HOW TO USE THIS BOOK

First time users of this book may find the page layout a little unusual or perhaps confusing. However, with a minimal amount of exposure to this format its usefulness becomes more obvious. If you are unfamiliar with this publication, the following guidelines are helpful in understanding the functional intent for the various page layouts:

- Read the following section, "Understanding the Graphics" to know how the graphic illustrations are used, particularly as they relate to the mechanical power flow and hydraulic controls (see Understanding the Graphics page 6).

- Unfold the cutaway illustration of the Hydra-matic 6T40/45 (page 8) and refer to it as you progress through each major section. This cutaway provides a quick reference of component location inside the transmission assembly and their relationship to other components.

- The Principles of Operation section (beginning on page 9A) presents information regarding the major apply components and hydraulic control components used in this transmission. This section describes "how" specific components work and interfaces with the sections that follow.

  The Power Flow section (beginning on page 47) presents the mechanical and hydraulic functions corresponding to specific gear ranges. This section builds on the information presented in the Principles of Operation section by showing specific fluid circuits that enable the mechanical components to operate. The mechanical power flow is graphically displayed on a full page and is followed by a facing page of descriptive text and disassembled view illustrations. Following the mechanical power flow section is the hydraulic power flow section with schematics that show the position of valves, ball check valves, etc., as they function in a specific gear range. Also, located at the bottom of each page of hydraulic power flow text is a reference to the Complete Hydraulic Circuit section that follows.

- The Complete Hydraulic Circuits section (beginning on page 101) details the entire hydraulic system. This is accomplished by using a foldout circuit schematic with a facing page two dimensional foldout drawing of each component. The circuit schematics and component drawings display only the fluid passages for that specific operating range.

- Finally, the Appendix section contains a schematic of the lubrication flow through the transmission, disassembled view parts lists and transmission specifications. This information has been included to provide the user with convenient reference information published in the appropriate vehicle Service Manuals. Since component parts lists and specifications may change over time, this information should be verified with Service Manual information.

HOW TO USE THIS BOOK

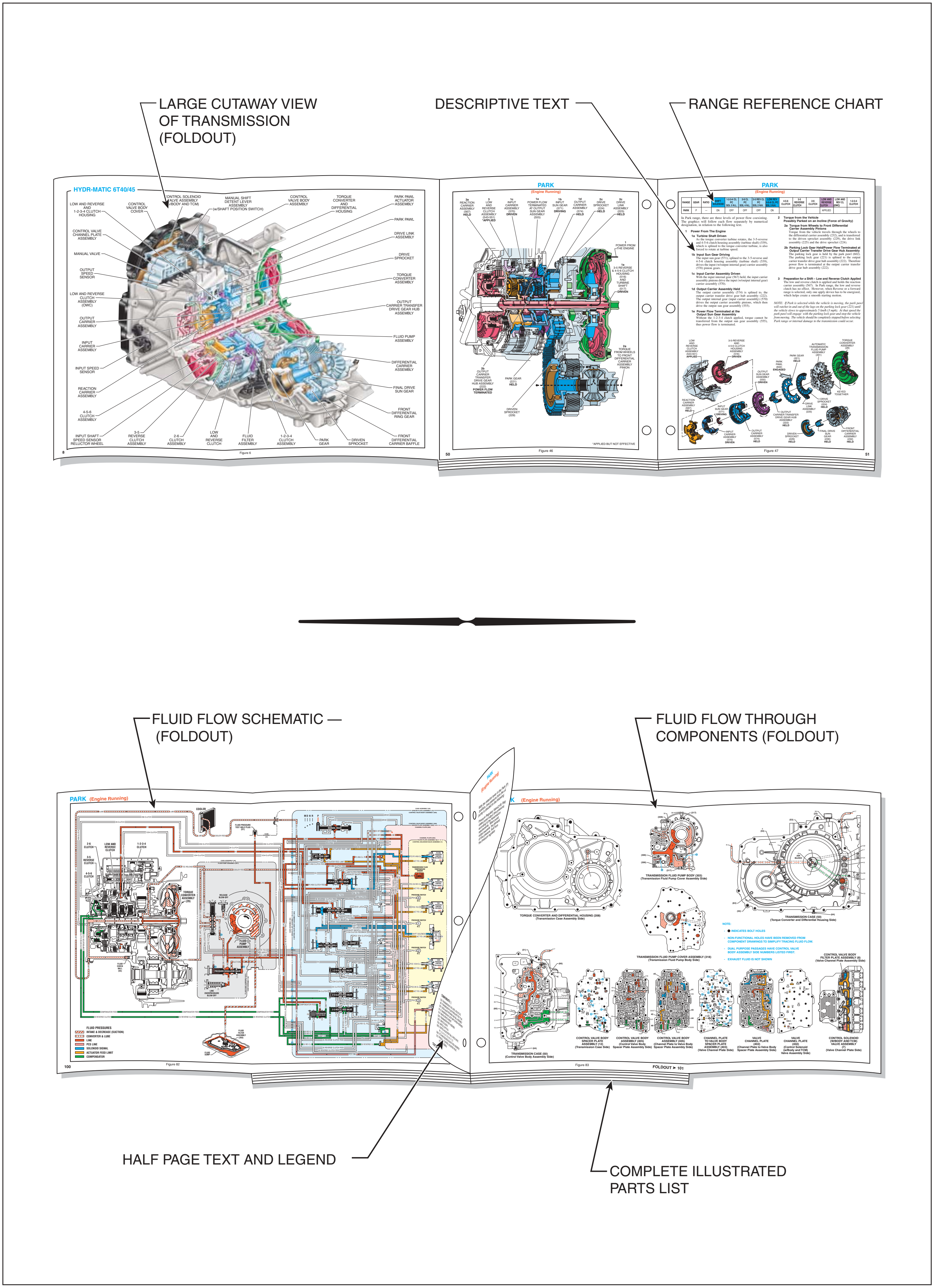
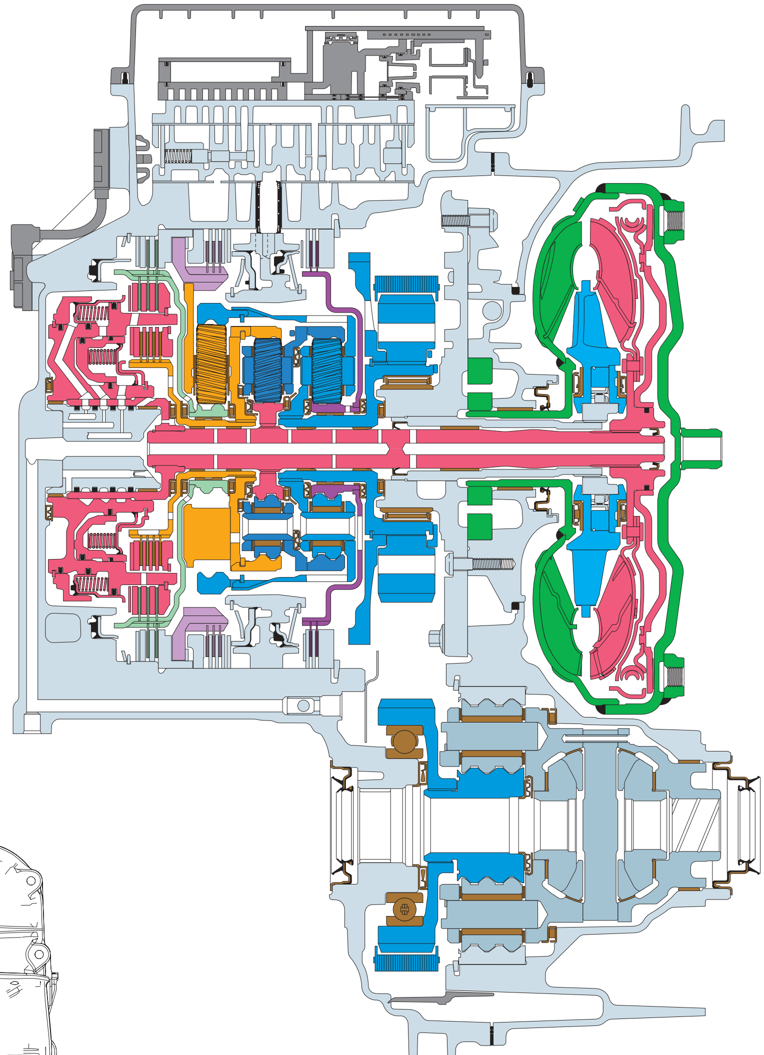


Figure 1

Note: Due to the arrangement of the axes of this transmission, the cross sectional drawing to the right may appear to be confusing if you are not familiar with this unit. This cross section was created, using the cut-line illustrated in the view below, and arranged so that the axes interact correctly together.



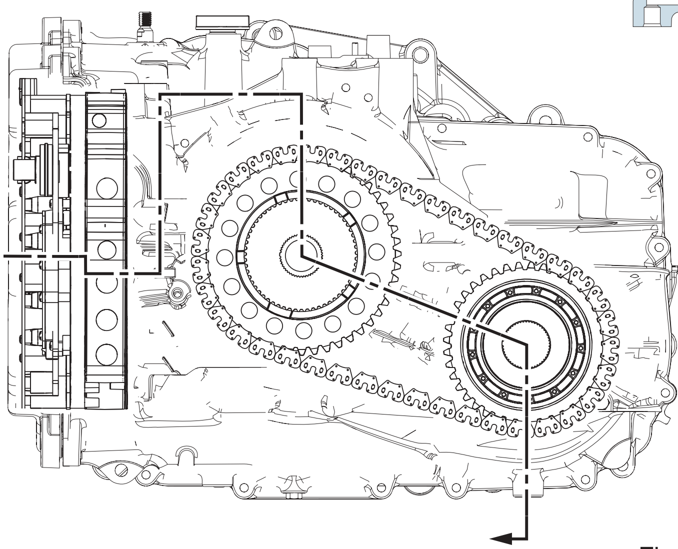


Figure 7

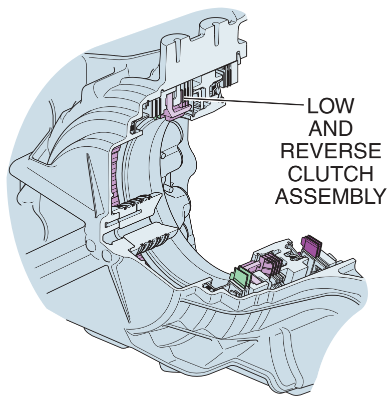
HYDRA-MATIC 6T40/45 CROSS SECTIONAL DRAWING

A cross sectional line drawing is typically the standard method for illustrating either an individual mechanical component or a complete transmission assembly. However, unless a person is familiar with all the individual components of the transmission, distinguishing components may be difficult in this type of drawing. For this reason, a three dimensional perspective illustration (shown on page 8) is the primary drawing used throughout this book.

The purpose for this type of illustration is to provide a more detailed graphic representation of each component and to show their relationship to other components within the transmission assembly. It is also useful for understanding the cross sectional line drawing by comparing the same components from the three dimensional perspective illustration. In this regard it becomes an excellent teaching instrument.

Additionally, all the illustrations contained in this book use a color scheme that is consistent throughout this book. In other words, regardless of the type of illustration or drawing, all components have an assigned color and that color is used whenever that component is illustrated. This consistency not only helps to provide for easy component identification but it also enhances the graphic and color continuity between sections.

APPLY COMPONENTS – LOW AND REVERSE CLUTCH



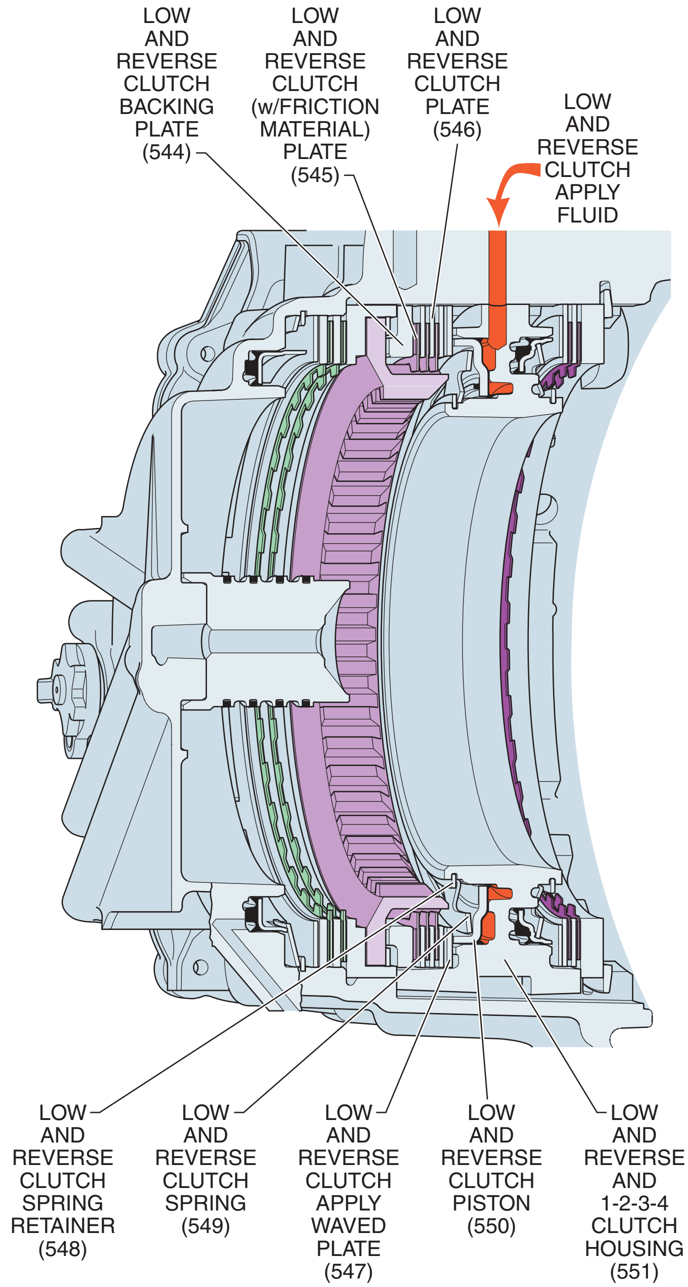
If the low and reverse clutch apply fluid does not fully exhaust, the low and reverse clutch could partially apply or drag. If the low and reverse clutch is inoperative, there will be no First gear or Reverse.

