



# ZF8HP45, ZF8HP55, ZF8HP70 ZIP KIT®

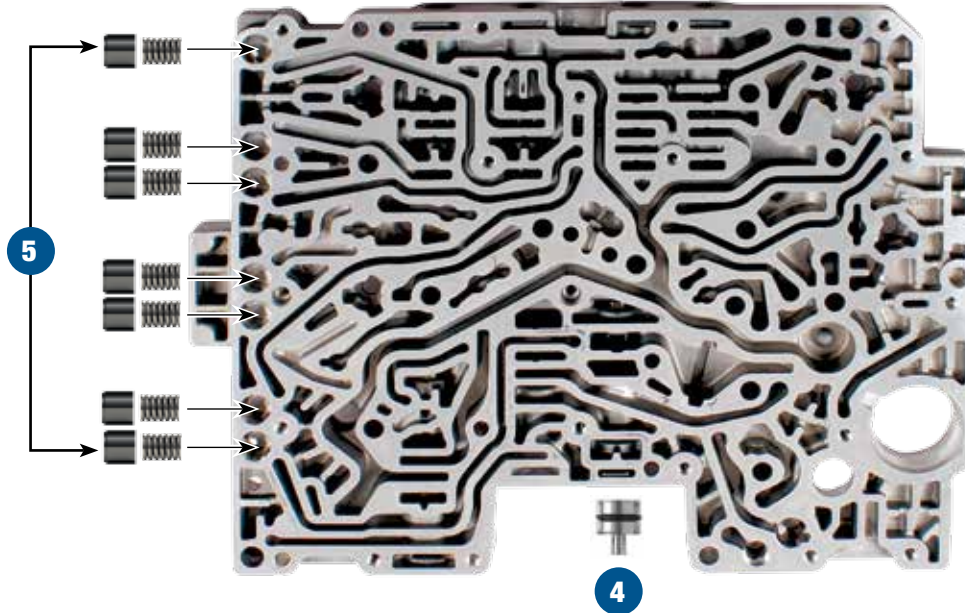
PART NUMBER ZF8-ZIP

QUICK GUIDE

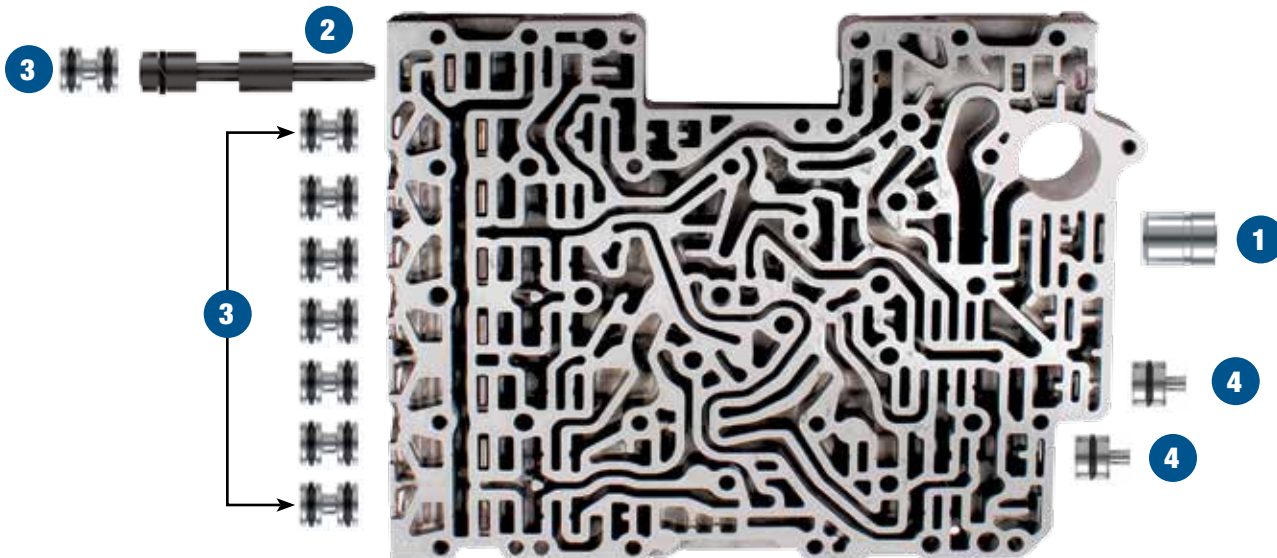
Parts are labeled here in order of installation. See other side of sheet for details on Zip Kit contents.

