Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Clutch Clearances — Adjusted By:

Low-Reverse	Not Adjustable
Forward 1-2-3-4	Not Adjustable
Overdrive 4-5-6	Not Adjustable
Intermediate 2-6	Not Adjustable
Direct 3-5-R	Not Adjustable

Torque Specifications

A/Trans Control Bolt	71 Lb. In.
A/Trans Flex Plate Bolt	45 Lb. Ft.
A/Trans Fluid Pump Bolt to Converter Housing	
First Pass	89 Lb. In.
Final Pass	45° Turn
A/Trans Fluid Pump Cover Bolt	106 Lb. In.
Control Solenoid Valve Assembly (w/TCM and Body)	
to Case Bolt M6x97	89 Lb. In.
M5x40.5	62 Lb. In.
Control Valve Body Assembly (Complete) Bolt	62 Lb. In.
Control Valve Body to Case Bolt	
M6x53	97 Lb. In.
M6x60	97 Lb. In.
Control Valve Body Cover Bolt	106 Lb. In.

Torque Specifications

Drain Plug	106 Lb. In.
Fluid Level Hole Plug	106 Lb. In.
Fluid Pressure Test Hole Plug	106 Lb. In.
Front Differential Carrier Baffle Bolt - Converter Housing	106 Lb. In.
Front Differential Carrier Baffle Bolt - Case	106 Lb. In.
Input Shaft Support Bolt	106 Lb. In.
Input Speed Sensor Bolt	80 Lb. In.
Manual Shift Detent Spring	106 Lb. In.
Output Speed Sensor Bolt	80 Lb. In.
Torque Converter and Differential Housing Bolt	
First Pass	89 Lb. In.
Final Pass	50° Turn

Unit Endplays — *Location* — *Selective*

N//A

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Clutch Application

	Gear	1	2	3	4	5	6
		4-5-6 Clutch	3-5 Rev Clutch	2-6 Clutch	Low & Rev Clutch (One Way Clutch)	Low & Reverse Clutch	1-2-3-4 Clutch
PARK	P					Applied*	
REV	R		Applied			Applied	
NEU	N					Applied	
D	1st Braking				Holding	Applied	Applied
	1st				Holding		Applied
	2nd			Applied			Applied
	3rd		Applied				Applied
	4th	Applied					Applied
	5th	Applied	Applied				
	6th	Applied	Applied				

Expected Operating Condition if Component in Column Number is Inoperative	
Column #	Condition
1	No Fourth, Fifth or Sixth Gears
2	No Reverse, No Third or Fifth Gears
3	No Second or Sixth Gears
4	No First Gear
5	No Reverse, No engine braking in First Gear
6	No First, Second, Third or Fourth Gears

*Applied with no load

New - 7/2013

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Solenoid Application

Gear	Shift Sol. 1	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.	*Gear Ratio*
PARK	ON	OFF	OFF	OFF	ON	--
REVERSE	ON	OFF	OFF	ON	ON	2.940
NEUTRAL	ON	OFF	OFF	OFF	ON	--
1ST BRAKING	ON	ON	OFF	OFF	ON	4.584
1ST	OFF	ON	OFF	OFF	OFF	4.584
2ND	OFF	ON	ON	OFF	OFF	2.964
3RD	OFF	ON	OFF	ON	OFF	1.912
4TH	OFF	ON	OFF	OFF	ON	1.446
5TH	OFF	OFF	OFF	ON	ON	1.000
6TH	OFF	OFF	ON	OFF	ON	0.746

For Shift Solenoid 1, "ON" = Solenoid Energized (Pressurized) "OFF" = Solenoid De-energized (No Pressure).

For Pressure Control Solenoids, "ON" = Pressurized. "OFF" = No Pressure

Normal resistance Pressure Control Solenoid 3-5 ohms at 70°F. Shift solenoid 16-20 ohms at 70°F

