

# Component Demount

Version 6.6.3

---

A component of the Wheel Shop Management Suite (WSMS)

## User Guide



# Contents

- Introduction ..... 1
  - Overview ..... 1
  - Layout..... 1
- System Requirements ..... 2
- Getting Started..... 3
  - Installing Component Demount..... 3
  - Initial Setup ..... 7
- Login..... 8
- Menu Bar ..... 9
  - Home..... 9
  - Documents ..... 9
  - Chat ..... 9
  - Get Log Files ..... 9
  - Get Support..... 9
  - Clock..... 10
- Home..... 11
  - User ..... 11
  - Help ..... 11
  - System..... 11
  - Production..... 12
  - Machine Inspections ..... 12
- Home..... **Error! Bookmark not defined.**
  - User ..... **Error! Bookmark not defined.**
  - Help ..... **Error! Bookmark not defined.**
  - System..... **Error! Bookmark not defined.**
  - Production..... **Error! Bookmark not defined.**
  - Maintenance ..... **Error! Bookmark not defined.**
  - Machine Inspections ..... **Error! Bookmark not defined.**
- Barcode Scanner and Labels ..... 13
  - Diagnostics ..... 13

Scanners.....	13
Adding a Scanner .....	14
Labels .....	15
Label Definition Wizard.....	15
Database Connection Settings .....	18
Machine Setup .....	22
General.....	22
Data Elements – Component Settings .....	23
Scan Order.....	24
Locations .....	25
Wip Ids .....	26
Machine Inspections .....	26
Report Printing.....	28
Settings – Plugins .....	28
Queues .....	29
Chat.....	30
Get Support.....	31
Document Viewer .....	32
Downtime.....	33
Set out of service .....	33
Return to service.....	34
Machine Inspections.....	35
Inspection History .....	35
Component Demount Operation.....	37
New Assembly.....	38
Demount .....	42
Component Data .....	42
Demount Data.....	42
Search and History .....	43
Appendix A: License .....	46
Appendix B: Contact Information .....	49



## Introduction

### Overview

Component Demount is part of the Wheel Shop Management Suite. It is used to record component demounting operations and help track scrap material.

### Layout

Component Demount contains two main screen areas. The menu bar located across the bottom of the screen and the client area above the menu bar. The menu bar is used to access important features, like returning to the home screen. For more details see the topic on the Menu Bar. The client area is for displaying data and changes based on the current operation.

## System Requirements

This application has minimum system requirements as described below. These requirements must be met for the application to operate as designed.

This application supports the following Microsoft Windows operating systems.

- Windows 8.1 (x86 and x64)<sup>1</sup>
- Windows 10 (x86 and x64)<sup>1</sup>

The application requires the Microsoft .Net Framework (4.6.2 or later) which can be obtained from <https://dotnet.microsoft.com/download>

The application requires the following hardware at a minimum.

- 2.0 GHz Processor
- 1 GB installed RAM
- 100 MB available disk space
- Ethernet Card

---

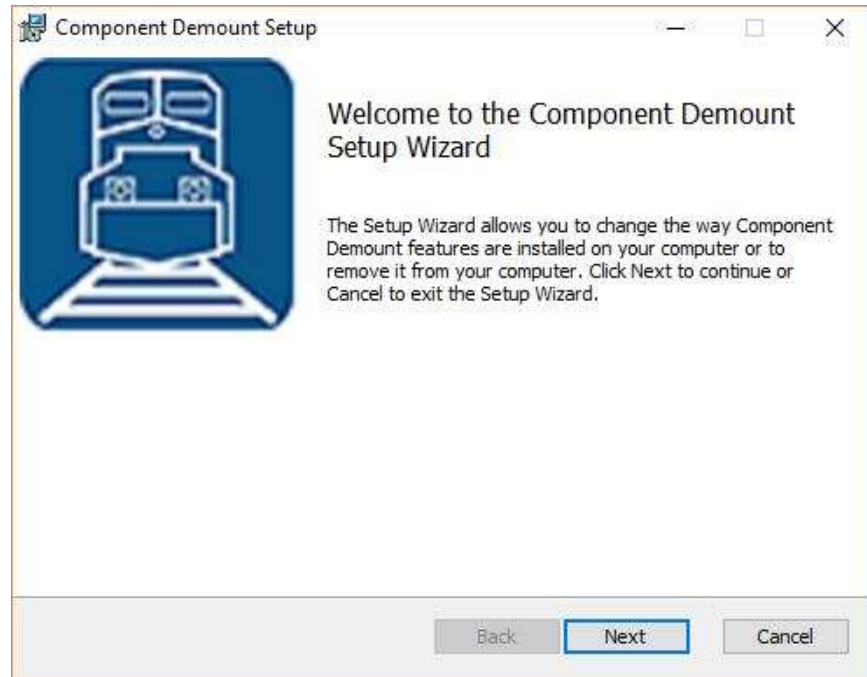
<sup>1</sup> When installed on a 64 bit operating system, the application will run in a subsystem of Windows called WOW64 (Windows-on-Windows 64 bit). WOW64 is included on all 64 bit versions of Windows and is designed to make differences between the operating systems transparent to the user.

## Getting Started

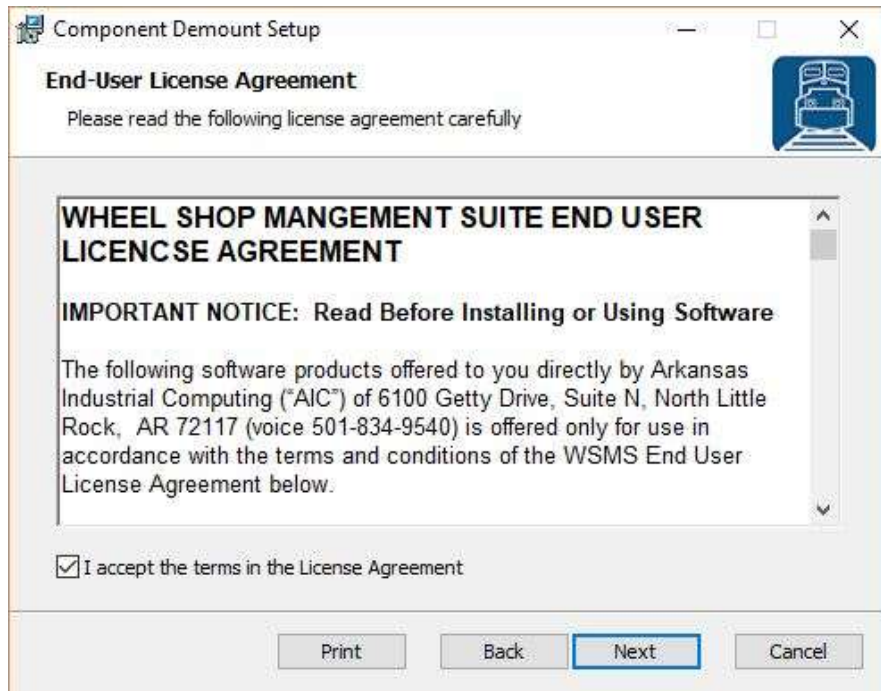
### Installing Component Demount

As with most software you will need Administrator rights to install Component Demount.

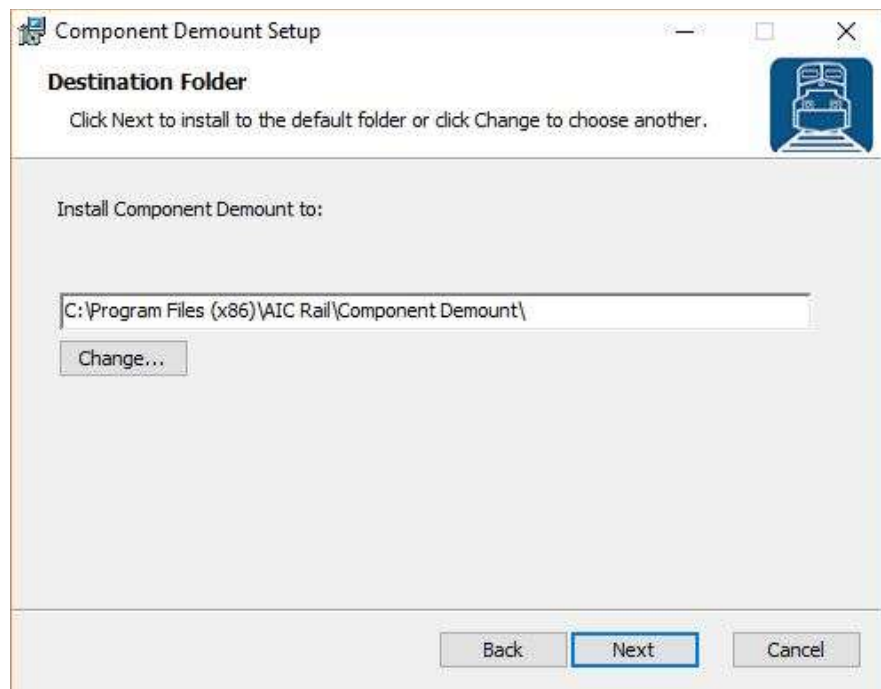
To install Component Inspection, you will need the latest version. Run the setup program and follow the on-screen prompts as described below. [Contact](#) our support team for assistance.



Click **NEXT** to continue.

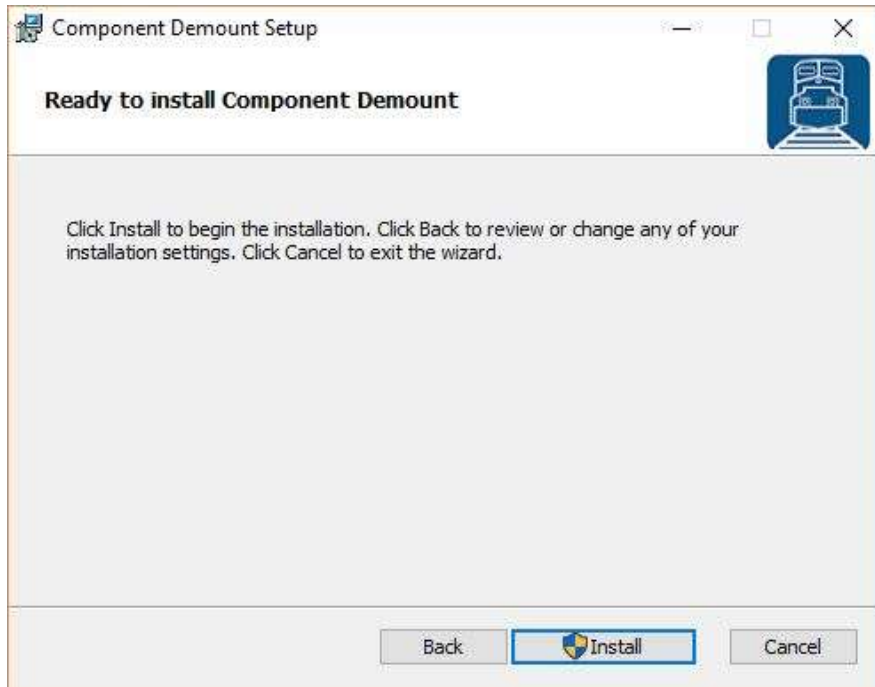


Accept the License Agreement and click **NEXT**.

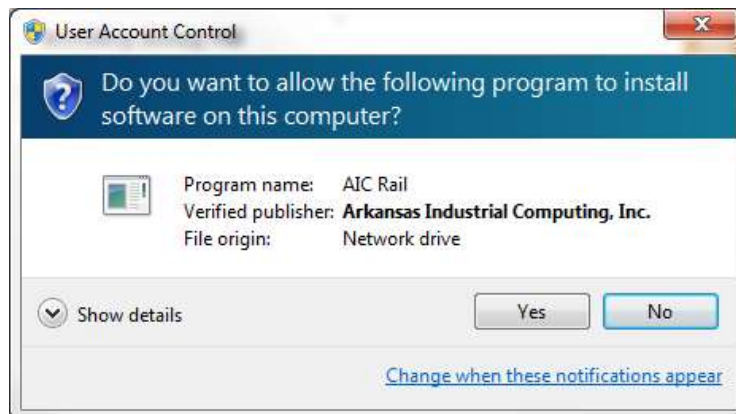


Select the location where you would like to install Component Demount and click **NEXT**.

