

# Transmission Type... ZF6HP26

Rebuilder's Kwik  
Reference Guide



## Clutch Clearances

## Adjusted By: Torque Specifications

Forward	.019"-.035"	Snap Ring
Overdrive	.011"-.027"	Snap Ring
Direct	.011"-.043"	Snap Ring
Intermediate	.019"-.035"	Snap Ring
Low/Reverse	.031"-.055"	Pressure Plate

Pan Bolts	10 Lb.-Ft.
Valve Body Bolts	53 Lb.-In.
Pump to Case	89 Lb.-In.
Output Shaft	
Flange Nut	44 Lb.-Ft.
Parking Pawl Guide	89 Lb.-In.
Valve Body Halves	53 Lb.-In.
Pump Halves	11 Lb.-Ft.

## Unit Endplays

## Location

## Selective

Front .008"-.015"	Back of front pump	Thrust Washer
Rear .006"-.013"	Top of # 2 sun gear front thrust bearing	Thrust Shim

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### Solenoid Application Chart

Gear		SS A (EDS1 or VFS1) Proportional	SS B (EDS2 or VFS2) Proportional	SS C (EDS3 or VFS3) Proportional	SS D (EDS4 or VFS4) Proportional	PC A (EDS5 or VFS5) Inversely Proportional	TCC (EDS6 or VFS6) Proportional	SS E (MV1) On/Off	(MV 2)* On/Off	(MV 3)* On/Off
Park		OFF	OFF	OFF	TCM Control**	TCM Control**	OFF	OFF	OFF	OFF
Reverse		OFF	ON**	OFF	ON**	TCM Control**	OFF	ON*	ON*	ON*
Neutral		OFF	OFF	OFF	TCM Control**	TCM Control**	OFF	ON*	ON*	ON*
Manual 1st		ON	OFF	OFF	ON	TCM Control**	TCM Control**	OFF	OFF	OFF
Manual 2nd		ON	OFF	ON	OFF	TCM Control**	TCM Control**	OFF	OFF	OFF
Manual 3rd		ON	ON	OFF	OFF	TCM Control**	TCM Control**	OFF	OFF	OFF
Drive	1	ON**	OFF	OFF	ON**	TCM Control**	TCM Control**	ON*	ON*	ON*
	2	ON**	OFF	ON**	OFF	TCM Control**	TCM Control**	ON*	ON*	ON*
	3	ON**	ON**	OFF	OFF	TCM Control**	TCM Control**	OFF	OFF	ON*
	4	ON**	OFF	OFF	ON**	TCM Control**	TCM Control**	ON**	OFF	ON*
	5	OFF	ON**	OFF	ON**	TCM Control**	TCM Control**	ON**	OFF	ON*
	6	OFF	OFF	ON**	ON**	TCM Control**	TCM Control**	ON**	OFF	ON*

\* Electronic Shift

\*\* Both Manual and Electronic Shift

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### Solenoids/Electronics

The TCM is flashed by OE, after qualifying the solenoids and hydraulic response. The TCM will then have a learned value or flow rate for each solenoid. Amperage is independent and controlled for each solenoid. So altering the flow rate of the solenoid (swapping out another) or modifying the valve body requires a relearn/adaption period.

The TCM is capable of limited solenoid adaptation, without reprogramming. This is true for minimal alteration of the hydraulics as well. As the valve bores wear, the TCM will adapt until the window of adjustment and control is excessive. In many instances the hydraulic control of the unit can be swapped out as long as the original TCM is reinstalled. Also solenoids can be individually exchanged with new OE or with qualified used. (This information is from successful field reports, within the aftermarket)

If the original solenoids are reused, they should be returned to the same location, due to their learned flow rate. After any service, resetting adapts and clearing the KAM, is suggested. It is not advised to attempt circuit testing through the 16 pin connector.

<b>EDS Solenoids</b>					
<b>Identification</b>	<b>Color</b>	<b>Location</b>	<b>Output</b>	<b>OHMS</b>	<b>Function</b>
<b>6HP 19/26/32</b>	<b>Green</b>	<b>EDS 1, 3, 6</b>	<b>0 bar @ 0 ma</b>	<b>5.05</b>	<b>1-A Clutch 3-C Brake 6-TCC</b>
	<b>Black/Grey</b>	<b>EDS 2, 4, 5</b>	<b>4.6 bar @ 0 ma</b>	<b>5.05</b>	<b>2-B Clutch 4-D and E 5-EPC</b>
	<b>Black</b>	<b>MVI</b>	<b>Open/Closed</b>	<b>11.5</b>	<b>Selector Valve</b>
<b>6HP 21/28/34</b>	<b>Orange</b>	<b>EDS 1, 2</b>	<b>4.7 bar @ 0 ma</b>	<b>5.05</b>	<b>See Above</b>
	<b>Yellow</b>	<b>EDS 4, 5, 6</b>	<b>4.6 bar @ 0 ma</b>	<b>5.05</b>	<b>See Above</b>
	<b>Blue</b>	<b>EDS 3, 7</b>	<b>0 bar @ 4.6 ma</b>	<b>5.05</b>	<b>3-C Brake 7-Logic</b>
	<b>Black</b>	<b>MV2</b>	<b>Open/Closed</b>	<b>11.5</b>	<b>Park Lock Valve</b>
	<b>Green</b>	<b>MV3</b>	<b>Open/Closed</b>	<b>11.5</b>	<b>Park Lock Cycle</b>

