HARSCO RAIL

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SERVICE BULLETIN

MAINTENANCE OF WAY EQUIPMENT

DATE: 12-2016 **BULLETIN NO:** 16-006A

TITLE: Integral Spindle Inspection

RATING:

- ☐ **DIRECTIVE** (Action Is Required)
- ☐ **ALERT** (Potential Problem)
- ☒ **INFORMATION** (Action Is Optional)
- ☐ **PRODUCT IMPROVEMENT** (Enhance Product)

PRODUCT SERIES / MODEL: HR1500 Series B and HR1500 Series C HY-RAIL® Guide Wheel Units

SERIAL NO: N/A

SUMMARY: Harsco Rail HR1500 Series B and HR1500 Series C Guide Wheel Units are equipped with maintenance free integral spindle bearing hubs. All bearings, including maintenance free types, wear with usage and will eventually need to be replaced. If the guide wheel equipment is used with a failed integral spindle bearing hub additional damage, including derailment, could occur.

Harsco Rail is making users aware, via this Service Bulletin, of the inspection interval and procedures for maintenance free integral spindle bearing hubs on the HR1500 Series B and HR1500 Series C guide wheel units.

OPERATIONAL IMPACT: Guide wheel equipment that continues to be used with a failed integral spindle bearing hub can lead to further damage of the guide wheel equipment.

ACTION: Harsco Rail recommends that all maintenance free integral spindle bearing hubs be inspected at a minimum of a yearly basis following the inspection procedure provided in this Service Bulletin. Also, weekly the rail wheel should be turned to check for ease of rotation or excessive play. Always make sure to do a complete walk around inspection of the vehicle and guide wheel equipment daily. If there is any indication of issues with the integral spindle bearing hub during the daily inspection, the vehicle should be immediately removed from service and the inspection procedure provided in this Service Bulletin should be performed.

CONTACT: HY-RAIL® Parts Sales: (507) 235-7143
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SAFETY INFORMATION

- **FOLLOW APPLICABLE RAILROAD LOCKOUT - TAGOUT PROCEDURES TO DISABLE ENERGY SOURCES WHEN PERFORMING MAINTENANCE, MAKING ADJUSTMENTS OR REPAIRS TO THE VEHICLE OR EQUIPMENT. FAILURE TO HEED THIS WARNING COULD RESULT IN SEVERE BODILY INJURY.**

Service Bulletin Instructions - See Figures 1, 2 and 3

1. The integral spindle bearing hub should be inspected at a minimum of once per year per the procedure below. Additionally, issues with the integral spindle bearing hub can be found through regular weekly operator inspection by rotating each wheel by hand to check for ease of rotation or excessive play. Also, unusual noises heard while operating the guide wheel equipped vehicle on track could be indicators of a worn out integral spindle bearing hub. If any issues are found during regular daily use, remove the vehicle from service and have it inspected and serviced per this procedure.

2. Prior to performing inspection, make sure you have a dial indicator with magnetic base.

3. Make sure the vehicle transmission is in PARK or NEUTRAL and the parking brakes are applied. Stop the vehicle engine. Lock-out / Tag-out vehicle ignition switch.

4. Remove the guide wheels from the wheel hub.

5. To obtain an accurate reading from the dial indicator, it is important to thoroughly clean and smooth the surface where the dial indicator base and tip will be placed. Carefully use a fine file or wire brush to clean and remove any debris from the surface.

6. The dial indicator magnetic base should be placed rigidly on the guide wheel axle or a secure portion of the unit.

7. Position the indicator tip perpendicular on the integral spindle bearing hub, as close to the center of the assembly as possible, on a machined surface.

8. Grasp the outer edge of the integral spindle bearing hub flange at the 3 o'clock and 9 o'clock positions. Push in while rotating the hub approximately 90° clockwise and counter-clockwise at least five times. Set the dial indicator to zero.

