

SAFETY RECALL

Mack Trucks Inc.
Greensboro, NC USA



Date	Number	Release	Page
02.2017	SC0406	01	1 (39)

Front Axle Hubs, Underrated

CHU,CXU, GU, TD, CXX

SAFETY RECALL INFORMATION:

(February 2017)

Some MACK CHU, CXU, GU, TD and CXX models built between 01/01/2011 and 12/31/2016 were assembled with front steer axle hubs that do not support the gross axle weight rating of the front steer axle. Specifically, 5,987 Kg (13,200 lbs.) rated front hubs were used on trucks requiring a 6,622 Kg (14,600 lbs.) rated front axle. This condition could result in premature failure of the hub, bearings etc., which may cause the front hub assembly to separate from the front axle. If the front hub assembly separates, the driver may lose control of the vehicle or parts may be dropped on the road that can present a risk for other motorist. The repair procedure outlined in this safety recall will replace the aluminum steer axle hubs with steel hubs that are rated to the 6,622 Kg (14,600 lb) gross axle weight rating.

MACK Trucks has received no reports of personal injury as a result of this condition. Therefore, MACK considers this as a proactive measure to protect the public and MACK's customers from the potential risk associated with this defect.

VEHICLES AFFECTED:

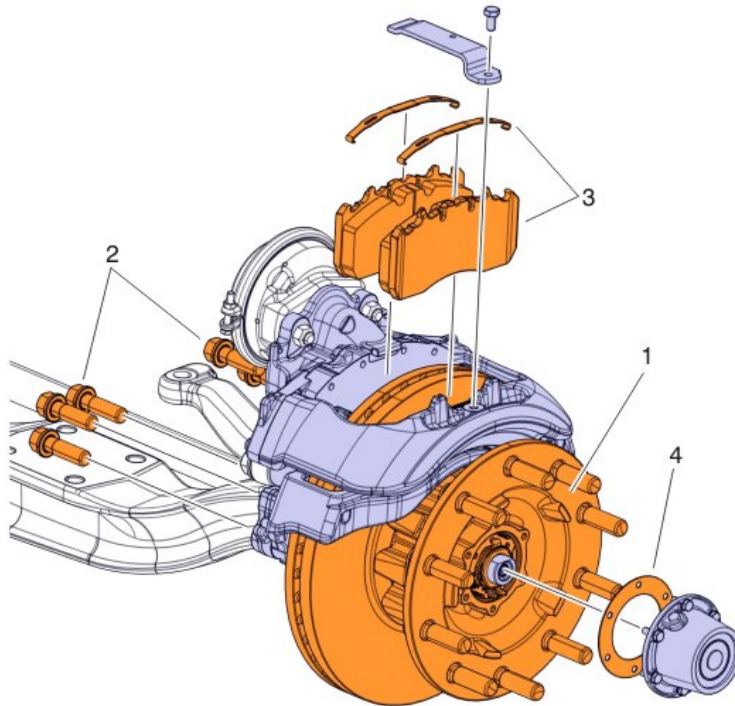
Vehicles affected by this recall include certain MACK Granite / 2012, 2014, 2015, Pinnacle / 2012 through 2017, Titan / 2013, 2014, 2015, and 2017 truck models.

VEHICLE IDENTIFICATION NUMBERS (VIN):

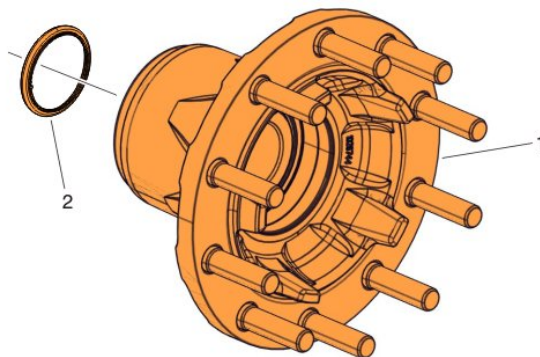
There are 378 trucks affected by this recall (199 USA, 43 Canada and 136 Export).

Required Parts:

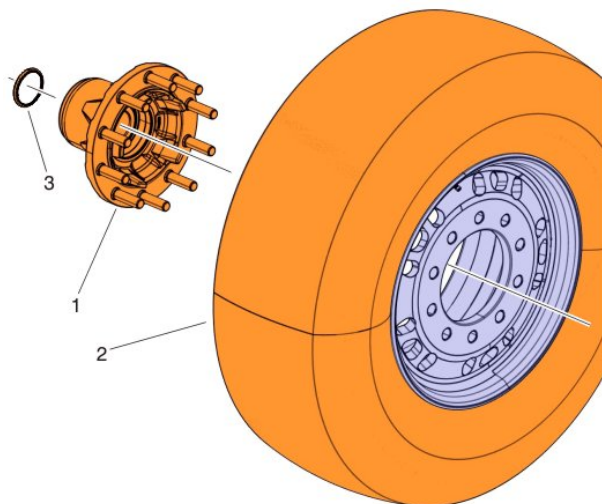
To schedule parts orders and repairs, please call (877) 986-5862 with the Vehicle Identification Number (VIN) of the vehicle in need of this repair. See the **VIN Key for MACK Underrated Hub Parts** table on page 3.



Parts List for Repair 1 (MACK Tapered Hub), Disc Brakes			
Item	Description	Part Number	Qty
1	Wheel Hub, Front	22757125	2
2	Flange Screw	1079435	12
3	Pad, Service Kit	22179301	1
4	Gasket, Hub Cap	25155409	2
5	Hub Oil	N/A	591 ml (20 oz)



Parts List for Repair 2 (MACK Unitized Hub), Drum Brakes			
Item	Description	Part Number	Qty
1	Wheel Hub, Front	85151399	2
2	Seal, Axle Wheel Bearing	20531576	2

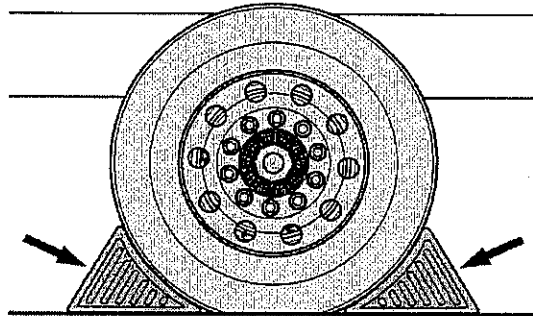


Parts List for Repair 3A (MACK Unitized Hub), Drum Brakes			
Item	Description	Part Number	Qty
1	Wheel Hub, Front	85151399	2
2	TIRE, BRIDGESTONE 11R 24.5 R250ED® - "H" Rated	20952466	2
3	Seal, Axle Wheel Bearing	20531576	2

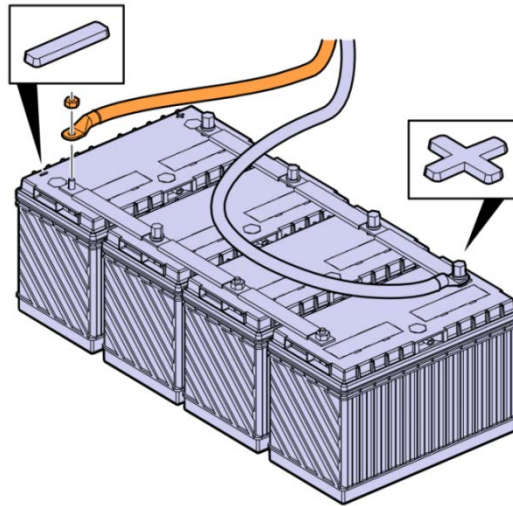
Parts List for Repair 3B (MACK Unitized Hub), Drum Brakes			
Item	Description	Part Number	Qty
1	Wheel Hub, Front	85151399	2
2	TIRE, MICHELIN 11R 24.5 XZE2® - "H" Rated	21204027	2
3	Seal, Axle Wheel Bearing	20531576	2

Decommissioning the Truck for Repair:

1. Secure the vehicle for service by parking on a flat and level surface, placing the transmission in neutral, applying the parking brake, turning the ignition key to the OFF position, and chocking the front wheels.



