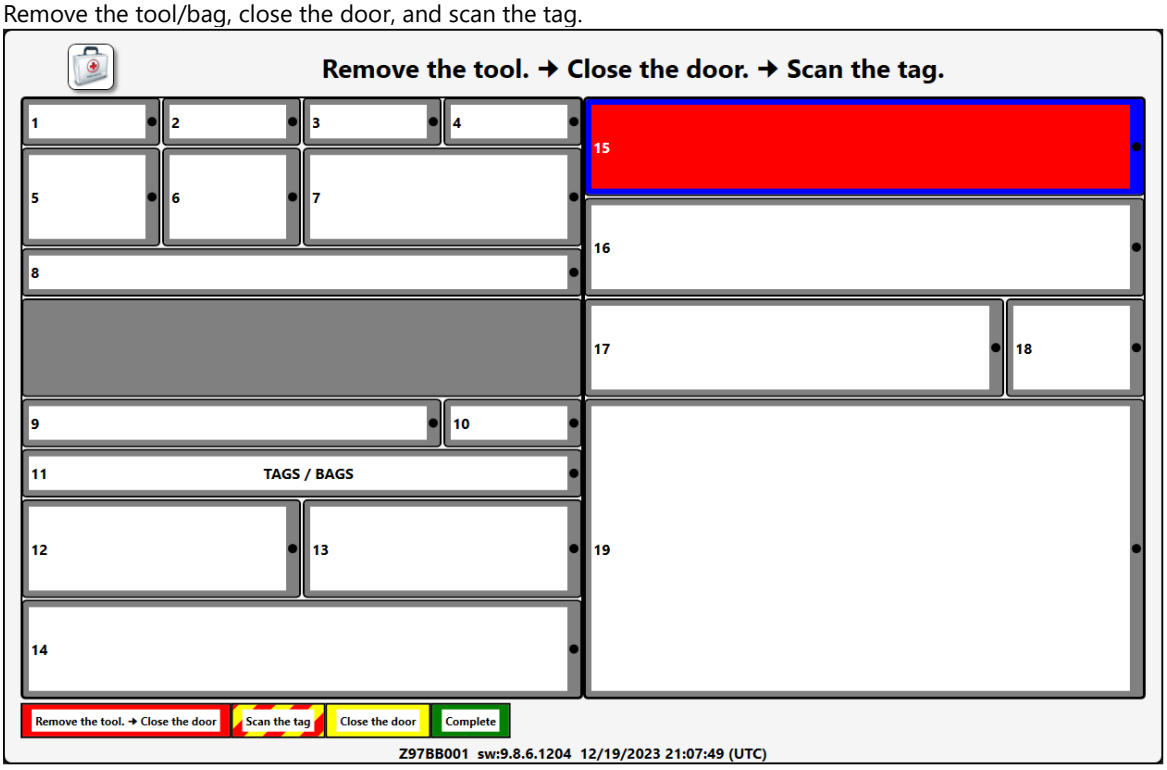
Required Permission: Tool Courier login

1. Log in to FlexHub using the RFID Badge Scanner, then select **Pickup Tools** from the **Tool Courier** menu options. **NOTE: Only tools that have been dropped off can be picked up a courier.** The courier will then see a list of tool bags waiting for pickup. Click the red arrow to move a bag over from **Tool bags waiting** to **Picking up bags**, then click **Pickup.**



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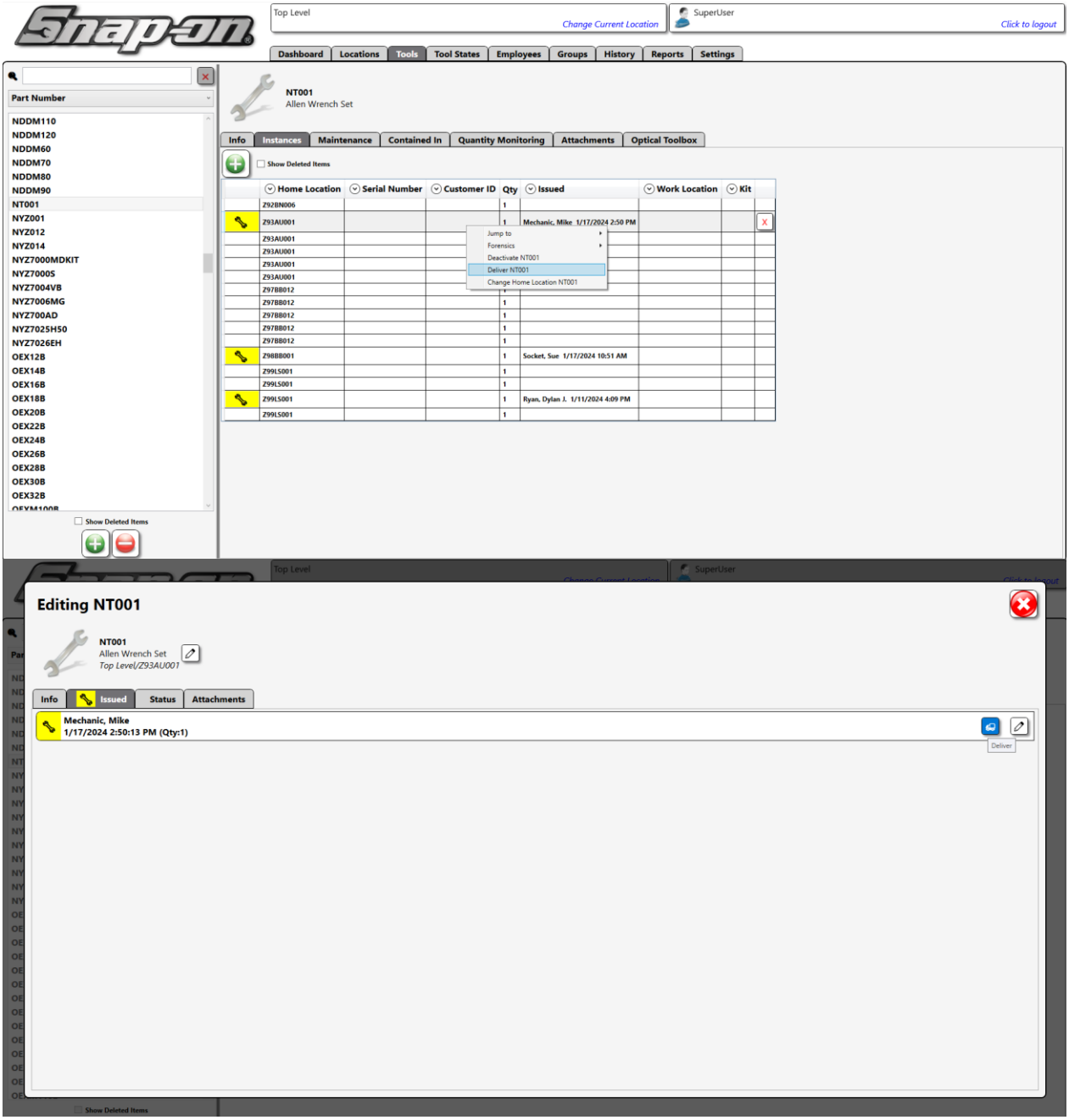
2. Remove the tool/bag, close the door, and scan the tag.



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Deliver Tools

A courier can deliver tools to a specific user of the FlexHub. Tools must be marked for delivery using the admin client/tool crib. This is done by navigating to an instance of a tool, under the **Tools** tab. Then the user can either right click on the instance of a tool, or double click on the instance of the tool and click the **Deliver** button in the **Issued** tab. Both instances are shown below.



Access point(s): FlexHub Dashboard after courier user sign in

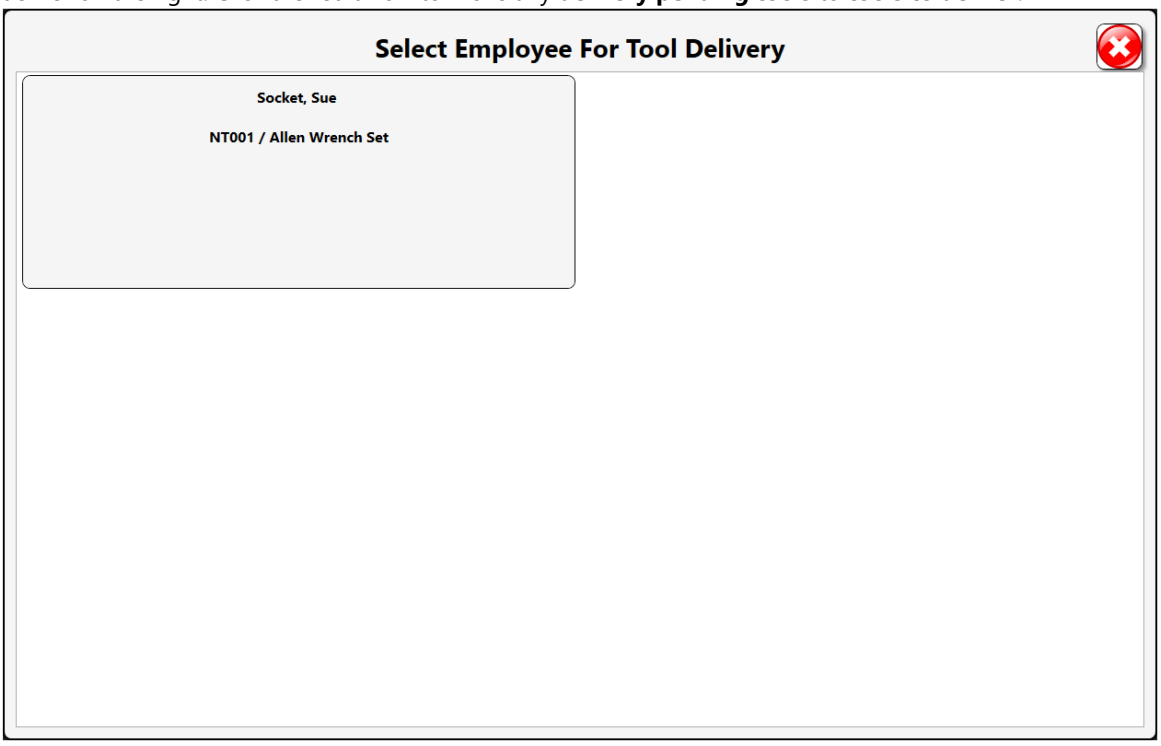
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Required Permission: Tool Courier login.

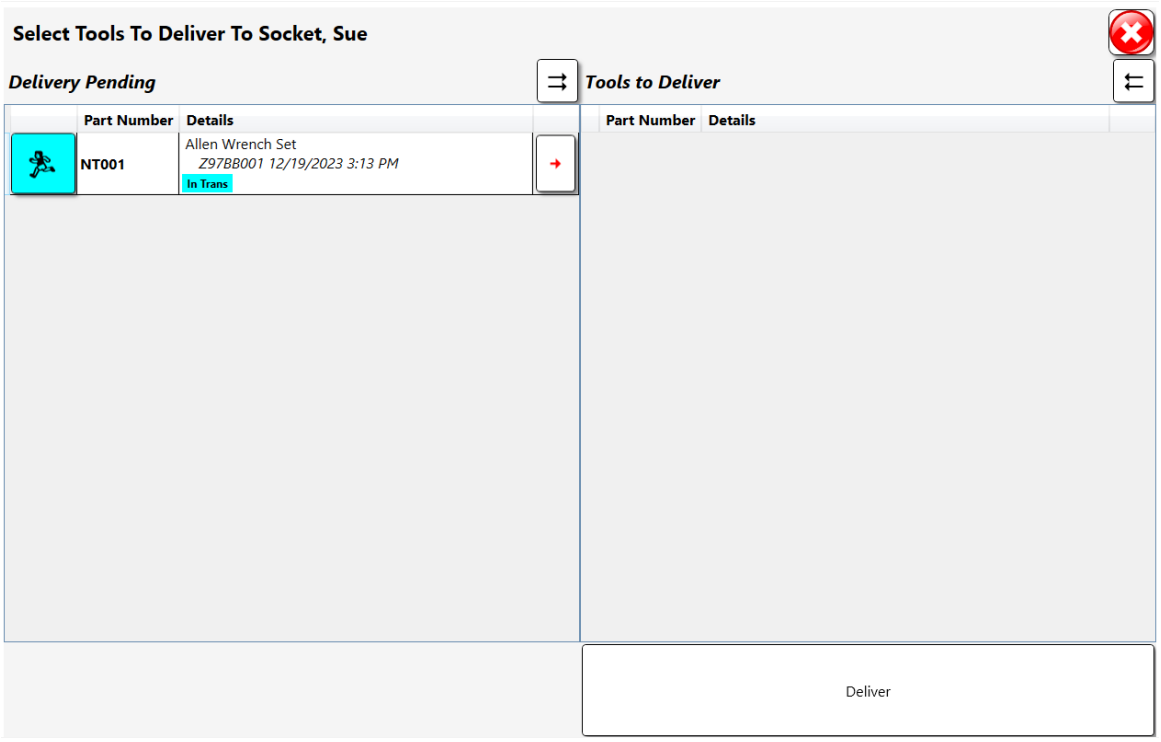
When to use:

