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# Harsco Track Technologies

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## SERVICE BULLETIN
### MAINTENANCE OF WAY EQUIPMENT

**DATE:** 10-27-2004 **BULLETIN NO:** 04-009

**TITLE:** OPTIONAL 22-1/2" WHEEL AND TIRE LOAD CAPACITY

**RATING:**

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

**PRODUCT SERIES / MODEL:** All Ford F450 / F550 Vehicles Equipped with HY-RAIL® Guide Wheel Equipment Series HR2000B2 / B3 Rear Rail Pilot Units and Optional 22-1/2" Wheels and Tires.

**SERIAL NO:** All HR2000B2 / B3 Rear Rail Pilot Unit Models

**SUMMARY:** The optional larger 22-1/2" wheels and tires have a higher load capacity than the standard 19-1/2" wheels and tires. Therefore, the load on the rear rail pilot unit can be reduced from 50% to 40% of the vehicle's rear axle curb weight to allow the larger wheels and tires to take a greater share of the load.

**OPERATIONAL IMPACT:** Reducing the load on the rear rail pilot unit will provide an extra margin of load handling capacity for both the rear rail pilot unit and the rear wheels and tires.

**ACTION:** Follow the instructions in this Service Bulletin to reduce the load on the rear rail pilot unit from 50% to 40% of the vehicle's rear axle curb weight.

**CONTACT:** If you have any questions or if we can be of any service, please contact the HY-RAIL® Service Department at the Fairmont, MN. facility, (507) 235-7212.

**SAFETY INFORMATION**

**WARNING**

**n FOLLOW APPLICABLE RAILROAD LOCKOUT - TAGOUT PROCEDURE TO REMOVE ALL ENERGY SOURCES FROM VEHICLE AND RAIL GUIDE WHEEL EQUIPMENT. FAILURE TO COMPLY COULD RESULT IN SEVERE BODILY INJURY.**

**IMPORTANT:** Inspect the wheels and tires size currently on the vehicle.

A. If the vehicle is equipped with the Standard 19-1/2" wheels and tires, the load on the rear rail pilot unit must be set to 50% of the vehicle's rear axle curb weight. **Do Not Use the Guide Load Adjustment Procedure in this Service Bulletin.** See the Guide Wheel Load Adjustment Procedure in your Operator's, Service and Parts Manual #1255.

B. If the vehicle is equipped with the Optional larger 22-1/2" wheels and tires, the load on the rear rail pilot unit can be reduced to 40% of the vehicle's rear axle curb weight. See the Guide Wheel Load Adjustment Procedure in this Service Bulletin.

**GUIDE WHEEL LOAD ADJUSTMENT** - See Figure 1

*Note: Permanent attachments to the vehicle such as a tool box, utility box, crane, aerial lift boom, etc. which could cause uneven loading on the rear guide wheels should be compensated for, by adjusting the vehicle suspension by adding leaf springs, coil springs, torsion bars, etc.*

1. The recommended load on the rear guide wheel unit is 40% of the vehicle's rear axle curb weight with the remainder of the weight being carried by the vehicle's rear tires. The load on the guide wheel unit should be at least 1,550 lbs (703 kg) or 775 lbs (352 kg) per guide wheel.

2. To calculate the load setting for each rear spring cell, use the following formula:

   Vehicle Rear Axle Weight x 20% (0.20) = Spring Cell Load

3. Convert the calculated spring cell load into dimension L. See Spring Cell Load Chart for the applicable guide wheel unit. If the spring cell is not set to the calculated spring cell load (dimension L) or is less than the minimum of 1,550 lbs (703 kg) or 775 lbs (352 kg) per guide wheel, the guide wheel unit must be adjusted.

4. Using dimension L, determine the amount of adjustment to the cylinder rod that will be required to obtain the desired load.

5. Raise the rear guide wheels from the "Rail" position. Let the guide wheels rest on the rails.

6. To increase the load on the guide wheel (increase dimension L), loosen the jam nut (1). Using a wrench on the flats of the cylinder rod (2), rotate the cylinder rod clockwise extending the adjusting stud to the desired dimension. Tighten the jam nut (1).