## INSTALLATION DIAGRAM

### ZF8HP45 Upper Valve Body



### ZF8HP45 Lower Valve Body



In addition to general rebuilding tips and technical information, the technical booklet included in this kit contains vacuum testing and additional repair options for higher mileage units or for repairing specific complaints which are beyond the scope of this kit.

## Zip Kit Contents & Installation Steps

### Step 1 Replace OE Pressure Regulator Sleeve

#### Packaging Pocket 1

- Sleeve

### Step 2 Replace OE Priming Valve

Place scarf-cut seal into shallow groove on valve. Rolling the seal into a smaller diameter before placing the seal in the groove will help to keep the seal surface below the valve diameter, allowing for easier installation. Lubricate seal with Sonnax slippery stick **O-LUBE**.



**NOTE:** Due to the design changes on the Sonnax valve, vacuum testing at the two inboard ports is not a valid sealing test. The Sonnax valve requires balance fluid to travel through the valve and push the seal outward to conform to the worn bore.

#### Packaging Pocket 2

- Valve
- Seal

### Step 3 Replace Internal OE End Plugs

Place O-rings into shallow grooves on end plugs. Lubricate with Sonnax slippery stick **O-LUBE**. Roll on bench to size. For installation or removal ease, install with threaded end outboard.

#### Packaging Pocket 3

- Internal End Plugs (8)
- O-Rings (18) 2 Extra

### Step 4 Replace OE End Plugs

Place O-rings into shallow groove on end plugs. Lubricate with Sonnax slippery stick **O-LUBE**. Roll on bench to size. Install end plugs with small stem outboard.

#### Packaging Pocket 4

- End Plugs (3)
- O-Rings (5) 2 Extra

### Step 5 Replace OE Accumulator Pistons

#### Packaging Pocket 5

- Accumulator Pistons (7)
- Matching Springs (7)

### Step 6 Replace OE Solenoid O-Rings

#### Packaging Pocket 6 For Outboard White & Orange Solenoids

- O-Rings, (8) 1 Extra 13.75 x 2mm thick

#### Packaging Pocket 7 For Inboard Brown Solenoid

- O-Ring (2) 1 Extra 17 x 1.5mm thick

#### Packaging Pocket 8 For Inboard Orange Solenoids

- O-Rings, (7) 1 Extra 18 x 2mm thick

#### Packaging Pocket 9 For Outboard Brown Solenoid

- O-Ring, (2) 1 Extra 17 x 1.5mm thick

#### Packaging Pocket 10 For Inboard White Solenoids

- O-Rings, (5) 1 Extra 18.25 x 2mm thick

**NOTE:** The parts listed here may be protected by patent 8,794,108.



# ZF8HP45, ZF8HP55, ZF8HP70 ZIP KIT®

PART NUMBER ZF8-ZIP

TECHNICAL BOOKLET

## Valve Body Identification

This Zip Kit **ZF8-ZIP** is designed for ZF8HP45, ZF8HP55 and ZF8HP70 units only.

### Torque Specifications

<b>Mechatronic-to-Case Torque or Valve Body Halves Bolts</b> 10Nm/89 in-lb	<b>Complete Valve Body-to-Case</b> 14Nm/10 ft-lb
<b>Plastic Oil Pan to Case</b> 10Nm/89 in-lb	

### Clearance

**Clutch clearance and material** is critical (refer to OE clutch travel specifications). These have fluid balanced clutch pistons.

### Fluid

<b>Complete Fill Required</b> 9.5 qt./8 ltr.	<b>Service Fill Approx.</b> 4.2 qt./4 ltr.
<b>Chrysler Fluid</b> Mopar 6815795AA	<b>ZF Fluid</b> ZF Lifeguard 8

### Drive-Cycle Relearn

Verify transmission fluid temp is 122°F, then perform 6–10 light throttle up and coast down shift cycles for partial relearn.