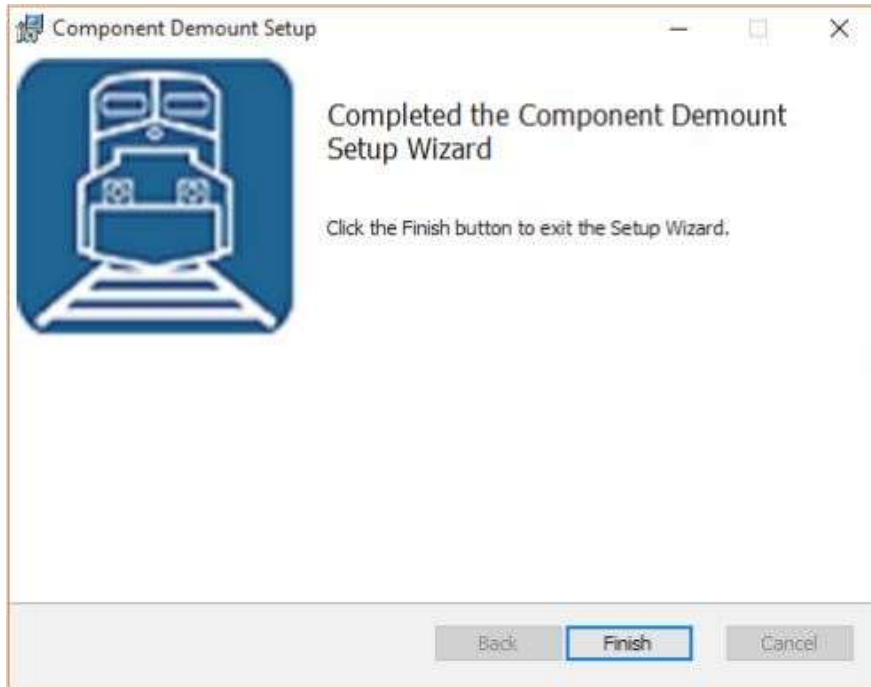




Click **INSTALL** to begin the installation



You may be asked to allow the setup program to install Component Demount on your computer. Click **YES**.

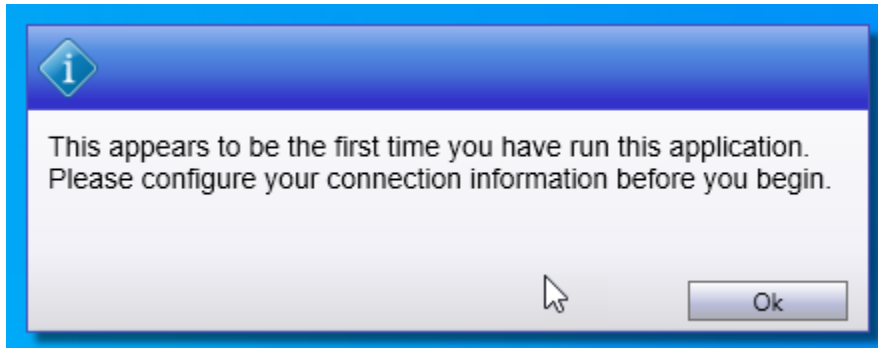


When the installation has completed, click **FINISH** to close the setup application.

## Initial Setup

Once you have installed Component Demount you can double click the desktop shortcut to start the application.

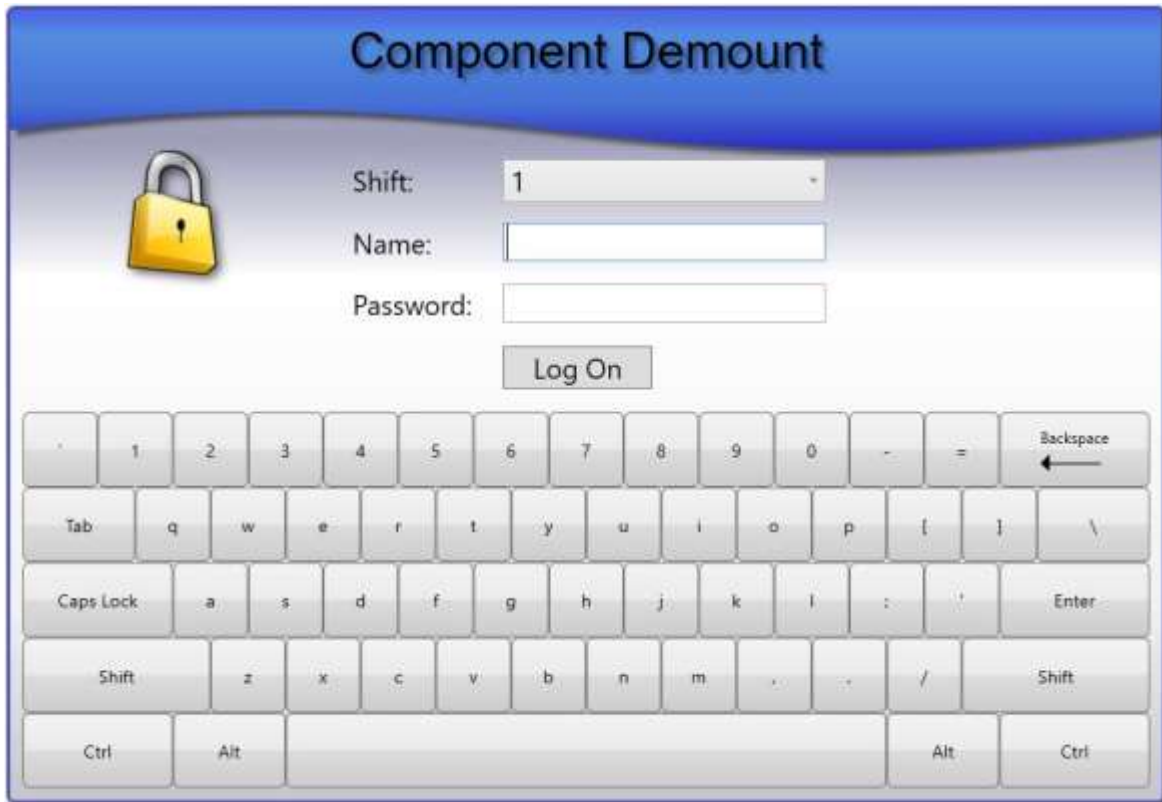
Component Demount requires access to an instance of the WSMS database which can be installed on the same computer or any computer with network access and the required permissions. The first time you run Component Demount you will be prompted to enter your database connection information.




Refer to the section on [Connection Settings](#) for more information on configuring the database connection.

## Login

Each user is given a unique username and password for the WSMS system authentication and accountability. You must provide your shift, username and password each time the application starts before you can begin using it. Your login also determines what functions you have permissions to perform. If you do not have this information, contact your manager or a system administrator.



Component Demount



Shift: 1

Name:

Password:

Log On

~	1	2	3	4	5	6	7	8	9	0	-	=	Backspace
Tab	q	w	e	r	t	y	u	i	o	p	{	}	\
Caps Lock	a	s	d	f	g	h	j	k	l	:	'		Enter
Shift	z	x	c	v	b	n	m	.	,	/			Shift
Ctrl	Alt											Alt	Ctrl

## Menu Bar

The menu bar is used to access the home screen, as well as important tools like Documents, Chat, and Get Support.



## Home

Navigate to the Home screen. For more information refer to the section on [Home](#).



## Documents

Opens the Document Viewer portal for viewing electronic documents. For more information refer to the section on [Document Viewer](#).



## Chat

Opens the Chat feature for communicating with other WSMS users or stations. For more information refer to the section on [Chat](#).



## Get Log Files

Used to retrieve the diagnostic log files so they can be sent to AIC Support team. After clicking Get Log Files you will be prompted for a folder and file name to save the information to a ZIP file. After saving this file, you can send it to AIC Support for help troubleshooting. For more information contact [AIC Support](#).



## Get Support

Used to submit a support ticket for the current station. Refer to the [Get Support](#) section for more information.



## Clock

Displays the current time of day based on the computer date and time settings.

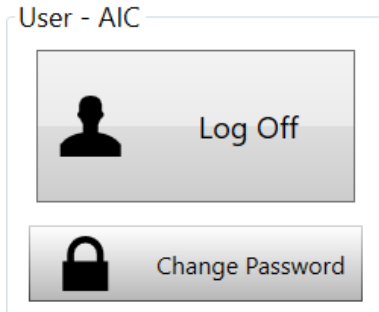
**11:33 AM**

## Home

The Home screen provides access to the important settings and features of Component Demount. Features are grouped together based on their purpose.

## User

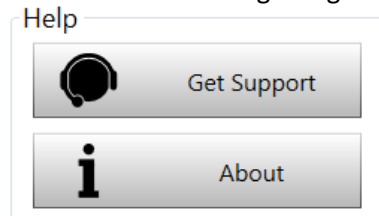
Displays the currently logged in user.



- Log Off - logs out the current user.
- Change Password – Opens the change password dialog to let the currently logged in user change their password.

## Help

Provides information for getting help with the current application.



- Get Support - Opens the AIC Support website in the default web browser. This requires internet access be available at the station.
- About - Opens the About dialog that displays information about the current version of the application.

## System

Provides access to configuration and setup for the current station.



- Downtime – Navigates to the Downtime screen for managing the current machine status. Refer to the section on [Downtime](#) for more information.
- Scanners - Opens the scanners dialog to troubleshoot problems with your barcode scanner, or to configure a new scanner or barcode label. Refer to the section on [Scanners](#) for more information.
- Machine Setup – Opens the settings dialog to configure settings for this machine. For more information refer to the section on [Settings](#).
- Connection Settings – Opens the Connection Settings dialog to configure the database connection information for the WSMS database. For more information refer to the section on [Database Connection Settings](#).
- Exit – Closes the application and returns to the Windows desktop. The user must have 'ExitApplication' permission to be able to exit the application.

## Production

These are the most common functions and will be available to all users that have access to log in to the application.



- Demount – Navigate to the search screen to find the assembly you are demounting
- History – Navigate to the History screen to review data for the assemblies that have been demounted from this machine. Refer to the section on [History](#) screen for more information.
- New Assembly – Navigate directly to the Demount screen. A new assembly record will be created along with the component records for both the demounted components and any subcomponents that remain on the assembly after demounting is complete.

## Machine Inspections

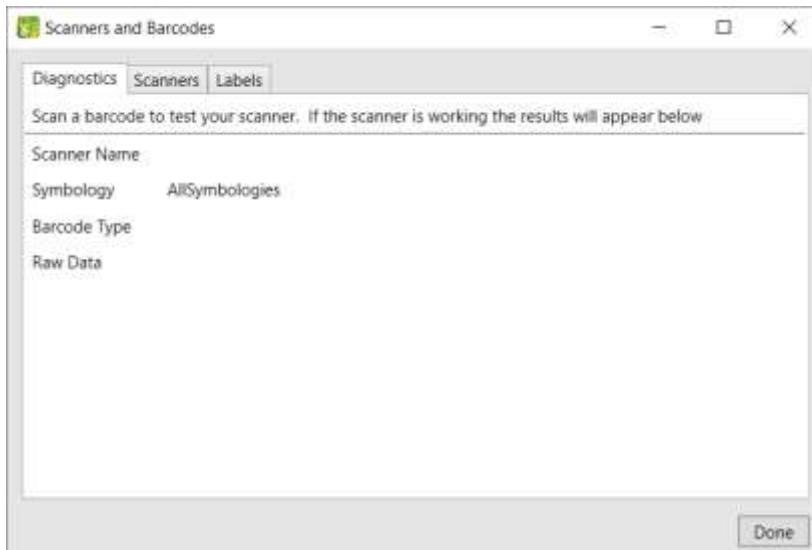
Provides access to the Machine Inspections feature for recording periodic setup, maintenance, and validation inspections. Machine Inspections let you record electronically what you previously had to keep up with on paper. For more information on Machine Inspections refer to the sections on [setting up Machine Inspections](#) and performing Machine Inspections



## Barcode Scanner and Labels

### Diagnostics

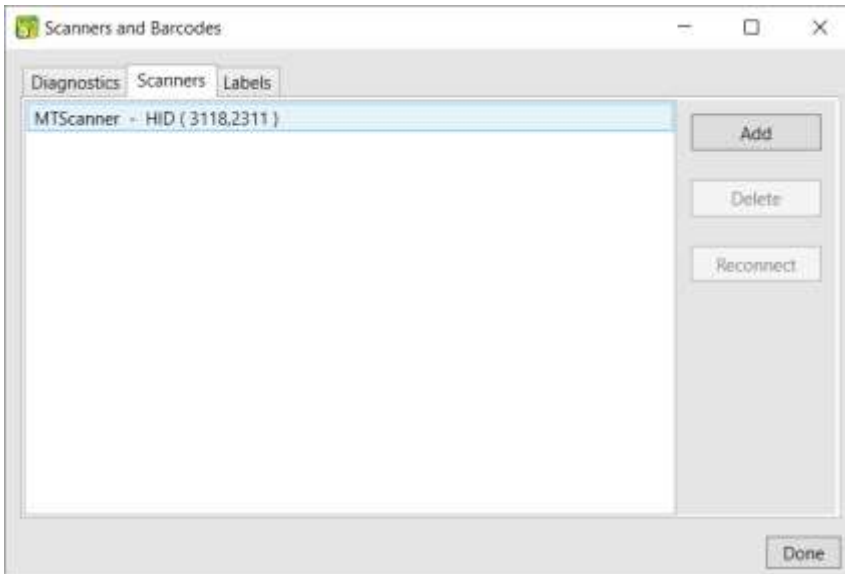
Test and diagnose issues with barcode scanners. While on this tab, scan a barcode with one of the barcode scanners connected to the machine. If the scanner is set up properly, you should see the barcode and scanner information populate.