**GUIDE WHEEL LOAD ADJUSTMENT** - See Figure 1

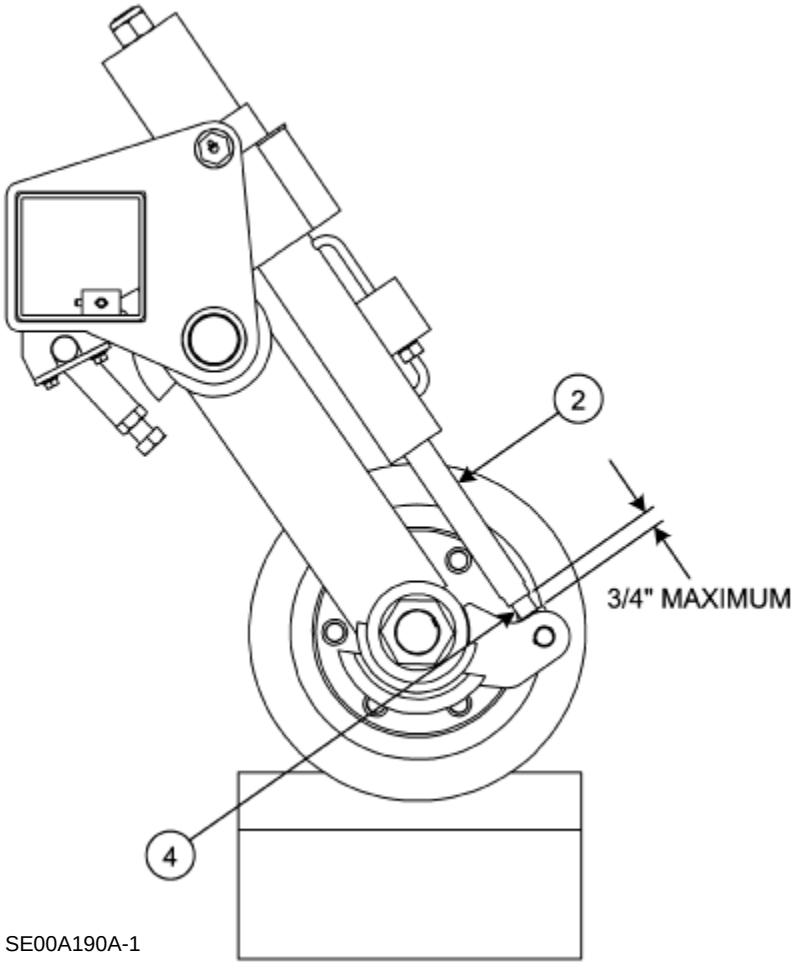
7 To decrease the load on the guide wheel (decrease dimension L), loosen the jam nut (1). Using a wrench on the flats of the cylinder rod (2), rotate the cylinder rod counter-clockwise retracting the adjusting stud to the desired dimension. Tighten the jam nut (1).

8 When adjusting the guide wheel load, care must be taken not to adjust the trunnion (3) too far out of the cylinder rod (2). To check this; loosen the jam nut (1) down against the trunnion (3). The maximum allowable exposed threads (4) must not exceed 3/4 inch (19 mm).

9. Lower the rear guide wheels to the "Rail" position. Re-measure dimension L to determine the guide wheel load on both spring cells. See Spring Cell Load Chart for the applicable guide wheel unit to convert dimension L to the load.

10. Repeat the adjustment procedure until dimension L corresponds to the calculated load or the minimum load setting. Both spring cells must be set to the same dimension L within 1/16 inch (1.6 mm).