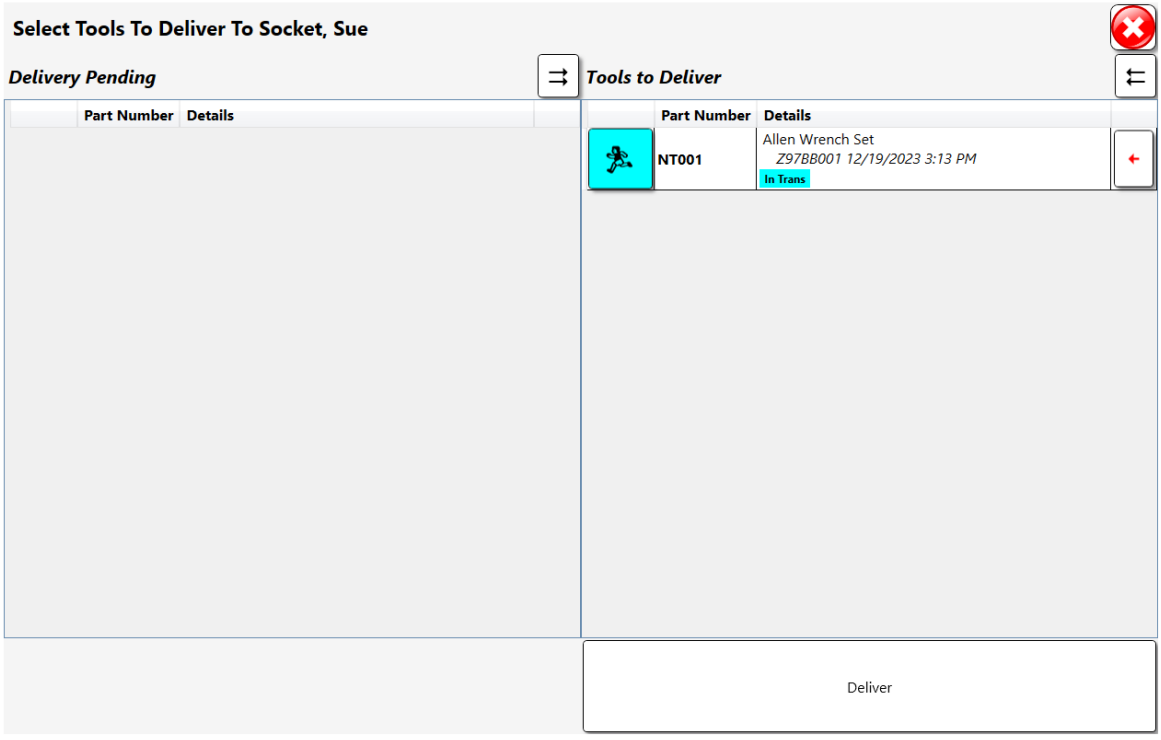
- Returning maintained/repaired tools to a user.
- Replacing a broken/missing tool for a user.

1. Log in to the FlexHub and select **Deliver Tools** within the **Tool Courier** workflows. The user will be prompted to select which user they are delivering tools for. Select the user to whom to deliver tools. This will bring up a similar screen as seen before in other workflows with tools pending delivery on the left and the tools to deliver on the right. Click the red arrow to move any **delivery pending tools** to **tools to deliver**.



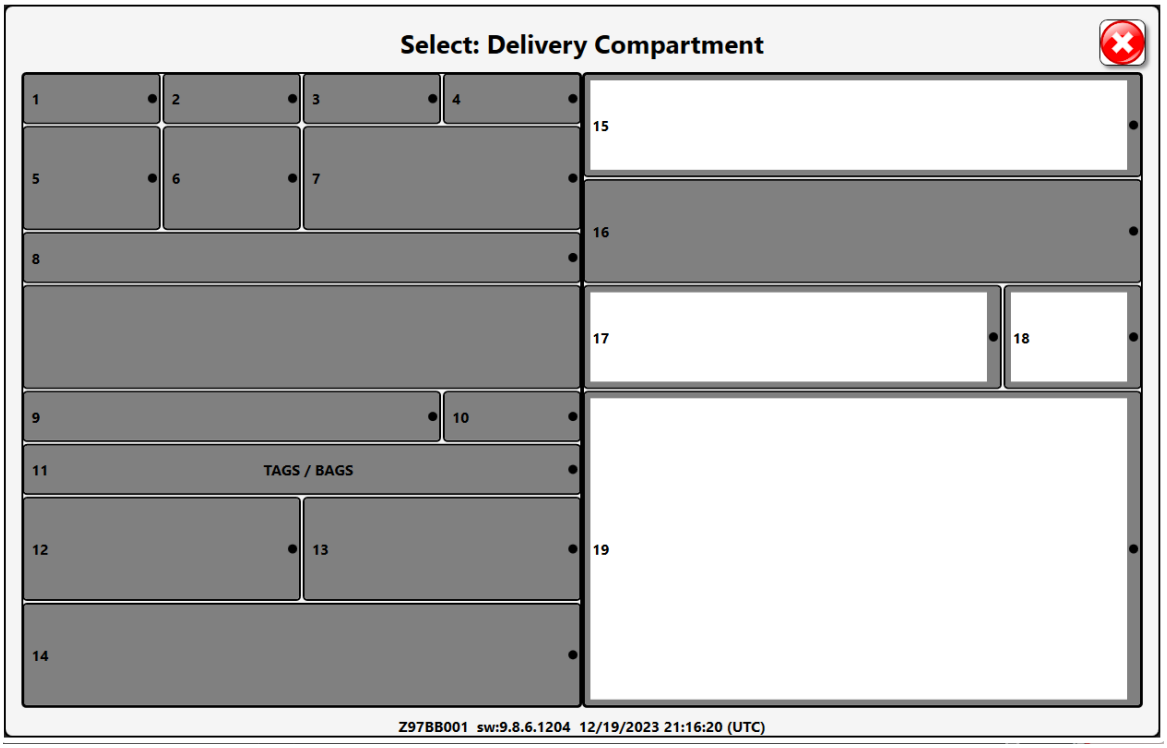
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2. Next the user will select a delivery compartment, with any empty compartments displaying a white box within its borders as shown below. **NOTE: Only the compartments designated for drop-off can be selected**



Place the tools to deliver in the open compartment and close the door.

Reload Bags

The **Reload Bags** button allows the user to easily add bags/tags to the compartment designated for bags/tags. For this task the user must first scan their badge, then click on the **Reload Bags** button within the **Tool Courier** options box. The compartment will open, allowing the user to load additional bags/tags. Once completed close the compartment.

Access point(s): FlexHub Dashboard after courier user sign in

Required Permission: Tool Courier login.

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Advanced Features

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ZoomID

Which tools require tags?

It is not necessary or even desirable to attach Snap-on color stripe tool ID tags to every tool in a toolbox. A tag should be applied to only those tools which require serialized tracking. A list of reasons for tagging your tools should include:

- Calibrated tools
- Inspected tools
- Specialty or Critical tools which require serial identification

Allowed Number of Tags

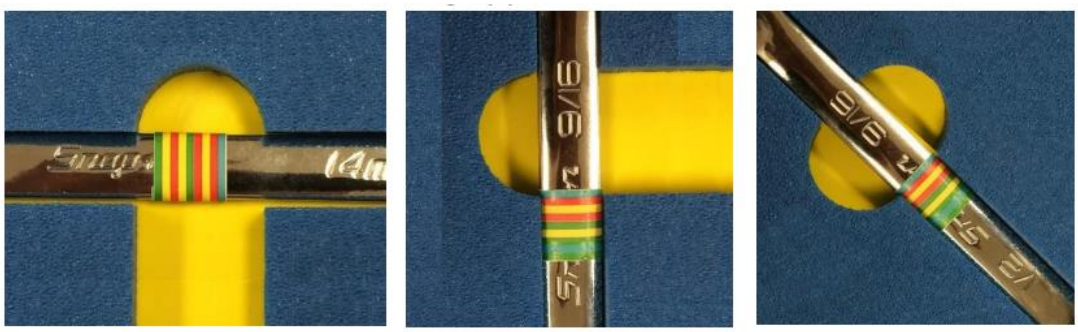
Assuming that all of the rules and guidelines of this document are followed, the "practical" limit of the number of tagged tools will less than the "technical" limit of tagged tools. In other words, there is not enough area in a toolbox to hold enough tagged tools to reach the technical limit for tags.

Tag Reuse

A specific ZoomID tag number can only be used once per L5 Connect system. Every tool must have a unique tag number. To avoid accidental tag duplication, a customer should never order the same tag catalog part number twice.

Tag application

Orientation



BEST OK WITH LIMITS NOT OK

- BEST - Tag color stripes parallel to motion of drawer
- OK WITH LIMITS - Tag color stripes perpendicular to motion of drawer

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- NOT OK - Any application where the color stripes are neither parallel nor perpendicular with the motion of the drawer

Area

The visible area of the ZoomID tag on the tool should be maximized. In other words, the more of the tag that can be seen by the cameras, the higher the detection reliability. There are some minimums to keep in mind.



- Top drawers
  - MIN = 0.5"
- Middle Drawers
  - MIN = 1"
- Bottom Drawers
  - MIN = 2"

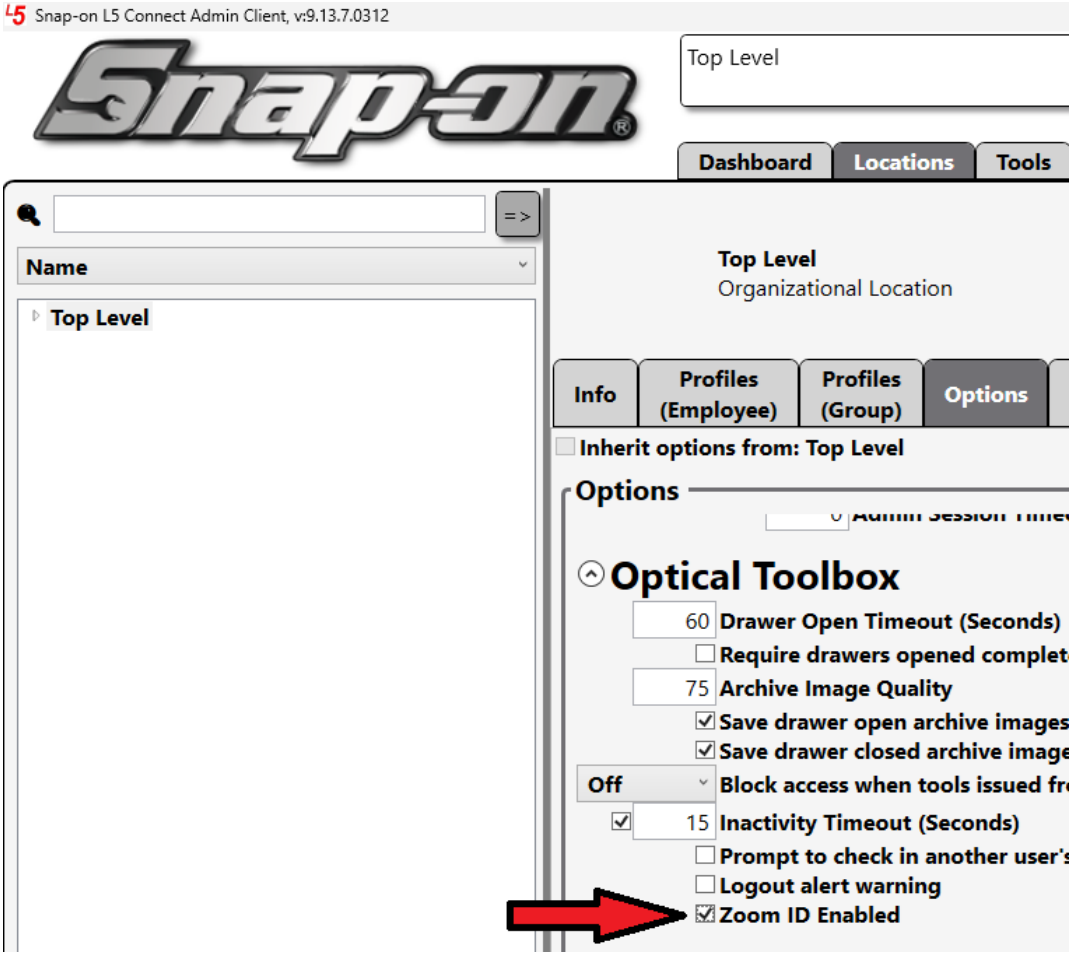
Selecting appropriate tag type

- Large Tags (Preferred)
  - Should be the first choice for all ZoomID tagged tools
  - Can be used in all drawers when applied in the "BEST" application configuration
  - Can be used in the top two drawers when in the "OK WITH LIMITS" application configuration
- Medium Tags
  - Should only be used if large tag cannot be applied
  - "BEST" application configuration only
  - Top and middle drawers only (no lower drawers)
- Small Tags
  - Should only be used if large or medium tags cannot be applied
  - "BEST" application configuration only
  - Top two drawers only

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ZoomID Enabled Option

- Originally, toolboxes would automatically look for ZoomID tags on tools when a drawer was closed. However, this is now a configurable option in the system. By default, the system will look for ZoomID tags. If a situation arises where you would prefer to turn this feature off, this can be done in the Admin application. See the Editing Optical Toolbox Options section of the L5 Connect™ Locations document for more information on device options.



Setup Instructions

Contact Snap-on Industrial Pro-Services for setup instructions.

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Supported Accessories

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Printers

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Setting up the Label Printer in L5 CONNECT™ TRUE CRIB™ and Administration App

The goal of this document is to describe the configuration of TRUE-CRIB™ and the L5 Connect Administration application to setup a label printer.

