Technical Service Information

NAVISTAR®

TSI–13–12–19

Date: OCTOBER 2013

Subject File: ENGINE

Subject: Fuel Cooler Valve (FCV) Screen Removal to Reduce High Fuel Temperature on Vehicles Built Prior to 01 September 2011

Model: DuraStar®, TerraStar®, and IC Bus™ Built Prior to 01 September 2011

Engine Family: MaxxForce® 7 (EPA 10)

DESCRIPTION

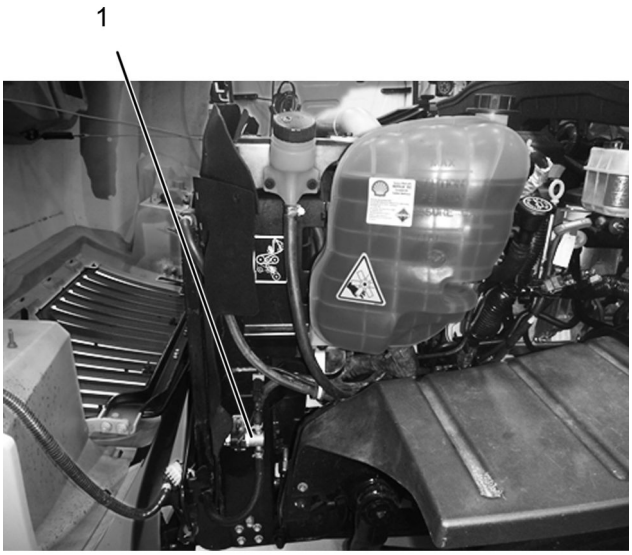

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Figure 1. Front Cooling Package.

1. Fuel cooler valve

The FCV (Figure 1, Item 1) is mounted to the radiator support bracket on the operator's side of the cooling package. The FCV redirects coolant through the fuel cooler. Using data from the Engine Fuel Temperature (EFT) sensor, the Electronic Control Module (ECM) monitors fuel temperature and controls the FCV to maintain the desired temperature. The ECM commands the FCV to warm and cool the fuel as required by weather and operating conditions. The FCV is normally open, allowing coolant to pass through the cooler.

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DESCRIPTION (CONT.)

On certain vehicles built prior to 01 September 2011, the filter screen inside the inlet fitting of the FCV may become clogged, causing reduced coolant flow and high fuel temperature.

This TSI contains the removal procedure for the inlet fitting filter screen to reduce high fuel temperature.

NOTE: If fuel temperature is too high, the amber ENGINE lamp illuminates and Diagnostic Trouble Codes (DTCs) may be created: SPN-174 and FMI-0 and / or SPN-174 and FMI-15. The Engine Warning Protection System (EWPS) will cause engine to lose power or derate.

NOTE: On TerraStar® and IC Bus™ chassis, verify that hot coolant flows from top of port on heat exchanger mounted to front of cooling package. Failure to route as described will prevent efficient fuel cooler operation.

NOTE: On DuraStar® chassis, the FCV may be mounted in a different location.

NOTE: IN (inlet) will be stamped on FCV.

PARTS INFORMATION

This procedure requires no parts.

SERVICE PROCEDURE

WARNING: Park vehicle on hard flat surface, turn the engine off, set the parking brake, and block the wheels to prevent the vehicle from moving in both directions. Failure to do so may result in property damage, personal injury, and / or death.

WARNING: If the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over, potentially resulting in property damage, personal injury, and / or death.

WARNING: Always wear safe eye protection when performing vehicle maintenance. Failure to do so may result in personal injury and / or death.

WARNING: Keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases. Failure to do so may result in property damage, personal injury, and / or death.

WARNING: Remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last. Failure to do so may result in property damage, personal injury, and / or death.

SERVICE PROCEDURE (CONT.)

1. Bring truck into shop and park on flat surface.
2. Shift transmission to Park or Neutral, set parking brake, and install wheel chocks.
3. Unlatch and open hood.
4. Verify coolant flows through secondary radiator.
5. Make sure hoses to and from fuel control valve are not kinked.

