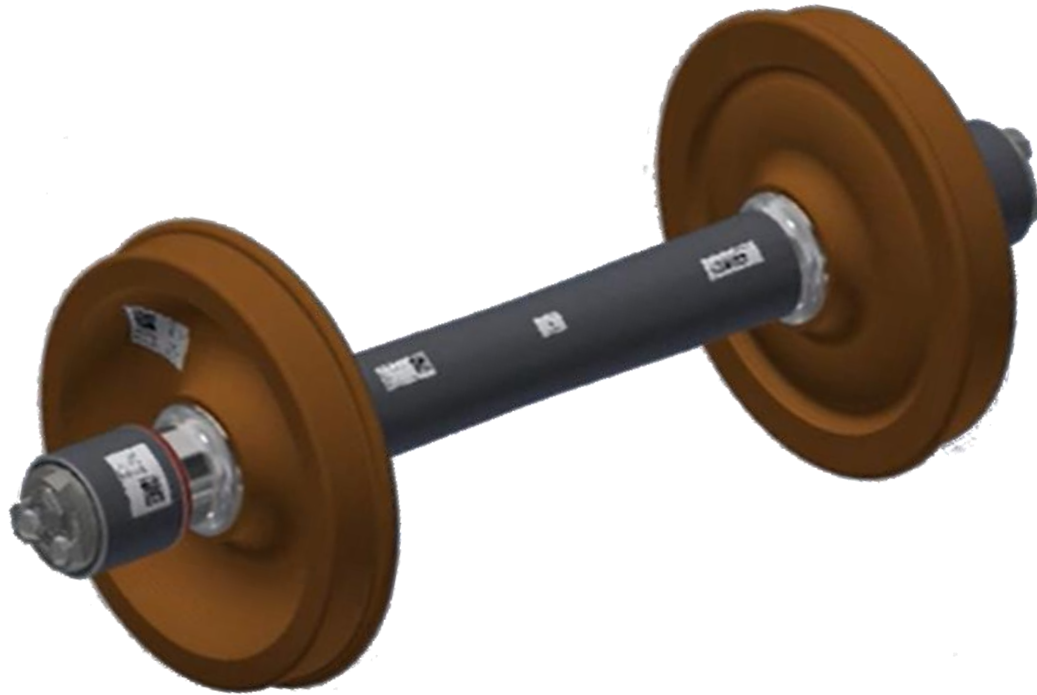




**AIC Rail**  
[www.aicRail.com](http://www.aicRail.com)





# About AIC Rail

- Automation Systems Integrator
- Established in 1993 – 27 years
- Two core businesses
  - Wheelset and railcar manufacturing and repair (80%)
  - Manufacturing automation for non-railcar related industries (20%)



# AIC and Rail

- First wheel shop project in 1993
- First Wheel Press Recorder installed in 1996
- Approximately 80 customers in eight countries
  - US
  - Mexico
  - Canada
  - Australia
  - China
  - India
  - Indonesia
  - Brazil



# North American Customers





# Railroad Customers

- BNSF
- Canadian Pacific
- Norfolk Southern – Locomotive
- Canadian National Railroad
- Alaskan Railroad
- Indirect Class I's
  - Union Pacific
  - Norfolk Southern (Cars)
  - Kansas City Southern
  - CSX



# Freight Shop Customers

All major Wheel Shops in North America use AIC Products

- Greenbrier Rail Services (8 shops)
- Progress Rail Services (10 shops)
- Ronsco
- Wheel Worx
- NRE
- American Industries
- ORX
- DLG / SFNA (Mexico)
- Alliance Wheel Services



# Railcar Manufacturers

- American Railcar Industries
- Trinity Industries
- Greenbrier
- Progress Rail Locomotive (EMD)
- GE Locomotive
- National Steel Car
- Freightcar America
- Union Tank Car



# Passenger Rail Customers

- Most major passenger rail organizations in North America use AIC Products
  - New York City Transit (MTA)
  - Port Authority Trans Hudson (NYC)
  - Metro-North Railroad (NYC)
  - New Jersey Transit
  - Chicago Transit
  - Los Angeles Metro
  - Bay Area Rapid Transit (San Francisco)
  - MBTA (Boston)





# Light Rail Customers

- MetroLink St. Louis
- Go Transit – Toronto
- Tri-Met – Portland
- Los Angeles County Metro
- Utah Transit – Salt Lake City
- Denver Regional Transit Authority
- UTC / RAS



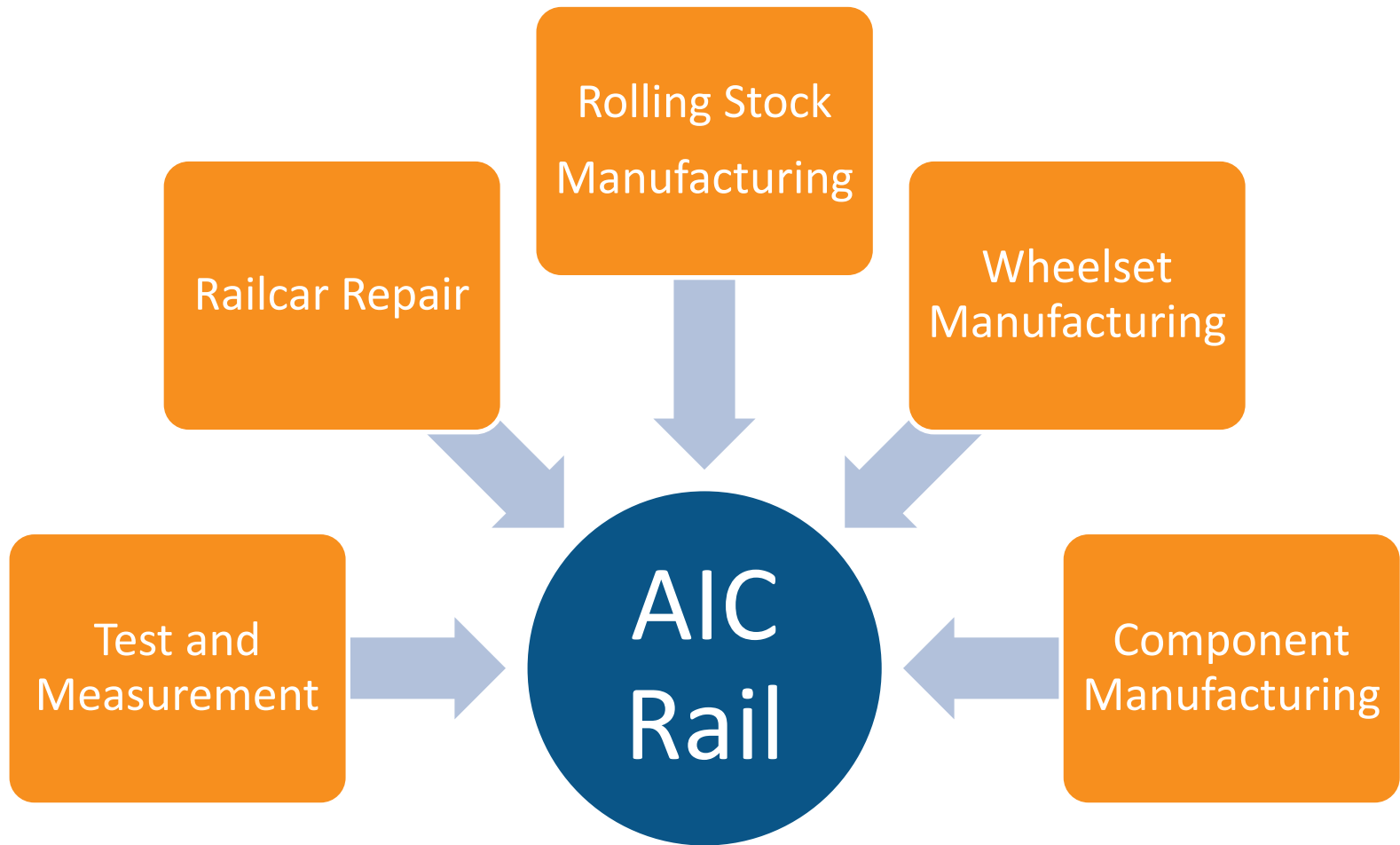
# MSRP Section F S-920

- Founding member of the CEPM Committee
- Applications are full S-920 Compliance
- Register approximately 2M wheelsets, side frames, bolsters and couplers per year
- Supply over 950,000 labels per year to industry for compliance
- Automatic registration and application via web services



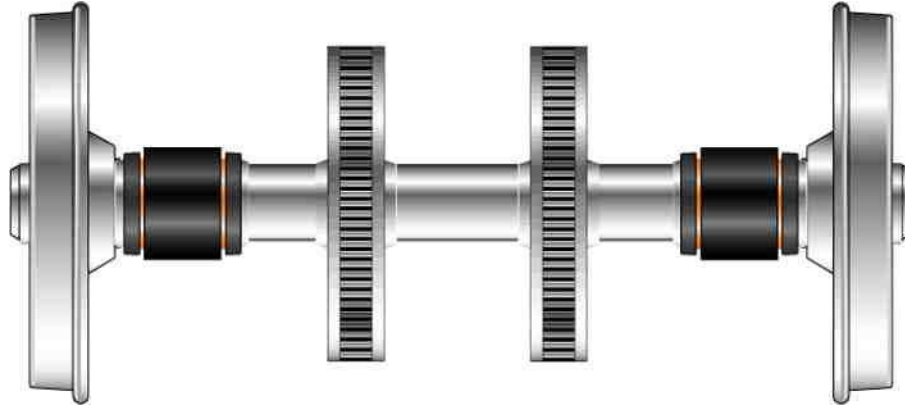


# Our Rail Business





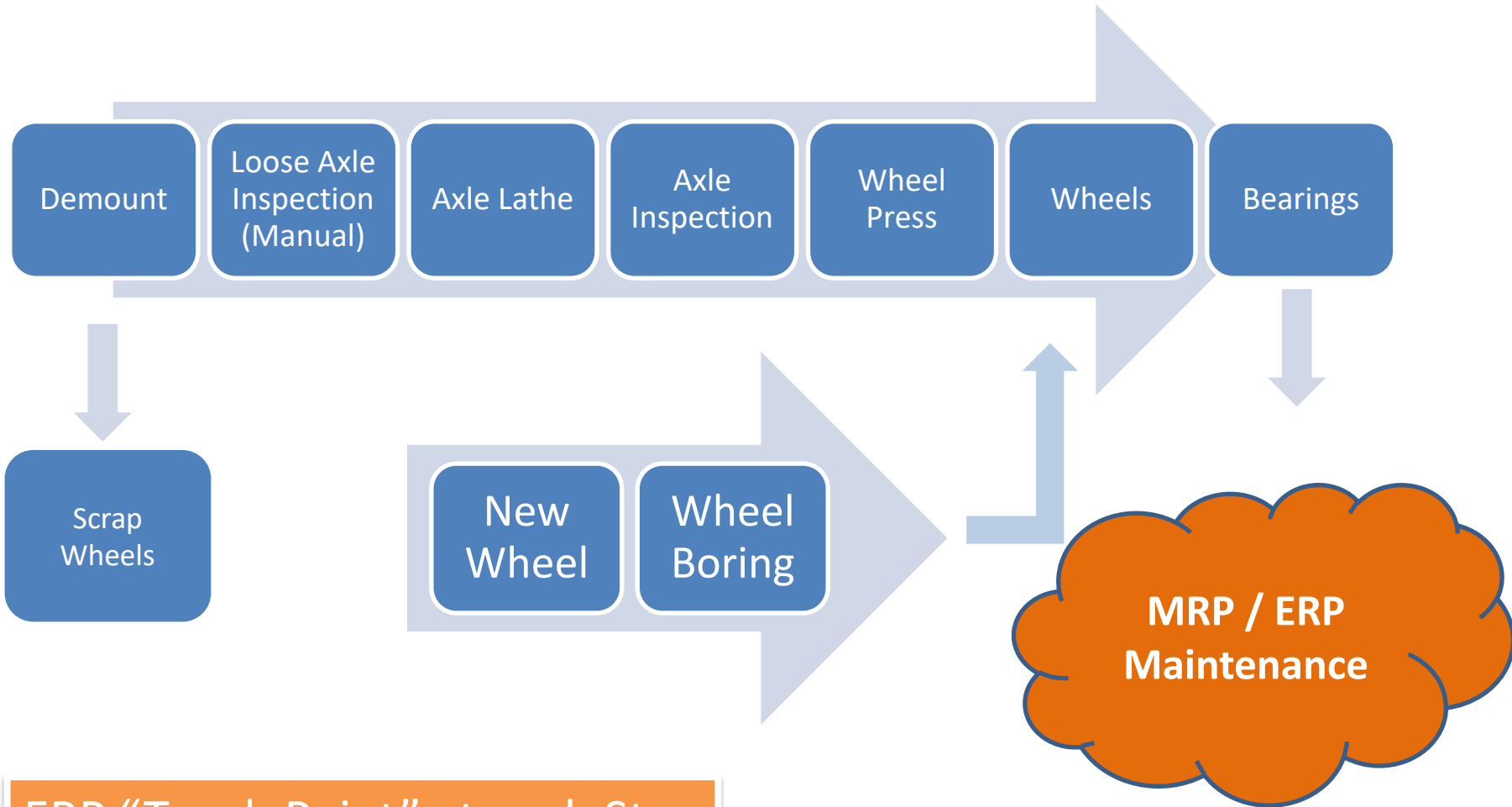
# Wheelset Manufacturing



# Wheel Shop Management Suite



# Wheelset Work Flow



ERP “Touch Point” at each Step



# System Features

- Standardize QA functions
- Enforce procedures
- Operator Accountability
- Greatly reduce paperwork in the Wheel Shop
- Increase productivity by decreasing paper work
- Fully compatible with the [AAR MSRP F section S-920](#) specification
- Automates wheelset registration for S-920 compliance

# The Technology - Hardware



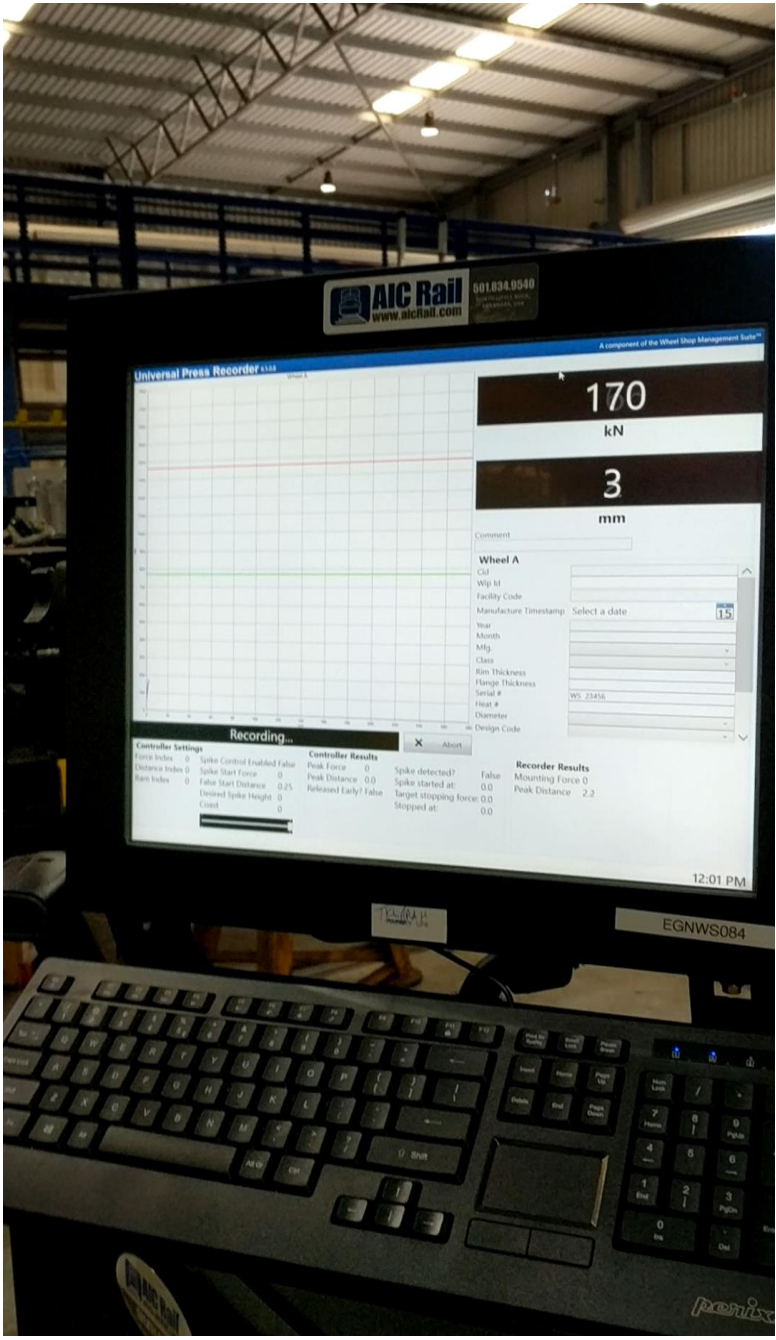


# The Technology - Software

- Microsoft SQL Server database
- Server based application configuration
  - Reduces administration costs
  - Flexible station assignment
- Wireless networking capability for all stations and handhelds
- Ingegration with ERP/MRP systems (SAP, Microsoft DAX, IBM MASSIMO)
- Real-time data across the enterprise
- Real-time registration with Railinc







# Data Collection Stations

## Wheel Shop Management Suite





# Label Compatibility



  **AIC Rail** 

---

**AAR CID: SIDEFAME**

---

AICI 000002417



  **AIC Rail** 

---

**AAR CID: WHEELSET**

---

AICI 000002417




Stabilimento  
**LOVERE**  
SIDERMECCANICA

---

41

238



 **Railroad Bearings, LLC**  
**BEARING** Size: 6.5 x 12  
GG  
Batch #: 12345678

Facility: TMKN  
Seal: **6.5 x 12 F+**  
Cert:  
Ring:  
Cage: Type: RWS  
Greas: Class: 7  
Date: Condition: 2

**AXLE**

SN / Heat: 123123 ABCDEF  
Facility: GRFI  
Converter: ABCD  
Plating: AXIS1234  
Conv Date: 6/1/11 18:55:12  
Mfg Date: 2/1/11 18:55:12



**Railroad Axle Corp** [www.WheelShopAutomation.com](http://www.WheelShopAutomation.com)

STI

000241

LWV  LW1195E768141

X0300806.02

C65174 / 232

CIA A0/5

18/05/2009

 **Railcar Integrated Maintenance Suite** 


WIP

TRUCK

RIMS

8099999981

CNPU067500




CNPU067500

CH36 C 0



# Complete Wheelset Data


**WHEEL 1**



Facility: SS  
Serial: 03684  
Heat: G5015  
Type: H36  
Class: C

Stamped Year: 15      Condition: N  
Stamped Month: 12      Flange: 0  
Mfg. Code: SW      Tape Size: 247  
Rim: 32      Bore: 8.5  
Mfg. Timestamp: 2015-12-08T10:18:08

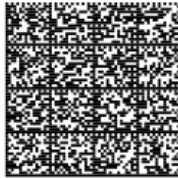
CNPU067500



0067500

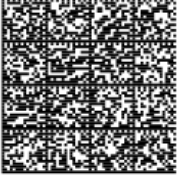
Work In Progress

**BEARING 1**



Size: **6.5x9**  
Facility: BVA  
Seal: 8AMS0002  
Cert: 028  
Ring: 8AMS0002  
Cage: 8AMS0004  
Grease: SOEX0003

**AXLE 6.5x9 K**



SN/Heat: 133324 B1501645  
Class: K  
Condition: 1  
Facility: CHT  
Mfg Date: 2015-04-01T00:00:00




**WHEELSET**

AARE 9540001724



AAR Component ID


**WHEEL 2**



Facility: SS  
Serial: 03665  
Heat: G5015  
Type: H36  
Class: C

Stamped Year: 15      Condition: N  
Stamped Month: 12      Flange: 0  
Mfg. Code: SW      Tape Size: 247  
Rim: 31      Bore: 8.5  
Mfg. Timestamp: 2015-12-08T10:19:08+00:00

**BEARING 2**



Size: **6.5x9**  
Facility: BVA  
Seal: 8AMS0002  
Cert: 028  
Ring: 8AMS0002  
Cage: 8AMS0004  
Grease: SOEX0003



# Work-In-Progress (WIP) Label



CNPU067500

CNPU067500

A white rectangular box containing a 4x4 grid of QR codes. The top row has two small QR codes followed by two larger ones. The second row has one large QR code, one medium, and two small. The third row has two small QR codes. The bottom row is empty. The text 'CNPU067500' is printed in black at the top and bottom of the grid.





# Axle Inspection – Loose or Mounted

**Component Inspection** 6.5.1.0 A component of the Wheel Shop Management Suite™

### Axle

WIP ID:

Disposition: **Good**

Component ID:

Body Design:  Condition:

Facility Code:  Manufacture Timestamp:  Grade:

Serial/Heat #:

Defect Free:  Yes  No Premium:  Yes  No Fitted:  Yes  No

Customer Owned:

**Scrap Other**

### Body

Body Diameter	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	Body Bent	<input type="button" value="Pass"/>	<input type="button" value="Scrap"/>
U Dimension	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	Body Welding	<input type="button" value="Pass"/>	<input type="button" value="Scrap"/>
Mfg Code Legible	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	Body Overheat	<input type="button" value="Pass"/>	<input type="button" value="Scrap"/>
Body NGS	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>			

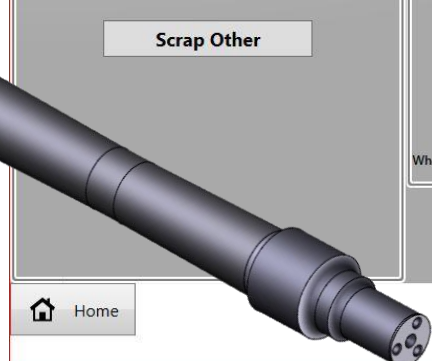
### Ends

	Serial			Non-Serial		
Bearing Journal Length	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Bearing Journal Diameter	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Fillet	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Wear Ring Groove	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Dustguard	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Centers	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Bolt Holes	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Journal Damaged/Gouged	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Journal/Fillet Corrosion	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Fillet Under Cut	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Spun Cone	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Upset End	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>
Wheel Seat Damaged/Gouged	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>	<input type="button" value="Pass"/>	<input type="button" value="Fail"/>	<input type="button" value="Scrap"/>

Pass All Required

Home

4:02 PM





# Axle Inspection – Loose or Mounted

**Component Inspection** 6.5.1.0 A component of the Wheel Shop Management Suite™

**Axle**

WIP ID:

Disposition: **Good**

Component ID:

Body Design:  Condition:

Facility Code:  Manufacture Timestamp:  Grade:

Serial/Heat #:

Defect Free:  Yes  No Premium:  Yes  No Fitted:  Yes  No

Customer Owned:

**Body**

Body Diameter:  **Pass Fail Scrap**

Body NGS:  **Pass Fail Scrap**

U Dimension:  **Pass Fail Scrap**

**Ends**

	Serial			Non-Serial		
Bearing Journal Length	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>
Fillet	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>
Dustguard <input type="text"/>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>
Journal/Fillet Corrosion	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>
Fillet Under Cut	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>
Wheel Seat Damaged/Gougged	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>
Wheel Seat Diameter <input type="text"/>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>	<b>Pass</b>	<b>Fail</b>	<b>Scrap</b>