Configure the Label Printer Hardware

L5 Connect™ supports the following label printers, transfer ribbon, and labels:

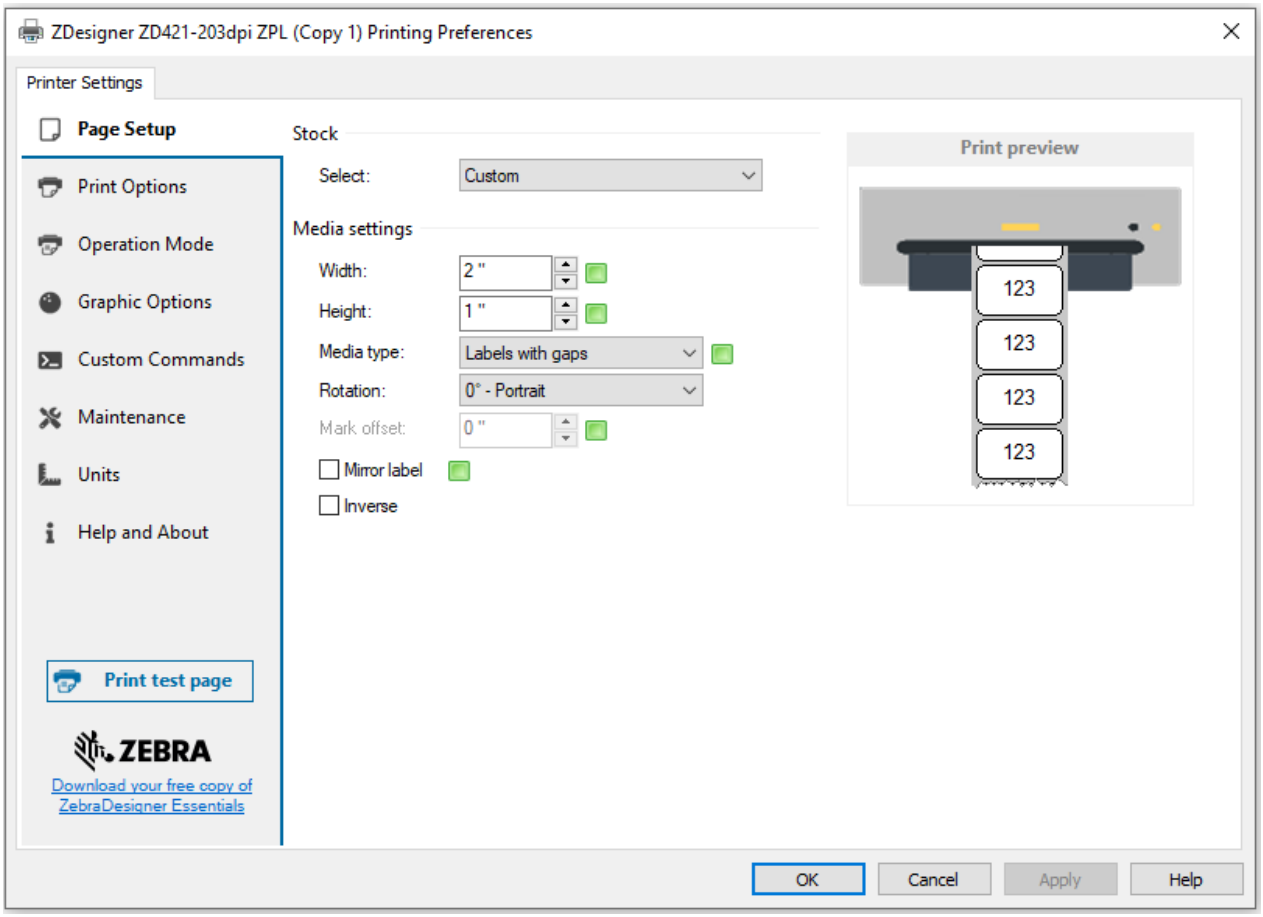
Product	Details	Status
Label Printer	L5W2672073 LABEL PRINTER, Model: Zebra GK420t (203dpi, thermal transfer)	**Obsolete**
Label Printer	L5W6480135 LABEL PRINTER, Model: Zebra ZD421t (203dpi, thermal transfer)	Active
Ribbon	L5W3111044 Thermal transfer ribbon	Active
Labels	L5W3424726 2" x 1"	Active

To install the label printer, follow the instructions included with the device to calibrate the printer, install the ribbon, and setup the labels.

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Setting the Label Size

1. After setting up the printer, you will need to set the label size.
2. Open **Windows settings -> Devices -> Printers & Scanners**.
3. Find the Zebra Printer in the list, click on it and then click **manage**.
4. Click on **Printer Preferences**, and in the **Page Setup** Tab, under Size, set the **Width** to 2 and the **Height** to 1.



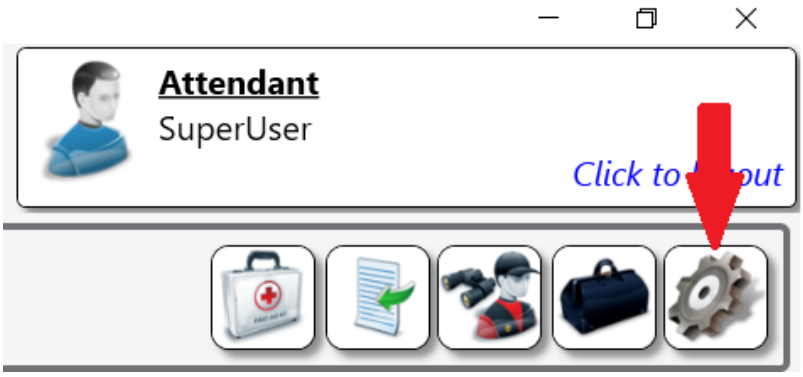
5. Finally, a test print is necessary to verify that the labels will print correctly. Click on the **Print test page** button within the printer preferences window. **NOTE: This step is required to ensure everything is printed within the margins of the label. If this step is skipped labels will NOT print correctly**

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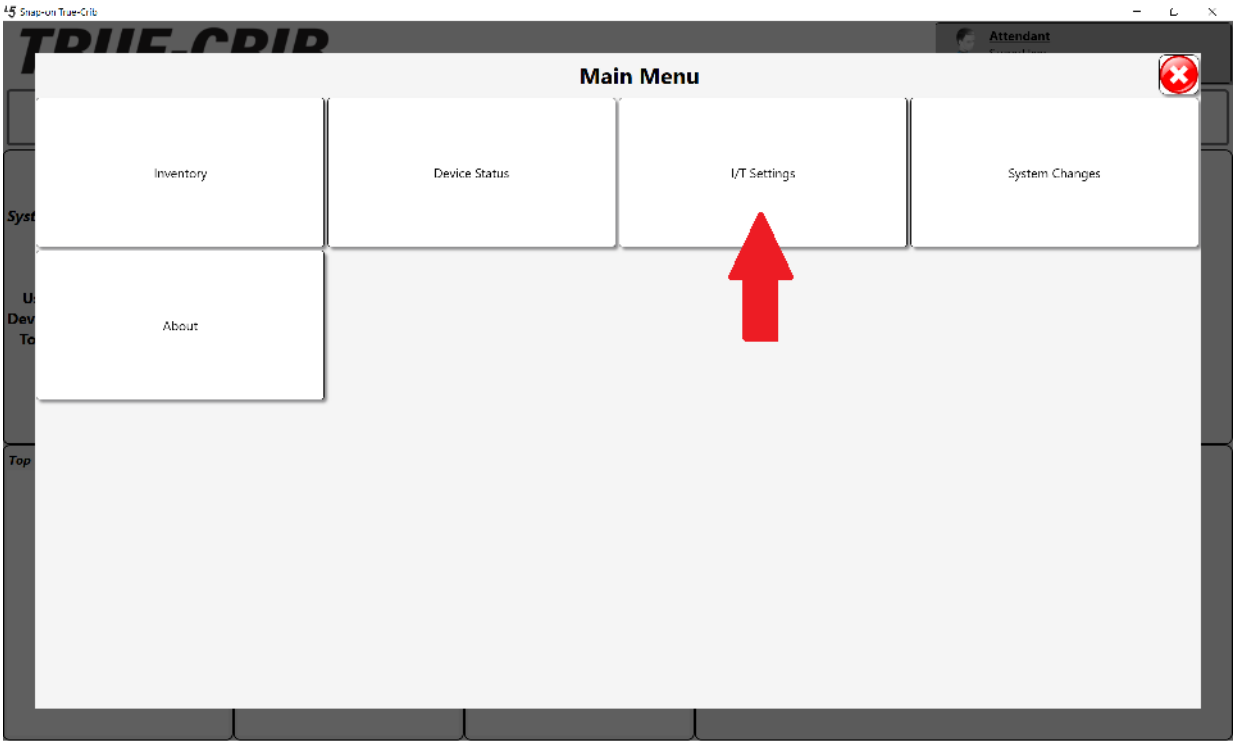
Setting True-Crib™ to use the Label Printer

After setting the label size, you will need to associate the printer with the True-Crib™ software.

1. Start True-Crib™, log into the system as an attendant and click the **settings gear** icon. NOTE: You will need to log in with a user that has the **Network Settings** permission to be able to modify the printer setup. The only built in profile that has this setting is the **SuperUser** profile, so any user with the **SuperUser** profile will work.

