



Service Bulletin

E178

Section

Exhaust/Aftertreatment

Description

PACCAR MX-13 EPA2013 P1490 EGR Pressure Differential Sensor Moisture/Freezing

Release Date

4/13/2017

Introduction

Peterbilt has determined on all PACCAR MX-13 EPA2013 engines, that water may build up and freeze on the EGR pressure difference sensor causing a P1490 fault code, which is EGR stuck in the open position fault. This could result in a stop engine lamp illumination.

If the freeze frame data reveals that ambient temperatures were below 0°C [32°F] at the time of activation of P1490, then follow the procedure in this bulletin.

Resolution

FIX-AS-FAIL

Follow the Extended Test Procedure provided in this bulletin before performing any other diagnostics.

Warranty

Through Standard Warranty, Peterbilt will pay for parts at dealer net plus applicable mark-up and labor:
 NOTE: Peterbilt dealers may perform E178 repairs on Kenworth chassis. For Kenworth chassis repairs, use the long claim input form in DWWC selecting "Draft/Offline Claims," the "General" tab, and in the "Type of Claim" drop down box, select "PACCAR Engine Claim," then manually enter claim codes (Campaign #, Failure type, and SRT).

For Field...	Enter...

Failure Location	043-001-058
Failure Type	125
Claim Type	N
Responsibility	09
SRT 045-989	Connect Davie, pull codes
SRT 043-602	0.3 hours labor to troubleshoot EGR Pressure Differential Sensor

Procedure



NOTE

If additional stop engine faults are present, consult Rapido for troubleshooting information.

Important Service Reminder

Ensure the Engine is not experiencing any other issues before starting and running the engine to operating temperature. The following procedure describes a quick method to test the MX-13 EPA13 EGR differential pressure sensor for freezing.



NOTE

The test described is an initial check to troubleshoot a possible failure mode. Please refer to engine Rapido for further technical guidance if this procedure does not fix the issue.



Figure 1 Example of water frozen on the sensor membrane

Corrective Procedure

1. Check and clear faults using DAVIE4.

If faults causing a stop engine signal other than P1490 remain active, then troubleshoot those faults using Engine Rapido before proceeding.

2. Start and run the engine at operating temperature for 5 Minutes.
 - Continuously monitor critical engine systems for proper operation.
 - a. Start the engine and idle it at 1100 RPM or until the engine reaches operating temperature.
 - b. Continue to idle the engine at 1100 RPM for an additional 5 minutes.
3. Run Quick Check using DAVIE4.
 - **If the fault remains active:** check temperature of venturi using temperature gun or multi-meter and idle engine until venturi temperature exceeds 10°C [50°F]. Continue to Idle the Engine for 5 minutes, key cycle engine and check to see if fault is active.
 - **If the fault remains active and venturi temperature is above 10°C [50°F]:** troubleshoot the EGR pressure difference sensor (F751) as detailed in Engine Rapido. (System and component information | PCI, PACCAR Common rail injection | Technical data | Sensors and inputs | Checking data, EGR pressure difference sensor (F751)
 - **If the fault remains active and the EGR pressure difference sensor is working properly:** continue to troubleshoot P1490 as detailed in Engine Rapido.
4. Key Cycle the truck and clear faults using DAVIE4.

Additional Information

Some failures for P1490 can also be caused by:

- Deviation of the EGR pressure difference sensor (F751).
- Contamination of the EGR valve due to particulate.
- Failure of the EGR valve mechanism.

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