2. Disconnect the cable from the battery's negative (ground) terminal.



3. Using a jack, lift the drive axle and support with the drive axle with jack stands.

 **DANGER**

A raised vehicle which has not been properly secured can cause serious or death.

NOTE

Use only jack stands with adequate rating. Verify the jack stands are fault free. **DO NOT** work under a vehicle until it is supported on jack stands.

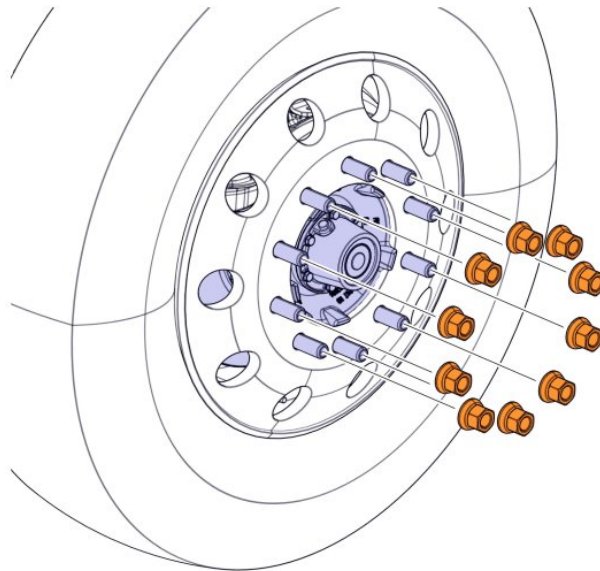
NOTE

The Illustrations shown in this document are used for reference only and may differ slightly from the actual vehicle being serviced. However, the replacement procedure is represented as accurately as possible.

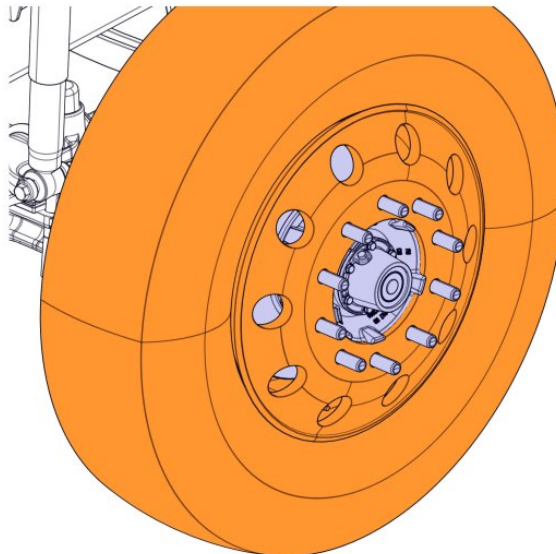
Underrated Front Axle Hubs Repair 1 (driver side shown):

NOTE
Use the appropriate parts table shown on page 3 for repair procedure 1 per VIN number.

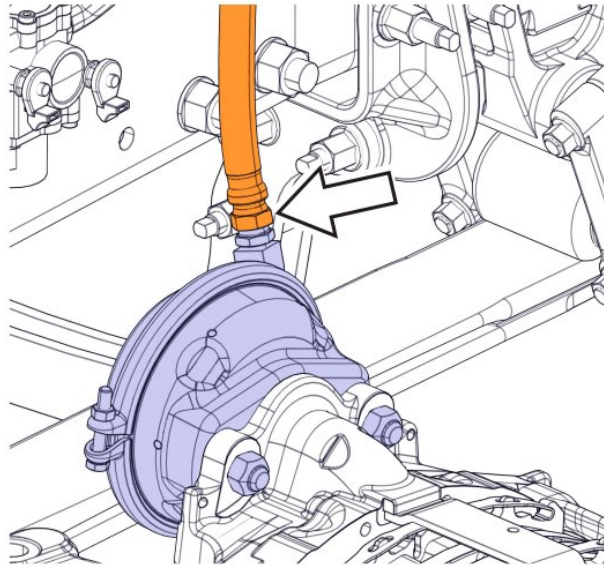
1. Remove the wheel nuts.



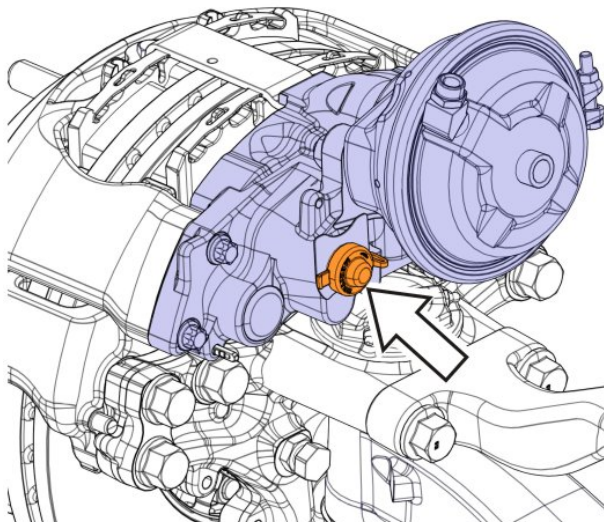
2. Remove the wheels.



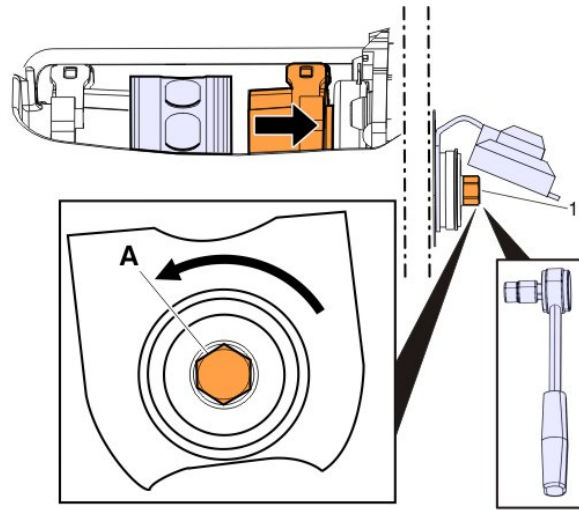
3. Remove the brake chamber air line.



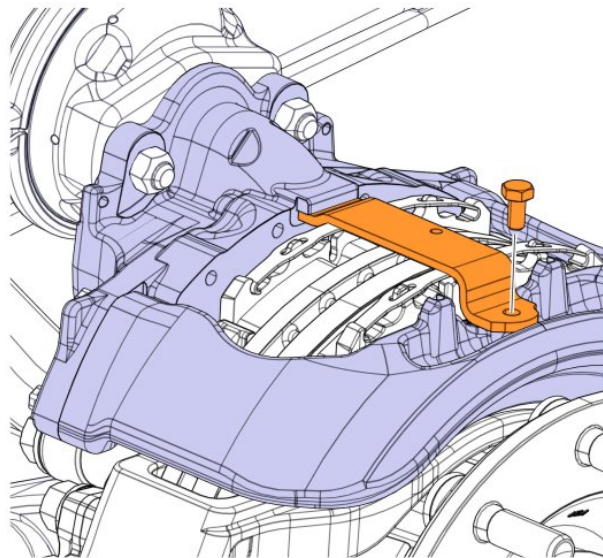
4. Remove the adjuster cover on the caliper.



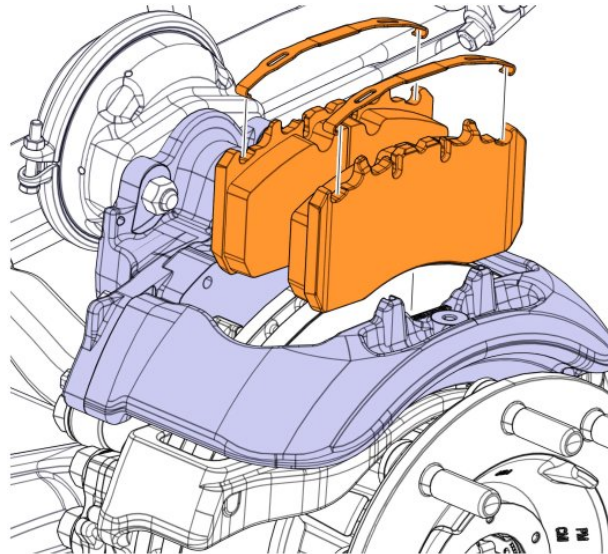
5. Using a 10 mm (0.39 in) socket wrench, rotate the adjuster screw (1) counter clockwise (A) to move the brake pads away from the rotor.



