

> Constellation
> Heritage
> 4700 Models

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Western Star
Service Bulletin

Description of Revision: *This bulletin replaces the version dated May 2011. Information is added about ConMet hubs with a fill port.*

General Information

Proper wheel bearing lubrication is critical to sound wheel end health and safe vehicle operation. Insufficient lubrication can lead to catastrophic consequences that could have been avoided.

The procedure for lubricating wheel bearings (after a maintenance inspection, for example) depends on whether or not the hub has an oil fill port. This bulletin provides instructions for ConMet hubs with and without a fill port.

Lubricating the Wheel Bearings

ConMet Hub with an Oil Fill Port

For ConMet hubs with an oil fill port, lubricant is added through the fill port; see [Fig. 1](#) and use the following instructions.

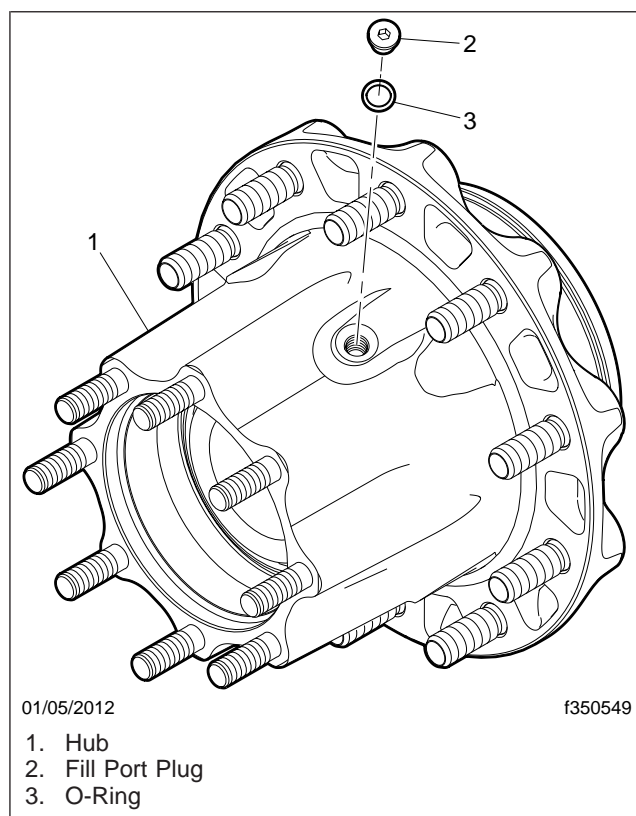


Fig. 1, ConMet Hub with Oil Fill Port

1. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.
IMPORTANT: When removing the fill port plug, make sure the rubber O-ring is attached to it and not stuck inside the fill port.
2. Clean the area surrounding the oil fill port plug, then remove the plug and O-ring.

NOTE: The fill port plug is magnetic. On drive axles, it is normal to find a small amount of very fine metallic particles from the carrier housing on the magnetic fill plug. These particles should be removed from the magnet anytime the plug is removed for inspection.

3. Inspect the plug for metallic particles picked up by the magnet. If very fine metallic particles are found, remove them from the magnet. If larger particles or chunks of metal are found, remove the hub from the spindle and inspect the bearings and other wheel end and axle components for signs of damage or excessive wear, and make the necessary repairs.

WARNING

Failure to adequately lubricate wheel bearings can cause them to seize during vehicle operation. Seized wheel bearings can cause sudden, catastrophic damage to the wheel end and axle, possibly resulting in severe personal injury or death.

4. Using a clean funnel, add 1.0 quart (0.95 liter) of the recommended drive axle lubricant through the oil fill port. For recommended lubricants, see the vehicle maintenance manual.
5. Install the fill port plug, and tighten it 20 to 25 lbf-ft (27 to 34 N·m).