## Cautions

### Electronics

Do not use an ohm meter with more than .6 voltage supply. The TCM is capable of limited solenoid adaptation without reprogramming. After any service, resetting adapts is suggested. In many instances, solenoids can be replaced with new OE or with qualified used. Original solenoids, if reused, should be returned to their same location due to a learned flow rate by the TCM. Make every effort to avoid mixing up the solenoids.

Check the solenoid resistance (5.0 ohms at 20°C/68°F) with the circuit board removed.

## Technical Tips

### Transmission Specifications & Reassembly Tips

The red tag on pan shows the fluid type Mopar 6815795AA (green) and that fluid temperature must be 122°F to check the level. Dry fill is approximately 8.5 qts./8.0l (Figure 1).

## Zip Kit Instructions

### 1. Valve Body Removal from Case

- Remove 14 bolts to drop valve body from case (Figure 2).
- Remove 4 bolts and lift up metal bracket to release connector from TCM (Figure 3).
- Remove connector from case (Figure 4).
- Remove valve body from case. Note the location of B release tube in case under valve body in case the tube comes out of its location when the valve body is removed (Figure 5).
- The valve body may have to pried down on the front end because of the suction and output tubes (Figure 6)

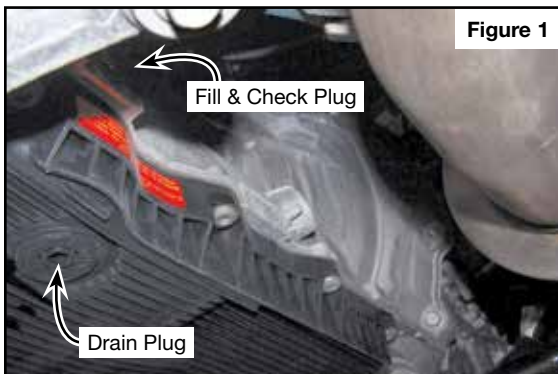


Figure 1

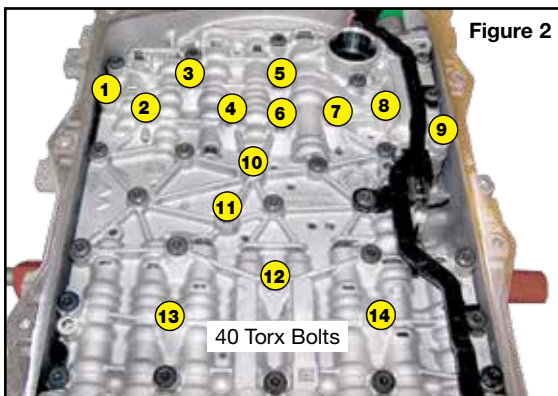


Figure 2

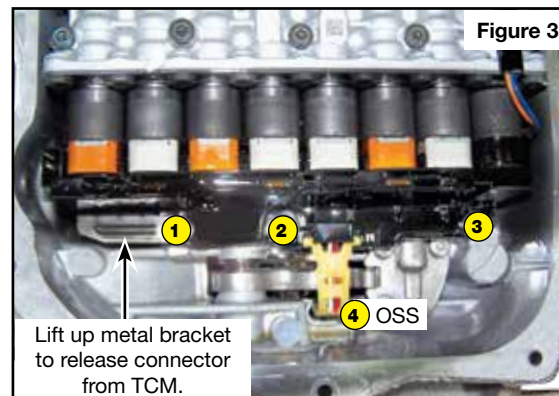
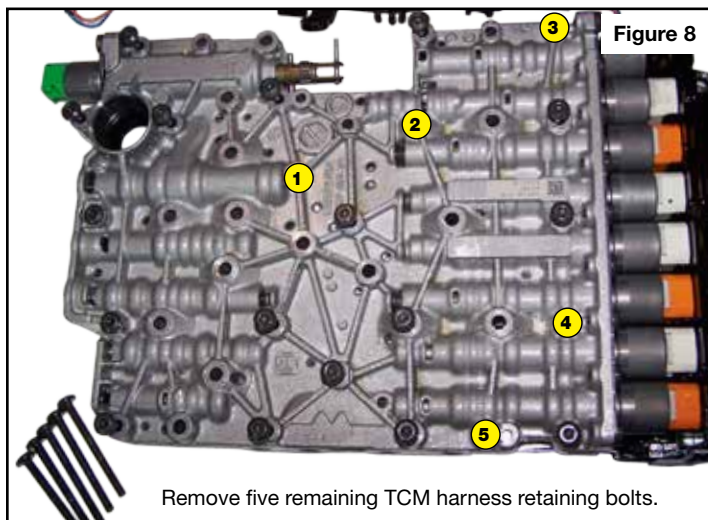
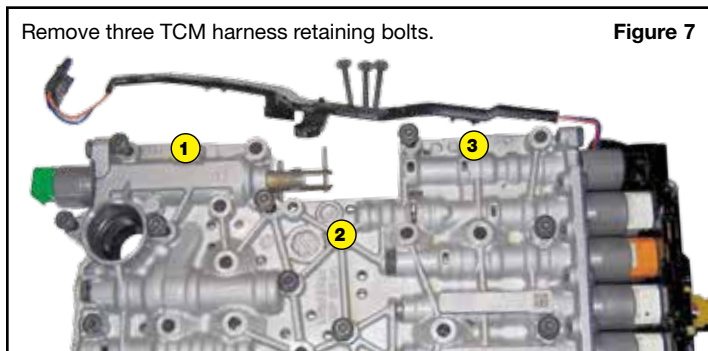
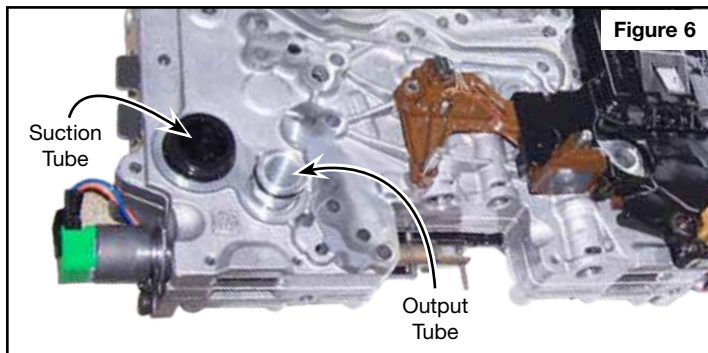
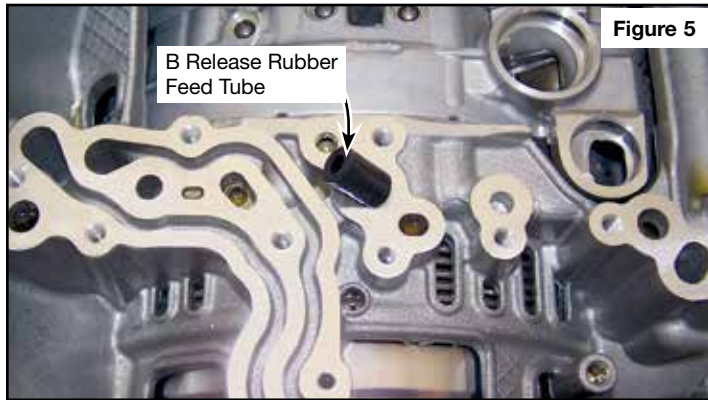


