GM 6T40 GENERATION III

GENERATION III CHANGES

CHANGE: At the start of production for the 2015 model year, the 6T40 Series of transmissions upgraded to Generation III. The changes are not many but are significant making those parts which did change not interchangeable with previous designs. The most significant being the off axis chain driven pump.

REASON: Durability due to more powerful engines and better fuel economy in order to comply with future CAFÉ requirements.

PARTS AFFECTED:

(1) The addition of an externally mounted solenoid operated high pressure accumulator to provide clutch operating pressure for vehicles equipped with the Engine Auto-Stop feature (figure 1).
(2) The torque converter housing was changed to accommodate the off axis chain driven pump assembly that is now mounted to it and to provide oil passages for the new pump design (figure 2).
(3) The sump filter changed dimensionally to 5½ inches wide and 7¾ inches long (figure 2).
(4) The pump assembly now consists of a variable vane type pump, fluid pump cover, a fluid pump plate, a fluid pump body which contains TCC and pressure regulation valves, a drive chain, and a drive and driven sprocket, see figures 3, 4, 5, 6 and 7.
(5) Transmission Pump Assembly torque specs and tightening sequences are provided in figures 8 and 9.
(6) The pump assembly has a front seal that must be removed to gain access to the fluid pump shaft snap ring (figure 10).
(7) The transmission drive chain is now 1.106 inches wide and drive and driven sprockets that accommodate the chain width (figures 11 and 12).
(8) The transmission case is deeper to accommodate wider parts (figure 11).
(9) The low reverse friction plates have the outside diameter increased from the previous 8.43 inches to 8.57 inches to reduce drag. The friction material also changed to what is called a DOT type (figures 13 and 14).
(10) The main control valve body has the #6 check ball eliminated which is used in the hybrid application only (figure 15).
(11) The Main control valve body to transfer spacer plate has eliminated the #13 passage (figures 16 and 17).
(12) The valve body transfer plate is shown in figure 18. Small parts are identified and have not changed from the Generation II design level.
(13) The Generation III TEHCM has new identification letters as compared to the Generation II (figures 19 and 20).
(14) Four Diagnostic Trouble Codes Have been added to the Generation III electronic diagnostic system (figure 21).

INTERCHANGEABILITY:

None of the above parts will back service any previous models with the exception of the valve body assembly. Install the #6 check ball if the application requires it and make certain the #13 passage in the spacer plate is open.

6T40 GENERATION III CHANGES

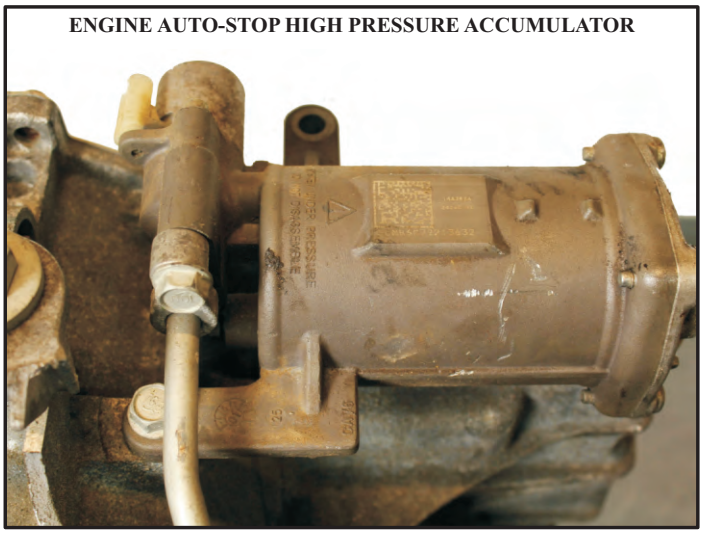
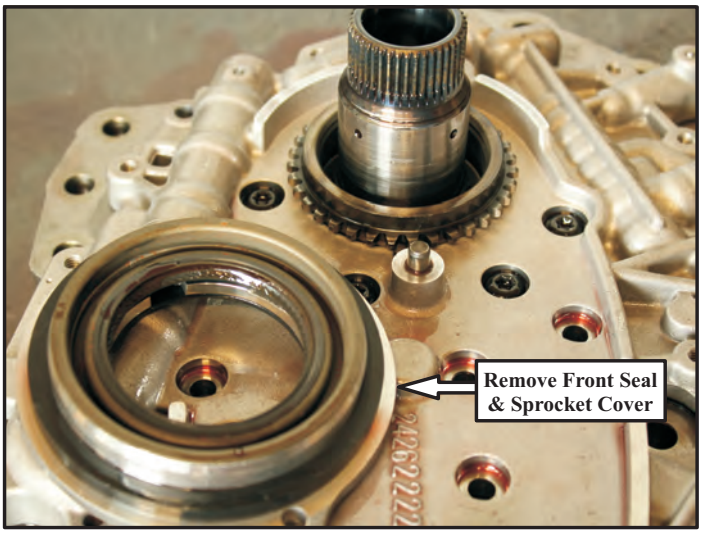