- Scanner Name – The name assigned to the scanner that read the barcode. If more than one scanner is configured this name should be unique to help you identify the scanner.
- Symbology – The Symbology of the barcode that was scanned. It will either show the symbology like **DataMatrix, Code128, PDF417, etc.** or it will show **Unknown** if the symbology cannot be detected. When the symbology cannot be detected the scanner most likely is not configured to transmit the AIM ID prefix that identifies the barcode symbology. This may cause the barcode to be misidentified or not identified at all.
- Barcode Type – The label definition type that was matched to the barcode being scanned. If the Barcode Type is Unknown, it means the barcode that was scanned is not matching any of the known label definitions, either because the data is in the wrong format or the symbology does not match. Refer to the section on [Labels](#) for more information.
- Raw Data – The character string that was read from the barcode, not including the symbology AIM ID prefix if it exists.

### Scanners

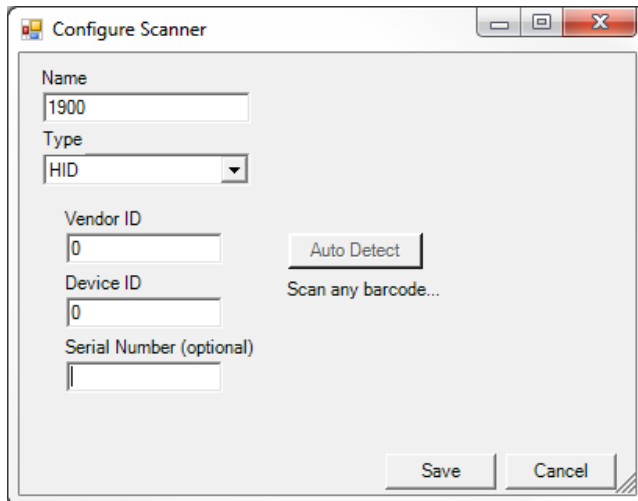
View and configure barcode scanners.



- Add – Configure a new barcode scanner for use with the application.
- Delete – Remove the selected barcode scanner from use.
- Reconnect – Disconnect the selected barcode scanner and attempt to reconnect.

### Adding a Scanner

To add a new scanner, Click Add. In the popup dialog, enter a name to identify the scanner and select the scanner interface type (HID, RS232, etc).



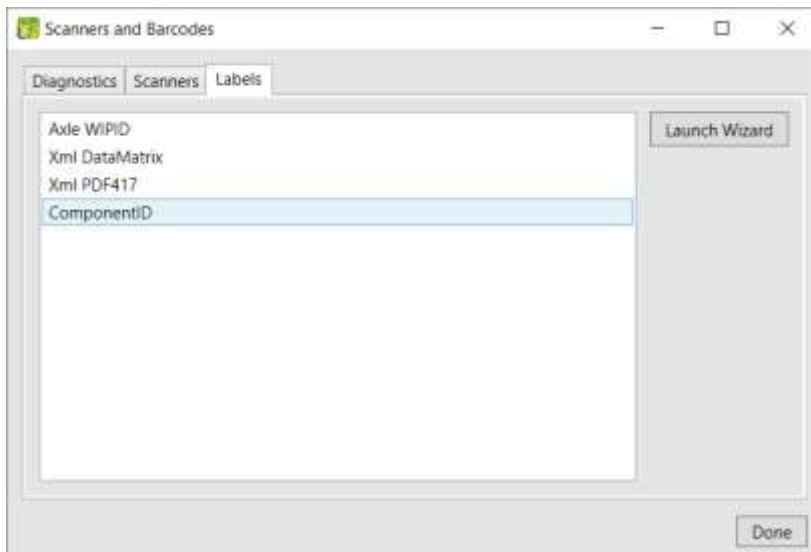
Depending on the Type selected, you will need to enter some parameters that are required to connect to the scanner. In most cases you can use the Auto Detect feature to automatically detect these parameters.

- Click Auto Detect button
- Scan a barcode (other than a programming barcode) with 15 seconds.
- A message will appear below the Auto Detect button to indicate if the auto detection was successful. The parameters should populate automatically.

**Note:** For USB barcode scanners, the Serial Number parameter is optional if you are only using one scanner at the station. Leaving it blank will allow you to replace a scanner without having to reconfigure it, as long as the make and model are the same. If using more than one scanner (example: Wheel A and Wheel B or Left and Right) the serial number is required to distinguish between the scanners.

## Labels

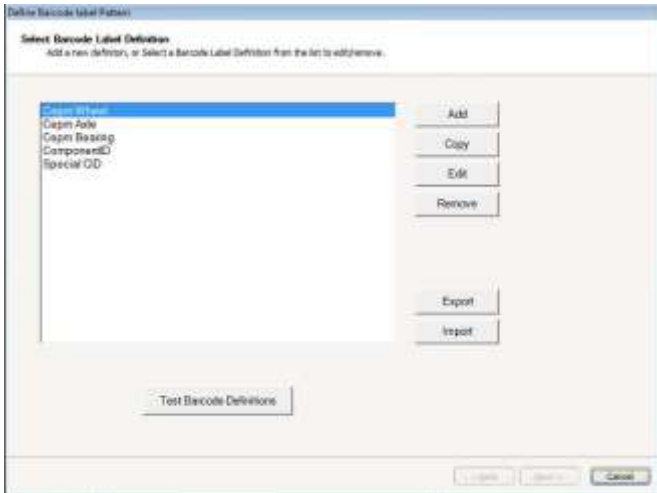
View and configure barcode label definitions. Label definitions help the system to identify different types of barcode labels. For example WIP ID labels vs 1D Component ID labels vs 2D Component labels (Wheels, axles, etc).



- **Launch Wizard** – The only way to configure a label definition is with the Label Definition Wizard. Click Launch Wizard to start the label definition wizard.

## Label Definition Wizard

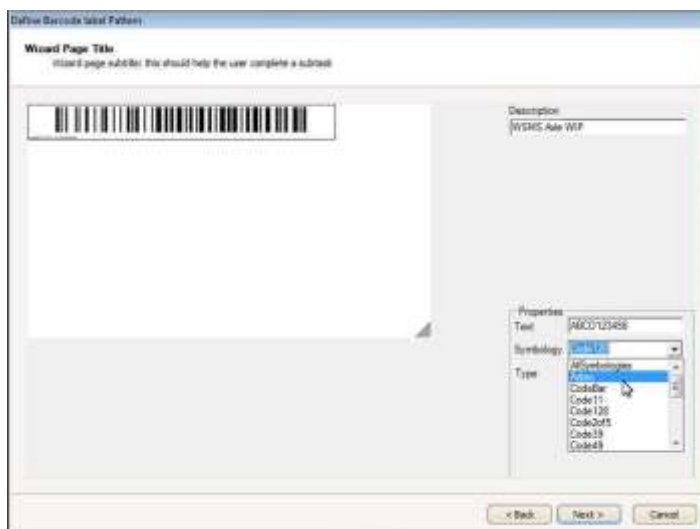
The first page of the Label Definition Wizard lists all of the current definitions and provides controls to add, edit, remove, etc.



- Add – create a new label definition
- Copy – create a new label definition by copying the selected label definition
- Edit – Modify the selected label definition
- Remove – delete the selected label definition
- Export – save the current label definitions to a file so it can be imported to another system
- Import – select a file that was exported from another system to import into your system
- Test Barcode Definition – go to the Test Label Definition screen to scan a label and verify it is properly detected.

### *Add Label Definition*

To add a new barcode label definition, click ADD. You will then add the label definition description and properties such as the Symbology and Barcode type. Click NEXT, to configure the barcode label.



## Configure Barcode Label

Add a new label definition or select an existing label definition and click Copy or Edit.

Configuring the barcode label requires describing the data that will be in the barcode. Define what data elements are contained in the barcode in order from left to right of the barcode raw data. Define individual properties of the data and what the data looks like in the “What does the data look like?” box. Use the Help button to guide you through the correct syntax.

Select the correct barcode symbology.

Define Barcode Label Pattern

**Configure Barcode Label**  
Configure the label by adding barcodes, static text, and/or images.

Describe the data in the barcode below by defining what it contains, in order from left to right.

Example: ABCD123456

Field definition:

Symbology: Aztec      Select a property: Value      Value

What does the data look like?: @{1}#{10}

Save      Help

Barcode definition:

Property	Expression
Value	@{1}#{10}

Move Up  
Move Down  
Remove

Regular Expression: [1-9A-Z]{1,10}      Clear

< Back      Next >      Cancel

Help

Enter the data as it appears in the barcode.

If the data is not always the same use a wild-card to represent the data.

- @ matches any letter A-Z
- # matches any number 0-9
- \* matches anything (letter, number, special character)

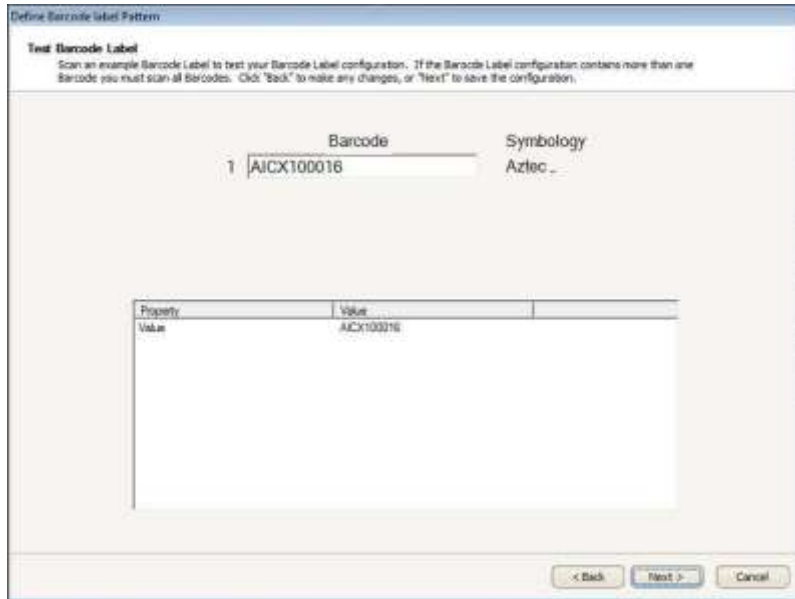
If the number of characters varies you can specify a maximum and minimum number of characters with {n,m} where n is the minimum number of characters and m is the maximum number of characters. If there is no maximum, do not include m.

Examples: # {1,3} will match 1, 12, 123, but not 1234.  
7 {1,} will match 7, 77, 777, 7777, 77777, etc.  
A {2,4} will match AA, AAA, or AAAA but not A or AAAAA.  
{2,} will match any group of letters with at least two letters.

OK

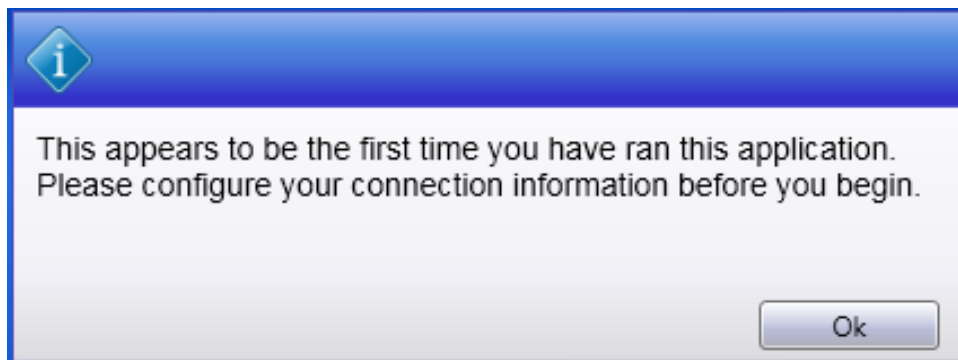
### Test Barcode Label

Once you have configured your barcode label you can test the definition. Scan an example barcode label. If the barcode label configuration contains more than one barcode you must scan all barcodes. Click “Back” to make any changes, or “Next” to save the configuration.



