

Hendrickson HaulMaxx Rear Suspension Transverse Torque Rod Tower Bracket Replacement

32-054

Century Class Conventional
Argosy COE
Cargo

Columbia
> 122SD and Coronado
> Business Class M2

Cascadia
> 108SD/114SD
New Cascadia

Freightliner
Service Bulletin

General Information

Some vocational vehicles may have an incorrect transverse torque rod tower bracket installed on the rear drive axles at the factory. This can result in cracking at the transverse rod tower where it is welded to the axle housing, premature wearing of the transverse torque rod tapered pin and bushings, and damage to the transverse torque rod frame bracket.

Inspect the transverse torque rod and components mentioned. If damage is noted follow the instructions in this bulletin to replace the components.

Parts

Parts	Description	Qty
HDR62350 635	CTRL ROD-TRNSV,635MM,TAPER PIN (See Fig.1, Item 4)	2
16-12324-000	BRKT,TORQUE ROD SUSP (See Fig.1, Item 5)	2
TDA 3150P1628	BRKT-TRACK ROD TOWER (See Fig.1, Item 3)	2
23-09444-500	SCREW-CAP,HEX5/8-11X5.00 GR (See Fig.1, Item 7)	8
23-09114-000	WASHER-HRDN,0.69X1.31X.177 (See Fig.1, Item 8)	16
23-13179-110	NUT-HEX,PT,5/8-11,C,ZC,.559 (See Fig.1, Item 9)	8

Table 1, Parts Required

Transverse Torque Rod and Tower Bracket Replacement

1. Disconnect the batteries.
2. Cut the zip ties on the rearmost axle transverse torque rod, noting the location of the zip ties, lines, and wires. Tie the wires and lines out of the way.

IMPORTANT: When removing fasteners, spacers, and shims, make sure the shims are stored so that they will be installed in the same place.

3. Remove the three mounting fasteners from the transverse torque rod and discard the rod and fasteners. Save the shims. See Fig. 1.