Figure 1



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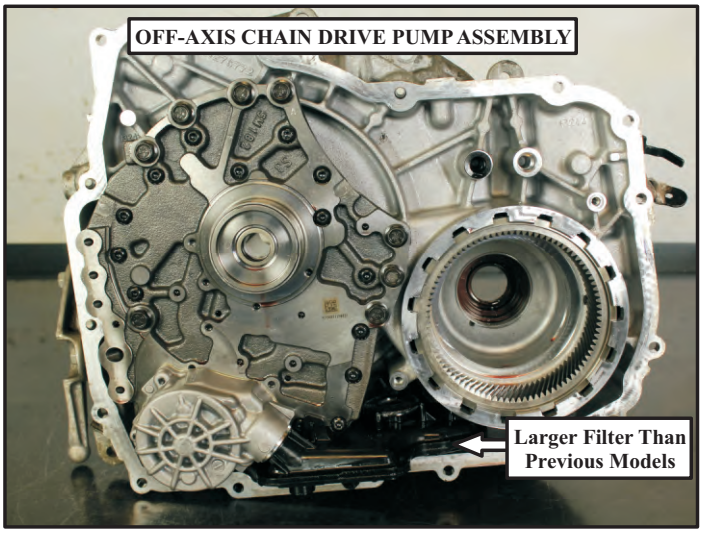

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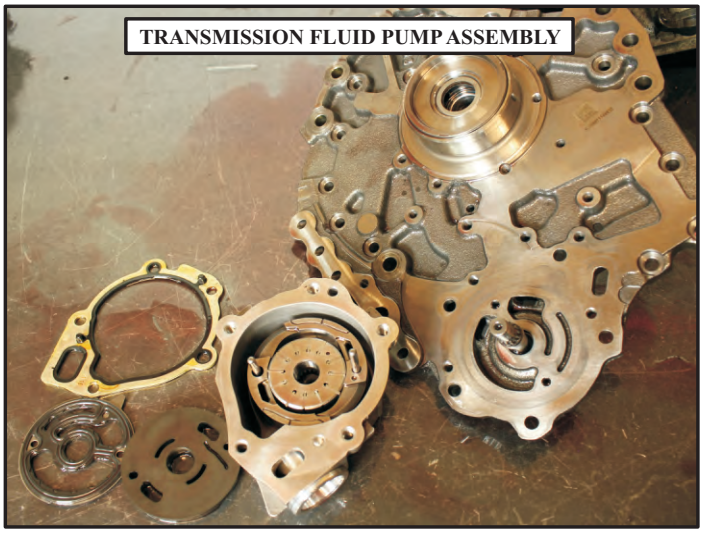

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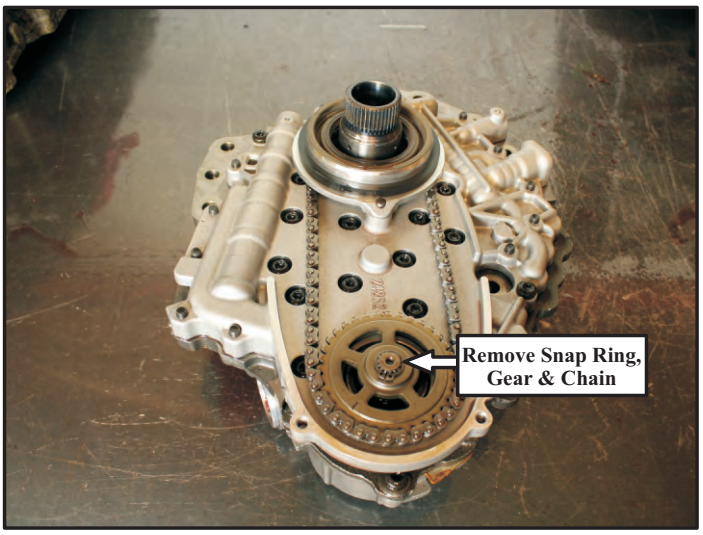