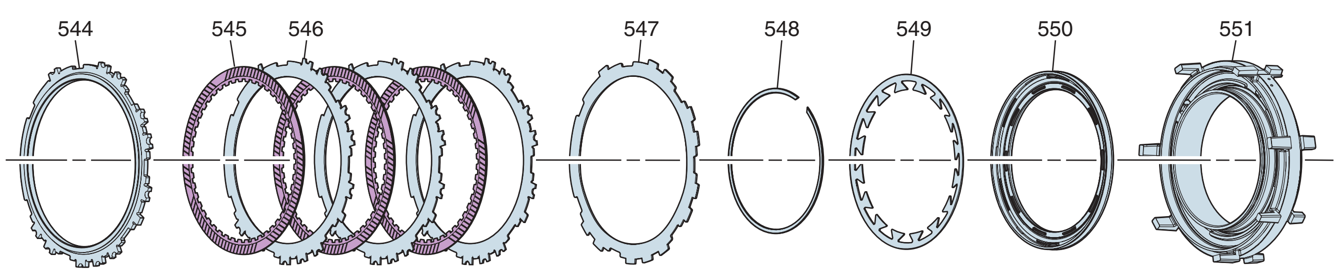
LOW AND REVERSE CLUTCH
The low and reverse clutch assembly is located in the case assembly (50). The external teeth on the low and reverse clutch plates (546) are splined to the case assembly while the internal teeth on the low and reverse clutch plate assemblies (545) are splined to the low and reverse clutch assembly (OWC) (543). The low and reverse clutch is applied and effective only when the transmission is in First gear (Engine Braking) or Reverse in order to provide maximum gear reduction and engine braking by holding the reaction carrier assembly (567) stationary.

LOW AND REVERSE CLUTCH APPLY
To apply the low and reverse clutch, low and reverse clutch fluid is fed through the case assembly (50) . A feed hole in the case allows fluid to enter behind the low and reverse clutch piston assembly (550). Low and reverse clutch fluid pressure moves the piston and compresses the low and reverse clutch spring (549). As fluid pressure increases, the piston compresses the low and reverse clutch plates together until they are held against the low and reverse clutch backing plate (544). Also included in the assembly are a low and reverse clutch apply (waved) plate (547), that helps cushion the apply of the low and reverse clutch.

When fully applied, the low and reverse clutch apply plate (547), the low and reverse clutch spring (549), the low and reverse clutch plates (546), and the low and reverse clutch plate assemblies (545) are locked together, thereby holding the low and reverse clutch assembly (OWC) (543) stationary to the case assembly (50). The reaction carrier assembly (567), which is splined to the low and reverse clutch assembly (OWC) (543), is also held stationary.

LOW AND REVERSE CLUTCH RELEASE
To release the low and reverse clutch, low and reverse clutch fluid exhausts through the case assembly (50), allowing pressure at the low and reverse clutch piston assembly (550) to decrease. In the absence of fluid pressure, spring force from the low and reverse clutch spring (549) moves the low and reverse clutch piston assembly (550) away from the clutch pack. This disengages the low and reverse clutch apply (waved) plate (547), the low and reverse clutch plates (546), and the low and reverse clutch plate assemblies (545) from the low and reverse clutch backing plate (544), thereby allowing the reaction carrier assembly (567) to rotate freely.





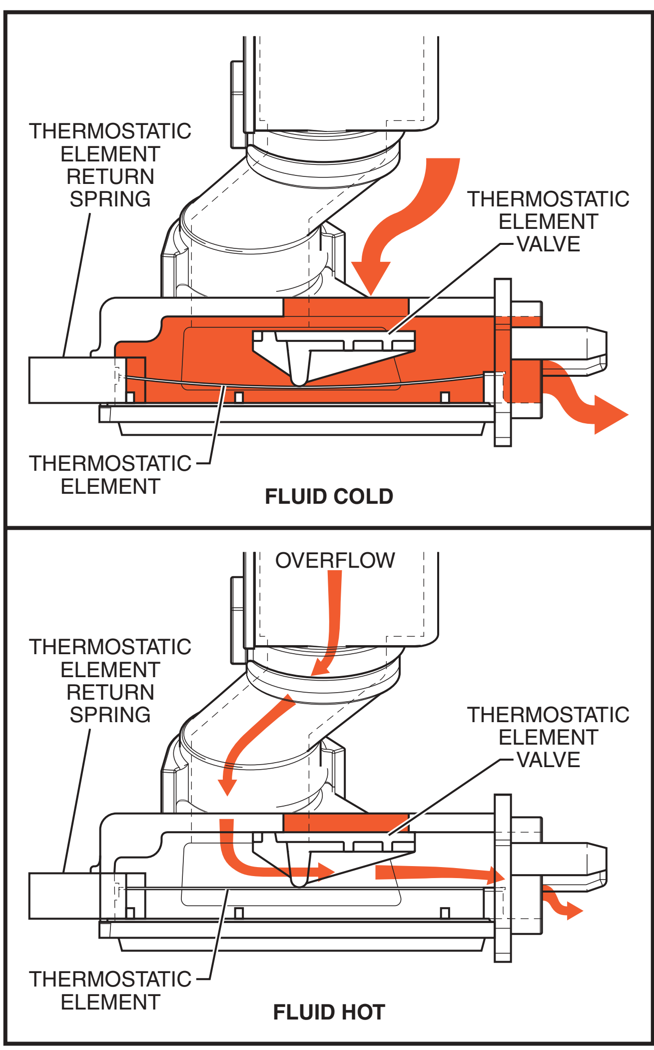
FLUID LEVEL CONTROL VALVE

Fluid Level Control Valve

The fluid level control valve (13) is attached to the transmission case (50), next to the control valve body assembly, and is designed to control the fluid level in the control valve body cover assembly (2). The fluid level control valve contains a temperature sensitive strip of metal that reacts to fluid temperature changes and opens or closes a fluid passage. At temperatures below 60°C (140°F), the thermostatic element allows fluid to drain from the control valve body cover area into the case sump. As the temperature of the transmission fluid increases, the thermostatic element traps fluid in the control valve body cover area and the fluid level rises. The maximum fluid level in the control valve body cover area is controlled as fluid overflows the top of the fluid level control valve pipe and drains into the case sump. This level of transmission fluid is required in order to maintain the operation of the hydraulic system in the transmission.

It should be noted that when checking the fluid level in a Hydra-matic 6T40/45 transmission, the fluid temperature must be at operating temperature in order to obtain a proper fluid level in the case sump. Checking the fluid level with the fluid temperature below operating temperature will result in a too low fluid level.

A damaged or loose thermostatic element could cause fluid foaming or incorrect fluid level.