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## Clutch and Band Application Chart

<b>Gear</b>	<b>A Clutch</b>	<b>B Clutch</b>	<b>E Clutch</b>	<b>C Clutch</b>	<b>D Clutch</b>	<b>Torque Converter Clutch</b>	<b>Gear Ratio</b>
<b>Park</b>					<b>Applied</b>		
<b>Reverse</b>		<b>Applied</b>			<b>Applied</b>		<b>3.403</b>
<b>Neutral</b>					<b>Applied</b>		
<b>Drive</b>	<b>1</b>	<b>Applied</b>			<b>Applied</b>		<b>4.171</b>
	<b>2</b>	<b>Applied</b>		<b>Applied</b>		<b>Applied*</b>	<b>2.340</b>
	<b>3</b>	<b>Applied</b>	<b>Applied</b>			<b>Applied*</b>	<b>1.521</b>
	<b>4</b>	<b>Applied</b>		<b>Applied</b>		<b>Applied*</b>	<b>1.143</b>
	<b>5</b>		<b>Applied</b>	<b>Applied</b>		<b>Applied*</b>	<b>0.867</b>
	<b>6</b>			<b>Applied</b>	<b>Applied</b>		<b>Applied*</b>

*\*TCC is available in 2nd thru 6th gear, based on throttle position, fluid temperature and vehicle speed.*

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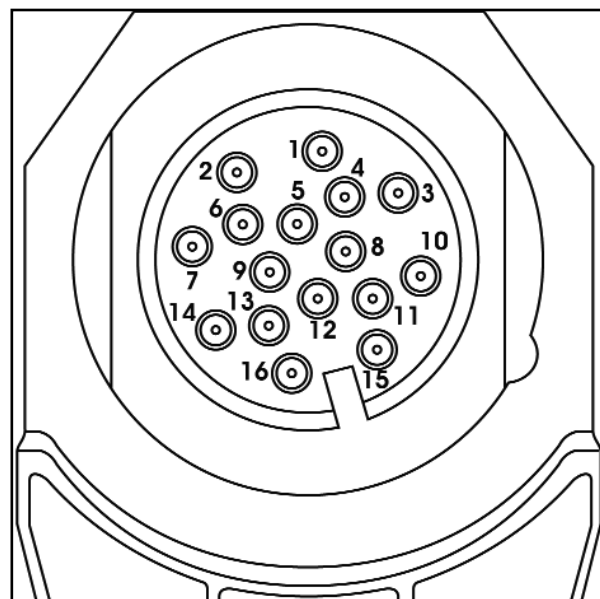
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## Connector Information

### M Connector

Pin Number	Description
1	"M" Gate Position
2	CAN L
3	ISO K
4	Touch -
5	Touch +
6	CAN H
7	Shiftlock
8	Not in Use
9	TCM Terminal 15
10	"P" Signal
11	Shiftlock
12	Not in Use
13	TCM Terminal 31-1
14	TCM Terminal 30
15	Interlock
16	TCM Terminal 31-2



### E Connector

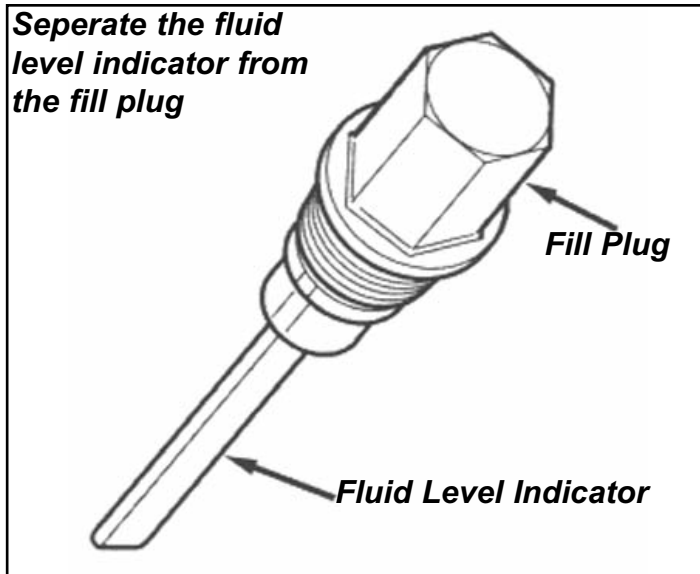
Pin Number	Description
1	Series Line
2	CAN L
3	ISO K
4	Not in Use
5	Not in Use
6	CAN H
7	Not in Use
8	Not in Use
9	TCM Terminal 15
10	"P" Signal
11	Not in Use
12	Not in Use
13	TCM Terminal 31-1
14	TCM Terminal 30
15	Not in Use
16	TCM Terminal 31-2