N.L. = Normally Low

N.H. = Normally High

Transmission Type: 6T30/6T40-45

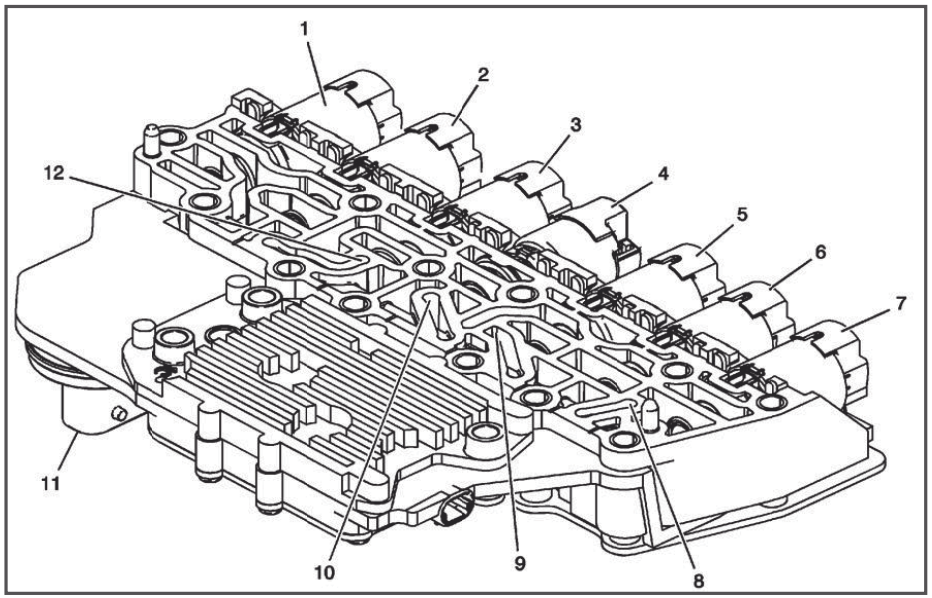
Solenoid Resistance

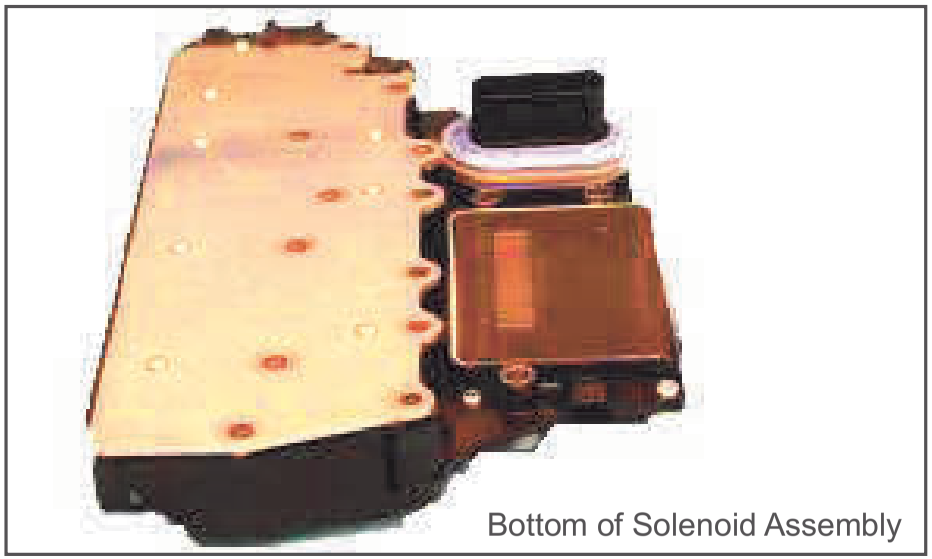
Solenoid	Resistance (at 70°F)
Pressure Control Solenoid 3 (Low/Reverse/4-5-6)	3-5 Ohms
Pressure Control Solenoid 2 (3-5-Reverse)	3-5 Ohms
TCC Pressure Control Solenoid	3-5 Ohms
Shift Solenoid 1	16-20 Ohms
Pressure Control Solenoid 5 (1-2-3-4)	3-5 Ohms
Pressure Control Solenoid 4 (2/6)	3-5 Ohms
Line Pressure Control Solenoid	3-5 Ohms

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Solenoid ID





Bottom of Solenoid Assembly

Component	Number
Pressure Control Solenoid 3 (Low/Reverse/4-5-6)	1
Pressure Control Solenoid 2 (3-5-Reverse)	2
TCC Pressure Control Solenoid	3
Shift Solenoid 1	4
Pressure Control Solenoid 5 (1-2-3-4)	5
Pressure Control Solenoid 4 (2/6)	6
Line Pressure Control Solenoid	7
Transmission Fluid Pressure Switch (TFP 2) (3-5-Reverse)	8
Transmission Fluid Pressure Switch (TFP 3) (2/6)	9
Transmission Fluid Pressure Switch (TFP 1) (1-2-3-4)	10
Pass Through Connector	11
Transmission Fluid Pressure Switch (TFP 4) (Low/Reverse/4-5-6)	12