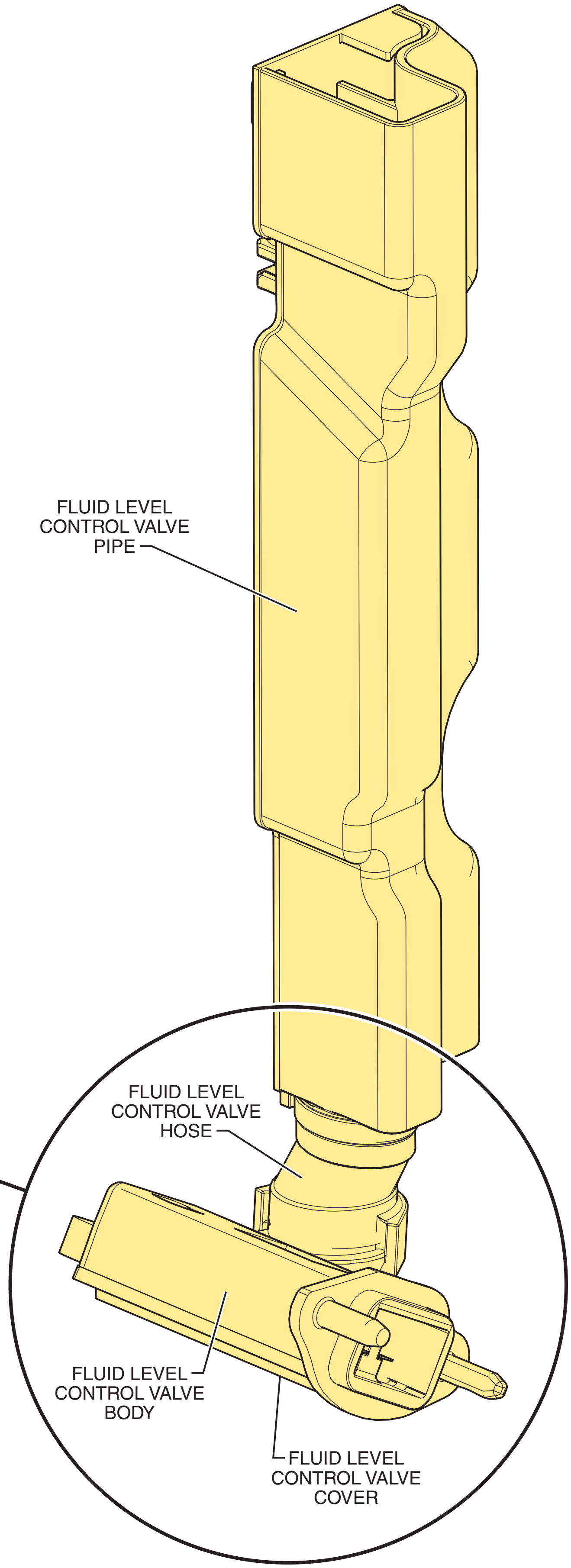
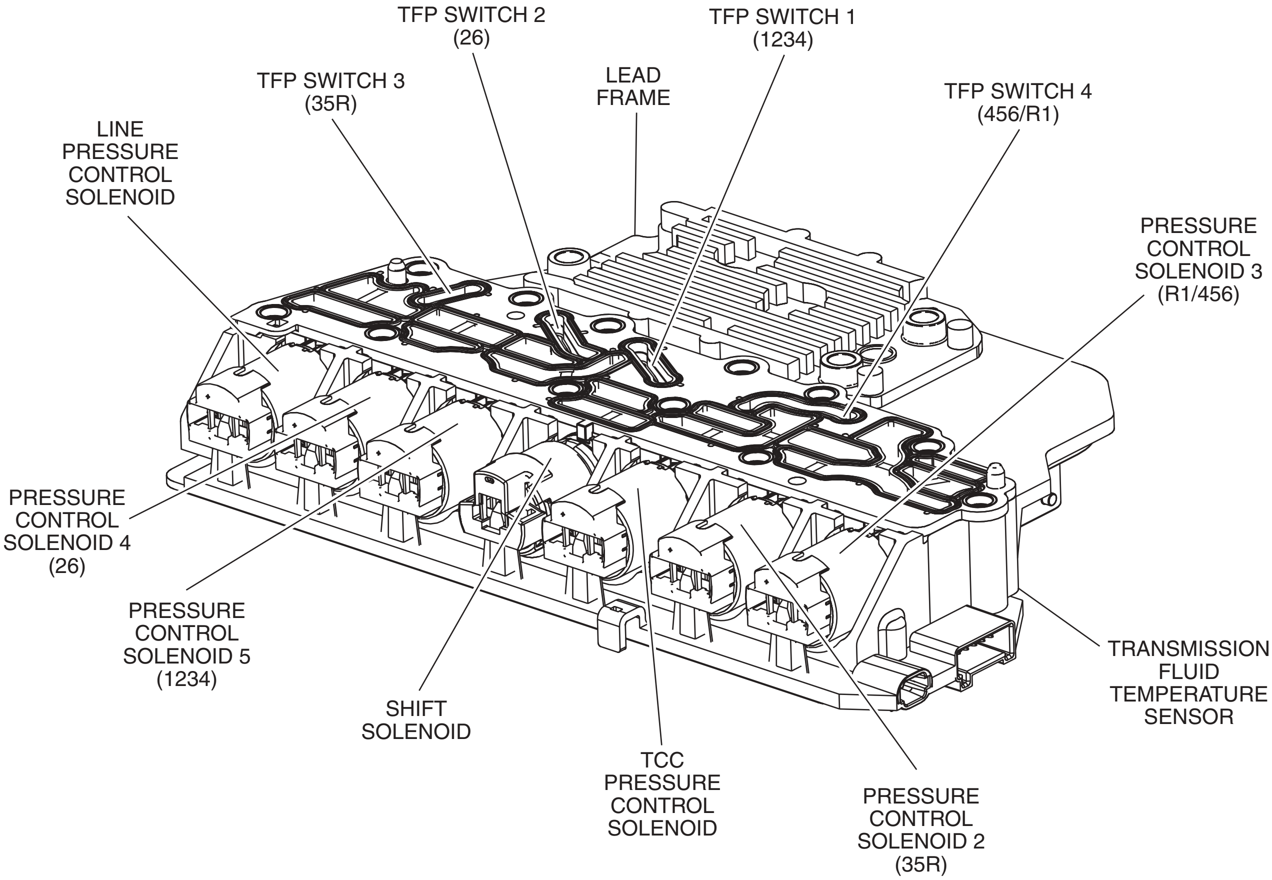


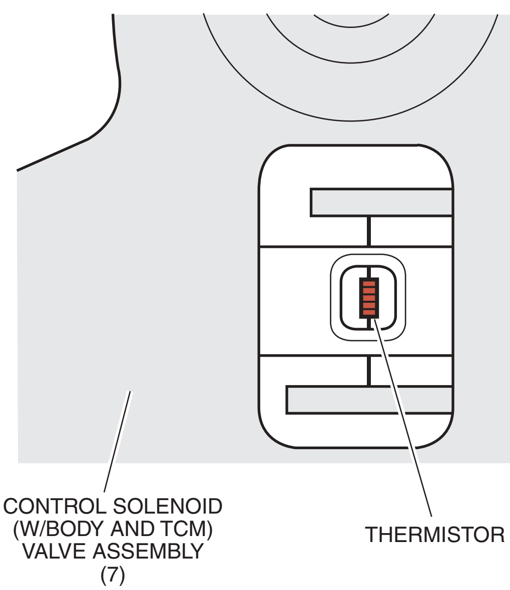
Figure 30

CONTROL SOLENOID (W/BODY AND TCM) VALVE ASSEMBLY (7)



The control solenoid (w/body and TCM) valve assembly bolts directly to the control valve body assembly inside the transmission. The control solenoid valve assembly utilizes a lead frame system to connect the components to the TCM. There are no wires used for these components. The control solenoid valve assembly connects to the engine harness 14-way connector via a pass-thru sleeve. All fluid passages to the switches and solenoids are protected from debris by a serviceable control solenoid filter plate assembly (8). In addition to the components shown above, there are two temperature sensors located inside the TCM that are not shown, the TCM Temperature Sensor and the Power Up Temperature Sensor.

The above components are diagnosed separately, but are serviced as an assembly.



Automatic Transmission Fluid Temperature (TFT) Sensor:
The TFT sensor is part of the control solenoid (w/body and TCM) valve assembly and is not serviced separately. The TFT sensor is a resistor, or thermistor, which changes value based on temperature. The sensor has a negative-temperature coefficient. This means that as the temperature increases, the resistance decreases, and as the temperature decreases, the resistance increases. The TCM supplies a voltage reference signal to the sensor and measures the voltage drop in the circuit. When the transmission fluid is cold, the sensor resistance is high and the TCM detects high signal voltage. As the fluid temperature warms to a normal operating temperature, the resistance becomes less and the signal voltage decreases. The TCM uses this information to maintain shift quality and torque converter clutch apply quality over operating temperature range.

