

Transmission Type... JF506E



Clutch Clearances

Reverse Clutch .....	.020-.031	Not Adjust.
High Clutch .....	.031-.043	Not Adjust.
Low Clutch .....	.044-.051	Not Adjust.
Direct Clutch .....	.071-.087	Not Adjust.
Low/Reverse Brake .....	.031-.043	Not Adjust.
2/4 Brake .....	.024-.035	Not Adjust.

Adjusted By:

Torque Specifications

Solenoid Retaining Bolts	71 In. Lbs.
Transmission Fluid Drain Plug	33 Ft. Lbs.
Pan Bolts	62 In. Lbs.
Fluid Level Check Plug	120 In. Lbs.
Transfer Drive Gear Support to Case Allen Head Bolts	
	96 In. Lbs.
Nut-Transfer Shaft (After Preload is set)	30 Ft. Lbs.
Pinion Gear Nut (After Preload is set)	30 Ft. Lbs.
Direct Drum Support Bolts	16 Ft. Lbs.
End Cover Bolts	16 Ft. Lbs.
Pump to Case	16 Ft. Lbs.
Bell Housing to Case Bolts	22 Ft. Lbs.
Valve Body to Case Bolts	71-78 In. Lbs.
Valve Body Bolts	71-78 In. Lbs.
MLPS	53 In Lbs.
	(8 mm bolts only)

Band Adjustment

With the Servo Pin, Spacer, Return Spring, and Snap Ring mounted in the case, turn the servo pin clockwise until snug. The band should be seated on the direct drum. Back off the servo pin 5 turns and tighten the lock nut.

Unit Endplays

Location

Selective

Input Shaft .010-.020 .....	.....	Check Clearance Only
Transfer Gear Bearing Preload 5.6-11.5 .....	.....	Press Components to Desired Preload
Reduction Gear Bearing Preload 5.3-15.5 .....	.....	Press Components to Desired Preload
Differential Bearing Preload 6.9-16.5	Under Bell Housing Side Bearing Cup	Shim

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Rebuilder's Kwik
Reference Guide



Clutch & Band Application Charts

	Low Clutch	2-4 Clutch	High Clutch	Rev. Clutch	L/R Clutch	Direct Clutch	Reduction Band	Low Roller Clutch	Reduction Sprag
R				On	On		On		
1	On						On	On	Holding
2	On	On					On		Holding
3	On		On				On		Holding
4		On	On				On		Holding
5		On	On			On			

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Solenoid Firing Order

Shift Solenoid	1st	2nd	3rd	4th	5th
A	On*	On			On
B	On	On	On		
C	On			On	On

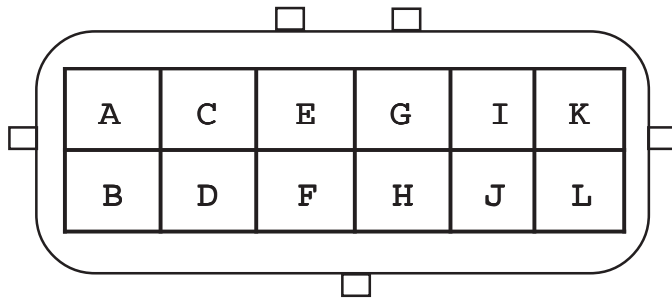
*Mazda Only

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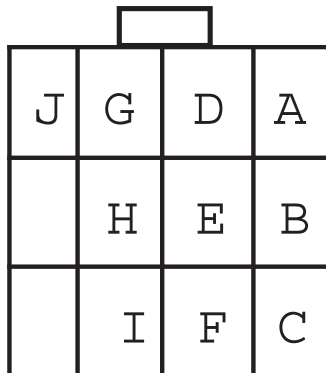
Solenoid & Harness Information



MPV



Mazda 6



Description	Resistance	Terminals
2-4 brake solenoid valve	2.6 to 3.2 ohms	A and J
TCC solenoid valve	12.0 to 13.2 ohms	B and J
High clutch solenoid valve	2.6 to 3.2 ohms	C and J
Pressure control solenoid	2.6 to 3.2 ohms	D and J
Reduction timing solenoid valve	14 to 18 ohms	E and J
Shift Solenoid C	14 to 18 ohms	F and J
Shift Solenoid B	14 to 18 ohms	G and J
Neutral shift solenoid valve	14 to 18 ohms	H and J
Shift solenoid A	14 to 18 ohms	I and J