New - 7/2013

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

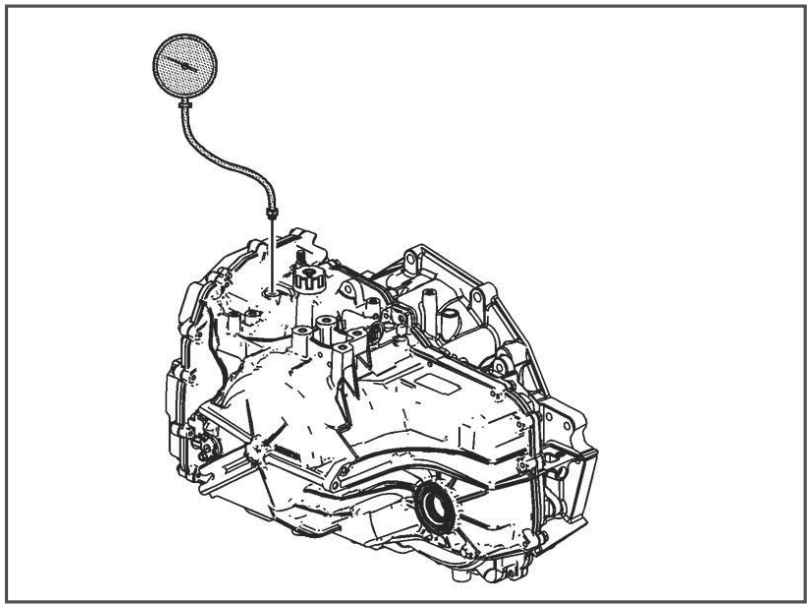
Gear Ratio

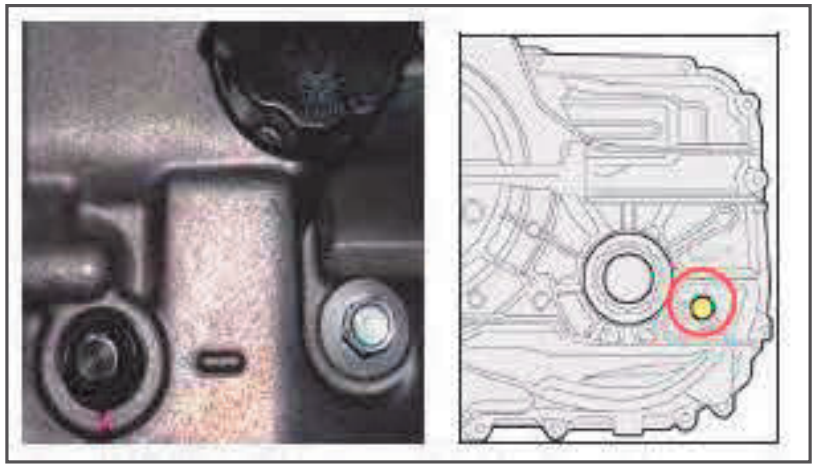
Gear	Ratio
1st/low	4.584:1
2nd	2.964:1
3rd	1.912:1
4th	1.446:1
5th	1:1
6th	0.746:1
Reverse	2.94:1
Effective Final Drive Gear Ratio	2.89/3.17/3.87

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Line Pressure Information





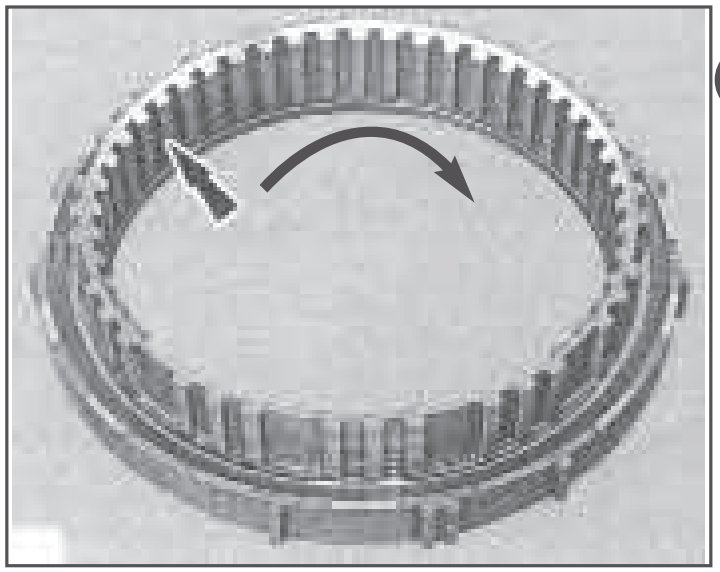
Pressure Tap and Oil Level Plug

Gear	Line
Pressures at Idle*	
P	338-379 kPa (49-55 psi)
R	621-689 kPa (90-100 psi)
N	338-379 kPa (49-55 psi)
D	338-379 kPa (49-55 psi)
L	338-379 kPa (49-55 psi)
Pressure at Wide Open Throttle (WOT) Stall *	
P	338-379 kPa (49-55 psi)
R	1,868-2,068 kPa (271-300 psi)
N	338-379 kPa (49-55 psi)
D	1,868-2,068 kPa (271-300 psi)
L	1,868-2,068 kPa (271-300 psi)

*All pressures are approximate

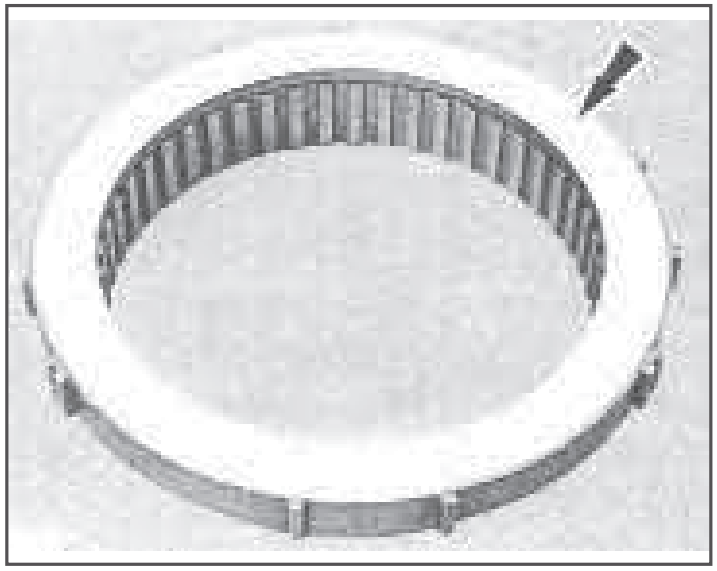
Transmission Type: 6T30/6T40-45

Sprag Rotation



NOTE THE LOW ONE-WAY CLUTCH CANNOT BE DISASSEMBLED.

