



Low Coolant, White Smoke and Multiple DTCS on 2014-2017 Ford 1.5L GTDI Engines

The AERA Technical Committee offers the following information regarding low coolant, white smoke and multiple DTC's (Diagnostic Trouble Codes) on 2014-2017 Ford 1.5L GTDI engines. This condition may be due to an intake mounting bolt backing out causing damage to the charge air cooler (CAC).

Some 2014-2017 Fusion and 2017 Escape vehicles equipped with a 1.5L Gasoline Turbocharged Direct Injection (GTDI) may exhibit low coolant, white exhaust smoke and an illuminated MIL if diagnostic trouble codes P0217, P300, P0301, P0302, P0303, P0304, P0316 and/or P1299 are present.

SERVICE PROCEDURE

1. Check vehicle odometer reading. Is the odometer reading at or over 16,000 KM (10,000 miles)?
 - a. Yes - proceed to Step 2.
 - b. No - this article does not apply. Refer to Workshop Manual (WSM), Section 303-00 for normal diagnostics.
2. Check level. Refer to WSM, Section 303-03. Does the vehicle have a low coolant level?
 - a. Yes - proceed to Step 3.
 - b. No - this article does not apply. Refer to WSM, Section 303-00 for normal diagnostics.
3. Connect the Ford Integrated Diagnostic System (IDS) service tool or equivalent scan tool and check for DTCs. Are DTCs P0217, P0300, P0301, P0302, P0303, P0304, P0316 and/or P1299 stored in the powertrain control module (PCM) memory?
 - a. Yes - proceed to Step 4.
 - b. No - this article does not apply. Refer to WSM, Section 303-00 for normal diagnostics.
4. Pressure test the cooling system. Refer to WSM, Section 303-03. Does the system pressure remain constant for 5 minutes?
 - a. Yes - this article does not apply. Refer to WSM, Section 303-00 for normal diagnostics.
 - b. No - proceed to Step 5.
5. Disconnect the throttle body inlet pipe from the throttle body and position aside.
 - a. Disconnect the charge air temperature sensor.
 - b. Loosen both clamps and remove the inlet pipe to throttle body rubber pipe connector.
 - c. To tighten clamps, Torque to 44 lb.in (5 Nm) Inspect inside the intake manifold. Is coolant present?
6. **NOTE:** The appearance of a liquid like engine oil may be observed in the bottom of the intake manifold, which may be as deep as 14 mm (1/2") is a normal function of the intake manifold and PCV system. No repairs are necessary. Inspect inside the intake manifold. Is coolant present?
 - a. Yes - replace the intake manifold and CAC assembly. Refer to WSM, Section 303-01.
 - b. No - this article does not apply. Refer to WSM, Section 303-03 for normal diagnostics.



If coolant is found within the intake manifold, the following list of parts will be necessary to make the repair for either the Fusion or Escape engines.

PART NUMBER	PART NAME
DS7Z-9424-G	Intake Manifold - 2014-2017 Fusion
GS7Z-8620-A	Stretchy Belt - 2017 Fusion Built On Or After 24-Sep-2016 W708728-S442
	Engine Mount Bolt - 2014-2017 Fusion (2 Req)
W710807-S442	Engine Mount Nut - 2014-2017 Fusion (3 Req)
DS7Z-9424-J	Intake Manifold – 2017 Escape
F1EZ-8620-A	Stretchy Belt - 2017 Escape Built On Or After 18-July-2016 5F9Z-4682-AA
	Rear Driveshaft Bolt - 2017 Escape (6 Req)
W716136-S442	Engine Mount Bolt - 2017 Escape (2 Req)
W520214-S440	Engine Mount Nut - 2017 Escape (3 Req)
W520103-S403	Exhaust Nut - Escape (2 Req)
W520103-S442	Exhaust Nut - Fusion (2 Req)
DS7Z-9439-A	Intake Manifold Gasket - ALL
DS7Z-9L438-A	Charge Air Cooler Gasket - ALL
DS7Z-9E936-A	Throttle Body Gasket - ALL
DS7Z-6K775-A	Charge Air Cooler - ALL
CV6Z-9450-D	Exhaust Gasket - ALL
W708873-S437	Engine Mount Stud
DS7Z-19B596-A	Air Conditioning O-Rings - ALL
TA-26	Motorcraft® Threadlock 262
VC-3-B	Motorcraft® Orange Concentrated Antifreeze/Coolant