J=Common ground

Solenoids are powered by TCM

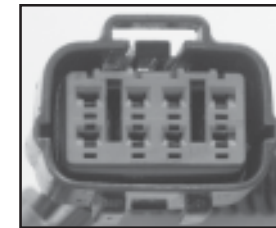
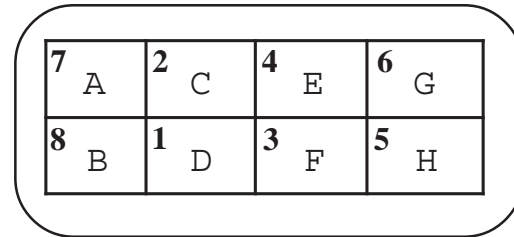
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Solenoid & Harness Information (MPV and MAZDA 6)



TOT Values

ATF temperature (°C {°F })	Resistance (kilohm)
- 20 {-4}	15.87 - 17.54
0 {32}	5.73 - 6.33
20 {68}	2.38 - 2.63
40 {104}	1.10 - 1.22
60 {140}	0.56 - 0.62
80 {176}	0.31 - 0.34
100 {212}	0.18 - 0.20
120 {248}	0.11 - 0.12
130 {266}	0.09 - 0.10

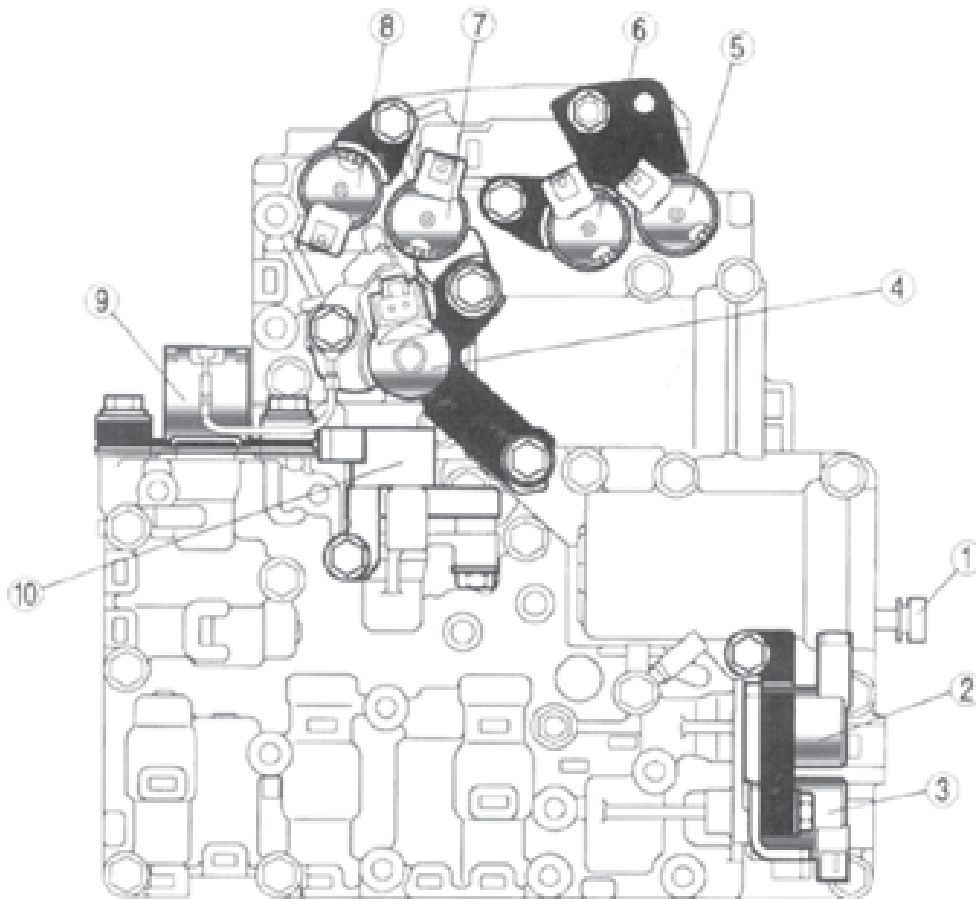


Description	Resistance	Terminals
TFT	See Chart Above	7 and 8 or A and B
VSS	513 to 627 Ohms	5 and 6 or G and H
TSS	513 to 627 Ohms	1 and 2 or C and D
ISS	513 to 627 Ohms	3 and 4 or E and F

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Solenoid Identification (MAZDA)



1	Manual Valve
2	2-4 Brake Solenoid Valve
3	Neutral Shift Solenoid Valve
4	TCC Solenoid Valve
5	Shift Solenoid C
6	Shift Solenoid B
7	Reduction Timing Solenoid A
8	Shift Solenoid A
9	Pressure Control Solenoid
10	High Clutch Solenoid Valve

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Solenoid & Harness Information

Jaguar



Land Rover



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Solenoid & Harness Information

Jaguar/Land Rover

Description	Resistance	Terminals
Shift Solenoid A	14 to 18 Ohms	9 and 18
Shift Solenoid B	14 to 18 Ohms	10 and 18
Shift Solenoid C	14 to 18 Ohms	11 and 18
Low Clutch Timing	14 to 18 Ohms	12 and 18
2/4 Timing Solenoid	14 to 18 Ohms	13 and 18
Reduction Timing	14 to 18 Ohms	14 and 18
Pressure Control	2.6 to 3.2 Ohms	15 and 18
2/4 Duty Solenoid	2.6 to 3.2 Ohms	16 and 18
TCC Solenoid	12 to 13.2 Ohms	17 and 18
Turbine Speed Sensor	513 to 627 Ohms	1 and 2
Intermediate Speed Sensor	513 to 627 Ohms	3 and 4
Vehicle Speed Sensor	513 to 627 Ohms	5 and 6
Transmission Temperature Sensor	See Chart Below	7 and 8
Pin #18 is ground, all solenoids are powered by the TCM		

TOT Values

Temperature °C (°F)	Resistance k Ohms
-40 (-40)	54.90
-20 (-4)	16.70
0 (32)	6.02
20 (68)	2.50
40 (104)	1.16
60 (140)	0.59
80 (176)	0.33
100 (212)	0.19
120 (248)	0.12
140 (284)	0.08

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Solenoid and Harness Information - Volkswagon