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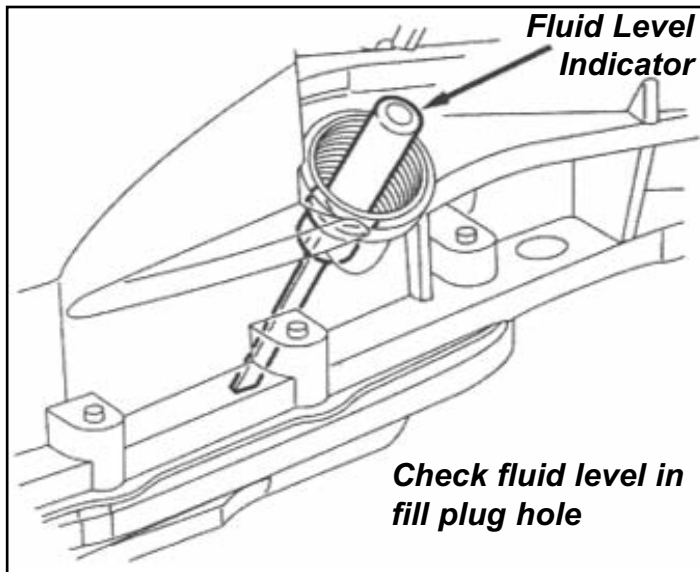
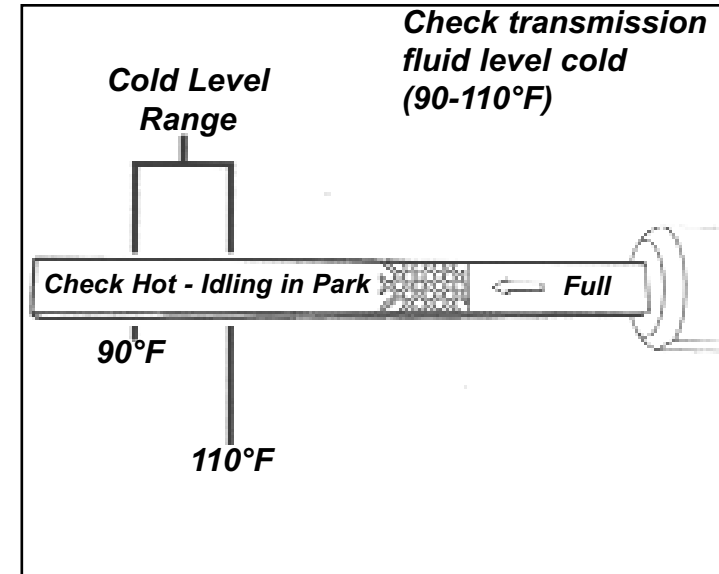
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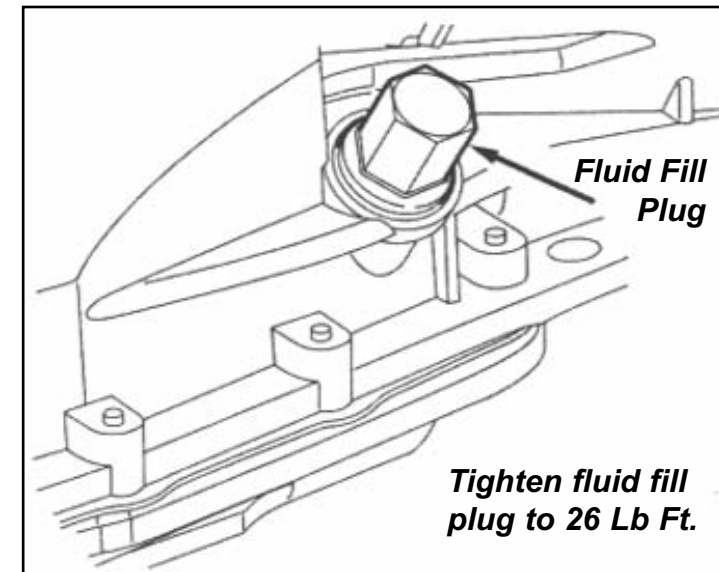
### Fluid Check