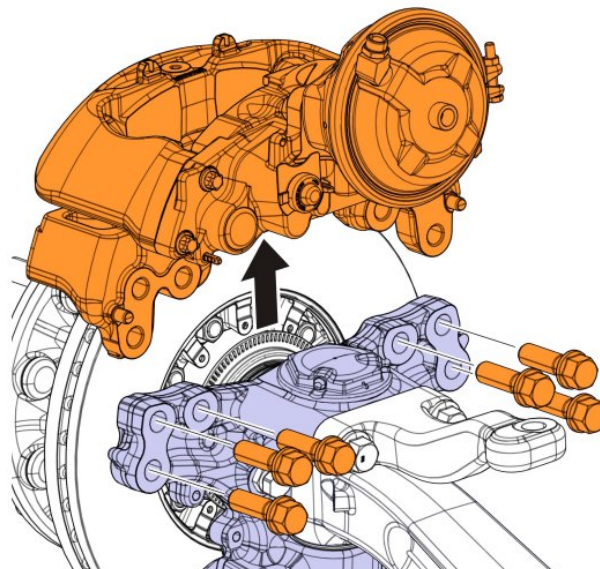
6. Remove the disc brake pad shield and fastener securing the brake pads.



7. Remove the spring clips and disc brake pads.

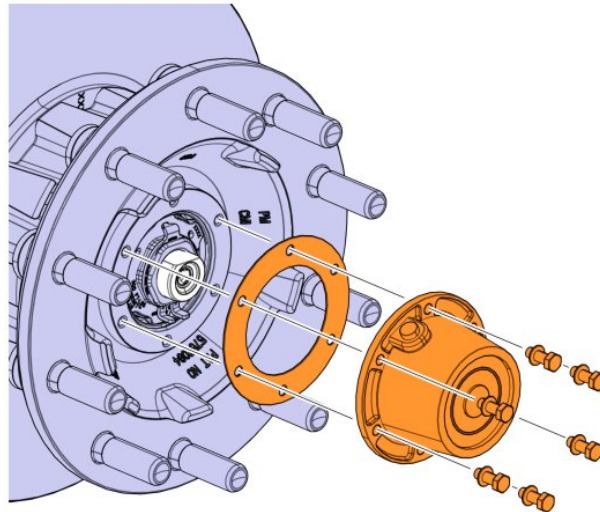


8. Remove the fasteners securing the brake caliper to the backing plate.
9. Remove the caliper assembly with brake chamber.



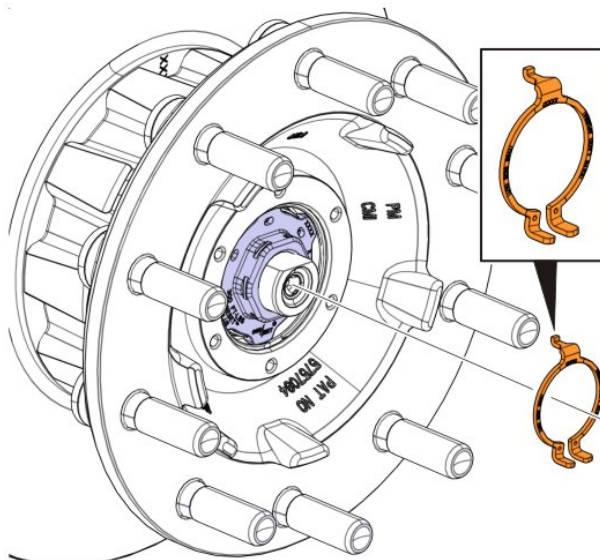
10. Remove the hub cap and gasket as shown in the figure below.

NOTE
Ensure a drain pan is used to catch oil from the axle and hub while removing the hub cap and gasket.

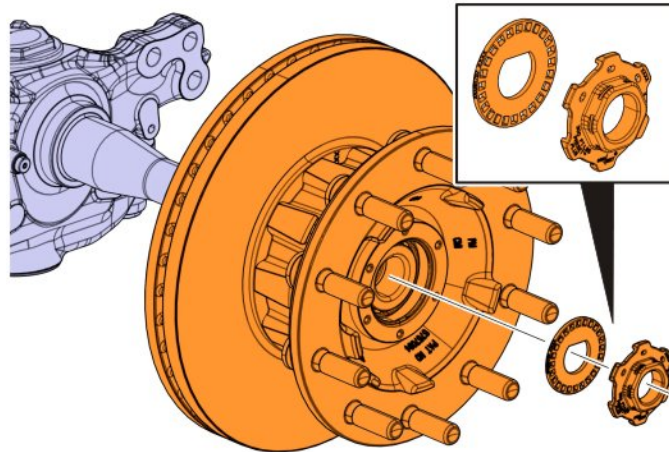


11. Remove the hub bearing lock.

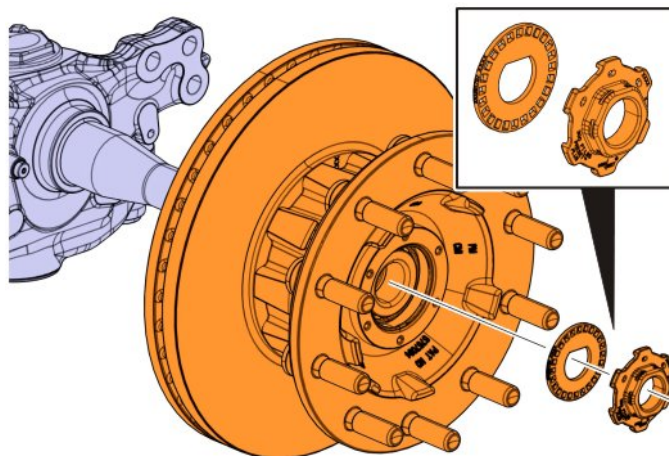
NOTE
Ensure a drain pan is used to catch oil from the axle and hub while removing the hub bearing lock.



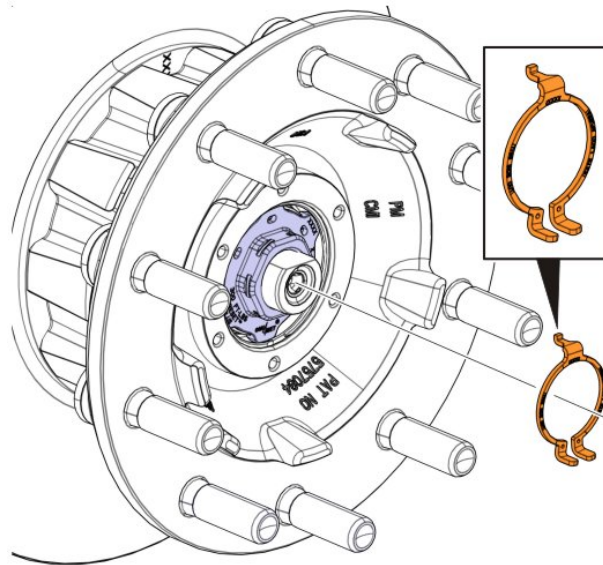
12. Remove the hub nut and washer securing the hub to the axle.
13. Using a lifting device, remove the hub and rotor from the axle.



14. Using a lifting device, position the replacement hub onto the axle and secure with the new hub washer and nut.
15. Tighten the nut to 406 Nm (300 ft-lb)



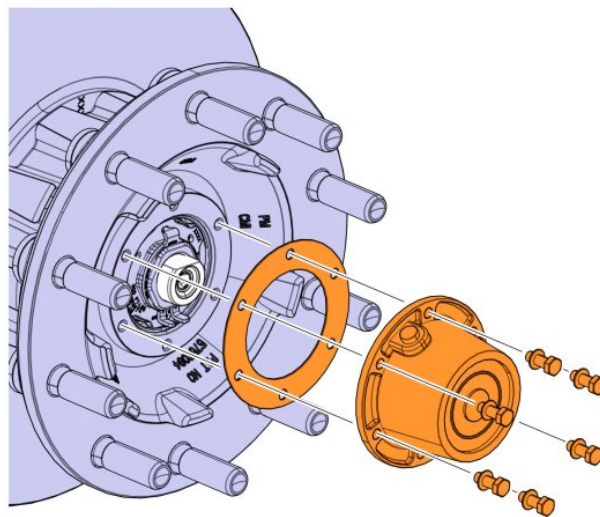
16. Install the new locking clip as shown.