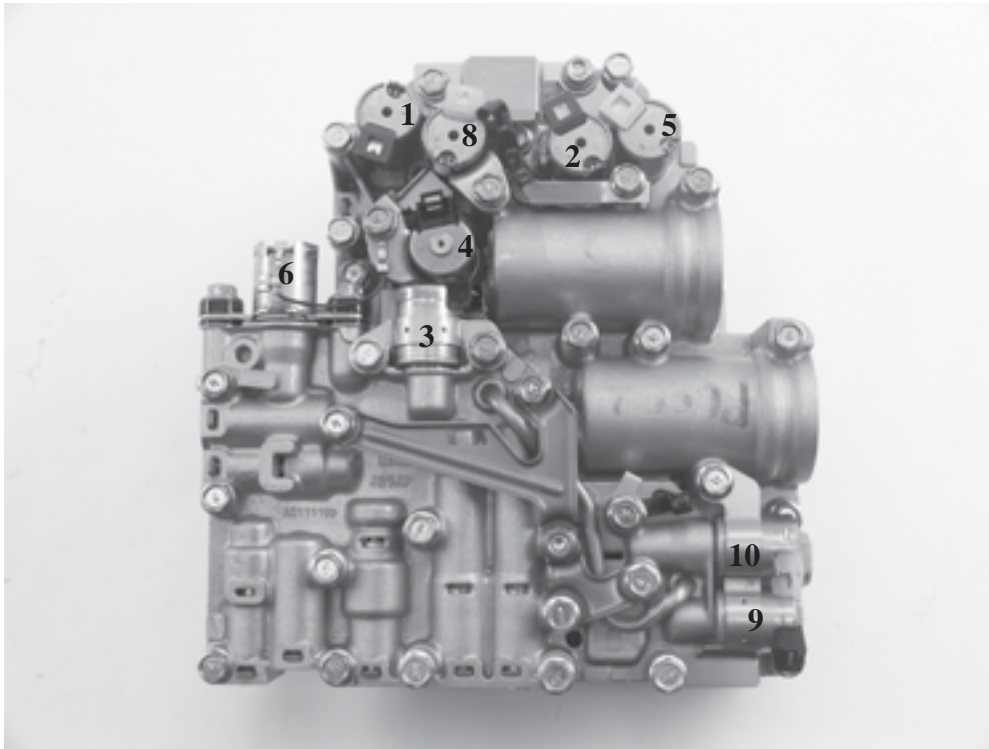
Description	Resistance	Terminals
Solenoid 1 (N88) SSA	9 to 24 Ohms	9 and 18
Solenoid 2 (N89) SSB	9 to 24 Ohms	10 and 18
Solenoid 3 (N90) Low Clutch Timing	9 to 24 Ohms	12 and 18
Solenoid 4 (N91) TCC	9 to 24 Ohms	17 and 18
Solenoid 5 (N92) SSC	9 to 24 Ohms	11 and 18
Solenoid 6 (N93)EPC	1 to 5 Ohms	15 and 18
Solenoid 8 (N281) Reduction Timing Sol.	9 to 24 Ohms	14 and 18
Solenoid 9 (N282) 2/4 Brake Timing	9 to 24 Ohms	13 and 18
Solenoid 10 (N283) 2/4 Brake Duty	1 to 5 Ohms	16 and 18
Input Speed Sensor (G182)		
Input Speed Sensor (G182)	400 to 600 Ohms	1 and 2
Intermediate Speed Sensor (G265)		