**Mercon SP  
Fluid Only!**



**Mercon SP  
Fluid Only!**

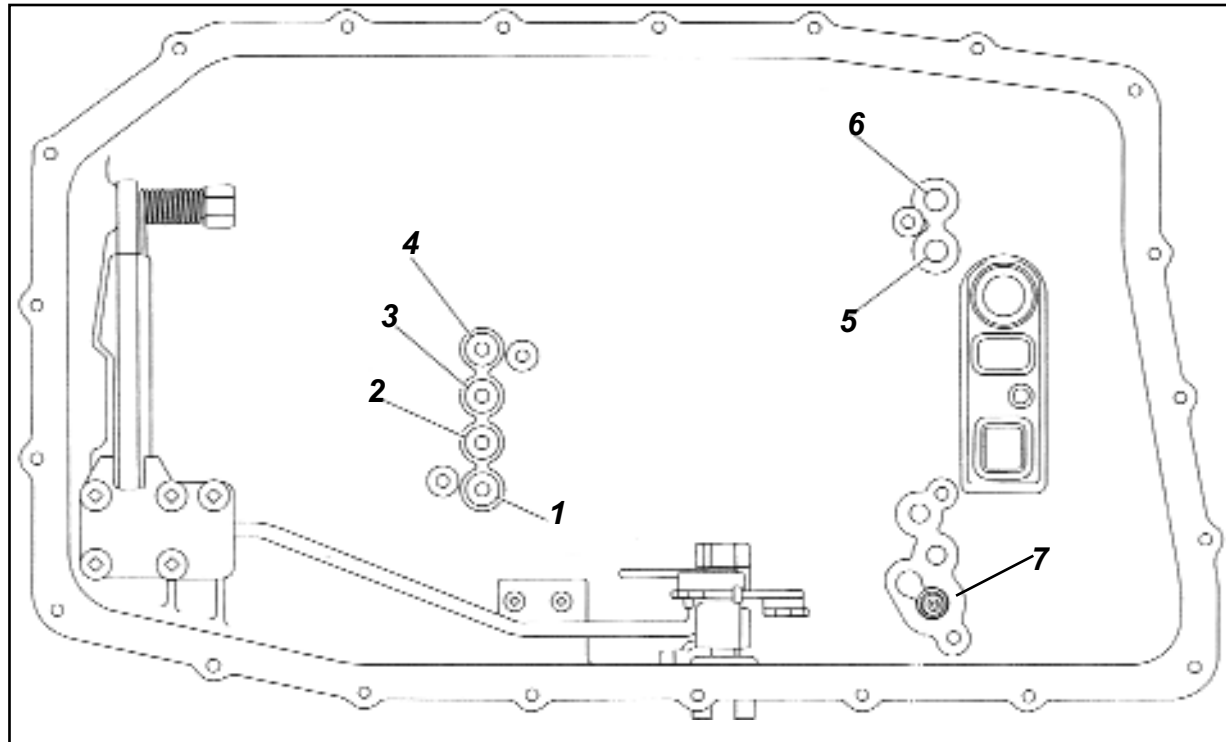


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## Air Pressure Test/Locations



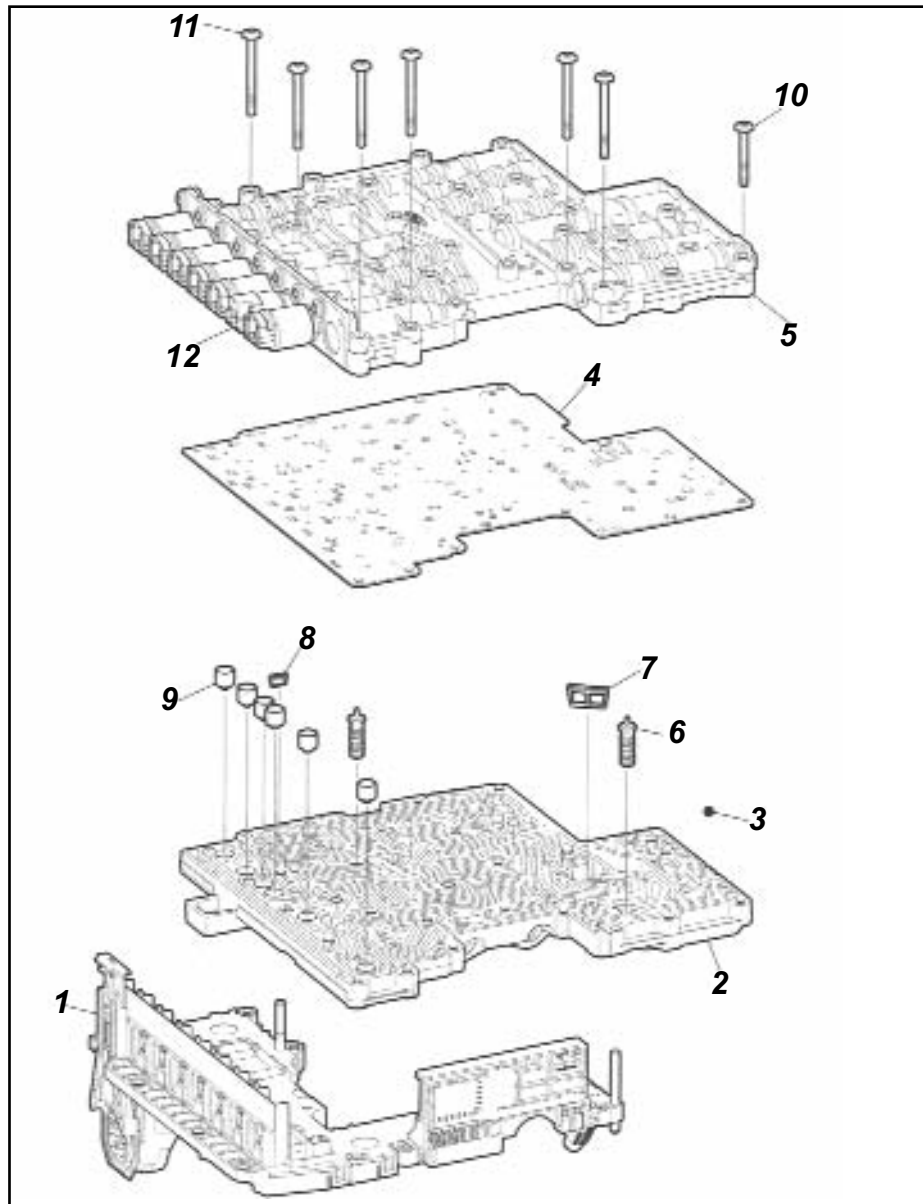
1	<i>Intermediate (C) Clutch Port</i>
2	<i>Low/Reverse (D1) Clutch Port</i>
3	<i>Low/Reverse (D2) Clutch Port</i>
4	<i>Direct (B) Clutch Port</i>
5	<i>Overdrive (E) Clutch Port</i>
6	<i>Forward (A) Clutch Port</i>
7	<i>Cooler Bypass Valve</i>

