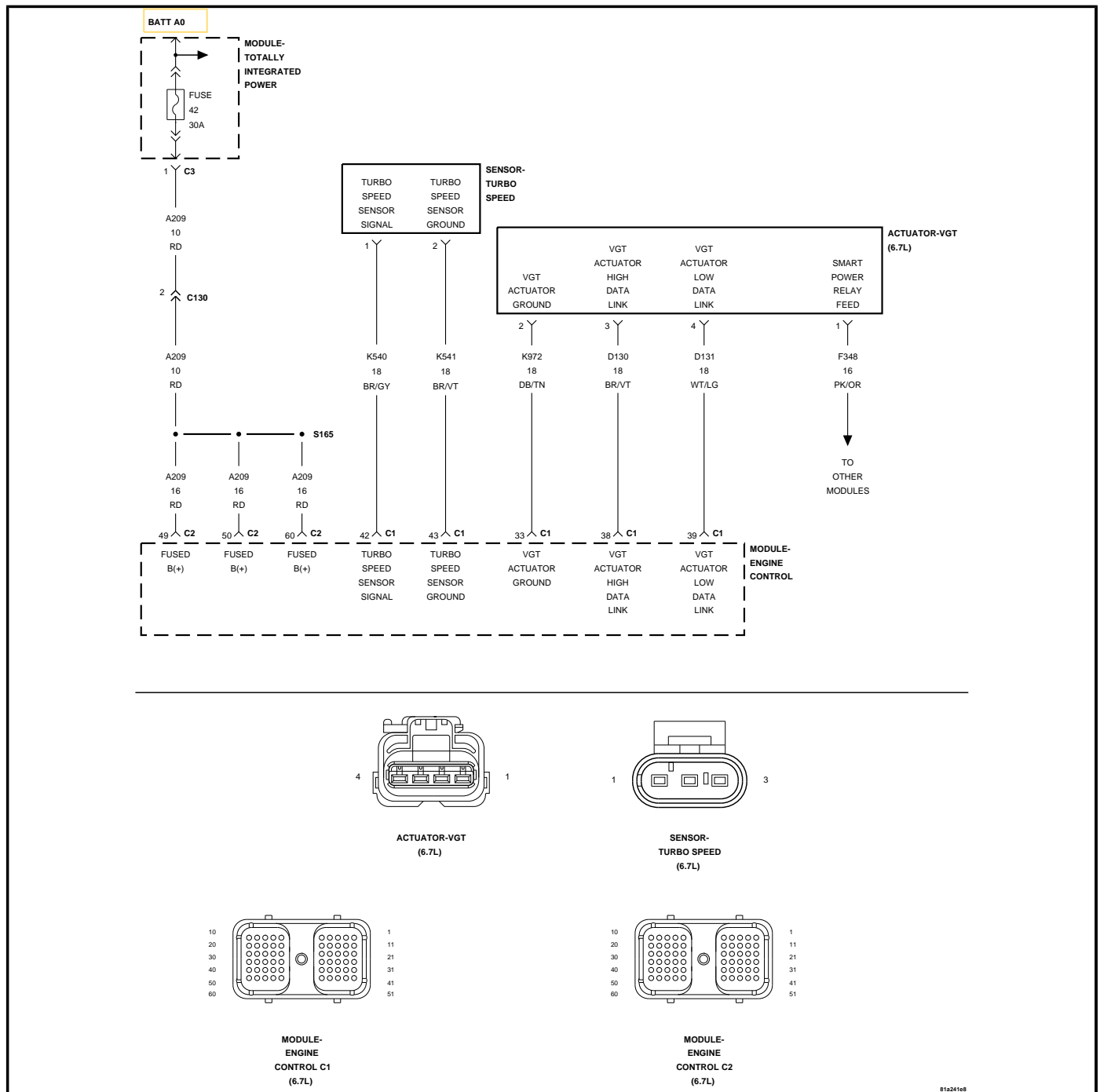


# P2563-TURBOCHARGER BOOST CONTROL POSITION SENSOR PERFORMANCE



For a complete wiring diagram, refer to the **Wiring Information**.