### Database Connection Settings

Access to an instance of the WSMS database is going to be required, which can be installed on the same computer or any computer with network access and the required permissions. The first time you run the application you will be prompted to enter database connection settings.



Click **OK** to display the Connection Settings dialog. Enter Server Name, User, password.

Connection Settings

Database

Server Name

Log on to the server

Use Windows Authentication

Use SQL Server Authentication

User

Password:

Select or enter database name

Test Connection

Machine Settings

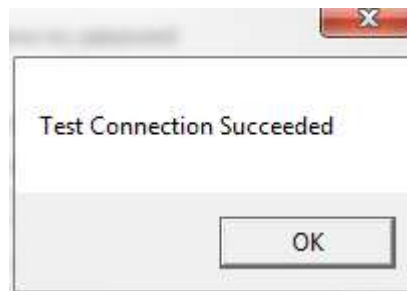
Shop Name

Machine Name

Save Cancel

A list of available databases will appear after typing the security information. Select the desired database. If you are unsure about the Server Name, User or password, contact your IT Department or our [support team](#).

Click **TEST CONNECTION** to verify your settings. If the information you enter is correct, you will see the following dialog, click **OK** to continue.

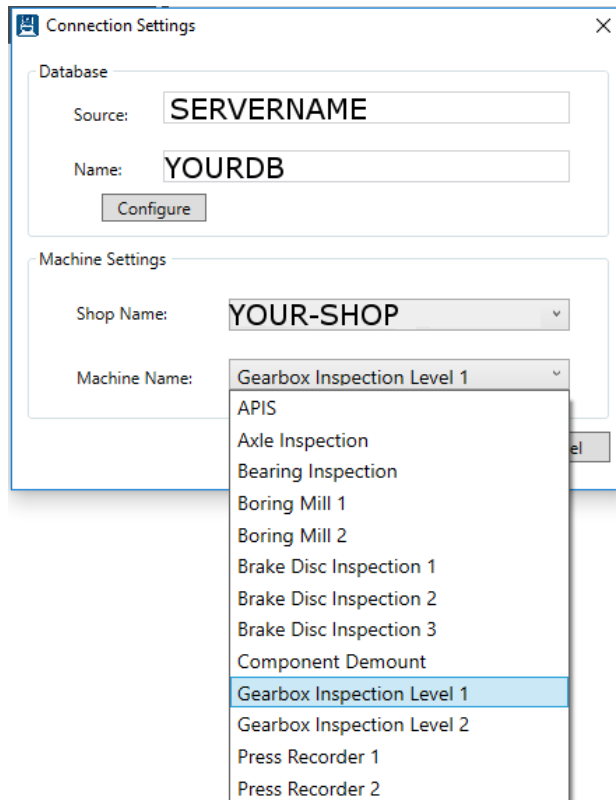


Once you have configured the Database Connection information click the **Shop Name** drop down to select the location for which you want to configure this installation. WSMS can support multiple

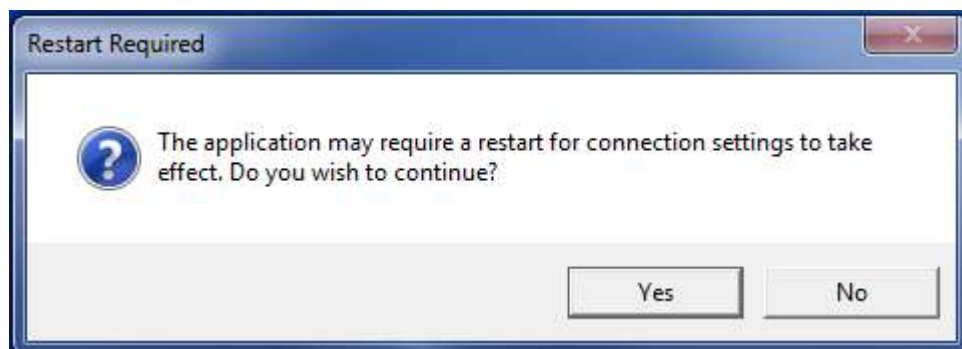
locations or 'shops' hosted in one database. To isolate the data and settings to your location you must provide this information.

After you have selected the Shop Name click on **Machine Name** and select the machine you are installing on. Some settings are stored per machine so this setting will be used to differentiate each installation.

Click **OK** to save your changes.



Once you have entered your database settings the application may require a restart for the connection settings to take effect. Click **YES** to restart.



You will then be taken to the Log On screen. After configuring the database connection, the Log On screen will be the first screen you see each time you run the application.





# Machine Setup

## General

The screenshot shows the 'Machine Settings' application window with the 'General' tab selected. The window has a title bar with a red close button. Below the title bar is a tabbed interface with tabs for 'General', 'Component Settings', 'Search and History', 'Machine Inspections', 'Report Printing', 'Plugin', and 'Queues'. The 'General' tab is active and contains the following settings:

- Check for recalls:
- Use OnScreen Keyboard:
- Inspection Definition: [Dropdown menu]
- Demount View: [Dropdown menu, value: Wheel and Bearing Demount]
- Assembly type: [Dropdown menu, value: Wheel set]
- Component Types to Demount: A table with columns 'Component Type', 'Enabled', 'Default', and 'Disposition'.

Component Type	Enabled	Default	Disposition
BEARING	<input type="checkbox"/>	<input type="checkbox"/>	[Dropdown menu]
BEARINGCORE	<input type="checkbox"/>	<input type="checkbox"/>	[Dropdown menu]
WHEEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	[Dropdown menu]
- Allow creating new Assembly record:
- New Assembly by default:
- Always demount scrap components:
- Update the assembly disposition:
- Clear location for scrap components:
- Log out User after: [Input field: 60] min. (Enter 0 to inactivate functionality)
- Unattended Mode:  Run application Unattended. User Name assigned to this mode: [Dropdown menu]

At the bottom right of the window are 'Save' and 'Cancel' buttons.

- Check for recalls – Recall criteria can be configured in the WSMS6 database. When checked any component information that matches the recall criteria will get flagged and will notify the operator. Contact AIC Rail for more information on recalls.
- Use OnScreen Keyboard – When checked, the application will display an on-screen keyboard any time data entry is desired. This is useful for touchscreen interfaces.
- Inspection Definition – Select a preconfigured inspection to collect demount data.
- Demount View – Select a preconfigured user interface for collecting component and demount data.
- Assembly Type – Assembly type to be working with in this application.
- Component Types to Demount – Select which component types you will be demounting at this station, which get to be demounted by default, and what disposition status to apply.
- Allow creating a new assembly record – Demount station by default doesn't let you create a new assembly, turn on this feature to be able to create a new assembly on this station.
- New Assembly by default – Turning this feature will automatically create a new assembly every time.
- Update the assembly disposition – After a new entry, this option will update the disposition of the assembly
- Clear location for scrap components – Remove the location for those components that are set for scrap

- Log out User– This option will log out the current user and force them to login again after the set minutes.
- Unattended Mode–This mode will not require a user to be login and will automatically save an entry.

## Data Elements – Component Settings

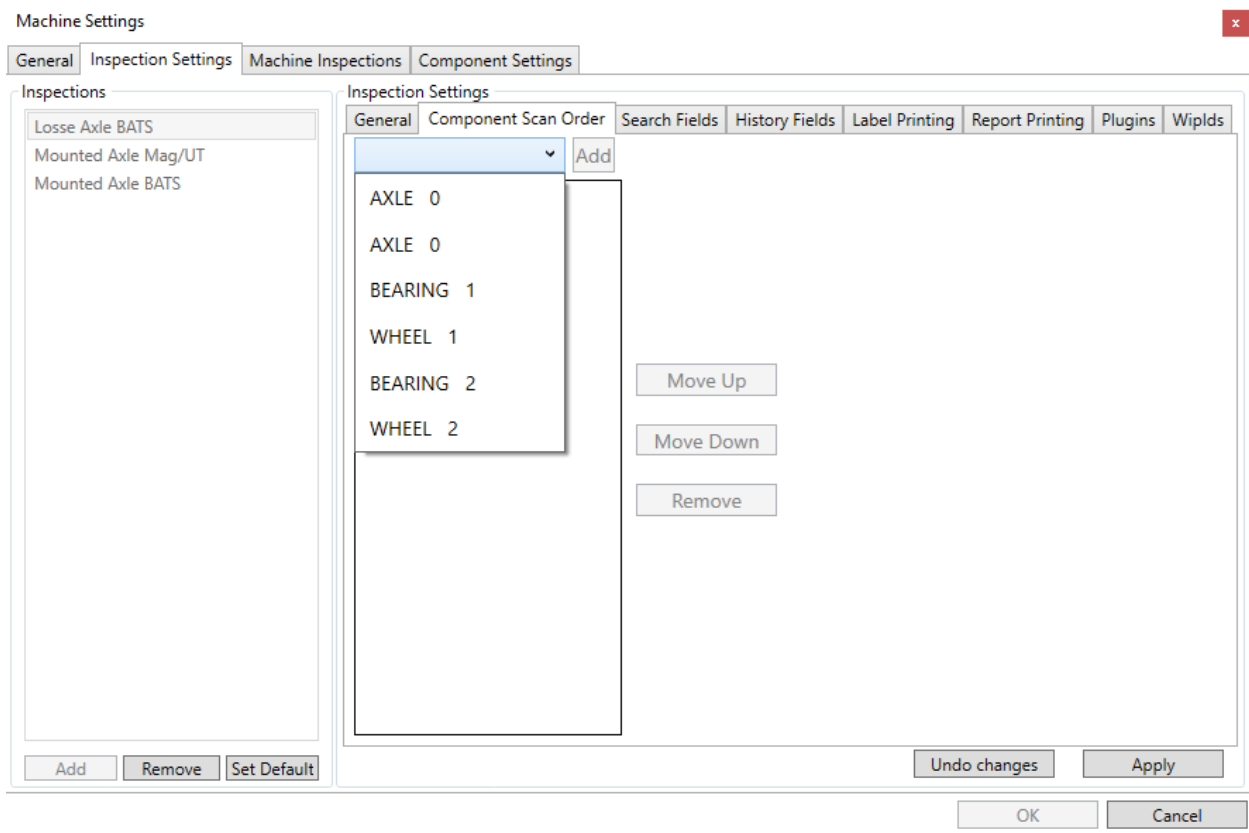
Use the Elements options to configure what data is required and if it should have a default value for new components. Data Elements marked as required must have a value before the component will save. To set a Default Value enter the value of “=lastvalue” to have the data from the last component populated.

You also have the option to type certain conditions as to when this element value is required.

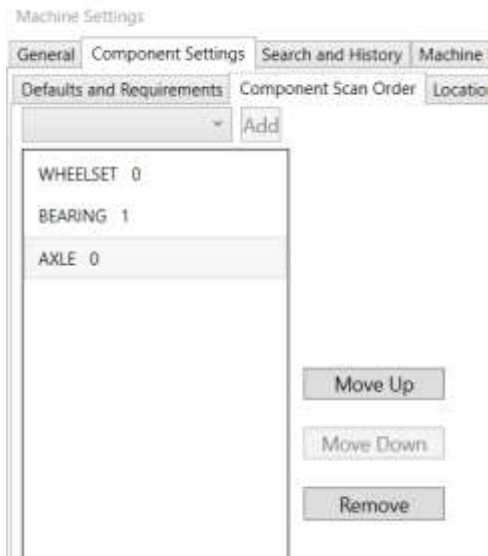
Required	Element Id	Display name	Default Value
▲ WHEELSET			
<input type="checkbox"/>		Condition Field	▼
<input checked="" type="checkbox"/>		CID	▼ <input type="checkbox"/> Hidden
<input type="checkbox"/>		Customer	▼
<input type="checkbox"/>		Work in progress Id	▼ <input type="checkbox"/> Hidden
<input type="checkbox"/>		Location	▼
<input type="checkbox"/>		Disposition	▼
<input checked="" type="checkbox"/>	AIC004	Back-to-Back	▼
<input checked="" type="checkbox"/>	AIC010	BM Operator	▼
<input checked="" type="checkbox"/>	AIC020	Mount Shop	▼
<input checked="" type="checkbox"/>	AIC021	Mount Month	▼
<input checked="" type="checkbox"/>	AIC022	Mount Year	▼
<input checked="" type="checkbox"/>	AIC006	OK	▼
<input type="checkbox"/>	C011	Purchased Core	▼
▷ WHEEL			
▷ AXLE			

## Scan Order

Define the order in which data scanned is going to be assigned to the components to scan, it will automatically place the scanned information following the order entered in this configuration.