17. Install the hub cap gasket (part number 25155409), hub cap and fasteners.

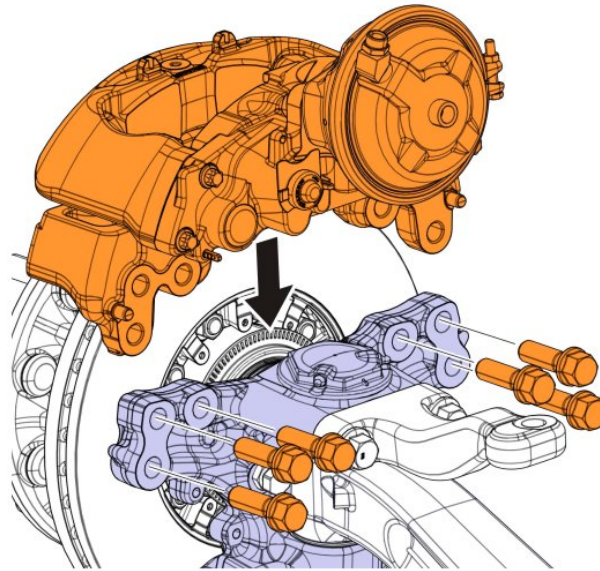
18. Tighten the fasteners to 16 to 21 Nm (12 to 16 ft-lb).

19. Fill the hub cap with hub oil.

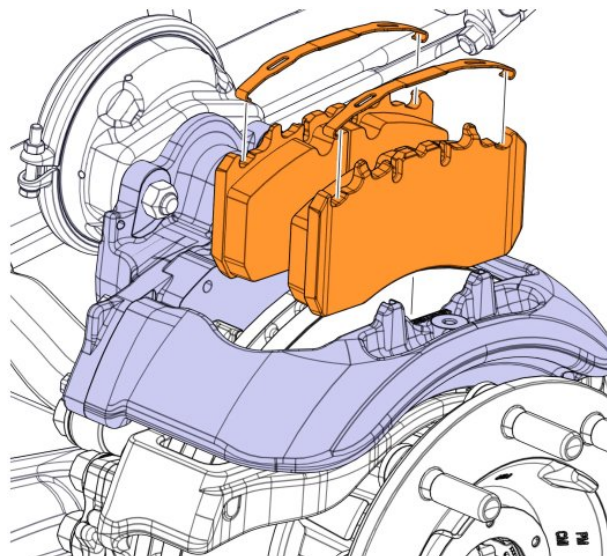


20. Install the brake caliper assembly with brake chamber to the backing plate with new fasteners (part number 1079435).

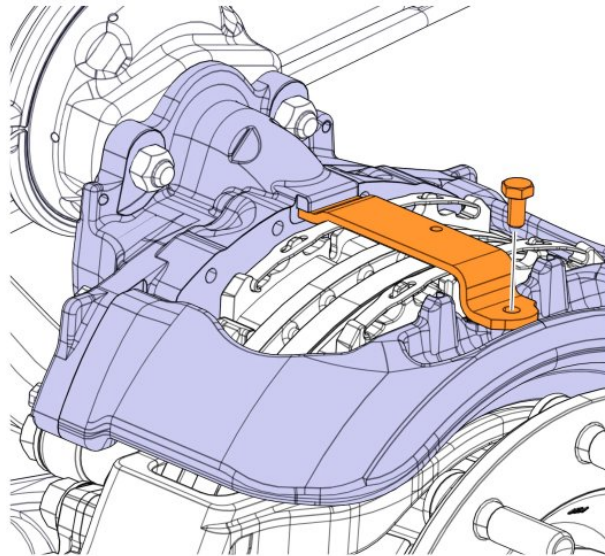
21. Tighten the fasteners to 299 Nm (221 ft-lb). Then, torque each fastener +60 Degrees.



22. Install the replacement disc brake pads and spring clips as shown.



23. Install the disc brake pad shield and fastener. Tighten the fastener to 30 to 40 Nm (25 to 30 ft-lb).

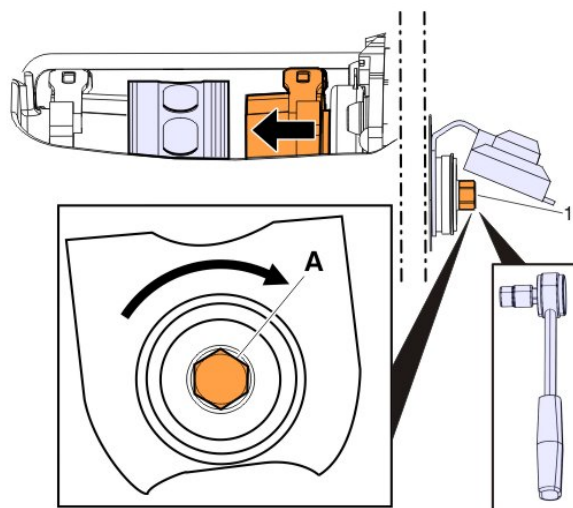


24. Adjust the steer axle brakes as follows:

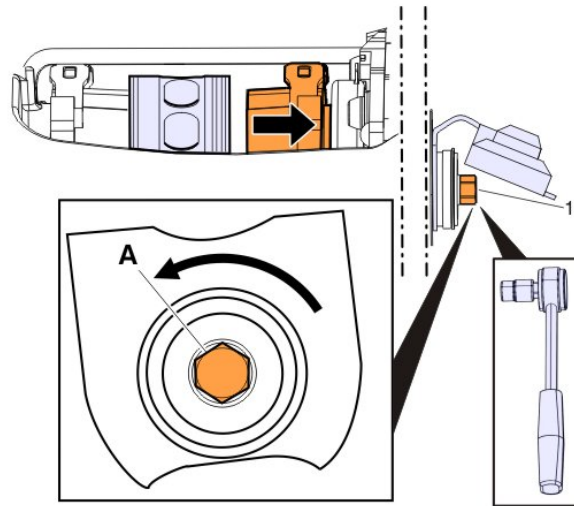
⚠ CAUTION

The brake adjuster can be damaged if excessive force is used on the adjuster shaft. DO NOT exceed the maximum specified torque. Use a box end wrench or quarter inch drive socket with a short ratchet handle for this procedure.

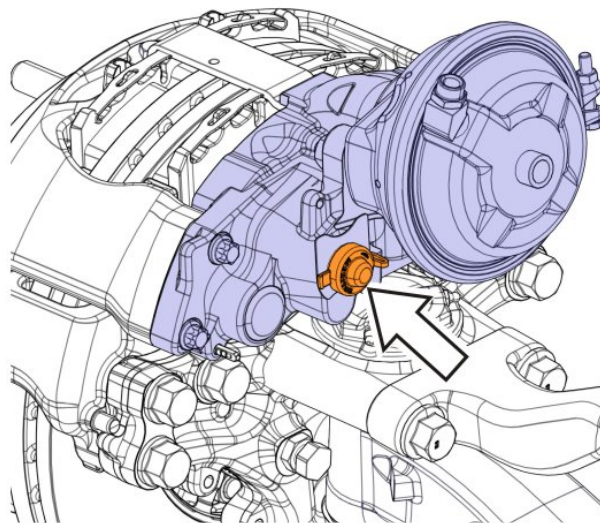
1. Rotate the adjuster (1) clockwise (A) until the disc brake pads contact the rotor.