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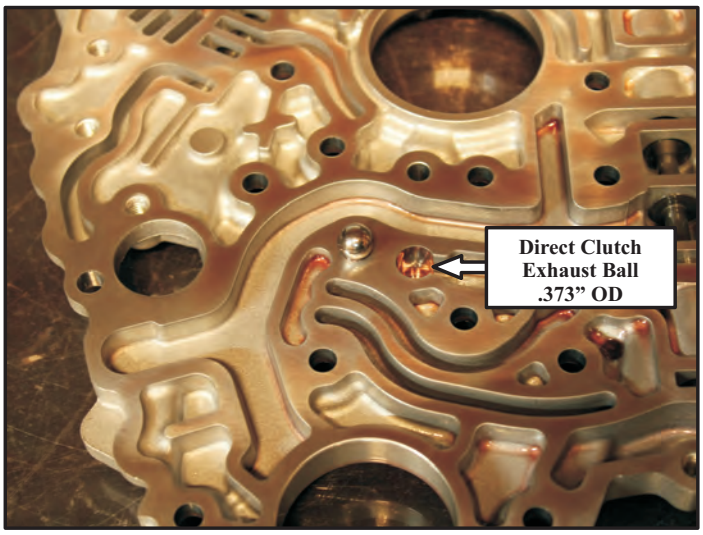

Figure 6

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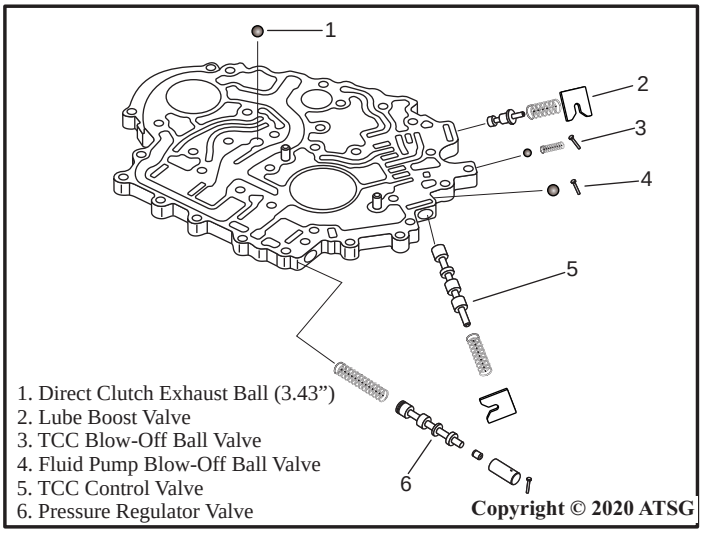

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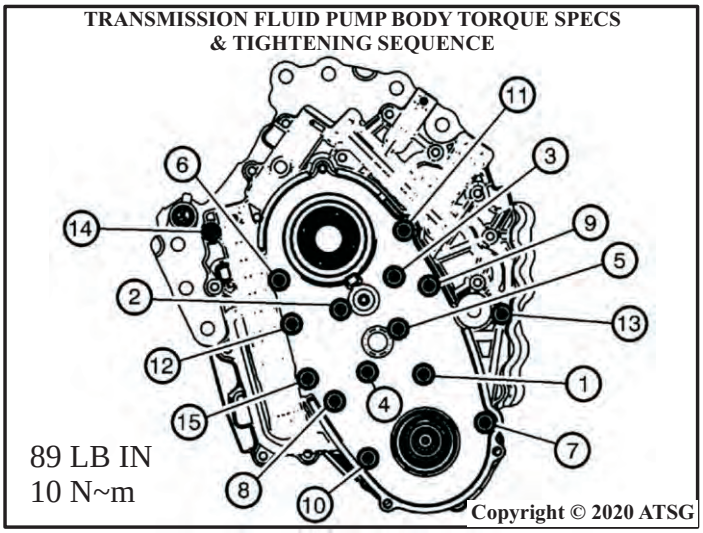