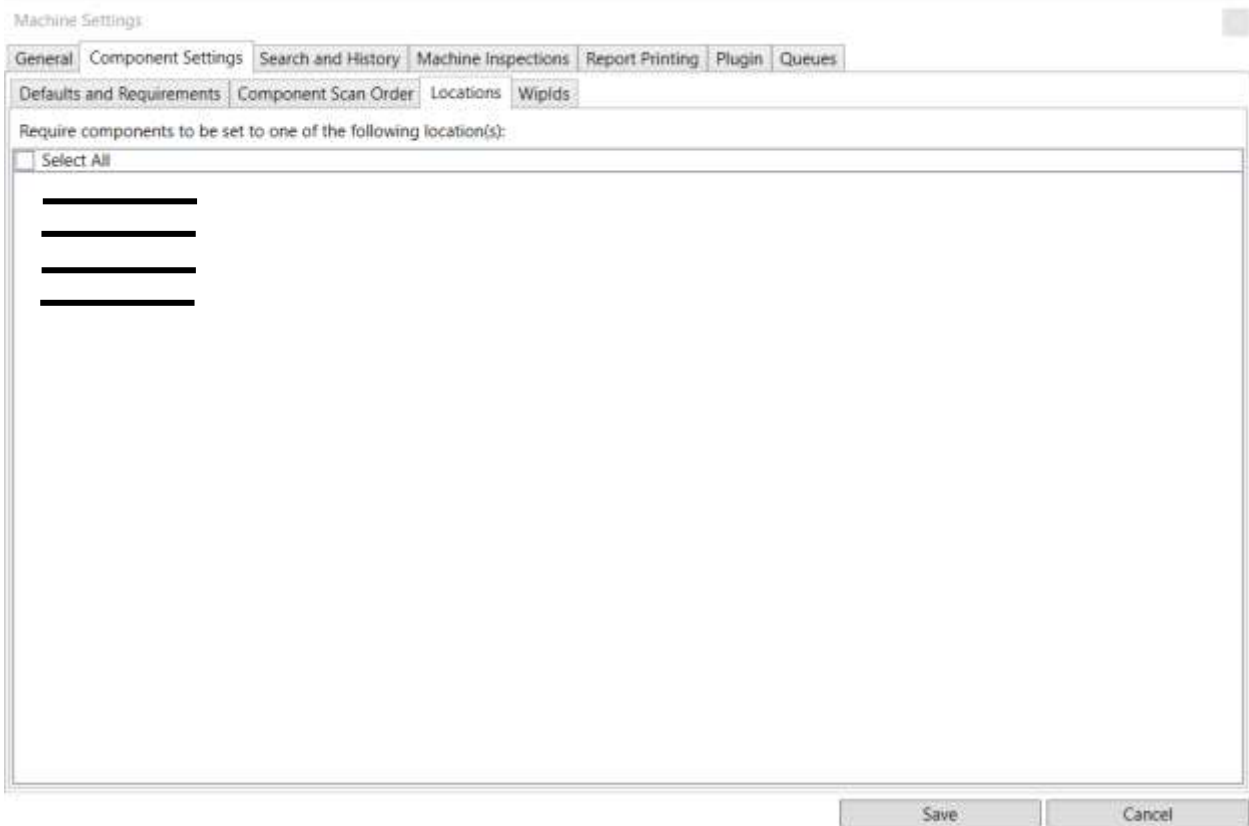


Select a component from the list and click on “Add”. Use the buttons “Move up”, “Move Down” and “Remove” to place the components in the desire order.



## Locations

Locations offers a way to organize components and now where they are at the shop. In this section you can require a component to be set one of the locations selected. It will control where the components are coming from and prevent components arriving from other unauthorized stations.



## Wip Ids

Check the box for the components you wish to remove wip ids when saving components.

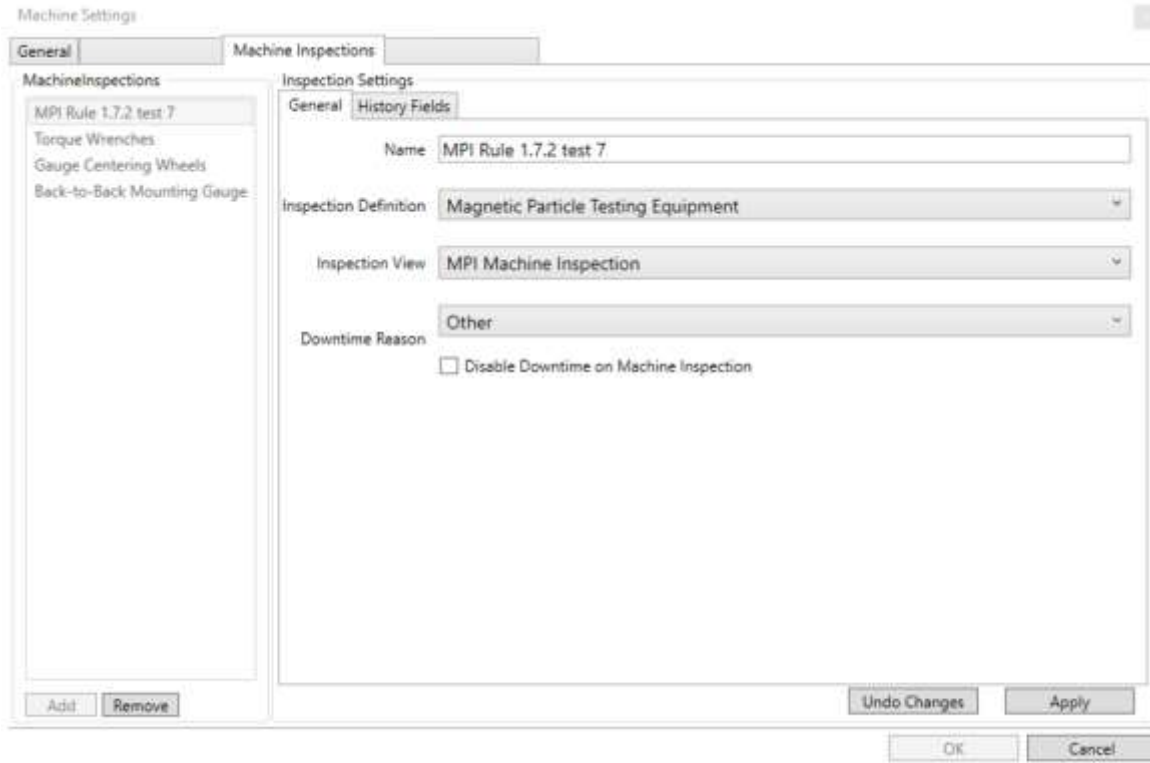
The screenshot shows the 'Machine Settings' dialog box with the 'Wipids' tab selected. The dialog has several tabs: 'General', 'Component Settings', 'Search and History', 'Machine Inspections', 'Report Printing', 'Plugin', and 'Queues'. The 'Wipids' sub-tab is active, showing a section titled 'Remove WIP IDs from the following components:'. Below this title is a table with two columns: 'Component Type' and 'Disposition Code'. The table contains six rows, each with a checkbox and a text input field. The rows are: 'Wheel set', 'Axle', 'Bearing A', 'Bearing B', 'Wheel A', and 'Wheel B'. At the bottom right of the dialog are 'Save' and 'Cancel' buttons.

Component Type	Disposition Code
<input type="checkbox"/> Wheel set	
<input type="checkbox"/> Axle	
<input type="checkbox"/> Bearing A	
<input type="checkbox"/> Bearing B	
<input type="checkbox"/> Wheel A	
<input type="checkbox"/> Wheel B	

## Machine Inspections

Configure the inspections to be performed in the machine station to ensure quality and good performance during production. It has same functionality as a normal inspection with some variations.

- Name – Set a name for the Inspection.
- Inspection Definition – Select a preconfigured inspection definition for that machine.
- Inspection View – Select a preconfigured user interface for collecting component and inspection data.
- Downtime Reason – Specify a default reason for the machine to be down. Check the box “disable downtime on Machine Inspection” to not put the machine on downtime during this inspection.

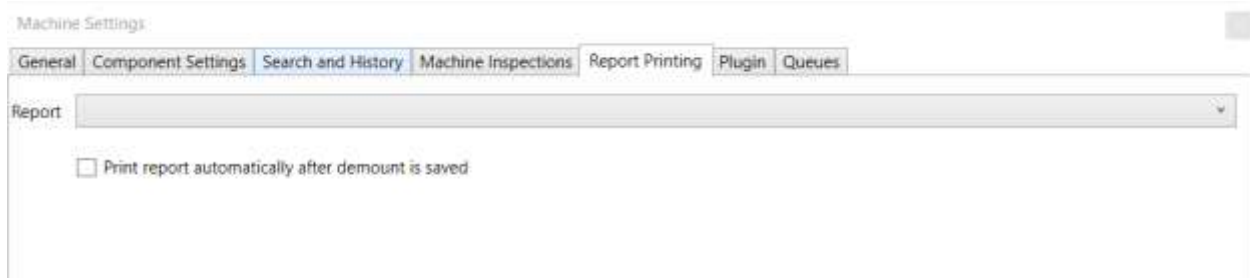


You will be able to register a new Machine inspection from the main menu in the application by clicking on the name of the inspection. To look at the previous inspections, click on the number at the right side, it will take you to the History search tab.



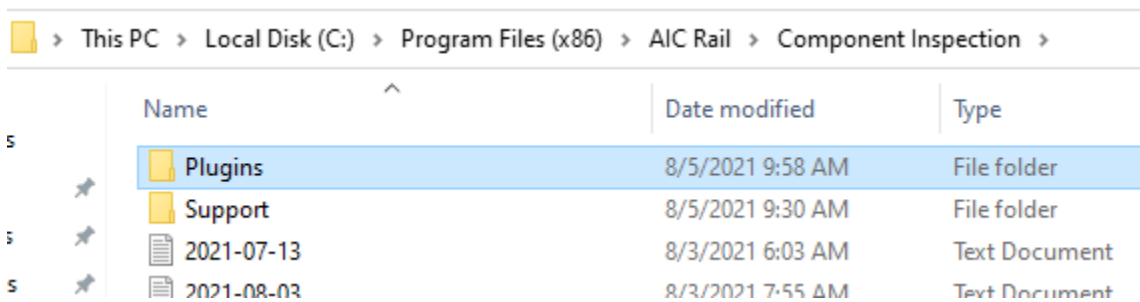
## Report Printing

Select a report you wish to print after a component is saved.



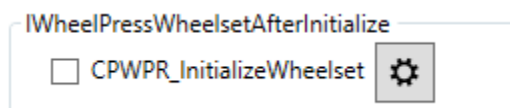
## Settings - Plugins

The WSMS applications come with various plugin points in their code where custom behavior can be injected to fit them to your specific needs. In order to use a plugin, you will need to copy a plugin file, supplied by us, into the Plugins folder for your application. This folder needs to be located in the same directory as your application's executable file, typically C:\Program Files (x86)\AIC Rail\APPLICATION NAME.



If the Plugins folder does not exist, you may need to create it.

Once you have your plugin file in place, you can use the Plugins tab in the settings window to enable and configure your plugins. Each of the sections on the settings screen corresponds to a plugin point within the current application, and any plugins in your file will show under the corresponding section. To enable it, simply check the box next to its name.



If your plugin includes any configuration options, they can be accessed by clicking on the cog button next to the plugin name. Since not all plugins require configuring, this may not have any effect on your system.



## Queues

Queues work in two ways, the queue from where to load a component into your stations and a queue to set the component after saving.

Depending on the station, the queue list will vary, depending on the number of components the station starts with or ends with, and queues available for that station.

In case you have multiple components to load from a queue, you can also set the order they are to be loaded into your process.

After saving you can determine where to send your components depending on the disposition status. A “good assembly” can go to a different queue, than a “rework assembly” or “scrap assembly”, although is possible to assigning all your assemblies to the same queue whether they are good or scrap.

