FORD E4OD
ELECTRICAL DIAGNOSIS

The solenoid assembly on the E40D contains five solenoids, and a Transmission Oil Temperature (TOT) sensor. Refer to Figure 1 for names and locations.
The solenoids are activated by the EEC-IV module and together they shift the transmission through the various gears, control line pressure, and control the torque converter clutch. All five of the solenoids should be checked with a digital ohmmeter as follows:

SHIFT SOLENOID NO. 1:
Connect the ohmmeter leads to pins 1 and 3 (See Figure 2). Resistance should be 20-30 ohms.

SHIFT SOLENOID NO. 2:
Connect the ohmmeter leads to pins 1 and 2 (See Figure 2), resistance should be 20-30 ohms.

COAST CLUTCH SOLENOID:
Connect the ohmmeter leads to pins 1 and 5 (See Figure 2), resistance should be 20-30 ohms.

TCC SOLENOID:
Connect the ohmmeter leads to pins 1 and 4 (See Figure 21, resistance should be 20-30 ohms.

ELECTRONIC PRESSURE CONTROL (EPC) SOLENOID:
Connect the ohmmeter leads to pins 11 and 12 (See Figure 21, resistance should be 4.25-6.50 ohms.

To verify that there are no additional shorts in the circuit board, continue with the digital ohmmeter as follows:

1. Connect the ohmmeter leads to pin 1 and GROUND, ohmmeter should read NO CONTINUITY.

2. Connect the ohmmeter leads to pin 2 and GROUND, ohmmeter should read NO CONTINUITY.

3. Connect the ohmmeter leads to pin 3 and GROUND, ohmmeter should read NO CONTINUITY.

4. Connect the ohmmeter leads to pin 4 and GROUND, ohmmeter should read NO CONTINUITY.

5. Connect the ohmmeter leads to pin 5 and GROUND, ohmmeter should read NO CONTINUITY.

6. Connect the ohmmeter leads to pin 11 and GROUND, ohmmeter should read NO CONTINUITY.

7. Connect the ohmmeter leads to pin 12 and GROUND, ohmmeter should read NO CONTINUITY.

To check the Transmission Oil Temperature (TOT) Sensor, continue with the digital ohmmeter as follows:
1. Connect the ohmmeter leads to pins 7 and 8 (See Figure 21, and refer to the following chart for resistance readings.

32°F - 58°F -------- 37K - 100K Ohms
59°F - 104°F ------- 16K - 37K Ohms
105'F - 158'F ------- 5K - 16K Ohms
159'F - 194°F ------- 2.7K - SK Ohms
195°F - 230'F ------- l.5K-2.7K Ohms
231°F - 266'F ------- .8K-1.5K Ohms

The transmission can also be shifted on a Dynometer, or on the lift to determine if you have a computer problem or internal problem. Use the following procedure, using Figure 2 for pin location.

1. Supply 12V through a fused (20 Amp) jumper wire to pin No. 1.
2. Ground only pin No. 3 = 1st Gear.
3. Ground pins 2 and 3 = 2nd Gear.
4. Ground only pin No. 2 = 3rd Gear.
5. Remove all Grounds = 4th Gear.
6. Anytime you are in a forward gear; Ground pin No. 4 = Converter Clutch Apply.