Intermediate Speed Sensor (G265)	400 to 600 Ohms	3 and 4
Vehicle Speed Sensor (G68)		
Vehicle Speed Sensor (G68)	400 to 600 Ohms	5 and 6
TOT Sensor		
TOT Sensor	20C/68F = 2.5k Ohms	7 and 8
TOT Sensor	70C/158F = 500 Ohms	7 and 8
TOT Sensor (G-93)	80C/176F = 300 Ohms	7 and 8
TOT Sensor	110C/230F = 200 Ohms	7 and 8
ATF Check Temp	95/F113F=1.16 KOHMS	7 and 8
Pin # 18 is ground, all solenoids are powered by the TCM		



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Solenoid Identification - Jaguar/Land Rover/Volkswagon

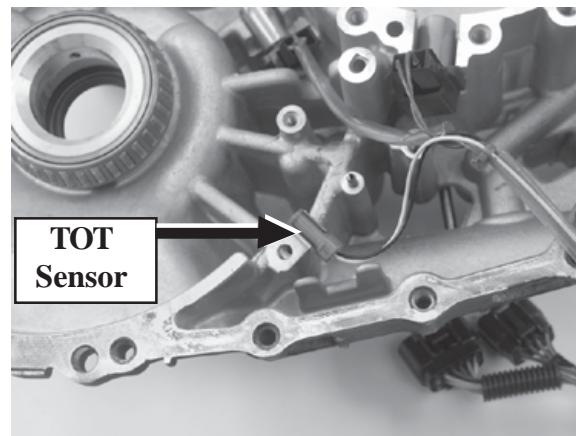
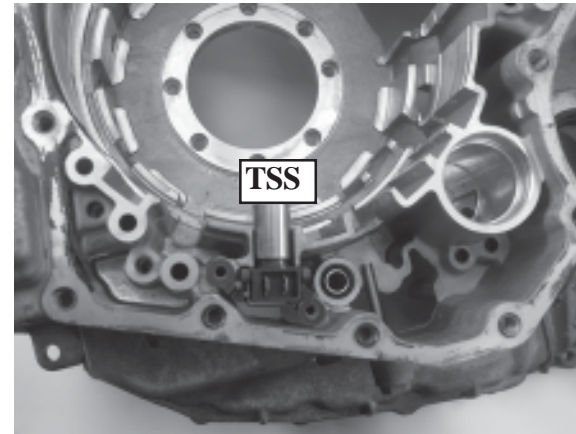
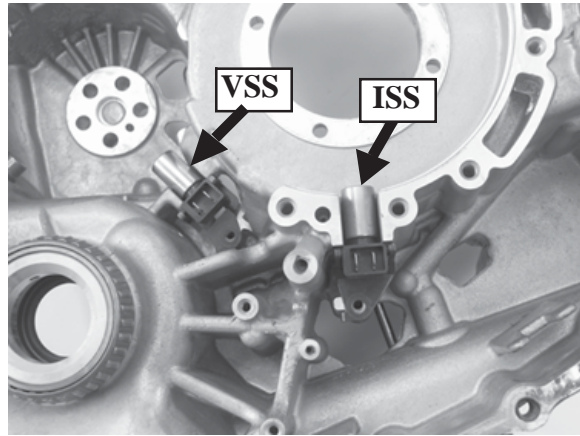