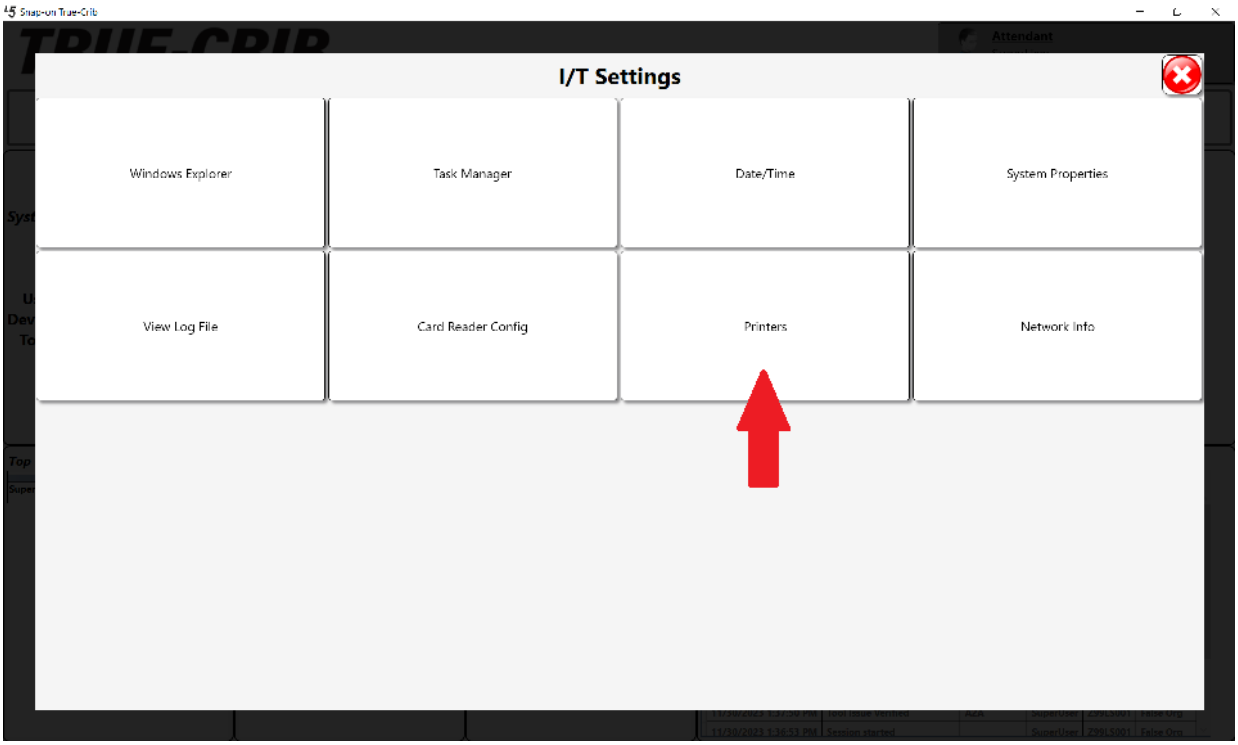


2. Click the **IT Settings** button.



3. Click the **Printers** button.

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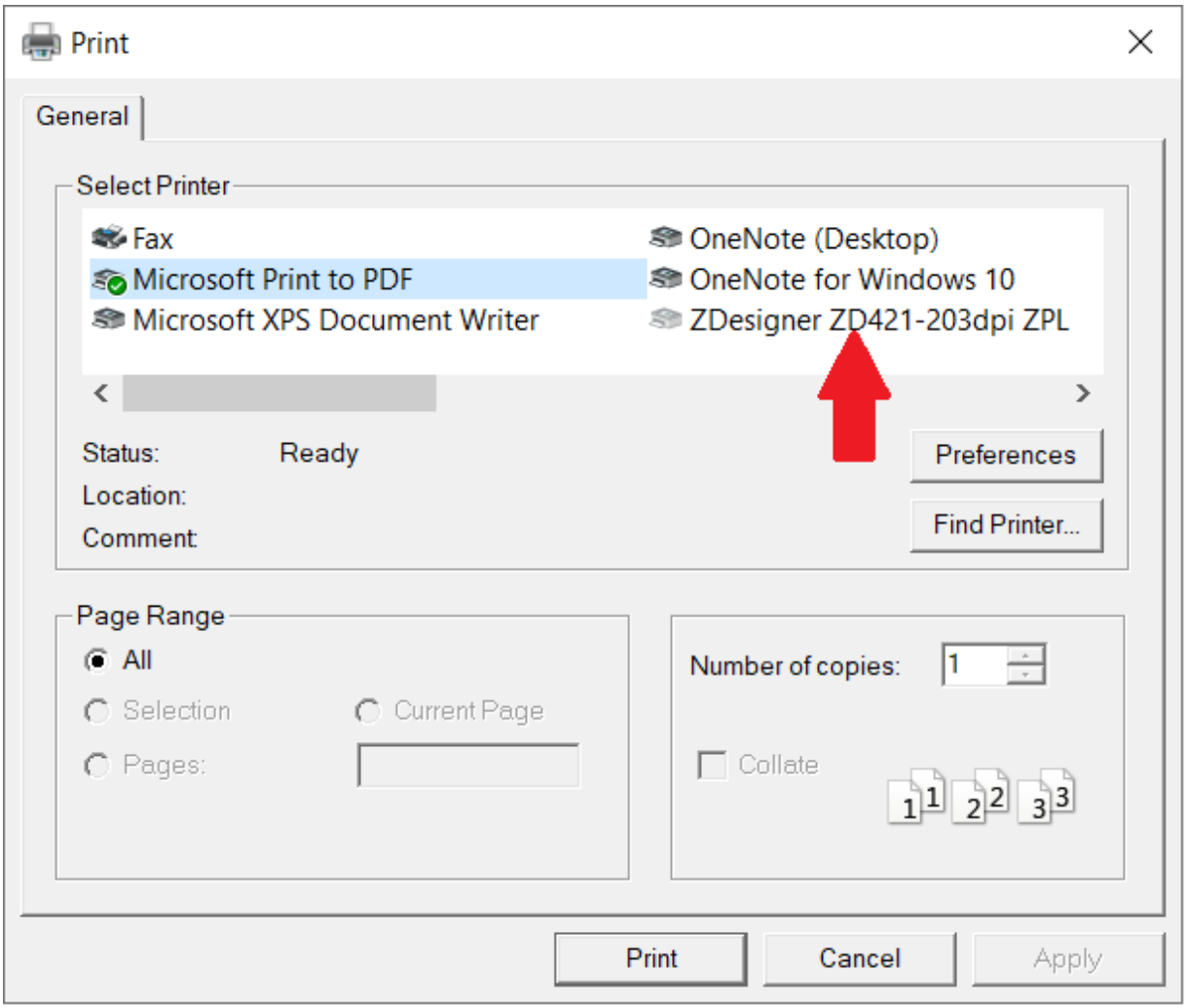


4. Once on the Printers Settings page, click the **pencil** button to the right of **Label Printer**.

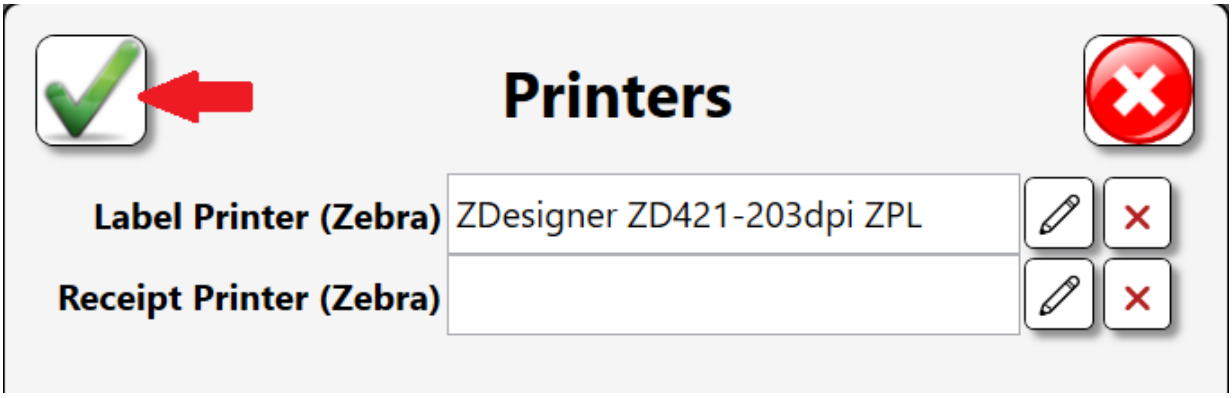


5. Select the Zebra Label printer from the list and click Print.

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6. The Printer name will display in the textbox. Click the green ✓ button to save.

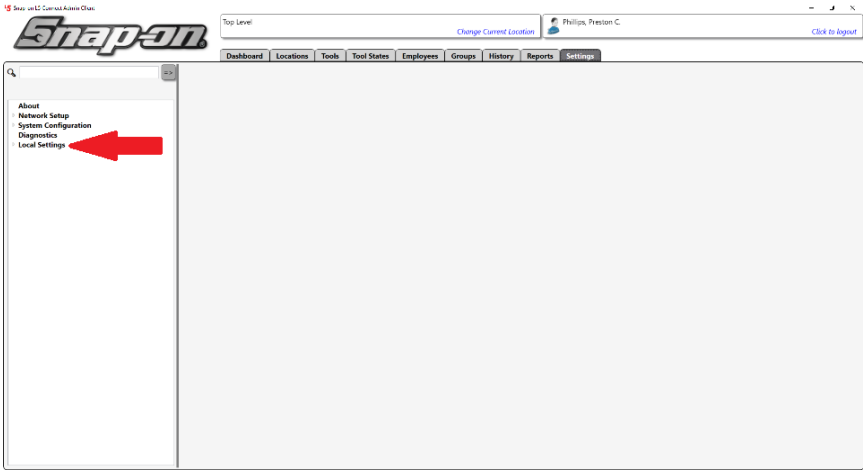


True-Crib™ should now be configured to print labels!

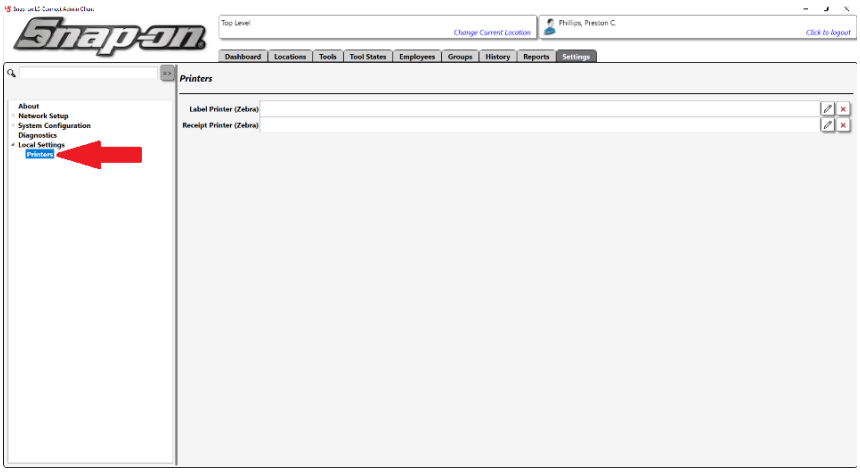
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Setting the L5 Connect Administration App to use the Label Printer

1. Start the Admin, then log into the system as a user that has the **Network Settings** permission so you will be able to modify the printer setup. The only built in profile that has this setting is the SuperUser profile, so any user with the SuperUser profile will work.
2. Switch to the **Settings** tab, then expand the Local Settings.



3. Click the **Printers** setting.



4. Now follow the procedure in the previous section from step 4 to the end.

Your Admin App should now be able to print labels!

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Barcode / RFID Tag Scanners

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Setting up a Zebra DS2208 Wired & DS3678 Wireless Bar Code Scanner in L5 CONNECT™

The goal of this document is to describe the setup of the Zebra DS2208 wired and DS3678 wireless barcode scanners for use with L5Connect software and devices.

Setting Up the Hardware for DS2208

1. Connect the scanner cable to the base of the scanner.
2. Connect the other end of the cable to a USB port on the PC of the device on which it will be used.

Setting Up the Hardware for DS3678

1. Connect the hardware cabling as shown in the accompanying **Quick Start Guide** documentation that comes with the scanner, starting with the cradle cable connection. Note that it may take some force to get the cable in all the way so that the latch can properly lock in place.
2. Connect the cradle to power and the PC with the USB version diagram of the **Connect Host Interface step** in the documentation.

Configuring the Scanner

1. Scan the bar code below to return the scanner to factory defaults. You may have to find this barcode in the quick start guide to get it to scan properly.



RETURN TO FACTORY DEFAULTS

2. **For the DS3678 scanner only,** pair the scanner to the cradle by either inserting the scanner into the cradle or by scanning the bar code in on the cradle.
3. Scan the bar code below to set the host interface type. You may have to find this barcode in the quick start guide to get it to scan properly. This will cause the bar code scanner to be configured to scan and report bar

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codes in the desired format.



IBM HAND-HELD USB

4. Scan the bar code below to add a (Carriage Return/Line Feed) to the end of the bar code when sent from the scanner. You may have to find this barcode in the quick start guide to get it to scan properly.



ADD AN ENTER KEY (CARRIAGE RETURN/LINE FEED)

You should now be able to use your new bar code scanner to input tags for tools or to select a tool to issue/return.

Useful Links

DS2208 Quick Start Guide
DS3678 Quick Start Guide
DS3678 Operators Manual

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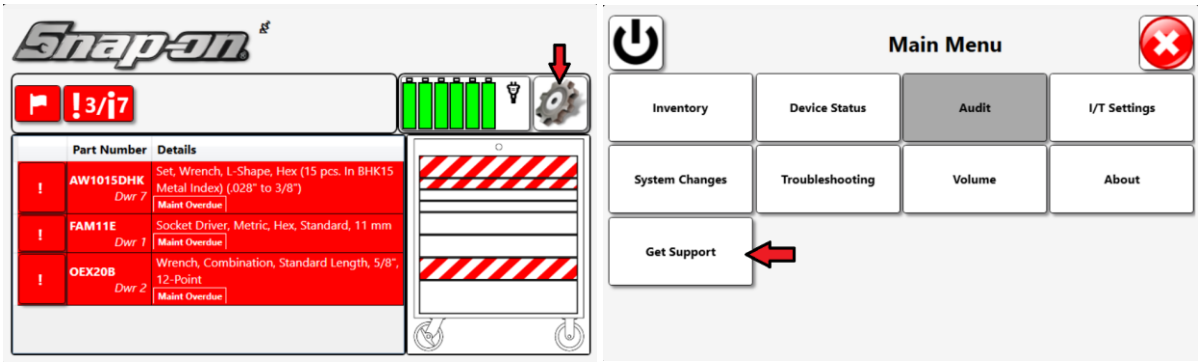
Industrial Pro-Services

Get Support

- Email: INDPROSERVICES@snapon.com
- Phone: 1-800-940-2397
- Customer Portal: https://l5atc.myportallogin.com

L5 Connect devices have a **Get Support** button that will provide a QR code that can be scanned to take you to the Pro-Services support portal.

From the main screen of the device, click the **Main Menu** button, which looks like a gear. Then click the **Get Support** button.



Then you can scan the barcode with your phone to open a webpage to login to the Pro-Services help portal. (You could also scan the barcode in the image below.)



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Retrieving Diagnostic Log Files

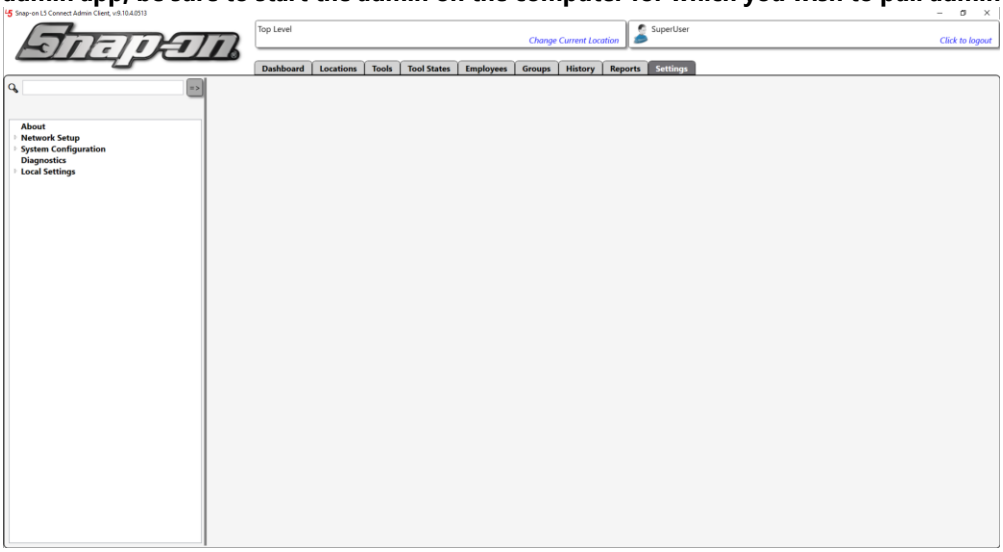
The purpose of this wiki is to document the process for retrieving diagnostic log files, sometimes referred to as log files, from the L5 Connect system. This will include how to get admin and service log files and how to get the log files from a device.

Retrieving Admin/Service Log Files

If you only need to get Admin or Service log files this can be done through the Admin application.