Figure 3



Figure 4



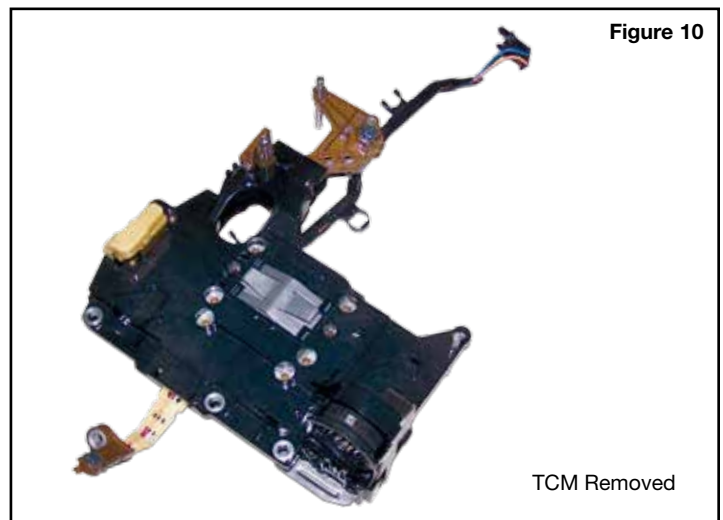
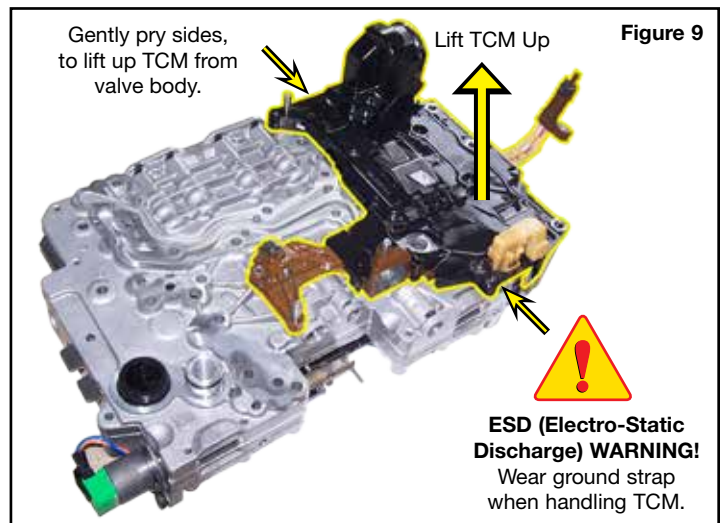
## 2. Valve Body Disassembly

- Disconnect three TCM harness retaining bolts (**Figure 7**).
- Remove remaining five bolts to remove TCM from valve body (**Figure 8**).
- Gently pry TCM lifting up from valve body until removed (**Figures 9 & 10**).
- Remove 17 bolts to split valve body apart (**Figure 11**).
- Pry valve body halves away from separator plate where indicated (**Figure 12**).



**NOTES:** The separator plate has a bonded gasket which may delaminate during disassembly (**Figure 13**). If any damage or delamination to the gasket is present, a new separator plate should be used.

These separator plates are specifically calibrated, requiring either the OE valve body code or an identification number stamped on original plate (**Figures 13 & 14**) for reorder. See Sonnax application chart for cross-reference numbers (**Figure 14**).

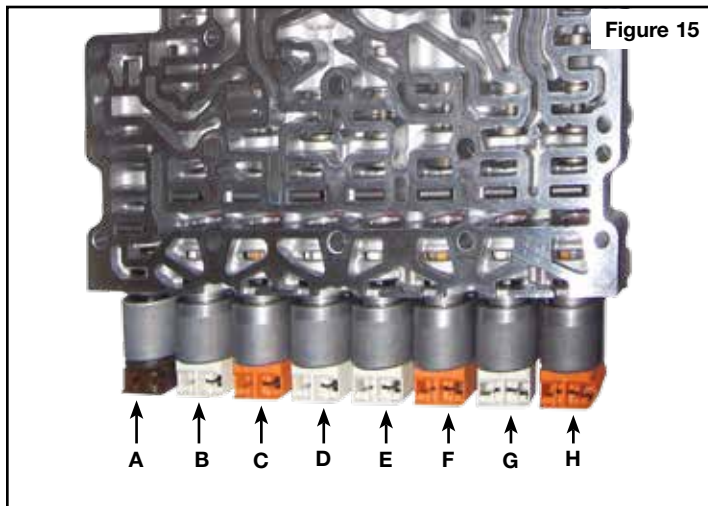
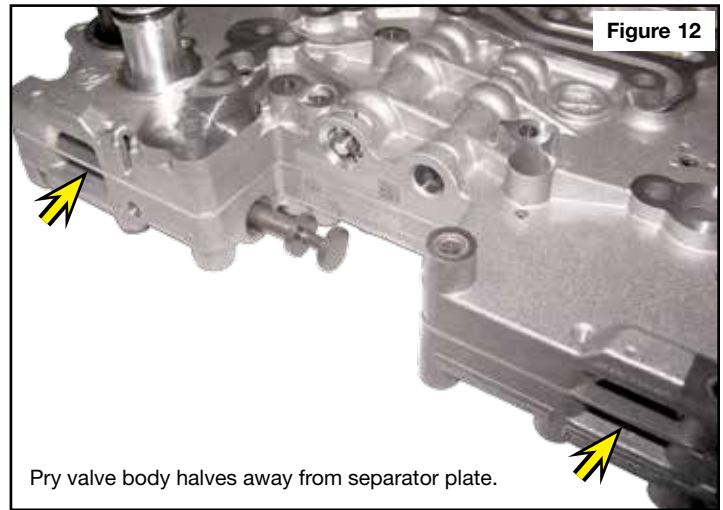
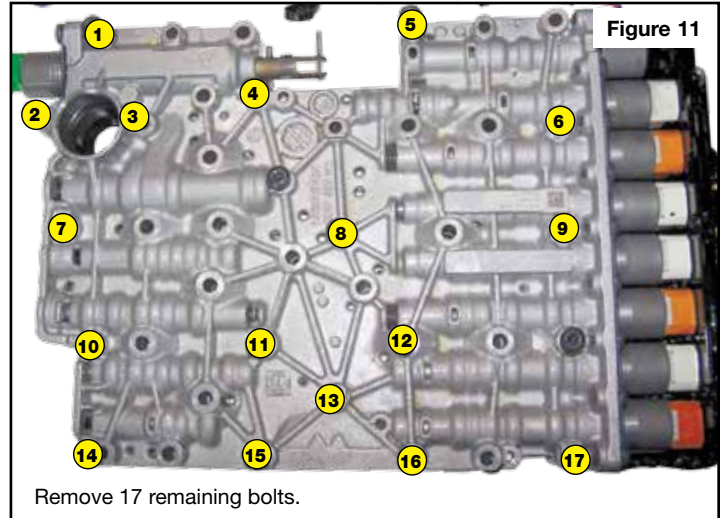