1	SSA
2	SSB
3	Low Clutch Timing
4	TCC
5	SSC
6	EPC
7	---
8	Reduction Timing
9	2/4 Brake Timing
10	2/4 Brake Duty

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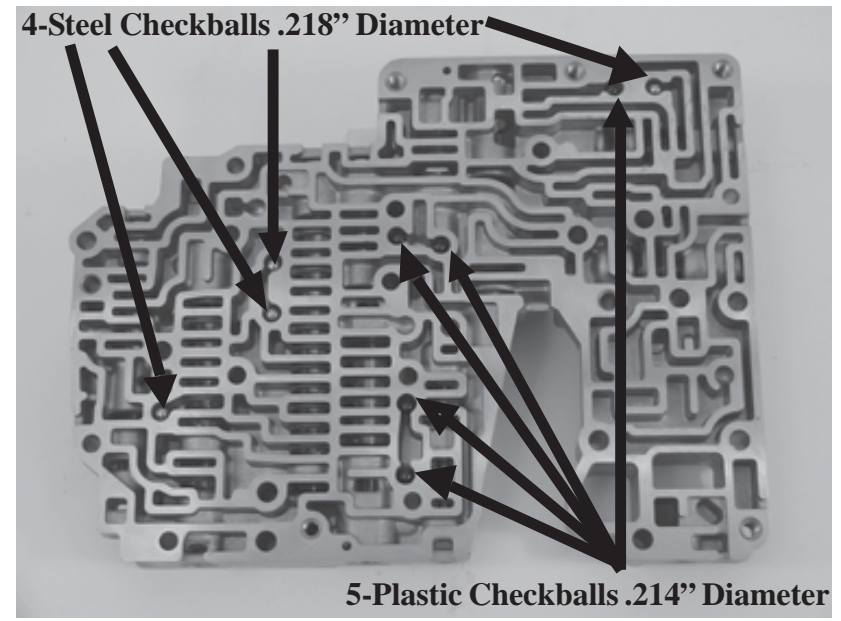
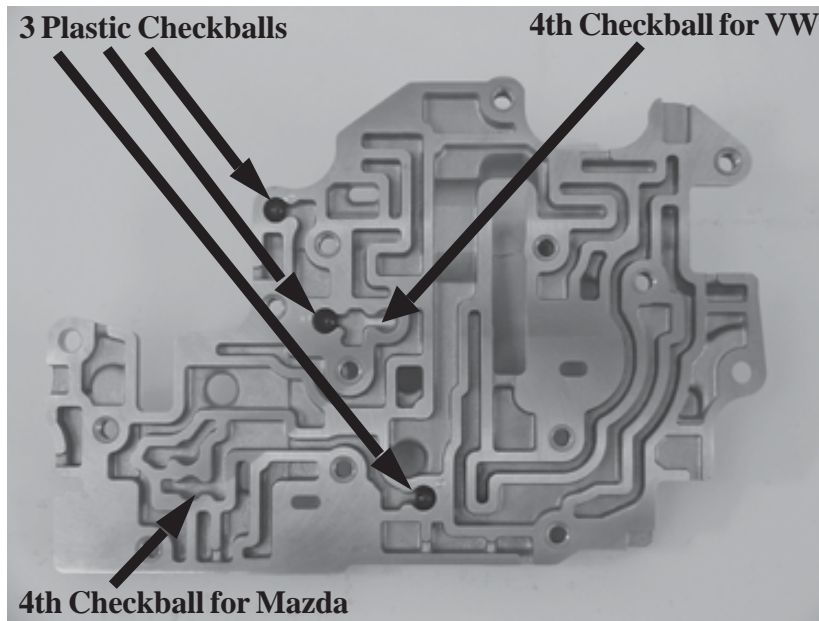
Speed Sensor/TOT Sensor Identification