Clean and inspect the low one-way clutch for cracks and damaged splines. The internal splined section should rotate clockwise and lock when rotated counterclockwise. If any damage is found or the clutch does not rotate or lock, install a new low one-way clutch.



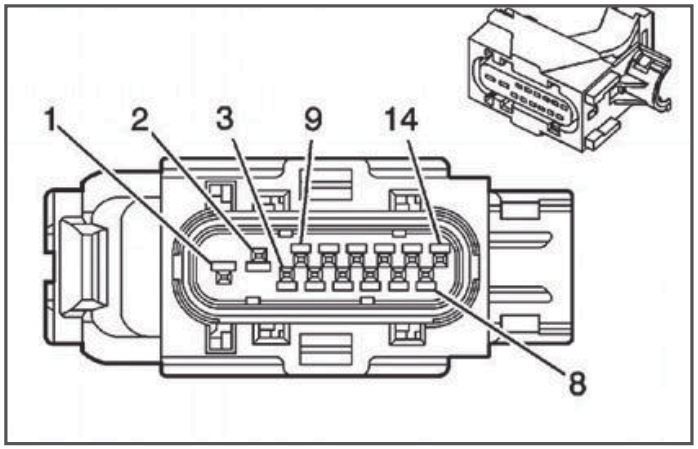
Inspect the forward clutch surface for damage. If the surface is burned or worn excessively, install a new one-way clutch.

CAUTION DO NOT CLEAN IN WATER OR WITH WATER-BASED SOLVENTS. DAMAGE TO THE COMPONENT MAY OCCUR.

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Connector

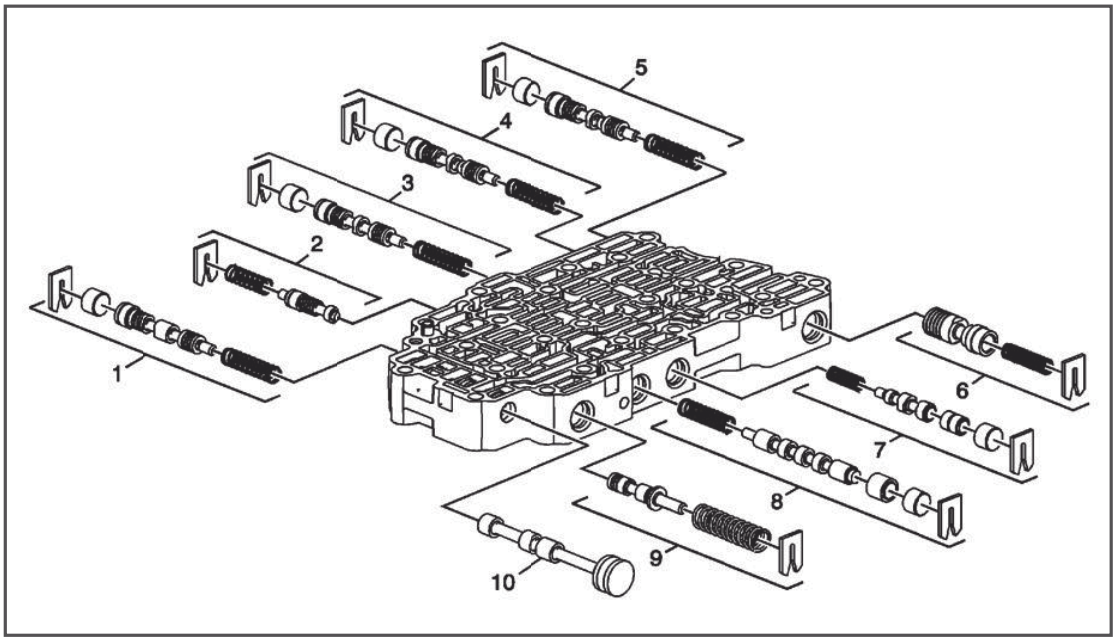


Pin	Wire	Circuit	Function
1	0.5 RD/WH	1840	Battery Positive Voltage
2	0.35 BK/WH	451	Ground
3	0.5 D-GN	6307	Clutch Start Neutral Start (PPEI_#3) Signal
4-5	-	-	Not Used
6	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
7	0.35 TN/BK	2500	High Speed GMLAN Serial Data Bus +
8	0.35 TN	2501	High Speed GMLAN Serial Data Bus -
9-11	-	-	Not Used
12	0.5 PK	2139	Ignition Voltage
13	0.5 D-BU	5985	Serial Data Wake-Up Signal
14	0.35 TN	2501	High Speed GMLAN Serial Data Bus -

