

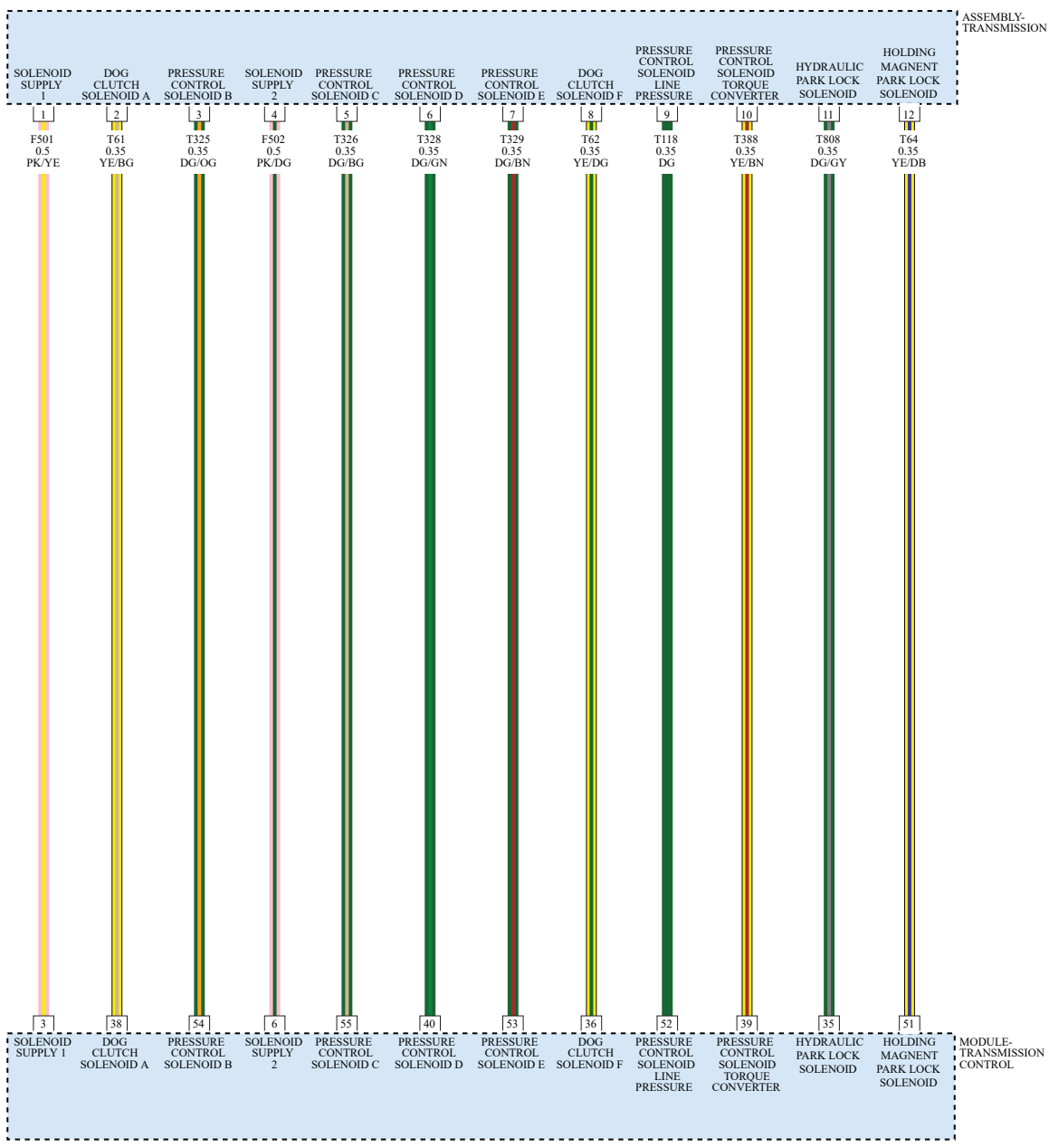
2017 Chrysler Truck Pacifica V6-3.6L

Vehicle > ALL Diagnostic Trouble Codes (DTC) > Testing and Inspection > P Code Charts > P0998
> P0998-00

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

P0998-00-SHIFT SOLENOID 6 CONTROL CIRCUIT LOW

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



2842081400

Theory of Operation

The purpose of the diagnostic is to detect circuit failures on any of the output stages. All output stages are controlled by a current controller that Controller Area Network (CAN) operate an output stage in two different modes:

- Current controlled mode (pressure regulators)
- Switched mode or Pulse Width Modulated (PWM) controlled (solenoids)

Solenoid Monitoring: The TCM measures the actual solenoid voltages and compares them to calibrated thresholds to identify the following electrical failures:

- Short to ground or open circuit
- Short to battery

When Monitored and Set Conditions

When Monitored: This diagnostic runs continuously when the following conditions are met:

- Ignition on.
- Battery voltage is above a calibrated value.