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Checkball Locations

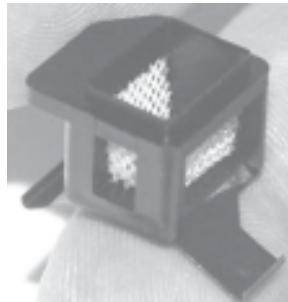


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Valve Body Filter Locations

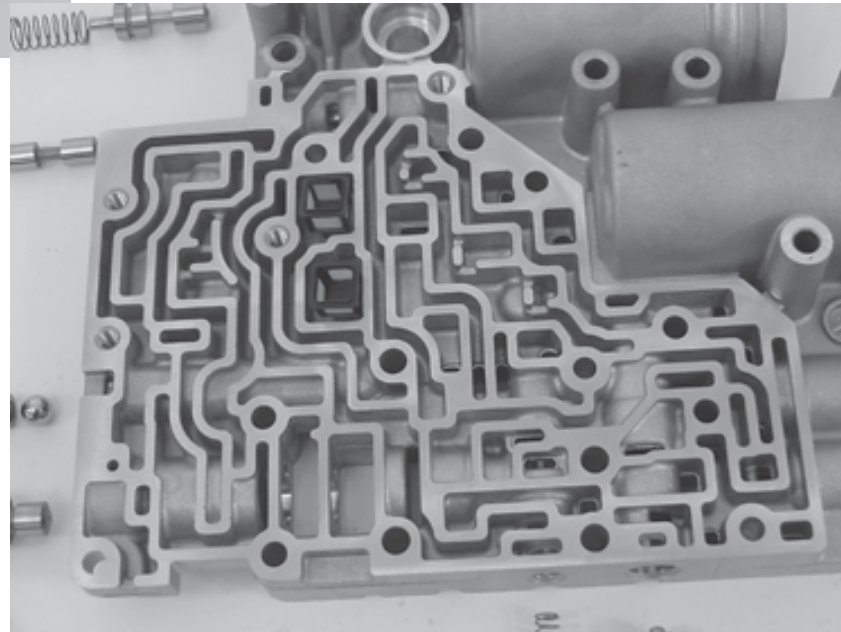
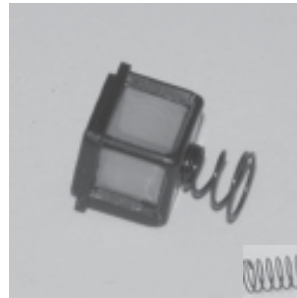


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Valve Body Filter Locations



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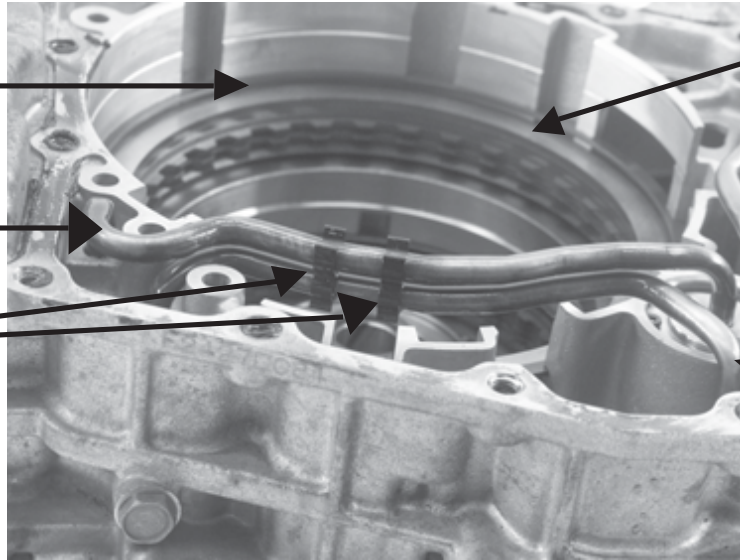


