THM 4L65E/4L70E
2009 CHANGES

CHANGES: Beginning at the start of production for 2009 model year, General Motors replaced the external NSBU switch with an Internal Mode Switch (IMS), as shown in Figure 1. They also eliminated the 3-2 downshift solenoid and 3-2 downshift valve and spring from the valve body, as shown in Figure 6.

REASON: Internal Mode Switch greatly improved the reliability, with elimination of water intrusion. Elimination of the 3-2 downshift solenoid improved 3-2 downshift feel and increased band durability.

PARTS AFFECTED:

(1) DETENT SPRING AND ROLLER - Manufactured wider at the "fork" or roller end, to accommodate the Internal Mode Switch (IMS), as shown in Figure 1.

(2) MANUAL SHAFT - Now has flats on the internal part of the shaft, and a hole through it for the added rolled pin, to accommodate the added IMS, as shown in Figure 1.

(3) PARKING ROD - Now manufactured with a "Flat" in the middle of the park rod that produces the clearance needed in all detent positions for the added IMS, as shown in Figure 1.

(4) PRESSURE SWITCH ASSEMBLY - Eliminated, as shown in Figure 6.

(5) INTERNAL HARNESS AND CASE CONNECTOR - With the elimination of the pressure switch assembly, the TFT Sensor was relocated in the new internal harness assembly, as shown in Figure 2. With the addition of the IMS, the pin functions must also change in the case connector. New case connector pin functions and pin identification is shown in Figure 3.
New Internal Mode Switch connectors and pin functions are shown in Figure 4. We have also provided you with a wire schematic from the internal components to the external case connector in Figure 5.

(6) VALVE BODY CASTING - Valve body is now cast shut where the 3-2 downshift solenoid was previously located and the pressure switch side of the valve body is no longer configured for the pressure switch, as shown in Figure 6.

(7) SPACER PLATE - The valve body spacer plate also required elimination of the holes for the 3-2 downshift line-up and now has the gaskets molded to both sides of the plate. They also eliminated the two snap-in screens and installed three new flat screens molded in with the valve body gaskets, as shown in Figure 7.

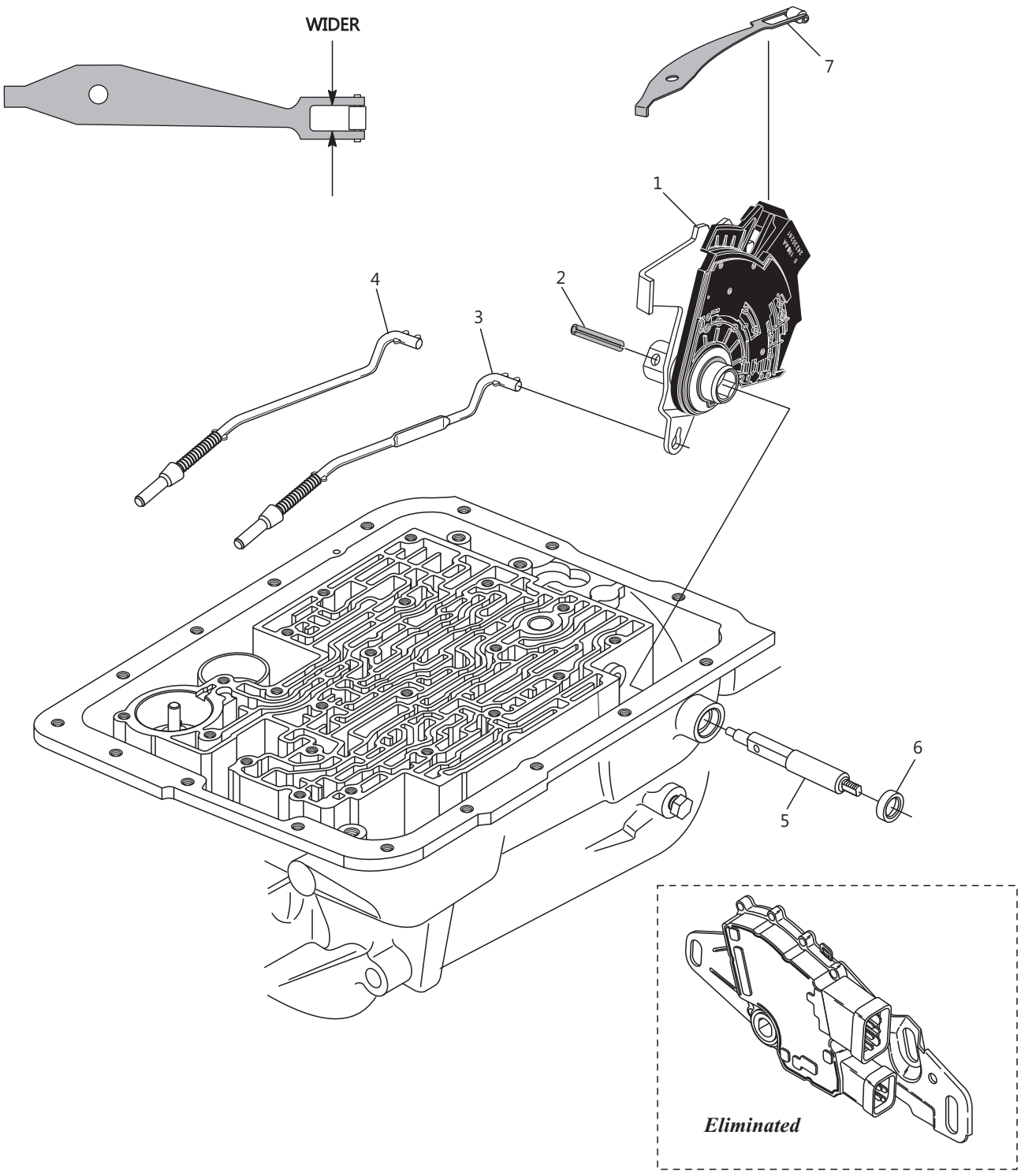
INTERCHANGEABILITY:

The new design Park Rod is the only piece that can be used to back service previous models and the previous Park Rod "cannot" be used on 2009 models. None of the remaining parts listed above will interchange with previous design level parts.

SERVICE INFORMATION:

Internal Mode Switch, 2009 Models 24235261
Internal Wire Harness and Case Connector, 2009 Models 24237980

2009 4L65/4L70E INTERNAL MODE SWITCH LOCATION



1 NEW INTERNAL MODE SWITCH.
2 NEW RETAINING ROLLED PIN.
4 PREVIOUS PARK ROD ASSEMBLY.
5 NEW MANUAL SHAFT.
6 MANUAL SHAFT SEAL.

Figure 1

2009 4L65/4L70E INTERNAL WIRING HARNESS ASSEMBLY

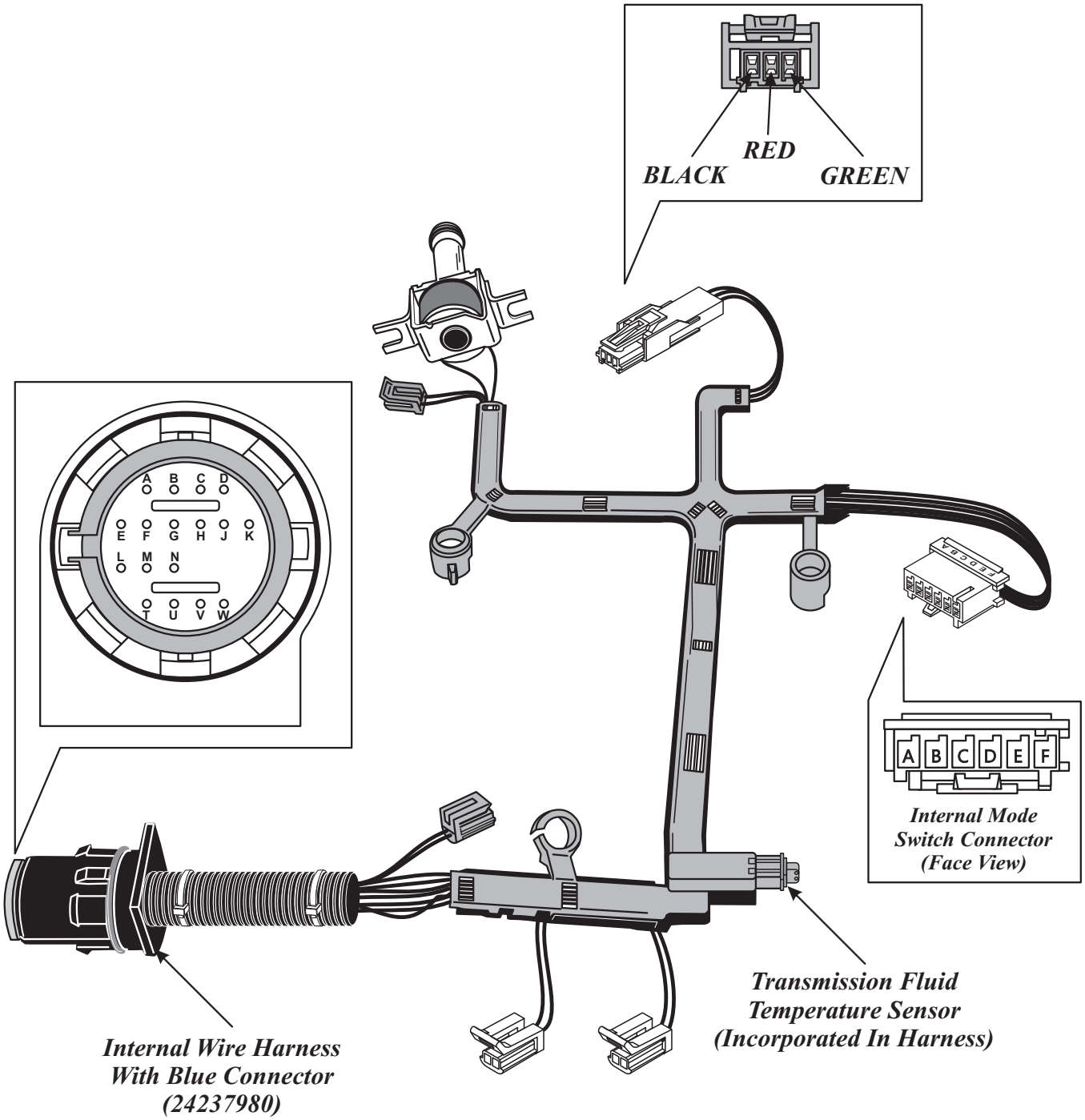
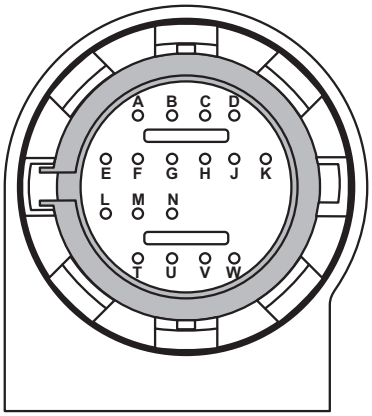


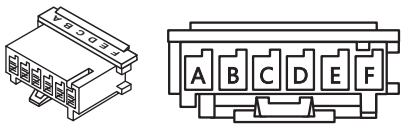
Figure 2

2009 4L65/4L70E CASE CONNECTOR PIN IDENTIFICATION AND FUNCTION



Term.	Wire Color	Function
A	Lt. Green	1-2 Shift Solenoid Ground Signal
B	Yellow	2-3 Shift Solenoid Ground Signal
C	Purple	Pressure Control Solenoid High
D	Lt. Blue	Pressure Control Solenoid Low
E	Red	Ignition 12V Feed
F	Red/Black	Internal Mode Switch Terminal "C", Switch Signal A
G	Dk. Green/White	Internal Mode Switch Terminal "D", Switch Signal B
H	Yellow/Black	Internal Mode Switch Terminal "B", Switch Signal P
J	Gray/White	Internal Mode Switch Terminal "E", Switch Signal C
K	Black	Input Speed Sensor (ISS) Signal
L	Brown	Transmission Fluid Temperature Sensor High
M	Gray	Transmission Fluid Temperature Sensor Low
N	Black/White	Internal Mode Switch Terminal "F", Ground
T	Black	TCC Control Solenoid Ground Signal
U	Pink	TCC PWM Solenoid Ground Signal
V	Dk. Green	Input Speed Sensor (ISS) Low Reference
W	Orange	Internal Mode Switch Terminal "A", Park/Neutral Signal

