

TO: Service Locations

FROM: Service Systems Engineering

SUBJECT: **Gen 5 DD15 Exhaust Valve Adjusting Screw Excessive Wear**

ISSUE

Some Detroit Heavy Duty Gen 5 DD15 engines are experiencing exhaust valve bridges that fall out of position while running. The engine may experience conditions such as rough running, misfire, or popping out of the intake. Misfire or exhaust pressure fault codes may also be present.



Figure 1. Exhaust Valve Bridge Out of Position

CAUSE

Excessive valve lash caused by a worn rocker arm adjusting screw foot results in the valve bridge falling off the exhaust valves.

REQUIRED ACTION

Replace the affected valve bridge and inspect the related valve train components on that cylinder for wear or damage. Do not replace the exhaust camshaft unless there is damage to the camshaft lobes. Remove and measure the length of **all six** exhaust rocker arm adjusting screws to determine amount of wear. The adjusting screw length specification is between 42.45 and 43.85 mm (1.67 and 1.73 in).

REPAIR PROCEDURE

1. Turn ignition OFF, apply parking brake, chock wheels, and perform any other applicable safety steps.
2. Steam clean the engine.



To avoid injury from electrical shock, use care when connecting battery cables. The magnetic switch studs are at battery voltage.

3. Disconnect the batteries.
4. Open the hood.
5. If necessary, remove bumper for access.
6. Remove air filter housing.
7. If equipped, remove air compressor resonator.
8. Remove the rocker cover.
9. Position the engine at Top Dead Center (TDC) on the appropriate cylinder.
10. Loosen and remove the exhaust rocker arm adjusting screw locknut.
11. Thread the adjusting screw down between the exhaust valves to remove the screw from the exhaust rocker arm.
12. Measure the length of the adjusting screw. Replace the adjusting screw if the length does not meet the specification between 42.45 and 43.85 mm (1.67 and 1.73 in). See below example.



Figure 2. Measuring Rocker Arm Adjusting Screw

13. Install rocker arm adjusting screw by threading it up from the bottom of the rocker arm tip.
14. Loosely install the rocker arm adjusting screw locknut.
15. Install exhaust valve bridge onto the exhaust valves. Make sure the bridge **fully seats** on the front exhaust valve and rear exhaust valve cap.

Note: A **new** exhaust valve bridge must be installed **only** when it is found out of position. Reuse the exhaust valve bridge if it is properly positioned and the adjusting screw was removed for measurement.

16. Adjust the valve and engine brake lash for all cylinders. **REFERENCE** the chapter “Engine Mechanical” and section “Setting the Valve and Engine Brake Lash” in the Gen 5 DD15 Platform Workshop Manual (DDC-SVC-MAN-0215). Note: the torque for the engine brake adjusting screw locknut is 30 N·m (22 lb·ft). This is much lower than GHG17 heavy-duty engines.
17. Install the rocker cover. **REFERENCE** the chapter “Engine Mechanical” and section “Installation of the Rocker Cover” in the Gen 5 DD15 Platform Workshop Manual (DDC-SVC-MAN-0215).
18. If equipped, install air compressor resonator.
19. Install air filter housing.

 CAUTION:
ELECTRICAL SHOCK

To avoid injury from electrical shock, use care when connecting battery cables. The magnetic switch studs are at battery voltage.

20. Connect batteries.

21. Start engine (key ON, engine ON) and check for oil leaks.
22. If removed, install bumper.
23. Close the hood.

CLAIM PROCESS

Normal in-warranty procedures apply. PFP: Exhaust rocker arm adjusting screw

CONTACT INFORMATION

Please contact the Detroit Diesel Customer Support Center at 800-445-1980 or email csc@daimler.com if you have any questions.