



# Harsco Track Technologies

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## SERVICE BULLETIN

### MAINTENANCE OF WAY EQUIPMENT

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**DATE:** 10 - 2003

**BULLETIN NO:** 03-020

**TITLE:** 200950 PIN REMOVAL GROUP

**RATING:**

**ALERT**  
(Potential Problem)

**INFORMATION**  
(Action Is Optional)

**DIRECTIVE**  
(Action Is Required)

**PRODUCT IMPROVEMENT**  
(Enhance Product)

**PRODUCT SERIES / MODEL:** All HR2000 Series B-1 and Series B-2 HY-RAIL® Rear Guide Wheel Units

**SERIAL NO:** Not Applicable

**SUMMARY:** This Service Bulletin provides directions for the use of the tools included in the 200950 Pin Removal Group and procedures for removing the wheel arm pivot pins.

**OPERATIONAL IMPACT:** Not Applicable

**ACTION:** Use this Pin Removal Group and the procedure for removing the wheel arm pivot pins on HR2000 Series B-1 and Series B-2 HY-RAIL® Guide Wheel Units when the pins cannot be easily removed by any other means.

**CONTACT:** If you have any questions or if we can be of any service, please contact the HY-RAIL® Guide Wheel Equipment Department at the Fairmont, MN facility (507) 235-7112.

#### Safety Information

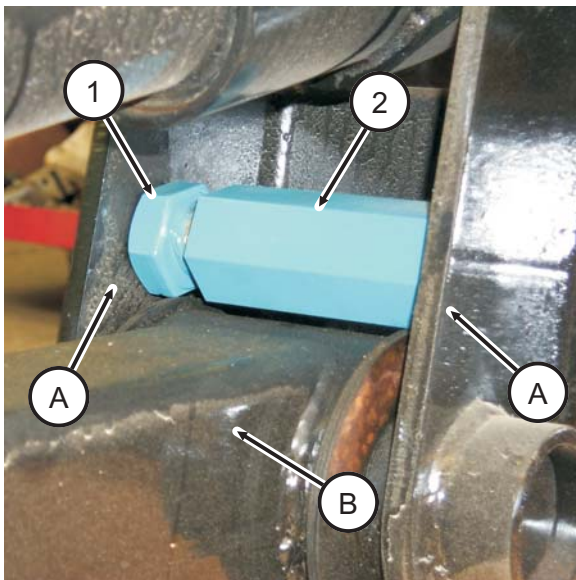


- FOLLOW APPLICABLE RAILROAD LOCKOUT - TAGOUT PROCEDURE TO DISABLE ENERGY SOURCES WHEN PERFORMING MAINTENANCE, MAKING ADJUSTMENTS OR REPAIRS TO THE VEHICLE OR EQUIPMENT.
- STAY CLEAR OF THE PIN REMOVAL AREA. IF THE WELDED NUT OR THREADED ROD SHOULD BREAK, THE THREADED ROD AND TUBES COULD BE EXPELLED WITH ENOUGH FORCE TO CAUSE BODILY INJURY.
- FAILURE TO HEED THESE WARNINGS COULD RESULT IN SEVERE BODILY INJURY.