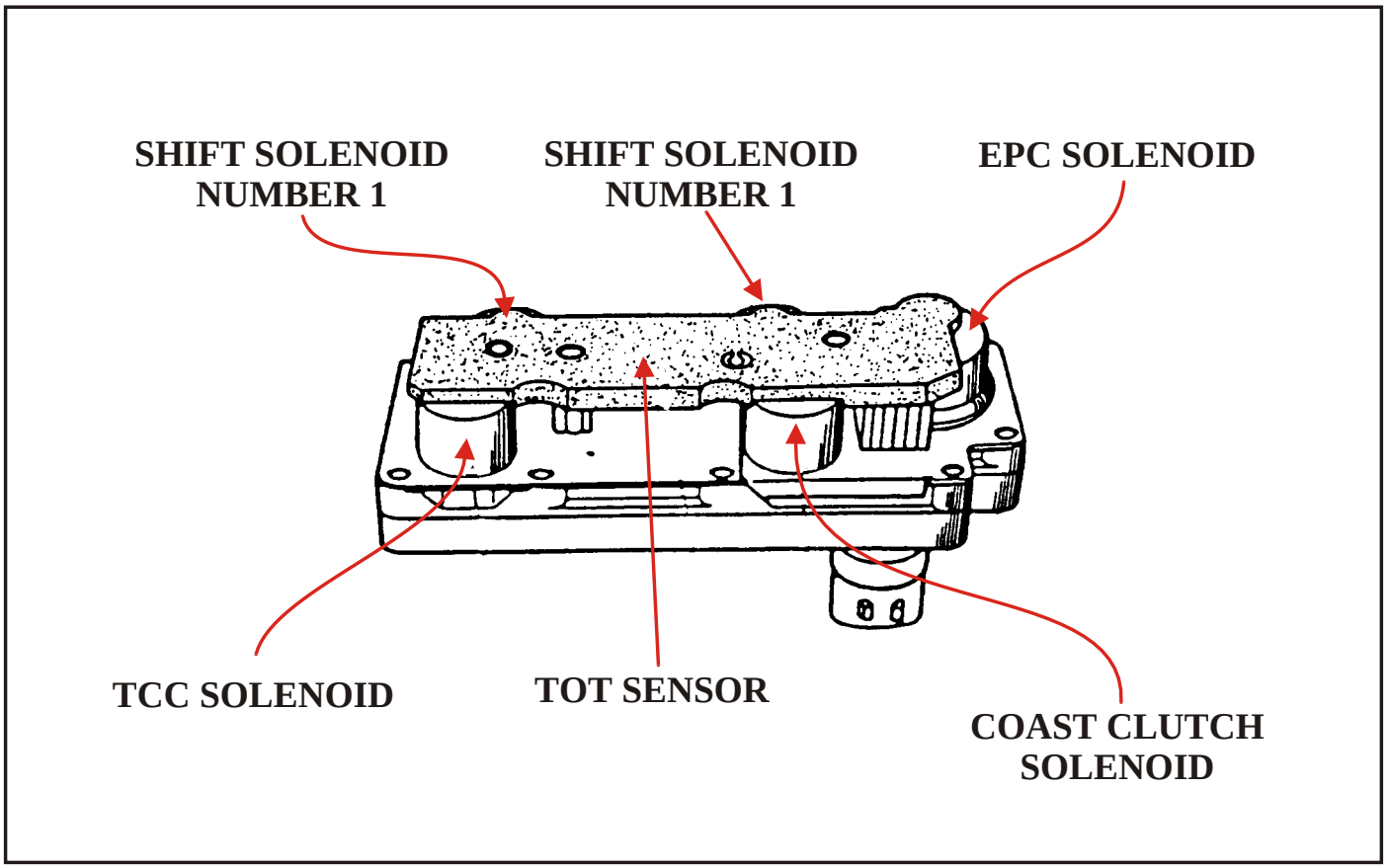


Figure 1

E4OD TRANSMISSION CASE CONNECTOR

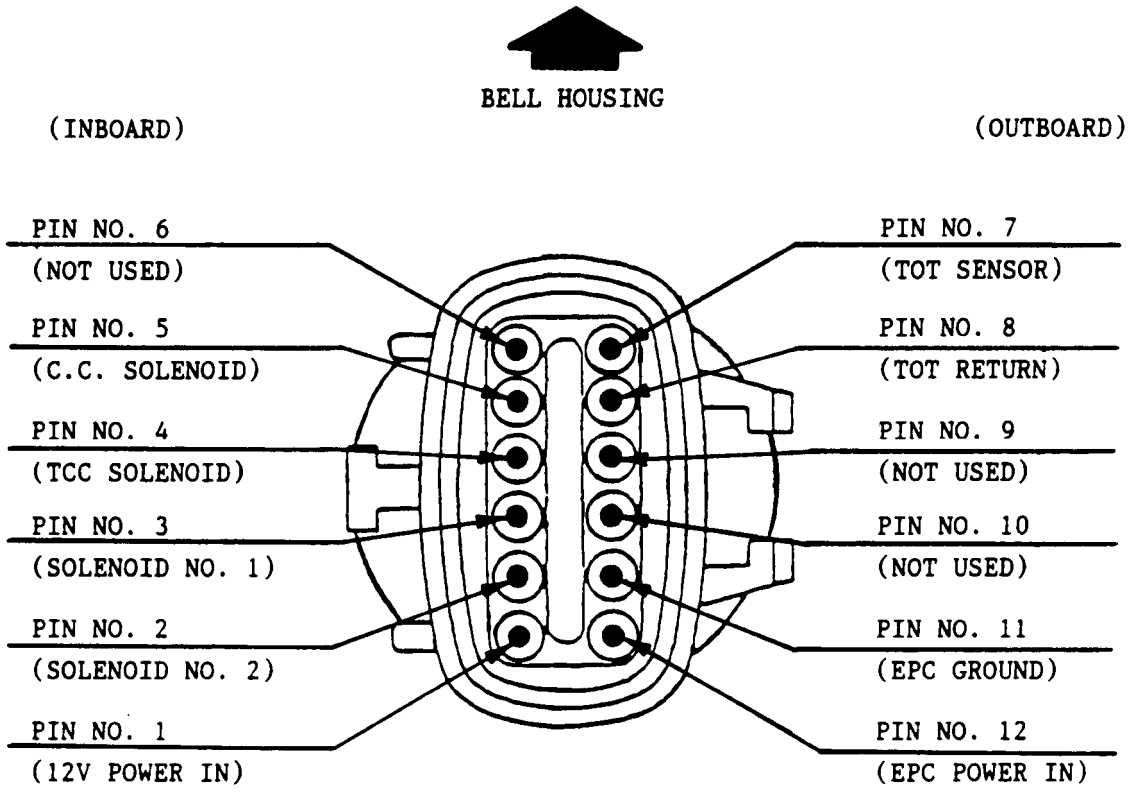
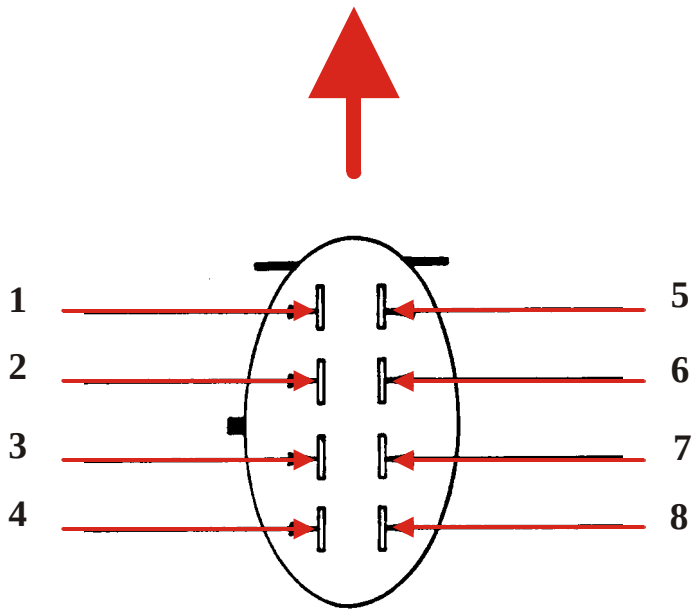


Figure 2

The Manual Lever Position Switch (MLPS) is what informs the EEC-IV module of the position of the manual shift lever. This switch should be checked with a digital ohmmeter to ensure that resistance is within specification. Use the following procedure to check the MLPS:

1. Connect the ohmmeter leads to pins 2 and 3 (See Figure 31, and refer to the chart in Figure 4 for the proper resistance value in each gear selector position.



P ---------- 3769 - 4608
R ---------- 1202 - 1594
N ---------- 660 - 807
D ---------- 361 - 442
2 ---------- 190 - 232
1 ---------- 80 - 95

Figures 3 & 4