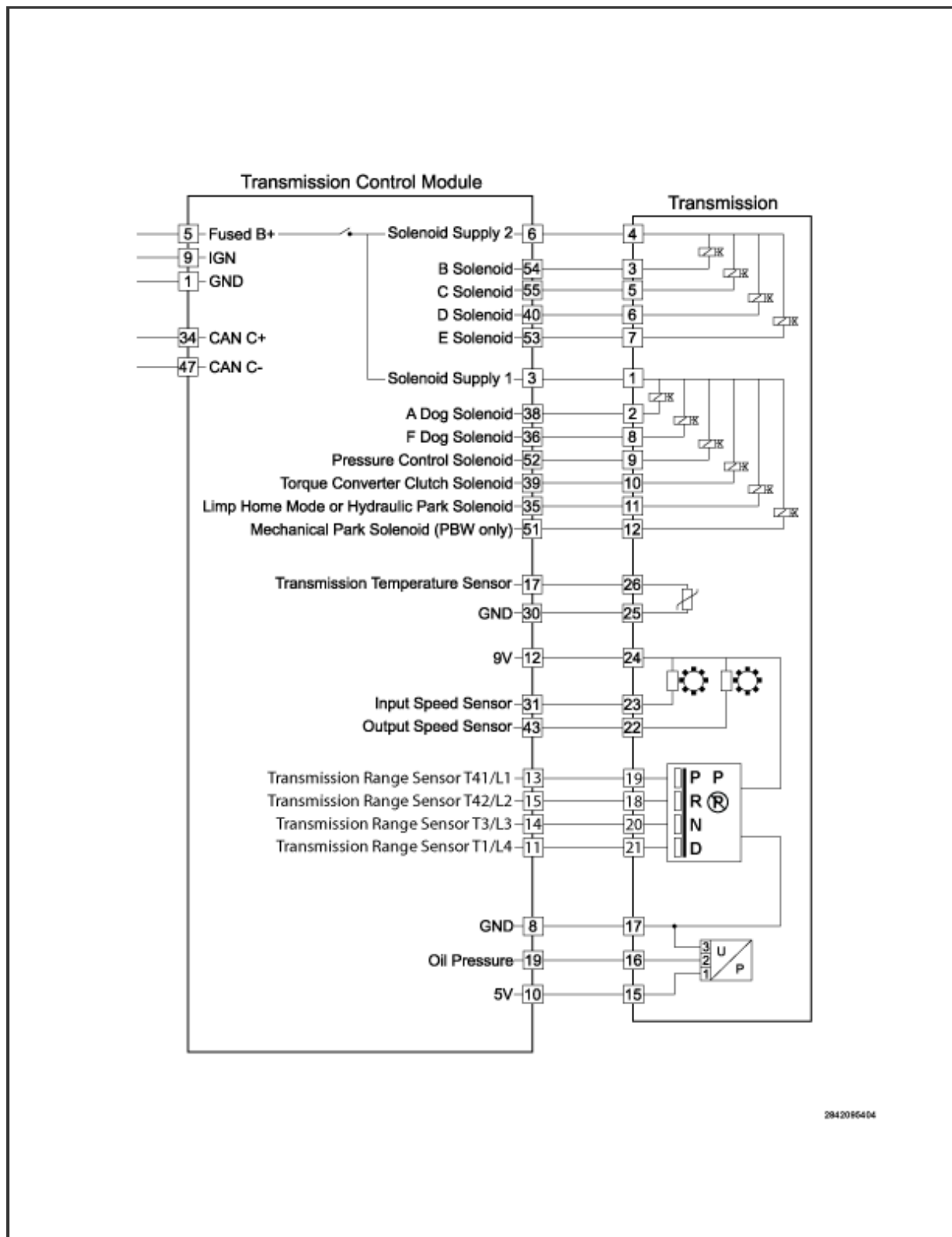
Set Conditions:

- A short to ground or open circuit failure is detected if the ratio between the voltage at the Shift Solenoid and the output stages power supply is above a calibrated threshold.
- A short to battery failure is detected if the ratio between the voltage at the Shift Solenoid and the output stages power supply is below a calibrated threshold.