9. Next, pull the outer edge of the integral spindle bearing hub flange while rotating the hub approximately 90° clockwise and counter-clockwise at least five times.

10. Observe the total dial indicator movement during the rotation. If it exceeds 0.005", the integral spindle bearing hub should be replaced. Harsco Rail recommends using the Integral Spindle Replacement Kit, Harsco Rail # 5069154.

11. After inspecting / replacing the integral spindle, install the guide wheel. Torque the guide wheel lug nuts to 90 lb-ft (122 N-m).

Service Bulletin Instructions

FIGURE 1
INDICATOR TIP PLACEMENT

FIGURE 2
HUB ROTATED AND PRESSED IN, INDICATOR ZEROED OUT

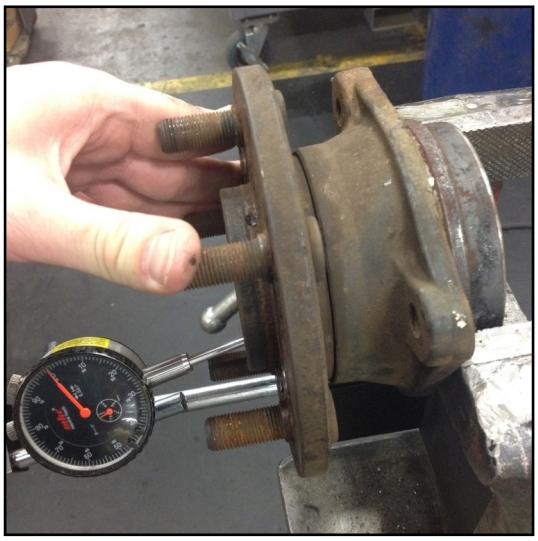
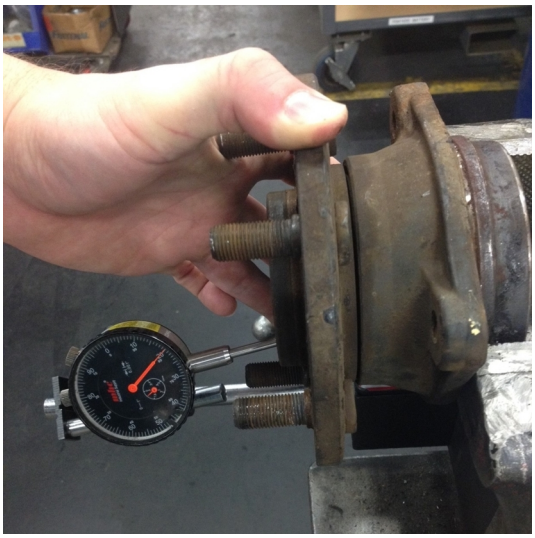


FIGURE 3
HUB ROTATED AND PULLED OUT, INDICATOR READS .020"
THIS EXCEEDS 0.005" SPECIFICATION, INTEGRAL SPINDLE SHOULD BE REPLACED



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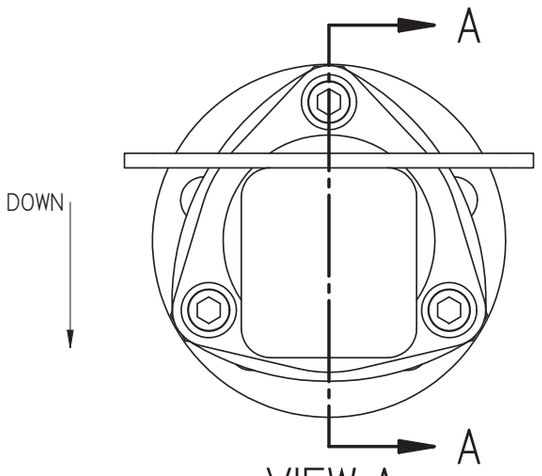
Printed In USA