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## Main Control Assembly- (Small Part Location - Lower Valve Body)



	Part Name
1	Mod Assy.-Trans Control
2	Body Assy.-Trans Control Valve (Upper Half Part "B")
3	Trans Control Valve Check Ball (8 Req'd)
4	Plate Assy.-Trans Control Valve Body Sep
5	Body Assy-Trans Main Control (Lower Half Part "A")
6	Valve Assy.-Trans Control (2 Req'd)
7	Filter Assy. - Trans Control
8	Filter - Trans Oil
9	Valve Assy. - Trans Solenoid Damper (6 Req'd)
10	Screw M5X40 Pan Head Int. Lob (19 Req'd)
11	Screw M5X55 Pan Head Int. Lob (6 Req'd)
12	On/Off Solenoid

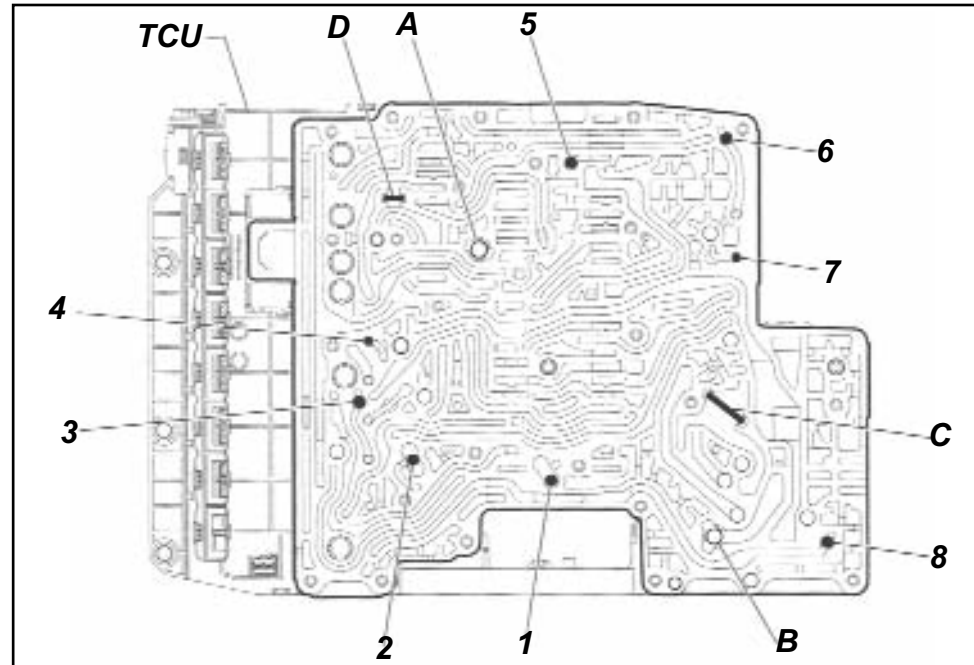


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## Main Control Assembly-(Small Part Location-Upper Valve Body) continued...



<b>Trans Control Valve</b>	<b>Description</b>
A	Clutch Exhaust Valve
B	Converter Drain Back Valve

<b>Ball Location</b>	<b>Description</b>
1	Reverse/Drive Control
2	Shift Solenoid FMEM Control
3	Intermediate Clutch (Clutch C) Exhaust Control
4	Direct Clutch (Clutch B) Exhaust Control
5	Low/Reverse Clutch (Clutch D) Drive Exhaust Control
6	Forward Clutch (Clutch A) Exhaust Control
7	Overdrive Clutch (Clutch E) Exhaust Control
8	Reverse Exhaust Control