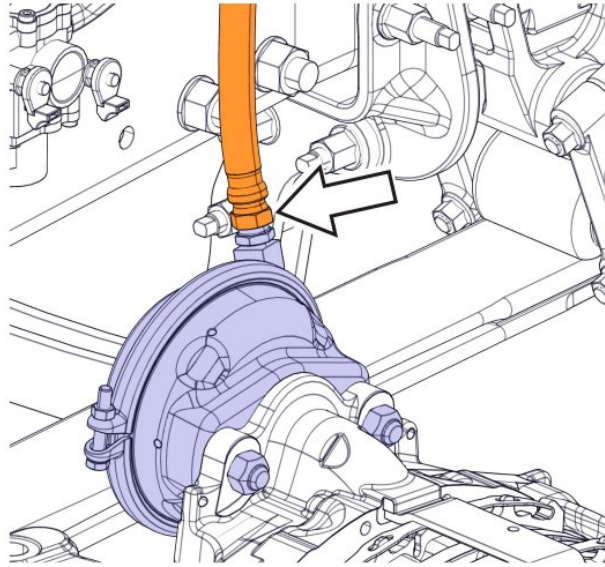
2. Rotate the adjuster (1) counter-clockwise (A) one-half turn.



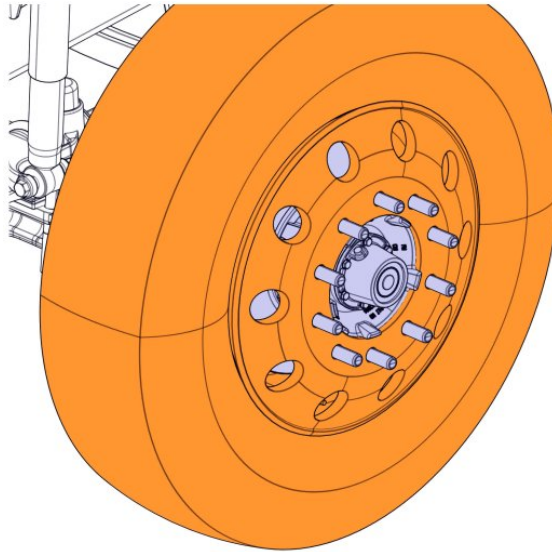
25. Install the adjuster cover.



26. Install the brake chamber air line.

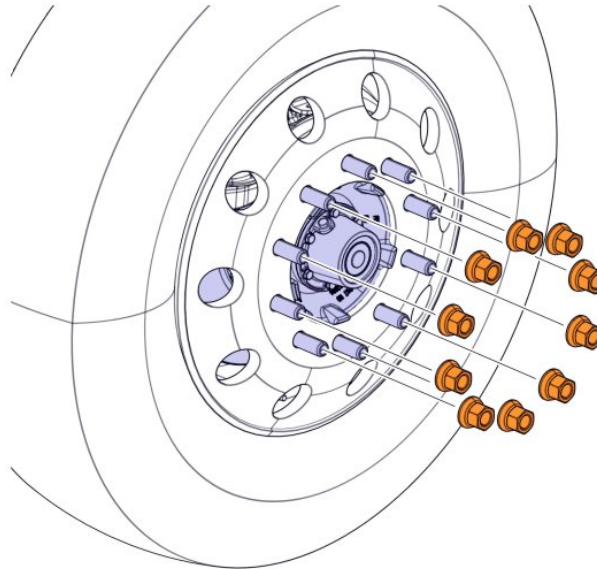


27. Install the wheel.



28. Install the wheel nuts.

29. Tighten the wheel nuts to 610 Nm (450 ft-lb).



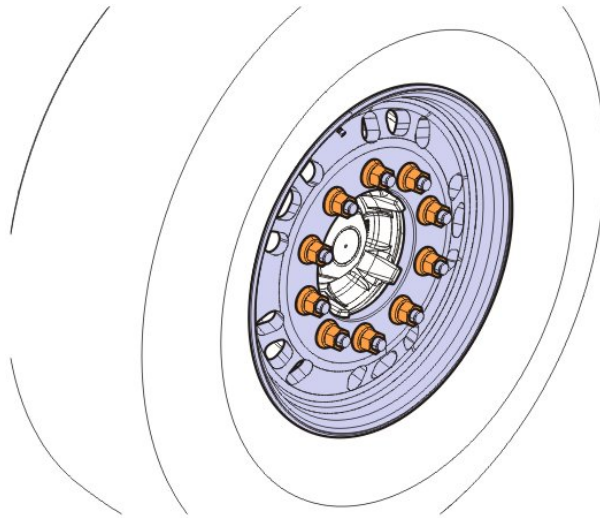
30. Repeat steps 1 through 30 for the remaining side of the vehicle.

31. Lift the vehicle with a jack, remove the jack stands and lower the vehicle.

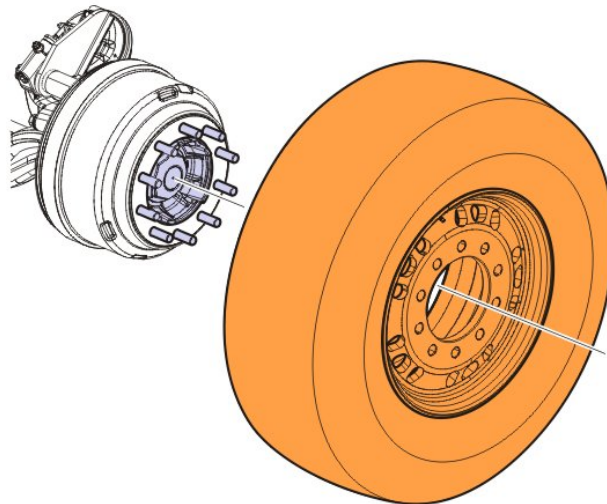
Underrated Front Axle Hubs Repair 2 (driver side shown):

NOTE
Use the appropriate parts table shown on page 3 for repair procedure 2 per VIN number.

1. Remove the wheel nuts.



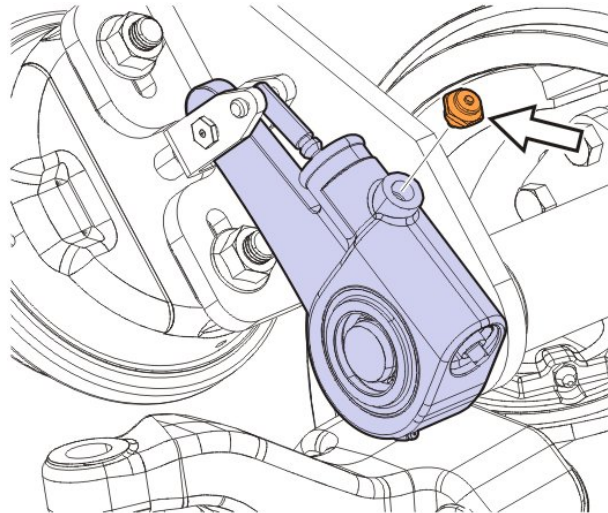
2. Remove the wheel.



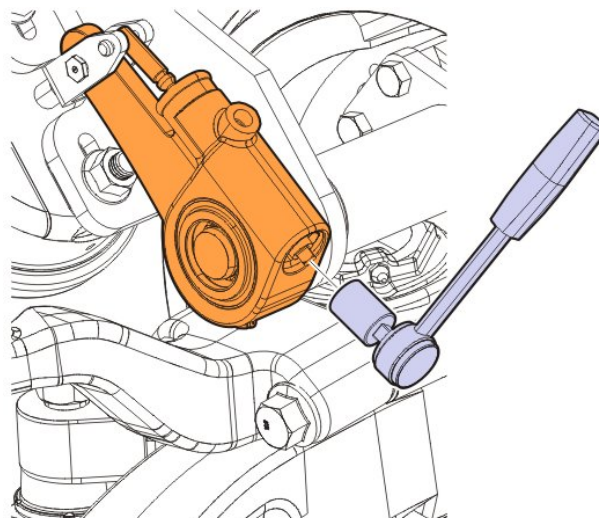
3. Remove the slack adjuster pawl.

NOTE

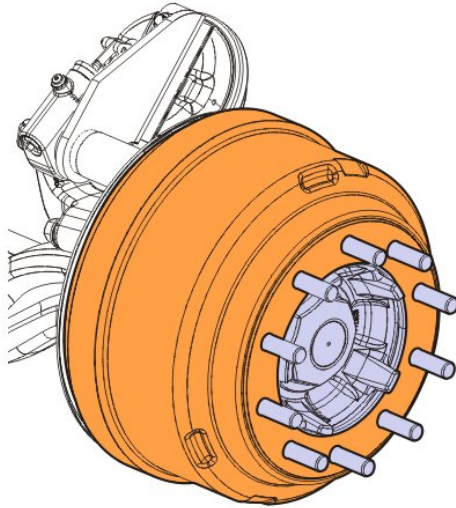
The Meritor slack adjuster is shown in this procedure for backing off the brakes. However, this procedure is similar for other brands.