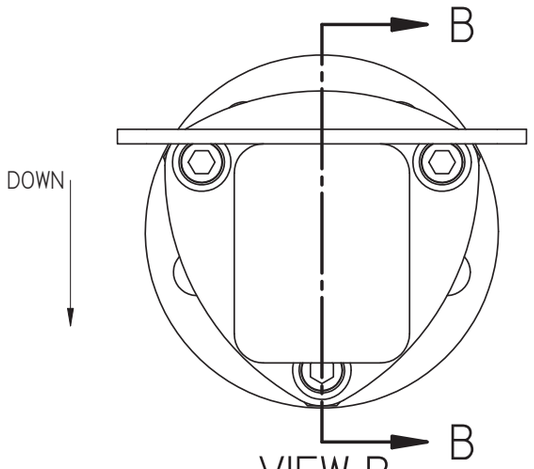
NOTES:
1. USE BOLTS 5055010 FOR HR1500C1 AND HR1500B2 OR HR1500B3 UNITS WITH UPDATED STUB AXLES. (SEE VIEW A)
   USE BOLTS 408735 FOR HR1500B2 OR HR1500B3 UNITS WITH OLD STYLE STUB AXLES. (SEE VIEW B)

2. AFTER ASSEMBLY, RE-ALIGN THE GUIDE WHEEL EQUIPMENT ON THE VEHICLE.

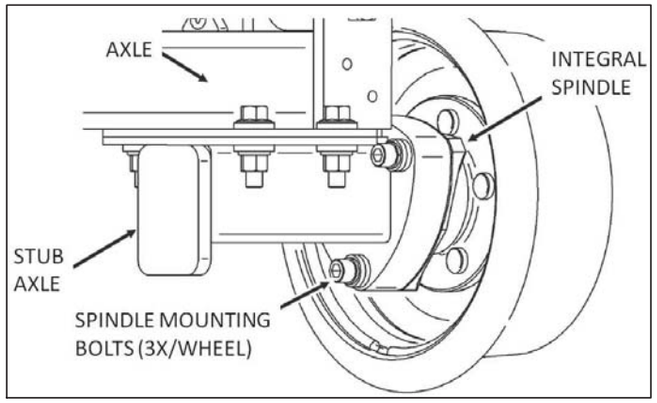
ITEM	PART NO	QTY	DESCRIPTION
1	198689	1	INTEGRAL SPINDLE GROUP
2	5055010	3	BOLT, SOC HD, M12-1.75X60, SP
3	408735	3	SKT HD CS M12-1.75 X 70 CLASS12.9
4	3415867	3	WASHER, 12MM INSULATED
5	3415895	3	BUSHING, STUB AXLE INSULATING
6	3415900	3	WASHER, 12MM HARDENED
7	200415	1	PLATE
8	200419	3	WASHER
9	150791	3	LOCK WASHER 12MM
10	0-3040000-0-16	1	LOCKTITE 242