## Theory of Operation

The Variable Geometry Turbocharger (VGT) is electronically activated by the Turbo Actuator. The Turbo Actuator is a smart device that receives information via the CAN BUS from the Engine Control Module (ECM). The Turbo Actuator

performs its own diagnostics and reports failures back to the ECM using the CAN BUS. The ECM then decodes the error message and converts it to a fault code. This monitor is a two trip fault. The MIL lamp will turn off once the diagnostic runs and passes in four consecutive drive cycles.

- **When Monitored:**

Key on, at initial start up. If the monitor fails at start up, it will run again after five minutes. One time per key cycle.

- **Set Condition:**

Actual position not found.

Possible Causes
ENGINE CONTROL MODULE CALIBRATION UPDATE
SOOT BUILD UP ON THE TURBOCHARGER
TURBOCHARGER ASSEMBLY

**Always perform the Pre-Diagnostic Troubleshooting procedure before proceeding. (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure).**

**NOTE:** If there are DTCs present with P2262, P226B, P226C, or P2563, address P2262, P226B, P226C, or P2563 before attempting to repair the other fault codes. If however, these DTCs are accompanied by DTC P0471, both DTCs should be addressed and repaired.

### 1. VEHICLE CONFIGURATION

1. The repair procedure is different depending on whether the vehicle is a Pick Up or Chassis Cab.

#### **Is the vehicle a Pick Up or Chassis Cab?**

**Pick Up** • Go To [2](#)

**Chassis Cab** • Go To [4](#)

### 2. OTHER DTCS PRESENT

1. Turn ignition on.
2. With the scan tool, read DTCs.

#### **Are there any communication DTCs related to the J1939 Datalink present?**

**Yes** • Diagnose and repair the communication DTCs before proceeding.  
• Perform the POWERTRAIN VERIFICATION TEST - 6.7L. (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure).

**No** • Go To [3](#)

### 3. TURBOCHARGER CLEANING

**NOTE:** Do not erase the DTC before attempting to run the VG Turbocharger Cleaning procedure. The procedure can only run if the P2262, P226B, or P2563 are present (active, pending or stored).

1. Reconnect the Turbo Actuator harness connector.
2. Turn ignition on.
3. With the scan tool, navigate to miscellaneous functions and initialize the VG Turbocharger Cleaning Procedure. Follow the directions on the scan tool completely.

**NOTE:** When the procedure is initialized you will see one of two messages on the screen.

**Which message displayed on the tool?**

**Turbo does not need to be cleaned;**

- The Turbocharger does not need cleaning, or cleaning of the Turbocharger will not fix the stick condition. If DTC P2262, P226B, or P2563 are **active or pending**, replace the Turbocharger assembly . If the DTC is **stored**, erase the DTC. DIESEL AFTERTREATMENT VALIDATION - 6.7L Procedure. (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure).

**The engine must idle at 1,500 RPMS for 5 minutes prior to injecting the cleaner;**

- The Turbocharger cleaning has initiated. Fasten the cleaning tool to the vehicle and follow the instructions on the screen completely. After the first attempt at cleaning is completed the test will run again automatically and determine if the Turbocharger has been cleaned. The scan tool can make up to three attempts to clean the Turbocharger before failing it. After the cleaning procedure has finished, the scan tool will display the results. If the scan tool displays VG Turbocharger cleaning was successful, the repair is complete. If the scan tool displays VG Turbocharger cleaning was unsuccessful, replace the Turbocharger assembly in accordance with the service information.

- Perform the DIESEL AFTERTREATMENT VALIDATION - 6.7L Procedure. (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure).

**4. OTHER DTCS PRESENT**

1. Turn ignition on.
2. With the scan tool, read DTCs.

**Are there any communication DTCs related to the J1939 Datalink present?**

**Yes**

- Diagnose and repair those DTCs before replacing the Turbocharger assembly.

**No**

- Replace the Turbocharger assembly in accordance with the service information.
- Perform the DIESEL AFTERTREATMENT VALIDATION - 6.7L Procedure. (Refer to 28 - DTC-Based Diagnostics/MODULE, Engine Control (ECM) - Standard Procedure).