<b>Filter Screen</b>	<b>Description</b>
C	Large Screen
D	Small Screen

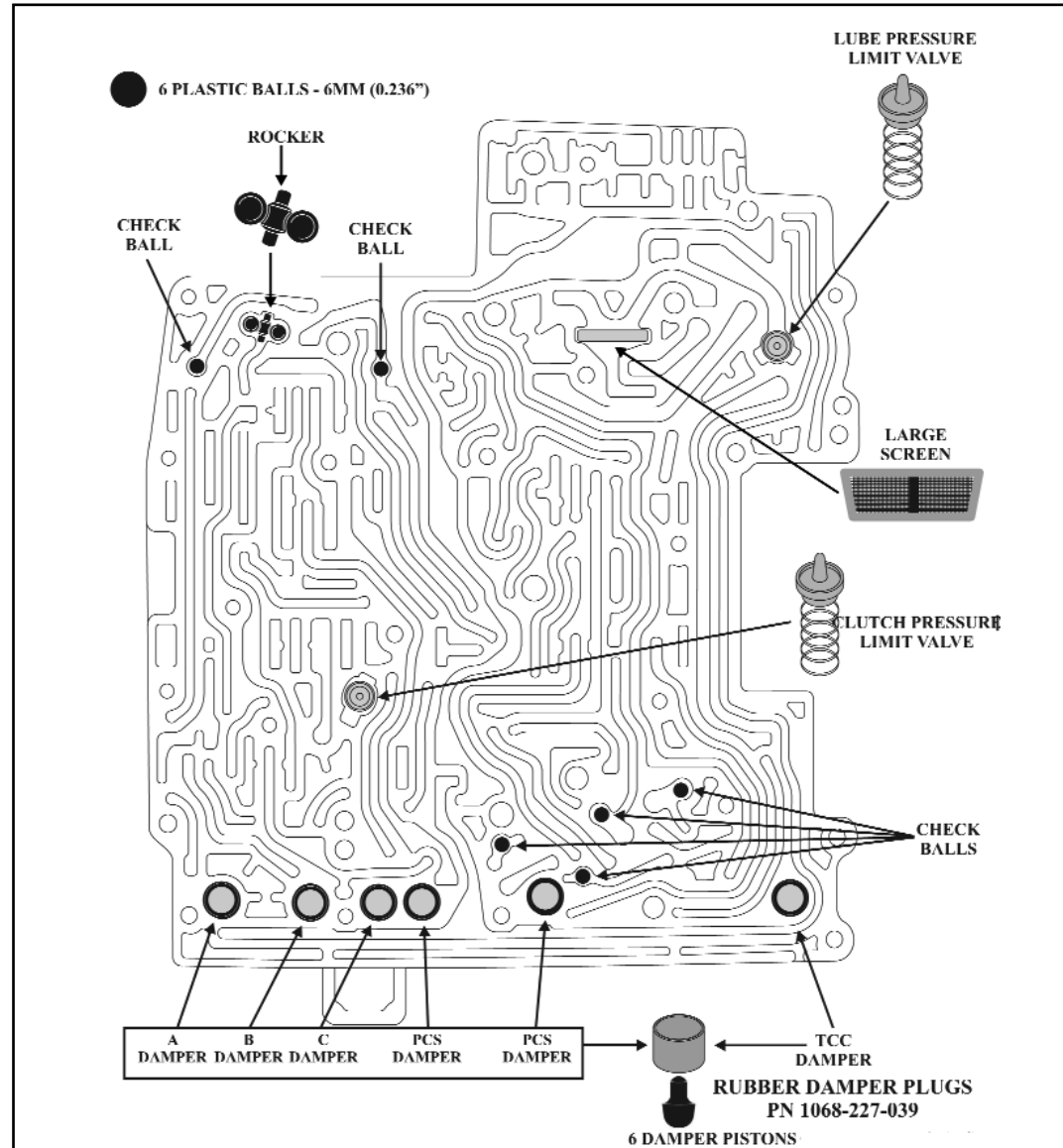


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### Upper Valve Body - "E" Shift



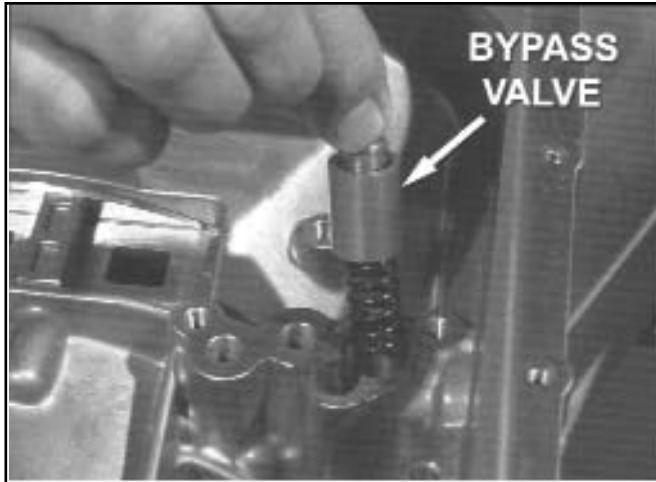
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## Rebuilding Tips-Case Small Parts