FIGURE 1
GUIDE WHEEL LOAD ADJUSTMENT

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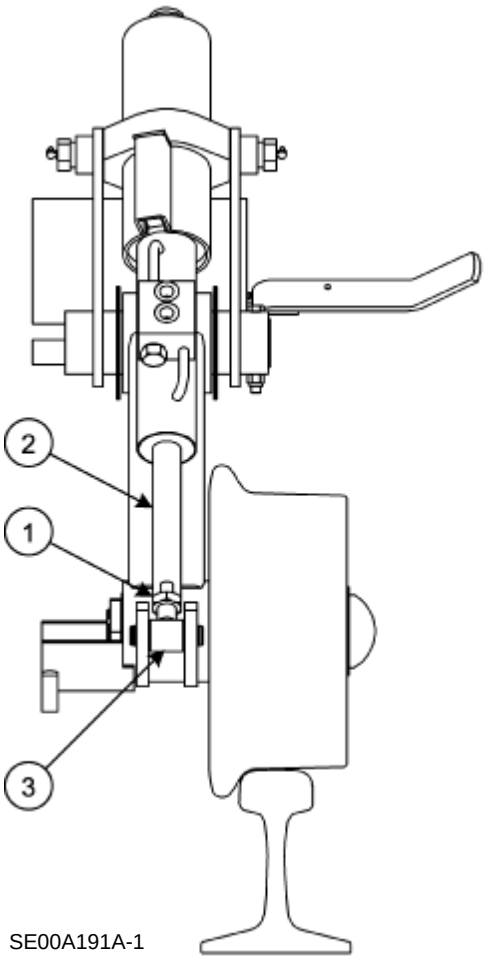


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**GUIDE WHEEL LOAD**

FIGURE 2
HR2000B2 / B3 SPRING CELL

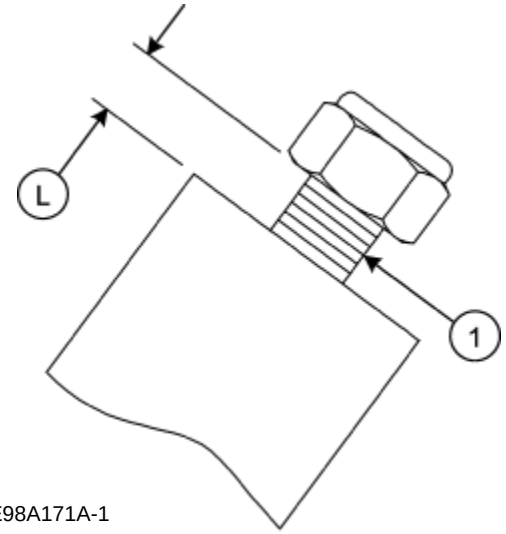


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CHART 3
HR2000B2 / B3 GUIDE WHEEL LOAD

| | DIMENSION L | | APPROXIMATE LOAD PER SIDE | |
|---|---|---|---|---|
| | 3/8" | (9.5 mm) | 871 lbs | (400 kg) |
| | 1/2" | (12.7 mm) | 1,161 lbs | (527 kg) |
| | 5/8" | (15.8 mm) | 1,451 lbs | (658 kg) |
| | 3/4" | (19.1 mm) | 1,742 lbs | (790 kg) |
| | 7/8" | (22.2 mm) | 2,032 lbs | (922 kg) |
| | 1" | (25.4 mm) | 2,322 lbs | (1,053 kg) |
| | 1-1/8" | (28.6 mm) | 2,613 lbs | (1,185 kg) |
| | 1-1/4" | (31.8 mm) | 2,903 lbs | (1,317 kg) |
| | 1-3/8" | (34.9 mm) | 3,193 lbs | (1,448 kg) |
| * | **1-1/2"** | **(38.1 mm)** | **3,483 lbs** | **(1,580 kg)** |

*** REAR GUIDE WHEEL IS OVERLOADED. REDISTRIBUTE OR REMOVE SOME OF THE LOAD. MAXIMUM LOAD ON REAR GUIDE WHEEL UNIT MUST NOT EXCEED 6,750 LBS (3,063 kg) OR 3,375 LBS (1,531 kg) PER GUIDE WHEEL.**



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) 843-1644

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