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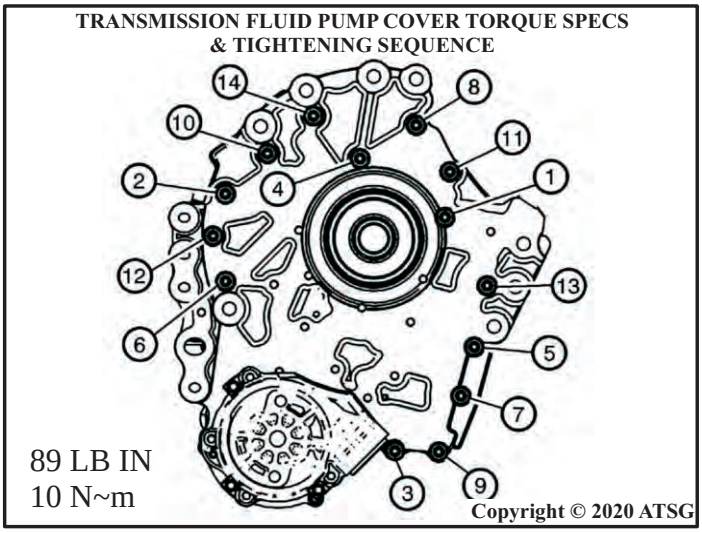

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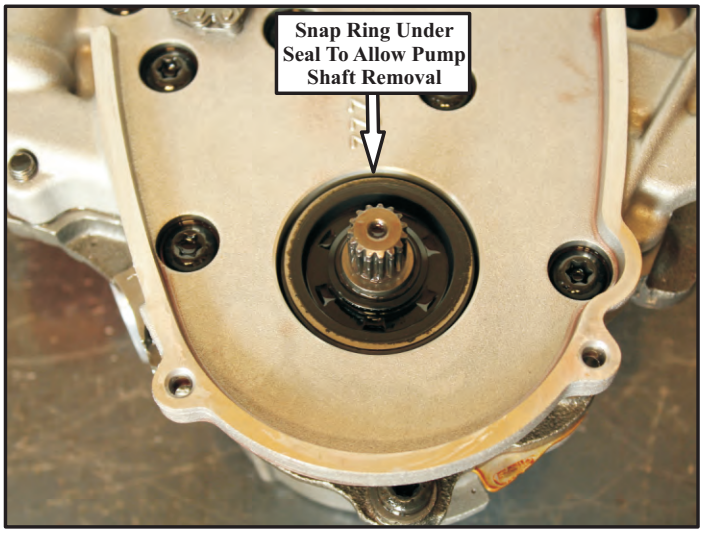
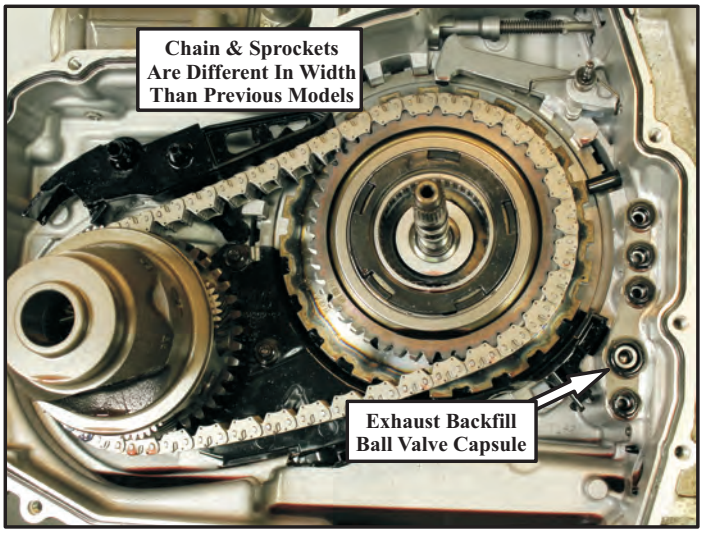