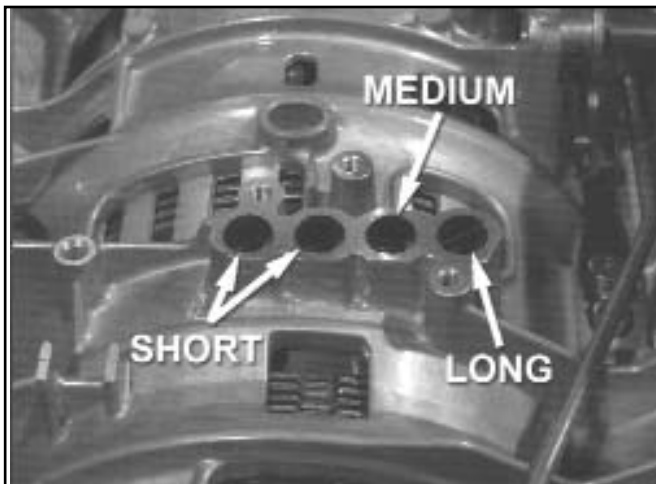
Thermal Bypass Valve



Pump Adapter Seal



Center Support Seals



**NOTE** Observe the size and location of the center support seals.

Install new center support seals in the locations shown:

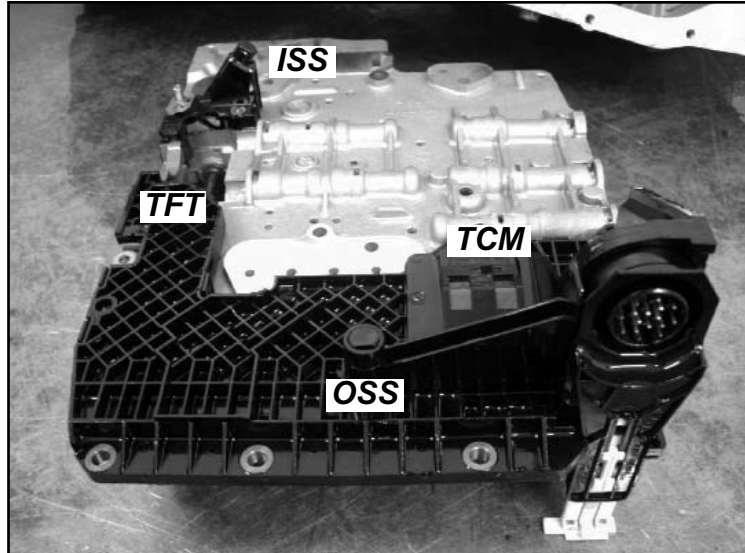
- Two black seals (short length)
- One green seal (medium length)
- One blue seal (long length)

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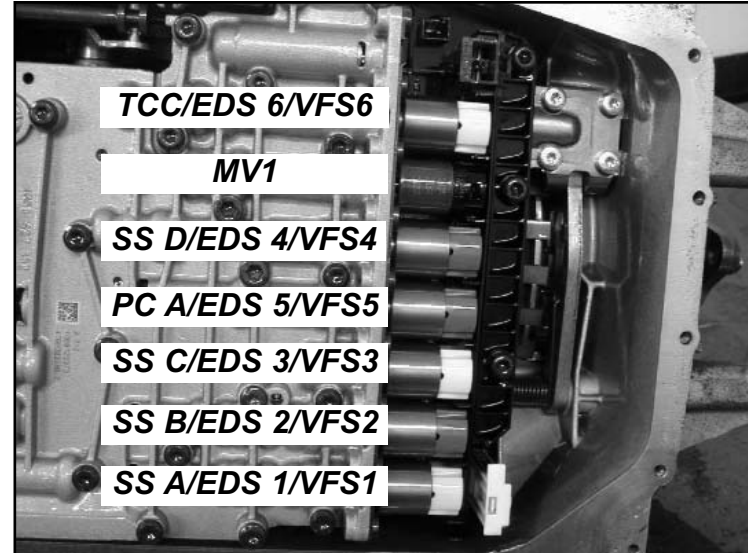
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## Rebuilding Tips



*Park Cylinder Position Switch*



*Valve Body*

**NOTE**

MIXING UP SOLENOIDS WILL RESULT IN TRANSMISSION SHIFT CONCERNS. MARK SOLENOIDS AND CORRESPONDING BORES FOR CORRECT REASSEMBLY.

