DTC 74 - ACTUAL TORQUE CIRCUIT FAULT

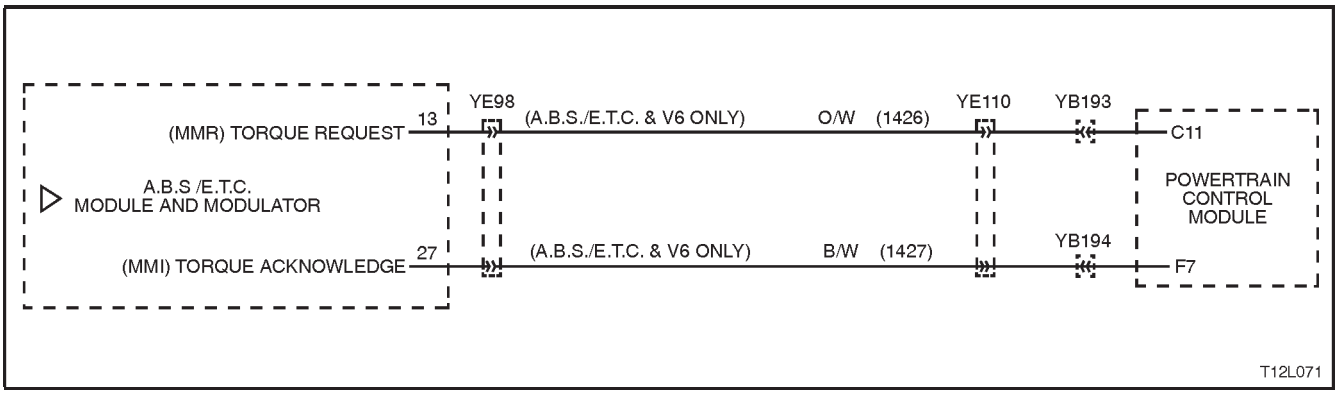

Figure 12L-149

CIRCUIT DESCRIPTION:

On receiving the request torque signal, the PCM will modify the output of the engine and then send an actual torque signal to the ABS/ETC control module, via circuit 1427, this signal is a Pulse Width Modulated (PWM) signal with a frequency of 100Hz. The duty cycle of the torque acknowledgment signal will vary depending on the torque reduction achieved, ie. The actual torque of the engine.

Provided the engine speed is above 480 RPM, DTC 74 will set if this frequency deviates outside the frequency specification (95 - 105 Hz) or if the signal stops for more than 100 milliseconds.

If the ABS/ETC control module senses this fault, the ETC system will be disabled (ABS operation will operate normally), the TRAC OFF warning lamp will be illuminated and DTC 74 will be set. The TRAC OFF warning lamp will remain illuminated for the remainder of the ignition cycle. If the failure is intermittent, the control module will enable the system at the next ignition cycle and the relevant history DTC will be set.

TEST DESCRIPTION:

The numbers below refer to Step numbers in the diagnostic chart for DTC 74.

1. Checks if ABS/ETC control module is receiving a signal from the PCM.
2. Checks circuit 1427.
3. Checks if PCM is at fault and not sending message to ABS/ETC control module.
4. Checks circuit 1426.
5. Determines if fault is within ABS/ETC control module or whether fault is intermittent.

NOTES ON DIAGNOSTIC CHART:

1. For all wiring checking procedures, refer to **Section 12P WIRING DIAGRAMS**.
2. Refer to **4.7 TECH 2 DIAGNOSTICS** in this Section for connecting and using TECH 2.

DIAGNOSTIC AIDS

If DTC 74 (PCM / ETC INTERFACE FAULT (MMI - TORQUE ACKNOWLEDGMENT)) is logged as well as DTC 73, always perform diagnostics for DTC 73 first.

When DTC's 73 and 74 are logged by the ABS/ETC control module, the PCM will also log it's own DTC's; 91 and 95.

STEP	ACTION	VALUE	YES	NO
1.	· Turn ignition ON. · Back probe ABS/ETC control module connector YE98, terminal 27, circuit 1427 (Black/White wire) with a digital multimeter to earth (refer to NOTE 1 above). · Is value as specified ?	95 - 105 Hz & 0.1 - 1.0 Volts	Go to Step 5.	Go to Step 2.
2.	· Turn ignition ON. · Back probe PCM connector YB194, terminal F7, circuit 1427 (Black/White wire) with a digital multimeter to earth (refer to NOTE 1 above). · Is value as specified ?	95 - 105 Hz & 0.1 - 1.0 Volts	Check and repair open or short in circuit 1427, recheck and verify repair.	Go to Step 3.
3.	· Turn ignition ON. · Back probe PCM connector YB193, terminal C11, circuit 1426 (Orange/White wire) with a digital multimeter to earth (refer to NOTE 1 above). · Is value as specified ?	95 - 105 Hz & 4.2 - 4.8 Volts	Replace PCM, refer to Section 6C1 POWERTRAIN MANAGEMENT - V6 ENGINE or Section 6C2 POWERTRAIN MANAGEMENT - V8 ENGINE.	Go to Step 4.

STEP	ACTION	VALUE	YES	NO
4.	· Turn ignition ON. · Back probe ABS/ETC control module connector YE98, terminal 13, circuit 1426 (Orange/White wire) with a digital multimeter to earth (refer to NOTE 1 above). · Is value as specified ?	95 - 105 Hz & 4.2 - 4.8 Volts	Check and repair open or short in circuit 1426, recheck and verify repair.	Replace ABS/ETC control module, refer to 3.6 CONTROL MODULE in this Section, recheck circuit to verify repair.
5.	· Install TECH 2 to DLC. · Select Diagnostics / Chassis / ABS/ETC / Diagnostic Trouble Codes/ Clear DTC's and clear all DTC's (refer to NOTE 2 above). · Road test vehicle. · Does DTC 74 set again ?		Replace ABS/ETC control module, refer 3.6 CONTROL MODULE in this Section, recheck circuit to verify repair.	Fault not present. Check all system wiring harness connectors and terminals, in particular the modulator and ABS/ETC control module connector terminals.
WHEN ALL DIAGNOSIS AND REPAIRS ARE COMPLETED, CLEAR ALL DTC'S AND VERIFY CORRECT OPERATION				

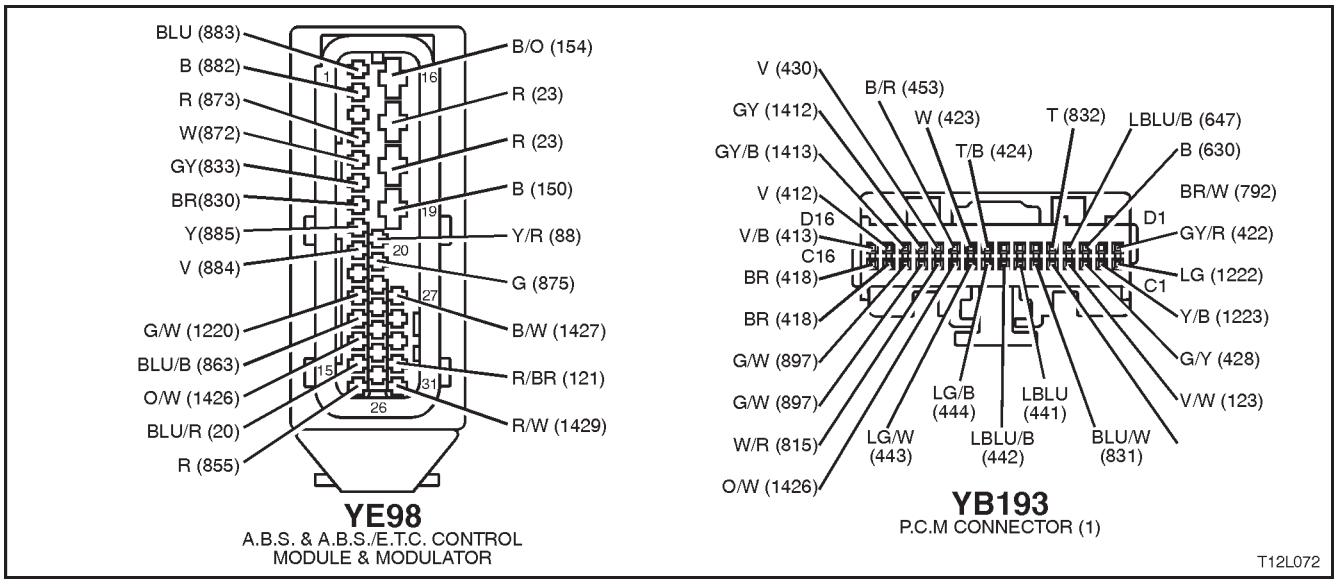

Figure 12L-150