If the TCM detects an improper signal from the TFT sensor, a DTC will be activated.

Figure 37

ELECTRICAL COMPONENTS

COMPONENTS EXTERNAL TO THE TRANSMISSION

Throttle Position (TP) Sensor: The ECM monitors the variable voltage signal from the TP sensor to calculate throttle position (angle). These input signals are then transmitted over the CAN bus to the TCM, in addition to other vehicle and transmission sensor inputs, in order to determine the appropriate line pressure, shift pattern and TCC apply and release for the transmission. In general, with greater throttle angle, upshift speeds and line pressure both increase.

Engine Speed Sensor: Monitored by the ECM through the ignition module, information from this sensor is transmitted over the CAN bus to the TCM and used to help determine shift patterns and TCC apply and release.

Manifold Absolute Pressure (MAP) Sensor: The MAP sensor measures changes relative to intake manifold pressure which results from changes in engine load and speed. These changes are converted to a voltage output which is monitored by the ECM and transmitted over the CAN bus to the TCM in order to adjust line pressure and shift timing.

ngine Coolant Temperature (ECT) Sensor: The ECM monitors ie variable resistance signal from this sensor to determine engine oolant temperature. When the engine is cold, resistance is high, nd when the engine is hot, resistance through the sensor is low. he ECM then transmits this information over the CAN bus to the CM where it is used to prevent the TCC from applying when ngine temperature is below approximately 20°C (68°F) (calibratable).

Manifold Air Temperature (MAT) Sensor: The ECM monitors the variable resistance signal from the MAT sensor to determine manifold air temperature. When the air is cold, resistance is high, and when the air is hot, resistance through the sensor is low. The ECM then transmits this information over the CAN bus to the TCM where it is used as a factor to determine TCC apply.

Accelerator Pedal Position (APP) Sensor: The APP sensor is monitored by the ECM in order to determine accelerator pedal position. The ECM uses this signal to open and close the throttle in response to the driver's commands. It also signals the TCM when the accelerator pedal is fully depressed, allowing forced downshifts and maximum performance.

Brake Switch: This parameter displays the state of the brake switch circuit input. This information is transmitted to the TCM where it is used as a factor to determine the apply or release state of the TCC. The scan tool will display Applied when the brake pedal is depressed and Released when the brake pedal is released.

Driver Shift Control (DSC) Switches: These switches are located either on the steering wheel or on a secondary gate within the console shift lever mechanism. The TCM uses the switch inputs to provide manual shift control to the driver. When a switch is depressed, the TCM opens a path to ground causing the transmission to shift up or down.

Operating Mode Selection Switches: Depending on the customer/ application, vehicles may be equipped with switches allowing the driver to select various automatic operating modes (Economy, Performance, Winter), or manual mode (Driver Shift Control) to allow manual shifting by bumping the selector lever up and down.

Diagnostic Link Connector (DLC): The DLC is a multi-terminal connector that is located under the vehicle dashboard. The DLC is connected by serial data wires to the various control modules located throughout the vehicle. The DLC can be used to diagnose conditions in the vehicle's electrical system, TCM or PCM, and various transmission components. Refer to the appropriate Service Manual for specific electrical diagnosis information.

Controller Area Network (CAN) Bus: The CAN bus consists of two wires that connect the various vehicle control modules together, allowing them to exchange information about vehicle conditions.

Note: These are typical inputs to the controllers. The combination and usage of these inputs may vary depending on model and application.

DRIVE RANGE – FIFTH GEAR

RANGE	GEAR	RATIO	SHIFT SOLENOID	1-2-3-4 CL PC SOL 5 N.L.	2-6 CL PC SOL 4 N.L.	3-5 REV CL PC SOL 2 N.H.	LOW REV 4-5-6 CL PC SOL 3 N.H.	4-5-6 CLUTCH	3-5 REVERSE CLUTCH	2-6 CLUTCH	LOW AND REVERSE CLUTCH	LOW AND REV CL (OWC)	1-2-3-4 CLUTCH
D	5th	1.000	OFF	OFF	OFF	ON	ON	APPLIED	APPLIED				

Drive Range – Fifth Gear is used to maximize engine efficiency and fuel economy under most driving conditions. Input signals from the transmission speed sensors (input and output), throttle position (TP) sensor, and other vehicle sensors, are used by the TCM to determine the precise moment to shift the transmission into Fifth gear. In Fifth gear, the planetary gear sets rotate as a unit (direct drive), allowing the transfer gears to provide a 1.000:1 gear ratio to the differential carrier assembly (232).

1 Power From The Engine

1a Turbine Shaft Driven
As the torque converter turbine rotates, the 3-5-reverse and 4-5-6 clutch housing assembly (turbine shaft) (539), which is splined to the torque converter turbine, is also forced to rotate at turbine speed.

1b Input Sun Gear Driving
The input sun gear (571), splined to the 3-5-reverse and 4-5-6 clutch housing assembly (turbine shaft) (539), drives the input (w/output internal gear) carrier assembly (570) pinion gears.

2 3-5-Reverse Clutch Assembly Applied
The 3-5-reverse clutch plates (507-510), splined to the 3-5-reverse and 4-5-6 clutch housing assembly (539) and the reaction sun gear assembly (566), are applied and drive the reaction sun gear assembly. The reaction sun gear assembly (566) attempts to drive the reaction (w/input internal gear) carrier assembly (567) pinion gears.

3 4-5-6 Clutch Assembly Applied
The 4-5-6 clutch plates (525-529), splined to the 3-5-reverse and 4-5-6 clutch housing assembly (539) and the reaction carrier hub assembly (531), are applied and drive the reaction carrier hub assembly. The reaction carrier hub assembly (531) is splined to and drives the reaction (w/input internal gear) carrier assembly (567).

4 Reaction Carrier Assembly Driving
With both the reaction sun gear assembly (566) and the reaction carrier hub assembly (531) driving at converter turbine speed, the reaction carrier assembly pinions act as wedges and provide direct drive to the reaction internal gear (output carrier assembly) (574).

5 Input Carrier Assembly Driven
With both the input internal gear (reaction carrier assembly) (567) and the input sun gear (571) driving at converter turbine speed, the input carrier pinions act as wedges to obtain direct drive through the input (w/output internal gear) carrier assembly (570).

6 Output Carrier Assembly Driving
With both the reaction carrier assembly (567) and the input carrier assembly (570) driving at converter turbine speed, the output carrier assembly (574) rotates as a unit, providing direct drive to the output carrier transfer drive gear hub assembly (222).

7 Output Carrier Transfer Drive Gear Hub Assembly Driven
The output carrier transfer drive gear hub assembly (222) is splined to, and driven by, the output carrier assembly (574).

8 Drive Sprocket Driving
The drive sprocket assembly (224), splined to and driven by the output carrier transfer drive gear hub assembly (222), drives the drive link assembly. The drive link assembly (225) drives the driven sprocket assembly (229), which is splined to the final drive sun gear (230), thus transferring power to the front differential carrier assembly and to the drive axles.