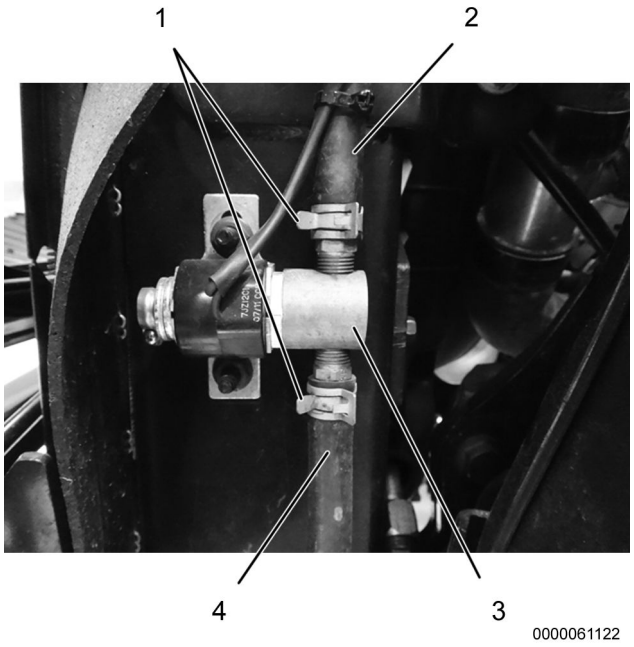

Figure 2. FCV.

1. Pinch-off pliers (2)
2. Inlet hose
3. FCV
4. Outlet hose

6. Using two hose pinch-off pliers (Figure 2, Item 1), pinch off inlet and outlet hoses (Figure 2, Items 2 and 4) to FCV (Figure 2, Item 3).

SERVICE PROCEDURE (CONT.)

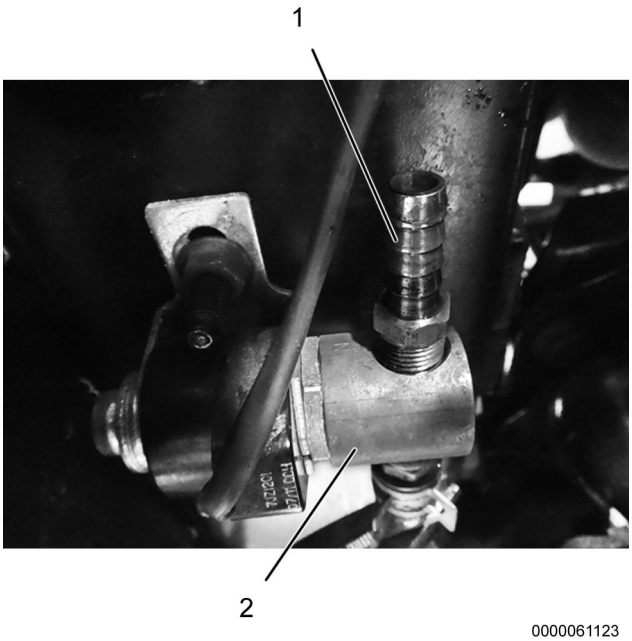

Figure 3. FCV Inlet Fitting.

1. Inlet fitting
2. FCV

7. Remove inlet hose from FCV (Figure 3, Item 2) inlet fitting (Figure 3, Item 1).

SERVICE PROCEDURE (CONT.)

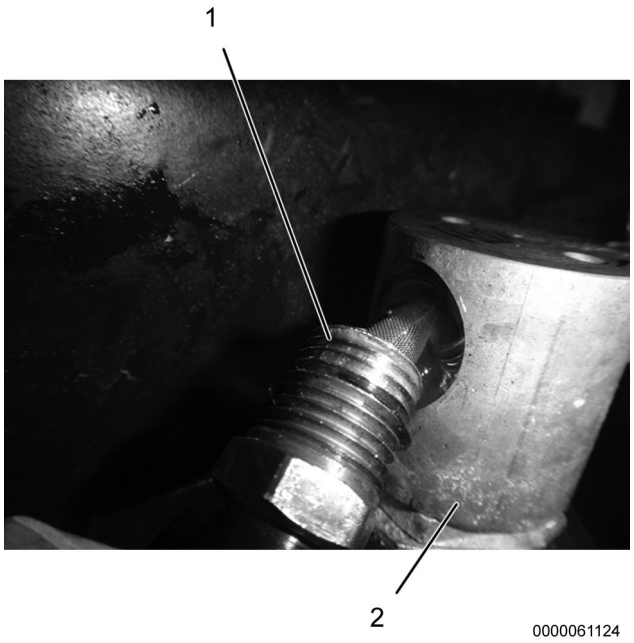

Figure 4. FCV.

1. Inlet fitting
2. FCV

8. Remove inlet fitting (Figure 4, Item 1) from FCV (Figure 4, Item 2).

SERVICE PROCEDURE (CONT.)