New Internal Mode Switch Harness Connector



Input Shaft Speed Sensor Harness Connector

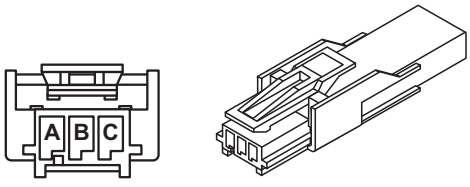


Figure 3

2009 4L65/4L70E INTERNAL MODE SWITCH

INTERNAL MODE SWITCH PARITY CHART

RANGE	INTERNAL MODE SWITCH SIGNAL A	INTERNAL MODE SWITCH SIGNAL B	INTERNAL MODE SWITCH SIGNAL C	INTERNAL MODE SWITCH SIGNAL P
P	LOW/OFF	HIGH/ON	HIGH/ON	LOW/OFF
R	LOW/OFF	LOW/OFF	HIGH/ON	HIGH/ON
N	HIGH/ON	LOW/OFF	HIGH/ON	LOW/OFF
D	HIGH/ON	LOW/OFF	LOW/OFF	HIGH/ON
3	LOW/OFF	LOW/OFF	LOW/OFF	LOW/OFF
2	LOW/OFF	HIGH/ON	LOW/OFF	HIGH/ON
1	HIGH/ON	HIGH/ON	LOW/OFF	LOW/OFF

NOTE: HIGH/ON = APPROXIMATELY 5 VOLTS
LOW/OFF = APPROXIMATELY 0 VOLTS

Added Internal Mode Switch Codes

P1820 - Internal Mode Switch, Circuit A, Low Voltage
P1822 - Internal Mode Switch, Circuit B, High Voltage
P1823 - Internal Mode Switch, Circuit P, Low Voltage
P1825 - Internal Mode Switch, Invalid Range
P1826 - Internal Mode Switch, Circuit C, High Voltage
P1915 - Internal Mode Switch, Does not indicate Park/Neutral (P/N) During Start