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 SUPPLY 1 CIRCUIT OPEN |
| SOLENOID SUPPLY 1 CIRCUIT SHORTED TO GROUND |
| DOG CLUTCH F SOLENOID CIRCUIT OPEN |
| DOG CLUTCH F SOLENOID CIRCUIT SHORTED TO GROUND |
| DOG CLUTCH F SOLENOID CIRCUIT SHORTED TO VOLTAGE |
| DOG CLUTCH F SOLENOID |
| 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

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1. With the scan tool, read Transmission Control Module (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 DOG CLUTCH F SOLENOID

1. Turn the ignition off.
2. Disconnect the Transmission Assembly harness connector.
3. Measure the resistance of the Dog Clutch F Solenoid at the appropriate terminals in the Transmission Assembly interface connector.

Is the resistance of the Dog Clutch F Solenoid between 10.0 and 12.0 Ohms?

Yes

- Go To 3

No

- Replace the Dog Clutch F Solenoid in accordance with the Service Information. (Refer to 21 - Transmission and Transfer Case/Automatic - 948TE/VALVE BODY/Disassembly and Assembly) .
- Perform the TRANSMISSION VERIFICATION TEST (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

3. CHECK THE (F501) SOLENOID SUPPLY 1 CIRCUIT FOR AN OPEN

1. Disconnect the TCM harness connector.
2. Measure the resistance of the (F501) Solenoid Supply 1 circuit between the Transmission Assembly harness connector and the TCM harness connector.

Is the resistance below 3.0 Ohms?

Yes

- Go To 4

No

- Repair the (F501) Solenoid Supply 1 circuit for an open or high resistance.
- Perform the TRANSMISSION VERIFICATION TEST (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) - Standard Procedure).

4. CHECK THE (F501) SOLENOID SUPPLY 1 CIRCUIT FOR A SHORT TO GROUND

1. Check for continuity between ground and the (F501) Solenoid Supply 1 circuit at the TCM harness connector.

Is there continuity between ground and the (F501) Solenoid Supply 1 circuit?

Yes

- Repair the (F501) Solenoid Supply 1 circuit 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 5

5. CHECK THE (F501) SOLENOID SUPPLY 1 CIRCUIT FOR A SHORT TO ANOTHER CIRCUIT

1. Check for continuity between the (F501) Solenoid Supply 1 circuit and all other circuits at the TCM harness connector.

Is there continuity between the (F501) Solenoid Supply 1 circuit and any other circuits in the TCM harness connector?

Yes

- Repair the (F501) Solenoid Supply 1 circuit for a short to another circuit.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) /Standard Procedure).

No

- Go To 6

6. CHECK THE (T62) DOG CLUTCH F SOLENOID CIRCUIT FOR AN OPEN

1. Measure the resistance of the (T62) Dog Clutch F Solenoid circuit between the Transmission Assembly harness connector and the TCM harness connector.

Is the resistance below 3.0 Ohms?

Yes

- Go To 7

No

- Repair the (T62) Dog Clutch F Solenoid circuit 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 (T62) DOG CLUTCH F SOLENOID CIRCUIT FOR A SHORT TO GROUND

1. Check for continuity between ground and the (T62) Dog Clutch F circuit at the TCM harness connector.

Is there continuity between ground and the (T62) Dog Clutch F Solenoid circuit?

Yes

- Repair the (T62) Dog Clutch F Solenoid circuit 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 (T62) DOG CLUTCH F SOLENOID CIRCUIT FOR A SHORT TO ANOTHER CIRCUIT

1. Check for continuity between the (T62) Dog Clutch F Solenoid circuit and all other circuits at the TCM harness connector.

Is there continuity between the (T62) Dog Clutch F Solenoid circuit and any other circuits in the TCM harness connector?

Yes

- Repair the (T62) Dog Clutch F Solenoid circuit for a short to another circuit.
- Perform the TRANSMISSION VERIFICATION TEST. (Refer to 28 - DTC-Based Diagnostics/MODULE, Transmission Control (TCM) /Standard Procedure).

No

- Go To 9

9. CHECK RELATED HARNESS CONNECTIONS

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 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

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