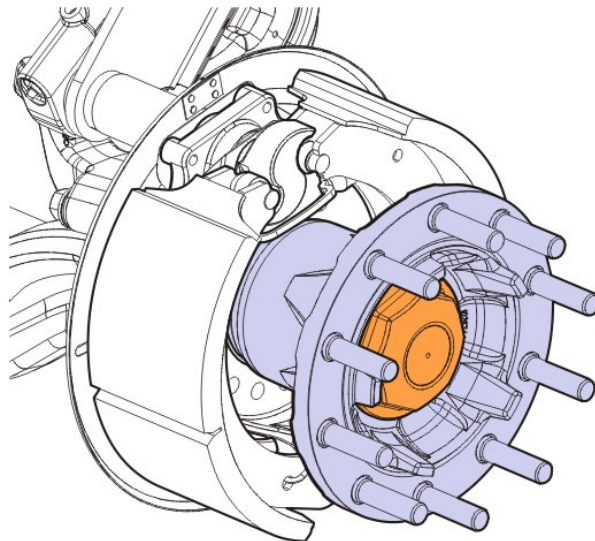
4. Back off of the brake (slack adjuster).



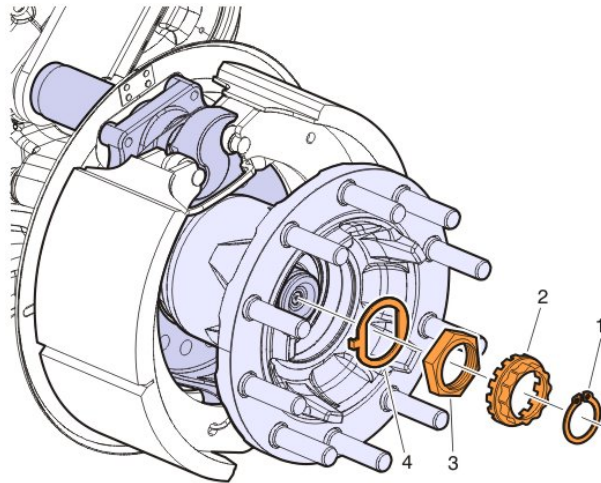
5. Remove the brake drum.



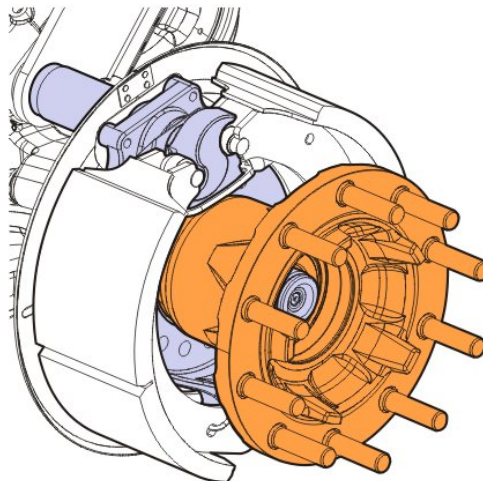
6. Remove the hub cap.



7. Remove the snap ring (1), Lock plate (2), hex nut (3), and D-Washer (4).



8. Remove the hub assembly.

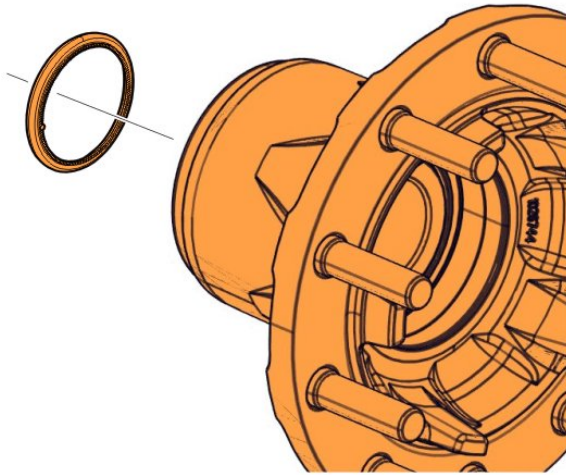


9. Check the threads on the spindle and hex nut to ensure they are serviceable.

NOTE

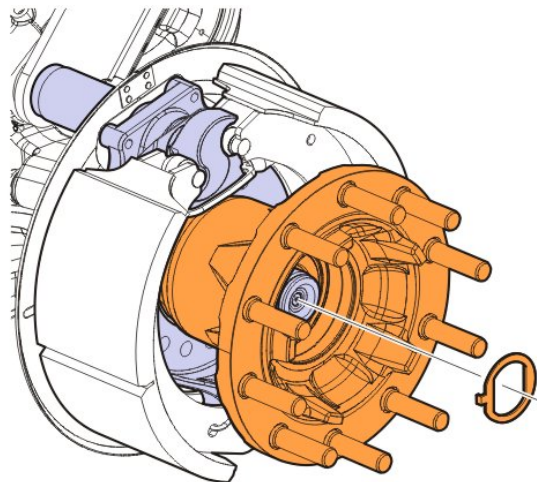
If the threads are damaged on spindle or hex nut, repair or replace as required.

10. Install the axle wheel bearing seal as shown.

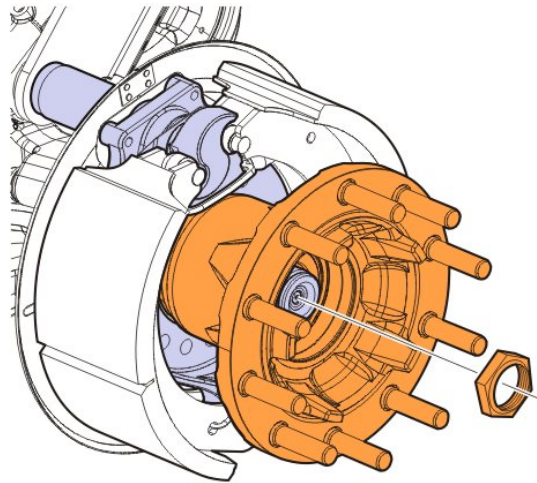


11. Install the hub assembly and D-Washer.

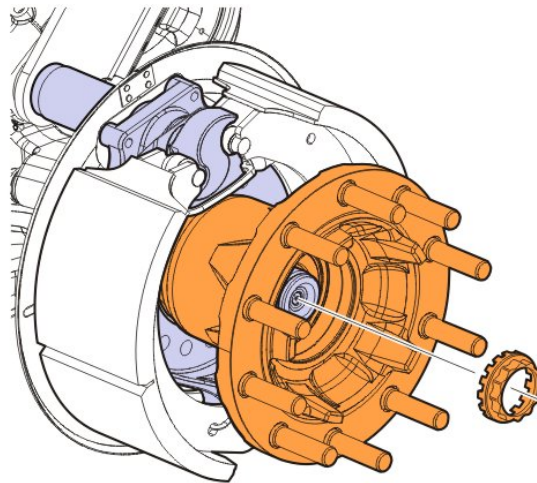
NOTE
Ensure wheel bearing o-ring is in the correct position and undamaged during hub installation.



12. Install the hex nut and tighten by hand.
13. Tighten the hex nut 150 ± 30 Nm (110 ± 22 ft-lb).
14. Rotate the hub 20 revolutions in any direction.
15. Tighten the hex again to 1000 ± 100 Nm (737 ± 73 ft-lb).