ConMet Hub without an Oil Fill Port

For ConMet hubs without an oil fill port, lubricant must be transferred from the axle carrier housing to the hubs. To ensure each bearing is adequately lubricated, the axle must be filled with lubricant and tilted *three* times. See [Fig. 2](#) and use the following instructions to lubricate the wheel bearings on a rear drive axle.

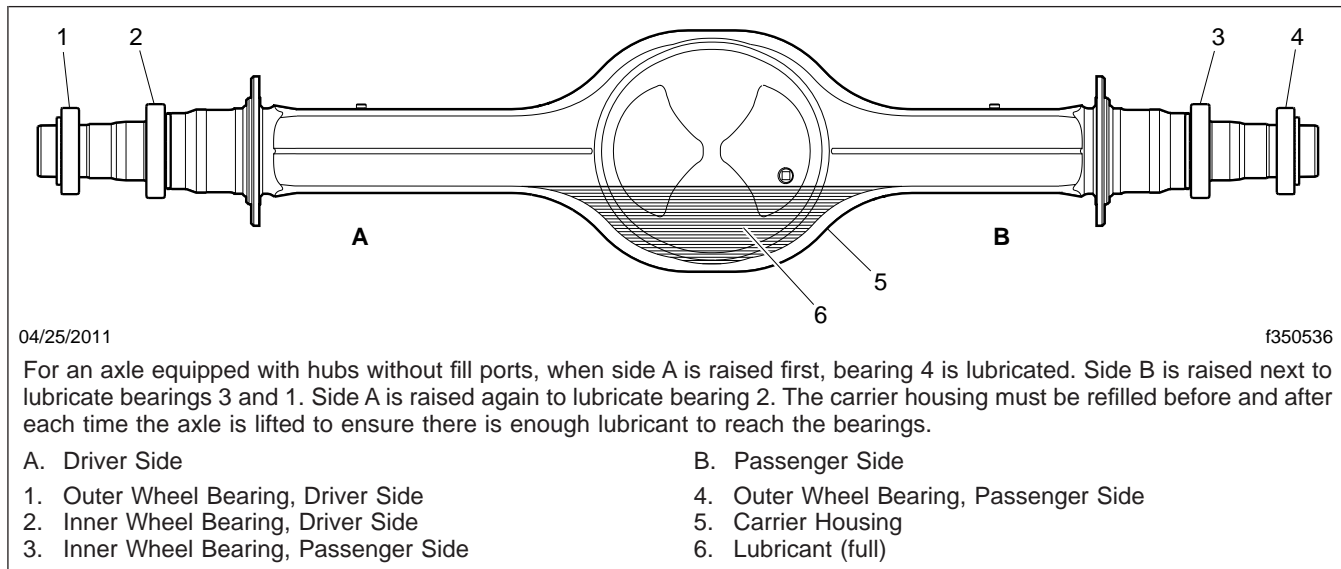


Fig. 2, Rear Drive Axle and Wheel Bearings

1. Park the vehicle on level ground, apply the parking brakes, and chock the front wheels.

NOTE: Some Freightliner and Meritor axles have a small tapped and plugged hole located below the housing oil fill hole. This smaller hole is for the lubricant temperature sensor only and must not be used as a fill hole.

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- With the axle level and all wheels on the ground, clean the oil fill hole plug and the area surrounding it, then remove the fill plug. For Freightliner axles, see [Fig. 3](#); for Meritor axles, see [Fig. 4](#); for Dana Spicer axles, see [Fig. 5](#).

