2017 Chrysler Truck Pacifica V6-3.6L

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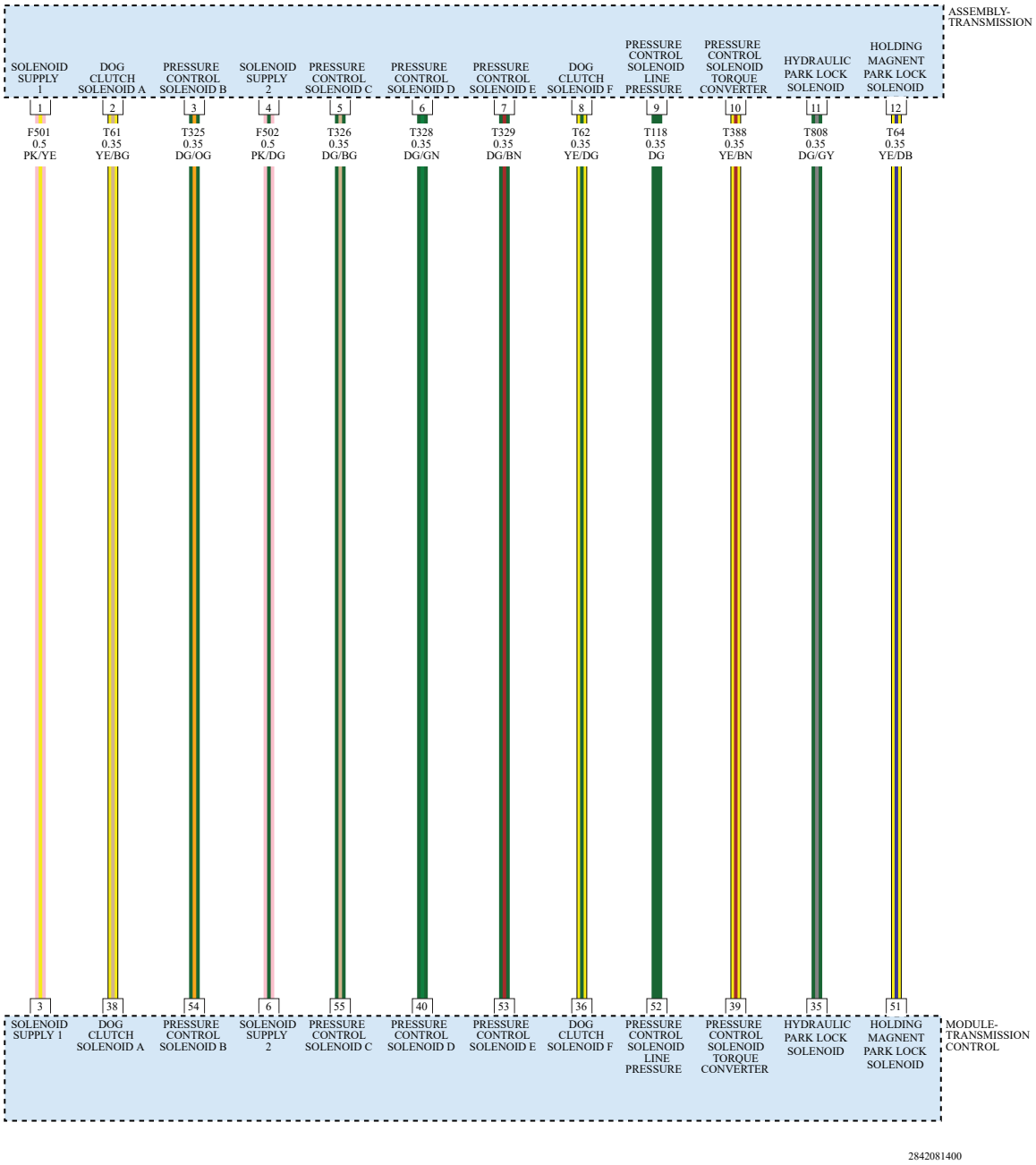
TRANSMISSION CONTROL MODULE (TCM) (948TE/9HP48)