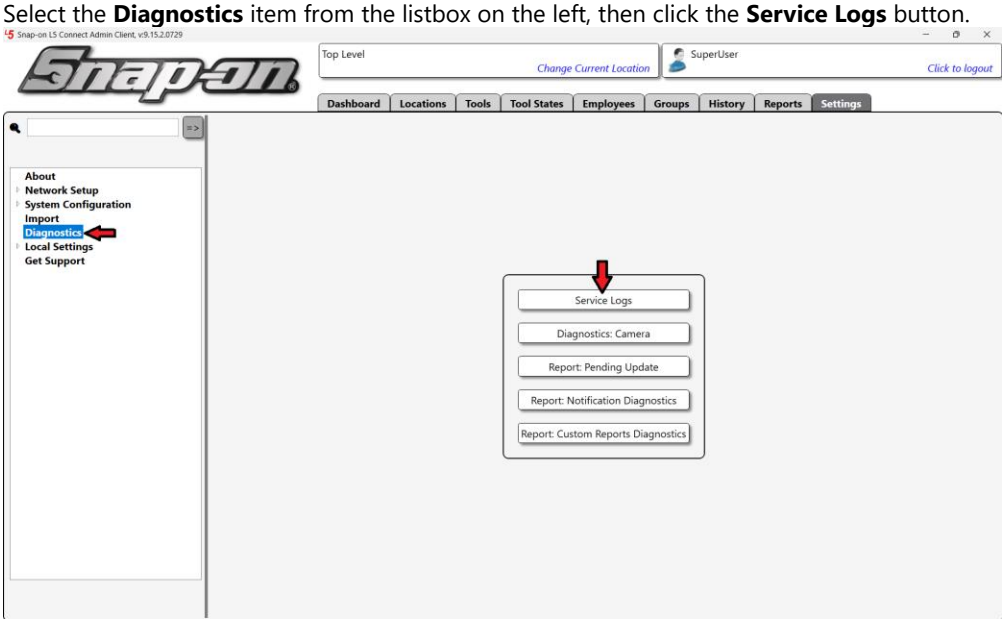
Note: These files can also be pulled when pulling the log files for a device. This will be described in the device log file section of this document.

1. Start the Admin application and click the **Settings** tab. **Note: If you are trying to get log files for the admin app, be sure to start the admin on the computer for which you wish to pull admin logs.**

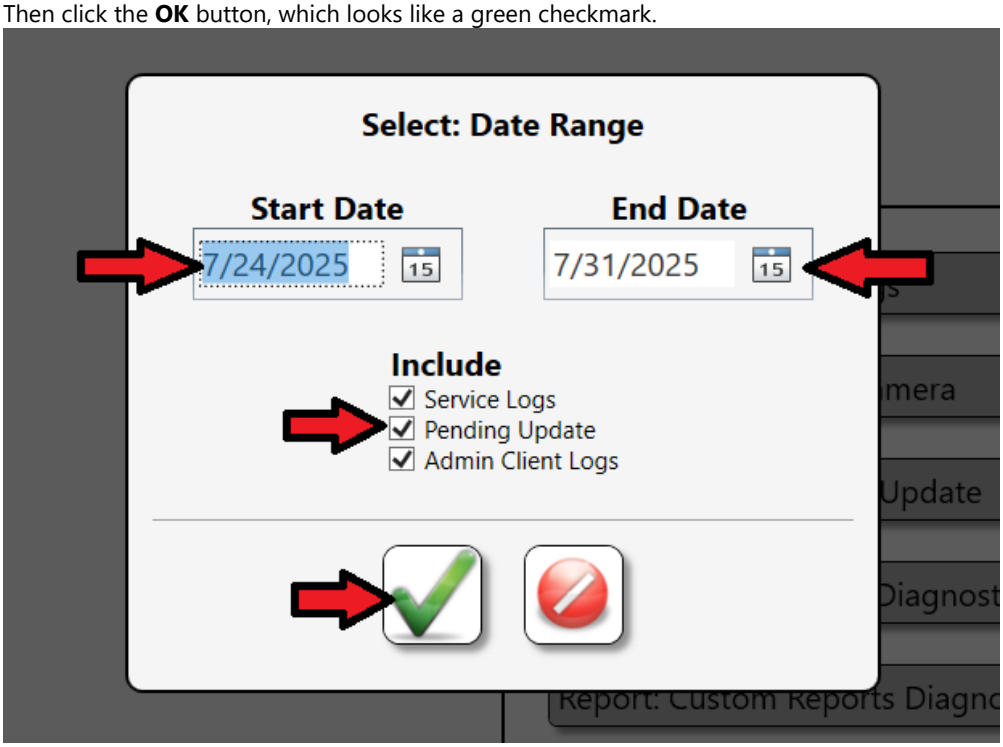


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2. Select the **Diagnostics** item from the listbox on the left, then click the **Service Logs** button.



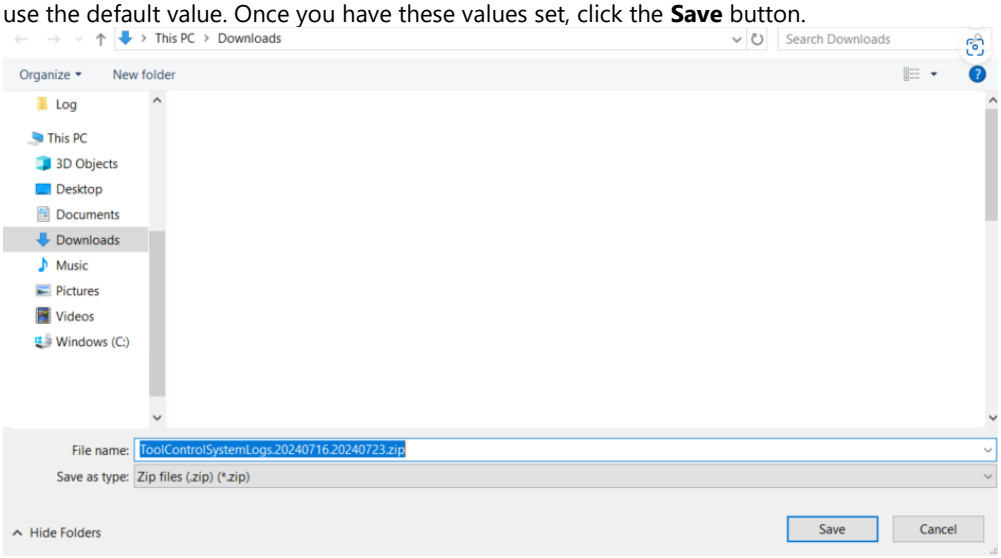
3. Use the date pickers to set the **Start Date** and **End Date** to cover the timeframe for which you would like to recover logs, then select the appropriate checkboxes in the **Include** list for the type of logs you wish to pull. Then click the **OK** button, which looks like a green checkmark.



4. You will then see a file dialog window prompting you to select the directory where you would like to save the zip file of logs. You can set the directory or use the default value. You can also either change the filename or

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use the default value. Once you have these values set, click the **Save** button.



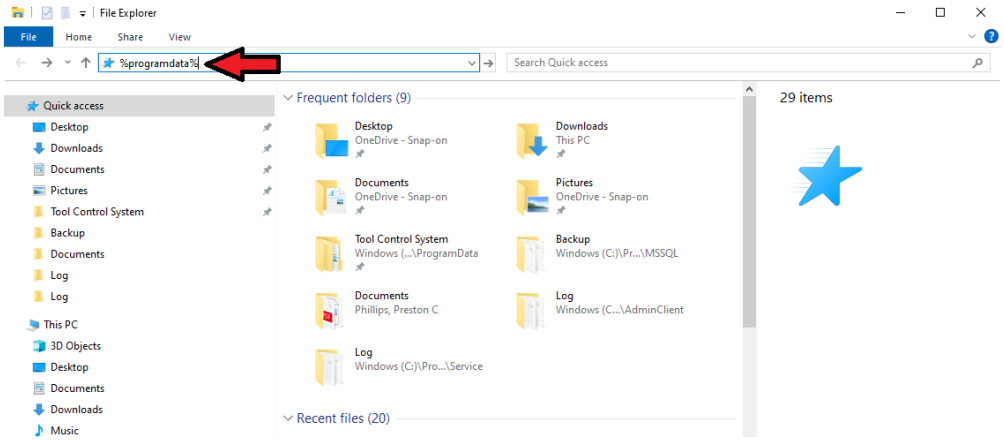
5. You will now have a zip file saved containing the desired log files.
6. Be sure to verify the zip file contains all the appropriate files. See the Verify Zip File section for more details.

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Retrieving Admin Files Manually.

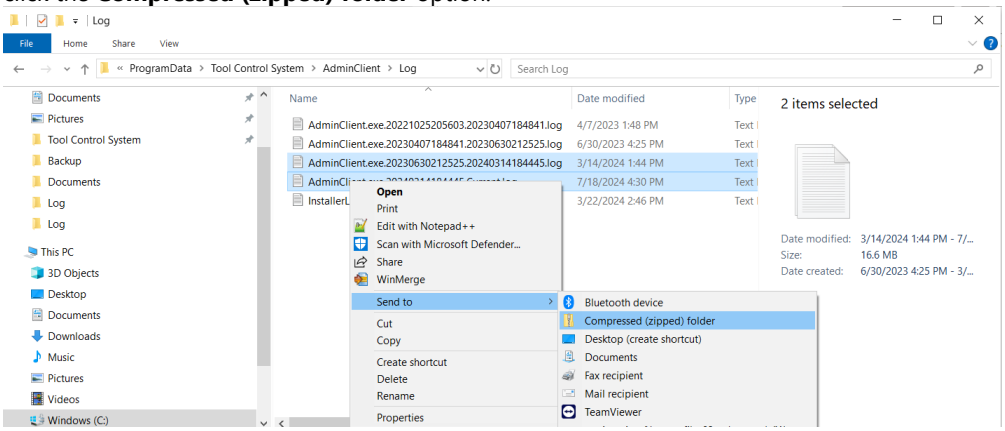
Sometimes you may not be able to get the Admin application or the Service application to start properly. This is one of the prime times you would want to collect log files, but the method described above would not be available. In this case you would need to use the following method to collect these log files manually.

1. Go to the computer of the admin client and open a **File Explorer** window, then type **%programdata%** in as the path and press the **Enter** key.



2. Find the **Tool Control System** directory and double click it to move into that directory.

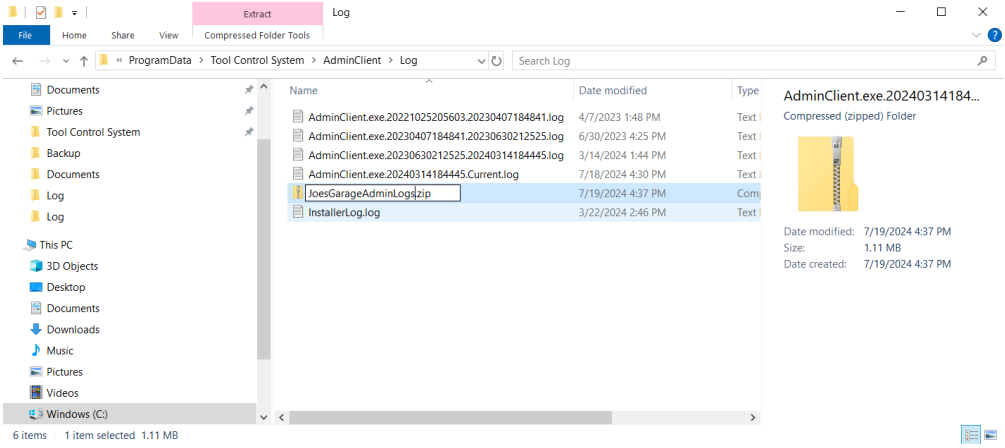
3. In this directory you should see an **AdminClient** directory. Double click the directory to move into it and then double click the **Log** directory to move into that one. At this point you will see a list of log files. They are in the form of ApplicationName.FromDateTime.ToDateTime.log. Select the group of log files that cover the time range of interest, then right click on one of them, hover to expand the **Send to** menu, and finally click the **Compressed (zipped) folder** option.



4. You should have a freshly created zip file with the name highlighted so that you can give it a more specific name than the default directory name. Either take the default or make the name more descriptive of what

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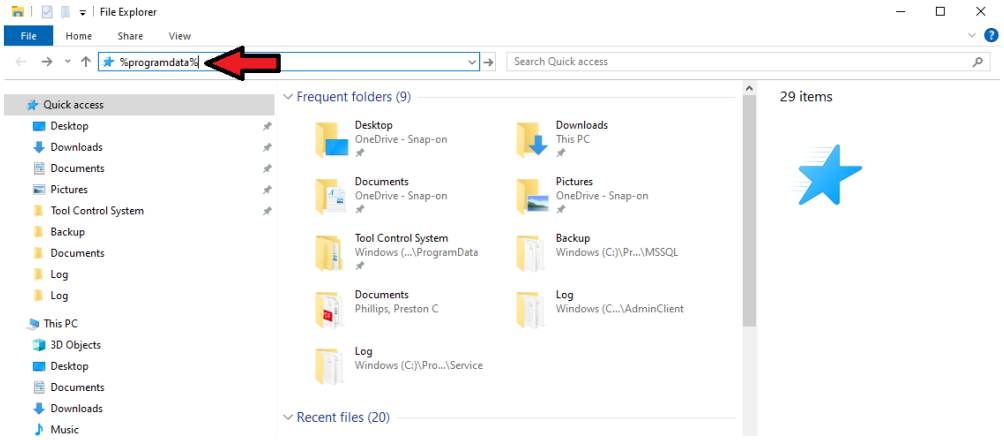
the zip file contains, and you are ready to forward the zip file of logs.



5. Be sure to verify the zip file contains all the appropriate files. See the Verify Zip File section for more details.

Retrieving Service Files Manually.