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Valve Body

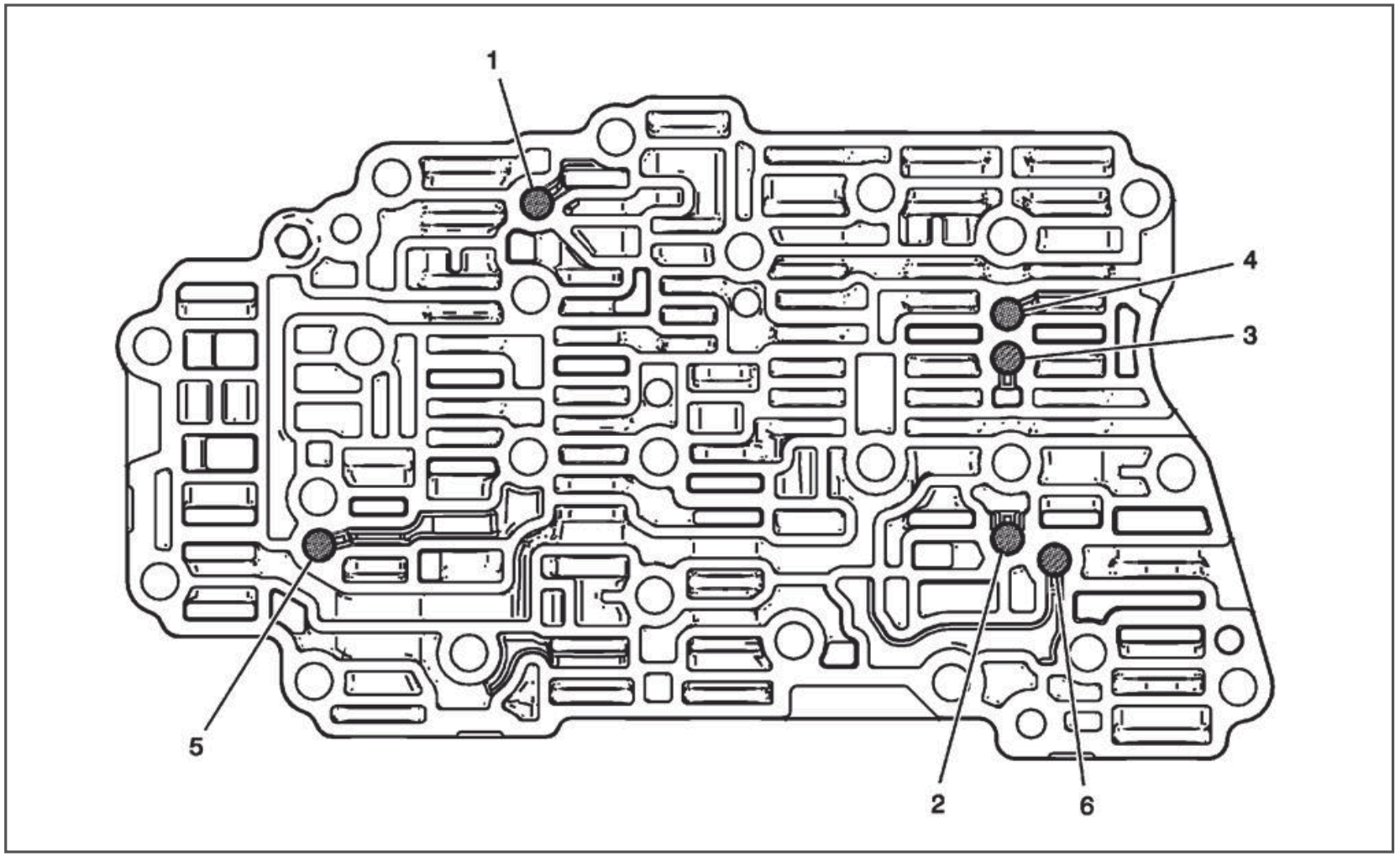


1	First-Reverse and 4-5-6 Clutch Regulator Valve Train
2	1-2-3-4 Clutch Boost Valve Train
3	1-2-3-4 Clutch Regulator Valve Train
4	2-6 Clutch Regulator Valve Train
5	3-5 Reverse Clutch Regulator Valve Train
6	Clutch Piston Dam Feed Regulator Valve Train
7	TCC Regulator Apply Valve Train
8	Clutch Select Valve Train
9	Actuator Feed Limit Valve Train
10	Manual Valve

