

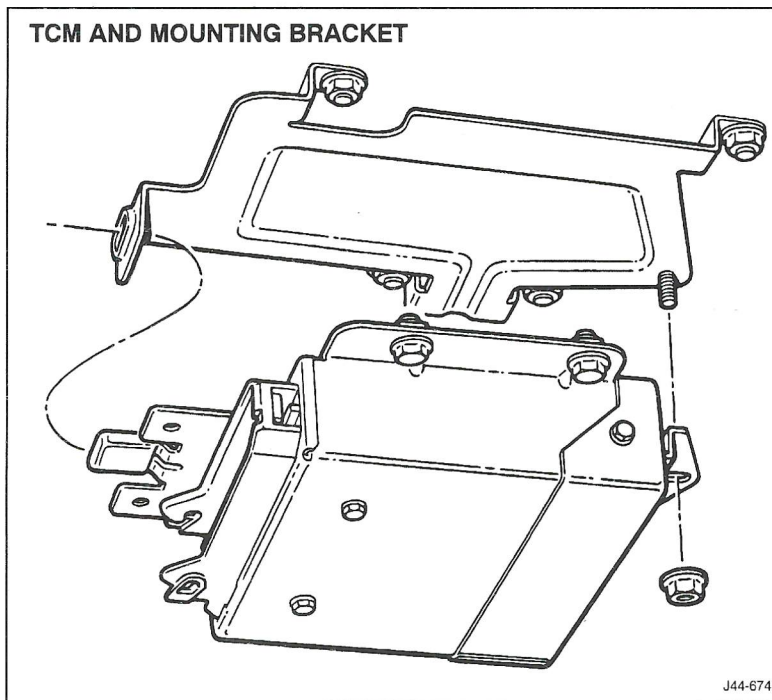
6.0 Litre and Supercharged 4.0 Litre - Transmission Management

On 6.0 litre models a new transmission control module (TCM) accommodates the introduction of new engine management system, on-board diagnostics (OBD) II and traction control. The same TCM, with revised calibration, is adopted for the supercharged 4.0 litre models.

Inputs and Outputs

The TCM now receives an engine torque input from the engine control module (ECM), and a traction control active input from the anti-lock braking system/traction control, electronic control module (ABS/TCM). The barometric pressure, air temperature, air conditioning clutch active and one of two calibration select inputs are deleted.

On 6.0 litre models, there is a road speed output for the ECM.



Transmission Control Module

The new TCM is a single board unit contained in a rectangular casing. A 55-way connector on the casing provides the interface with the vehicle wiring. The TCM is installed on a top part bracket assembly in the interior, on the passenger side of the upper toe-board. One part of the bracket attaches to the mounting studs of the anti-lock braking system module and the other to the TCM. A single securing screw locks the two parts together, enabling easy removal/installation of the TCM.

The main feature differences of the new TCM are as follows:

- The TCM uses an engine torque input from the ECM instead of calculating it from throttle position, engine speed, barometric pressure, air temperature and air conditioning clutch active inputs
- On receipt of the traction control active input, the TCM adopts a traction control strategy pattern to assist in preventing wheel spin.
- On 6.0 litre models the TCM generates a road speed output for the ECM
- The calibration select input is not utilized (but remains hardwired for future eventuality). To accommodate the calibration differences between the 6.0 litre and the supercharged 4.0 litre models, the respective TCM's are loaded with different software
- The torque reduction request to the ECM is a variable instead of fixed, so the ignition retard at gear change is optimised to the drive configuration
- The check engine input from the ECM no longer causes any default action. Only if the TCM detects a fault will it revert to a backup mode of operation
- The numbering of the TCM fault codes has been revised to conform to the requirements of the OBD II system (see Electric/Electronic - OBD section)
- Additional fault codes are introduced for traction control signals.