



4.30 Controller Area Network System

4.30.1 Description

The CAN is a high-speed serial interface for sharing dynamic signals between control modules. CAN communications are 'self checked' for errors, if an error is detected the message is ignored by the receiving control module. Due to the high rate of information exchange (500K baud) the system has a high degree of latency. This allows for a high amount of errors to be present without reducing the data transfer rate.

The CAN communication system is a differential bus using a twisted pair, which is normally very reliable. If either or both of the wires of the twisted pair CAN bus is open or short-circuited a CAN time out fault will occur and the automatic TCM defaults to third gear. In order to alert the driver the 'sport' and 'manual' warning lights in the instrument pack will flash alternatively.

An error is detected if the ECM receives no CAN messages for at least 0.8 seconds or the duration of the automatic TCM retard request is greater than 10 seconds.

CAN System								
Component/ System	Fault Codes	Monitoring Strategy Description	Malfunction Criteria	Threshold value	Secondary Parameter	Enable Conditions	Time Required	MIL Illumination
Transmission Interface	P1776	TCM ignition retard plausibility test	duration of retard request	> 10.0 sec	vehicle speed	> 24.86 mph	10.0 sec/ continuous	no MIL illumination (MIL request by TCM)
	P0600	CAN Time-out (bus check)	no CAN messages	> 0.80 sec			immediately/ continuous	two driving cycles

If the above table does not include details of the following enabling conditions: - IAT, ECT, vehicle speed range, and time after engine start-up then the state of these parameters has no influence upon the execution of the monitor.