



# Technical Service Information

## THM 4L80-E NEW FORCE MOTOR AND ELECTRONICS FOR 1994

**CHANGE:** Beginning at the start of production 1994, ALL THM 4L80-E transmissions were built with a new Force Motor, new Spacer Plate, and elimination of the torque signal compensator valve in the accumulator housing. The new force motor operates at the 614 Hz (Cycles per Second) instead of the previous 292.5 Hz, which obviously requires a new PCM. With the new design force motor, the need for the cleaning cycle is eliminated, so the force motor is no longer pulsed every 10 seconds by the PCM/TCM.

**REASON:** Improved line pressure stability, and standardization, as the same part number will now fit 4L80-E, 4L60-E, and 4T80-E.

### **PARTS AFFECTED:**

(1) **FORCE MOTOR** - New design that does not require torque signal oil be sent back to the end of the enclosed spool valve, so the feed passage and the screen in the end of it were eliminated, as shown in Figure 1. The armature housing is also smaller in diameter than the previous force motor, and is now Black in color (See Figure 1).

(2) **SPACER PLATE** - The orificed feed hole for torque signal oil in the spacer plate, marked "A" in Figure 2, has been eliminated to accommodate the new design force motor (See Figure 2).

(3) **TORQUE SIGNAL COMPENSATOR VALVE** - Eliminated because it is no longer needed to absorb torque signal pulses created by the previous model PCM. The torque signal feed passage is no longer drilled in the accumulator housing on 1994 models (See Figures 3 and 4)