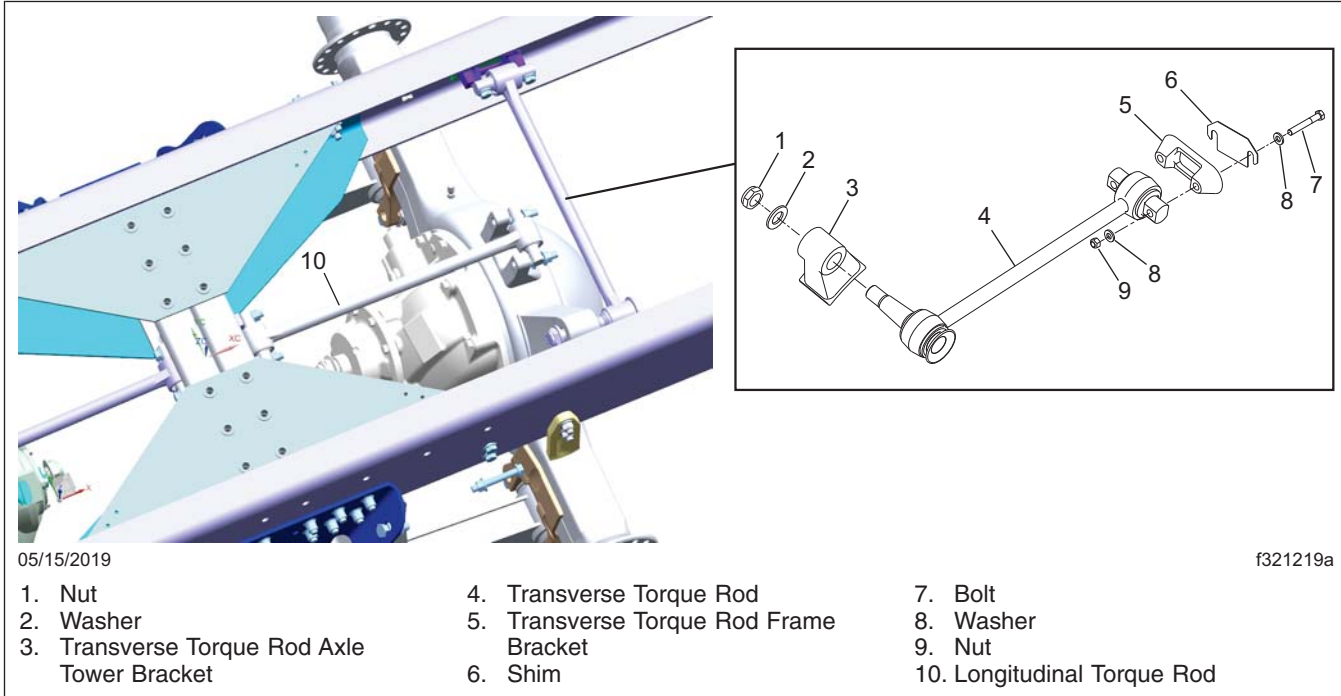


Fig. 1, Rearmost Axle Assembly

IMPORTANT: Use grinding cloths to cover up items that need to be protected from sparks. This includes air bags, electrical connections, hoses, and air lines.

4. Raise the rear of the truck to provide more clearance when accessing the transverse torque rod tower bracket.

IMPORTANT: Remove the welds with minimal grinding on the axle housing.

5. Use a disc grinder to grind out the weld and remove the tower bracket. Discard the tower bracket.
6. Remove any weld residue, ridges, or ripples from the surface of the housing. All areas must be flat with the housing wall and bracket. Do not gouge or leave sharp edges on any surface.
7. Remove the paint in a 3-inch radius from the area to be welded.
8. Clean the area using a wire brush and a cleaning solvent that will remove dirt and grease.

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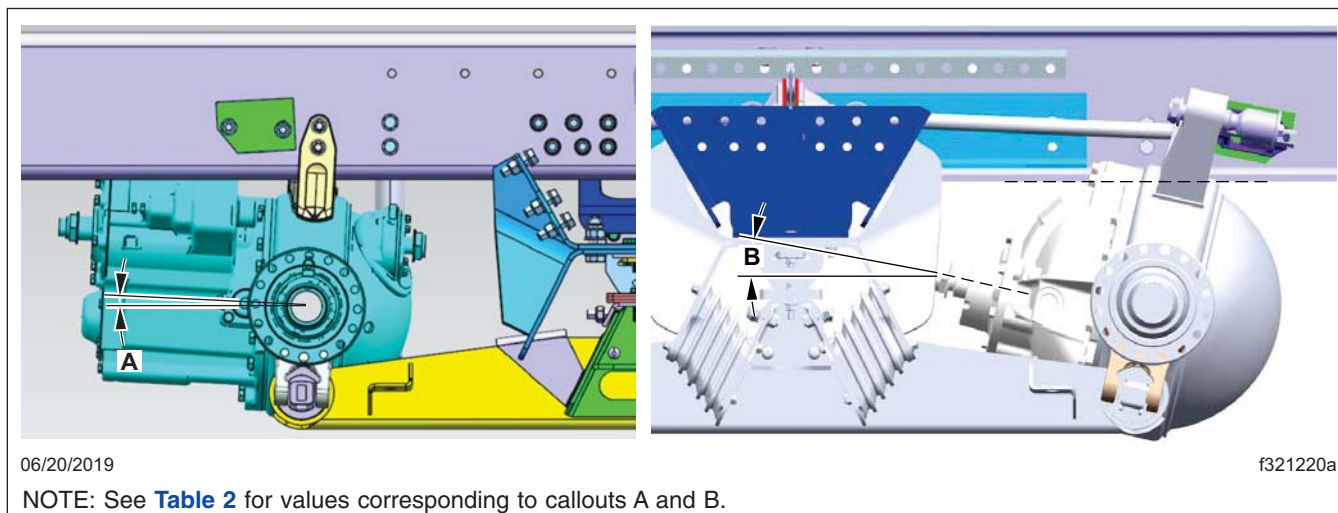


Fig. 2, Measuring Pinion Angles

9. Measure the pinion angle of both the forward and rear drive axles. The forward drive axle pinion angle "A" should be 3 degrees measured relative to the frame rail. The rear drive axle pinion angle "B" measured relative to the frame rail varies depending on the axle model and beam spacing. See [Table 2](#). If the pinion angles are not correct, adjust the angles by adding or subtracting shims at the longitudinal torque rods.