## Pin Removal - Solid Pin

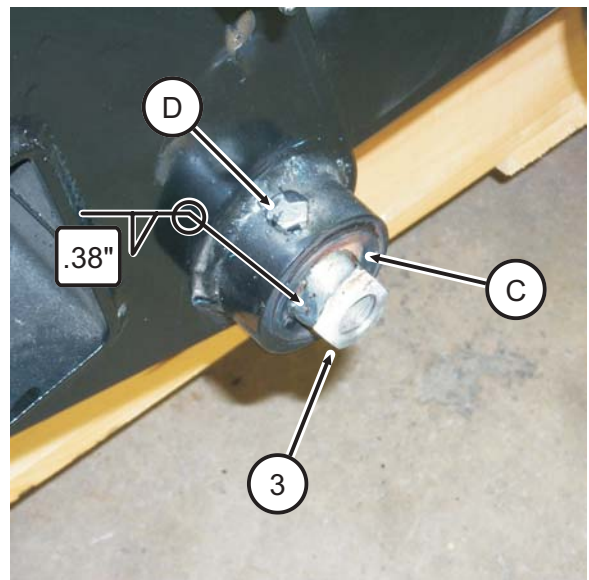
1. See Figure 1. Screw the hex head cap screw (1) into the screw jack (2). Place the cap screw and screw jack assembly between plates (A) above wheel arm pin. Make sure the assembly is close to but not resting on the wheel arm (B). Unscrew the cap screw by hand so the assembly is putting a little pressure on the plates, holding them in their position.
2. See Figure 2. Securely weld the hex nut (3) to the outer end of the 2 inch wheel arm pin (C). See weld symbol. If all the hex nuts included in the kit have been used up, locally purchased 3/4"-10 GR 8 hex nuts may be used as long as they are Non-Plated. Remove the 3/8 inch elastic stop nut and cap screw (D).
3. See Figure 3. Screw the threaded rod (4) into the hex nut (3) that is welded to the pin.
4. See Figure 4. Place tube (5) over threaded rod (4). Slide the hydraulic cylinder (6) and tube (7) onto the threaded rod. Screw a hex nut (3) onto the threaded rod. Snug tube (5), hydraulic cylinder (6) and tube (7) up against plate (A). Make sure all components are in alignment and tube (5) is over the boss and welding on plate (A).
5. Connect a hydraulic power source such as a hand operated port-a-power, to the hydraulic cylinder. Make sure the maximum pressure the power source generates is no greater than 10,000 PSI (689 bar). **CAUTION: STAY CLEAR OF THE PIN REMOVAL AREA. IF THE WELDED NUT OR THREADED ROD SHOULD BREAK, THE THREADED ROD AND TUBES COULD BE EXPELLED WITH ENOUGH FORCE TO CAUSE BODILY INJURY.** Operate the power source to apply pressure to the assembly, pulling the pin out of the plates (A) and wheel arm (B). It may be necessary to apply heat to the bosses or wheel arm or a combination of both to remove the pin. **USE CAUTION IF HEAT IS APPLIED TO ANY COMPONENTS. TOUCHING HEATED COMPONENTS WILL RESULT IN SEVERE BURNS. USE TOOLS TO HANDLE HEATED COMPONENTS OR ALLOW COMPONENTS TO COMPLETELY COOL BEFORE HANDLING.**

FIGURE 1



03-270

FIGURE 2



03-271

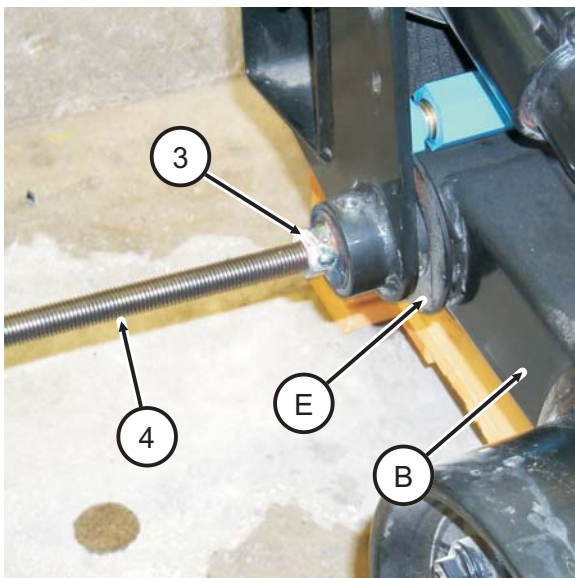
### Pin Removal - Solid Pin

- Note that the hydraulic cylinder (6) is limited to a 2-2/12 inch stroke. This will require relieving pressure to the hydraulic cylinder when it has reached the end of its 2-1/2 inch stroke. The hydraulic cylinder is spring loaded and will retract once the pressure is relieved at the power source. Thread hex nut (3) further onto the threaded rod (4). Again, make sure all components are in alignment before applying pressure to the hydraulic cylinder. Repeat as many times as necessary to completely remove the pin.

