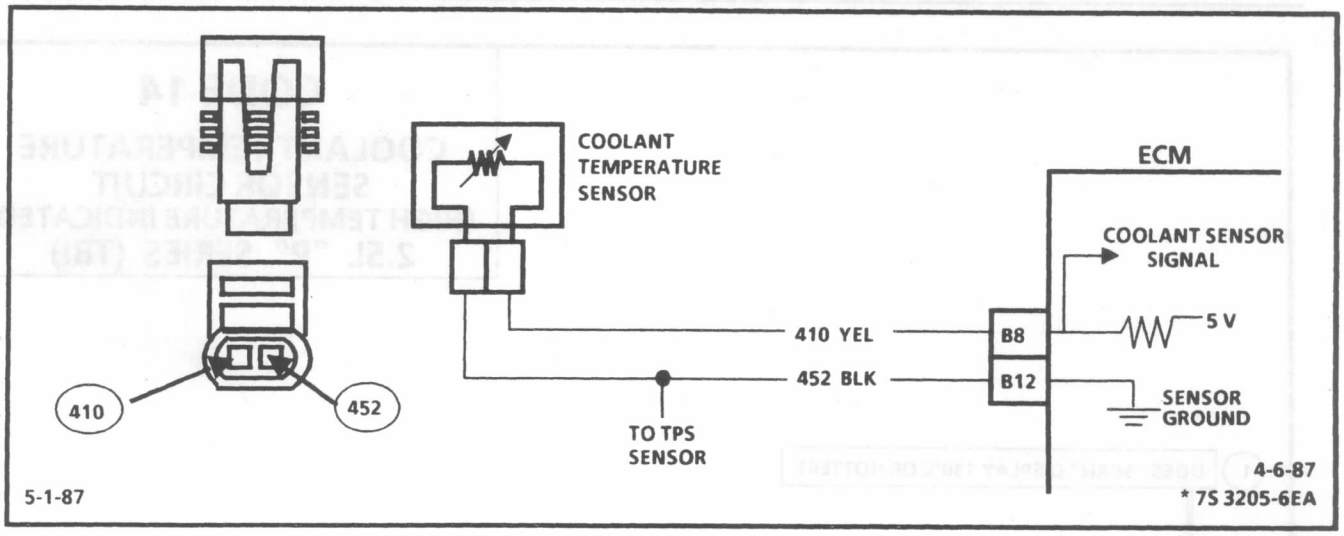


CODE 15

COOLANT TEMPERATURE SENSOR CIRCUIT
(LOW TEMPERATURE INDICATED)
2.5L "P" SERIES (TBI)

Circuit Description:

The coolant temperature sensor uses a thermistor to control the signal voltage to the ECM. The ECM applies a voltage on CKT 410 to the sensor. When the engine is cold, the sensor (thermistor) resistance is high, therefore, the ECM will see high signal voltage.

As the engine warms, the sensor resistance becomes less, and the voltage drops. At normal engine operating temperature, the voltage will measure about 1.5 to 2.0 volts at the ECM terminal "B8".

Coolant temperature is one of the inputs used to control:

- Fuel delivery
- Electronic Spark Timing(EST)
- Cooling Fan
- Convertor Clutch (TCC)
- Idle (IAC)

Test Description:

Numbers below refer to circled numbers on the diagnostic chart.

1. Checks to see if code was set as result of hard failure or intermittent condition.
   Code 15 will set if:
   - Signal Voltage indicates a coolant temperature below -30°C (-22°F) for 60 seconds.
2. This test simulates conditions for a Code 14. If the ECM recognizes the grounded circuit (low voltage), and displays a high temperature, the ECM and wiring are OK.
3. This test will determine if there is a wiring problem or a faulty ECM. If CKT 452 is open, there may also be a Code 21 stored.

Diagnostic Aids:

A "Scan" tool reads engine temperature in degrees centigrade. After the engine is started, the temperature should rise steadily to about 90°, then stabilize, when the thermostat opens.

If the engine has been allowed to cool to an ambient temperature (overnight), coolant and MAT temperatures may be checked with a "Scan" tool and should read close to each other.

