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Case Number: S2018000007

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Symptom/Vehicle Issue: Diagnostic Trouble Code (DTC) P0299 – Turbocharger Underboost Additional Diagnostics

Discussion: When diagnosing a vehicle that has set DTC P0299, it is always important to closely follow the normal published diagnostics for the DTC. In addition to performing the steps outlined in the diagnostic flow chart, please also refer to the additional diagnostic steps listed below to ensure a proper repair.

Diagnosis:

1. Ensure that the Charge Air Cooler (CAC) system is properly pressure tested per the steps outlined in Service Library Service Information Section 09 – Engine, 6.7L Diesel > Turbocharger System > Diagnosis and Testing – Leaks. While performing the CAC leak testing, pay close attention to the CAC boot connected to the turbo outlet for leaks possibly caused by potential wire harness rub through. Please see (Figure 1).



Figure 1

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2. If the boot is found damaged, replace as necessary, and retest the CAC system for any additional leaks. Repair as necessary.
3. Remove the EGR Crossover tube from the EGR valve, and inspect the EGR inlet to see if there are signs that the valve internal seat has begun to rotate. Please see (Figure 2). The EGR internal shaft should be completely visible when looking into the crossover tube inlet.

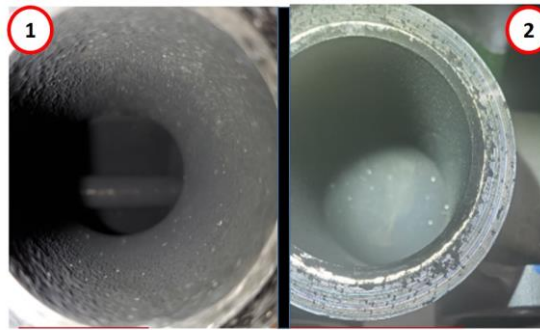


Figure 2

1. Healthy part
2. EGR with rotated seat

If normal diagnostics, and the steps listed above, have not revealed the cause of the P0299, see if there have been any recent PCM calibration updates performed. If P0299 appears to have started setting after a PCM update, the issue may be due to the PCM losing the EGR learned value. Please perform the following steps to relearn the EGR data.

1. Reprogram the PCM with the latest available calibration. If no updates are available, overflash the PCM with the current software.
2. Clear all DTCs.
3. Start the vehicle, and immediately drive the vehicle until the coolant temperature reaches a minimum of 180°F (83°C). Typically, around 10 minutes.

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4. Once the temperature has been reached, perform the following:
 - a. Turn the ignition off, and remove the keys. Set the keys at least 10 feet away from the vehicle
 - b. If connected, disconnect the Wi-Tech pod, and remove from the vehicle.
 - c. Open, then close the driver's door. Ensure all other doors are closed.
5. For vehicles equipped with a 68RFE transmission, allow the vehicle to sit for 10 minutes. For vehicles equipped with an Aisin transmission, allow the vehicle to sit for 90 seconds.
6. Turn the ignition to run to complete the learn cycle.

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