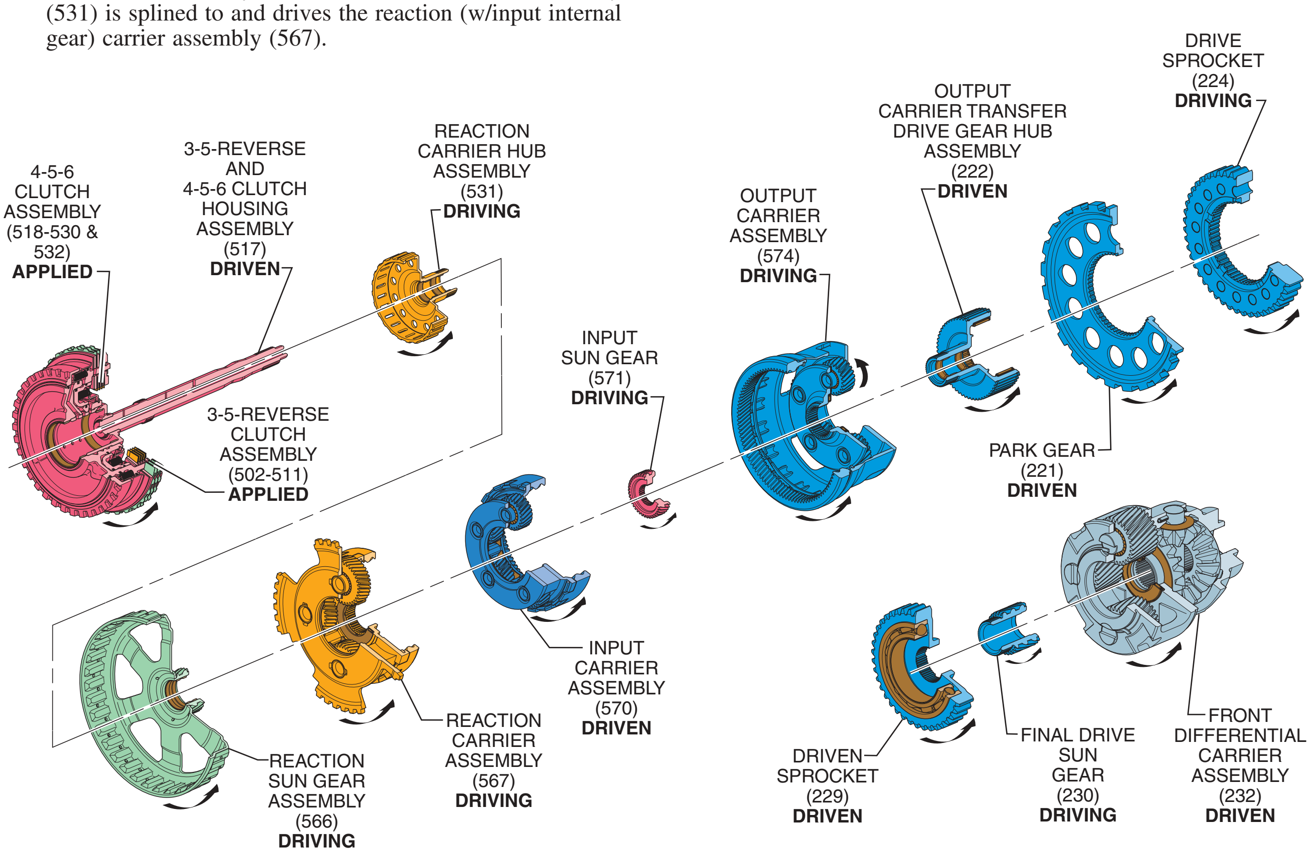


Figure 63

DRIVE RANGE – FIRST GEAR

RANGE	GEAR	RATIO	SHIFT SOLENOID	1-2-3-4 CL PC SOL 5 N.L.	2-6 CL PC SOL 4 N.L.	3-5 REV CL PC SOL 2 N.H.	LOW REV 4-5-6 CL PC SOL 3 N.H.	4-5-6 CLUTCH	3-5 REVERSE CLUTCH	2-6 CLUTCH	LOW AND REVERSE CLUTCH	LOW AND REV CL (OWC)	1-2-3-4 CLUTCH
D	1st	4.584	OFF	ON	OFF	OFF	OFF					HOLDING	APPLIED

As the vehicle speed increases, the transmission control module (TCM) receives input signals from the automatic transmission input and output speed sensors, throttle position sensor and other vehicle sensors to determine the precise moment to de-energize or "turn OFF" the shift solenoid, and to command OFF the normally-high R1/456 pressure control solenoid 3.

LOW AND REVERSE CLUTCH RELEASES

1a Shift Solenoid
The shift solenoid is "commanded OFF" allowing shift solenoid fluid pressure to exhaust from the clutch select valve and the TCC regulator apply valve.

1b Clutch Select Valve
Shift solenoid fluid is exhausted from the clutch select valve and clutch select valve spring force moves the valve to the released position. This allows R1 fluid pressure to pass through the valve into the exhaust backfill circuit where it exhausts. Drive fluid from the manual valve passes through the clutch select valve and enters the drive 1-6 fluid circuit. Drive 1-6 fluid is routed to the R1/456 clutch regulator valve, the 35 reverse clutch regulator valve, and the TCC regulator valve.

1c Low and Reverse Clutch
Low and reverse clutch spring force moves the low and reverse clutch piston to release the low and reverse clutch plates and force R1 fluid to exhaust from the case assembly. The exhausting R1 fluid is routed to the clutch select valve where it enters the exhaust backfill circuit.

FLUID PRESSURE DIRECTED IN PREPARATION FOR A SHIFT

2a R1/456 Pressure Control (PC) Solenoid 3
The R1/456 PC solenoid 3 is commanded OFF allowing PCS R1/456 clutch fluid to exhaust from the R1/456 clutch regulator valve.

2b R1/456 Clutch Regulator Valve
R1/456 clutch regulator valve spring force moves the valve to the released position, allowing R1/456 clutch feed fluid to enter the exhaust backfill circuit, and drive 1-6 fluid to enter the PS4 fluid circuit. PS4 fluid is then routed to the normally-closed #4 pressure switch and opens the switch. PS4 fluid is also routed to the #1 ball check valve and flows into the CSV2 latch fluid circuit.

2c #1 Ball Check Valve
PS4 fluid pressure seats the #1 ball check valve against the 456 clutch fluid circuit. PS4 fluid is then directed into the CSV2 latch circuit and routed to the clutch select valve. CSV2 latch fluid combines with clutch select valve spring force and holds the valve in this position during all six forward gear ranges.

2d #2 Ball Check Valve
Drive 1-6 fluid pressure seats the #2 ball check valve against the 35 reverse clutch feed fluid passage, and is directed into the 35 reverse clutch feed/drive 1-6 circuit. 35 reverse clutch feed/drive 1-6 fluid is routed through orifice #25 to the 35 Reverse clutch regulator valve.

2e 3-5-Reverse Clutch Regulator Valve
35 reverse clutch feed/drive 1-6 fluid passes through the 3-5-reverse clutch regulator valve into the PS3 fluid circuit. PS3 fluid is then routed to the normally-closed #3 pressure switch and opens the switch.

FLUID PRESSURE DIRECTED IN PREPARATION FOR TORQUE CONVERTER CLUTCH (TCC) APPLY

3a TCC Regulator Apply Valve
Drive 1-6 fluid is routed to the TCC regulator apply valve in preparation for TCC apply.