Figure 10



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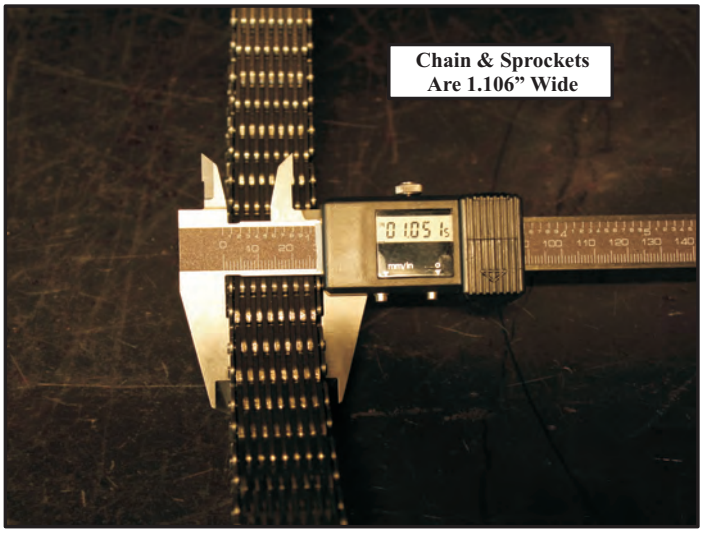

Figure 12

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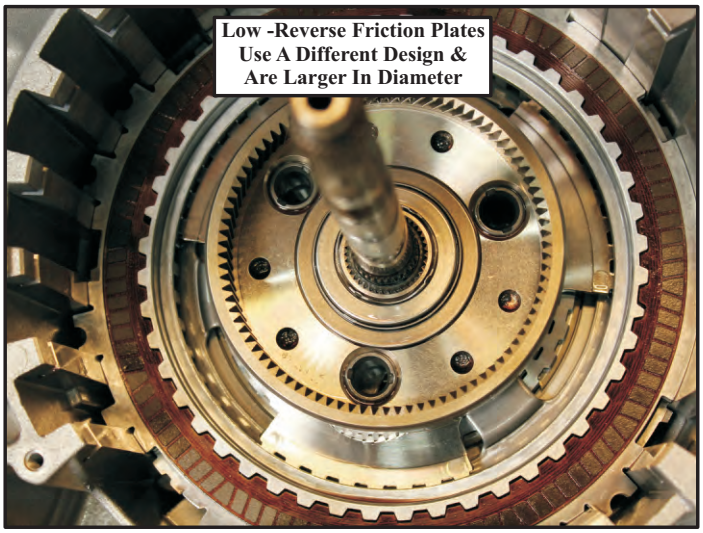
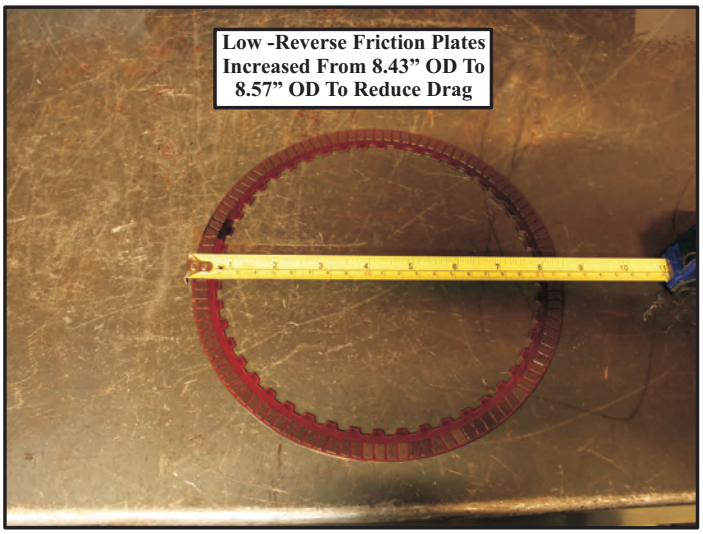


