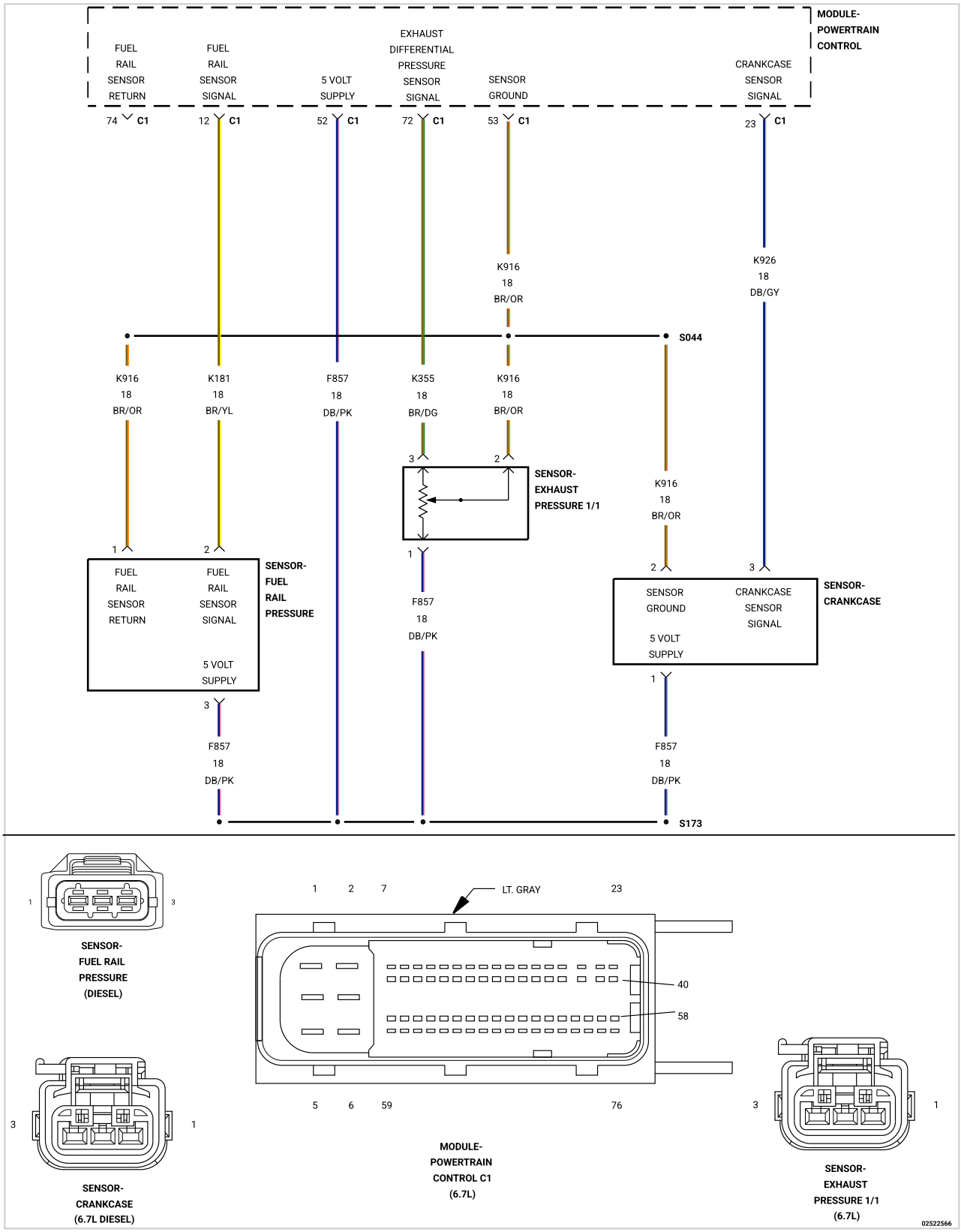
POWERTRAIN CONTROL MODULE (PCM)

P0191-FUEL RAIL PRESSURE SENSOR CIRCUIT PERFORMANCE



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

Theory of Operation

This DTC is mapped to an idle diagnostic, and runs only at idle. The key-on error monitors fuel pressure voltage at key on after an eight hour cold soak. The Powertrain Control Module (PCM) varies fuel pressure and monitors the final fueling and engine speed to determine if the rate of change of fueling with respect to rate of change of pressure is with in the normal operation limits of the pressure sensor. The engine must be at operating temperature and must not be in an active aftertreatment regeneration mode in order to run this diagnostic. The idle monitor runs once per drive cycle and the PCM will light the MIL lamp after the diagnostic runs and fails in two consecutive drive cycles. The PCM will turn off the MIL lamp after the diagnostic runs and passes in four consecutive drive cycles.

- **When Monitored:**
  Engine running at idle.
- **Set Condition:**
  At idle, the rate of change in fueling with respect to the rate of change of pressure is below the calibrated fail high threshold or above the calibrated fail low threshold while the monitor was running.

Possible Causes

FUEL RAIL PRESSURE SENSOR
INJECTOR LEAKAGE

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

1.**ACTIVE DTC**

NOTE: If there are any other EGR, Turbocharger, or Intake system DTCs present, repair those DTCs before proceeding.

1. Turn the ignition on.
2. With the scan tool, record all Freeze frame data.
3. With the scan tool, erase DTCs.
4. Turn the ignition off for 75 seconds.
5. Start the engine and let it idle for up to one minute.
6. With the scan tool, read DTCs.

Did the DTC reset?

Yes

- Go To **2**

No

- Perform the INTERMITTENT CONDITION diagnostic procedure. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).

2.**FUEL RAIL PRESSURE SENSOR**

1. With the scan tool, monitor the actual fuel pressure reading while the ignition is on and engine is not running.

Is the actual fuel pressure reading above 870 psi?

Yes

- Go To **3**

No

- Go To **4**

3.**VISUALLY INSPECT THE FUEL RAIL PRESSURE SENSOR**

1. Visually inspect the fuel system components for signs of tampering, pay particular attention to the Fuel Pressure Sensor on the fuel rail and the Fuel Pressure Sensor wiring harness.

Were any signs of tampering discovered?

Yes

- Replace the Fuel Pressure Sensor in accordance with the service information.
- Perform the POWERTRAIN VERIFICATION TEST - 6.7L. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).

No

- Go To **4**

4.**CHECK THE INJECTOR RETURN FLOW**

1. (Refer to 29 - Non-DTC Diagnostics/Drivability - Diesel - Diagnosis and Testing) and perform the INJECTOR RETURN FLOW TEST.

Does the injector drainage meet the test specification?

Yes

- Replace the Fuel Pressure Sensor in accordance with the service information.
- Perform the POWERTRAIN VERIFICATION TEST - 6.7L. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).

No

- Repair cause of high Fuel Injector leakage.

- Perform the POWERTRAIN VERIFICATION TEST - 6.7L. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure).