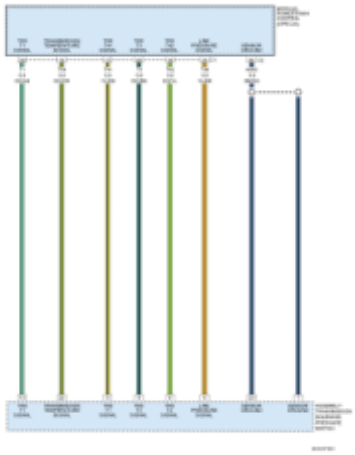
P0868-Line Pressure Low

P0868-LINE PRESSURE LOW

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



Click to Enlarge

Theory of Operation

Line pressure is measured by the Line Pressure Sensor (LPS) and regulation is achieved by changing the duty cycle of the Pressure Control Solenoid (PCS) controlled by the Transmission Control System. (5% duty cycle = solenoid off = Max line pressure, 62% duty cycle = solenoid on = Min line pressure). The Transmission Control System calculates the desired line pressure based on inputs from both the engine and transmission.

The Transmission Control System calculates torque input to the transmission and uses it as the primary input to the desired line pressure calculation. This is called Torque Based Line Pressure. In addition, the line pressure is set to a preset level during shifts and in Park and Neutral to ensure consistent shift quality. The desired line pressure is continuously being compared to the actual line pressure. If the actual line pressure is consistently lower than the target while driving, the line pressure low DTC P0868 will set.

- **When Monitored:**

  Continuously while driving in a forward gear.

- **Set Condition:**

  The Powertrain Control Module (PCM) continuously monitors Actual Line Pressure and compares it to Desired Line Pressure. If the Actual Line Pressure is more than 5 psi below Desired Line Pressure while the PCS duty cycle is at or near its minimum value, this DTC will set.

Possible Causes
CHECK FOR RELATED DTCS
LOW FLUID LEVEL
5-VOLT SUPPLY CIRCUIT OPEN
5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND
5-VOLT SUPPLY CIRCUIT SHORTED TO VOLTAGE
LP VFS CONTROL CIRCUIT SHORTED TO ANOTHER CIRCUIT
INTERNAL TRANSMISSION
LINE PRESSURE SENSOR
CRACKED, PLUGGED, OR MIS-INSTALLED PRIMARY OIL FILTER
STUCK OR STICKING MAIN REGULATOR VALVE

POWERTRAIN CONTROL MODULE (PCM)

Always perform the Pre-Diagnostic Troubleshooting procedure before proceeding. (Refer to DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

Diagnostic Test

CHECK FOR RELATED DTCS

With the scan tool, read DTCs.

Is DTC P0932 also present?

Yes

- (Refer to DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing)(Refer To List 2) (?a=0&t=25885) and perform the appropriate diagnostic procedure.

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK IF THE DTC IS CURRENT

With the scan tool, check the Starts Since Set counter for P0868.

NOTE
This counter only applies to the last DTC set.

Is the Starts Since Set COUNTER 2 or less?

Yes

- Go To >>> (?a=0&t=25885)

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE PCM AND WIRING

Turn the Ignition Switch OFF to the LOCK position.

Remove the Starter Relay.

CAUTION
Removal of the Starter Relay will prevent the vehicle from being started in gear.

WARNING
The Starter Relay must be removed. Failure to do so can result in possible serious or fatal injury.

Install the

Simulator, Transmission

.

On the Transmission Simulator select the "OFF" position of the "Input/Output Speed" switch.

Turn the Ignition ON, Engine not running.

With the scan tool, monitor the Line Pressure during the following steps.

Using the Transmission Simulator, set the rotary knob to each of the three line pressure positions.

NOTE
All three scan tool Line Pressure readings should be steady and ± 14 kPa or 2.0 psi (0.2 of a volt) of the reading specified on the Transmission Simulator.

Did the Line Pressure read within ± 14 kPa or 2.0 psi (0.2 of a volt) in all three positions?

Yes

- Go To >>> (?a=0&t=25885)

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE LINE PRESSURE SENSOR

Turn the Ignition Switch OFF to the LOCK position.

Disconnect the

Simulator, Transmission

and reconnect all previously disconnected connectors.

Install a Pressure Gauge, 0 to 2000 kPa or 0 to 300 psi to the Line Pressure test port.

Start the engine.

Monitor the line pressure readings of both the scan tool and the pressure gauge and compare the two readings.

Is the line pressure gauge reading within 34 kPa or 5 psi of the scan tool reading?

Yes

- Go To >>> (?a=0&t=25885)

No

- Replace the Transmission Solenoid/TRS Assembly in accordance with the Service Information.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

Refer To List:

CHECK FOR A PLUGGED TRANSMISSION OIL FILTER

Turn the Ignition Switch OFF to the LOCK position.

Remove and inspect the Transmission Oil Pan for excessive debris in accordance with the Service Information.

Remove and inspect the Transmission Oil Filter in accordance with the Service Information.

Does the Oil Pan contain excessive debris and/or is the Transmission Oil Filter plugged?

Yes

- Repair as necessary. If the Transmission Oil Filter is plugged or there is excessive debris, refer to the Service Information for the proper Hydraulic repair procedure.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Repair internal transmission and inspect the Transmission Oil Pump in accordance with the Service Information and replace if necessary.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

Refer To List:

CHECK THE (K856) 5-VOLT SUPPLY CIRCUIT FOR A SHORT TO VOLTAGE

Turn the Ignition Switch OFF to the LOCK position.

Disconnect the

Simulator, Transmission

.

Disconnect the PCM C2 harness connector and connect the PCM C1 harness connector.

Turn the Ignition ON, Engine not running.

Measure the voltage of the (K856) 5-volt Supply circuit.

Is the voltage above 5.5 volts?

Yes

- Repair the (K856) 5-volt Supply circuit for a short to voltage.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE (K856) 5-VOLT SUPPLY CIRCUIT FOR AN OPEN

Turn the Ignition Switch OFF to the LOCK position.

Measure the resistance of the (K856) 5-volt Supply circuit between the Transmission Solenoid/TRS Assembly harness connector and the appropriate terminal of the PCM C2 harness connector .

Is the resistance above 5.0 Ohms?

Yes

- Repair the (K856) 5-volt Supply circuit for an open.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE (K856) 5-VOLT SUPPLY CIRCUIT FOR A SHORT TO GROUND

Measure the resistance between ground and the (K856) 5-volt Supply circuit.

Is the resistance below 5.0 Ohms?

Yes

- Repair the (K856) 5-volt Supply circuit for a short to ground.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE (T118) LP VFS CONTROL CIRCUIT FOR A SHORT TO ANOTHER CIRCUIT

Turn the Ignition Switch OFF to the LOCK position.

Disconnect all PCM harness connectors.

Measure the resistance between the (T118) LP VFS Control circuit and all other circuits in the Transmission Solenoid/TRS Assembly harness connector.

Is the resistance below 5.0 Ohms between the (T118) LP VFS Control circuit and any other circuit(s) in the Transmission Solenoid/TRS Assembly harness connector?

Yes

- Repair the (T118) LP VFS Control circuit for a short to another circuit(s).
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Using the schematics as a guide, check the Powertrain Control Module (PCM) terminals for corrosion, damage, or terminal push out. Pay particular attention to all power and ground circuits. If no problems are found, replace and program the PCM in accordance with the Service Information. With the scan tool, perform Quick Learn.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

Refer To List:

CHECK THE WIRING AND CONNECTORS

The conditions necessary to set this DTC are not present at this time.

Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.

Wiggle the wires while checking for shorted and open circuits.

With the scan tool, check the Event Data to help identify the conditions in which the DTC was set.

Where there any problems found?

Yes

- Repair as necessary.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Test Complete.

List 1

- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 3.6L / Standard Procedure (?a=0&t=185965)
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 2.8L VM / Standard Procedure
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 62TE / Standard Procedure (?a=0&t=191245)
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 62TE / Standard Procedure (?a=0&t=191245)

List 2

- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 3.6L / Diagnosis and Testing (?a=0&t=20826)
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 2.8L VM / Diagnosis and Testing
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 62TE / Diagnosis and Testing (?a=0&t=25868)
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 62TE / Diagnosis and Testing (?a=0&t=25868)

P0868-LINE PRESSURE LOW

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

Theory of Operation

Line pressure is measured by the Line Pressure Sensor (LPS) and regulation is achieved by changing the duty cycle of the Pressure Control Solenoid (PCS) controlled by the Transmission Control System. (5% duty cycle = solenoid off = Max line pressure, 62% duty cycle = solenoid on = Min line pressure). The Transmission Control System calculates the desired line pressure based on inputs from both the engine and transmission.

The Transmission Control System calculates torque input to the transmission and uses it as the primary input to the desired line pressure calculation. This is called Torque Based Line Pressure. In addition, the line pressure is set to a preset level during shifts and in Park and Neutral to ensure consistent shift quality. The desired line pressure is continuously being compared to the actual line pressure. If the actual line pressure is consistently lower than the target while driving, the line pressure low DTC P0868 will set.

- **When Monitored:**

  Continuously while driving in a forward gear.

- **Set Condition:**

  The Powertrain Control Module (PCM) continuously monitors Actual Line Pressure and compares it to Desired Line Pressure. If the Actual Line Pressure is more than 5 psi below Desired Line Pressure while the PCS duty cycle is at or near its minimum value, this DTC will set.

Possible Causes
CHECK FOR RELATED DTCS
LOW FLUID LEVEL
5-VOLT SUPPLY CIRCUIT OPEN
5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND
5-VOLT SUPPLY CIRCUIT SHORTED TO VOLTAGE
LP VFS CONTROL CIRCUIT SHORTED TO ANOTHER CIRCUIT
INTERNAL TRANSMISSION
LINE PRESSURE SENSOR
CRACKED, PLUGGED, OR MIS-INSTALLED PRIMARY OIL FILTER
STUCK OR STICKING MAIN REGULATOR VALVE
POWERTRAIN CONTROL MODULE (PCM)

POWERTRAIN CONTROL MODULE (PCM)

Always perform the Pre-Diagnostic Troubleshooting procedure before proceeding. (Refer to DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

Diagnostic Test

CHECK FOR RELATED DTCS

With the scan tool, read DTCs.

Is DTC P0932 also present?

Yes

- (Refer to DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Diagnosis and Testing)(Refer To List 2) (?a=0&t=25885) and perform the appropriate diagnostic procedure.

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK IF THE DTC IS CURRENT

With the scan tool, check the Starts Since Set counter for P0868.

NOTE
This counter only applies to the last DTC set.

Is the Starts Since Set COUNTER 2 or less?

Yes

- Go To >>> (?a=0&t=25885)

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE PCM AND WIRING

Turn the Ignition Switch OFF to the LOCK position.

Remove the Starter Relay.

CAUTION
Removal of the Starter Relay will prevent the vehicle from being started in gear.

WARNING
The Starter Relay must be removed. Failure to do so can result in possible serious or fatal injury.

Install the

Simulator, Transmission

.

On the Transmission Simulator select the "OFF" position of the "Input/Output Speed" switch.

Turn the Ignition ON, Engine not running.

With the scan tool, monitor the Line Pressure during the following steps.

Using the Transmission Simulator, set the rotary knob to each of the three line pressure positions.

NOTE
All three scan tool Line Pressure readings should be steady and ± 14 kPa or 2.0 psi (0.2 of a volt) of the reading specified on the Transmission Simulator.

Did the Line Pressure read within ± 14 kPa or 2.0 psi (0.2 of a volt) in all three positions?

Yes

- Go To >>> (?a=0&t=25885)

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE LINE PRESSURE SENSOR

Turn the Ignition Switch OFF to the LOCK position.

Disconnect the

Simulator, Transmission

and reconnect all previously disconnected connectors.

Install a Pressure Gauge, 0 to 2000 kPa or 0 to 300 psi to the Line Pressure test port.

Start the engine.

Monitor the line pressure readings of both the scan tool and the pressure gauge and compare the two readings.

Is the line pressure gauge reading within 34 kPa or 5 psi of the scan tool reading?