Figure 13



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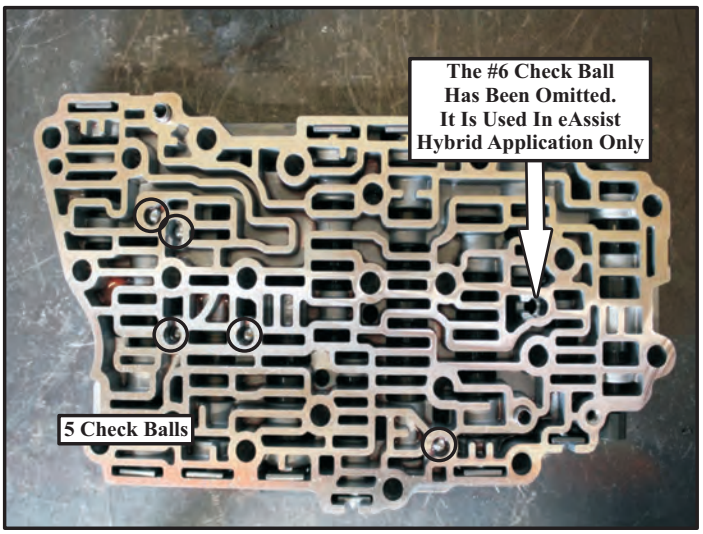

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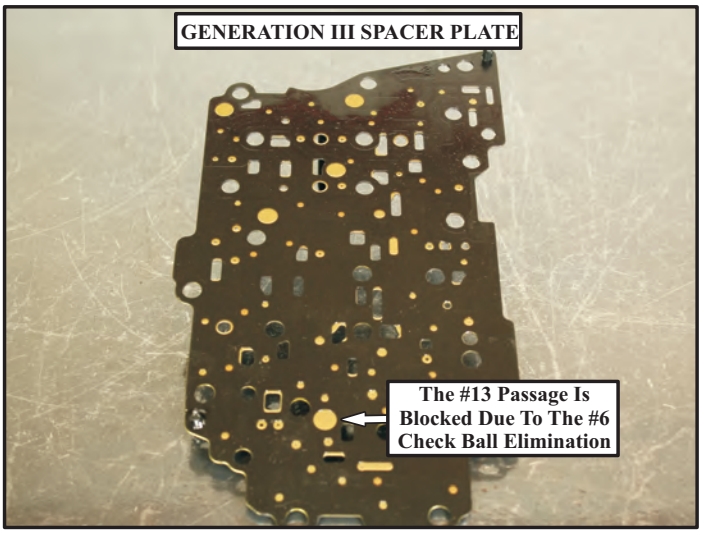

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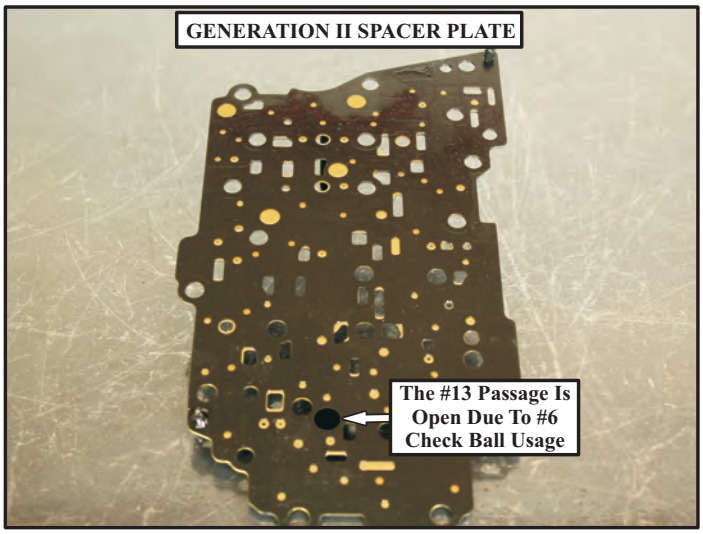