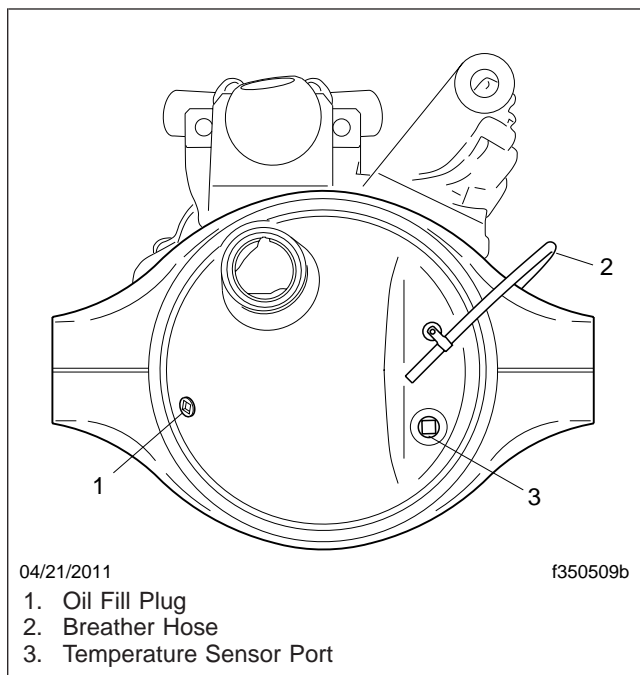


Fig. 3, Fill Hole Plug Location, Freightliner Tandem Axle (forward axle shown)

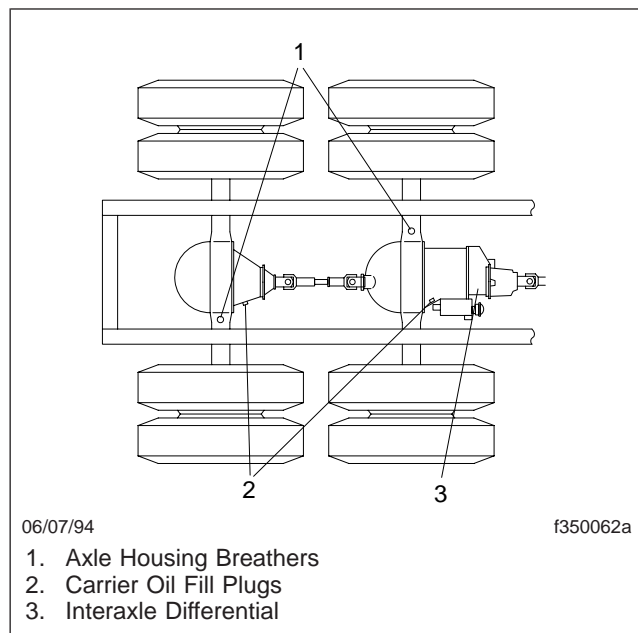


Fig. 4, Fill Hole Plug Locations, Meritor Axles

WARNING

Failure to adequately lubricate wheel bearings can cause them to seize during vehicle operation. Seized wheel bearings can cause sudden, catastrophic damage to the wheel end and axle, possibly resulting in severe personal injury or death.

IMPORTANT: A lubricant level close enough to be seen or touched is not sufficient; it must be level with the bottom of the fill hole. See [Fig. 6](#).

- Use a clean funnel to add lubricant until it reaches the fill hole, then insert the fill plug. For recommended lubricants, see the vehicle maintenance manual.
- To tilt the axle, position a suitable jack at a leaf spring U-bolt, and raise it until the bottom of the outside part of the outside tire is 8 inches (20 cm) above the ground. See [Fig. 7](#) and [Fig. 8](#).

IMPORTANT: The axle must be tilted three times and the tilted position must be held for two minutes each time to allow enough lubricant to reach the hub and wheel bearings.

- After two minutes, lower the axle, and add lubricant as described earlier in this procedure.
- At a leaf spring U-bolt on the other end of the axle, tilt the axle as described earlier in this procedure.
- After two minutes, lower the axle, and add lubricant as described earlier in this procedure.
- At the U-bolt where the axle was first lifted, tilt the axle as described earlier in this procedure.