### Pin Replacement - Solid Pin

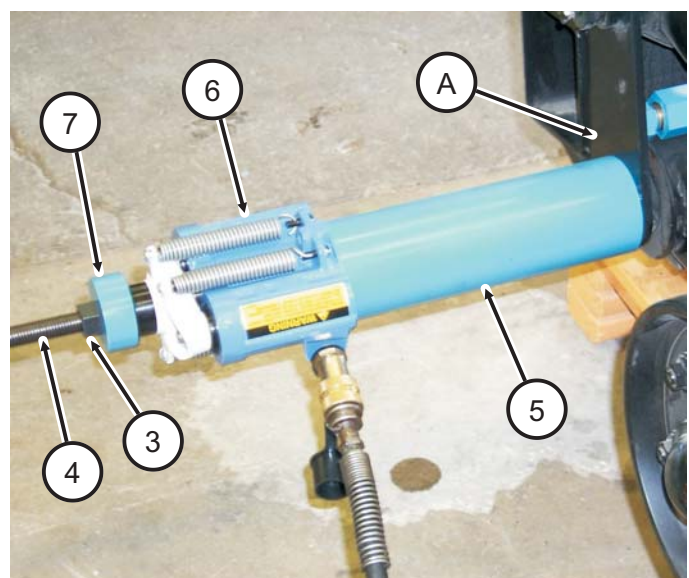
- Inspect washers (E) between the wheel arm and plates (A), two on each side of the wheel arm (B). If worn or damaged, replace the washers.
- Clean any corrosion, dirt, grease, etc. from the inside of the wheel arm (B) and the bosses on plates (A). It may be necessary to hone the inside bore of the wheel arm and bosses. When assembling, the new pin must fit through the bosses and wheel arm without having to be forced. Inspect all components and replace as necessary.
- Lubricate the new wheel arm pin and the inside surfaces of the wheel arm and bosses with NO-OX-ID "E-HB" grease. NO-OX-ID "E-HB" grease is not included in this group but is available from HTT.  
Two ounce - HTT Part # 201650. One gallon - HTT Part # 200898.
- Insert the new pin through the bosses and the wheel arm. Secure with the 3/8 inch cap screw and hex elastic stop nut (D).
- Remove the cap screw and screw jack assembly (1 and 2) from between the plates (A).
- After replacing the wheel arm pins, align the guide wheel unit. See the Operator's Service And Parts Manual - Adjustment Section - Guide Wheel Equipment Alignment Procedure.

FIGURE 3



03-272

FIGURE 4



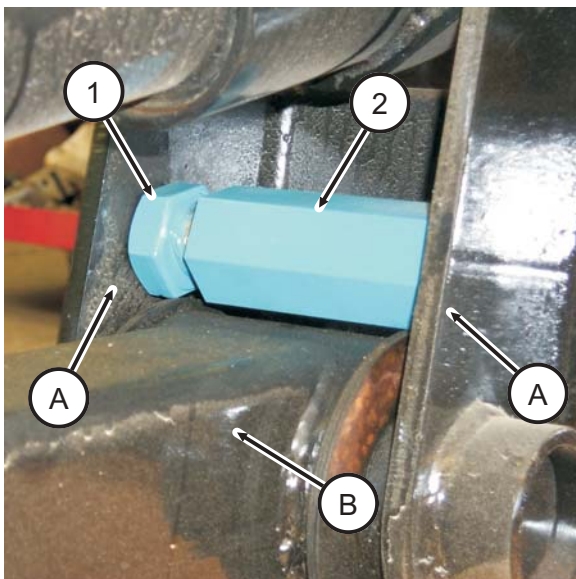
03-273

## Pin Removal - Hollow Pin

The guide wheel unit may have wheel arm pins with holes through them. If the unit has the hollow pins, use the following procedure to remove the pins.

