

Engine Coolant Loss on 2002-2016 GM 6.6L Duramax Diesel Engines

The AERA Technical Committee offers the following information on engine coolant loss on 2002-2016 GM 6.6L Duramax diesel engines. It is important to note that not all instances of coolant loss on these engines is the result of head gasket failure. If it can be determined the coolant loss is from the driver's side (engine right side) of the engine, the following information should be considered.

Leaks from the exhaust gas recirculation (EGR) cooler may allow coolant to pass through the exhaust system and enter the combustion chambers on the right bank cylinders. Failure to inspect the EGR cooler for leaks may lead to a misdiagnosis for coolant entering the combustion chamber.

Previously, An EGR cooler pressure tester adapter set, EN-48974, was shipped essential to dealers in December 2007 to diagnose EGR cooler engine coolant leaks on all Duramax™ engines equipped with an EGR system.

Currently, since December 2010 another supplement to the EGR cooler pressure tester adapter set, EN-48974-20, was shipped essential to dealers to diagnose EGR cooler engine coolant leaks on all 2010-2011 Duramax™ 6.6L engines equipped with multiple cooler EGR system. This supplement gives the test adapter set a larger variety of sizes to accommodate the newer style coolers that have multiple ports as shown below in Figure 1.



Figure 1. Kit EN-48974-21



1. EN-48974-21 (Qty 1) 12.7 mm (1/2 Inch) EGR Cooler Hose Adapter
2. EN-48974-22 (Qty 1) 8 mm (5/16 Inch) EGR Cooler Hose Adapter
3. 544259 (Qty 2) 19 mm (3/4 Inch) Hose Clamps
4. 553016 (Qty 1) 12.7 mm (1/2 Inch) Cap Plug
5. 544258 (Qty 3) 15.9 mm (5/8 Inch) Hose Clamps
6. 553015 (Qty 1) 8 mm (5/16 Inch) Cap Plug
7. 553017 (Qty 1) 22.2 mm (7/8 Inch) Cap Plug

It is very important to note: If an investigation of loss of engine coolant leads to coolant found in one or multiple cylinders on the right bank, YOU MUST test the EGR cooler for leakage BEFORE attempting any engine repair. The cylinders affected with coolant will depend on which exhaust valves were open at the time of engine shutdown.

Some earlier issued J-46091-1 regulators may have a preset 30 PSI adjusting knob riveted in place. That rivet head must be drilled out with a 5/16" drill bit before adjustment. Do not drill deeper than 1/8" in depth, or just deep enough to remove the rivet head. The rivet shaft does not have to be removed from the regulator.





Before connecting the J-46091-1 regulator to “shop air” back off the regulator valve all the way to by turning it counterclockwise until it stops, then follow the steps listed below.

- After connecting “shop air” slowly turn the shutoff valve until the gauge reads 42 PSI.
- Close the shutoff valve on the J-46091-1 and monitor for five minutes. If the gauge pressure decays, replace the EGR Cooler. If the gauge stays the same for five minutes further investigation is necessary.