Pass All Required

**Scrap Other**

4:03 PM







# Wheel Press Recorder

Wheel A - 11133

Mount Time  
4/21/2017 2:11:53 AM

Operator  
AIC

Wheel B - 11134

Peak Force: 99.3 Remount

Peak Force: 99.3 Remount

### Wheel A

Mfg.	Serial #	MM	YY
GK	11133	3	13
Condition	Diameter	Design Cod	Class
New	36	CH	C
Tape Size	Rim Thickness	Flange Thick	
244	24	0	
Facility Code	Manufacture Timestamp	Heat #	
GWC	3/1/2013	H1	
CID	WIP ID		

### Axle

Facility Co	Serial/Heat #	Manufacture Timesta
		1/1/2011
Condition	Size	Grade
S/H	6.5 X 12	F
Defect Free	Premium	
Yes No	Yes No	
Customer Owned		
Stock		
CID	Wip Id	
	17-003-7	

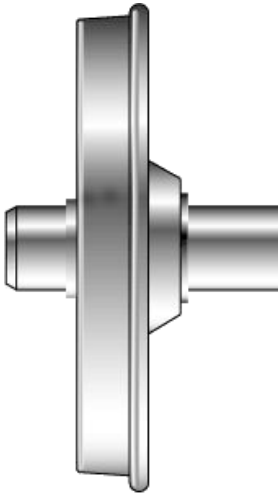
### Wheel B

Mfg.	Serial #	MM	YY
GK	11134	3	13
Condition	Diameter	Design Cod	Class
New	36	CH	C
Tape Size	Rim Thickness	Flange Thick	
244	24	0	
Facility Code	Manufacture Timestamp	Heat #	
GWC	3/1/2013	h1	
CID	WIP ID		

### Wheelset

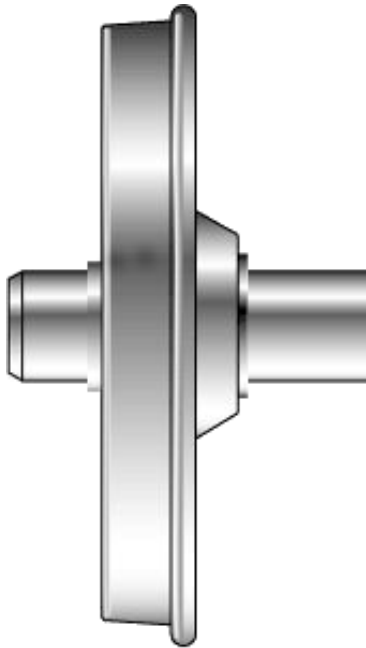
CID	Customer
AICX9000000002	Stock
Sequence #	Boring Mill Operator
0	

5:39 PM





# Freight Wheel Press



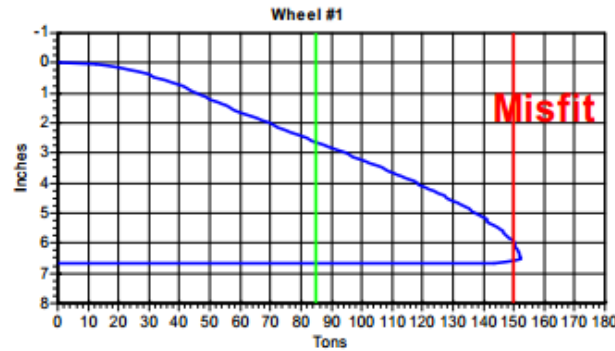
## Mount Report

Arkansas Industrial Computing

Mount Date: 1/30/2002  
Mount Time: 3:39:40 PM  
Seq No: 50

Operator: BOB  
Press #: 1  
Shift: 1

Customer: Reading Railroad  
Cust Seq No: 22  
Reviewed: WTE



Serial No: 783071201

Max Ton: 152

Status: Maximum Pressure Exceeded

Wheel Type: CJ33

Class: C

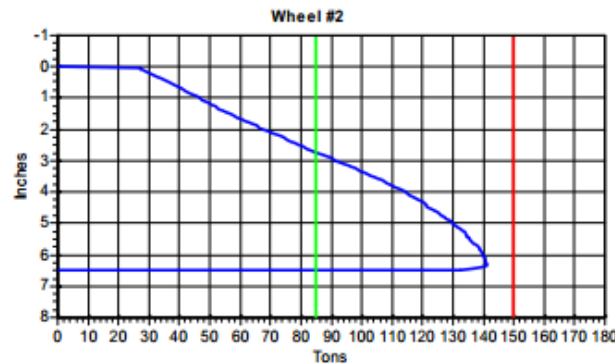
Mfg: GC

Tape Size: 160

Condition: New

Bore Size: 8

Heat No: 12345



Serial No: 828370102

Max Ton: 140

Status: Good Press

Wheel Type: CJ33

Class: C

Manuf: GC

Tape Size: 160

Condition: New

Bore Size: 8

Heat No: 12345

Axle SN: PX94453

Axle Size: 6 X 11

Journal 1 Size:

Axle Mfg: SSD

Mfg Date:

Journal 2 Size:

Axle Condition: Recond

Heat No:

Bearing 1 SN: 56555

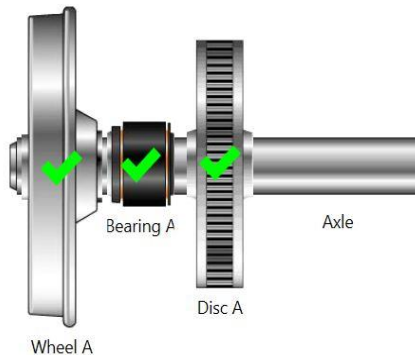
Bearing 2 SN: 66566



# Locomotive / Passenger Recorder

Universal Press Recorder 6.3.0.40

## WABTEC 1 Pc



Print

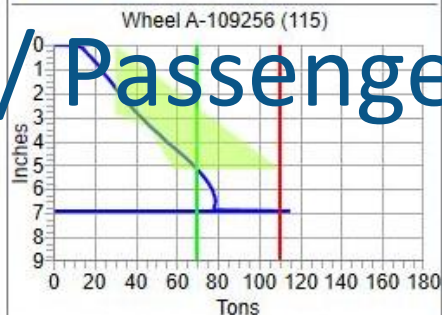
Assembly Configuration  
WABTEC 1 Pc  
Cid  
Wip Id  
Traveler #  
Housing SN  
Gear Ratio  
Back-to-Back  
Shim Size

Main Menu

Load Assembly

New Assembly

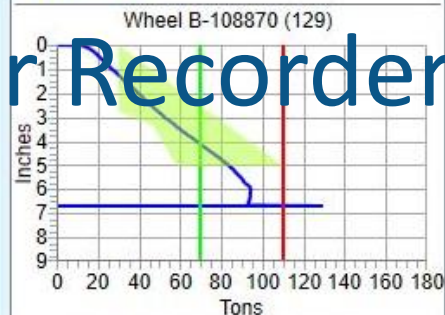
### Wheel A



Mount Time 11/13/2015 10:46 AM

Operator AIC

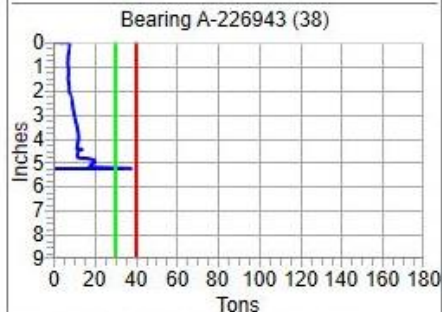
### Wheel B



Mount Time 11/13/2015 11:06 AM

Operator AIC

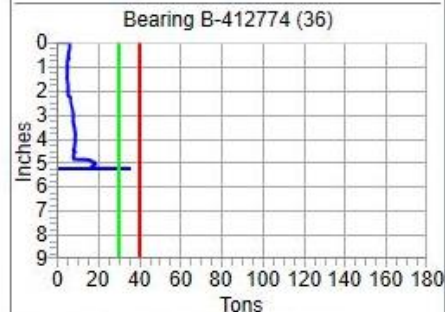
### Bearing A



Mount Time 11/13/2015 10:32 AM

Operator AIC

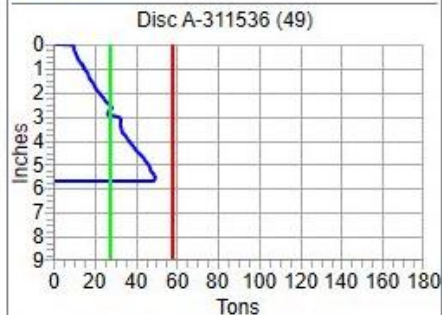
### Bearing B



Mount Time 11/13/2015 10:52 AM

Operator AIC

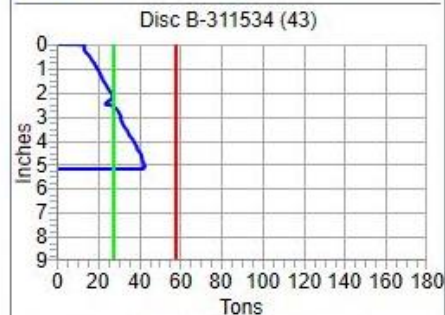
### Disc A



Mount Time 11/12/2015 10:58 AM

Operator AIC

### Disc B



Mount Time 11/12/2015 11:06 AM

Operator AIC

# Boring Mill Monitor

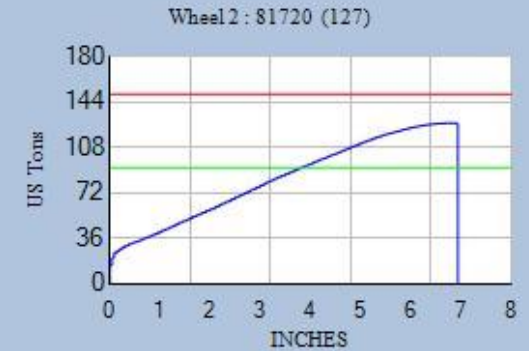
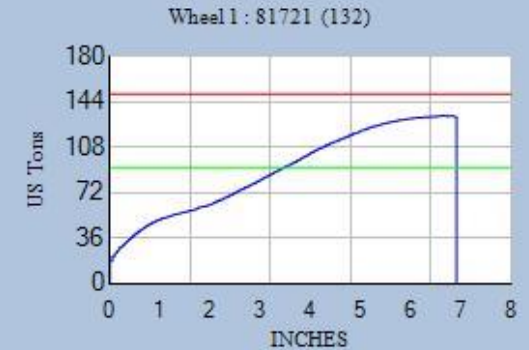
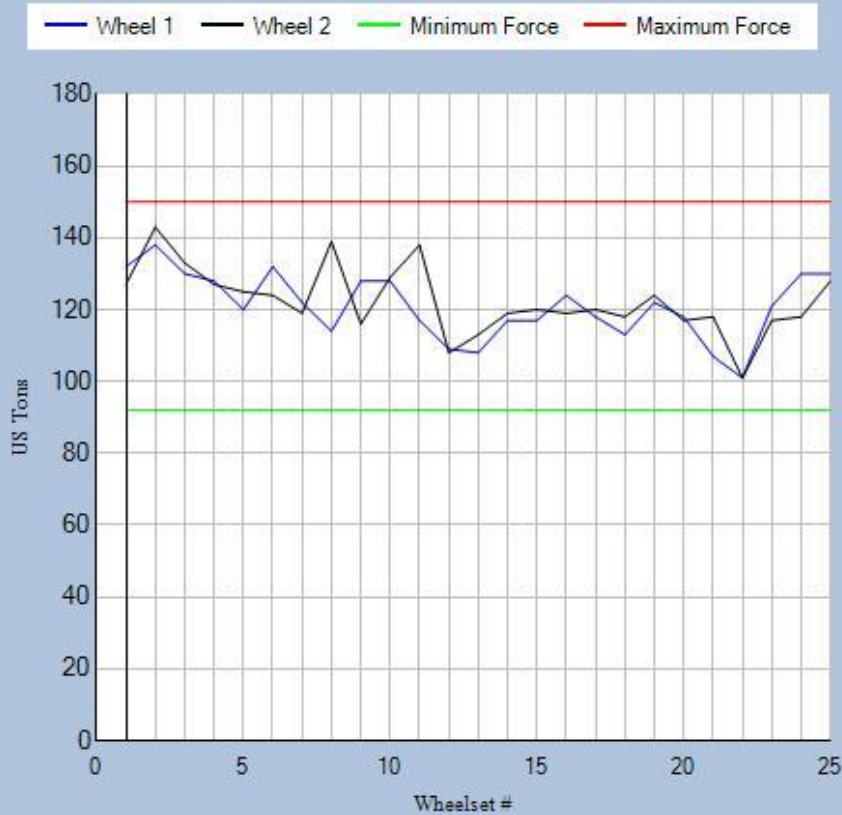
## Boring Mill View