P1DB2-00-ACTUATOR SUPPLY VOLTAGE A CIRCUIT



Theory of Operation

The voltage supply circuit(s) for the solenoids and pressure regulators are monitored for open circuits, shorts to ground, and shorts to voltage. If a failure is detected, the Transmission Control Module (TCM) will deactivate the affected power supply circuit and set a corresponding Diagnostic Trouble Code (DTC) relevant to the fault

that was detected.

When Monitored and Set Conditions

When Monitored:

- This diagnostic runs when the ignition is off.

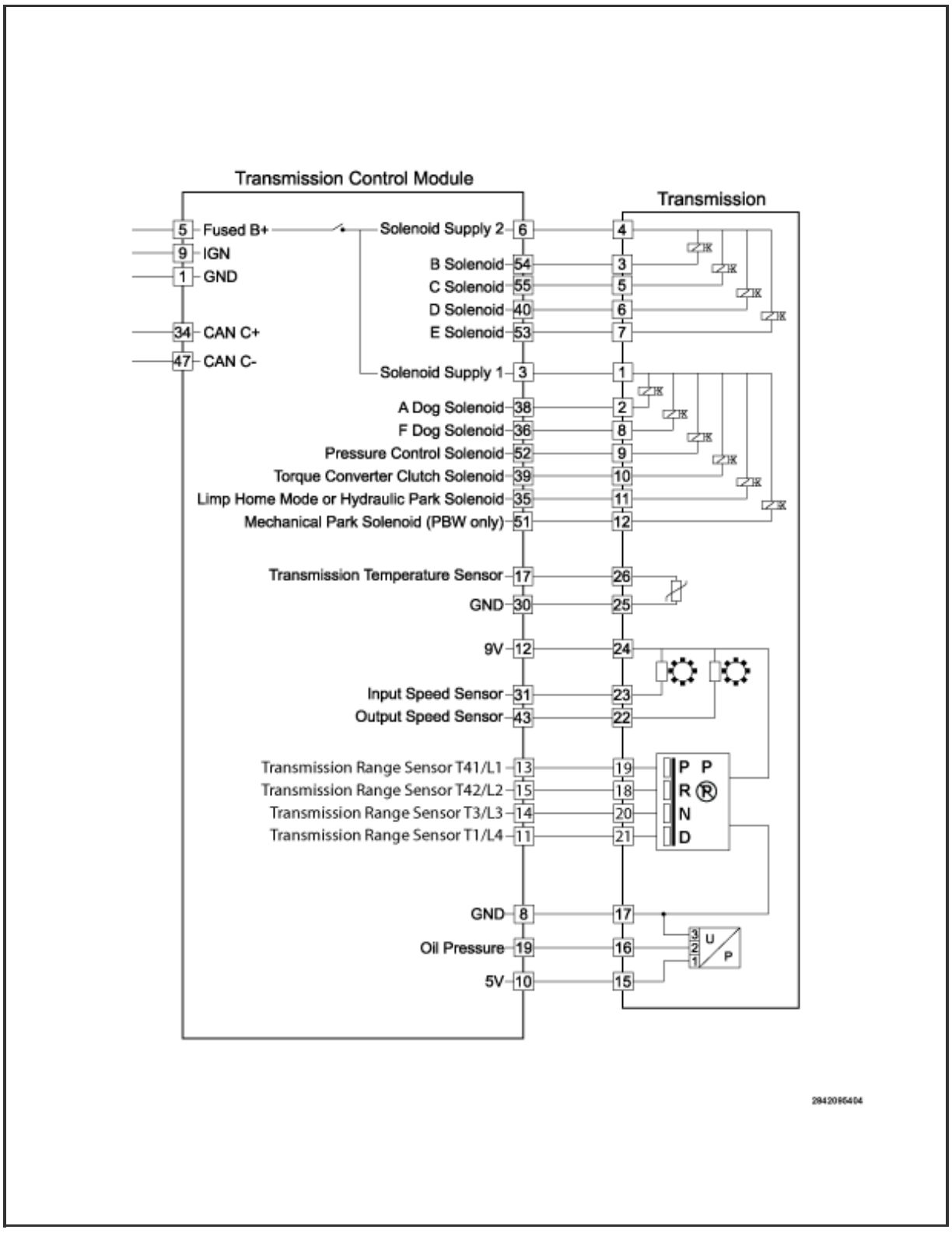
Set Conditions:

- An open or short to ground is detected on the Solenoid Supply 1 or Solenoid Supply 2 circuit.

Default Actions:

- MIL is illuminated on the first trip that the diagnostic fails.
- The Transmission will be placed into Limp-in mode.
- The TCM will not request any positive torque interventions from the PCM via CAN.
- Shift adaptation functions will be disabled.
- Remote Start feature, if equipped, will be disabled.

Possible Causes
SOLENOID 1 SUPPLY CIRCUIT OPEN
SOLENOID 1 SUPPLY CIRCUIT SHORTED TO GROUND
SOLENOID 2 SUPPLY CIRCUIT OPEN
SOLENOID 2 SUPPLY CIRCUIT SHORTED TO GROUND
DOG CLUTCH A SOLENOID OR RELATED CONTROL CIRCUIT
DOG CLUTCH F SOLENOID OR RELATED CONTROL CIRCUIT
PRESSURE CONTROL SOLENOID LINE PRESSURE OR RELATED CONTROL CIRCUIT
PRESSURE CONTROL SOLENOID TORQUE CONVERTER OR RELATED CONTROL CIRCUIT
LIMP HOME MODE (Park by cable) or HYDRAULIC PARK LOCK SOLENOID (Park by wire) OR RELATED CONTROL CIRCUIT
HOLDING MAGNET PARK LOCK SOLENOID (Park by wire) OR RELATED CONTROL CIRCUIT
PRESSURE CONTROL SOLENOID B OR RELATED CONTROL CIRCUIT
PRESSURE CONTROL SOLENOID C OR RELATED CONTROL CIRCUIT
PRESSURE CONTROL SOLENOID D OR RELATED CONTROL CIRCUIT
PRESSURE CONTROL SOLENOID E OR RELATED CONTROL CIRCUIT
TRANSMISSION CONTROL MODULE (TCM)



Always perform the PRE-DIAGNOSTIC TROUBLESHOOTING PROCEDURE before proceeding. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) /Standard Procedure).

Diagnostic Test

1. **CHECK FOR AN ACTIVE DTC**

1. With the scan tool, read TCM DTCs and record on the repair order.
2. Record the Event Data and Environmental Data.
3. With the scan tool, erase DTCs.
4. Using the recorded Event and Environmental Data, along with the When Monitored and Set Conditions above, operate the vehicle in the conditions that set the DTC.
5. With the scan tool, read TCM DTCs.

Did the DTC return?

Yes
- Go To 2

No
- Perform the TESTING FOR AN INTERMITTENT CONDITION procedure. (Refer to 28 - DTC-Based Diagnostics/Standard Procedure) .

2. CHECK THE SOLENOID SUPPLY 1 AND SUPPLY 2 CIRCUITS FOR VOLTAGE

1. Turn the ignition off.
2. Disconnect the Transmission Assembly harness connector.
3. Turn the ignition on.
4. Measure the voltage on the (T78) Solenoid Supply 1 circuit at the Transmission Assembly harness connector.
5. Measure the voltage on the (T118) Solenoid Supply 2 circuit at the Transmission Assembly harness connector.

Is the voltage about 12 volts for both circuits?