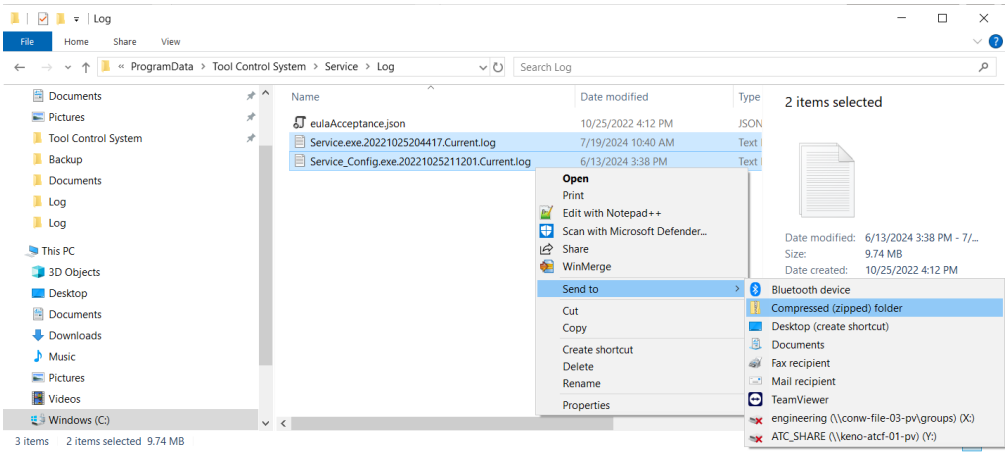
1. Go to the computer of the service application and open a **File Explorer** window, then type **%programdata%** in as the path and press the **Enter** key.



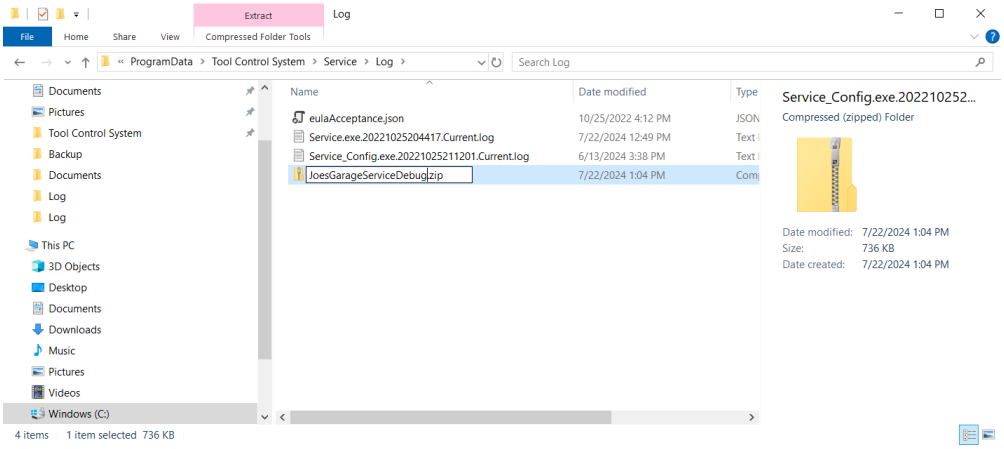
2. Find the **Tool Control System** directory and double click it to move into that directory.
3. In this directory you should see a **Service** directory. Double click the directory to move into it and then double click the **Log** directory to move into that one. At this point you will see a list of log files. They are in the form of ApplicationName.FromDateTime.ToDateTime.log. Select the group of log files that cover the time range of interest, then right click on one of them, hover to expand the **Send to** menu, and finally click the **Compressed (zipped) folder** option. **NOTE: There will also be a Service_Config log file here as well. Be**

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sure to include that file too.



4. You should have a freshly created zip file with the name highlighted so that you can give it a more specific name than the default directory name. Either take the default or make the name more descriptive of what the zip file contains, and you are ready to forward the zip file of logs.



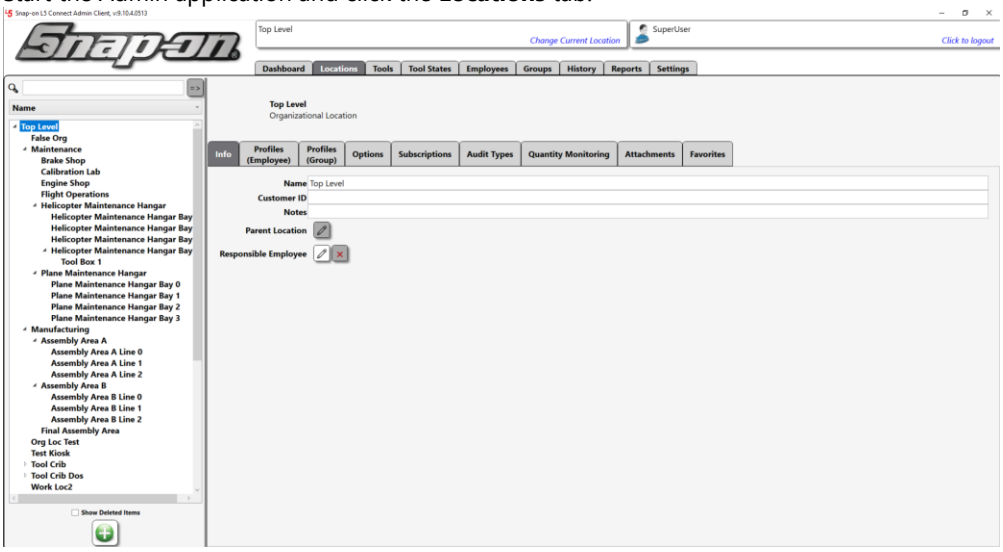
5. Be sure to verify the zip file contains all the appropriate files. See the Verify Zip File section for more details.

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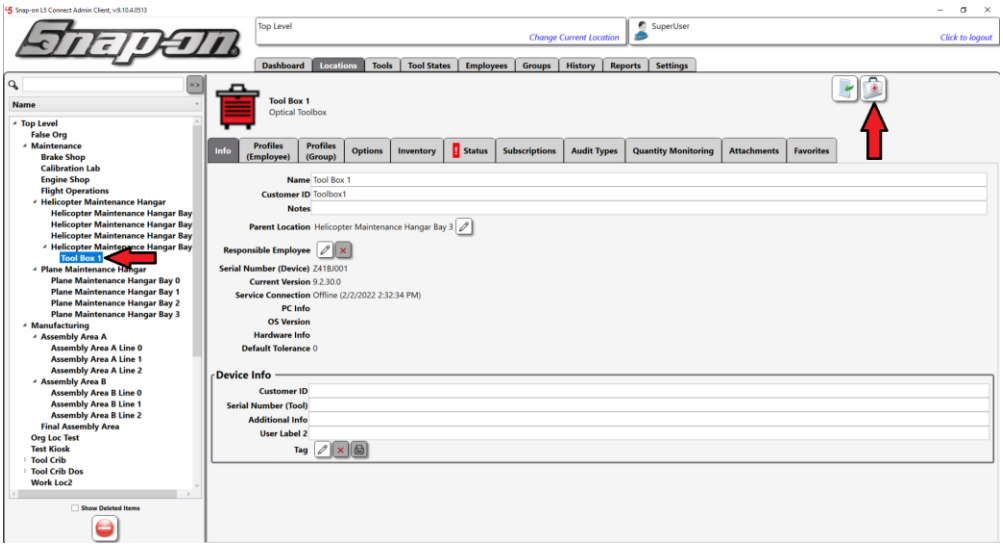
Retrieving Device Log Files

Device log files will be retrieved through the Admin application as well. **NOTE: It is important to remember that the device will need to be connected to the service for this procedure to work.**

1. Start the Admin application and click the **Locations** tab.



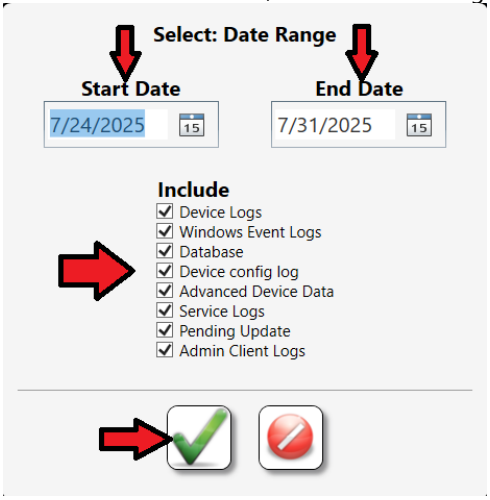
2. Select the device location for which you would like to collect debug data and then click the **Diagnostics** button that looks like a case with a red cross on it.



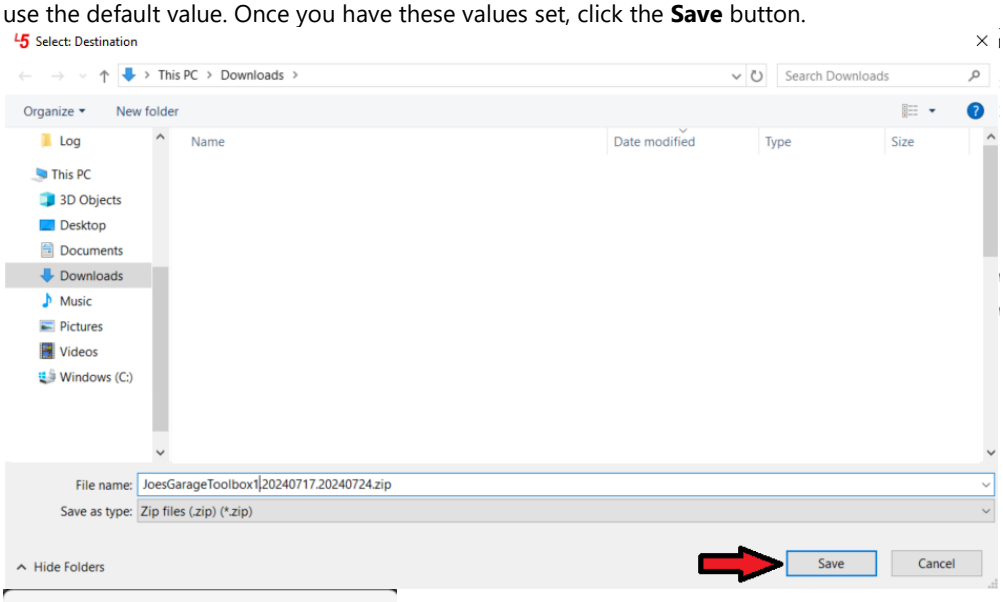
3. Use the date pickers to set the **Start Date** and **End Date** to cover the timeframe for which you would like to recover logs, then select the appropriate checkboxes in the **Include** list for the type of logs you wish to pull.

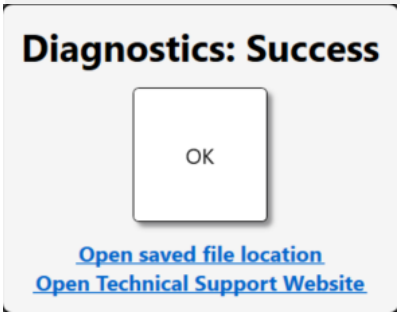
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Then click the **OK** button, which looks like a green checkmark.



4. You will then see a file dialog window prompting you to select the directory where you would like to save the zip file of logs. You can set the directory or use the default value. You can also either change the filename or use the default value. Once you have these values set, click the **Save** button.





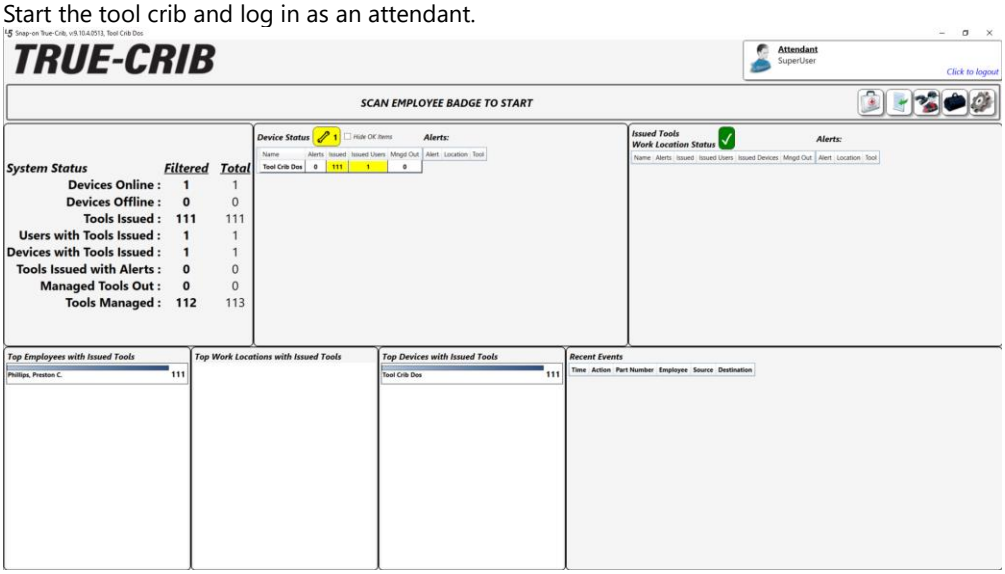
5. Be sure to verify the zip file contains all the appropriate files. See the Verify Zip File section for more details.

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Alternate Method for Retrieving Log Files from a True-Crib Device

While the log files can be pulled from a True-Crib device with the procedure described above, they can also be pulled directly from the tool crib itself.