Tips for Rebuilding

2-4 Clutch Snap Ring is .079" thick, the Snap Ring ends are positioned at 9:00

Top Tube is Direct Accumulator Back Pressure

Plastic Tube Clips



2-4 Clutch Pack

This Tube is Direct Clutch Apply Also

Direct Accumulator

Bottom Tube is Direct Clutch Apply

Snap Ring End at 1:30 Position

Low/Reverse Clutch Housing-Snap Ring Location

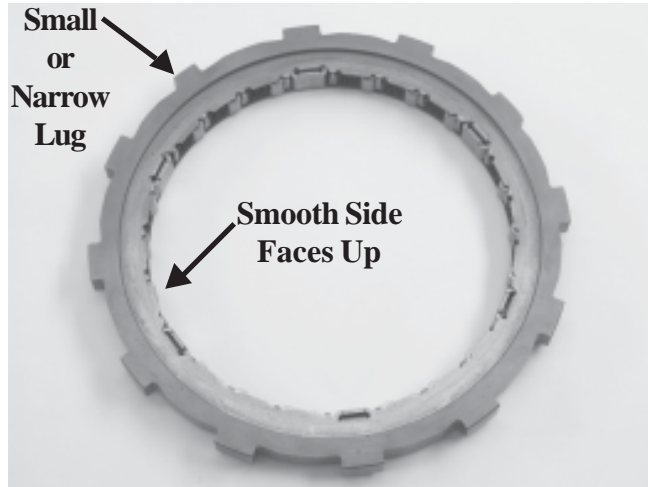


Snap Ring End at 3:00 Position

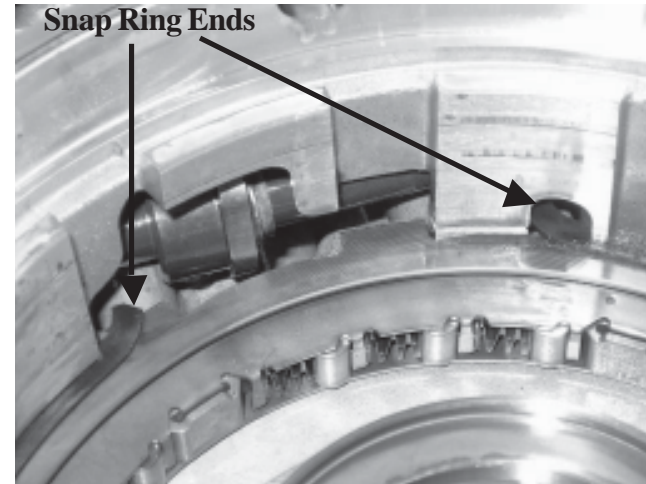
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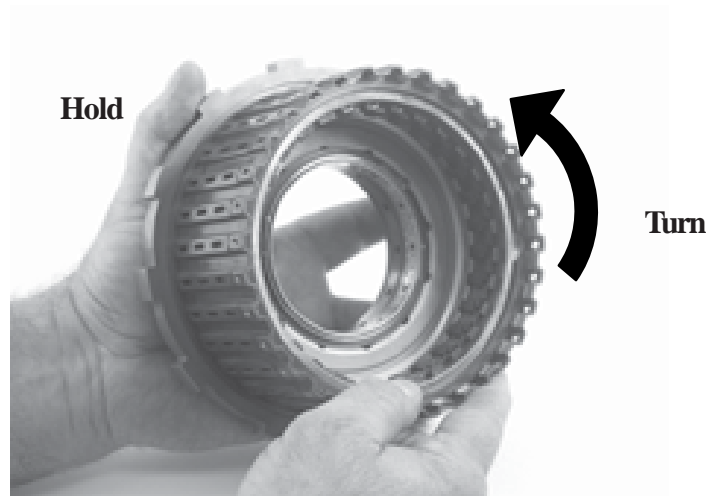
Tips for Rebuilding