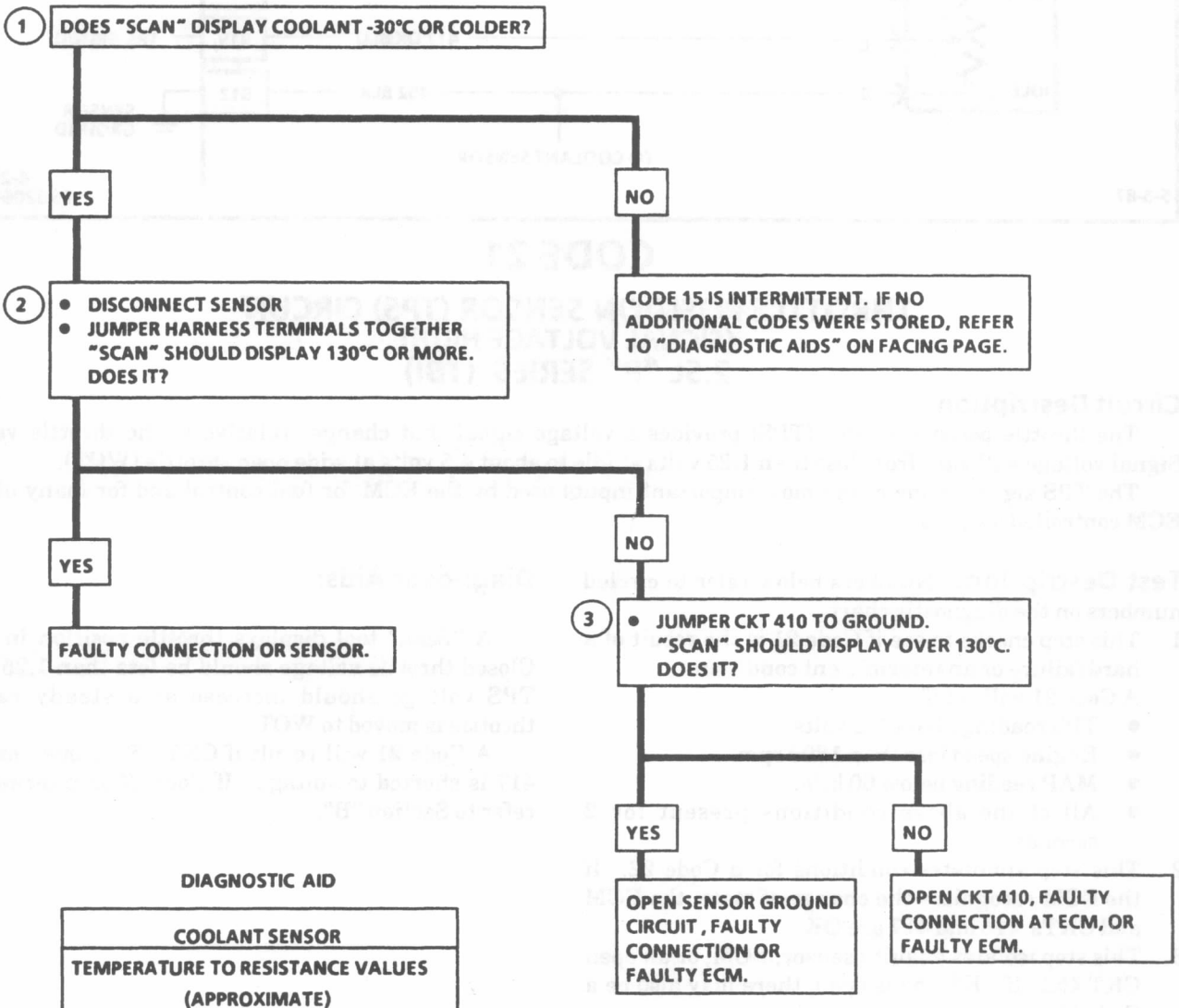
When a Code 15 is set, the ECM will turn "ON" the Engine Cooling Fan.

A Code 15 will result if CKTs 410 or 452 are open.

If Code 15 is intermittent refer to Section "B".

CODE 15

COOLANT TEMPERATURE SENSOR CIRCUIT (LOW TEMPERATURE INDICATED) 2.5L "P" SERIES (TBI)



DIAGNOSTIC AID

COOLANT SENSOR TEMPERATURE TO RESISTANCE VALUES (APPROXIMATE)		
°F	°C	OHMS
210	100	185
160	70	450
100	38	1,800
70	20	3,400
40	4	7,500
20	-7	13,500
0	-18	25,000
-40	-40	100,700

CLEAR CODES AND CONFIRM "CLOSED LOOP" OPERATION AND NO "SERVICE ENGINE SOON" LIGHT.

2-11-87

• 7S 3261-6E