



TECH TIP

TT-19-001 DEF PUMP DIAGNOSTIC TECH TIP-
DTC P20E8

SUPERSEDES TT-16-003

GROUP: 0-GENERAL

TECH TIP NO: TT-19-001

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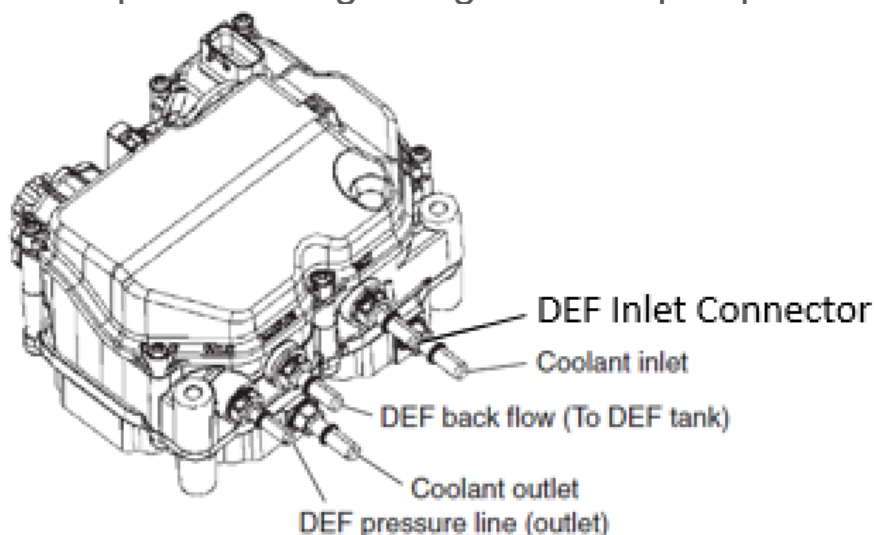
REFERENCE: HMM-190104-J1

SUBJECT VEHICLES: 11MY-20MY Conventional Trucks equipped with a J08 engine or 12MY-20MY Cab-Over Engine (COE) equipped with a J05E engine.

Note: This Technical Tip is provided as technical information and is not authorization for a warrantable repair.

DESCRIPTION OF CONDITION:

Subject vehicles may exhibit a MIL lamp on due to DTC (Diagnostic Trouble Code) P20E8 setting in the DCU (Dosing Control Unit). This DTC sets when low pressure of the DEF (Diesel Exhaust Fluid) pump is detected. Please review the diagnostic tips below regarding the DEF pump.



PARTS:

Part Number	Part Description	Quantity
S17M0E0010	Inlet Connector	As Required

DIAGNOSTIC TIPS

DTC P20E8- DEF System Pressure Low

This DTC sets when low DEF pressure is detected by the DCU. Low DEF pressure may be caused by a restriction on the DEF sensor pickup tube, a restriction in the tank vent tube, a restriction in the DEF pump lines, or a restriction in the DEF pump inlet connector. Restrictions in the system may occur due to contamination entering the DEF tank during a refill. Low DEF pressure may also be caused by an external leak in one of the DEF lines or DEF injector. These items need to be inspected and/or addressed prior to replacement of the DEF pump.

Supplemental Information:

- Make certain the DEF tank vent tube is clear of crystallization or clogs. A restricted vent tube will result in low DEF pressure and DTC P20E8.
- Replacement of the DEF pump inlet connector (Part No. S17M0E0010) is **REQUIRED** during step 7 of the diagnostic procedure. If DEF pump pressure is normal after replacement of the inlet connector, no further repairs are needed. Warranty claims for DTC P20E8 will not be reimbursed if the DEF pump inlet connector is not first replaced prior to replacement of the pump assembly. An inlet connector must be charged out on the warranty claim. **DO NOT** replace the white backflow connector for DTC P20E8.
- If contamination is found inside of the DEF tank on step 6 of the diagnostic procedure, follow the recommended procedures in the Workshop Manual. Replacement of SCR system components due to fluid contamination **IS NOT** a warrantable failure.
- For 11MY-14MY Conventional trucks and 12MY-16MY COE trucks, ensure that the inlet filter screen is present on the DEF tank as outlined by SB-15-031 on Hionet.
- The pump contains a filter which has a 150,000 mile maintenance interval and should **ONLY** be replaced for maintenance purposes. Replacement of this filter has not proven effective for resolving DTC P20E8. The filter may **ONLY** be replaced under warranty for external leaks.
- When the DEF pump is to be replaced for DTC P20E8, it is recommended to drain the DEF tank from the drain plug, rinse the tank out with water, and refill the DEF tank with fresh DEF. This may prevent recurrence of DEF pump failure due to potential particulate contamination inside the DEF tank that cannot be seen with the naked eye.



Leaks Around Filter Cap

If the DEF pump filter cap is improperly torqued, a leak around the filter cap, as depicted on the right, may occur. DO NOT replace the DEF pump for this condition. This is not a leak from the pump housing. If a leak occurs within the DEF pump, DEF will first come out of the electrical connector. The crystallized DEF can be scraped off and/or dissolved with water. Replace the DEF filter (Part No. S17K0E0011, which includes a new seal) to address this condition.



DTC P204F in Engine ECU With No DTC in DCU

If DTC P204F is present in the engine ECU, the DEF pump may fail to operate when performing the pump Leak Test or the Injector dosing test. To clear DTC P204F, perform the UREA SCR System Memory Reset. From the Engine ECU Data Monitor and Active Test menu, select Active Test Setting> UREA SCR Related Memory Reset> then follow the prompts to complete the reset. After performing the SCR reset, clear DTC P204F from the engine ECU, and cycle the ignition off for 60 seconds. Turn the ignition on, and then read out DTC's in the Engine ECU and DCU. If no DTC's are present, the DEF Pump tests can now be performed.