### 3. Installation

Install Zip Kit parts as shown on diagram of separate quick guide sheet included in this Zip Kit.

See identification and locations of replacement OE solenoids (Figures 15 & 16).

Sonnax recommends vacuum testing critical wear areas not covered by this kit to determine whether additional Sonnax parts are required (see pages 4–7).

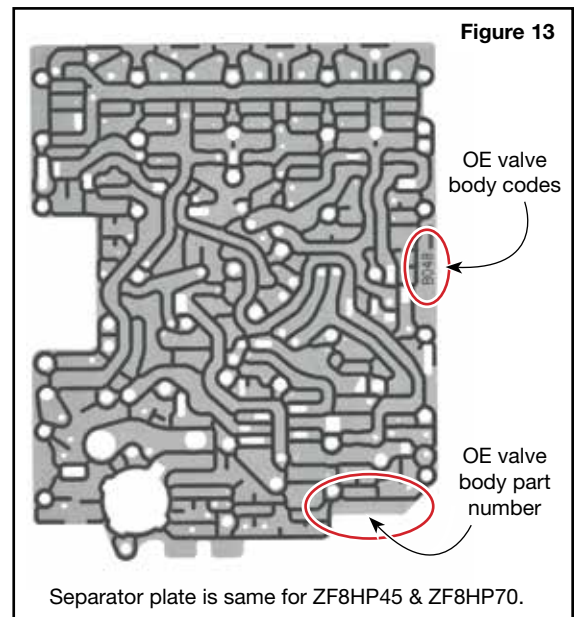


**Solenoid Identification & Location Chart** **Figure 16**

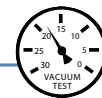
Solenoid I.D.	A	B	C	D	E	F	G	H
<b>ZF</b>	MV-1	EDS-7 LP	EDS-2 TCC	EDS-5 C	EDS-4 E	EDS-3 B	EDS-6 D	EDS-1 A
<b>Chrysler</b>	SOL Park	SOL LPS	SOL TCC	SOL C	SOL E	SOL B	SOL D	SOL A

**Valve Body Separator Plate Application Chart** **Figure 14**

OE Valve Body Code	Number Stamped on Original Plate	Order Sonnax Part Number	Valve Body Generation
A048/B048	1087-327-175	35740-048	ZF8HP45 & ZF8HP70
A054/B054	1087-327-189	35740-054	
A071/B071	1068-327-162		



# Critical Wear Areas & Vacuum Test Locations



**NOTE:** OE valves are shown in rest position and should be tested in rest position unless otherwise indicated. Test locations are pointed to with an arrow. Springs are not shown for visual clarity. Low vacuum reading indicates wear.

