

# P0604 transmission control module (TCM)

## Circuit Description

A normal function of the transmission control module (TCM) is to perform an internal test that verifies the read and write capability of the random access memory (RAM). This diagnostic detects faults in the RAM by writing test data to the RAM, reading back the same data, and then comparing the two data sets. When the TCM detects that the data that was read from the RAM is different from the test data that was written to the RAM, DTC P0604 sets. DTC P0604 is a type A DTC.

## Conditions for Running The DTC

The ignition is ON.

## Conditions for Setting The DTC

The data read from RAM does not match the test data written to the RAM.

## Action Taken When the DTC Sets

- The TCM requests the ECM to illuminate the malfunction indicator lamp (MIL) when the Conditions for Setting the DTC are met.
- The TCM turns off power to all solenoids.
- The TCM commands maximum line pressure.
- The TCM freezes transmission adaptive functions.
- The TCC is disabled.
- Powertrain braking is disabled.
- At the time of the first failure, the TCM records the operating conditions when the Conditions for Setting the DTC are met. The TCM stores this information as a Failure Record.
- At the time of the second failure, the ECM records the operating conditions when the Conditions for Setting the DTC are met. The ECM stores this information as a Freeze Frame.
- The TCM stores DTC P0604 in TCM history.

## Conditions for Clearing the MIL/DTC

- The ECM turns OFF the MIL after the sixth consecutive drive trip in which the TCM does not send a MIL illumination request.
- A scan tool can clear the MIL/DTC.
- The TCM clears the DTC from TCM history if the vehicle completes 40 warm-up cycles without an emission related diagnostic fault occurring.
- The TCM cancels the default actions when the ignition is OFF long enough in order to power down the TCM.

## Diagnostic Aids

DTC P0604 may set as a result of TCM reprogramming.

## Test Description

The number below refers to the step number on the diagnostic table.

3. This step eliminates the TCM software as a possible cause of the DTC. If the DTC continues to set after reprogramming, the fault is in the TCM hardware.

### DTC P0604

Step	Action	Value(s)	Yes	No
1	Did you perform the Diagnostic System Check – Vehicle  ?	—	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information

Step	Action	Value(s)	Yes	No
2	1).Install a scan tool. 2).Turn ON the ignition with the engine OFF. <b>Important:</b> • Before clearing the DTC, use the scan tool in order to record the ECM Freeze Frame and the TCM Failure Records. Using the Clear Info function erases the Freeze Frame and Failure Records from the ECM and the TCM. • Using the Clear Info function erases stored DTCs in both the ECM and TCM. 3).Record the DTC Failure Records. 4).Clear the DTC. 5).Turn OFF the ignition for at least 30 seconds. 6).Turn ON the ignition. Did DTC P0604 reset?	—	Go to Step 3	Go to Diagnostic Aids
3	Perform the Transmission Control Module Reprogramming Procedure. Is the action complete?	—	Go to Step 5	Go to Step 4
4	Replace the TCM. Is the action complete?	—	Go to Step 5	—
5	Perform the following procedure in order to verify the repair: 1).Select DTC. 2).Select Clear Info. 3).Turn OFF the ignition for at least 30 seconds. 4).Turn ON the ignition. 5).Select Specific DTC. 6).Enter DTC P0604. Has the test run and passed?	—	Go to Step 6	Go to Step 2

Step	Action	Value(s)	Yes	No
6	With the scan tool, observe the stored information, capture info and DTC info. Does the scan tool display any DTCs that you have not diagnosed?	—	Go to Diagnostic Trouble Code (DTC) List -Vehicle in Vehicle DTC Information	System OK

LAUNCH