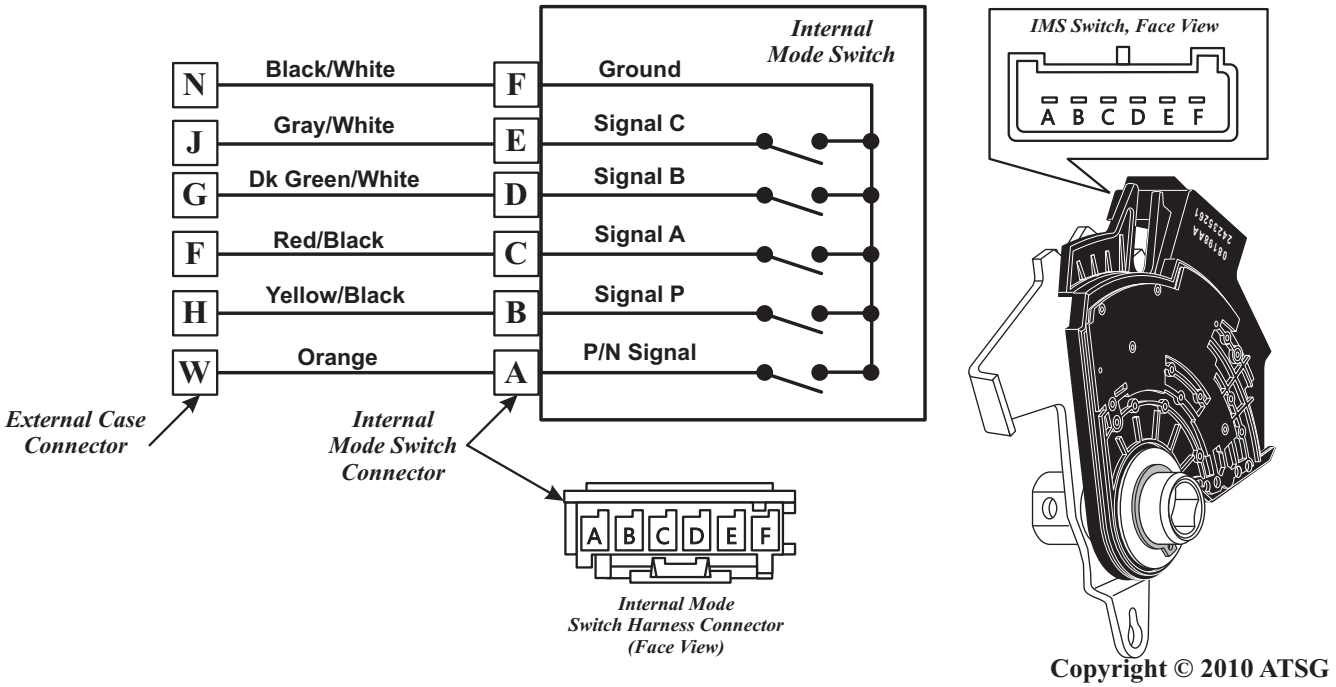


Figure 4

2009 4L65/4L70E WIRE SCHEMATIC

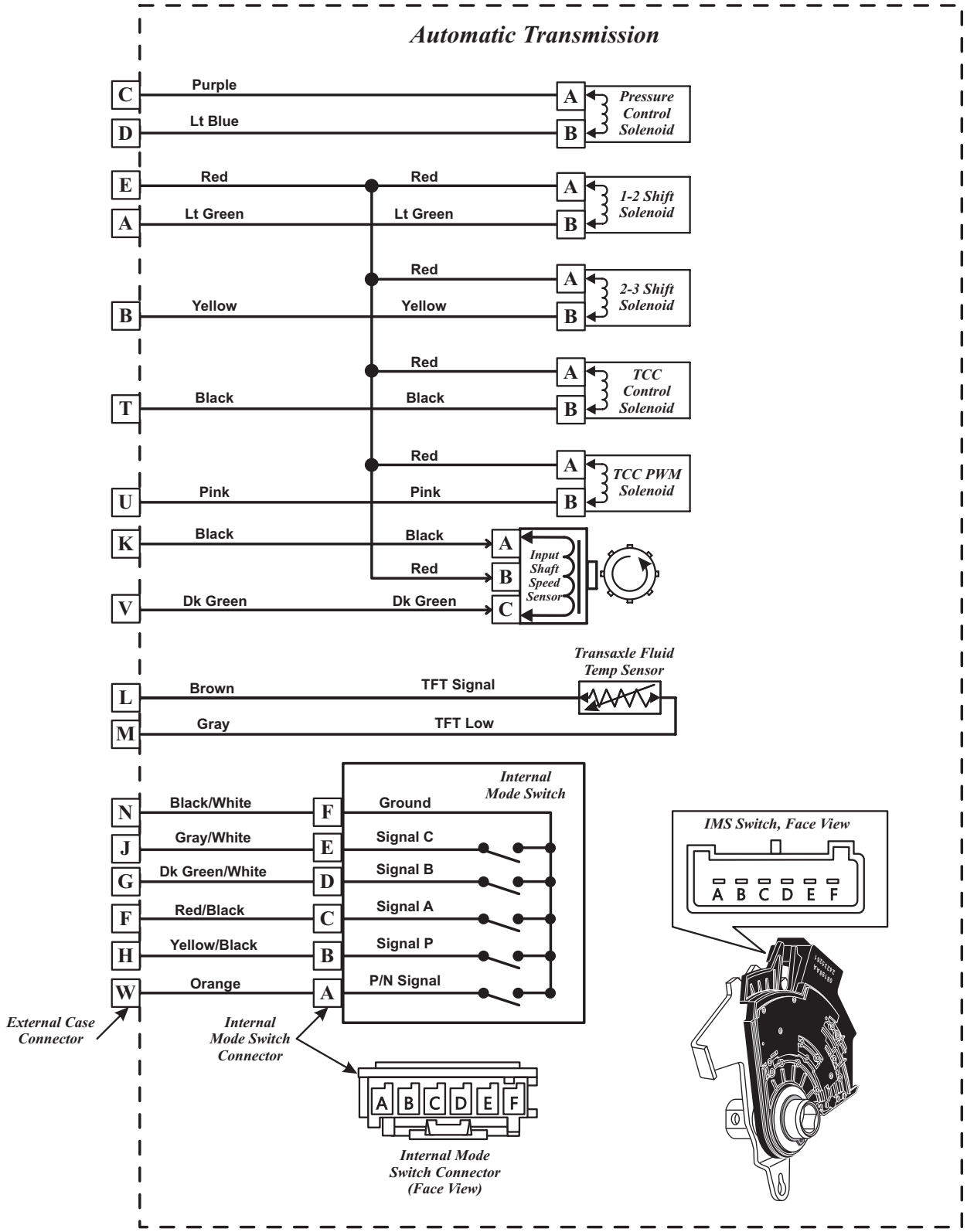


Figure 5

2009 4L65/4L70E VALVE BODY CASTING

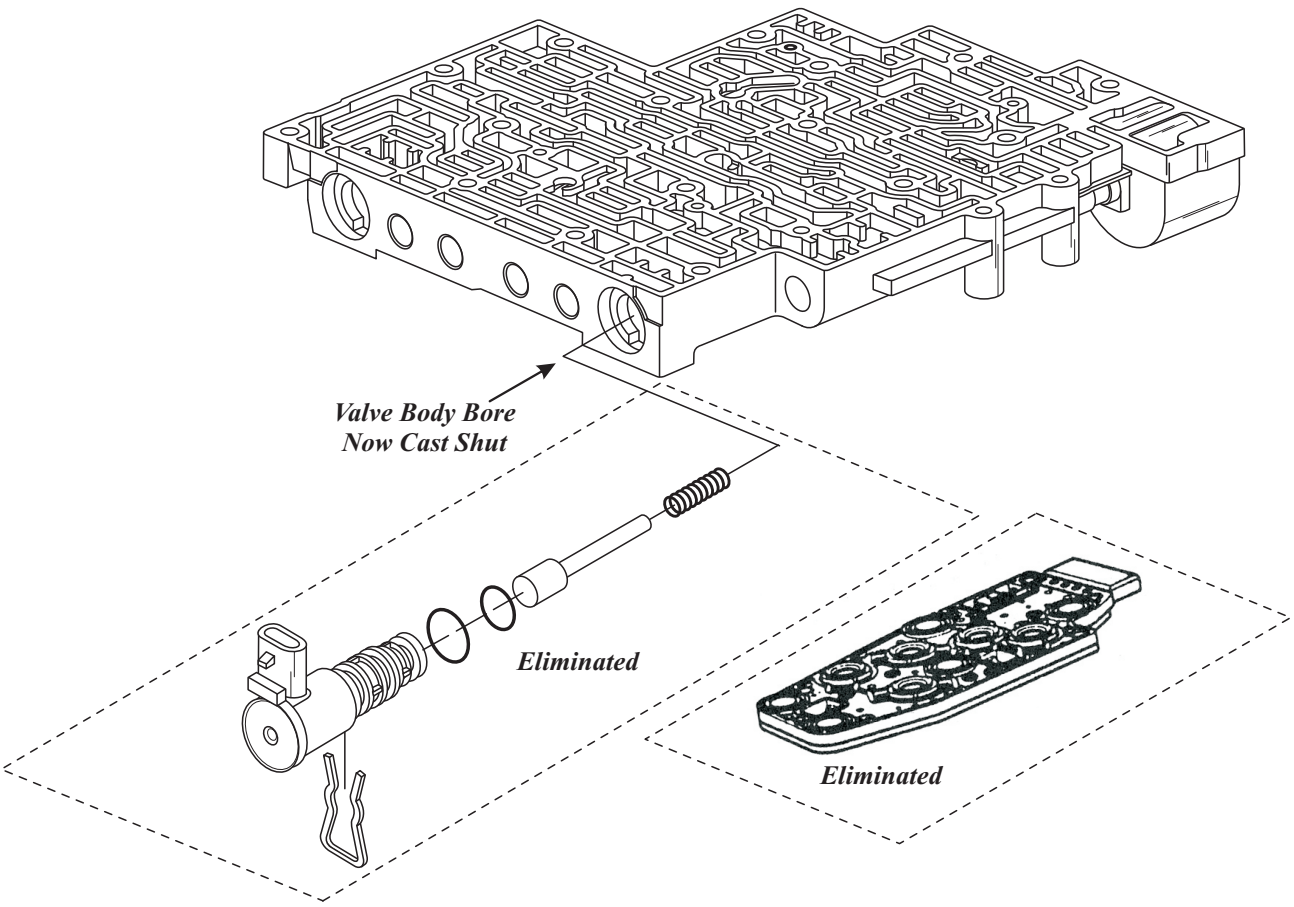


Figure 6

2009 THM 4L65E/4L70E SPACER PLATE CHART

PART NO.	24238166	24238223	24245348	24245346	
I.D. CODE	2SL	2SK	2SS	2SY	
FITS THESE MODELS	9HDD	9HED	9SYD 9TYD	9CED 9SHD 9CND 9SMD 9KND 9STD 9KPD 9TBD 9LPD 9TCD 9LSD 9TSD 9SBD 9TTD	

NOTE: ALL 2009 Models have bonded gaskets with screens, as shown below.