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

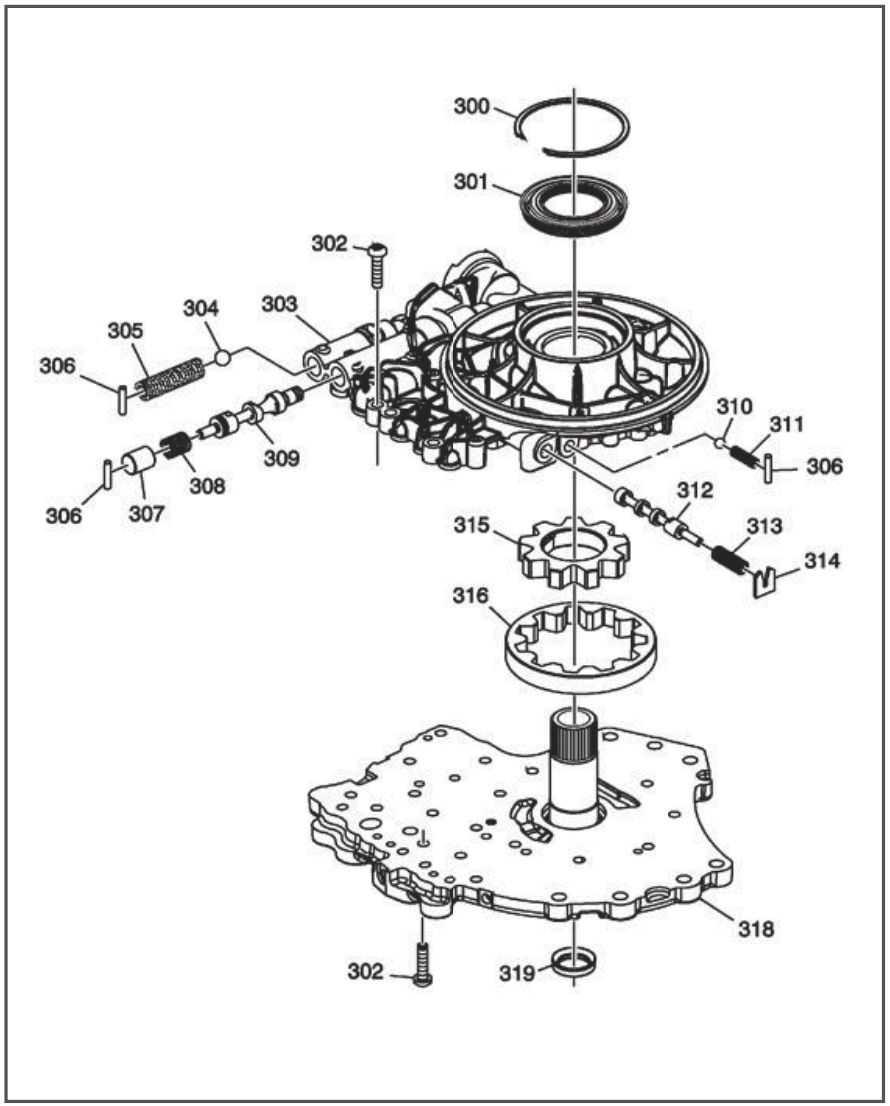
Checkball Locations



Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Pump

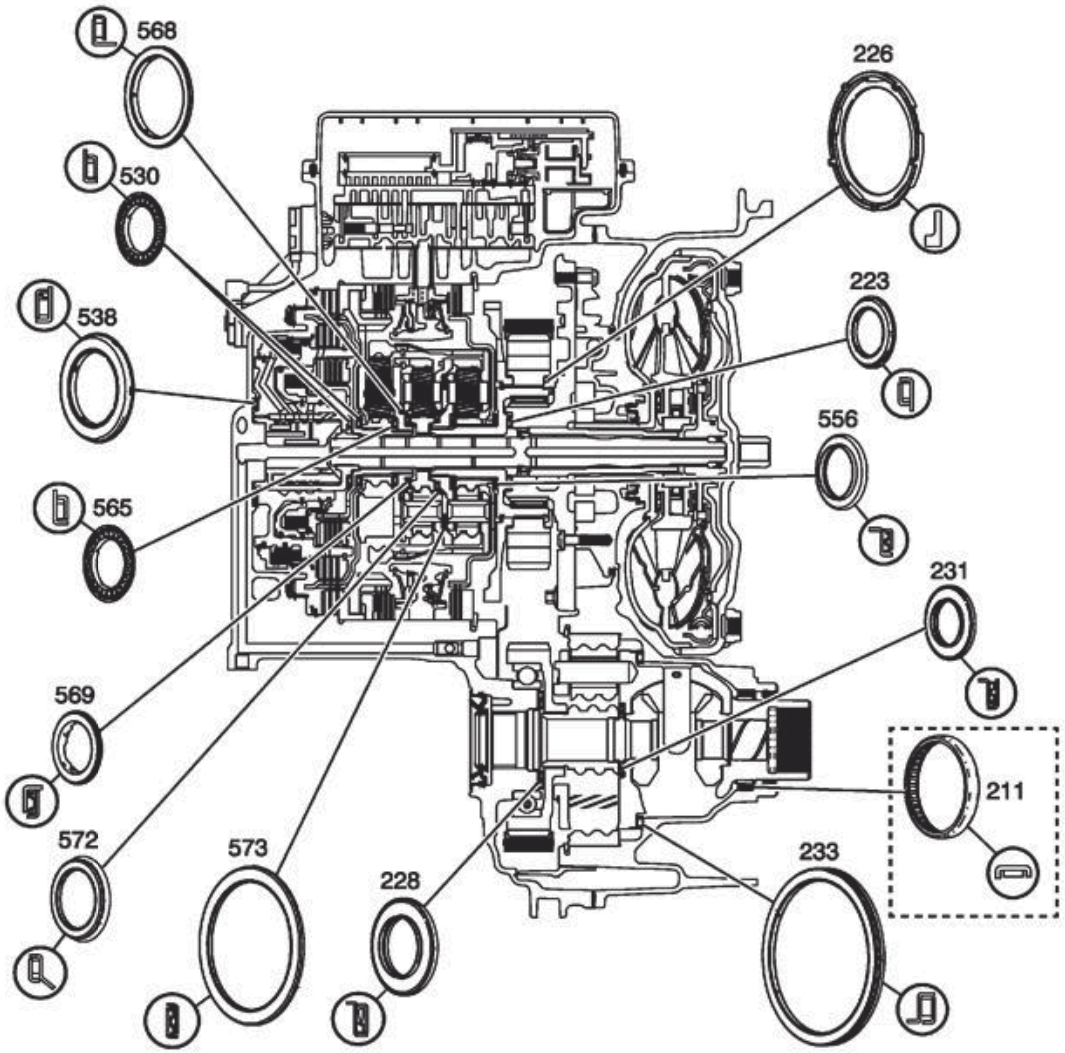


Item	Description
300	Torque Converter Fluid Seal Retainer
301	Torque Converter Fluid Seal Assembly
302	A/Trans Fluid Pump Cover Bolt
303	A/Trans Fluid Pump Body
304	Pump Blowoff Ball Valve
305	Pump Blowoff Valve Spring
306	Pressure Regulator Valve Bore Plug Retainer
307	Pressure Regulator Valve Bore Plug
308	Pressure Regulator Valve Spring
309	Pressure Regulator Valve
310	Torque Converter Clutch Blowoff Ball Valve
311	Torque Converter Clutch Blowoff Ball Valve Spring
312	Torque Converter Clutch Control Valve
313	Torque Converter Clutch Control Valve Spring
314	Torque Converter Clutch Control Valve Spring Retainer
315	A/Trans Fluid Pump Drive Gear
316	A/Trans Fluid Pump Driven Gear
317	Cover to Body Locating Pin
318	A/Trans Fluid Pump Cover Assembly
319	Torque Converter Fluid Seal Assembly

