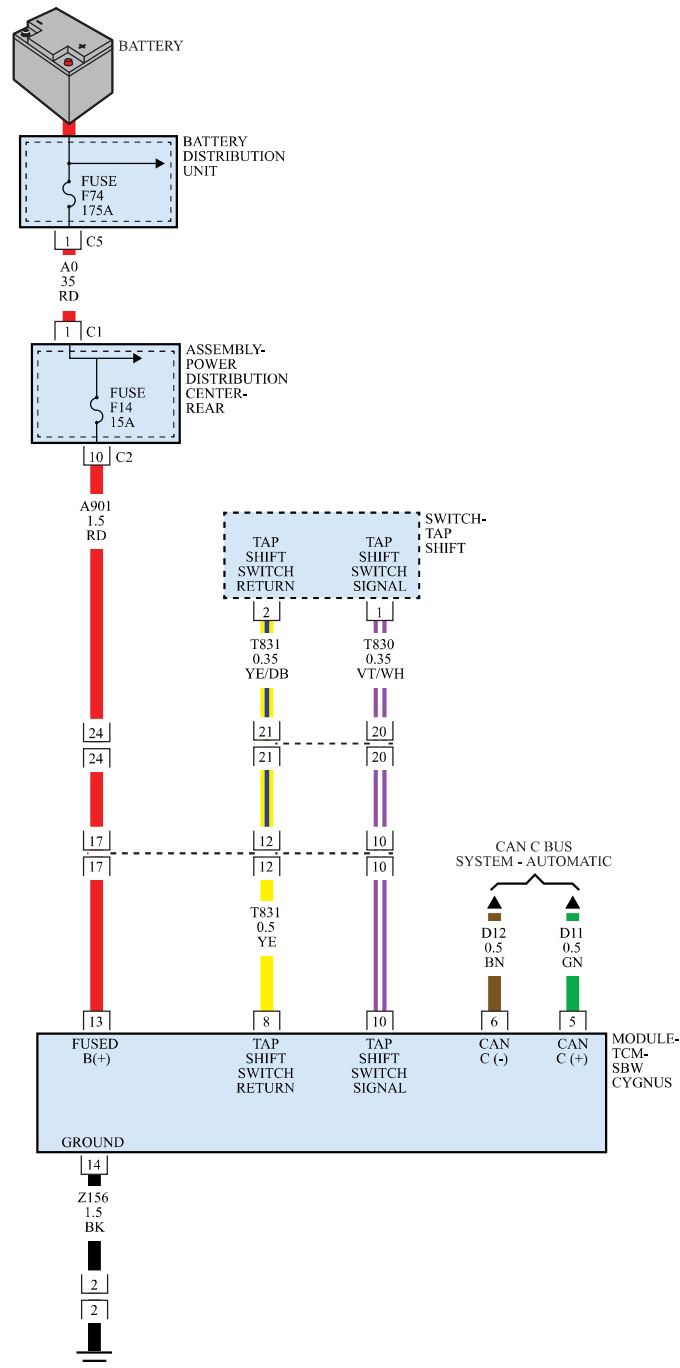


# P1DB3-00-TCM ECU RESET-RECOVERY OCCURRED



## Theory of Operation

The purpose of this diagnostic is to determine the reason of a reset after the reset occurred. Some of these are initiated by the Transmission Control Module (TCM) software and others may be caused by an under voltage condition. If the TCM detects a condition for initiating a reset, the reason of the reset is stored in an area of Random Access Memory (RAM) that is not initialized during TCM startup. Upon TCM startup this information is read out to store an appropriate Diagnostic Trouble Code (DTC) indicating the reason for the reset.

This diagnostic detects an under voltage reset of the TCM during normal operation (no engine start present). Under voltage resets during engine start will not be stored within the TCM.

## When Monitored and Set Conditions

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

- Reset monitoring is performed during initialization which occurs at power-up or after a reset.

### Set Conditions:

- The following failures can cause resets of the low level software:
  - General exception (real time operating system, micro controller monitoring, division by zero, etc.).
  - Watchdog communication failure.
  - A safety function was not run in its defined cycle time.
  - Monitoring of low level software safety functions indicates a failure.
- The following failures can cause resets of the high level software:
  - Monitoring of Shift-By-Wire safety functions indicates a failure.
  - Monitoring of Signal I/O safety functions indicates a failure.
  - Failure to store safety relevant fault in the error handler (Error Reaction Manager).
  - Failure to set safety relevant limp in action in the error handler (Error Reaction Manager).
  - Monitoring of Shift-Control safety functions indicates a failure (electrical current not plausible, inconsistency of actual gear or target gear, power flow implausible, power flow inconsistent to actual gear, implausible combination of valves/clutches).
- If no information about the cause of the reset is stored, it is understood to be an under voltage condition. In this case, the active state (operation mode) of the operating system when the reset occurred is stored during:
  - Initialization
  - Normal operation mode
  - Standby

### Default Actions:

- Malfunction Indicator Lamp (MIL) is illuminated on the second consecutive trip that the diagnostic fails.

| Possible Causes                   |
|-----------------------------------|
| 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).**

## 1. CHECK FOR AN ACTIVE DIAGNOSTIC TROUBLE CODE (DTC)

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**

- Using the schematics as a guide, check the TCM connector and all related in-line connector terminals for corrosion, damage, or pushed out terminals. Pay particular attention to the power and ground circuits. If no problems are found, replace and program 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**

- Go To 2

**2. CHECK WIRING AND CONNECTORS**

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1. The conditions necessary to set the DTC are not present at this time.
2. Using the schematics as a guide, inspect the wiring and connectors specific to this circuit.
3. Wiggle the wires while checking for shorted and open circuits.
4. Check for any Service Bulletins that may apply.

**Were any problems found?**

**Yes**

- Repair as necessary.
- 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.