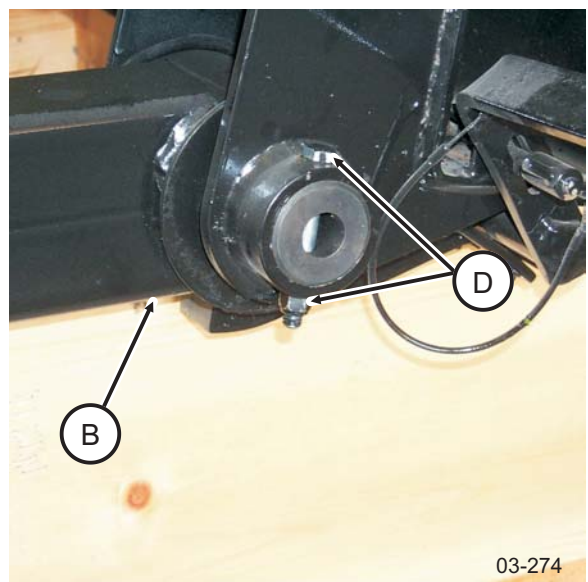
1. See Figure 5. Screw the hex head cap screw (1) into the screw jack (2). Place the cap screw and screw jack assembly between plates (A) above wheel arm pin. Make sure the assembly is close to but not resting on the wheel arm (B). Unscrew the cap screw by hand so the assembly is putting a little pressure on the plates, holding them in their position.
2. See Figure 6. Remove the 3/8 inch elastic stop nut and cap screw (D).
3. See Figure 7. Insert the threaded rod (4) through the hole in the pin. On the inside of the wheel arm, slide tube (8) over the threaded rod. Thread a hex nut (3) onto the threaded rod making sure that at least two threads are showing beyond the nut.
4. See Figure 8. Place tube (5) over threaded rod (4). Slide the hydraulic cylinder (6) and tube (7) onto the threaded rod. Screw a hex nut (3) onto the threaded rod. Snug tube (5), hydraulic cylinder (6) and tube (7) up against plate (A). Make sure all components are in alignment and tube (5) is over the boss and welding on plate (A).
5. Connect a hydraulic power source such as a hand operated port-a-power, to the hydraulic cylinder. Make sure the maximum pressure the power source generates is no greater than 10,000 PSI (689 bar). **CAUTION: STAY CLEAR OF THE PIN REMOVAL AREA. IF THE THREADED ROD SHOULD BREAK, THE THREADED ROD AND TUBES COULD BE EXPELLED WITH ENOUGH FORCE TO CAUSE BODILY INJURY.** Operate the power source to apply pressure to the assembly, pulling the pin out of the plates (A) and wheel arm (B). It may be necessary to apply heat to the bosses or wheel arm or a combination of both to remove the pin. **USE CAUTION IF HEAT IS APPLIED TO ANY COMPONENTS. TOUCHING HEATED COMPONENTS WILL RESULT IN SEVERE BURNS. USE TOOLS TO HANDLE HEATED COMPONENTS OR ALLOW COMPONENTS TO COMPLETELY COOL BEFORE HANDLING.**

FIGURE 5



03-270

FIGURE 6



03-274



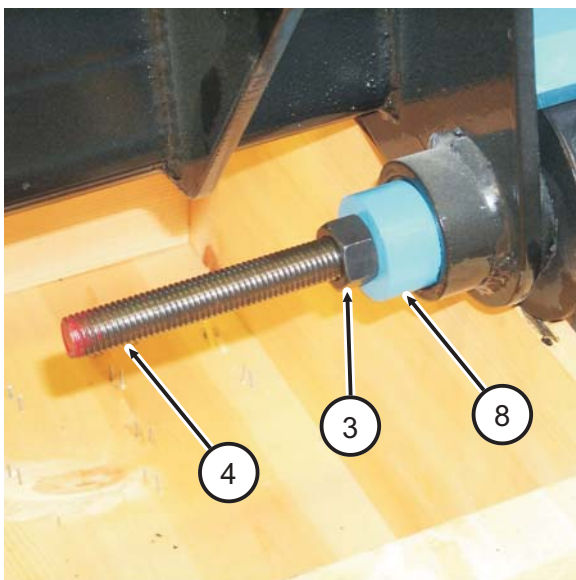
### Pin Removal - Hollow Pin

- Note that the hydraulic cylinder (6) is limited to a 2-2/12 inch stroke. This will require relieving pressure to the hydraulic cylinder when it has reached the end of its 2-1/2 inch stroke. The hydraulic cylinder is spring loaded and will retract once the pressure is relieved at the power source. Thread hex nut (3) further onto the threaded rod (4). Again, make sure all components are in alignment before applying pressure to the hydraulic cylinder. Repeat as many times as necessary to completely remove the pin.