1. Start the tool crib and log in as an attendant.

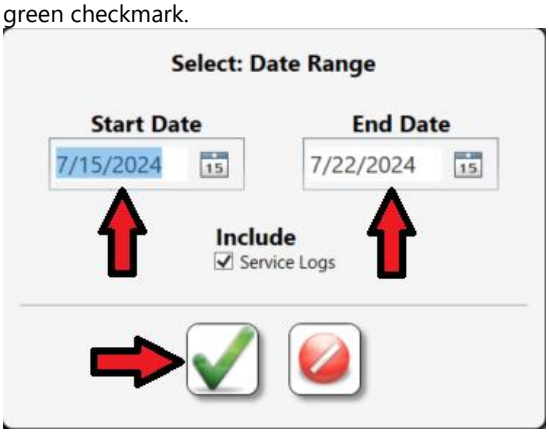


2. Click the **Diagnostics** button that looks like a briefcase with a red cross on it in the top right corner.

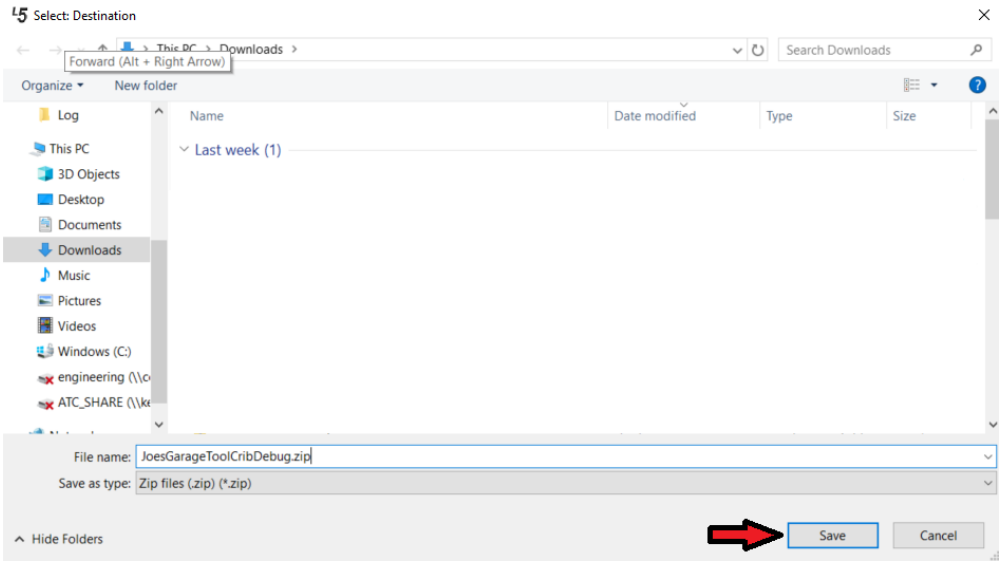


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3. Set the date range for which you wish to collect the device log, then click the **OK** button that looks like a green checkmark.



4. This will open a file save dialog box. Make sure the directory where you wish to save the file and the name of the file are what you want and then click the **Save** button to save the zip file.



5. Be sure to verify the zip file contains all the appropriate files. See the Verify Zip File section for more details.

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Retrieving Device Log Files Manually

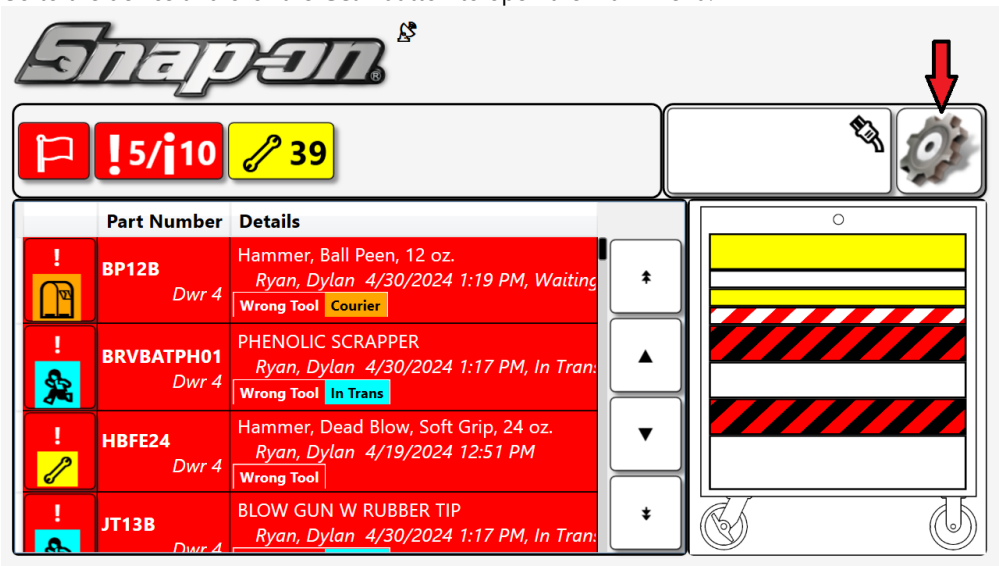
File Locations

In some cases, you may need to retrieve diagnostic data from a device that can't connect to the service. This section will explain where to find each type of diagnostic file for each of the devices in the L5 Connect System. All the diagnostic information can be found in a program data directory that is in a different location for specific devices. Here is a table that shows the location of the diagnostic data for the different devices in the L5 Connect system.

Device	Diagnostic Data Location
Optical Toolbox	E:\V9\Tool Control System\SmartDevice
RFID Cabinet	E:\V9\Tool Control System\SmartDevice
Tool Crib	C:\ProgramData\Tool Control System\ToolCrib
Portal	C:\ProgramData\Tool Control System\Portal
FlexHub	C:\ProgramData\Tool Control System\ToolKiosk

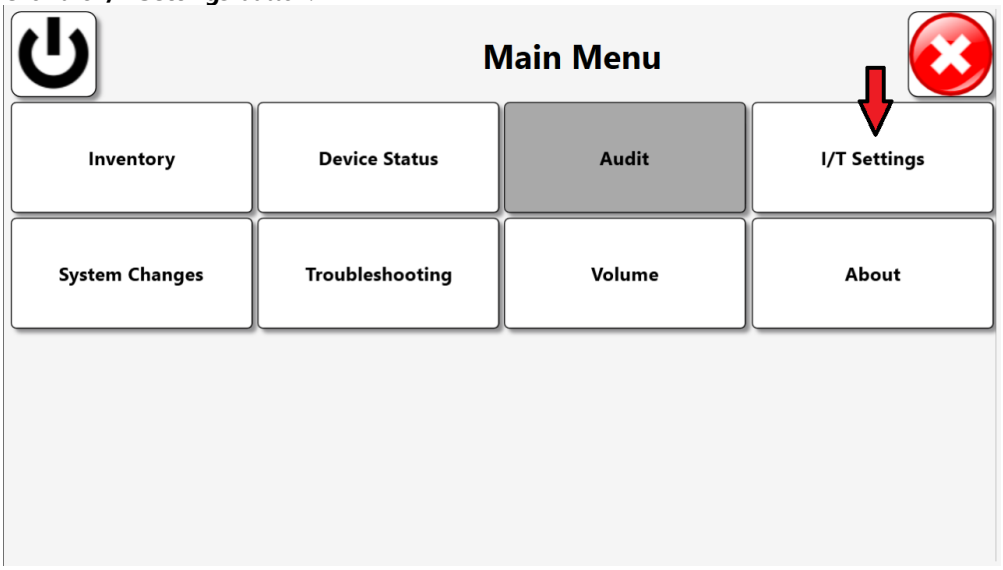
How to Access the File Location

1. Go to the device and click the **Gear** button to open the main menu.

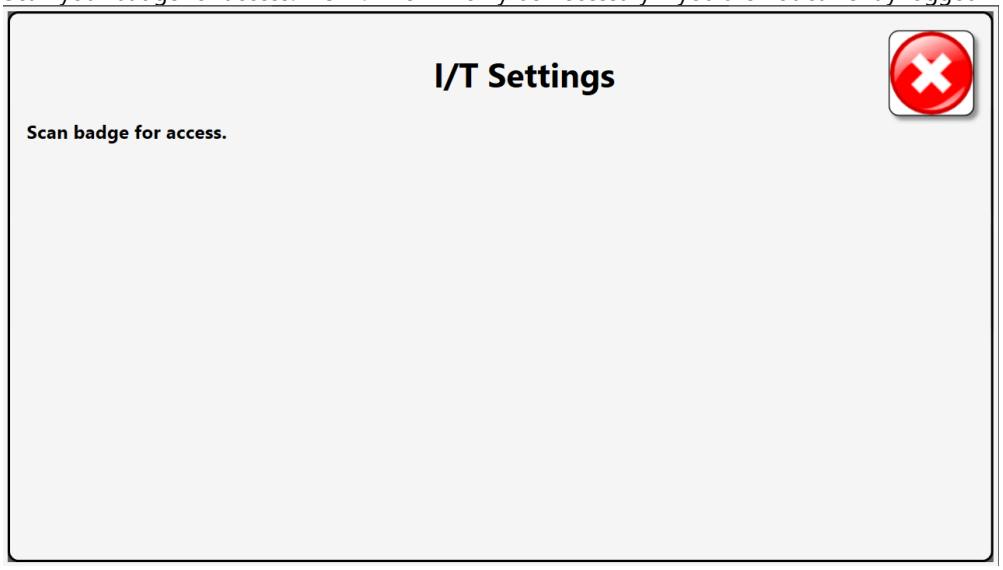


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2. Click the **I/T Settings** button.

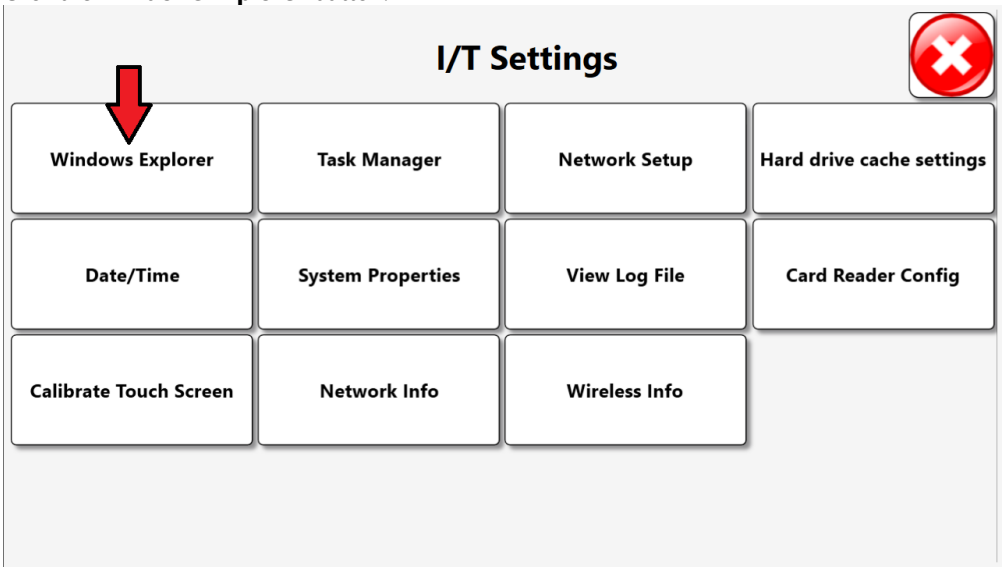


3. Scan your badge for access. NOTE: This will only be necessary if you are not currently logged into the device.



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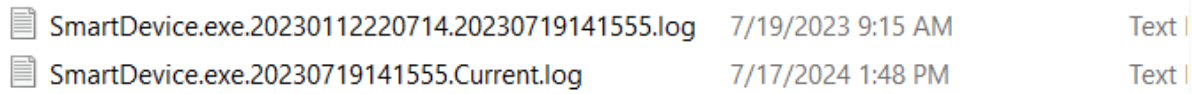
4. Click the **Windows Explorer** button.



5. Navigate to the directory specified in the table above for the proper device.
6. Collect the required files from the lists below.

Device Log Files

Device log files contain a great deal of diagnostic information produced by the L5 Connect device application while it is running. They are very useful to helping Snap-on service and engineering personnel the cause of an issue. They will be located in the **Log** directory. These files have the format ExecutableName.FromDateTime.ToDateTime.log. Here is an example of this format for a toolbox or locker.



You will either need to pull the latest log file or a range of log files to make sure you capture the time period of the event in question.

Windows Event Log Files

Windows event log files can sometimes provide insight into errors that occur closer to the operating system level where the device logs might not have any useful information. These files are also located in the **Log** directory. There are typically three different Windows event log files.

- ..\Log\SerialNumber_WindowsLog_Application.evtx
- ..\Log\SerialNumber_WindowsLog_System.evtx
- ..\Log\SerialNumber_WindowsLog_Security.evtx

Database File

The database file for the device will be located in the base program data directory for that device type.

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- ..\Device.db

Device Config Log

The device config log is a file used by the software to help it configure the device operating system to work properly. This file will be found in the **Log** directory.

- ..\Log\DeviceConfig.log

Advanced Device Data Files

Advanced device data files are for additional files that might be useful in diagnosing a problem with the device. This list varies depending on the type of device but all these files are located in the DeviceData directory so you can just pull that entire directory.

- ..\DeviceData

At this point you will have all the device specific diagnostic files collected. It should be noted that the automated version of this also provides the option to get the admin and service logs. Those details are listed in the above sections.

Be sure to verify the zip file contains all the appropriate files. See the Verify Zip File section for more details.