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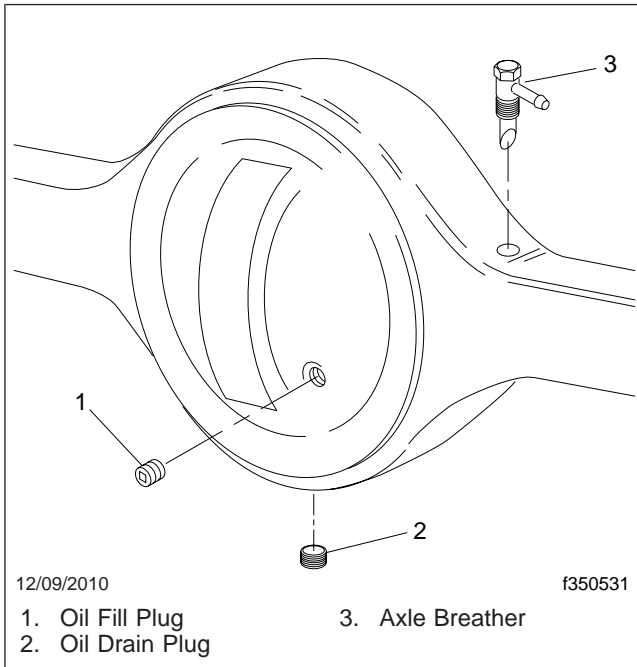


Fig. 5, Fill Hole Plug Location, Dana Spicer Axles

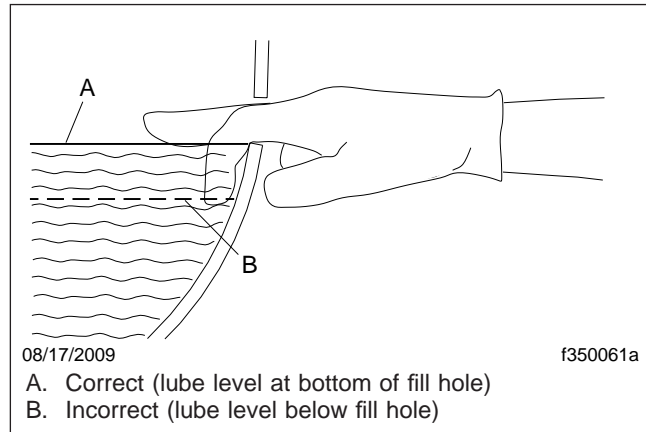


Fig. 6, Axle Lubricant Level Check

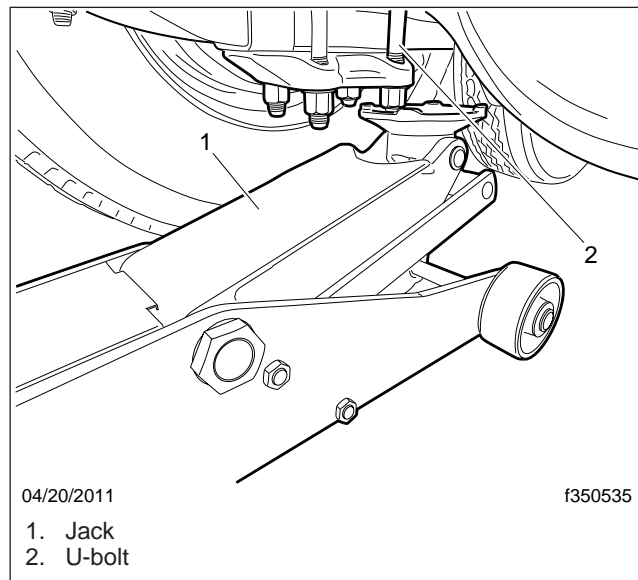


Fig. 7, Axle Lifted at Leaf Spring U-bolt

9. After two minutes, lower the axle, and add lubricant as described earlier in this procedure.

Warranty

This bulletin is informational only. Warranty does not apply.