### **INTERCHANGEABILITY:**

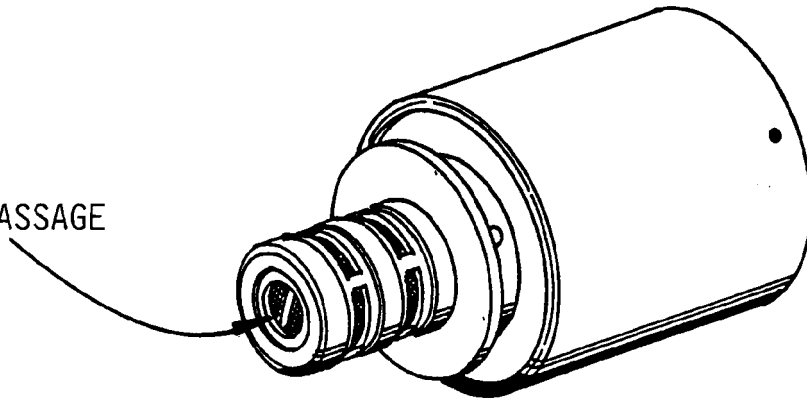
***NONE OF THE PARTS LISTED ABOVE WILL INTERCHANGE WITH PREVIOUS MODELS.***

### **SERVICE INFORMATION:**

Force Motor, 91-93 Models .....	8677314
Force Motor, 94-Up Models .....	8684216

**FORCE MOTOR (PRESSURE CONTROL SOLENOID)  
1991-1993 MODELS ONLY!**

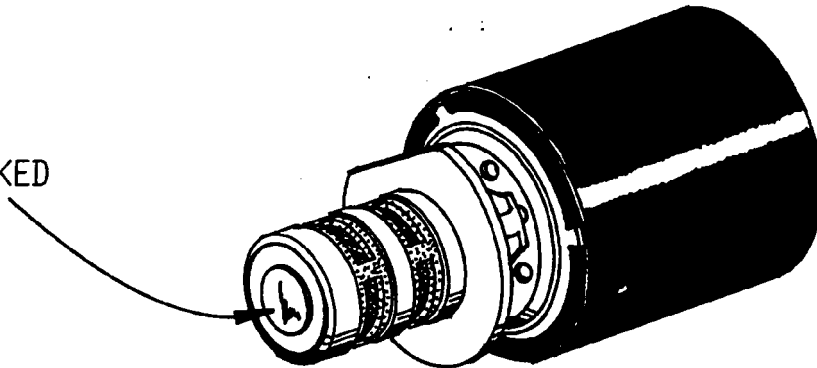
SCREEN IN FEED PASSAGE



**OEM PART NUMBER 8677314  
(OPERATES AT 292.5 Hz LEVEL)**

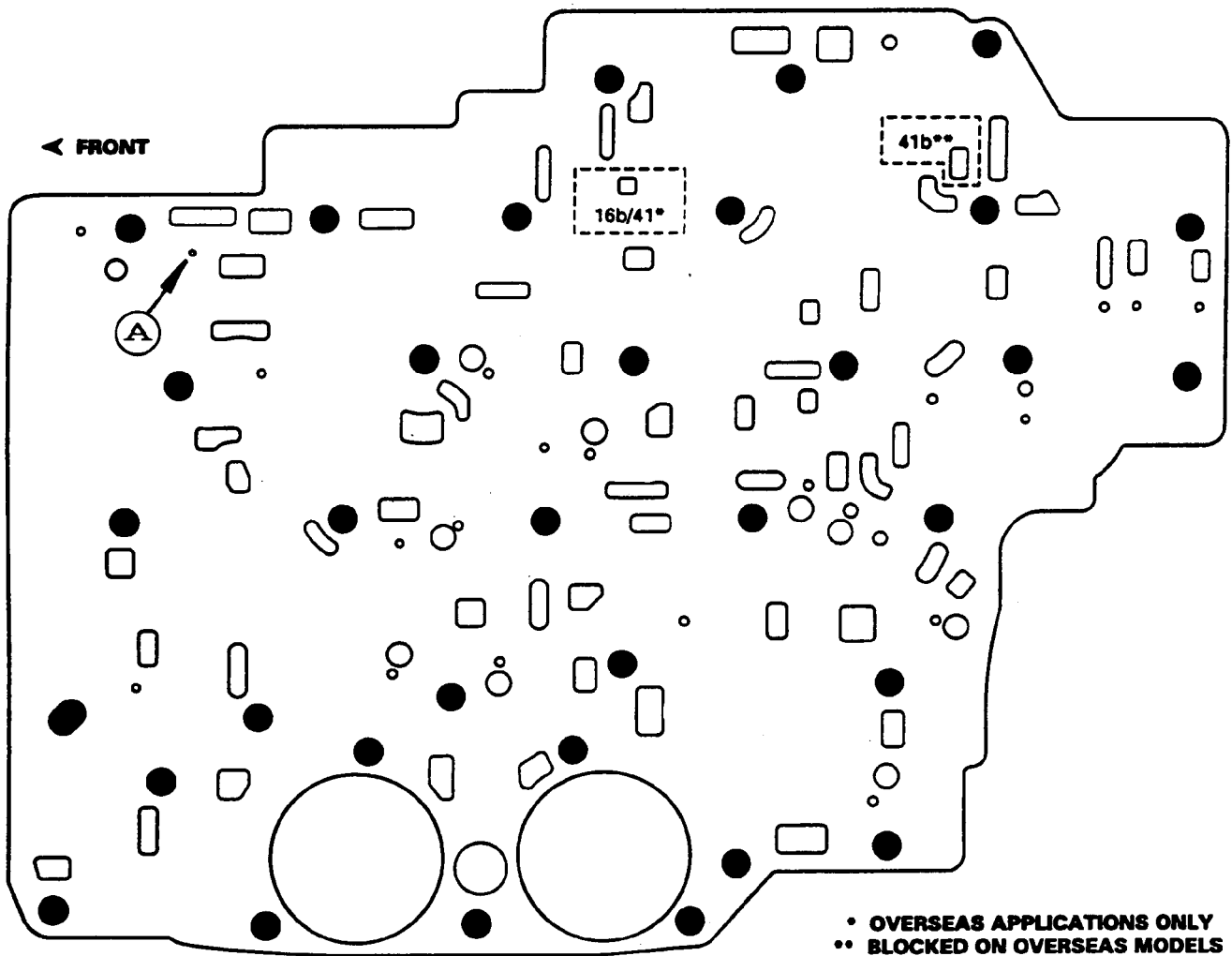
**FORCE MOTOR (PRESSURE CONTROL SOLENOID)  
1994-UP MODELS ONLY!**

