Installation of the Brake Shim and Updating the Stamp Specification

TSB-42-022-FCCC

Creation Date:2024-09-20

Engine or Vehicle Affected:

▸ Walk-in Van

1.1 General Information

MT50e Walk-In Van vehicles in the field are required to have the brake shim installed to prevent the brake pad retainer clip from rubbing against the rotor on the rear axle. Additionally, the minimum thickness specification stamped on the rear rotors is inaccurate. The following procedure provides a solution for both of these issues.

1.2 Parts Required

For a list of parts, see 1.

Table 1, Parts Table

Parts Table		
Part Number	**Part Description**	**Quantity**
11–31214–000	Plate-Shim, Brake, MT50E	2

Table 1, Parts Table

1. Park the vehicle on a level surface, shut down the vehicle, and set the parking brake. Chock the tires.
2. Raise the rear of the vehicle until the tires clear the ground. Place safety stands under the axle. For instructions to raise and lower the vehicle, see **Section 00.06** of the *Walk-In Van Workshop Manual*.
3. Remove the rear wheels. Discard the lug nuts. For instructions, see **Section 40.00** of the *Walk-In Van Workshop Manual*.
4. Loosen and remove the brake caliper mounting bolts. See Fig. 1.

Fig. 1, Brake Caliper Mounting Bolts Removal

5. Remove the brake caliper and mounting bracket assembly.
6. Place a drain pan under the axle shaft flanges and remove the fasteners. See Fig. 2.

Fig. 2, Drain Pan Under the Axle Shaft Flange

7. Remove the axle shafts.
8. Remove the outer jam nut by straightening the tab on the retainer washer using a chisel or flat screwdriver. See Fig. 3.

Fig. 3, Outer Jam Nut Removal

9. Remove both of the locking washers.
10. Remove the spindle nut. See Fig. 4.

Fig. 4, Spindle Nut Removal

11. Remove the wheel hub and rotor assembly.

> **Notice:** When removing the hub, do not let the outer wheel bearing cone fall to the ground. This may damage the cage of the bearing. If this happens, it must be replaced.

> **Note:** Retain all the spindle/hub hardware for the installation.

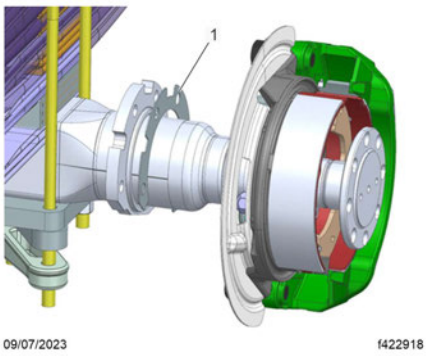
12. Remove the nuts holding the hub assembly to the axle flange. 5.

Fig. 5, Nuts to be Removed

13. While the axle end is disassembled, inspect the minimum thickness specification stamped on the brake rotor. If the specification is indicated as 1.42 inches, grind down the number two (2) until it is smooth and then stamp the number seven (7). See Fig. 6.

Fig. 6, Stamp Specification Update

14. Install the shim plate between the axle brake mounting flange and the brake assembly. See Fig. 7.



1. Shim Plate

Fig. 7, Shim Plate Installation

15. Slide the drum brake assembly onto the axle, making sure to align the bolts with the corresponding holes in the brake mounting flange. Gently maneuver the drum brake into its proper position, ensuring it is seated snugly against the axle brake mounting flange. Begin the reassembly process by loosely installing the fasteners that were removed during the disassembly. Tighten the fasteners 151 lb·ft (205 N·m).
16. Remove the old wheel seal and install a new seal.
17. Lubricate the axle spindle and bearing inside the hub.
18. Install the hub assembly onto the drum brake.
19. Install the flat locknut onto the axle, ensuring that the bump is facing outward, toward the wheel end.
20. While turning the rotor in a clockwise direction, tighten the nut 100 lb·ft (136 N·m).
21. Loosen the locknut ½ rotation, tighten the nut 30 lb·ft (41 N·m).
22. Turn the locknut until the top of the nut is horizontal. See Fig. 8.

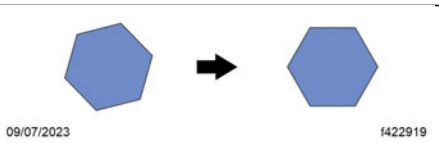


Fig. 8, Nut Allignment

23. Align the tab of the lockwasher with the groove on the axle. Then, ensure that the bump of the locknut is positioned to fit into any available hole in the lockwasher. If proper alignment cannot be achieved, remove the lockwasher and rotate it 180 degrees vertically, then reinstall it to achieve the desired alignment. See Fig. 9.