Install Low Roller Clutch with Flat Side Up



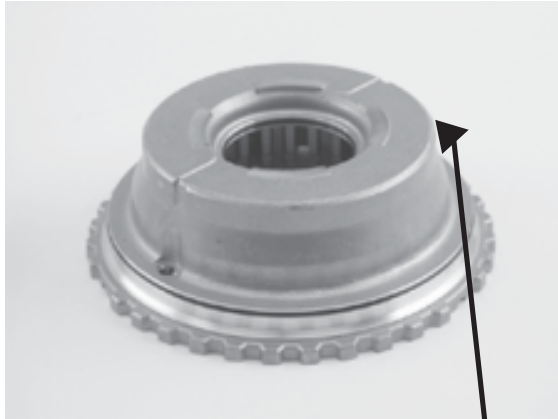
Low Roller Clutch Snap Ring Location



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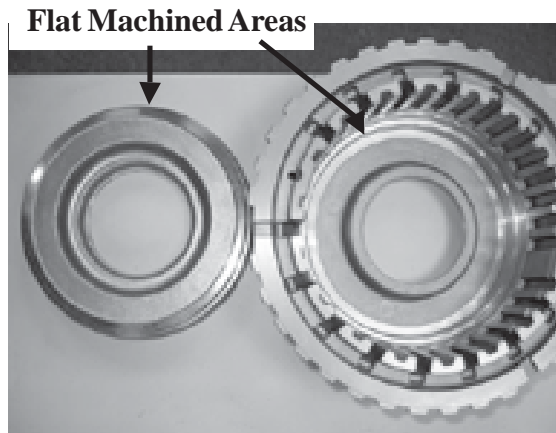
Tips for Rebuilding



Piston cracks along this edge. Causes slip in 3rd, 4th, and 5th.

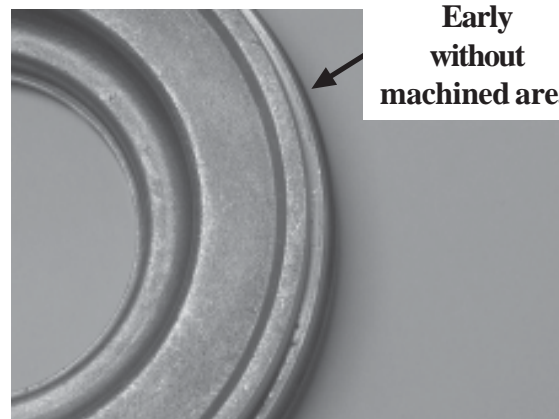


End Cover - Directional Sealing Rings



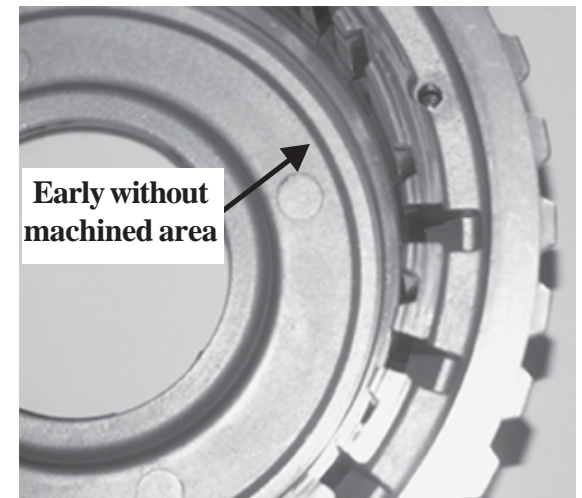
Flat Machined Areas

Late, Updated High and Reverse Pistons



Early without machined area

Early High Clutch Piston



Early without machined area

Early Reverse Clutch Piston