A component of the Wheel Shop Mangement Suite

# PAUSE

# Wheelsets

Mount 9/23/2010 11:53:35 AM  
Sequence #: 22



<< < **PAUSED** > >>





# Re-profiled Wheel Tracking Station

cnpu\_turn2 ( 192.168.1.22, 192.168.10.22 ) - service mode

192.168.10.22

**Component Inspection** 6.5.2.5 A component of the Wheel Shop Management Suite

### Turned Tread Tracking

**Wheelset**

CID:  Configuration:  Disposition:

Mount Shop:  MM:  YY:

**Starting**

	Wheel A	Wheel B
Tape Size	<input type="text" value="233"/>	<input type="text" value="233"/>
Rim Thickness	<input type="text" value="25"/>	<input type="text" value="25"/>
Flange Thickness	<input type="text" value="2"/>	<input type="text" value="4"/>
Flange Height	<input type="text" value=""/>	<input type="text" value=""/>
Wheel Width	<input type="text" value=""/>	<input type="text" value=""/>
Minimum Cut	<input type="text" value=""/>	<input type="text" value=""/>

**Axle**

Facility Code:  Serial/Heat #:  Manufacture Timestamp:

Condition:  Grade:  Premium:  Fitted:

New WIP ID:  WIP IDs:  Axle Saver:

**Wheel A**

Mfg.:  Serial #:  MM:  YY:

Condition:  Diameter:  Design Code:  Class:

**Wheel B**

Mfg.:  Serial #:  MM:  YY:

Condition:  Diameter:  Design Code:  Class:

**Finished**

Reason for Cut:

Number of Cuts:

	Wheel A	Wheel B
Tape Size	<input type="text" value=""/>	<input type="text" value=""/>
Rim Thickness	<input type="text" value=""/>	<input type="text" value=""/>
Flange Thickness	<input type="text" value=""/>	<input type="text" value=""/>







# Bearing Tracking Station

**Bearing Tracking** 6.5.1.0 A component of the Wheel Shop Management Suite™

### Wheelset

CID: GBRX1600106302 Disposition: Good

Customer: ACF Configuration: 6.5 X 9

### Axle

Facility Code: MRF Serial/Heat #: A7782 166 Manufacture Timestamp: 8/1/2006 Condition: S/H Class: K Grade: F

Defect Free: Yes No Premium: Yes No Fitted: Yes No CID: Wip Id: MWSP027645

Customer Owned:

### Bearing A

Condition: Reconditioned Facility Code: RBTN Manufacture Timestamp: 11/23/2016

Diameter: 6.5 x Length: 9.0 Serial #: 00000452 MM: 02 YY: 06

CID: 8TIM1310425179

Cage Type: Polyamide Seal: BRENCO HDL B. Ring: Fitted Grease: GADUS

Cert. #: Brenco 28 Specification: AAR Premium:

Lateral: Bolt Torques: Peak Force:

### Wheel A

Mfg.	Serial #	MM	YY	Condition	Diameter	Design Code
SW	06788	11	16	New	36	H

Class	Tape Size	Rim Thickness	Flange Thickness	Heat #
C	239	28	0	G8325

Facility Code: SS CID: Manufacture Timestamp: 11/12/2016

### Wheel B

Mfg.	Serial #	MM	YY	Condition	Diameter	Design Code
SW	06747	11	16	New	36	H

Class	Tape Size	Rim Thickness	Flange Thickness	Heat #
C	239	30	0	G8325

Facility Code: SS CID: Manufacture Timestamp: 11/12/2016

### Bearing B

Condition: Reconditioned Facility Code: RBTN Manufacture Timestamp: 11/23/2016

Diameter: 6.5 x Length: 9.0 Serial #: 00041913 MM: 12 YY: 05

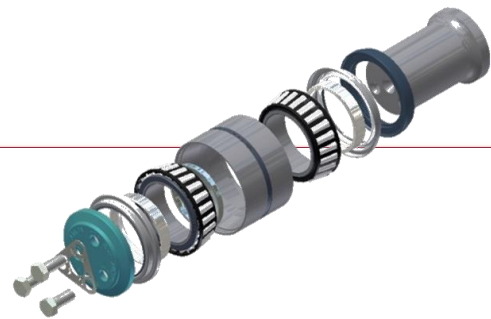
CID: 8TIM1310425182

Cage Type: Polyamide Seal: BRENCO HDL B. Ring: Fitted Grease: GADUS

Cert. #: Brenco 28 Specification: AAR Premium:

Lateral: Bolt Torques: Peak Force:

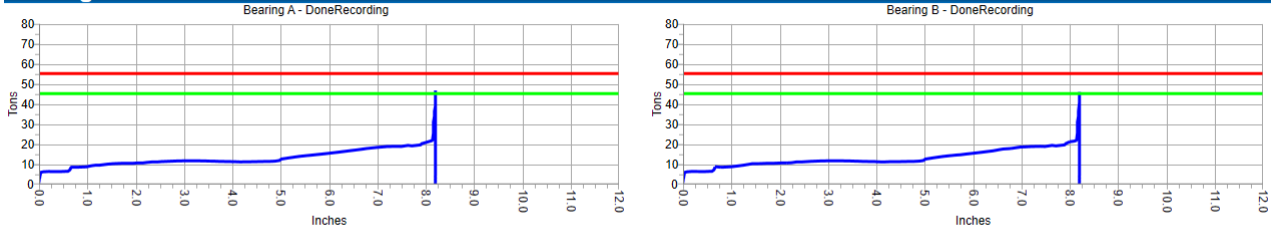
5:42 PM





# Bearing Press Recorder

Bearing Press Recorder 6.5.0.24 - A component of the Wheel Shop Management Suite™ 2:11 PM



Done recording

**0.0**  
Left Dist - Inches

Done recording

**0**  
Left Force - Tons

**0.0**  
Left Dist - Inches

**Bearing A**

Condition	Facility Code	Manufacture Timestamp
Reconditioned	PRBK	7/5/2017
Diameter	Length	Serial #
6.5	12.0	17417
Cage Type	Seal	B. Ring
Steel	BRENCO ST-21	Fitted
Cert. #	Specification	CID
05A	Premium	C4801861710605
Lateral	Bolt Torques	Peak Force

**Bearing B**

Condition	Facility Code	Manufacture Timestamp
Reconditioned	PRBK	7/5/2017
Diameter	Length	Serial #
6.5	12.0	33606
Cage Type	Seal	B. Ring
Steel	BRENCO ST-21	Fitted
Cert. #	Specification	CID
05A	Premium	C4801861710602
Lateral	Bolt Torques	Peak Force

**Wheel A**

Mfg.	Serial #	MM	YY
GI	20196	4	17
Condition	Diameter	Design Code	Class
New	36	CH	C
Tape Size	Rim Thickness	Flange Thickness	Profile
235	24	0	
Facility Code	Manufacture Timestamp	Heat #	
GWKC	4/18/2017	KSD0268	
CID	WIP ID		
8AMS6130808391			

**Wheelset**

CID	Disposition	Configuration
GBRX2600131339	Good	6.5 X 12
Customer		
STOCK		
Facility Code	Serial/Heat #	Manufacture Timestamp
JA	9600	2/1/2000
Condition	Grade	Defect Free
S/H	F	Yes No
Customer Owned	CID	Wip Id
Stock		GRSN10774

**Wheel B**

Mfg.	Serial #	MM	YY
GI	14317	3	17
Condition	Diameter	Design Code	Class
New	36	CH	C
Tape Size	Rim Thickness	Flange Thickness	Profile
235	24	0	
Facility Code	Manufacture Timestamp	Heat #	
GWKC	4/8/2017	KSC0467	
CID	WIP ID		
8AMS6130794808			

Home

Save

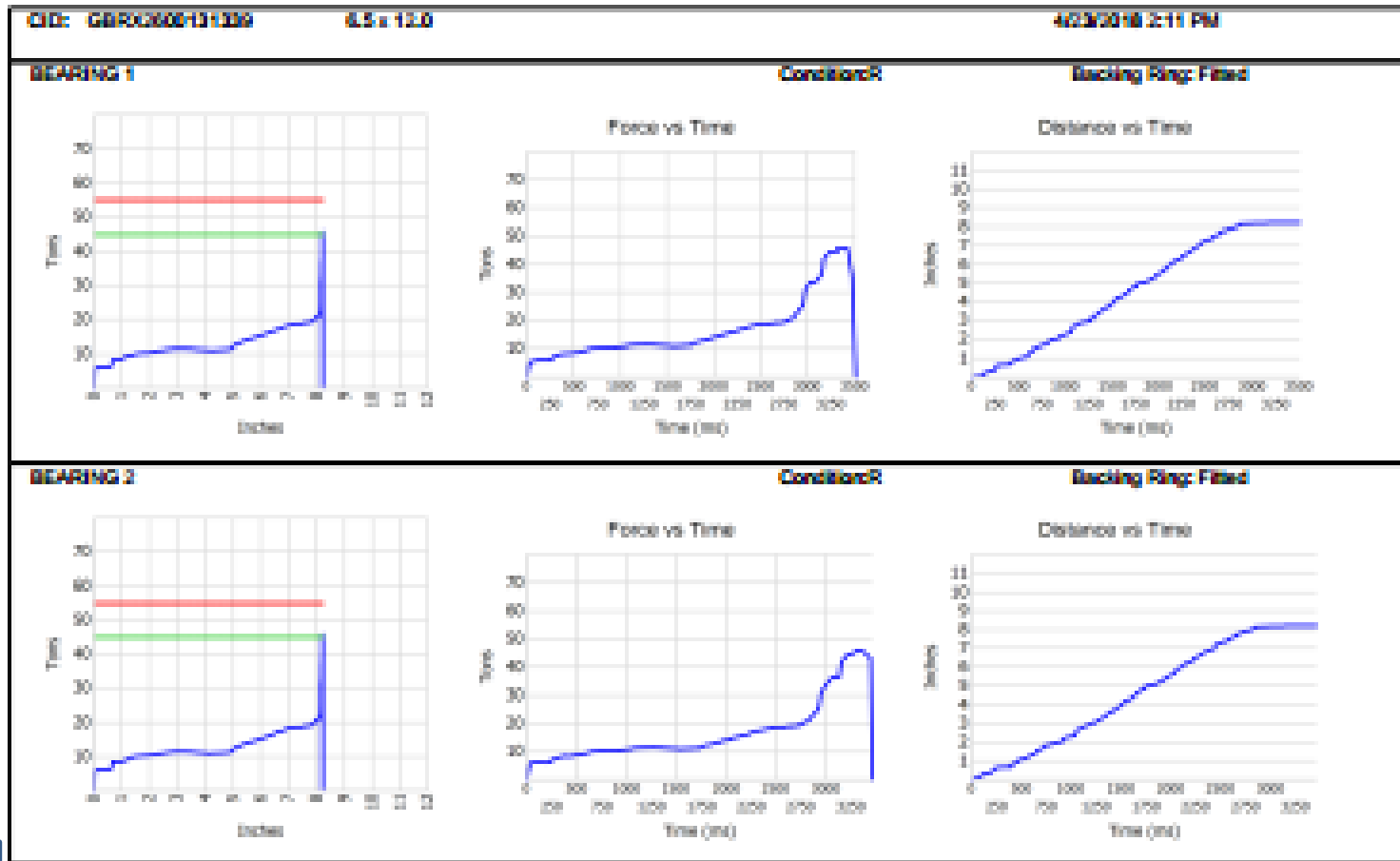
Cancel





# Bearing Press Recorder

## Bearing Mount Analysis







# Outbound Tracking

Enter Outbound Shipment Information

Load #

B.O.L.