Yes
- Go To 3

No

- Go To **8**

3. CHECK THE INTERNAL SOLENOID SUPPLY 1 RELATED CIRCUITS FOR AN OPEN OR HIGH RESISTANCE

1. Turn the ignition off.
2. Measure the resistance between the (T78) Solenoid Supply 1 circuit and the following circuits at the Transmission Assembly connector interface:
   - (T801) Dog Clutch A Solenoid
   - (T802) Dog Clutch F Solenoid
   - (T812) Pressure Control Solenoid Line Pressure
   - (T792) Pressure Control Solenoid Torque Converter
   - (T803) Limp Home Mode (park by cable) or Hydraulic Park Lock Solenoid (park by wire)
   - (T800) Holding Magnet Park Lock Solenoid (park by wire)

Did all of the circuits measure between 10.0 and 12.0 Ohms?

Yes

- Go To **4**

No

- Repair the applicable Solenoid circuits for an open or high resistance. If a wiring problem is not found, replace the applicable solenoid in accordance with the Service Information.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

4. CHECK THE INTERNAL SOLENOID SUPPLY 2 RELATED CIRCUITS FOR AN OPEN OR HIGH RESISTANCE

1. Measure the resistance between the (T118) Solenoid Supply 2 circuit and the following circuits at the Transmission Assembly connector interface:
   - (T814) Pressure Control Solenoid B
   - (T816) Pressure Control Solenoid C
   - (T818) Pressure Control Solenoid D
   - (T790) Pressure Control Solenoid E

Did all of the circuits measure between 4.9 and 5.9 Ohms?

Yes

- Go To **5**

No

- Repair the applicable Solenoid circuits for an open or high resistance. If a wiring problem is not found, replace the applicable solenoid in accordance with the Service Information.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

5. CHECK THE INTERNAL SOLENOID SUPPLY 1 AND SOLENOID SUPPLY 2 RELATED CIRCUITS FOR A SHORT TO GROUND

1. Check for continuity between ground and the following circuits at the Transmission Assembly connector interface:
   - (T801) Dog Clutch A Solenoid
   - (T802) Dog Clutch F Solenoid
   - (T812) Pressure Control Solenoid Line Pressure
   - (T792) Pressure Control Solenoid Torque Converter
   - (T803) Limp Home Mode (park by cable) or Hydraulic Park Lock Solenoid (park by wire)
   - (T800) Holding Magnet Park Lock Solenoid (park by wire)
   - (T814) Pressure Control Solenoid B
   - (T816) Pressure Control Solenoid C
   - (T818) Pressure Control Solenoid D
   - (T790) Pressure Control Solenoid E

Is there continuity between ground and any of the circuits?

Yes

- Repair the applicable Solenoid circuits for a short to ground. If a wiring problem is not found, test and replace the applicable solenoid(s) in accordance with the Service Information.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

No

- Go To **6**

6. CHECK THE EXTERNAL SOLENOID CONTROL CIRCUITS FOR AN OPEN OR HIGH RESISTANCE

1. Disconnect the TCM harness connector
2. Measure the resistance of the following circuits between the Transmission Assembly harness connector

harness connector and the TCM harness connector.

- (T801) Dog Clutch A Solenoid
- (T802) Dog Clutch F Solenoid
- (T812) Pressure Control Solenoid Line Pressure
- (T792) Pressure Control Solenoid Torque Converter
- (T803) Limp Home Mode (park by cable) or Hydraulic Park Lock Solenoid (park by wire)
- (T800) Holding Magnet Park Lock Solenoid (park by wire)
- (T814) Pressure Control Solenoid B
- (T816) Pressure Control Solenoid C
- (T818) Pressure Control Solenoid D
- (T790) Pressure Control Solenoid E

Is the resistance below 3.0 Ohms for each circuit?