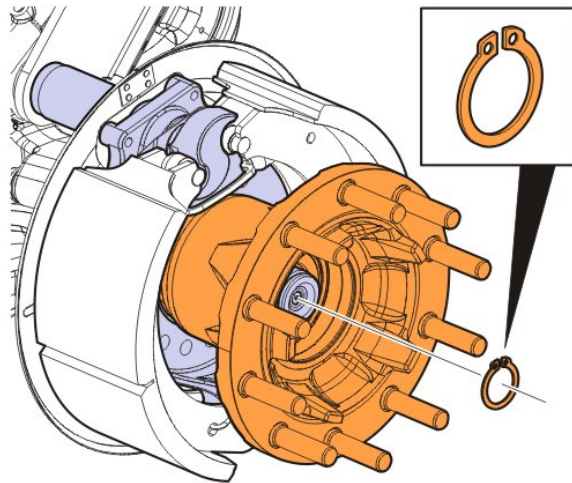
16. Position the lock plate onto the hex nut.



17. Install and secure the snap ring.

NOTE

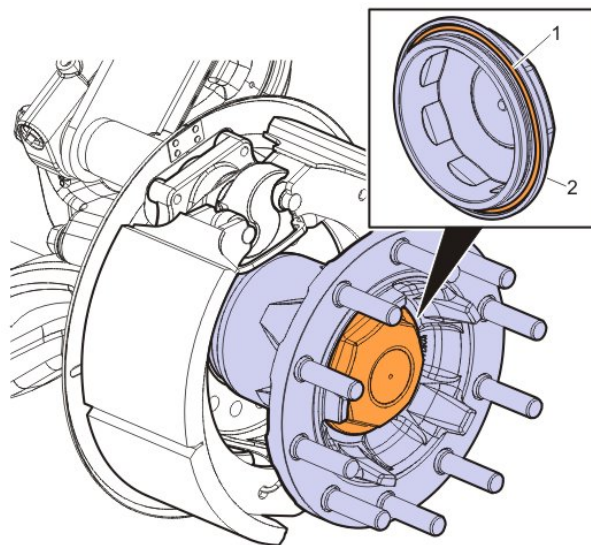
Ensure the snapping ring located securely in the spindle groove.



18. Ensure the hub cap o-ring (1) is properly assembled on the hub cap (2).

19. Install the hub cap and o-ring onto the hub.

20. Tighten the hub cap to 500 ± 50 Nm (368 ± 37 ft-lb).



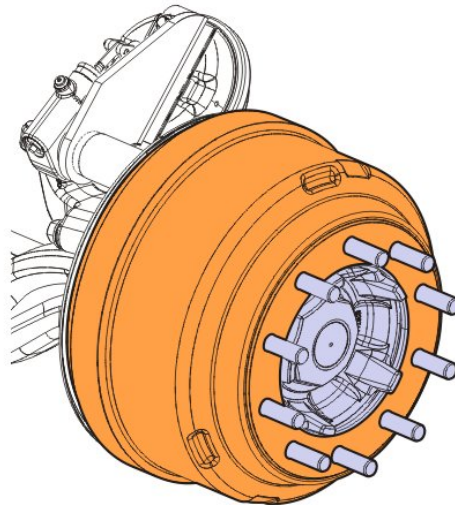
NOTE

To prevent damage to the o-ring during hub cap installation, lubricate the o-ring.

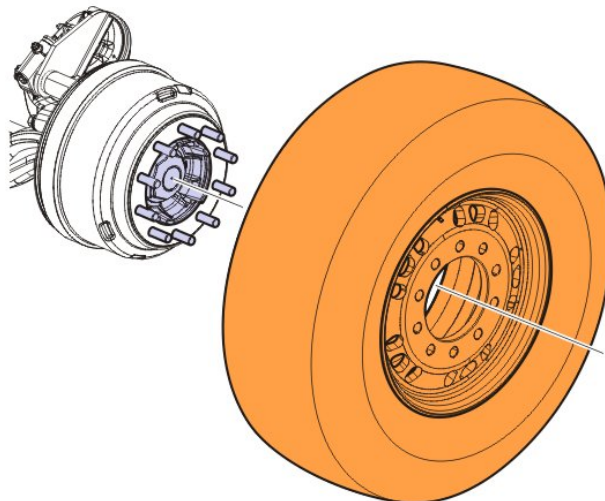
NOTE

Do not lubricate the hub cap threads.

21. Install the brake drum as shown.

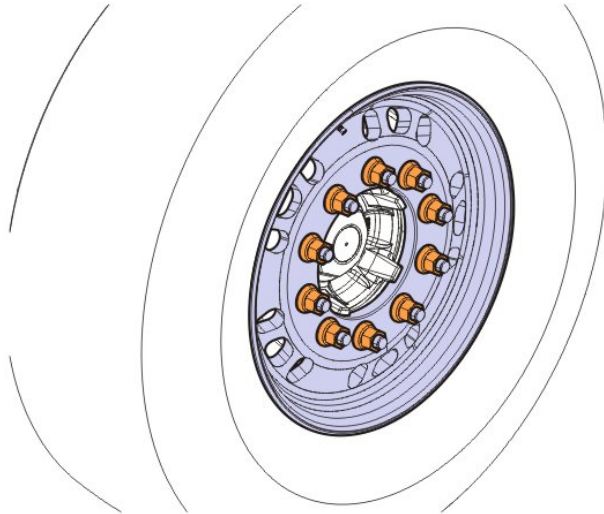


22. Install the wheel.



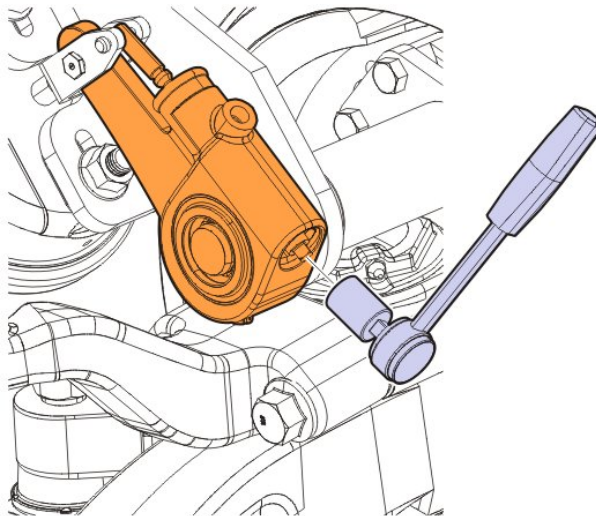
23. Install the wheel nuts.

24. Tighten the wheel nuts to 610 Nm (450 ft-lb).



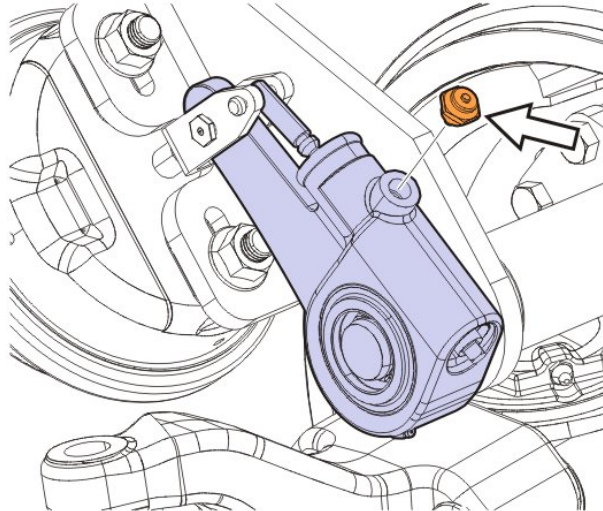
25. Adjust the brake as recommended per (slack adjuster) manufacturer.

NOTE
The Meritor slack adjuster is shown in this procedure for adjusting the brake. However, this procedure is similar for other brands.