Machine Settings

General | Component Settings | Search and History | Machine Inspections | Report Printing | Plugin | Queues

Auto Select After  seconds

Load from queue

Component	Queue Name	Order
WHEELSET	<input type="text"/>	<input type="text" value="1"/>

Save to queue

WHEELSET

Save Scrap WHEELSET To:

Save Good WHEELSET To:

Save Rework WHEELSET To:

Save Hold WHEELSET To:

Axle

Save Erran Axle To:

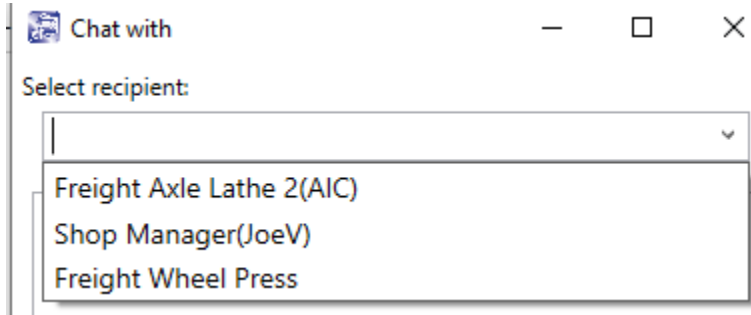
Save Cancel

## Chat

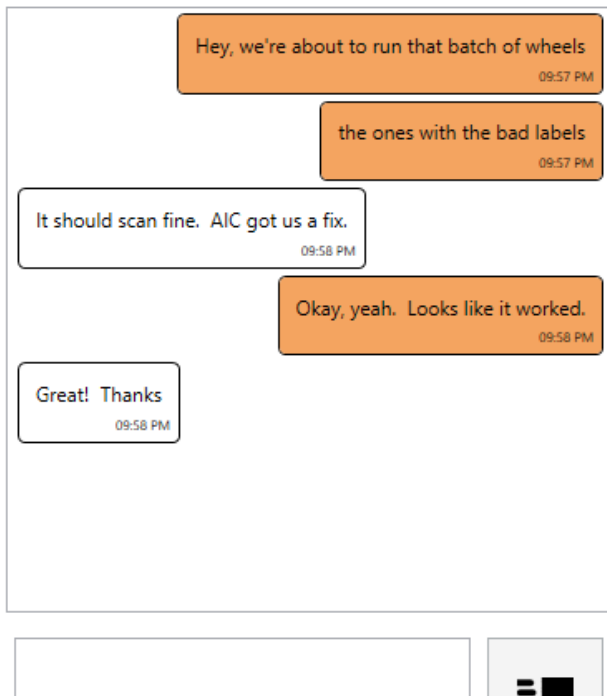
The Chat button can be used to communicate with other WSMS applications in your system.



Clicking it will open the Chat dialog. You can select a recipient from the dropdown based on the stations set up in your system.



The name of each station is listed, and if a user is currently logged in, their name will appear in parentheses next to the station. You can send a message to a station even if no one is logged in, and it will display the next time someone is at the station. Messages you send will be shown in orange, and messages you receive will be shown in white.



## Get Support

The Get Support feature will collect relevant information about your problem and attempt to submit a support ticket online (**ticket submission requires the WSMS6 Service to be running and have internet access**).

Clicking the button will open the support dialog as shown below:

**Please provide the following information to open a support ticket.**

Tell us who you are

Name\*

Email\*

Phone Number (optional)

Can we notify anyone else?

Emails (separate multiple email addresses using commas)

Tell us about your issue

Description\*

We'll grab your logs and settings. Are there any other files you think we need?

**Name (Required):** Your name, or the name of the relevant contact person.

**Email (Required):** The best email address to which we should respond with updates about your issue.

**Phone Number:** The best phone number in case urgent action is required.

**Can we notify anyone else?:** Include email addresses for any additional people who might need to be included on the conversation. You can enter multiple email addresses, separated with commas ( , ).

**Description:** Please include as much detail about the problem as possible. Information such as what you were attempting to do, which screen you were on, and any error messages that you received will help us resolve the issue more quickly.

**We'll grab your logs and settings. Are there any other files you think we need?:** We'll automatically package your logs, application settings, and take a screenshot. Use this dialog to include any additional files that we might need (ie. A document you're trying to import).

Clicking the Send button will attempt to submit the ticket to our support site. If your system is unable to submit the ticket, you'll get an error message prompting you to save the files locally. Once you select a location and file name, we'll create a .zip file containing the information you submitted and any files that would have been attached to your ticket. You can contact AIC Rail Support via email at [support@aicrail.com](mailto:support@aicrail.com) and attach the .zip file or call us at 501-834-9540, and we'll give you more instructions on how to get use these files.

## Document Viewer

Under this section you can find all the documents sorted by category that were added on **Shop Manager™**.

Buttons on top (Top Menu, Back) are to navigate through the folders and 'Close' button on bottom is to exit Documents



## Downtime

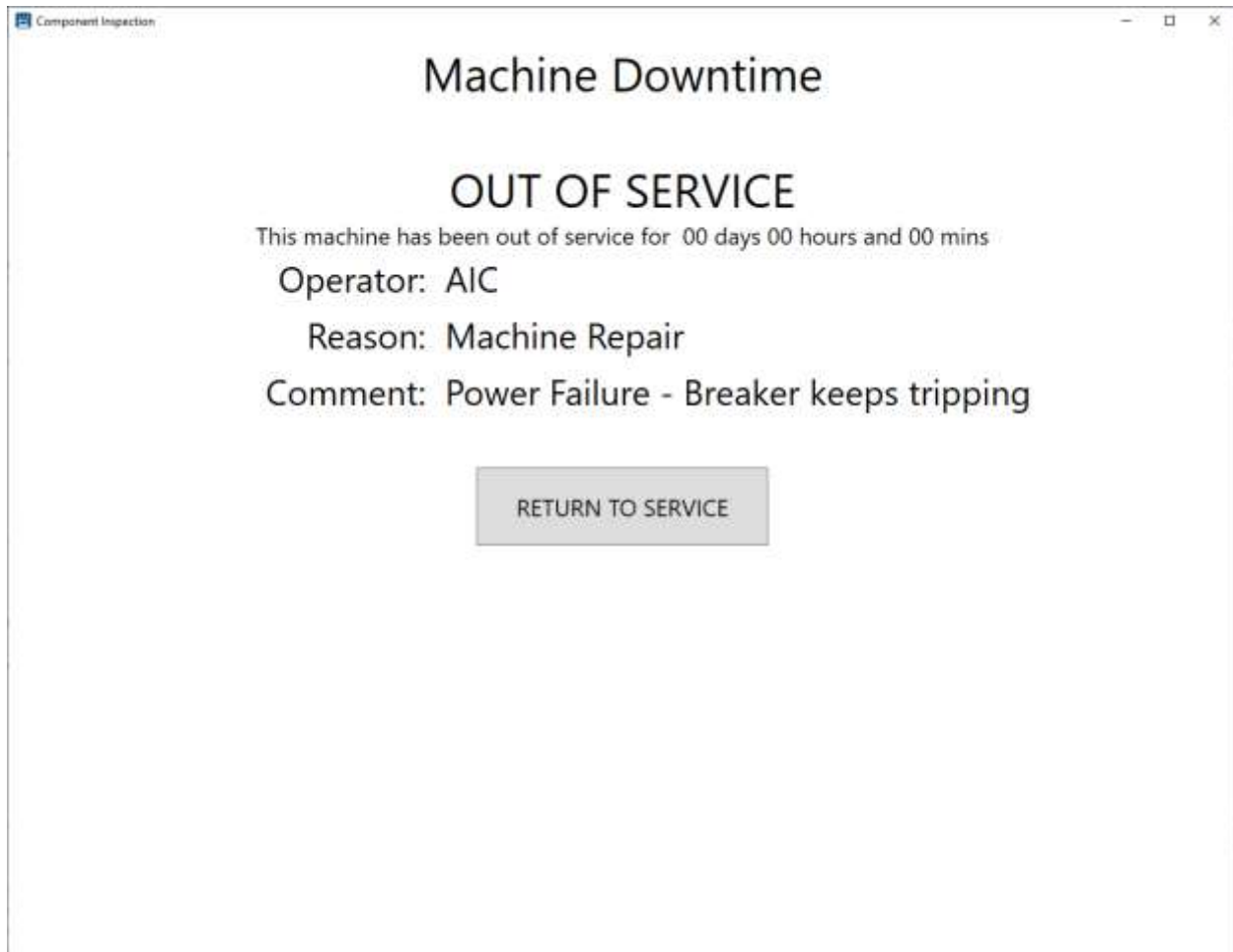
Use the Downtime feature to track equipment efficiency. If the station is not able to be used because of machine repair, operator staffing issues, material shortage, or some other reason you can enter these downtime events to track the frequency and duration of issues.

### Set out of service

The image shows a screenshot of a software window titled "Machine Downtime". The window has a title bar with "Component Inspection" on the left and standard window controls (minimize, maximize, close) on the right. The main content area has the title "Machine Downtime" centered at the top. Below the title, it says "This machine was last out of service on NEVER". There are two input fields: "Reason:" followed by a dropdown menu, and "Comment:" followed by a text box. At the bottom center, there is a button labeled "SET OUT OF SERVICE".

To start a downtime event, you must first select a reason from the list of Downtime Reasons (configurable in Shop Manager). The operator can optionally enter a comment to explain in further detail why the station is down. Then click 'SET OUT OF SERVICE' to start the downtime event. The date and time the downtime event was started will be recorded along with the operator that initiated it and the reason selected.

## Return to service



To end the downtime event and return the station to service simply click 'RETURN TO SERVICE'. The date and time the machine returned to service will be recorded and the total time the machine was down can be calculated for the event

## Machine Inspections

Machine Inspections are like our Component Inspections except they apply to the machines in your shop. Once you choose to inspect a machine you will see the data entry screen. From here you can enter any information used to document maintenance to the AAR and QA rules. You will also enter inspection data such as measurements, visual inspection indications, or confirmation of steps performed. The data that is collected is customized for each station and may vary based on the type of machine being inspected. Each station can also have multiple inspections (i.e., monthly and weekly maintenance). Product changeover check list and QA data requirements (calibration readings and inspection requirements).

There are multiple reports for the Machine Inspections to assist in verify that inspection was completed and when.

For more information about creating or modifying data collection screens please [contact us](#).

**Mandatory Inspection of Magnetic Particle Testing Equipment Rule 1.7.2**

1.- Date of preparation of bath solution, bath container cleaned, agitation, and circulation system flushed and filtering screens cleaned:

2.- Suspensoid amount:  Powder in bath solution:

3.- Concentration and contamination of bath solution

Amount of magnetic powder:  ml Amount of contamination-dirt, chip, or other foreign matter and magnetic powder:  ml

4.- Test for ultraviolet light

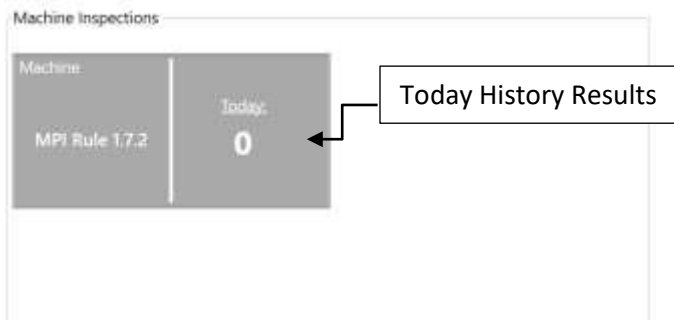
Light meeter having a 75-footcandle scale with 10x multiplying disc or equivalent:  mW/cm2 Direct reading meter:  mW/cm2

Gauge No:  Expiration Date:

Inspector:

## Inspection History

To review the inspections performed at the current station for the day you can click on the “Today” section and it will take you to the History tab. You can specify any filters for operator, shift or a different date, and then click ‘Get History’. The current date is selected by default.



## MPI Rule 1.7.2

### History

Date	From	To	Operator	Shift
Today	8/5/2021	8/5/2021	All Users	All

Result(s) From: 8/5/2021 12:00 AM To: 8/6/2021 12:00 AM

Components: 1

#	Shop Code	Machine #	Name	Application Type
1	WRXI	41	Demount Press	Component Demount

+ New Inspection    Edit Selected

### Demount Press - MPI Rule 1.7.2

Inspected by: AIC Shift: 1  
Inspection date: 8/5/2021 2:18 PM Status: Good

#### Inspection Elements

██████████	██████████
██████████	██████████
██████████	██████████
██████████	██████████

Get History will return a list of all inspections on the specified date that match the filters for operator and shift. You can use the predefined options to do a date or select a custom date range. You must click the “Refresh” button to see the results.

A summary of the inspection totals will appear at the top of the list, with the total number unique inspections.

You can select a result by clicking on a row from the results list. The details for that inspection will appear at the right side. It will show who performed the inspection, shift, date and status.



# Component Demount Operation

Component Demount opens into a search screen with options to Search, Create New Assembly, or Demount Selected.

The screenshot displays the 'Component Demount' application window. At the top, there is a search bar and a 'Details' button. The main area is divided into two panes. The left pane shows a table of search results for wheelsets, and the right pane shows detailed information for a selected 'Wheel set - Good' component.