P.O. #

Customer

Location

Method  Truck  Rail

Carrier

Trailer #

Weight

Comment

Cancel

Load #:1002 4 Wheelsets

#	Type	Axle Size	Wheel
1	Turned	6.0x11	CH36
2	Turned	6.0x11	CH36
3	Turned	6.0x11	CH36
4	New Mount	6.5x12	CH36

This wheelset has a misfit. It must be marked as a 'Good Press' before shipping.

Done Menu

## Outbound Tracking

Select an Outbound Shipment to continue. If it is not in the list use 'Menu -> Find' to search for it.

Load #	Customer
1002	All Aboard
1003	Acme Rail 2

Scan a barcode or click Search

Load #:1002 4 Wheelsets

#	Type	Axle Size	Wheel
1	Turned	6.0x11	CH36
2	Turned	6.0x11	CH36
3	Turned	6.0x11	CH36
4	New Mount	6.5x12	CH36

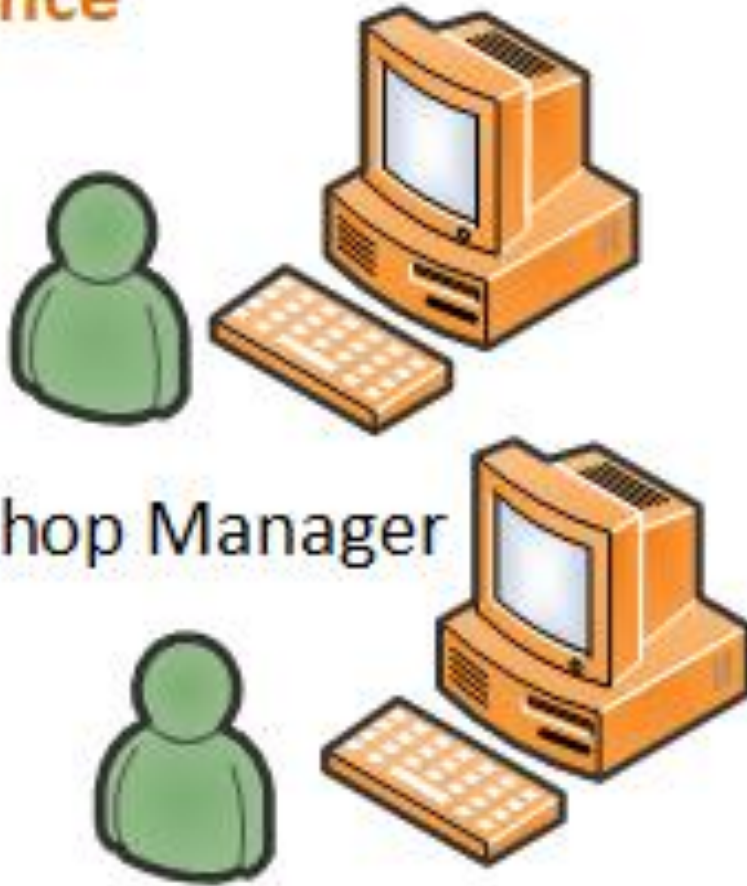
Back

Done Menu





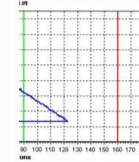
Office



Shop Manager

# Wheel Shop Management Suite

eel  
:SS



**ERP / MRP System  
Maintenance  
Applications**

Bearing Tracking



End Cap Torque

Final Inspection

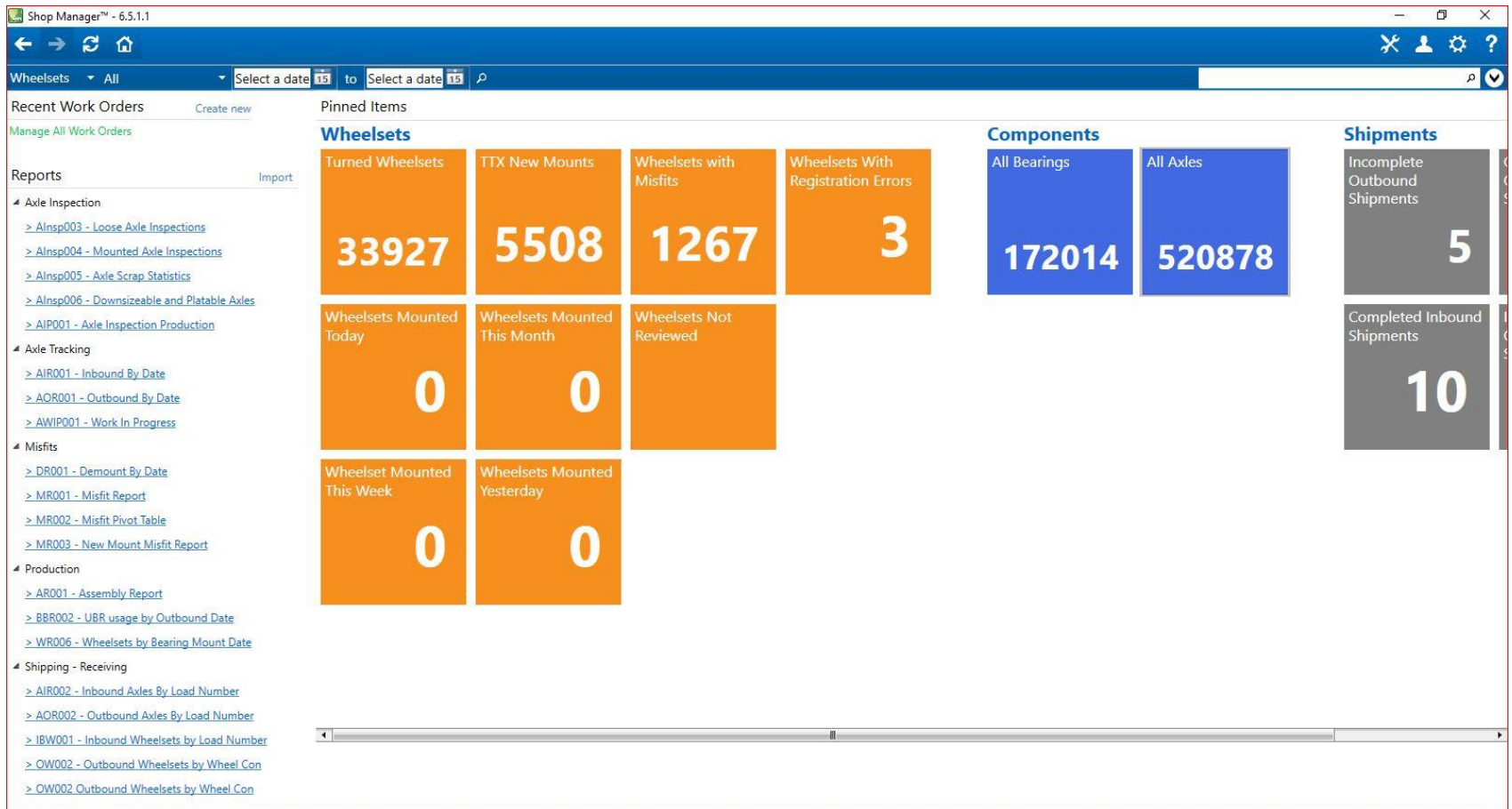


Inbound / Outbound



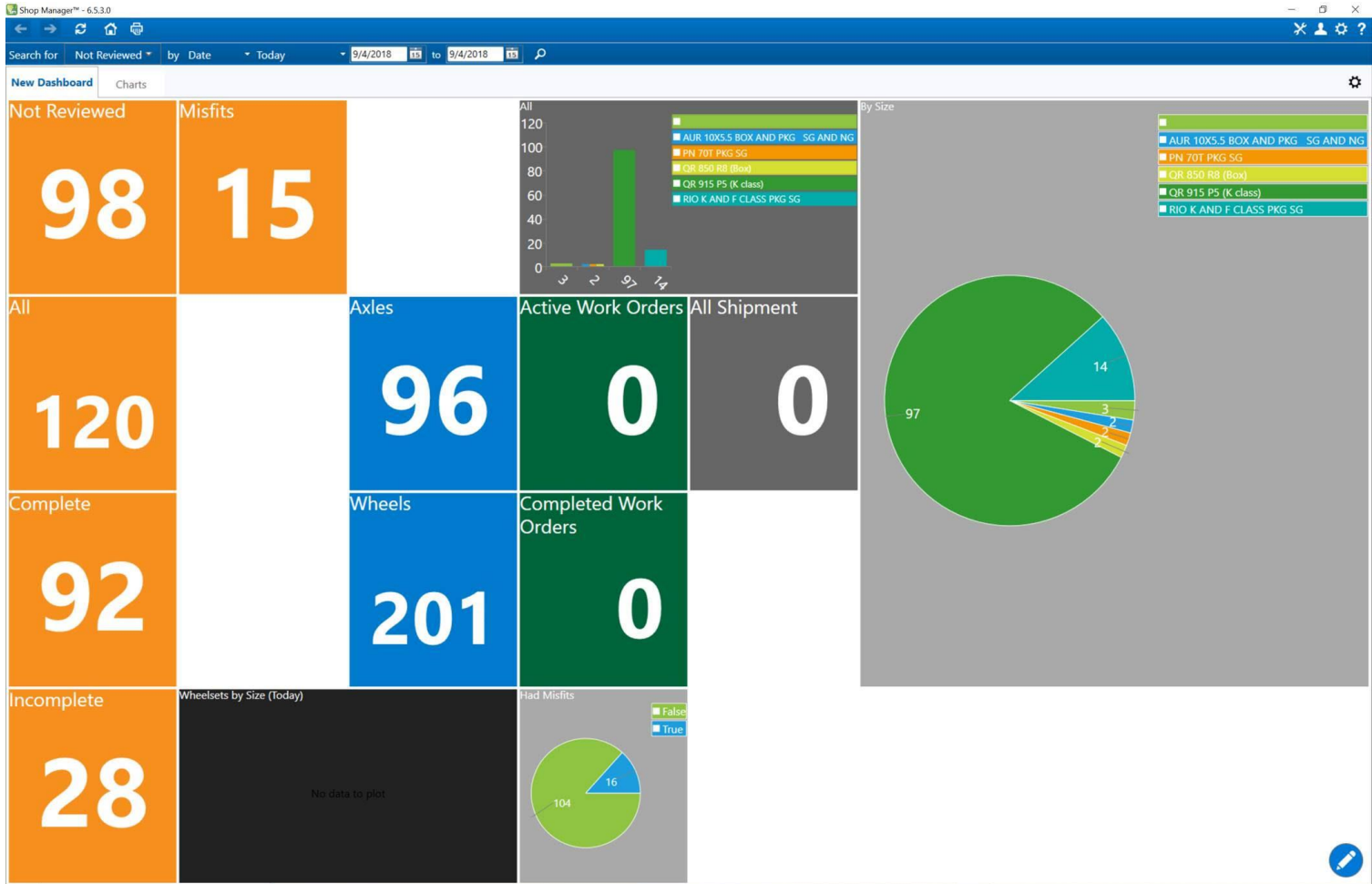


# Shop Manager Dashboards





# Shop Manager Dashboards





# Shop Manager Wheel Mount

Shop Manager™ - 6.5.1.1

Wheelsets All Select a date 15 to Select a date 15

**Wheelsets** 1 - 50 of 186620

Registration Server: Connection Failed

**Recalled**  
**On Hold**  
**New Mounts**  
**Misfits**  
**Not Reviewed**  
**Turns**  
**Completed**  
**Registration Errors**  
**Registered**  
**Registered Today**  
**Registered Yesterday**  
**Not Registered**