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Bushing/Bearing Locations

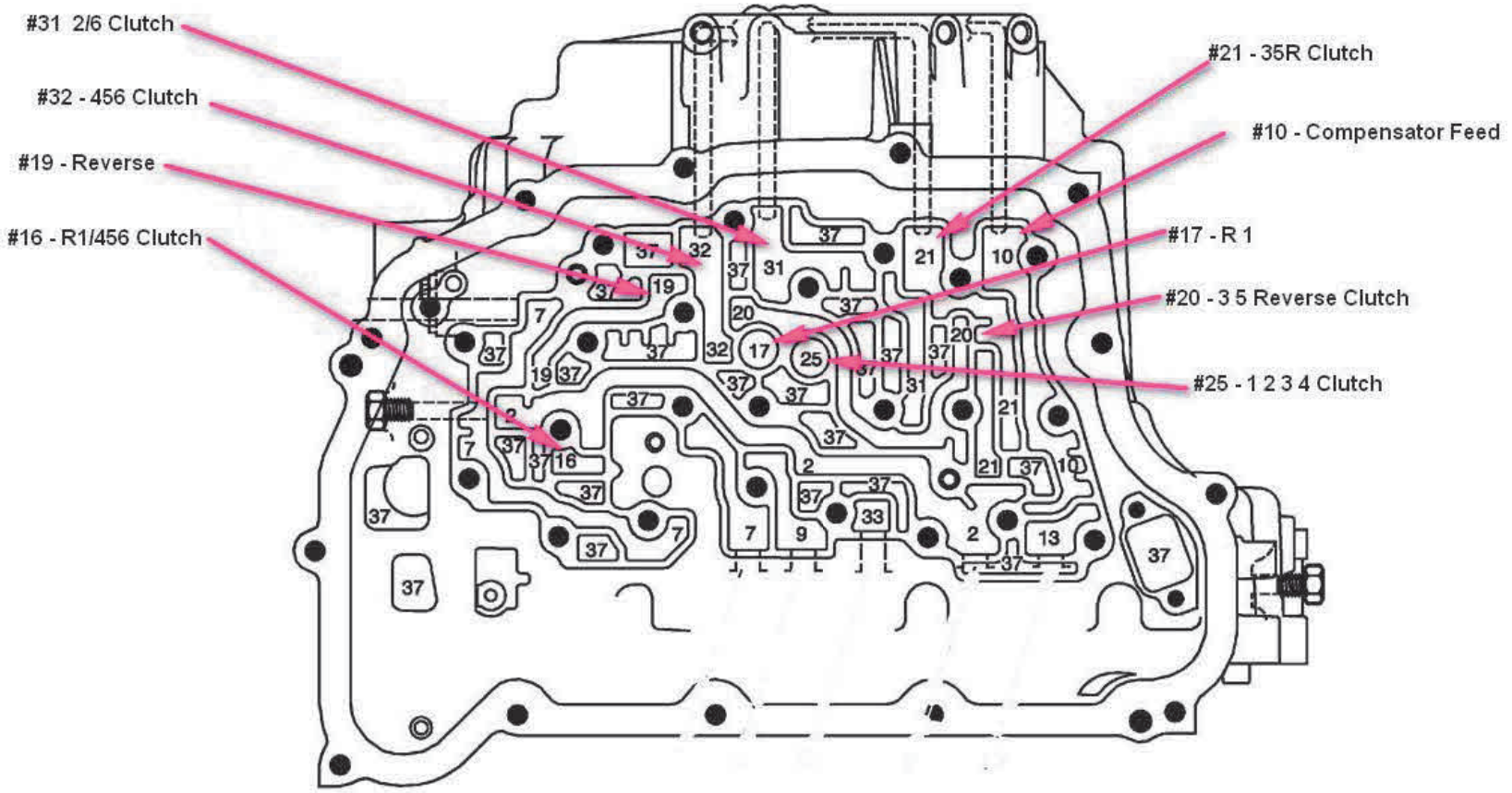


Item	Description
211	Front Differential Carrier Bearing Assembly AWD Models
223	Drive Sprocket Bearing Assembly
226	Drive Sprocket Thrust Washer
228	Drive Sprocket Bearing Assembly
231	Differential Sun Gear to Differential Housing Bearing Assembly
233	Front Differential Carrier Bearing Assembly
530	Reaction Carrier Hub Thrust Bearing Assembly
538	3-5-Reverse and 4-5-6 Clutch Housing Thrust Bearing
556	Output Sun Thrust Bearing Assembly
565	Reaction Sun Gear Thrust Bearing Assembly
568	Input Carrier Thrust Bearing Assembly
569	Input Sun Gear Thrust Bearing Assembly
572	Input Sun Gear Thrust Bearing Assembly
573	Output Carrier Thrust Bearing Assembly

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

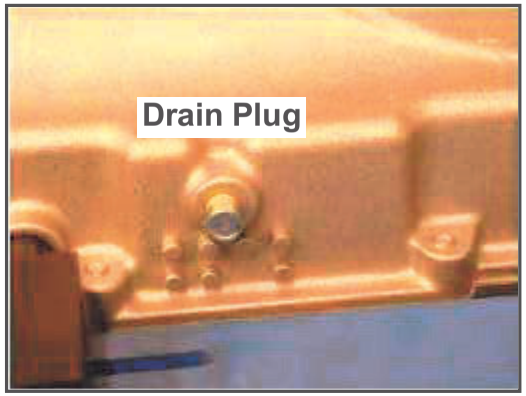
Air Test



Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Technical Tips for Rebuilding this unit



- The drain plug is located on the lower automatic transmission case assembly.
- It is installed vertically on the lowest point of the transmisison.
- When removing the drain plug, approximately 50% of the fluid will drain.
- Drain plugs require no sealant, but they must be torqued to specification.

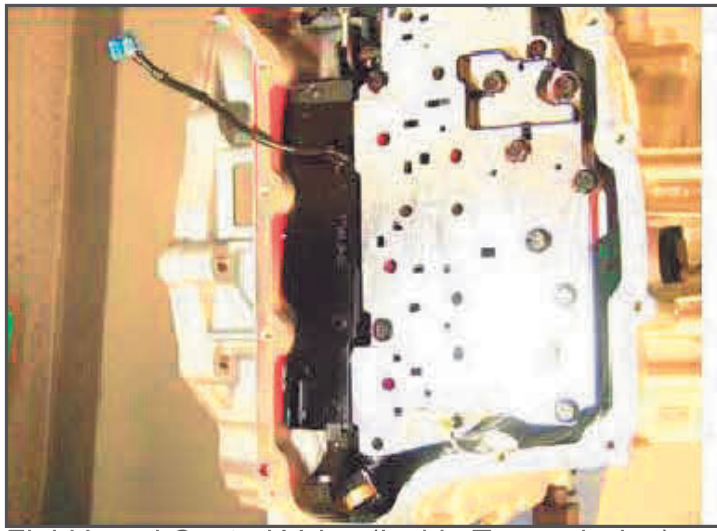