Rear Axle Pinion Angles			
Rear Axle	Beam Spacing	Planing Angles	
		A	B
MT-40/44-14X/XP	52"	3.0°	11.7°
	54"	3.0°	11.2°
RT-34/40/44-145	60"	3.0°	9.9°
	52"	3.0°	11.4°
RT-40/46/50-160/164	54"	3.0°	10.9°
	60"	3.0°	9.7°
ETN D404/405	52"	3.0°	10.2°
	54"	3.0°	9.8°
ETN D463/DDS40	60"	3.0°	8.7°
	52"	3.0°	10.8°
	54"	3.0°	10.3°
	60"	3.0°	9.2°

Table 2, Rear Axle Pinion Angles

10. Grind off the outer coating on the surfaces of the new tower that will be welded.
11. Install the new transverse torque rod and frame bracket using the original shims. Tighten only enough to remove play. Do not apply the final torque.
12. Attach the new tower to the torque rod. Tighten only enough to remove play. Do not apply the final torque.

13. Mark the center of the axle and the center of the tower bracket for ease of alignment when tack welding the bracket to the housing. See [Fig. 3](#).

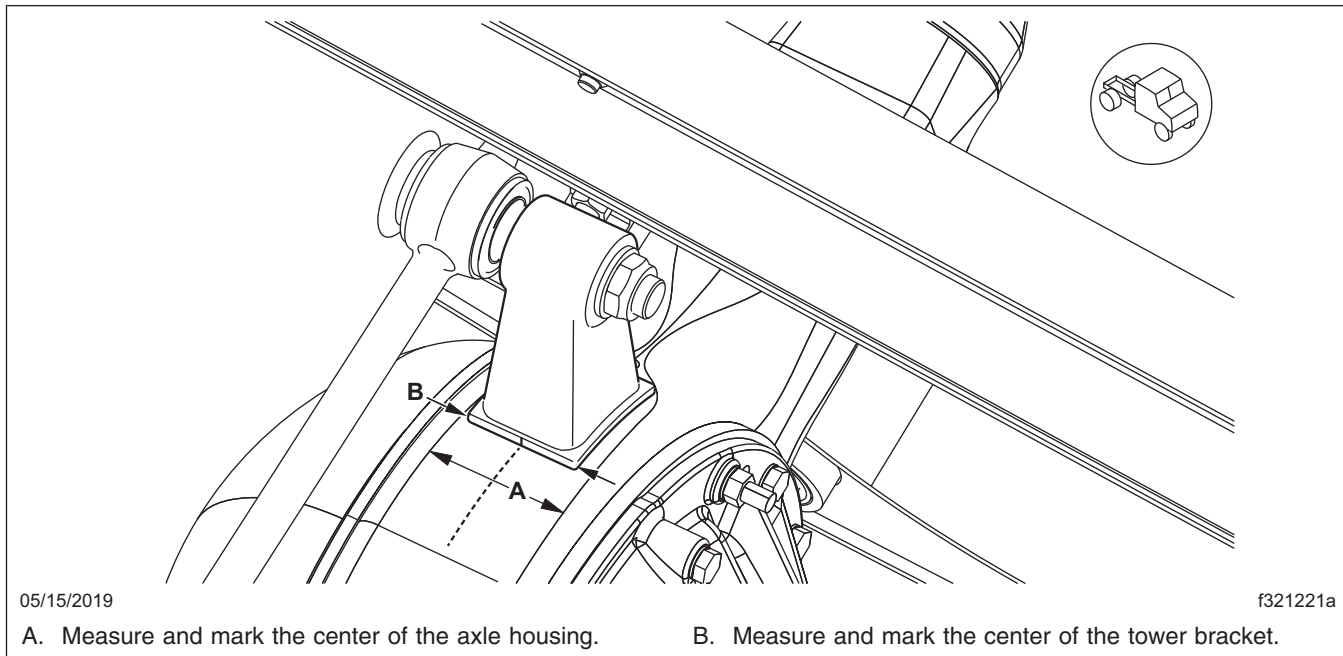


Fig. 3, Aligning the Tower Bracket and Axle Housing

14. Use the bracket attached to the new rod to establish the new position of the tower bracket. Using the lateral center line marks, make sure the transverse torque rod is as perpendicular to the frame rail as possible.