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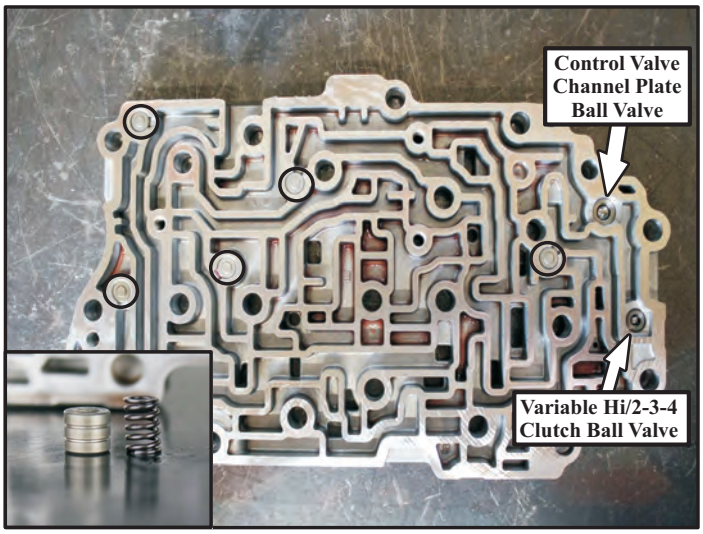

Figure 18

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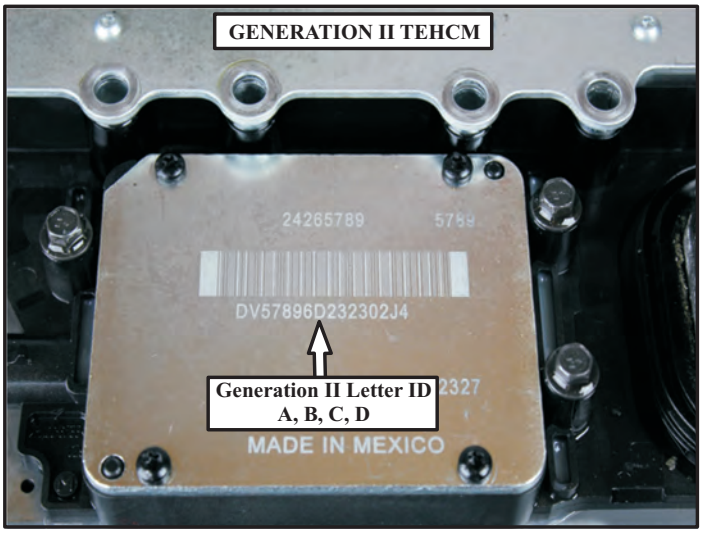

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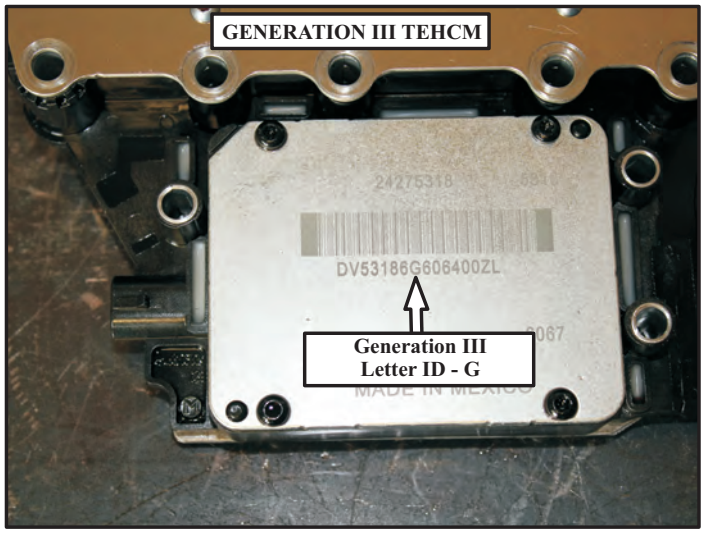

Figure 20

Three Diagnostic Trouble Codes Have Been Added To The Generation III Electronic Control System On Vehicles That Are Equipped With Engine Auto-Stop:

P171A -Transmission Fluid Pressure Accumulator Solenoid Valve Circuit Fault.

P171B - Transmission Fluid Pressure Accumulator Solenoid Valve Circuit Voltage Low.

P171C - Transmission Fluid Pressure Accumulator Solenoid Valve Circuit Voltage High.

One Diagnostic Trouble Has Been Added That Is Not Related to Engine Auto-Stop:

P1761 - Up And Down Shift Switch Signal Message Counter Incorrect.

Figure 21