	<input type="checkbox"/>	Timestamp	Configuration	Last Modified	Disposition	WIP ID	Serial #
	<input type="checkbox"/>	5/8/2017 1:09 PM	7 X 12	5/8/2017 1:22 PM	Good	MWST068011	0321
	<input type="checkbox"/>	5/8/2017 12:58 PM	7 X 12	5/8/2017 1:07 PM	Good	MWST068012	0324
	<input checked="" type="checkbox"/>	5/8/2017 12:45 PM	7 X 12	5/8/2017 12:45 PM	Rework	MWST068013	0324
	<input checked="" type="checkbox"/>	5/8/2017 11:56 AM	7 X 12	5/8/2017 12:54 PM	Good	MWST068007	1168
	<input type="checkbox"/>	5/8/2017 11:43 AM	7 X 12	5/8/2017 12:36 PM	Good	MWST068008	1487
	<input type="checkbox"/>	5/8/2017 11:05 AM	6.5 X 12	5/8/2017 11:17 AM	Good	MWST068219	4435
	<input type="checkbox"/>	5/8/2017 11:00 AM	6.5 X 12	5/8/2017 11:12 AM	Good	MWST068215	0065
	<input type="checkbox"/>	5/8/2017 10:55 AM	6.5 X 12	5/8/2017 11:11 AM	Good	MWST068213	0125
	<input type="checkbox"/>	5/8/2017 10:49 AM	6.5 X 12	5/8/2017 11:02 AM	Good	MWST068212	7695
	<input type="checkbox"/>	5/8/2017 10:44 AM	6.5 X 12	5/8/2017 10:53 AM	Good	MWST068211	0064
	<input type="checkbox"/>	5/8/2017 10:38 AM	6.5 X 12	5/8/2017 11:03 AM	Good	MWST068205	4574
	<input type="checkbox"/>	5/8/2017 10:32 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068208	0063
	<input type="checkbox"/>	5/8/2017 10:27 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068207	0024
	<input type="checkbox"/>	5/8/2017 10:21 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068200	8035
	<input type="checkbox"/>	5/8/2017 10:14 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068203	8017
	<input type="checkbox"/>	5/8/2017 10:08 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068206	7902
	<input type="checkbox"/>	5/8/2017 10:03 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068202	7903
	<input type="checkbox"/>	5/8/2017 9:58 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068201	7765
	<input type="checkbox"/>	5/8/2017 9:53 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068198	8005
	<input type="checkbox"/>	5/8/2017 9:48 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068197	4072
	<input type="checkbox"/>	5/8/2017 9:42 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068195	8017
	<input type="checkbox"/>	5/8/2017 9:36 AM	6.5 X 12	5/8/2017 9:57 AM	Good	MWST068194	8035
	<input type="checkbox"/>	5/8/2017 9:30 AM	6.5 X 12	5/8/2017 9:39 AM	Good	MWST068199	8015

Registration Server: Connection Failed

**Details** **Charts** **Inspections** **Audit History**

Gid **GBRX1200280168** Review All Unreview All  
 Advance to next assembly after Review All

**Wheel 1** Reviewed By: adamsj Unreview

Wheel 1-11684 (136)

**Demount**  
 Mount Time: 5/8/2017 11:55 AM  
 Operator: wesleyv  
 Machine: Wheel Press 1  
 Mounting Force: 136.1  
 Sequence #: 4

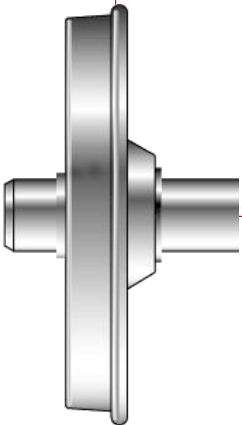
**Wheel 2** Reviewed By: adamsj Unreview

Wheel 2-11673 (143)

**Demount**  
 Mount Time: 5/8/2017 11:56 AM  
 Operator: wesleyv  
 Machine: Wheel Press 1  
 Mounting Force: 143.1  
 Sequence #: 4

**Mount History**

Component	Serial #	Mount Date/Time	Operator	Machine	Status	Mount Force	Demount Date/Time	Operator	Machine
Bearing A	0035981	5/8/2017 12:45 PM	joell	Bearing1 NM	Good Press				
Bearing B	00902203	5/8/2017 12:45 PM	joell	Bearing1 NM	Good Press				
Wheel 1	11684	5/8/2017 11:55 AM	wesleyv	Wheel Press 1	Good Press	136.1			
Wheel 2	11673	5/8/2017 11:56 AM	wesleyv	Wheel Press 1	Good Press	143.1			







# Shop Manager Bearings

Shop Manager™ - 6.5.1.1

Wheelsets All Select a date to Select a date

Registration Server: Connection Failed

1 - 50 of 186620

14 of 186620

	Timestamp	Configuration	Last Modified	Disposition	WIP ID	Serial
<input type="checkbox"/>	5/8/2017 1:09 PM	7 X 12	5/8/2017 1:22 PM	Good	MWST068011	0321
<input type="checkbox"/>	5/8/2017 12:58 PM	7 X 12	5/8/2017 1:07 PM	Good	MWST068012	0322
<input checked="" type="checkbox"/>	5/8/2017 12:45 PM	7 X 12	5/8/2017 12:45 PM	Rework	MWST068013	0323
<input checked="" type="checkbox"/>	5/8/2017 11:56 AM	7 X 12	5/8/2017 12:54 PM	Good	MWST068007	1168
<input type="checkbox"/>	5/8/2017 11:43 AM	7 X 12	5/8/2017 12:36 PM	Good	MWST068008	1487
<input type="checkbox"/>	5/8/2017 11:05 AM	6.5 X 12	5/8/2017 11:17 AM	Good	MWST068219	4435
<input type="checkbox"/>	5/8/2017 11:00 AM	6.5 X 12	5/8/2017 11:12 AM	Good	MWST068215	0065
<input type="checkbox"/>	5/8/2017 10:55 AM	6.5 X 12	5/8/2017 11:11 AM	Good	MWST068213	0125
<input type="checkbox"/>	5/8/2017 10:49 AM	6.5 X 12	5/8/2017 11:02 AM	Good	MWST068212	7695
<input type="checkbox"/>	5/8/2017 10:44 AM	6.5 X 12	5/8/2017 10:53 AM	Good	MWST068211	0064
<input type="checkbox"/>	5/8/2017 10:38 AM	6.5 X 12	5/8/2017 11:03 AM	Good	MWST068205	4574
<input type="checkbox"/>	5/8/2017 10:32 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068208	0063
<input type="checkbox"/>	5/8/2017 10:27 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068207	0024
<input type="checkbox"/>	5/8/2017 10:21 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068200	8035
<input type="checkbox"/>	5/8/2017 10:14 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068203	8017
<input type="checkbox"/>	5/8/2017 10:08 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068206	7903
<input type="checkbox"/>	5/8/2017 10:03 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068202	7905
<input type="checkbox"/>	5/8/2017 9:58 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068201	7765
<input type="checkbox"/>	5/8/2017 9:53 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068198	8005
<input type="checkbox"/>	5/8/2017 9:48 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068197	4072
<input type="checkbox"/>	5/8/2017 9:42 AM	6.5 X 12	5/8/2017 10:46 AM	Good	MWST068195	8017
<input type="checkbox"/>	5/8/2017 9:36 AM	6.5 X 12	5/8/2017 9:57 AM	Good	MWST068194	8035
<input type="checkbox"/>	5/8/2017 9:30 AM	6.5 X 12	5/8/2017 9:39 AM	Good	MWST068199	8015

**Bearing A** Good

Cid: 8TIM1310455219

Mount Time: 5/8/2017 12:45 PM Operator: joell

Mounting Force: Machine: Bearing1 NM Shift: 1

Sequence #: 0 Status: Good Press

Notes:

Elements:

Condition	Facility Code
Reconditioned	RBTN
Length	Diameter
12.0	7.0
Cert. #	B. Ring
Timeken 1A	Fitted
Cage Type	Seal
Steel	HDL
Grease	Premium
GADUS	
Manufacture Timestamp	Serial #
2017-04-05T10:04:20	00355981
Month	Year
09	16
Extended Code	Lateral
Specification	Batch #
Locking Plate	Bolt 1 Torque

**Bearing B** Good

Cid: 8TIM1310455186

Mount Time: 5/8/2017 12:45 PM Operator: joell

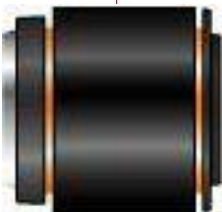
Mounting Force: Machine: Bearing1 NM Shift: 1

Sequence #: 0 Status: Good Press

Notes:

Elements:

Condition	Facility Code
Reconditioned	RBTN
Length	Diameter
12.0	7.0
Cert. #	B. Ring
Timeken 1A	Fitted
Cage Type	Seal
Steel	HDL
Grease	Premium
GADUS	
Manufacture Timestamp	Serial #
2017-04-05T08:43:46	00902203
Month	Year
11	15
Extended Code	Lateral
Specification	Batch #
Locking Plate	Bolt 1 Torque





# Shop Manager Outbound Tracking

Shop Manager™ - 6.5.1.1

Wheelsets All Select a date 10/29 to Select a date 10/29 [LastOutboundLoadNumber == 75991]

Registration Server: Connecting

### Wheelsets

1 - 14 of 14

	Timestamp	Configuration	CID	Outbound Load #	Outbound Account
<b>Recalled</b>					
<b>On Hold</b>					
<b>New Mounts</b>					
<b>Misfits</b>					
<b>Not Reviewed</b>					
<b>Turns</b>					
<b>Completed</b>					
<b>Registration Errors</b>					
<b>Registered</b>					
<b>Registered Today</b>					
<b>Registered Yesterday</b>					
<b>Not Registered</b>					

**Wheel set** Good Cid: GBRX1200189629

Configuration: 6.5 X 9 Date/Time: 10/29/2015 11:33 AM

Registration Status: Success [Update] [Nullify]

Inbound: Outbound: 75991 Remove  
Burlington Northern

Notes: ▼

Elements: ▼

**Axle** Good

Cid: Wip Ids: MWST031910 ▼

Notes: ▼

Elements: ▼

**Wheel 1** Good

Cid: Mount Time: 10/29/2015 11:33 AM Operator: kevinc  
Mounting Force: Machine  
133.0 Wheel Press 1  
Sequence #: Shift  
21 1  
Status: Good Press

**Wheel 2** Good

Cid: Mount Time: 10/29/2015 11:33 AM Operator: kevinc  
Mounting Force: Machine  
127.0 Wheel Press 1  
Sequence #: Shift  
21 1  
Status: Good Press

GoToAssist Expert









# Reports

## Shop Manager™

A component of the Wheel Shop Management Suite™

Recent Work Orders [Create new](#)  
[Manage All Work Orders](#)