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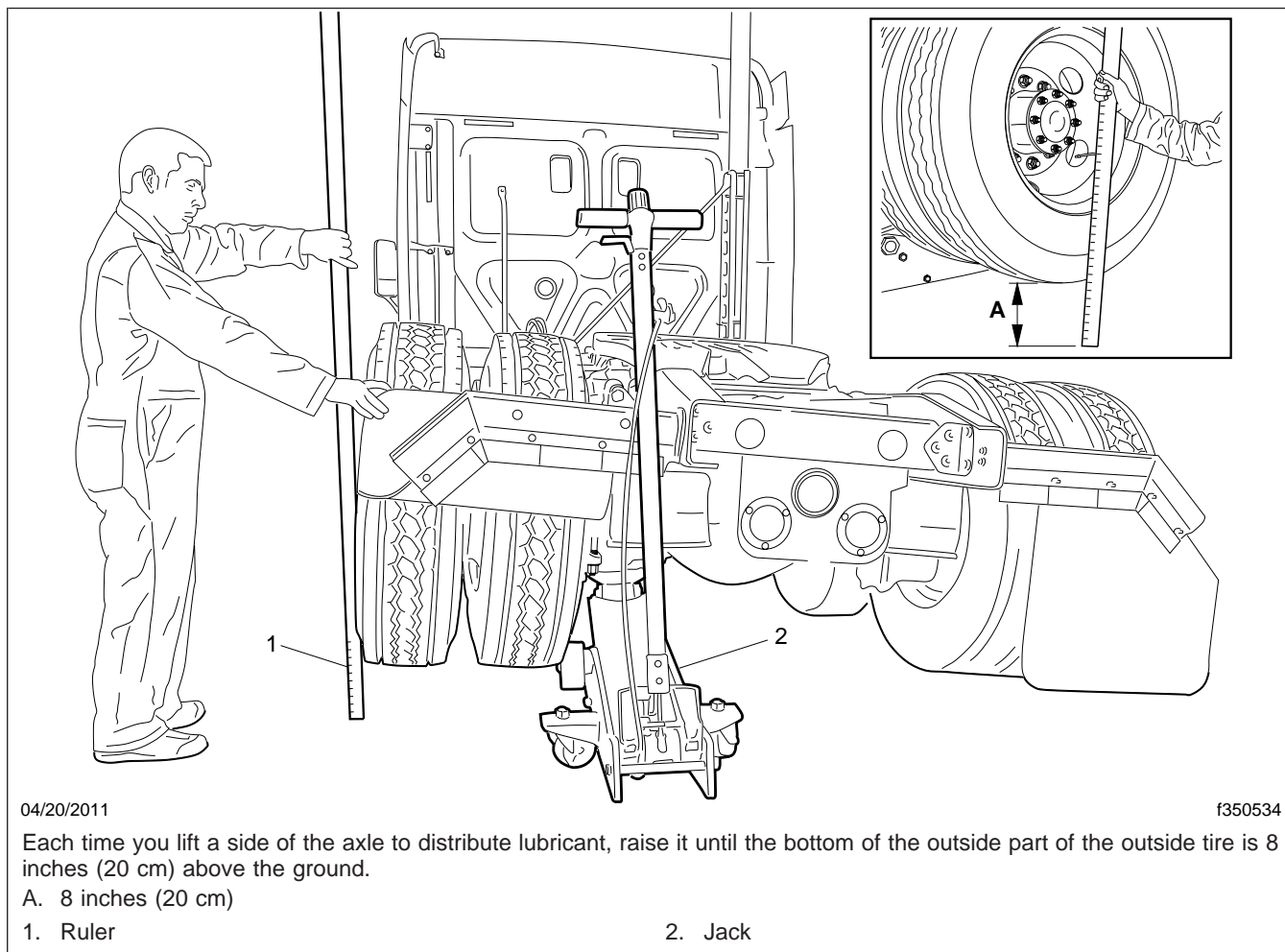


Fig. 8, Distributing Lubricant from Carrier Housing to Wheel Bearings for ConMet Hubs without Oil Fill Ports