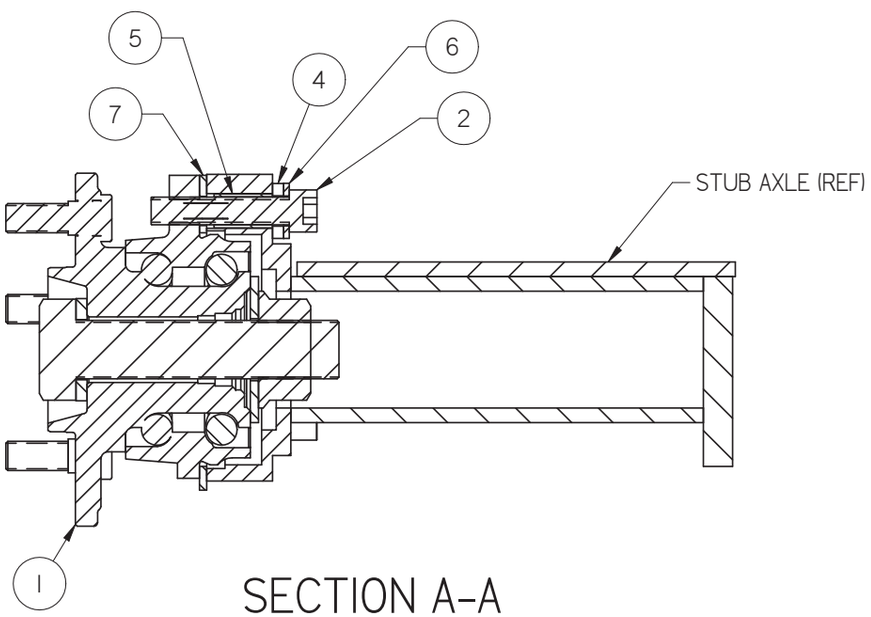


VIEW A
1500C1 / UPDATED STUB AXLE

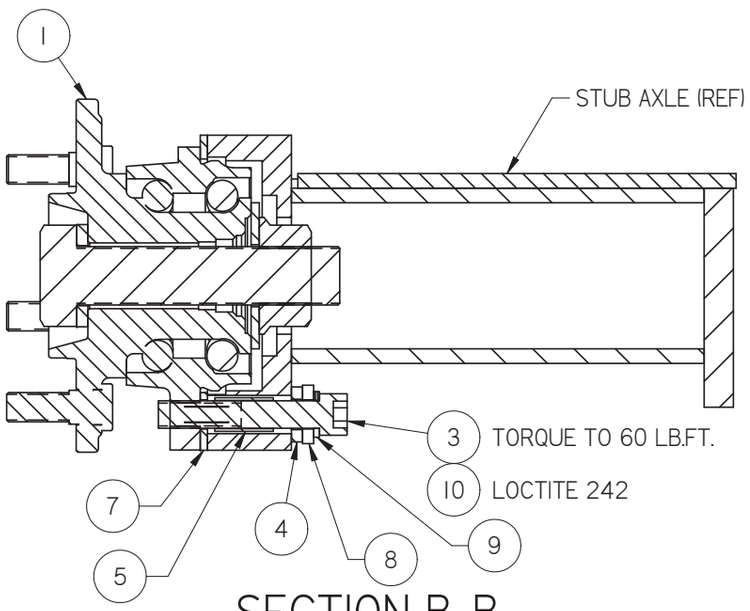


VIEW B
1500B2 / 1500B3 OLD STYLE STUB AXLE





SECTION A-A



SECTION B-B

INCLUDE A COPY OF THIS DRAWING WITH EVERY KIT

Inch [mm]

NOMINAL SIZE RANGE		INCH PLUS OR MINUS	
OVER	TO	2 PLACE DECIMAL	3 PLACE DECIMAL
0	6	.03	.005
6	24	.04	.008
24	-	.06	.010

NOMINAL SIZE RANGE		METRIC PLUS OR MINUS	
OVER	TO	1 PLACE DECIMAL	2 PLACE DECIMAL
0	150	.8	.13
150	600	1.0	.20
600	-	1.5	.25

UNLESS OTHERWISE SPECIFIED ALL MACHINED SURFACES WILL HAVE;
A SURFACE FINISH OF 125 MICROINCHES
ANGULAR TOLERANCE OF ± .50°
CONCENTRICITY WITHIN .010

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED, ALL WELDS SHOULD ADHERE TO THE MOST CURRENT A.W.S WELDING STANDARDS

CHANGE	R/L	REVISION	DR	DATE
ECXXXXX	A	NEW RELEASE	JWW	10/18/16

Description: INTEGRAL SPINDLE REPLACEMENT

HARSCO RAIL

Material: ;
Machine Type: HR1500
Size: C
Weight: 0.0 lbm
Drawn: Jwiggins
Date Drawn: 9/30/2016
Part Number: 5069154
Sheet: 1 of 1

SOLID EDGE DRAWING
DO NOT SCALE