PASSAGE BLOCKED



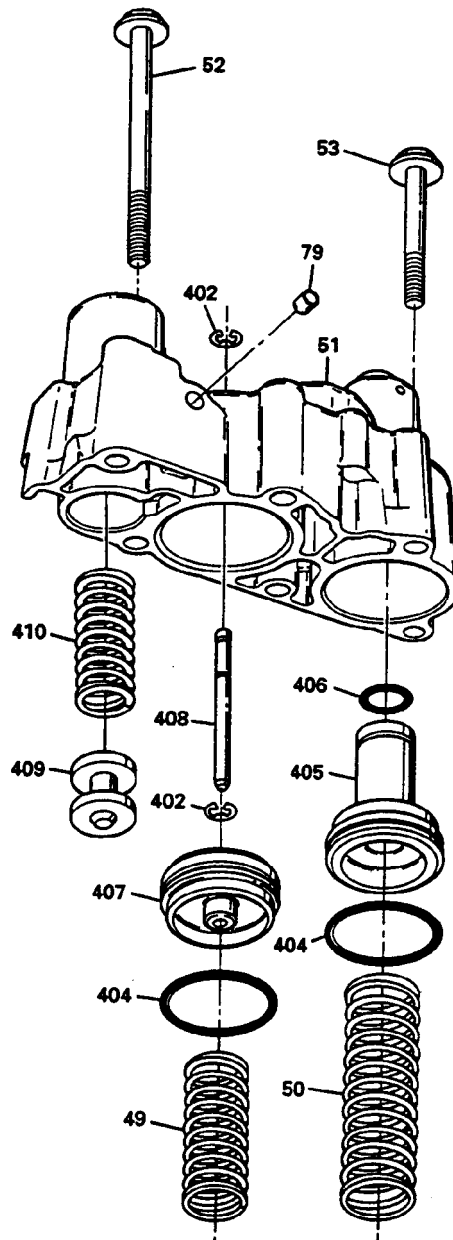
**OEM PART NUMBER 8684216  
(OPERATES AT 614 Hz LEVEL)**

## THM 4L80-E SPACER PLATE



HOLE MARKED "A" ELIMINATED IN THE 1994 MODEL SPACER PLATE.