#	WIP ID	Configuration	Material Customer	Inbound Date	Disposition
1	MNR0000010	M-7			Good
2	MNR0000012	M-7			Good
3	MNR0000018	M-7			Good
4	MNR0000016	M-7			Good
5	MNR0000013	M-7			Good
6	MNR0000019	M-7			Good
7	MNR0000020	M-7			Good
8	MNR0000014	M-7			Good
9	MNR0000021	M-7			Good
10	MNR0000026	M-7			Good
11	MNR0000045	M-7			Good
12	MNR0000082	M-7			Good
13	MNR0000075	M-7			Good
14	MNR0000076	M-7			Good
15	MNR0000073	M-7			Good
16	MNR0000071	M-7			Good
17	MNR0000061	M-7			Good
18	MNR0000064	M-7			Good
19	MNR0000061	M-7			Good
20	MNR0000070	M-7			Good
21	MNR0000065	M-7			Good
22	MNR0000062	M-7			Good
23	MNR0000065	M-7			Good

Wheel set - Good	
Configuration	M-7
Last Modified	10/5/2017 11:04 AM
Tractor #	
Clear Ratio	Hoisting 2H
Back-to-Back 1	Shin Size
Back-to-Back 2	Back-to-Back 2
Mount Shop	DM Operator
Mount Year	Mount Month

Axle - Good	
Wheel ID	MNR0000115
Lot/lot	Serial/lot #
Facility Code	A115
COA	Manufacture Timestamp
Condition	2015-01-15T00:00:00
Grade	AMT Type
Length	2
Plating	Fixed
Premium	Extended Code
Int Extended Code	Defect Free
Strip Type	

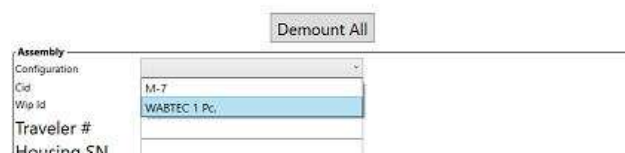
  

Wheel A - Good		Wheel B - Good	
Wip ID	MNR000113	Wip ID	MNR0000114
Mount Time	10/17/2017 1:47 PM	Mount Time	10/17/2017 1:47 PM
Operator	JP	Operator	JP

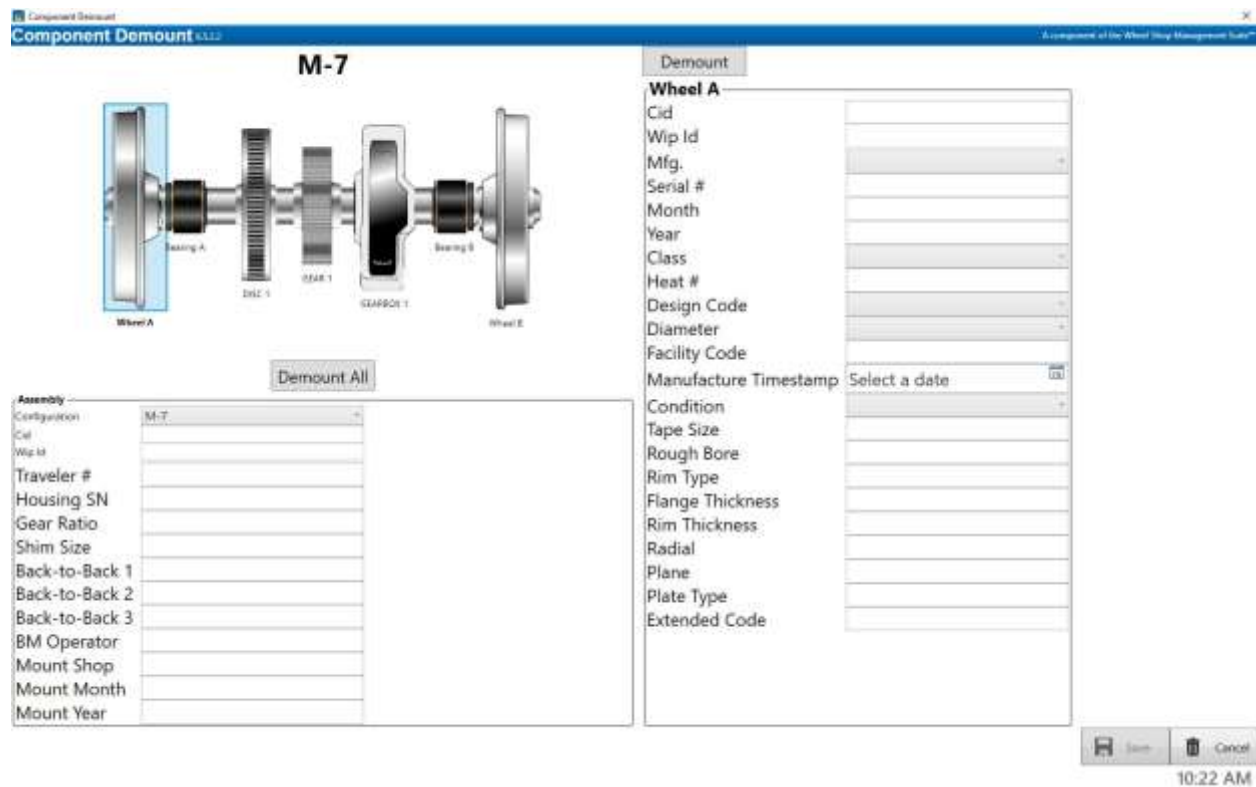
At the bottom of the interface, there are buttons for '+ New Assembly', 'Home', and a 'Demount Selected' button with a minus sign icon.

10:18 AM

# New Assembly



If you are creating a new assembly at the Component Demount station, you must select the Configuration to begin.



Once a configuration has been selected, an image of the wheelset will appear with all the available components that can be demounted. To record information for a component, select the component from the image. This will display all the available data fields for that component type. After all component information has been recorded, select **Demount** to record the demount information along

with the disposition and comments. If all components will be demounted from the wheelset, you can select **Demount All**.

A green check will be visible if a component has chart data and has not been demounted. You can view the chart on the right-hand side of the screen before selecting the Demount button.

**Component Demount** v.1.1.2 Assignment of the Wheel Hoop Management Sub™

### M-7

Wheel B    Bearing A    DISC 1    GEAR 1    GAFFER 1    Bearing B    Wheel B

**Demount**

**Mount Information**

Distance vs Force graph showing a curve peaking at 122.2.

Mount Time: 9/7/2017 1:52:30 PM  
 Operator: AIC  
 Max Force: 150  
 Min Force: 80  
 Mounting Force: 122.2  
 Status:   
 Comment:

**Wheel B**

Cid:   
 Wip Id:   
 Mfg:   
 Serial #: W114  
 Month:

**Demount All**

Assembly	
Configuration	M-7
Cell	
Wip Id	A000001114
Traveler #	
Housing SN	
Gear Ratio	
Shim Size	
Back-to-Back 1	
Back-to-Back 2	
Back-to-Back 3	
BM Operator	
Mount Shop	
Mount Month	
Mount Year	

Save    Cancel

10:19 AM

Once a component has been demounted, a Red "X" will be visible. If you accidentally recorded demount information, you can select the **Undo** button to revert back.

**Component Demount** M-7

**Demount Information**

Demounted on	11/16/2017 11:37 AM
Operator	AIC
Disposition	DEMOUNT
Comment	

**Wheel A**

Cid	
Wip Id	
Mfg.	
Serial #	
Month	
Year	
Class	
Heat #	
Design Code	
Diameter	
Facility Code	
Manufacture Timestamp	Select a date
Condition	
Tape Size	
Rough Bore	
Rim Type	
Flange Thickness	
Rim Thickness	
Radial	
Plane	

**Assembly**

Configuration	M-7
Cid	
Wip Id	
Traveler #	
Housing SN	
Gear Ratio	
Shim Size	
Back-to-Back 1	
Back-to-Back 2	
Back-to-Back 3	
BM Operator	
Mount Shop	
Mount Month	
Mount Year	

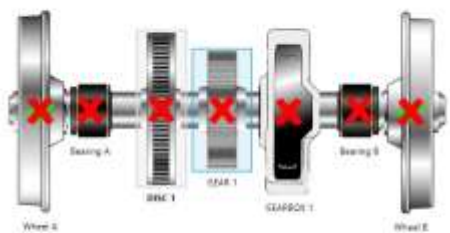
Demount All

Save Cancel 11:37 AM

Once all component and demount information has been entered, select **Save**.

Component Demount 4.1.1.2 A component of the Wheel Usage Management Suite™

### M-7



Demount All

Assembly	
Configuration	M-7
Cid	
Wip Id	MNR0000210
Traveler #	1015-06
Housing SN	A1589
Gear Ratio	
Shim Size	
Back-to-Back 1	
Back-to-Back 2	
Back-to-Back 3	
BM Operator	
Mount Shop	
Mount Month	
Mount Year	

Undo

**Demount Information**

Demounted on: 11/16/2017 11:40 AM

Operator: AIC

Disposition: STOCK

Comment:

**DISC 1**

Cid:

Wip Id: MNR0000210

Facility Code:

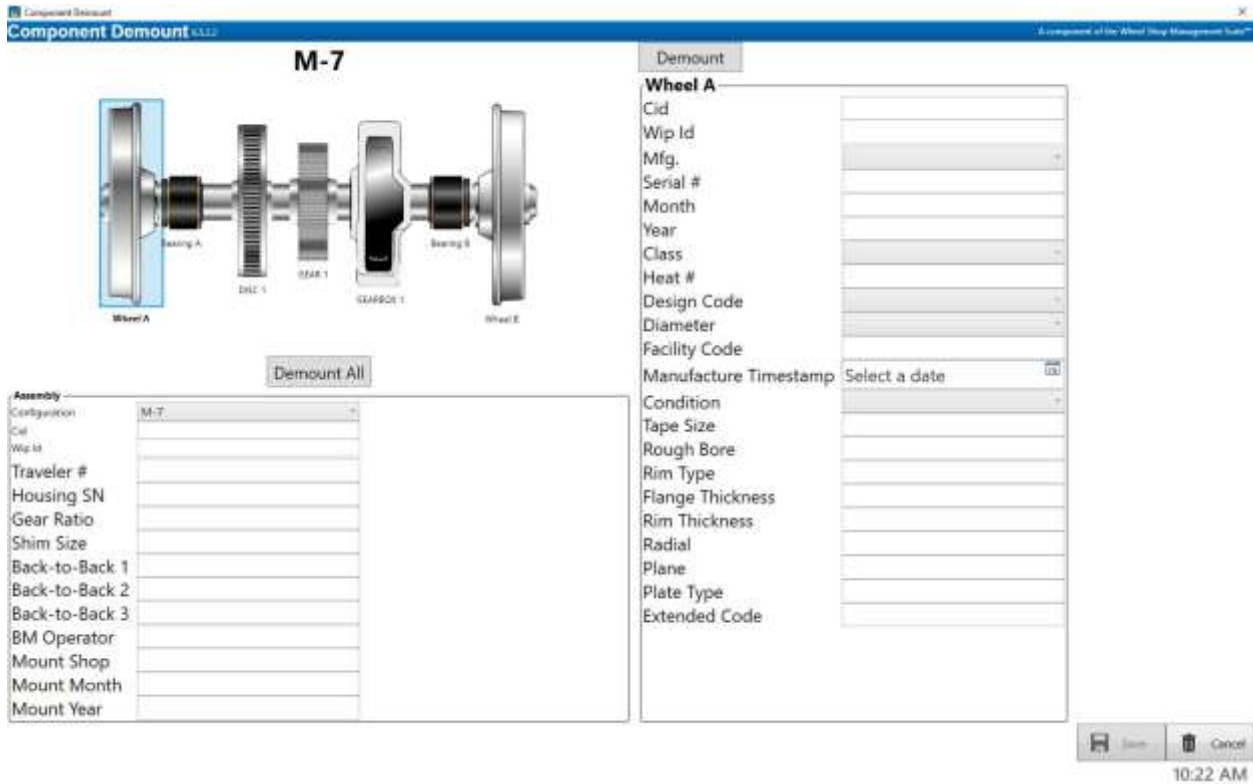
Manufacture Timestamp: 1/20/2015

Serial #: 70542

Condition:

11:42 AM

# Demount



This screen is intended to collect demount and component information at the Component Demount station.

The data collected at the Component Demount station is broken up into two types of data.

## Component Data

Typically includes manufacturing information like size/class, serial number, manufacturer, date, condition, etc.

If the manufacturer or re-conditioner of the component provides a S-920 compliant barcode that contains any of the above information, a barcode scanner can be used to read this data from the barcode and populate the data entry fields automatically, saving the operator time and eliminating data entry errors. For more information on this see the section on [Barcodes](#).