26. Install the slack adjuster pawl.

27. Tighten the slack adjuster pawl to 21 ± 3 Nm (186 ± 30 in-lb).



28. Repeat steps 1 through 27 for remaining side of the truck.

29. Lift the steer axle with a jack, remove the jack stands, and lower the axle.

30. Go to **Commissioning the Truck for Operation**.

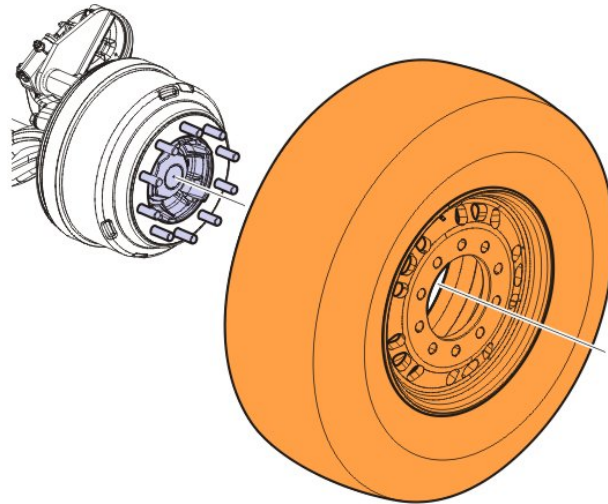
Underrated Front Axle Hubs Repair 3A and 3B (driver side shown):

NOTE

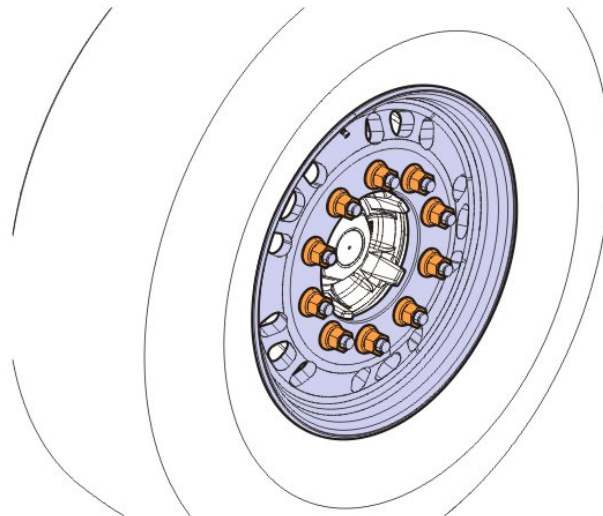
Use the appropriate parts table shown on page 3 for repair procedures 3A or 3B per VIN number.

1. Follow the same steps 1 through 21 from repair procedure 2 (**Underrated Front Axle Hubs Repair 2**) with the addition of tire replacement as shown in parts repair tables 3A, 3B and the **VIN Key for MACK underrated Hub Repair Parts Table** on page 4.

2. After the replacement hubs are complete, follow the proper tire replacement procedures, and install the new tires before installing the wheels.
3. Inflate each tire to the correct tire pressure.
4. Install the wheel.



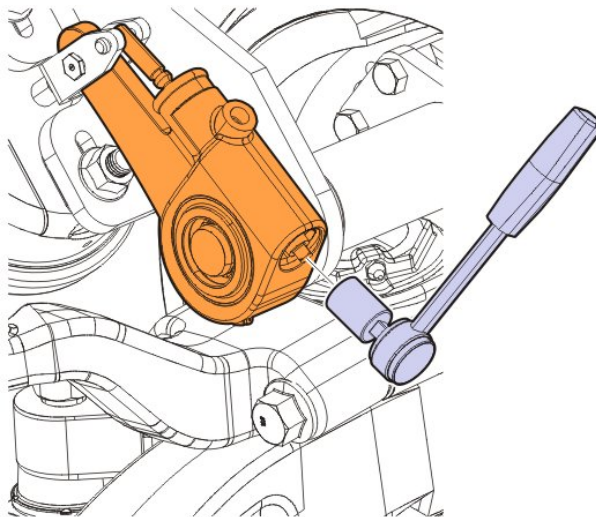
5. Install the wheel nuts.
6. Tighten the wheel nuts to 610 Nm (450 ft-lb).



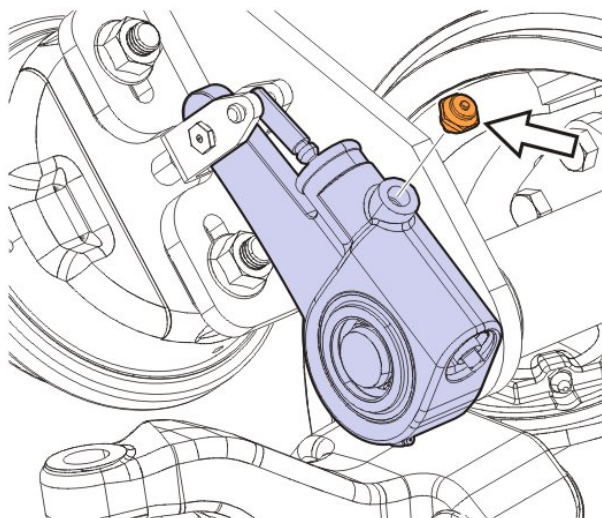
7. Adjust the brake as recommended per (slack adjuster) manufacturer.

NOTE

The Meritor slack adjuster is shown in this procedure for adjusting the brake. However, this procedure is similar for other brands.



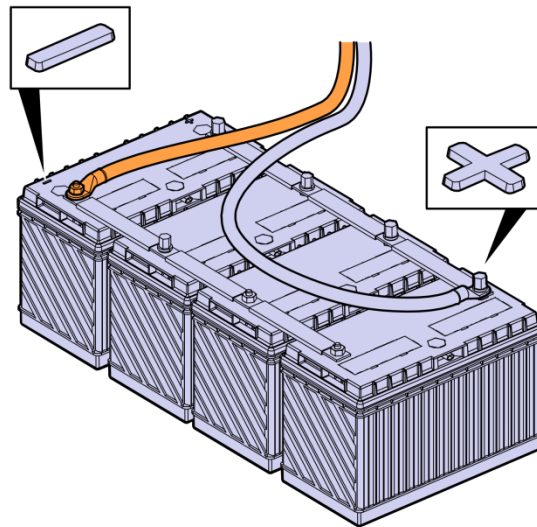
8. Install the slack adjuster pawl.
9. Tighten the slack adjuster pawl to 21 ± 3 Nm (186 ± 30 in-lb).



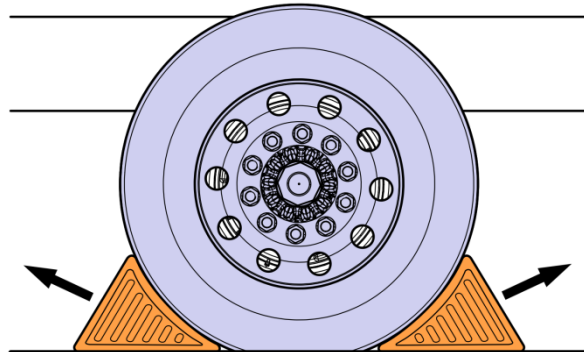
10. Repeat steps 1 through 9 for remaining side of the truck.
11. Lift the steer axle with a jack, remove the jack stands, and lower the axle.
12. Go to **Commissioning the Truck for Operation**.

Commissioning the Truck for Operation:

1. Connect the battery cable to the negative (ground) terminal.



2. Remove the wheel chocks.



3. Start the vehicle and check the brakes and air lines for proper operation and function.

Reimbursement:

This repair is covered by an authorized Safety Recall campaign. Reimbursement is obtained through the normal claim handling process.	
	UCHP Reimbursement
Claim Type (used only when uploading from the Dealer Business System)	40
Recall Status	
Vehicle repaired per instructions	1-Modified per instructions
Labor Code	
Primary Labor Code (Per Axle) Front Axle Hubs, Underrated, Repair 1, Tapered Hub (Disc Brakes)	7731-03-09-02 2.3 hrs
Labor Code (Per Axle) Front Axle Hubs, Underrated, Repair 2, Unitized Hub (Drum Brakes)	7731-03-09-03 1.7 hrs
Labor Code (Per Axle) Front Axle Hubs, Underrated, Repair 3A, Unitized Hub and Tire (Drum Brakes)	7731-03-09-04 1.9 hrs
Labor Code (Per Axle) Front Axle Hubs, Underrated, Repair 3B, Unitized Hub and Tire (Drum Brakes)	7731-03-09-05 1.9 hrs
Time to take charge of vehicle and determine campaign status	1700-03-02-13 0.3 hrs
Scrap Parts Disposition	Scrap all replaced parts and tires in accordance with state and local authorities.
Causal Part	21728460
Authorization Number	C6583

Take-charge time is not included in the labor code for this operation. Take charge may be eligible, but can only be used once per vehicle repair visit. If the vehicle is having other warranty repairs performed, take-charge should be charged to the warranty repair, otherwise take-charge can be charged to this Safety Recall campaign.