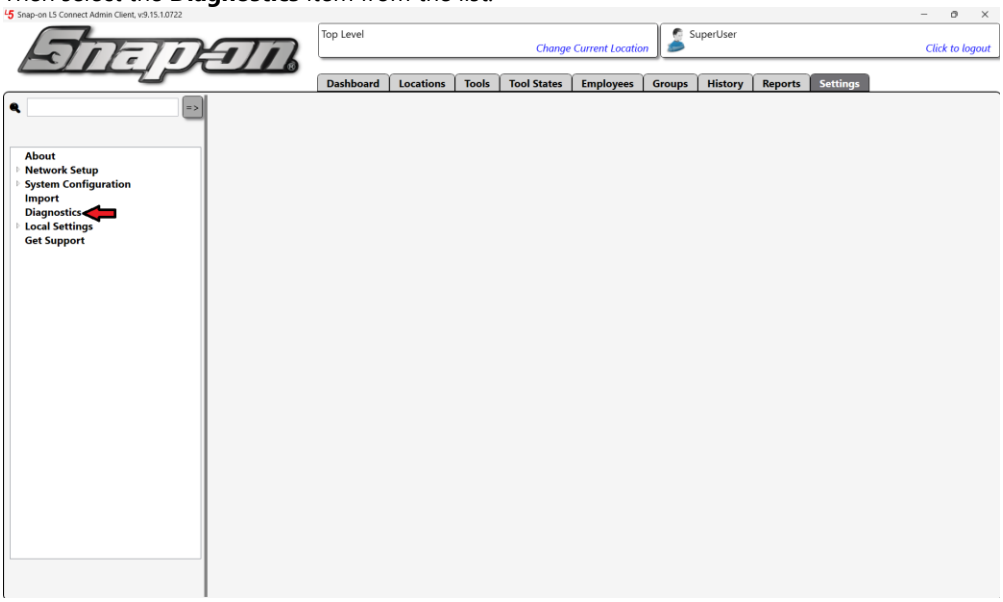
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Running Diagnostic Reports

There are several special diagnostic reports that do not show up in the reports tab of the Admin application. You may be requested to provide the results of one or more of these reports with your diagnostic data. The process for running any of the reports is the same so we will cover that process for one of the reports here. Here is a list of the diagnostic reports.

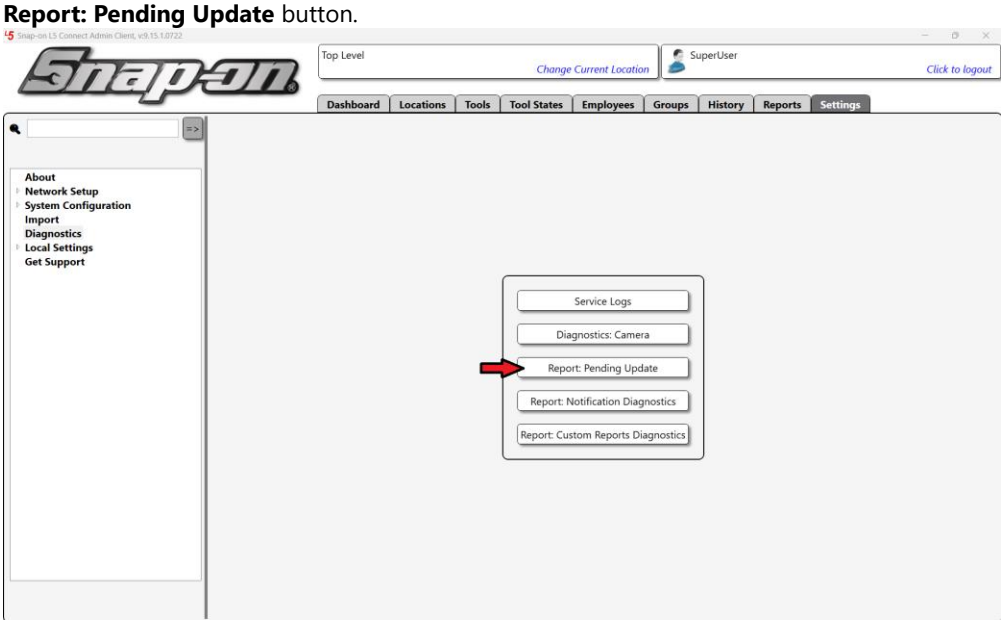
- Pending Updates
- Notification Diagnostics
- Custom Reports Diagnostics

1. To run diagnostic reports, open the Admin application and go to the **Settings** tab.
2. Then select the **Diagnostics** item from the list.

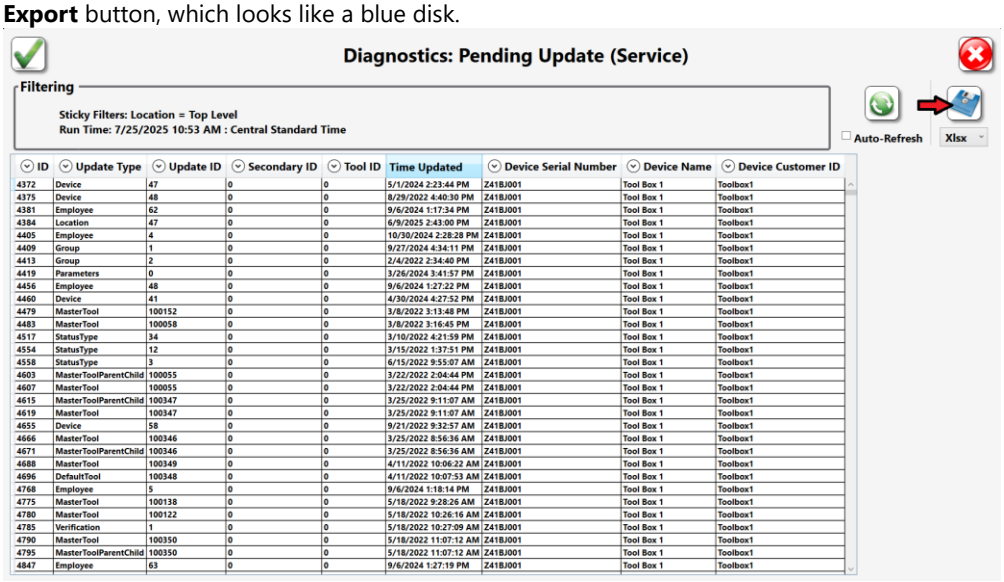


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3. Click the button for the report you wish to run. In this case we will run the pending update report so click the **Report: Pending Update** button.



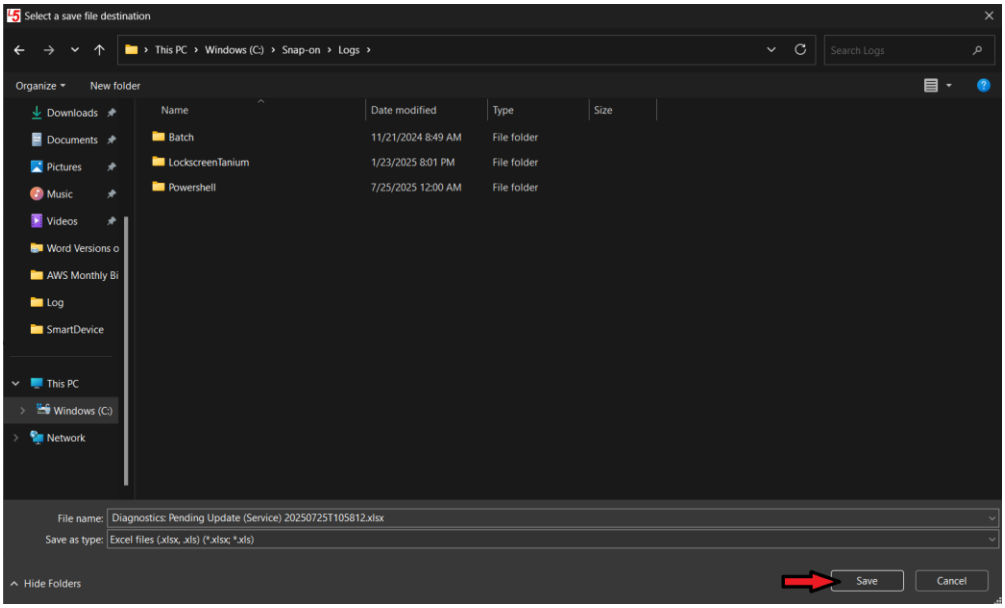
4. Once the report completes you will see results in the report display window. To save this report, click the **Export** button, which looks like a blue disk.



ID	Update Type	Update ID	Secondary ID	Tool ID	Time Updated	Device Serial Number	Device Name	Device Customer ID
4372	Device	47	0	0	5/1/2024 2:23:44 PM	Z41BJ001	Tool Box 1	Toolbox1
4375	Device	48	0	0	8/29/2022 4:40:30 PM	Z41BJ001	Tool Box 1	Toolbox1
4381	Employee	62	0	0	9/6/2024 1:17:34 PM	Z41BJ001	Tool Box 1	Toolbox1
4384	Location	47	0	0	6/9/2025 2:43:00 PM	Z41BJ001	Tool Box 1	Toolbox1
4405	Employee	4	0	0	10/30/2024 2:28:28 PM	Z41BJ001	Tool Box 1	Toolbox1
4409	Group	1	0	0	9/27/2024 4:34:11 PM	Z41BJ001	Tool Box 1	Toolbox1
4413	Group	2	0	0	2/4/2022 2:34:40 PM	Z41BJ001	Tool Box 1	Toolbox1
4419	Parameters	0	0	0	3/26/2024 3:41:57 PM	Z41BJ001	Tool Box 1	Toolbox1
4456	Employee	48	0	0	9/6/2024 1:27:22 PM	Z41BJ001	Tool Box 1	Toolbox1
4460	Device	41	0	0	4/30/2024 4:27:52 PM	Z41BJ001	Tool Box 1	Toolbox1
4479	MasterTool	100152	0	0	3/8/2022 3:13:48 PM	Z41BJ001	Tool Box 1	Toolbox1
4483	MasterTool	100058	0	0	3/8/2022 3:16:45 PM	Z41BJ001	Tool Box 1	Toolbox1
4517	StatusType	34	0	0	3/10/2022 4:21:59 PM	Z41BJ001	Tool Box 1	Toolbox1
4554	StatusType	12	0	0	3/15/2022 1:37:51 PM	Z41BJ001	Tool Box 1	Toolbox1
4558	StatusType	3	0	0	6/15/2022 9:55:07 AM	Z41BJ001	Tool Box 1	Toolbox1
4603	MasterToolParentChild	100055	0	0	3/22/2022 2:04:44 PM	Z41BJ001	Tool Box 1	Toolbox1
4607	MasterTool	100055	0	0	3/22/2022 2:04:44 PM	Z41BJ001	Tool Box 1	Toolbox1
4615	MasterToolParentChild	100347	0	0	3/25/2022 9:11:07 AM	Z41BJ001	Tool Box 1	Toolbox1
4619	MasterTool	100347	0	0	3/25/2022 9:11:07 AM	Z41BJ001	Tool Box 1	Toolbox1
4655	Device	58	0	0	9/21/2022 9:32:57 AM	Z41BJ001	Tool Box 1	Toolbox1
4666	MasterTool	100346	0	0	3/25/2022 8:56:36 AM	Z41BJ001	Tool Box 1	Toolbox1
4671	MasterToolParentChild	100346	0	0	3/25/2022 8:56:36 AM	Z41BJ001	Tool Box 1	Toolbox1
4688	MasterTool	100349	0	0	4/11/2022 10:06:22 AM	Z41BJ001	Tool Box 1	Toolbox1
4696	DefaultTool	100348	0	0	4/11/2022 10:07:53 AM	Z41BJ001	Tool Box 1	Toolbox1
4768	Employee	5	0	0	9/6/2024 1:18:14 PM	Z41BJ001	Tool Box 1	Toolbox1
4775	MasterTool	100138	0	0	5/18/2022 9:28:26 AM	Z41BJ001	Tool Box 1	Toolbox1
4780	MasterTool	100122	0	0	5/18/2022 10:26:16 AM	Z41BJ001	Tool Box 1	Toolbox1
4785	Verification	1	0	0	5/18/2022 10:27:09 AM	Z41BJ001	Tool Box 1	Toolbox1
4790	MasterTool	100350	0	0	5/18/2022 11:07:12 AM	Z41BJ001	Tool Box 1	Toolbox1
4795	MasterToolParentChild	100350	0	0	5/18/2022 11:07:12 AM	Z41BJ001	Tool Box 1	Toolbox1
4847	Employee	63	0	0	9/6/2024 1:27:19 PM	Z41BJ001	Tool Box 1	Toolbox1

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5. A file dialog window will open. Set the directory in which you wish to save the report and then click the **Save** button.



6. Run any other diagnostic reports that were requested in the same way and then package these report files with any other diagnostic data for sending to the appropriate personnel.

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Verify Zip File

Once you have created your zip file, be sure to open it and verify that all the pieces of diagnostic information are present. Especially when manually collecting device diagnostics, it is very easy to miss something that could cause delays in getting to a solution to your problem. Below is a list of the files that would be collected in the automated methods for comparison. All files are referenced from the "Tool Control System" directory.

Admin Debug Zip File Contents

..\AdminClient\Log\list of AdminClient.exe log files that capture the date/time of the period of interest.

Service Debug Zip File Contents

..\Service\Log\list of Service.exe log files that captures the date/time of the period of interest.
..\Service\Log\list of Service_Config.exe files that captures the date/time of the period of interest.

Device Debug Zip File Contents

DeviceName	Value
Optical Tool Box	SmartDevice
RFID Cabinet	SmartDevice
True-Crib	ToolCrib
Portal	Portal
FlexHub	ToolKiosk

..\DeviceName\Log\list of DeviceName log files that captures the date/time of the period of interest.
..\DeviceName\Log\SerialNumber_WindowsLog_Application.evtx
..\DeviceName\Log\SerialNumber_WindowsLog_System.evtx
..\DeviceName\Log\SerialNumber_WindowsLog_Security.evtx
..\DeviceName\Log\DeviceConfig.log
..\DeviceName\Device.db
..\DeviceName\DeviceData (the whole directory)

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