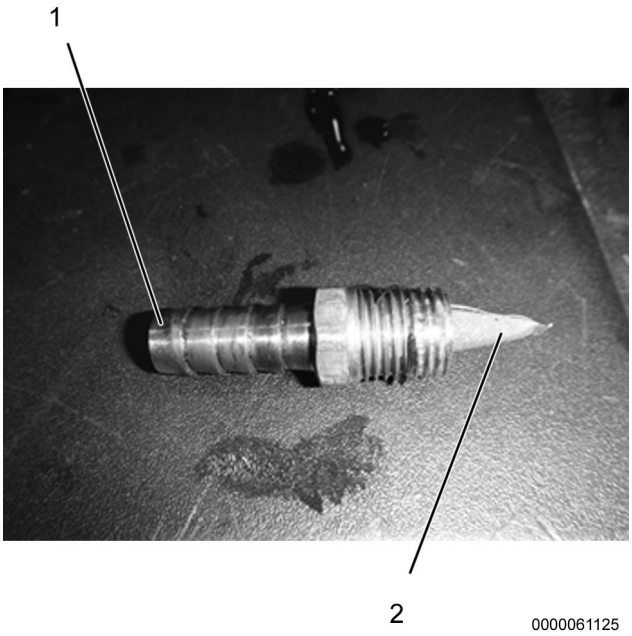

Figure 5. FCV Inlet Fitting.

1. Inlet fitting
2. Filter screen

9. Remove filter screen (Figure 5, Item 2) from inlet fitting (Figure 5, Item 1), and discard screen.

SERVICE PROCEDURE (CONT.)

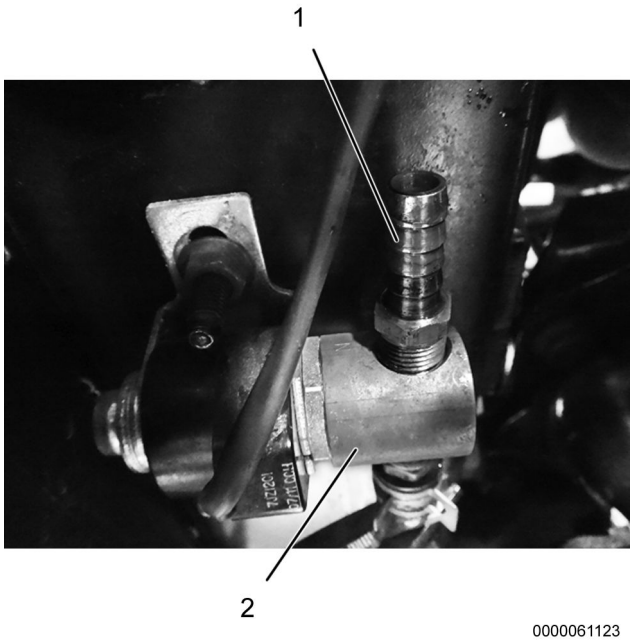

Figure 6. FCV Inlet Fitting.

1. Inlet fitting
2. FCV

10. Install inlet fitting (Figure 6, Item 1) onto FCV (Figure 6, Item 2).

11. Tighten inlet fitting to 95 lb-in (10.7 N•m).

12. Install inlet hose onto inlet fitting (Figure 6, Item 1).

SERVICE PROCEDURE (CONT.)

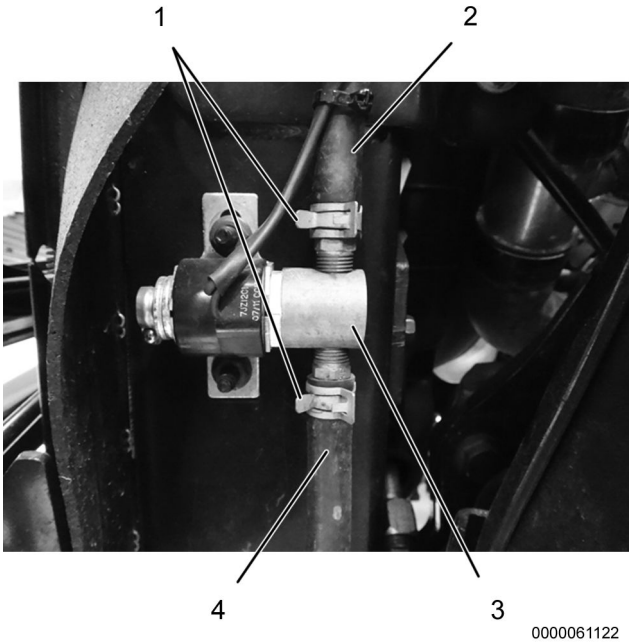

Figure 7. FCV.

1. Pinch-off pliers (2)
2. Inlet hose
3. FCV
4. Outlet hose

13. Remove two hose pinch-off pliers (Figure 7, Item 1) from inlet and outlet hoses (Figure 7, Items 2 and 4) to FCV (Figure 7, Item 3).

14. Clear DTCs.

15. Close and latch hood.

16. Remove wheel chocks.

17. Start engine.

18. Road test vehicle.