COMPLETE HYDRAULIC CIRCUIT
Page 108

DRIVE RANGE – SIXTH GEAR

(Torque Converter Clutch from Released to Applied)

When the transmission control module (TCM) determines that the engine and transmission are operating properly to engage the torque converter clutch (TCC), the TCM regulates the supply current of the TCC pressure control (PC) solenoid.

OFF At this time the TCC is considered to be disengaged (OFF), the TCC pressure control solenoid supply current is approximately 0.1 amp.

TCM decision to apply TCC (see page 43, in the Electrical Components section, for more information). The following events occur in order to apply the torque converter clutch:

Stage 1 The TCM increases the TCC pressure control solenoid supply current (from point **S** to point **A)** to fully stroke the TCC regulator apply valve and the TCC control valve. Actuator feed limit fluid at the TCC pressure control solenoid is routed into the PCS TCC fluid circuit. PCS TCC fluid is then directed to the TCC regulator apply valve and the TCC control valve. The PCS TCC fluid pressure at point **C** is strong enough to move the TCC regulator apply, and TCC control valves against spring force. The TCC control valve moves and allows TCC release fluid to begin to exhaust from the torque converter and enter the exhaust fluid circuit. The TCC regulator apply valve moves and allows drive 1-6 fluid to enter the regulated apply circuit. The TCM then decreases the TCC pressure control solenoid supply current to a level (point **B)** sufficient to maintain the position of the TCC control and TCC regulator apply valves. This stage is designed to move the TCC regulator apply and TCC control valves from the released position to the applied position in order to charge the circuit. However, there is not yet enough pressure to apply the TCC.

Stage 2 The TCC pressure control solenoid supply current is increased from point **D** to point **E**, and then ramped up to point **F**. Regulated apply fluid pressure is now strong enough to cause the converter apply to progress. Regulated apply pressure enters the TCC apply circuit at the TCC control valve. The pressure value in the TCC apply circuit should now be high enough to start applying the TCC pressure plate. Slip speed decreases as the current and apply fluid pressure increase.

Stage 3 The TCC pressure control solenoid supply current is increased from point **F** to point **G**. This extra pressure ensures that the apply force on the TCC pressure plate is not at the slip threshold, but in the condition of full lock up. TCC plate material is therefore protected from excessive heat.

Note: Under normal operating conditions the torque converter clutch is in the released position while the transmission is operating in Drive Range. However, when the transmission fluid temperatures exceed approximately 140°C (284°F), the TCM will apply the torque converter clutch earlier than normal operation in order to help reduce fluid temperatures.

COMPLETE HYDRAULIC CIRCUIT
Page 118

DRIVE RANGE – FIFTH GEAR DEFAULT

(Torque Converter Clutch Released)

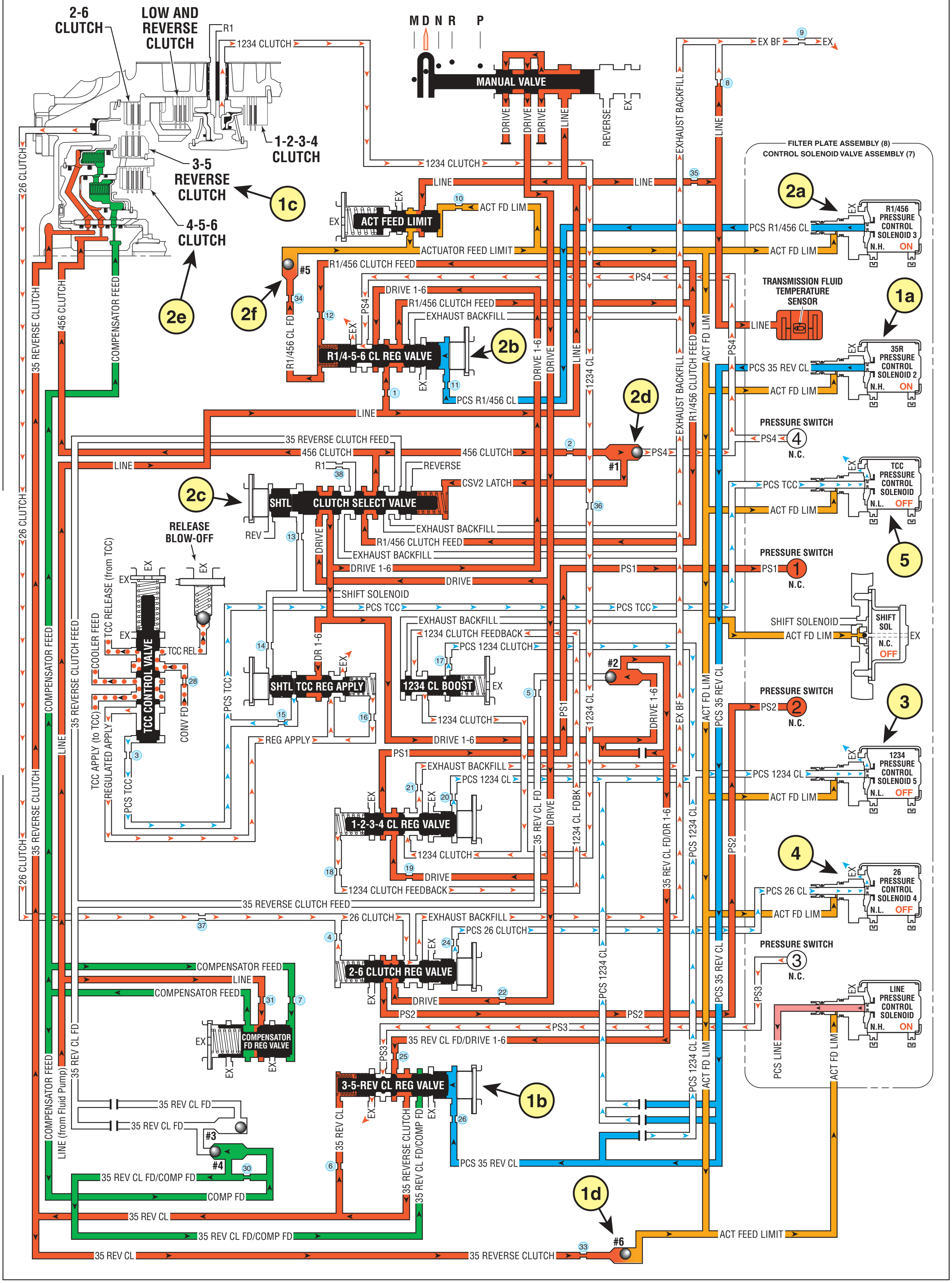


Figure 79

PARK

(Engine Running)

RANGE	GEAR	RATIO	SHIFT SOLENOID	1-2-3-4 CL PC SOL 5 N.L.	2-6 CL PC SOL 4 N.L.	3-5 REV CL PC SOL 2 N.H.	LOW REV 4-5-6 CL PC SOL 3 N.H.	4-5-6 CLUTCH	3-5 REVERSE CLUTCH	2-6 CLUTCH	LOW AND REVERSE CLUTCH	LOW AND REV CL (OWC)	1-2-3-4 CLUTCH
PARK	P	—	ON	OFF	OFF	OFF	ON				APPLIED		

The following conditions and component problems could happen in any gear range, and are only some of the possibilities recommended to diagnose hydraulic problems. Always refer to the appropriate vehicle platform service manual when diagnosing specific concerns.