### Pinned Items

### Reports [Import](#)

- [-] Axle Inspection
  - [AInsp003 - Loose Axle Inspections](#)
  - [AInsp004 - Mounted Axle Inspections](#)
  - [AInsp005 - Axle Scrap Statistics](#)
  - [AInsp006 - Downsizeable and Platable Axles](#)
  - [AIP001 - Axle Inspection Production](#)
- [-] Axle Tracking
  - [AIR001 - Inbound By Date](#)
  - [AOR001 - Outbound By Date](#)
  - [AWIP001 - Work In Progress](#)
- [-] Misfits
  - [DR001 - Demount By Date](#)
  - [MR001 - Misfit Report](#)
  - [MR002 - Misfit Pivot Table](#)
  - [MR003 - New Mount Misfit Report](#)
- [-] Production
  - [AR001 - Assembly Report](#)
  - [BBR002 - UBR usage by Outbound Date](#)

✓ Apply

Start Date: 11/ 1/2016

Start Time: 00:00

End Date: 11/ 7/2016

End Time: 23:59:59

Shown

1 of 1

100%

Find | Next

### Axle Scrap

Shop : ALL

Inspected : 11/01/2016 00:00 to 11/07/2016 23:59:59

Scrap Code	6.0x11	6.5x09	6.5x12	Scrap Axles % Scrap
BENT	0 0.0%	0 0.0%	1 1.2%	1 0.2%
Corrosion Journal/Fillet	1 0.3%	0 0.0%	0 0.0%	1 0.2%
Damaged/Gouged Journal	2 0.6%	0 0.0%	1 1.2%	3 0.7%
Damaged/Gouged Wheel Seat	1 0.3%	0 0.0%	0 0.0%	1 0.2%
Dustguard	0 0.0%	0 0.0%	1 1.2%	1 0.2%
Journal Diameter	7 2.0%	0 0.0%	1 1.2%	8 1.8%
Journal Length	8 2.2%	0 0.0%	2 2.4%	10 2.2%



# Reports

- Approximately 40 “canned” reports
- Reduce the need for reports
  - Real time data is always available
- Production reports
- Work and return
- Wheel set history
- Work-in-progress
- Shipping history
- Railinc registration history



# Reports

## Shop Manager™

A component of the Wheel Shop Management Suite™

Recent Work Orders

[Create new](#)

[Manage All Work Orders](#)

Pinned Items

### Reports

[Import](#)

[-] Axle Inspection

[AInsp003 - Loose Axle Inspections](#)

[AInsp004 - Mounted Axle Inspections](#)

[AInsp005 - Axle Scrap Statistics](#)

[AInsp006 - Downsizeable and Platable Axles](#)

[AIP001 - Axle Inspection Production](#)

[-] Axle Tracking

[AIR001 - Inbound By Date](#)

[AOR001 - Outbound By Date](#)

[AWIP001 - Work In Progress](#)

[-] Misfits

[DR001 - Demount By Date](#)

[MR001 - Misfit Report](#)

[MR002 - Misfit Pivot Table](#)

[MR003 - New Mount Misfit Report](#)

[-] Production

[AR001 - Assembly Report](#)

[BBR002 - UBR usage by Outbound Date](#)

✓ Apply

Start Date: 11/ 1/2016

Start Time: 00:00

End Date: 11/ 7/2016

End Time: 23:59:59

Shown

### Axle Scrap

Shop : ALL

Inspected : 11/01/2016 00:00 to 11/07/2016 23:59:59

Scrap Code	6.0x11	6.5x09	6.5x12	Scrap Axles % Scrap
BENT	0 0.0%	0 0.0%	1 1.2%	1 0.2%
Corrosion Journal/Fillet	1 0.3%	0 0.0%	0 0.0%	1 0.2%
Damaged/Gouged Journal	2 0.6%	0 0.0%	1 1.2%	3 0.7%
Damaged/Gouged Wheel Seat	1 0.3%	0 0.0%	0 0.0%	1 0.2%
Dustguard	0 0.0%	0 0.0%	1 1.2%	1 0.2%
Journal Diameter	7 2.0%	0 0.0%	1 1.2%	8 1.8%
Journal Length	8 2.2%	0 0.0%	2 2.4%	10 2.2%



**Railcar Integrated**  
**Maintenance Suite**

DATA COLLECTION • AUTOMATION

# Component Tracking

# Track Components



  AIC Rail 

---

AAR CID: SIDEFAME

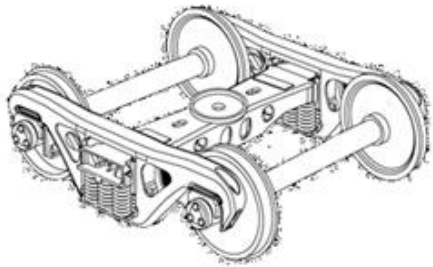
---

AICI 000002417





Truck Assembly



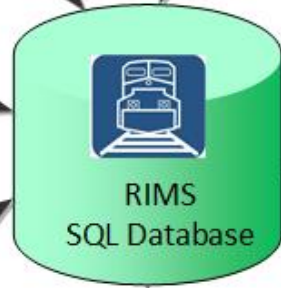
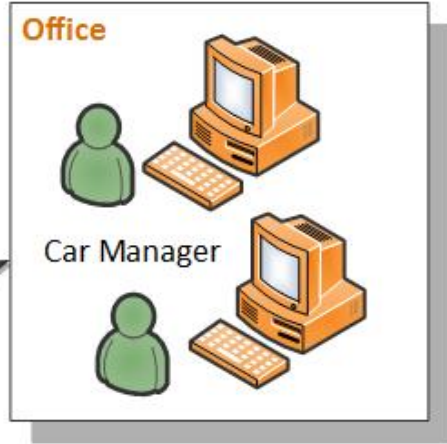
Truck Builder Fixed Station



Castings Registration (CODEC)



**Railcar Integrated Maintenance Suite**  
www.aicRail.com



Truck Builder Mobile



Server Computer Host for Database Host for Web Services

Wireless Railcar Association (Car Builder) AEI Tag Capable



Web Services Association Registration Query



Final Inspection



Car Arrival Car Outbound



# Car Builder – Mobile Data Collection

Scan AEI Tag or Manually Enter  
Equipment Number



  AIC Rail   
AAR CID: WHEELSET  
AICI 000002417  


 Railcar Integrated  
Maintenance Suite   
WIP LABEL:TRUCK  
 RIMS  
8099999981

# How it works

A screenshot of the "Car Builder" software interface. The title bar shows "Car Builder" and the time "9:24". The interface is divided into two main sections: "Equipment" and "Component".  
In the "Equipment" section, there is a text field for "ID:" containing "BNSF123456" and a label "Type:" with "Coal Car" below it. A "Search" button is to the right.  
In the "Component" section, there is a dropdown menu for "Type:" set to "Wheelset", a dropdown for "Position:" set to "1", and a text field for "ID:" containing "RAIL0000000001".  
At the bottom of the form are "Save" and "Clear" buttons. The very bottom of the screen has "Exit" and "Menu" options.

Select Equipment

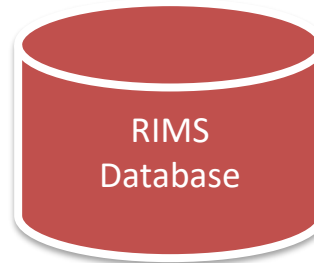
Select component to associate

Set the position

Scan or enter component ID

Scan AEI Tag, barcode or manually enter

Stores component ID in the RIMS Database for Association to the Car at a later time



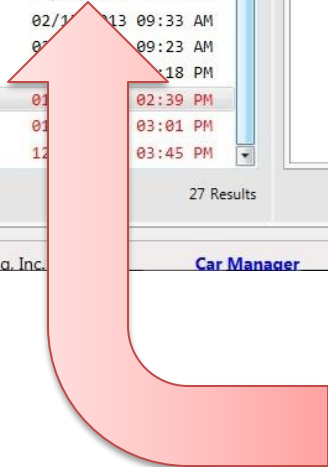


# Car Manager – Car Creation

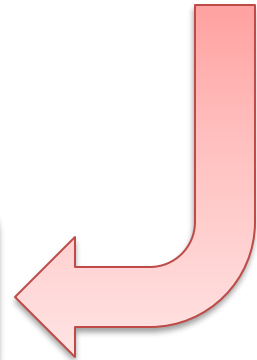
The screenshot displays the Car Manager software interface. On the left, a sidebar shows 'Equipment', 'Trucks', and 'Components'. The main window is divided into a list view and a detailed view. The list view shows a table of equipment records, with the last three rows highlighted in red. The detailed view on the right shows the configuration for equipment BNSF488413, including its type (Hopper), truck count (2), and current repair status. The 'Components' section is expanded to show inspection results for various parts like Bolster, SideFrame, and Wheelset.

Equipment ID	Equipment Type	Creation Date
RAIL100034	Hopper	03/20/2013 11:16 AM
RAIL100032	Hopper	03/20/2013 11:11 AM
RAIL000352	Hopper	03/05/2013 02:34 PM
RAIL000351	Hopper	03/05/2013 02:33 PM
RAIL000350	Hopper	03/05/2013 02:28 PM
RAIL000318	Hopper	03/05/2013 12:23 PM
RAIL000317	Hopper	03/05/2013 12:23 PM
RAIL000316	Hopper	03/05/2013 12:23 PM
RAIL000315	Hopper	03/05/2013 12:23 PM
RAIL000313	Hopper	03/05/2013 12:22 PM
RAIL000034	Hopper	02/15/2013 10:27 AM
RAIL000014	Hopper	02/15/2013 10:22 AM
RAIL000013	Hopper	02/15/2013 10:22 AM
RAIL000012	Hopper	02/15/2013 10:22 AM
RAIL100003	Hopper	02/15/2013 10:06 AM
RAIL200003	Hopper	02/15/2013 09:47 AM
RAIL300003	Hopper	02/15/2013 09:42 AM
RAIL400004	Hopper	02/15/2013 09:33 AM
RAIL500005	Hopper	02/15/2013 09:23 AM
RAIL749925	Hopper	02/15/2013 03:18 PM
BNSF488413	Hopper	03/05/2013 02:39 PM
BNSF488414	Hopper	03/05/2013 03:01 PM
BNSF488416	Hopper	03/05/2013 03:45 PM

Equipment: BNSF488413 Description:   
Type: Hopper   
Truck Count: 2   
 Inactive   
Current Repair: Arrival Due End End Repair   
03/05/2013 3/12/2013 Repair History   
Components Inspections   
Bolster   
Location B RAIL0000008005 Success   
Location A   
Coupler   
SideFrame   
Location BL   
Location BR   
Location AL RAIL0000009002 ERROR   
Location AR RAIL0000009003 Success   
Wheelset   
Location 1   
Location 2 RAIL0000007367 Success   
Location 3 RAIL0000007365 ERROR   
Location 4 RAIL0000007366 Success   
Submit Save Cancel   
27 Results   
Copyright © 2013 Arkansas Industrial Computing, Inc. Car Manager Version 1.2.0.13478



Automatically creates the Equipment



# Car Manager

Car Manager

File Equipment Help

Equipment

Find  in Equipment ID  Filtered

Date This Week   -

Equipment ID	Equipment Type	Creation Date
RAIL012345	Hopper	2/7/2013 1:39 PM -06:00
AARE012345	Box Car	2/7/2013 1:38 PM -06:00
BNSF010123	5 Truck Car	8/30/2012 12:23 PM -05:00
BNSF123456	Coal Car	8/30/2012 9:22 AM -05:00
BNSF488416	Hopper	8/29/2012 11:25 AM -05:00

Equipment: Truck Count:

Description:

Equipment Type:

Components Inspections

- Wheelset
 

Position 1	AARE0000000450	Success
Position 2	RAIL0000007362	Success
Position 3	RAIL0000112232	Success
Position 4	RAIL1000000001	Success
- SideFrame
 