Yes

- Go To >>> (?a=0&t=25885)

No

- Replace the Transmission Solenoid/TRS Assembly in accordance with the Service Information.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

Refer To List:

CHECK FOR A PLUGGED TRANSMISSION OIL FILTER

Turn the Ignition Switch OFF to the LOCK position.

Remove and inspect the Transmission Oil Pan for excessive debris in accordance with the Service Information.

Remove and inspect the Transmission Oil Filter in accordance with the Service Information.

Does the Oil Pan contain excessive debris and/or is the Transmission Oil Filter plugged?

Yes

- Repair as necessary. If the Transmission Oil Filter is plugged or there is excessive debris, refer to the Service Information for the proper Hydraulic repair procedure.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Repair internal transmission and inspect the Transmission Oil Pump in accordance with the Service Information and replace if necessary.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

Refer To List:

CHECK THE (K856) 5-VOLT SUPPLY CIRCUIT FOR A SHORT TO VOLTAGE

Turn the Ignition Switch OFF to the LOCK position.

Disconnect the

Simulator, Transmission

.

Disconnect the PCM C2 harness connector and connect the PCM C1 harness connector.

Turn the Ignition ON, Engine not running.

Measure the voltage of the (K856) 5-volt Supply circuit.

Is the voltage above 5.5 volts?

Is the voltage above 5.5 volts?

Yes

- Repair the (K856) 5-volt Supply circuit for a short to voltage.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE (K856) 5-VOLT SUPPLY CIRCUIT FOR AN OPEN

Turn the Ignition Switch OFF to the LOCK position.

Measure the resistance of the (K856) 5-volt Supply circuit between the Transmission Solenoid/TRS Assembly harness connector and the appropriate terminal of the PCM C2 harness connector .

Is the resistance above 5.0 Ohms?

Yes

- Repair the (K856) 5-volt Supply circuit for an open.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE (K856) 5-VOLT SUPPLY CIRCUIT FOR A SHORT TO GROUND

Measure the resistance between ground and the (K856) 5-volt Supply circuit.

Is the resistance below 5.0 Ohms?

Yes

- Repair the (K856) 5-volt Supply circuit for a short to ground.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Go To >>> (?a=0&t=25885)

Refer To List:

CHECK THE (T118) LP VFS CONTROL CIRCUIT FOR A SHORT TO ANOTHER CIRCUIT

Turn the Ignition Switch OFF to the LOCK position.

Disconnect all PCM harness connectors.

Measure the resistance between the (T118) LP VFS Control circuit and all other circuits in the Transmission Solenoid/TRS Assembly harness connector.

Is the resistance below 5.0 Ohms between the (T118) LP VFS Control circuit and any other circuit(s) in the Transmission Solenoid/TRS Assembly harness connector?

Yes

- Repair the (T118) LP VFS Control circuit for a short to another circuit(s).
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Using the schematics as a guide, check the Powertrain Control Module (PCM) terminals for corrosion, damage, or terminal push out. Pay particular attention to all power and ground circuits. If no problems are found, replace and program the PCM in accordance with the Service Information. With the scan tool, perform Quick Learn.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

Refer To List:

CHECK THE WIRING AND CONNECTORS

The conditions necessary to set this DTC are not present at this time.

Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.

Wiggle the wires while checking for shorted and open circuits.

With the scan tool, check the Event Data to help identify the conditions in which the DTC was set.

Where there any problems found?

Yes

- Repair as necessary.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Powertrain Control (PCM) - Standard Procedure)(Refer To List 1) (?a=0&t=25885).

No

- Test Complete.

List 1

- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 3.6L / Standard Procedure (?a=0&t=185965)
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 2.8L VM / Standard Procedure
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 62TE / Standard Procedure (?a=0&t=191245)
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 62TE / Standard Procedure (?a=0&t=191245)

List 2

- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 3.6L / Diagnosis and Testing (?a=0&t=20826)
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 2.8L VM / Diagnosis and Testing
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 62TE / Diagnosis and Testing (?a=0&t=25868)
- 28 - DTC-Based Diagnostics / MODULE, Powertrain Control (PCM), 62TE / Diagnosis and Testing (?a=0&t=25868)