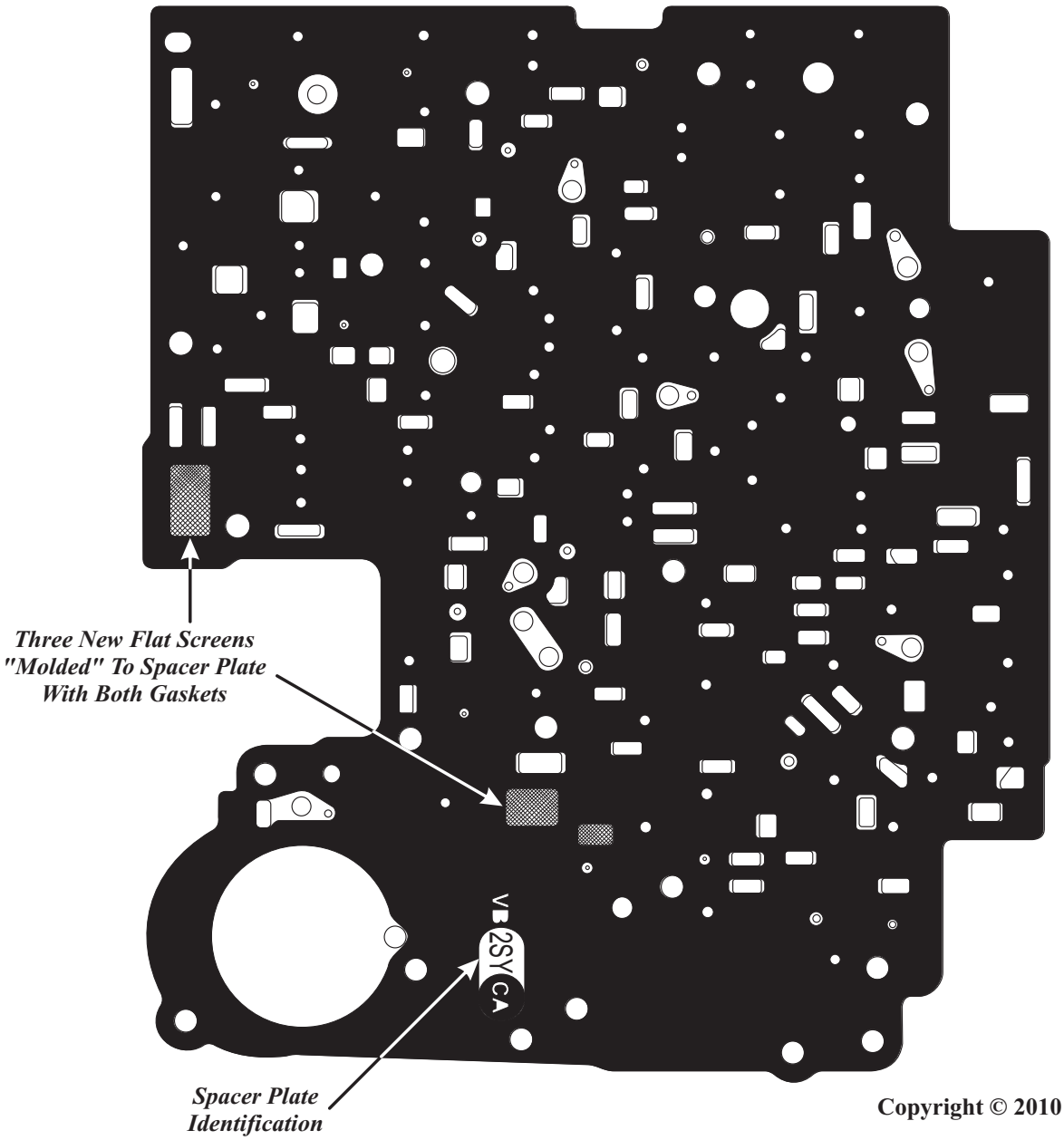


Figure 7