Fig. 9, Lockwasher Alignment

24. Install the retaining washer, aligning it with the groove in the axle. See Fig. 10.

Fig. 10, Retaining Washer Alignment

25. Install the retaining nut and tighten the nut 200 lb·ft (271 N·m). Once the correct torque is reached, ensure that one of the tabs on the retaining washer is aligned with a flat side of the retaining nut. Bend this tab from the retaining washer onto the retaining nut to secure it in place. See Fig. 11.

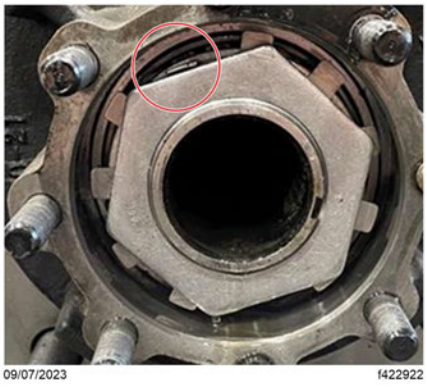
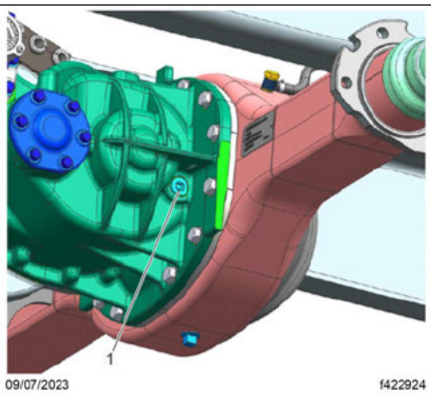


Fig. 11, Retaining Nut Installation

26. Place the new gasket over the axle studs and insert the axle into the wheel end and push until the studs engage the axle flange. 12.

Fig. 12, Positioning the Axle into the Wheel End

27. Insert the dowel in each hole, then install the washers and fasteners. Tighten the fastener 56 lb·ft (76 N·m).
28. Install the brake caliper and the caliper mounting bracket assembly. Hand start the mounting hardware then tighten the mounting hardware 475 lb·ft (644 N·m).
29. Fill the axle with synthetic gear lubricant. Tighten the plug 30 lb·ft (41 N·m). See Fig. 13.



1. Axle Fill Port

Fig. 13, Axle Fill Port

30. At the fill port, fill each hub with synthetic gear lubricant. Tighten the plug 30 lb·ft (41 N·m). See Fig. 14.

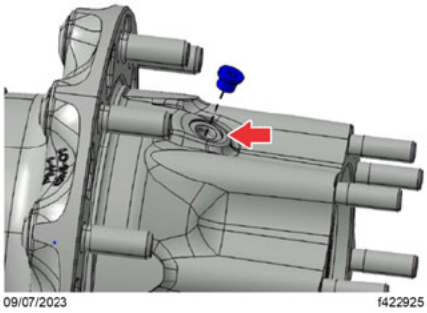


Fig. 14, Hub Fill Port

31. Install the wheels and tighten the lug nuts 472 lb·ft (640 N·m).

> **Note:** Ensure the valve stems are 180 degrees from each when installing the wheels.

32. Repeat steps 3 through 31 for the opposite wheel.
33. Lower the vehicle and inspect for leaks. For instructions to raise and lower the vehicle, see **Section 00.06** of the *Walk-In Van Workshop Manual*.
34. Test drive the vehicle for functionality and listen for noises.

1.4 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.

See 2 for OWL VMRS codes and labor allowance information. Enter this service bulletin number in the Service Bulletin # field.

Table 2, OWL VMRS Codes and Labor Allowance

Damage Code and Time Guide Information						
Primary Failed Part	**Component Code**	**Cause Code**	**Correction Code**	**SRT Code**	**Description**	**Hours**
11-31214-000	013-002-001	46	14	423-5020A	SHIM, SPIDER PLATE, INSTL, (SB42-022)	

Table 2, OWL VMRS Codes and Labor Allowance

Note:

INSTALL,REMOVAL
013-002-001

CONTACT INFORMATION

Please contact customer support at Freightliner Custom Chassis Corporation (FCCC) if you have quetions.

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