



Turbo-Compound Engines - P049D00 EGR Valve Exceeded Learning Limit - US21+OBD20 And US21+OBD21 Emissions



> Internal Content

Newer US21+OBD20 and US21+OBD21 turbo-compound engines may display this DTC. In all cases when the truck has set code P049D00, the following steps should be performed.

Repair

The following process requires 2 people, one in the cab and one observing the valve linkage (see the diagram of the EGR valve linkage at the bottom of this solution).

- 1.1. With Key On Engine Off, perform a DTC readout using Premium Tech Tool (PTT).
- 1.2. Clear the DTCs with PTT.
- 1.3. Turn the Key Off. The valve normally actuates 3 times during shutdown – this is expected. Wait until this is observed before proceeding to the next step.
- 1.4. Turn the key on while observing the EGR actuator linkage. The linkage will move one time immediately at key on.
- 1.5. Watch the Malfunction Indicator Lamp (MIL) immediately following key on and follow the instructions in the correct section below.

The MIL Remains On

- 2.1. Leave the Key On and observe whether the linkage moves again 15 seconds later.

- **If the linkage DOES move or attempts to move again:** The fault is Valid. In this case, the valve will continue to repeat learn attempts every 15sec. If this happens replace the valve.



If the linkage DOES NOT move or attempt to move again:

The fault code is Not Valid. Proceed to step 2.2.

2.2. Perform a DTC readout using PTT to ensure P049D00 is the code causing the MIL.

- If there are other codes present, there is another existing issue that should be diagnosed.

2.3. Clear the DTCs with PTT.

2.4. Turn the Key Off. The valve normally actuates 3 times during shutdown – this is expected. Wait until this is observed before proceeding to the next step.

2.5. Turn the key on. Allow the EGR linkage to perform its learn movement.

2.6. Repeat the key cycle (steps 2.4 and 2.5) four more times.

If the MIL remains illuminated after every key cycle: Perform a DTC Readout to confirm that P049D00 is still the cause of the MIL. If so, replace the EGR valve.

If the MIL remains off after performing the key cycles: Ensure all faults are cleared and release the vehicle to the customer. **DO NOT replace the EGR valve.**

The MIL Does Not Remain On

3.1. Turn the Key Off.

3.2. Turn the key on. Allow the EGR linkage to perform its learn movement.

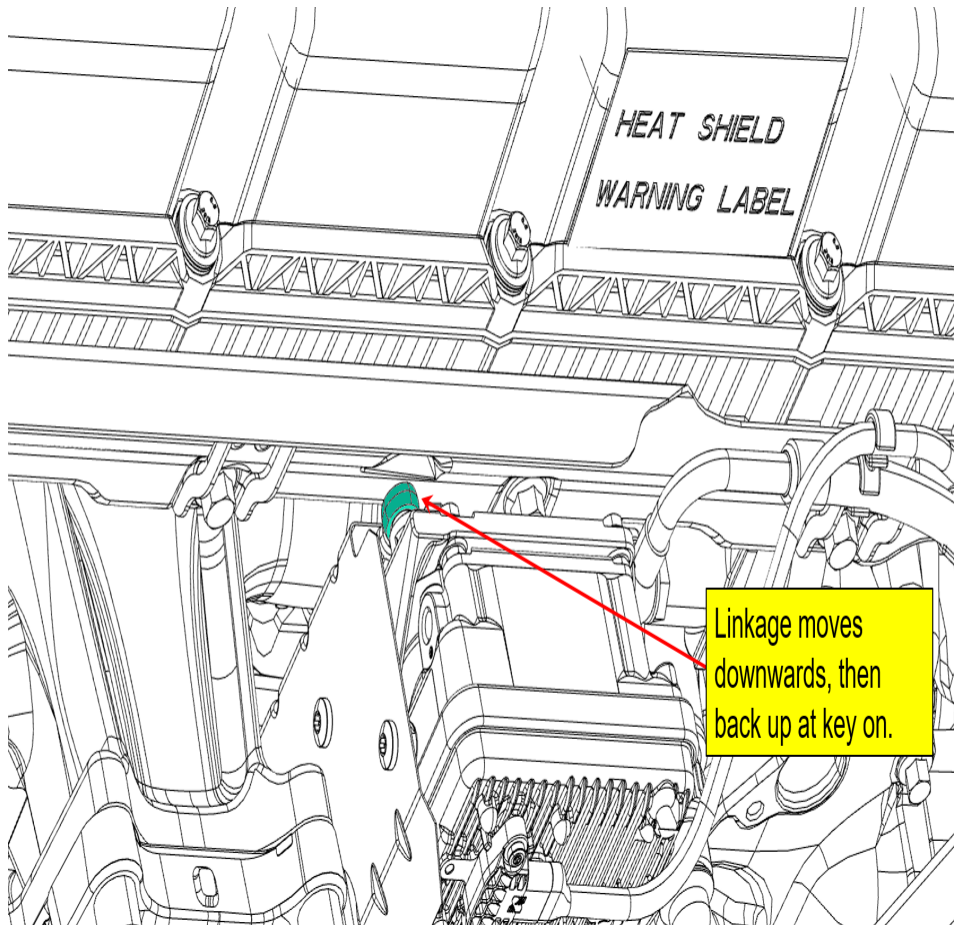
3.3. Repeat the key cycle (steps 3.1 and 3.2) four more times. Be sure to allow the EGR valve to complete its actuations after key off in between each cycle.

If the MIL remains on after the key cycles: Return to Step 2.1.

If the MIL does not remain on after the key cycles: Ensure all faults are cleared and release the vehicle to the customer. **DO NOT replace the EGR Valve.**



This solution will be updated when further information is available.



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