HIGH LINE PRESSURE

- Pressure Regulator Valve (309)
  - Stuck, damaged
- Line Pressure Control Solenoid
  - Loose connector
  - Commanded/failed LOW (ON)

LOW LINE PRESSURE

- Pressure Regulator Valve (309) or Pressure Regulator Valve Spring (308)
  - Stuck, damaged, broken
- Fluid Pump Assembly (201)
  - Cross channel leak at pump base to torque converter and differential housing, or torque converter and differential housing to transmission case assembly
- Valve Channel Plate (402)
  - Cross channel leaks
- Control Valve Body Assembly (405)
  - Cross channel leaks
  - Cross valve land leaks
- Spacer Plate Assembly (12 or 403)
  - Damaged
  - Missing
- Line Pressure Control Solenoid
  - Commanded/failed HIGH (OFF)
- Actuator Feed Limit Valve (430), Spring (431) or Retainer (413)
  - Stuck, damaged, broken

NEUTRAL (Engine Running)

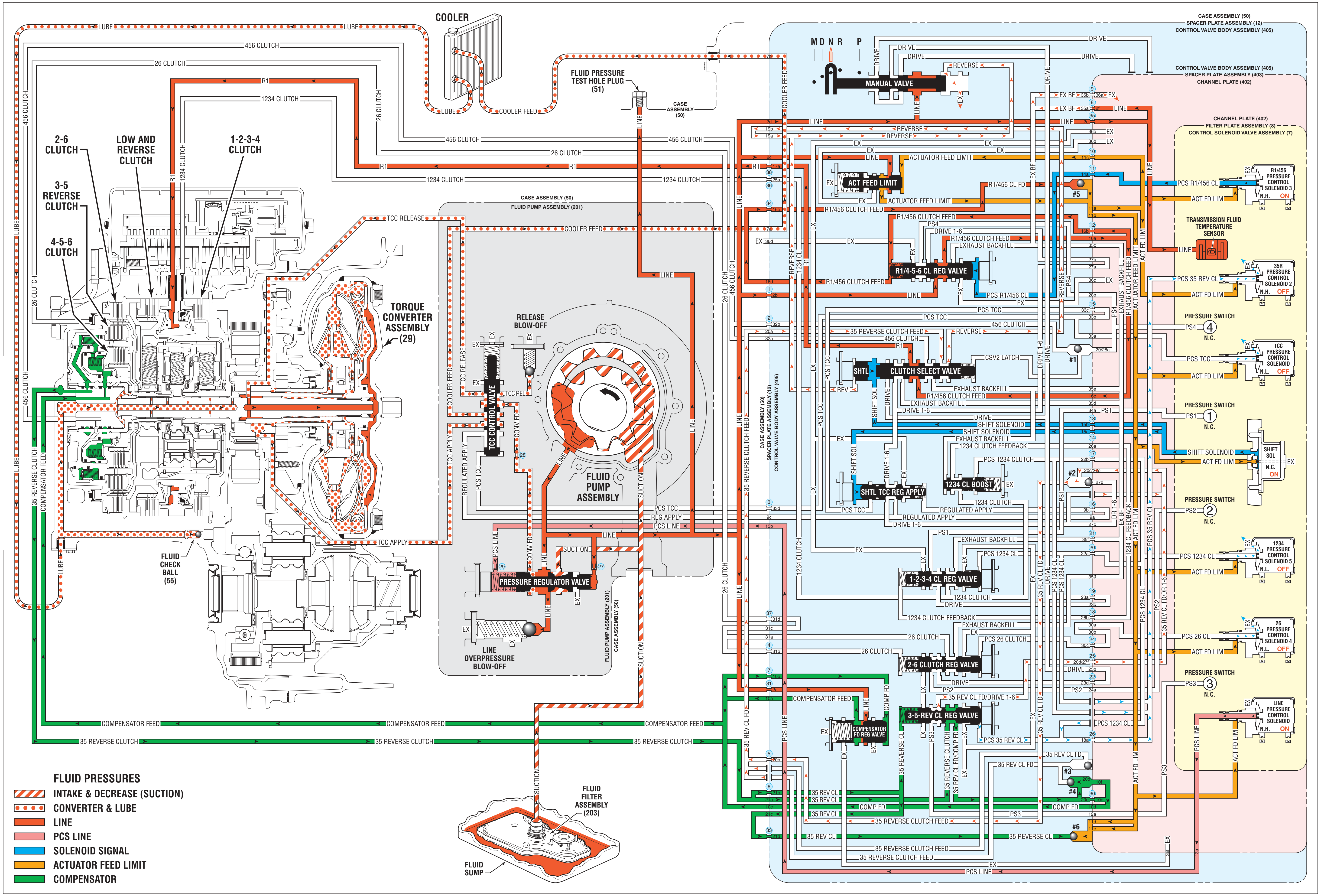


Figure 86

DRIVE RANGE – FIRST GEAR

RANGE	GEAR	RATIO	SHIFT SOLENOID	1-2-3-4 CL PC SOL 5 N.L.	2-6 CL PC SOL 4 N.L.	3-5 REV CL PC SOL 2 N.H.	LOW REV 4-5-6 CL PC SOL 3 N.H.	4-5-6 CLUTCH	3-5 REVERSE CLUTCH	2-6 CLUTCH	LOW AND REVERSE CLUTCH	LOW AND REV CL (OWC)	1-2-3-4 CLUTCH
D	1st	4.584	OFF	ON	OFF	OFF	OFF					HOLDING	APPLIED

LOSS OF DRIVE

- 1234 Pressure Control Solenoid 5
  - Commanded/failed HIGH (OFF)
  - Leaking
- 1-2-3-4 Clutch Regulator Valve (417)
  - Stuck
- 1-2-3-4 Clutch Piston (552)
  - Jammed or cracked
  - Leaking
- Low and Reverse Clutch Assembly (OWC) (543)
  - Not holding
- Transmission Case Assembly (50)
  - Passage plugged
  - Cracked

DRIVE RANGE – FOURTH GEAR
(Torque Converter Clutch Applied)

PASSAGES

1 SUCTION
2 LINE
4 CONVERTER FEED
5 TCC RELEASE
6 TCC APPLY
7 COOLER FEED
8 LUBE
9 REGULATED APPLY
10 COMPENSATOR FEED
11 ACTUATOR FEED LIMIT
12 PS3
13 PCS LINE
14 PCS R1/456 CLUTCH
15 SHIFT SOLENOID
16 R1/456 CLUTCH FEED
17 R1
18 PCS 35 REVERSE CLUTCH
19 REVERSE
20 35 REVERSE CLUTCH FEED
21 35 REVERSE CLUTCH
22 PCS 1234 CLUTCH
23 DRIVE
24 PS2
25 1234 CLUTCH
26 1234 CLUTCH FEEDBACK
27 DRIVE 1–6
28 PS4
29 CSV2 LATCH
30 PCS 26 CLUTCH
31 26 CLUTCH
32 456 CLUTCH
33 PCS TCC
34 PS1
35 EXHAUST BACKFILL
36 EXHAUST
37 VOID
38 SEAL DRAINBACK
39 VENT

COMPONENTS ( )

(22) FILL CAP (VENT)
(51) FLUID PRESSURE TEST HOLE PLUG
(53) TRANSMISSION CASE COVER LOCATOR PIN
(55) A/TRANS FLUID CHECK BALL
(63) OIL LEVEL PLUG
(64) DRAIN PLUG
(66) CONTROL VALVE BODY LOCATOR PIN
(306) PRESSURE REGULATOR VALVE BORE PLUG RETAINER
(317) COVER TO BODY LOCATING PIN
(404) CONTROL VALVE BODY BALL CHECK VALVE (#1, 2, 3, 4, 5, 6)