## 1991-1993 ACCUMULATOR HOUSING

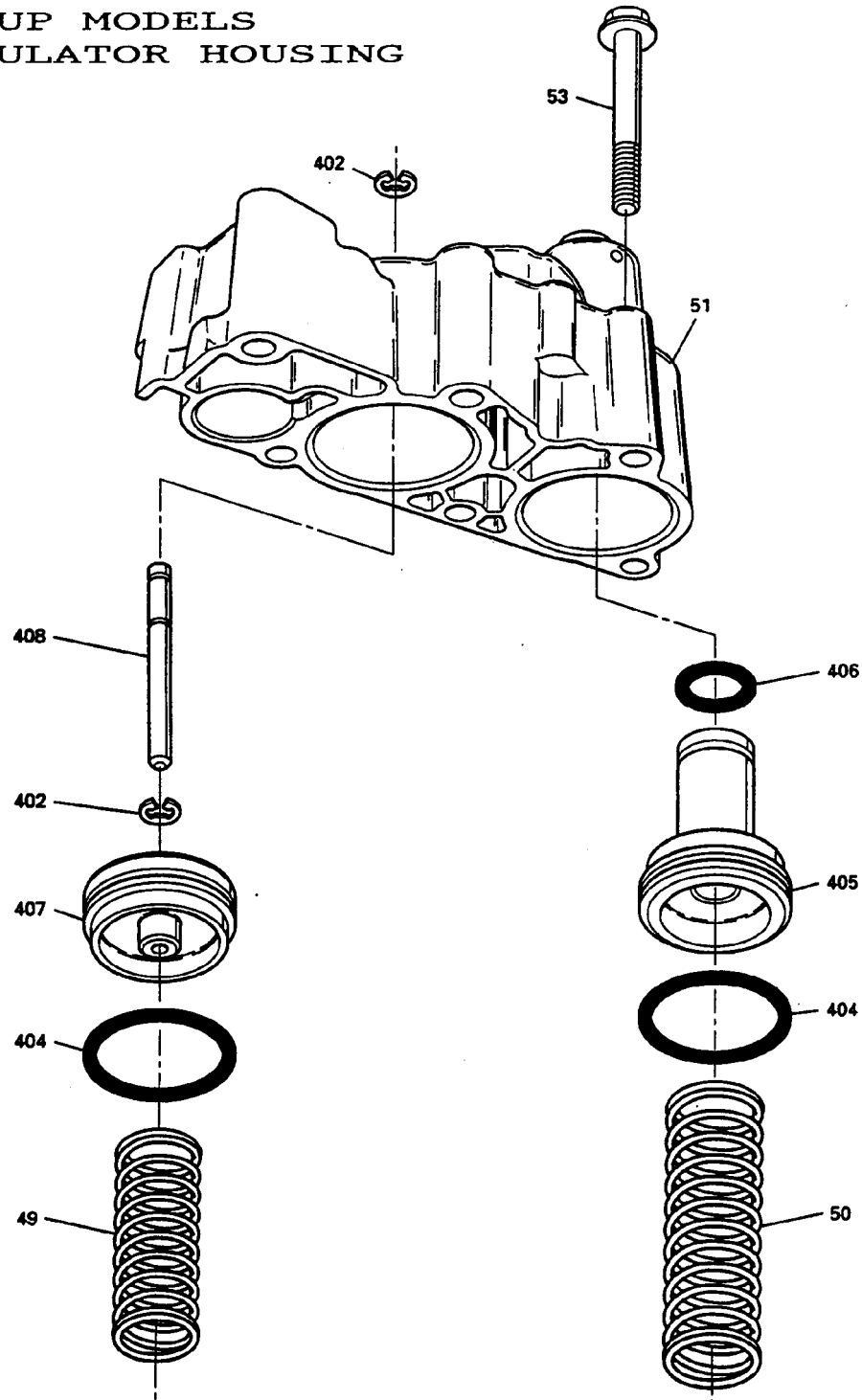


- 49 SPRING, 4TH CLUTCH ACCUM. PISTON
- 50 SPRING, 3RD CLUTCH ACCUM. PISTON
- 51 HOUSING, ACCUMULATOR
- 52 BOLT, ACCUM. HOUSING TO VALVE BODY (LONG)
- 53 BOLT, ACCUM. HOUSING TO VALVE BODY (SHORT)
- 79 PLUG, DIRECT OIL GAL (.25 DIA. CUP)
- 402 RING, SNAP
- 404 SEAL, (1.615) SQUARE CUT
- 405 PISTON, 3RD CLUTCH ACCUMULATOR
- 406 SEAL, (.859) SQUARE CUT
- 407 PISTON, 4TH CLUTCH ACCUMULATOR
- 408 PIN, 4TH CLUTCH ACCUMULATOR PISTON
- 409 VALVE, TORQUE SIGNAL COMPENSATOR
- 410 SPRING, T.S. COMPENSATOR

Copyright © 2001 ATSG

Figure 3

## 1994-UP MODELS ACCUMULATOR HOUSING



- 49 SPRING, 4TH CLUTCH ACCUM. PISTON
- 50 SPRING, 3RD CLUTCH ACCUM. PISTON
- 51 HOUSING, ACCUMULATOR
- 53 BOLT, ACCUM. HOUSING TO VALVE BODY
- 402 RING, SNAP

- 404 SEAL, (1.615) SQUARE CUT
- 405 PISTON, 3RD CLUTCH ACCUMULATOR
- 406 SEAL, (.859) SQUARE CUT
- 407 PISTON, 4TH CLUTCH ACCUMULATOR
- 408 PIN, 4TH CLUTCH ACCUMULATOR PISTON

Copyright © 2001 ATSG

Figure 4