⚠ WARNING

The axle housing must be 70°F (21°C) or warmer before you weld onto the axle. Do not weld onto a cold axle or cold part. Cracks in the weld area, damage to components, and serious personal injury can result.

15. Ensure that the axle housing temperature measures 70°F (21°C) or warmer. If the axle housing temperature measures less than 70°F (21°C), store the axle in a heated room until the housing reaches the correct temperature.

IMPORTANT: Any welding must be done by a certified welder.

16. Preheat the joint to approximately 300°F (149°C) before welding.
17. Select suitable weld wire electrodes for the weld. Suitable weld wire electrodes include either BS EN 499 - E 42 2 B 32 H5 or BS EN 440 - G 42 2 M GSi (American Welding Society equivalents E7018 and ER70S3, respectively).
18. Attach the ground cable as near as possible to the weld area and only to components welded on the axle, such as a housing spring pad. Do not attach the ground cable at a suspension spring, U-bolt, or at a point that places a wheel bearing between the ground connection and the weld area.

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19. Press the bracket tight against the axle housing to reduce gaps, then tack weld the tower bracket into place.
20. Remove the new torque rod in preparation for final welding of the tower bracket.
21. Preheat the joint to approximately 300°F (149°C) before welding.
22. Weld the tower bracket onto the axle housing on the three accessible sides. Lay a full fillet in a single pass on each side. The fillet should be 0.315 to 0.50 in (8 to 12.7 mm). Unless otherwise specified, the depth of fusion on the bracket is 0.063 in (1.5 mm), +0.05/-0.0 in (+1.27/-0.0 mm). The tolerance applies to weld size and depth of fusion.
23. Back fill the ends of the weld 0.315 to 0.512 in (8 to 13 mm) to eliminate craters.
24. As needed for access to the tower bracket, raise the rear of the vehicle to let the rearmost axle hang down.
25. Weld the remaining side of the tower bracket, back filling to create a continuous weld.
26. Verify that the weld has a flat or slightly convex contour with a sufficient depth of fusion on both side walls. A concave contour is not allowed because it reduces the throat dimension of the weld. See [Fig. 4](#).

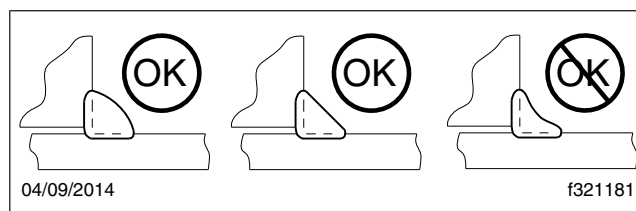


Fig. 4, Acceptable Weld Contours

27. Clean up all the metal shavings and dust on the chassis that resulted from grinding and welding.
28. Once the weld is cool, clean the surrounding area and apply primer and paint to all the exposed metal.
29. Lower the axles back down to ride height.
30. Install the torque rod and hand-tighten the fasteners.
31. Tighten the torque rod fasteners on the frame side 128 lbf-ft (173 N-m), and the torque rod pin side 375 to 425 lbf-ft (508 to 576 N-m).
32. Remove the jacks.
33. Tie the cables back to the torque rod with zip ties.
34. Reconnect the batteries. Tighten the connectors 10 to 15 lbf-ft (14 to 20 N-m).

Warranty

This procedure is warrantable only if the described condition exists and the repair is performed within the applicable base or extended coverage warranty period. If a failure is not found, this procedure is considered preventive and warranty does not apply.

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OWL VMRS Codes and Labor Allowance						
Primary Failed Part	Correction Code	Cause Code	SRT Code	VMRS Code	Description	Time: Hours
11-11267-000	03	14	623-5010A	016-005-024	BRKT-TRKBAR,ETNDP,DS+,ROK 6"	3.5

Table 3, OWL VMRS Codes and Labor Allowance