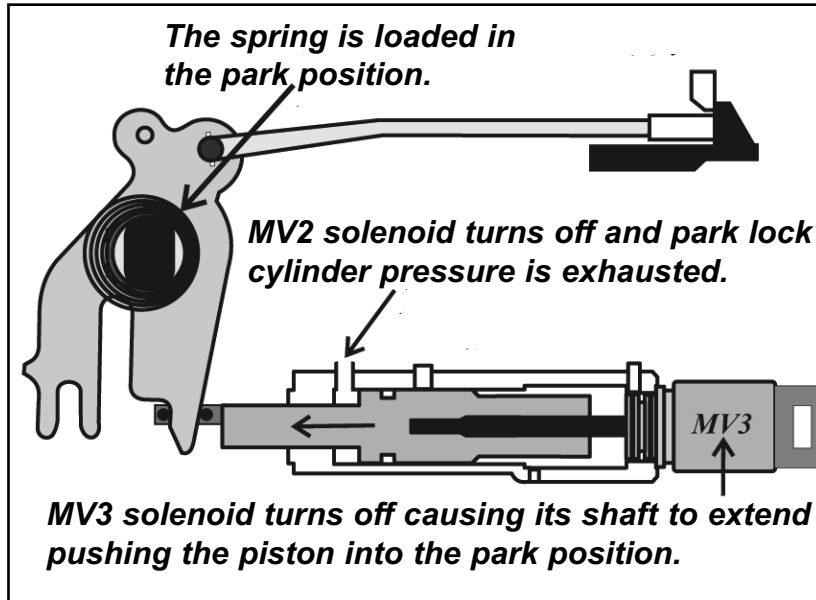
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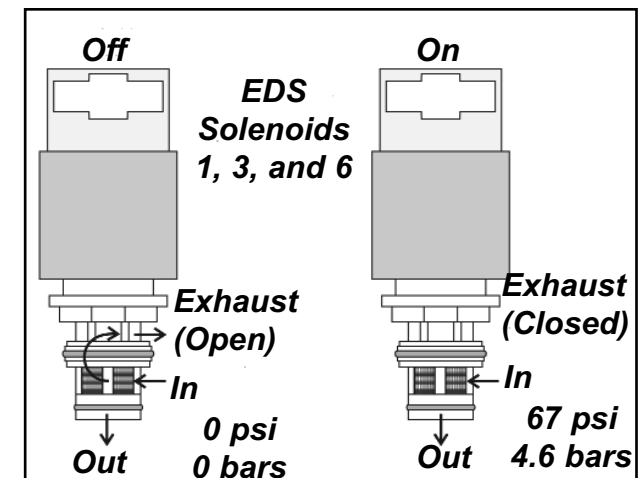
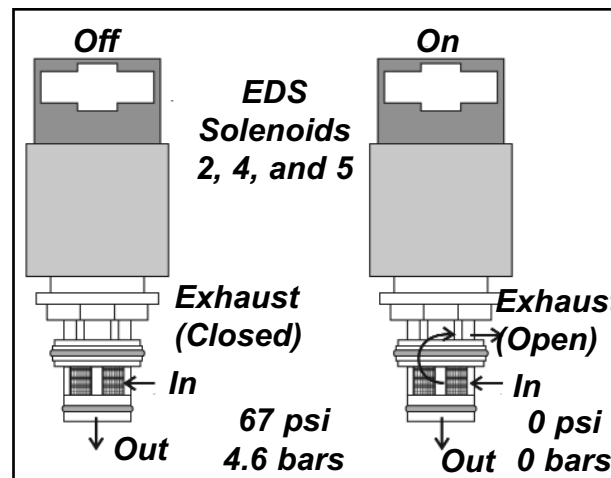
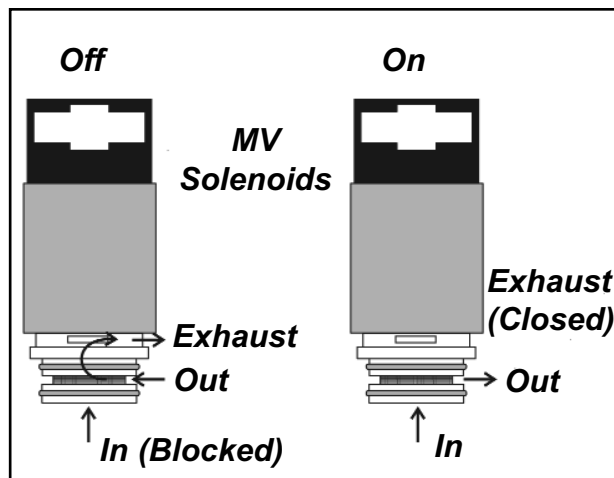
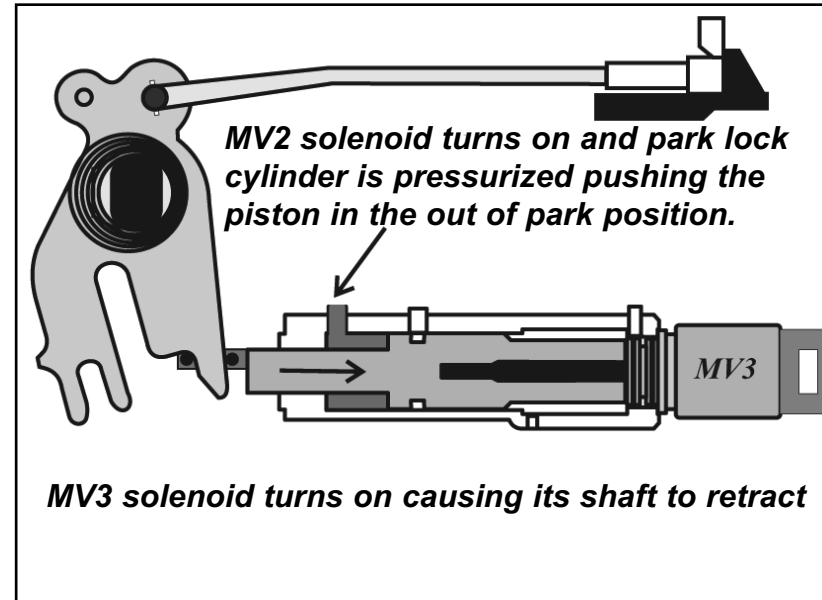


### Rebuilding Tips

**Park Position**



**Out of Park Position**



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## Rebuilding Tips