NOTE **TORQUE CONVERTER FAILURE COULD CAUSE LOSS OF DRIVE GEAR AND/OR LOSS OF POWER**

- Be sure to install the converter in a straight up and down position to avoid damage to the internal seal.
- Do not over-tighten the lift tools because the torque converter may become damaged.

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Technical Tips for Rebuilding this unit



Fluid Level Control Valve (Inside Transmission)

Fluid Level Control Valve (Outside Transmission)

- The Fluid Level Control valve is designed to control the fluid level in the case by trapping oil in the Control Valve Body Cover Assembly.
- It reacts to temperature changes in the fluid to OPEN or CLOSE a fluid passage.
- At low temperatures the control valve allows fluid to drain into the sump - 60°C (140°F) or below.
- Above 60°C, the fluid will remain in the valve body cover not allowing it to drain back into the case.
- As the temperature increases, the passage gets blocked, trapping fluid in the valve body cover.
- The trapped fluid helps to maintain the proper level in the valve body cover for proper operation of the hydraulic system in the transmission.

Transmission Type: 6T30/6T40-45

Rebuilder's Kwik Reference Guide

Technical Tips for Rebuilding this unit

Input Speed Sensors (ISS)

Output Speed Sensors (OSS)

Manual Shift Detent w/Shaft
Position Switch Lever Assembly