## Demount Data

In addition to the component information, you can record the demount information for each component.

## Search and History

The History tab will display a list of items completed at the current station for the specified day.

The screenshot shows the 'History' tab interface. At the top, there are two tabs: 'Search' and 'History'. Below the tabs, there are several controls: a 'Date' field with a calendar icon and a date of '10/29/2020', 'Operator' set to 'All Users', and 'Shift' set to 'All'. There are also 'Refresh' and 'Print' buttons. Below these controls, the results are summarized as 'Result(s) From: 10/28/2020 11:00 PM To: 10/29/2020 11:00 PM' and 'Axle(s): 106 Rework(s): 1'. A table below shows the inspection data:

#	WIP ID	Timestamp	Inspected By	Inspected At	Inspection
1	RNSE228101	10/30/2020 12:49 AM	R307109	Freight Loss Axle MAG	Loss Axle MPI

You can filter the history view further by using the parameters at the top of the screen. The Date field will let you select a specific date for which to search, and the arrow buttons on either side of the field will allow you to scroll forward or backward by one day at a time. The Operator button will toggle your results between showing history items for all users or only for you, based on your current login credentials. The Shift dropdown will filter the results to the specific shift selected or allow you to see work done for all shifts on the selected date. The refresh button will rerun the current history search; this is most useful when looking at data for the current day, as older data is unlikely to be changing in real time. Finally, the Print button will allow you to print a report based on the selected history item; to print, a report must be set up in the application settings (see individual application guides for instructions on setting up a report to print).

The Search tab allows you to search for assemblies by Cid, WIP ID, or component serial number.

The screenshot shows the 'Search' tab interface. A dropdown menu is open, showing three options: 'CID', 'WIP ID', and 'Axle Serial/Heat'. The 'Axle Serial/Heat' option is currently selected and highlighted. Below the dropdown, there are input fields for 'WIP ID' and 'Axle Serial/Heat', and a 'Search' button.

Once you have selected a search method, type all or part of the relevant field into the search box and click "Search". For example, if you are using our Inbound application, items will receive WIP IDs prefixed with the load number followed by a dash and an indexer. On the search screen, typing in that load

number for a WIP ID search would return all the items from that load; typing in the load number with the dash and indexer would only return that one component.

Search		History				
WIP ID	1234	Search				
<b>WHEELSET (s): 276</b>						
#	CID	Last Inspected	Last Inspection	Last Inspected At	Last Inspected By	Disposition
1	0101099731					<b>Good</b>
2	0101095292	4/23/2021 2:00 PM	Bearing Tracking MPI/UT	Freight Bearing Press	b173290	Good
3	0101073234	3/16/2021 11:57 PM	Bearing Tracking MPI/UT	Freight Bearing Press	b112893	Good
4	0101047881					Good
5	0101073099	3/11/2021 10:27 AM	Turned Tread Tracking	Wheel Lathe 1	b003275	Scrap
6	0101047636					Good
7	0101068892	2/22/2021 10:17 PM	Bearing Tracking MPI/UT	Freight Bearing Press	B307804	Good
8	0101033365	12/28/2020 8:21 AM	Bearing Tracking MPI/UT	Freight Bearing Press	b175506	Good

Once your search is complete, the results will be displayed in the area below the search bar. The fields displayed in the results list can be configured in the settings menu (instructions for selecting search result fields can be found in the user guides for individual applications).

After selecting one of the search results, the details for your item will appear in the right-hand pane.

Details
Charts
Inspection History

**WHEELSET - Good** CID: 0101099731

Configuration: 6X 11 - 33	Last Modified: 8/5/2021 10:40 AM
Location:	Time In:
Registration Status: <span style="color: green;">Success</span>	

Notes

Note	Added By	Added On
Back-to-Back	BM Operator	
Back to Back 1	Back to Back 2	
Back to Back 3	Mount Shop	
Mount Month	Mount Year	
Purchased Core Wheel Set		

**Axle - Good** Wip Id: 01234

Serial/Heat: 007427	Plating:
---------------------	----------

The Details tab will include any data fields recorded for the component or assembly. In the case of an assembly, similar data will be shown below the assembly information for each of its subcomponents. If an attempt to register has been made, clicking on the Registration Status will bring up a prompt with details of the attempt and any errors that were returned.



Details		Inspection History	
Inbound Line	3/11/2021 7:22 AM	Freight Swing Station	B004600
Turned Tread Tracking	3/11/2021 10:27 AM	Wheel Lathe 1	b003275
WHEEL 1			
Ungrouped			
I107_DisplayName (I107)		225	
I108_DisplayName (I108)		23	
I109_DisplayName (I109)		0	
WHEEL 2			
Axle Lathe	3/11/2021 1:18 PM	Freight Axle Lathe 3	B118253
Loose Axle MPI	3/11/2021 3:40 PM	Loco Mag Booth	B308272

The Inspection History tab will list any inspections performed on the component, assembly, and/or the assembly's subcomponents. Expanding the inspection name will display the inspection elements that are recorded and their corresponding values.



If you are reviewing an assembly with mount data, a Charts tab will be displayed. Here you can review the mounting charts and information for any subcomponents that were mounted using the WSMS.

## Appendix A: License

### WHEEL SHOP MANGEMENT SUITE END USER LICENCSE AGREEMENT

IMPORTANT NOTICE: Read before Installing or Using Software

The following software products offered to you directly by Arkansas Industrial Computing (“AIC”) of 6100 Getty Drive, Suite N, North Little Rock, AR 72117 (voice 501-834-9540) is offered only for use in accordance with the terms and conditions of the WSMS End User License Agreement below.

BY INSTALLING OR USING ANY LICENSED SOFTWARE YOU WILL INDICATE THAT YOU HAVE READ, UNDERSTOOD, AND ACCEPT THESE TERMS AND CONDITIONS AND BECOME A PARTY TO THIS AGREEMENT. IF YOU ARE UNABLE OR UNWILLING TO ENTER AND COMPLY WITH THIS AGREEMENT, DO NOT ATTEMPT TO INSTALL OR USE ANY LICENSED SOFTWARE. INSTEAD, PROMPTLY RETURN ANY MATERIALS THAT WERE PROVIDED TO YOU. CONTACT AIC IF YOU WISH TO DISCUSS THE AGREEMENT BELOW, BEFORE YOU ATTEMPT TO INSTALL OR USE ANY PRODUCT.

### WSMS END USER LICENSE AGREEMENT

**LICENSE:** Subject to the terms and conditions of this Agreement, AIC hereby grants to you a non-exclusive, non-transferable license to use the Licensed Software on one computer. This includes reproducing the Licensed Software, but only as reasonably required to ensure appropriate back-up practices are followed. All copies must bear all copyright and other proprietary rights notices which appear on the Licensed Software as originally provided by AIC. Subject to the license expressly granted above, you obtain no right, title, interest or other license in or to any Product, including but not limited to any copyright, patent, trade secret, trademark, or other proprietary rights therein. All whole and partial copies of the Licensed Software remain the property of AIC and will be considered part of the Licensed Software for this Agreement.

Unless expressly permitted by this Agreement, or otherwise by applicable law or by AIC in writing, you shall not: (i) use, reproduce, modify, adapt, translate, update or transmit any Licensed Software, in whole or in part; (ii) rent, lease, license, transfer, or otherwise provide access to any Licensed Software; (iii) alter, remove, or cover trademarks or proprietary notices in or on any Licensed Software; (iv) export any Licensed Software from the country in which it was provided to you by AIC; (v) decompile, disassemble, decrypt, extract or otherwise attempt or assist others to reverse engineer any Licensed Software, except as necessary, when permitted by an applicable law, to correct defects or achieve interoperability with complimentary programs, for your purposes only, but only if AIC has refused to provide the necessary

information or assistance. Unless AIC has provided you with express written consent, the Licensed Software may not be used in any application in which the failure of the Licensed Software could lead directly to death, personal injury, or severe physical or property damage (collectively, "High-Risk Activities"). AIC EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY OR CONDITION OF FITNESS FOR HIGH-RISK ACTIVITIES.

**WARRANTY:** AIC cannot warrant that any Licensed Software will function in accordance with related documentation in every combination of hardware platform, software environment, and Licensed Software configuration.

**LIMITATIONS:** EXCEPT AS EXPRESSLY WARRANTED ABOVE, THE LICENSED SOFTWARE AND ANY ASSOCIATED AIC MEDIA ARE PROVIDED "AS IS" WITHOUT OTHER WARRANTIES OR CONDITIONS OF ANY KIND, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. YOU ASSUME THE ENTIRE RISK AS TO THE RESULTS AND PERFORMANCE OF THE LICENSED SOFTWARE. NOTHING STATED IN THIS AGREEMENT WILL IMPLY THAT THE OPERATION OF ANY LICENSED SOFTWARE WILL BE UNINTERRUPTED OR ERROR FREE OR THAT ERRORS WILL BE CORRECTED. OTHER WRITTEN OR ORAL STATEMENTS BY AIC, ITS REPRESENTATIVES OR OTHERS DO NOT CONSTITUTE WARRANTIES OF AIC.

IN NO EVENT WILL AIC (OR IT'S OFFICERS, EMPLOYEES, AGENTS, SUPPLIERS, DISTRIBUTORS, OR LICENSORS - COLLECTIVELY "ITS REPRESENTATIVES") BE LIABLE TO YOU FOR ANY INDIRECT, INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST REVENUE, LOST OR DAMAGED DATA OR OTHER COMMERCIAL OR ECONOMIC LOSS, ARISING OUT OF OR RELATING TO ANY BREACH OF THIS AGREEMENT, ANY USE OR INABILITY TO USE THE LICENSED SOFTWARE, OR ANY CLAIM MADE BY A THIRD PARTY, EVEN IF AIC OR IT'S REPRESENTATIVES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE OR CLAIM.

IN NO EVENT WILL THE AGGREGATE LIABILITY OF AIC AND IT'S REPRESENTATIVES FOR ANY DAMAGES OR CLAIMS ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY LICENSED SOFTWARE, WHETHER IN CONTRACT, TORT, OR OTHERWISE, EXCEED THE LICENSE FEES YOU PAID FOR THE USE OF THE LICENSED SOFTWARE UNDER THIS AGREEMENT. AIC'S AND IT'S REPRESENTATIVE'S LIMITATION OF LIABILITY IS CUMULATIVE WITH ALL AIC'S AND IT'S REPRESENTATIVE'S PAYMENTS IN SATISFACTION OF THEIR LIABILITIES BEING AGGREGATED TO DETERMINE SATISFACTION OF THE LIMIT.

These limitations shall apply whether the alleged breach is a fundamental breach of contract. Some jurisdictions curtail limitations of liability for incidental or consequential damages, and/or limitations of implied warranties. Therefore, to the extent prohibited by applicable law, the above limitations may not apply to you.

**TERM:** This Agreement commences upon your acceptance (as described above) and will end when terminated. You may terminate this Agreement at any time. It will be deemed to terminate immediately if you fail to comply with any material term herein. Upon termination, your license rights end and you shall immediately destroy all whole or partial copies of all Licensed Software in your possession or control.

**GENERAL:** This Agreement is governed by and will be construed in accordance with the laws in force in the State of Arkansas, United States of America without regard to the conflict of law's provisions therein. The parties expressly disclaim the provisions of the United Nations Convention on Contracts for the International Sale of Goods. This Agreement constitutes the entire agreement between you and AIC pertaining to the Licensed Software and any associated AIC media, and supersedes all prior or contemporaneous agreements, understandings, negotiations, and discussions, whether oral or written. No amendment or waiver of any term of this Agreement will be binding unless executed in writing by the parties. Subject to the export restrictions provided above, you are entitled to assign this Agreement to a third party who has provided AIC with prior written acknowledgement of their acceptance of the terms and conditions herein. In such a case, you will transfer all copies of the Licensed Software and any associated media to the assignee. The provisions of this Agreement will ensure to the benefit of and will be binding upon the parties and their respective successors and permitted assigns. If any provision of this Agreement is held by a court of competent jurisdiction to be illegal, invalid, or unenforceable, the remaining provisions shall remain in full force and effect.

## Appendix B: Contact Information

AIC Rail  
6100 Getty Drive  
Suite N  
Sherwood, AR 72117

### **Online Support**

Visit our website at [www.aicRail.com/WSMS](http://www.aicRail.com/WSMS) for 24/7 technical information and available downloads  
Email us at [support@aicRail.com](mailto:support@aicRail.com)

### **Phone Support (Existing support contract or credit card required)**

Call 1-501-834-9540 or 1-877-834-9540 (toll free)