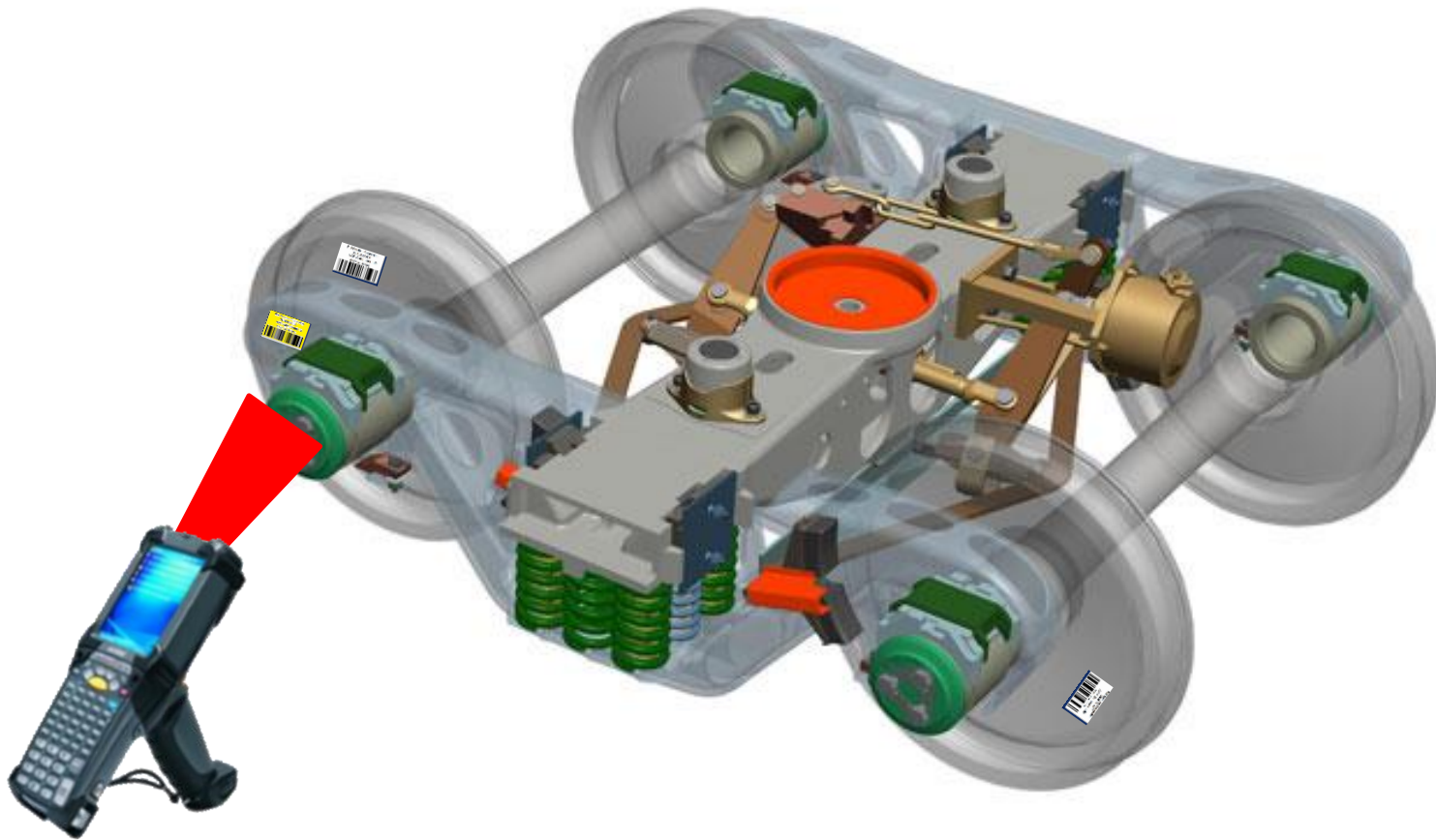
Position BL	RAIL0008342123	ERROR
Position BR	RAIL0005123456	ERROR
Position AL		ERROR
Position AR	RAIL0000300506	Success
- Bolster
 

Position B	NATX0000008040	Success
Position A		
- Coupler

Trucks

Components

# Truck Builder



# Magnetic Particle Inspection

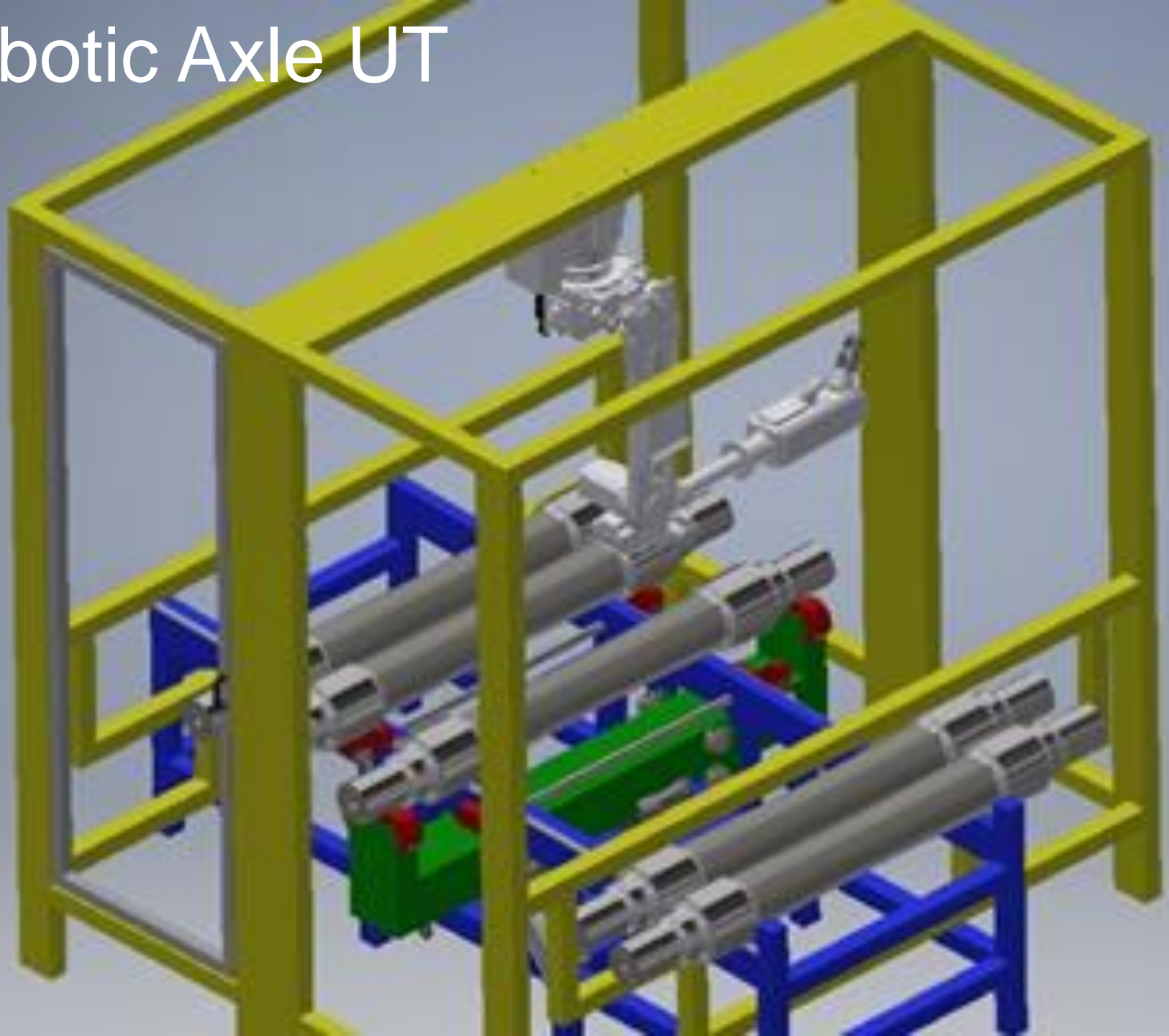




# Axle Measuring Station

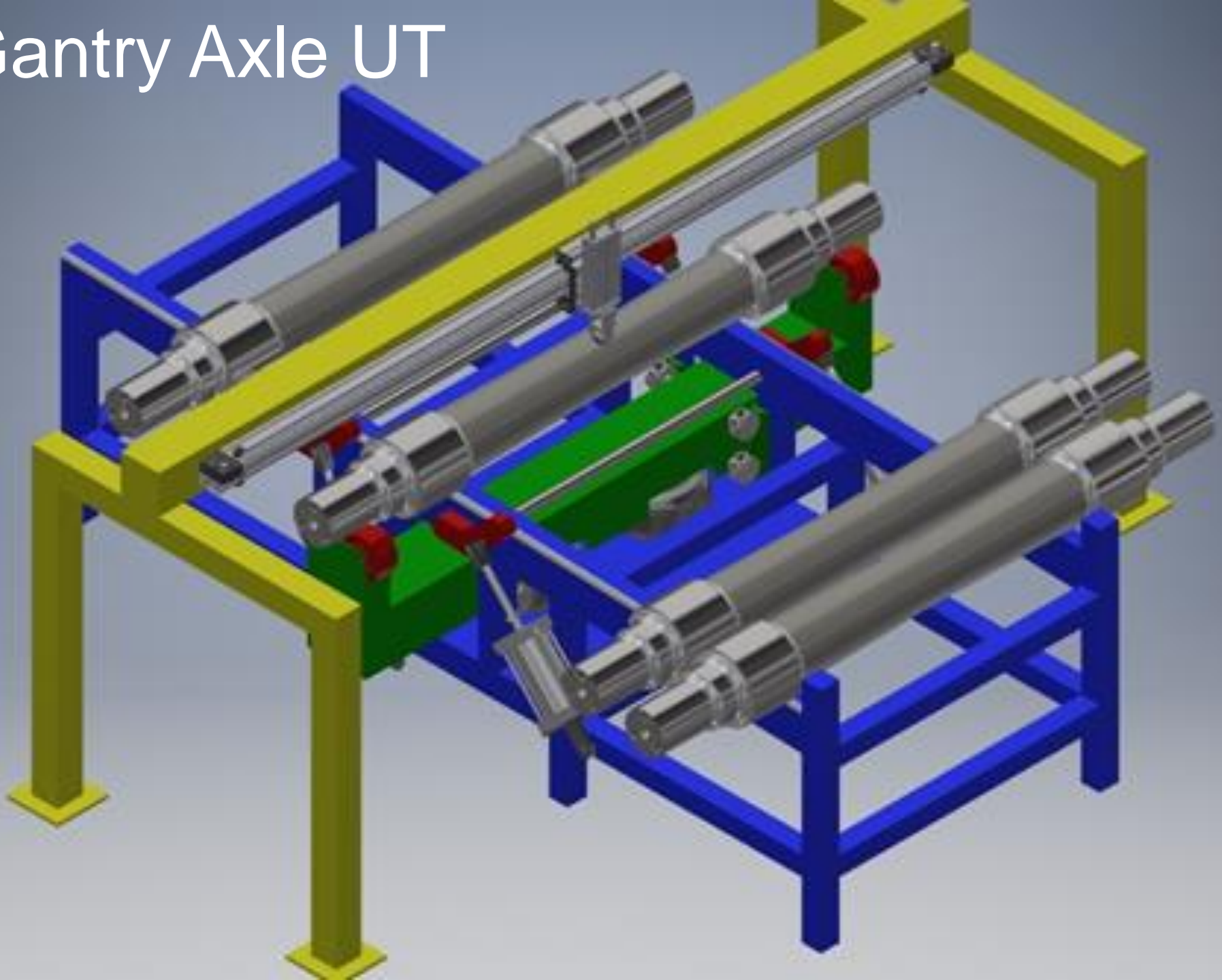


# Robotic Axle UT





# Gantry Axle UT



# Bearing Tab Bender





# Component Inspection