Yes

- Go To 7

No

- Repair the applicable Solenoid Control circuit(s) for an open or high resistance.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

7. CHECK THE EXTERNAL SOLENOID LOW SIDE DRIVER CIRCUITS FOR A SHORT TO GROUND

1. Check for continuity between ground and the following circuits at the TCM harness connector.
   - (T801) Dog Clutch A Solenoid
   - (T802) Dog Clutch F Solenoid
   - (T812) Pressure Control Solenoid Line Pressure
   - (T792) Pressure Control Solenoid Torque Converter
   - (T803) Limp Home Mode (park by cable) or Hydraulic Park Lock Solenoid (park by wire)
   - (T800) Holding Magnet Park Lock Solenoid (park by wire)
   - (T814) Pressure Control Solenoid B
   - (T816) Pressure Control Solenoid C
   - (T818) Pressure Control Solenoid D
   - (T790) Pressure Control Solenoid E

Is there continuity between ground and any of the circuits?

Yes

- Repair the applicable Solenoid Low Side Driver circuit(s) for a short to ground.

- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

No

- Go To **8**

8. CHECK THE SOLENOID SUPPLY 1 AND SUPPLY 2 CIRCUITS FOR AN OPEN OR HIGH RESISTANCE

1. Turn the ignition off.
2. Disconnect the TCM harness connector.
3. Measure the resistance of the (T78) Solenoid Supply 1 circuit between the Transmission Assembly harness connector and the TCM harness connector.
4. Measure the resistance of the (T118) Solenoid Supply 2 circuit between the Transmission Assembly harness connector and the TCM harness connector.

Is the resistance below 3.0 Ohms for both circuits?

Yes

- Go To **9**

No

- Repair the applicable Solenoid Supply circuit(s) for an open or high resistance.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

9. CHECK THE SOLENOID SUPPLY 1 AND SUPPLY 2 CIRCUITS FOR A SHORT TO GROUND

1. Check for continuity between ground and the (T78) Solenoid Supply 1 circuit at the TCM harness connector.
2. Check for continuity between ground and the (T118) Solenoid Supply 2 circuit at the TCM harness connector.

Is there continuity between ground and either of the Solenoid Supply circuits?

Yes

- Repair the applicable Solenoid Supply circuit(s) for a short to ground.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

No

- Go To **10**

10. CHECK RELATED HARNESS CONNECTIONS

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1. Disconnect all TCM harness connectors.
2. Disconnect all related in-line harness connections (if equipped).
3. Disconnect the related component harness connectors.
4. Inspect harness connectors, component connectors, and all male and female terminals for the following conditions:
   - Proper connector installation.
   - Damaged connector locks.
   - Corrosion.
   - Other signs of water intrusion.
   - Weather seal damage (if equipped).
   - Bent terminals.
   - Overheating due to a poor connection (terminal may be discolored due to excessive current draw).
   - Terminals that have been pushed back into the connector cavity.
   - Perform a terminal drag test on each connector terminal to verify proper terminal tension.

   Repair any conditions that are found.
5. Reconnect all TCM harness connectors. Be certain that all harness connectors are fully seated and the connector locks are fully engaged.
6. Reconnect all in-line harness connectors (if equipped). Be certain that all connectors are fully seated and the connector locks are fully engaged.
7. Reconnect all related component harness connectors. Be certain that all connectors are fully seated and the connector locks are fully engaged.
8. With the scan tool, erase DTCs.
9. Using the recorded Event and Environmental Data, along with the When Monitored and Set Conditions above, operate the vehicle in the conditions that set the DTC.
10. With the scan tool, read TCM DTCs.

Did the DTC return?

Yes

- Replace the Transmission Control Module (TCM) in accordance with the Service information. (Refer to 08 - Electrical/8E - Electronic Control Modules/MODULE, Transmission Control/Removal and Installation) .
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) /Standard Procedure).

No

- Repair the circuits or poor connections.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) /Standard Procedure).