### Pin Replacement - Hollow Pin

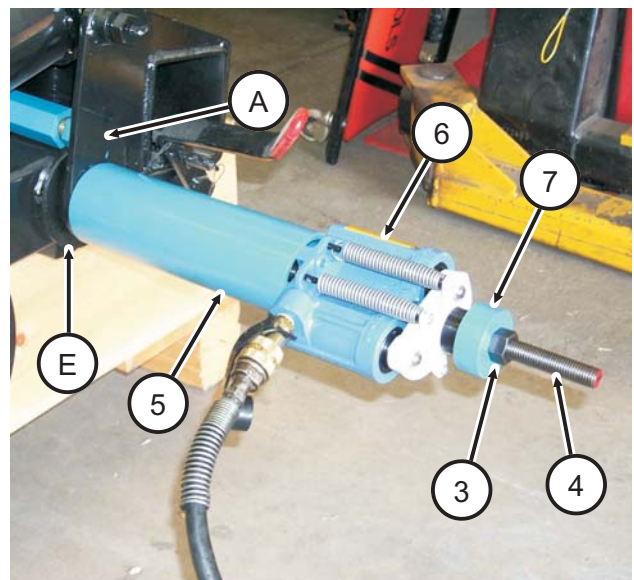
- Inspect washers (E) between the wheel arm and plates (A), two on each side of the wheel arm (B). If worn or damaged, replace the washers.
- Clean any corrosion, dirt, grease, etc. from the inside of the wheel arm (B) and the bosses on plates (A). It may be necessary to hone the inside bore of the wheel arm and bosses. When assembling, the new pin must fit through the bosses and wheel arm without having to be forced. Inspect all components and replace as necessary.
- Lubricate the new wheel arm pin and the inside surfaces of the wheel arm and bosses with NO-OX-ID "E-HB" grease. NO-OX-ID "E-HB" grease is not included in this group but is available from HTT.  
Two ounce - HTT Part # 201650. One gallon - HTT Part # 200898.
- Insert the new pin through the bosses and the wheel arm. Secure with the 3/8 inch cap screw and hex elastic stop nut (D).
- Remove the cap screw and screw jack assembly (1 and 2) from between the plates (A).
- After replacing the wheel arm pins, align the guide wheel unit. See the Operator's Service And Parts Manual - Adjustment Section - Guide Wheel Equipment Alignment Procedure.

FIGURE 7



03-275

FIGURE 8



03-276

**200950 Pin Removal Group**

ITEM	PART NO	DESCRIPTION	QTY
	200950	PIN REMOVAL GROUP. ....	1
1	F021981	Cap Screw, 1"-8 Hex Head . . . . .	1
2	200948	Screw Jack . . . . .	1
3	200949	Hex Nut, 3/4"-10 GR 8 Non-Plated . . . . .	6
4	200943	Threaded Rod, 3/4"-10 x 36" GR 8 . . . . .	1
5	200940	Tube, 3" ID x 3-1/2" OD x 11" Long . . . . .	1
6	200944	Hydraulic Cylinder. . . . .	1
7	200942	Tube, 7/8" ID x 2-1/2" OD x 1" Thick. . . . .	1
8	200941	Tube, 7/8" ID x 1-7/8" OD x 1" Thick. . . . .	1

NO-OX-ID "E-HB" Grease (not included with this group)

201650	NO-OX-ID "E-HB" Grease ( 2 oz.) . . . . .	1
200898	NO-OX-ID "E-HB" Grease ( 1 gal.) . . . . .	1

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415 North Main Street  
 Fairmont, MN  
 56031-1837  
 Tel: (507) 235-3361  
 Fax: (507) 235-7370

2401 Edmund Road, Box 20  
 Cayce-West Columbia, SC  
 29171-0020  
 Tel: (803) 822-9160  
 Fax: (803) 822-7471

200 South Jackson Road  
 Ludington, MI  
 49431  
 Tel: (231) 843-3431  
 Fax: (231) 843-4830