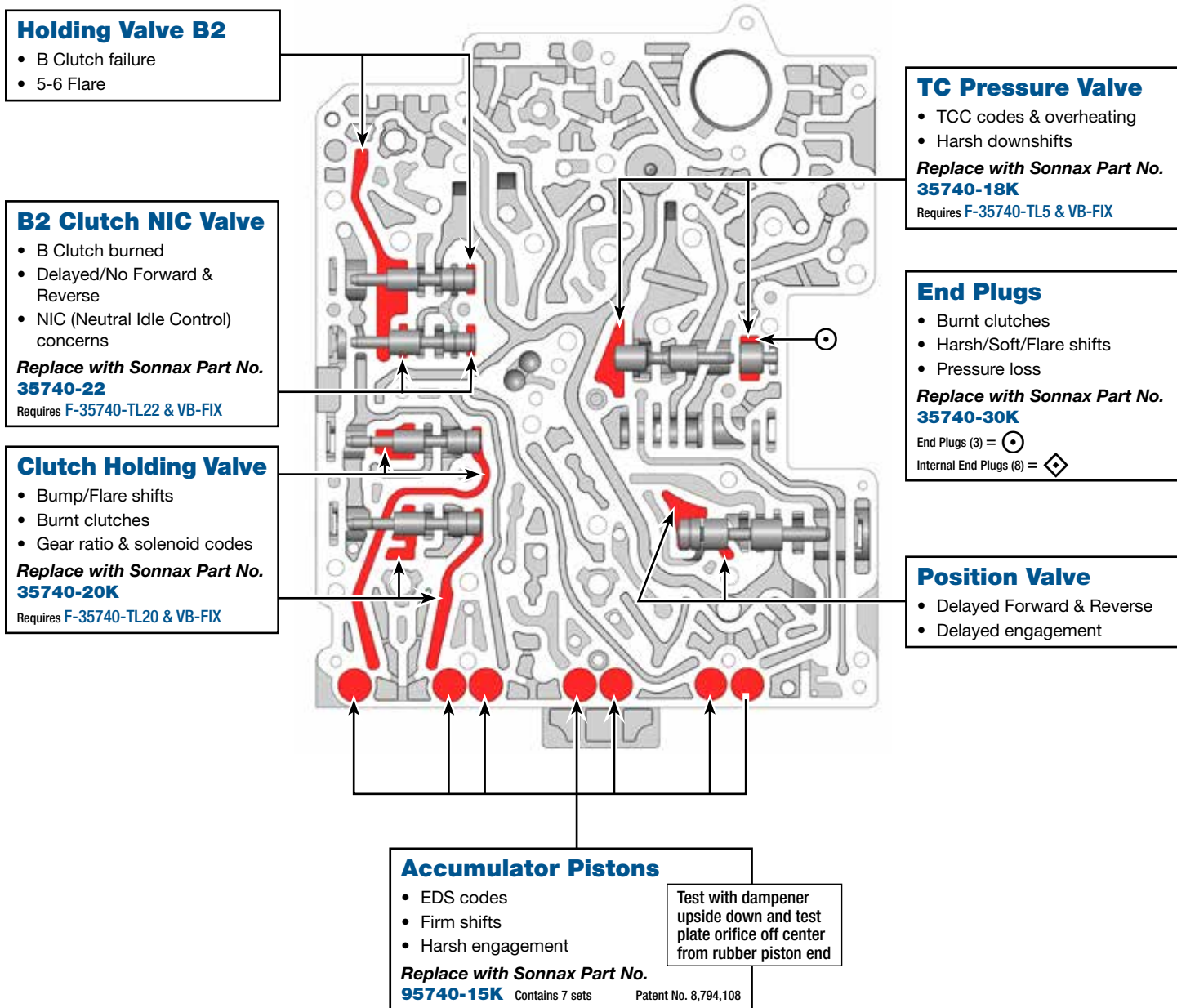
## Upper Valve Body • ZF8HP45 Shown



**NOTE:** Critical wear areas and vacuum test locations shown for **ZF8HP45** and **ZF8HP70** only.



**NOTE:** Do not use this information for ZF8HP55 units as valve locations and porting differ. See page 8 for ZF8HP55 information.



# Critical Wear Areas & Vacuum Test Locations

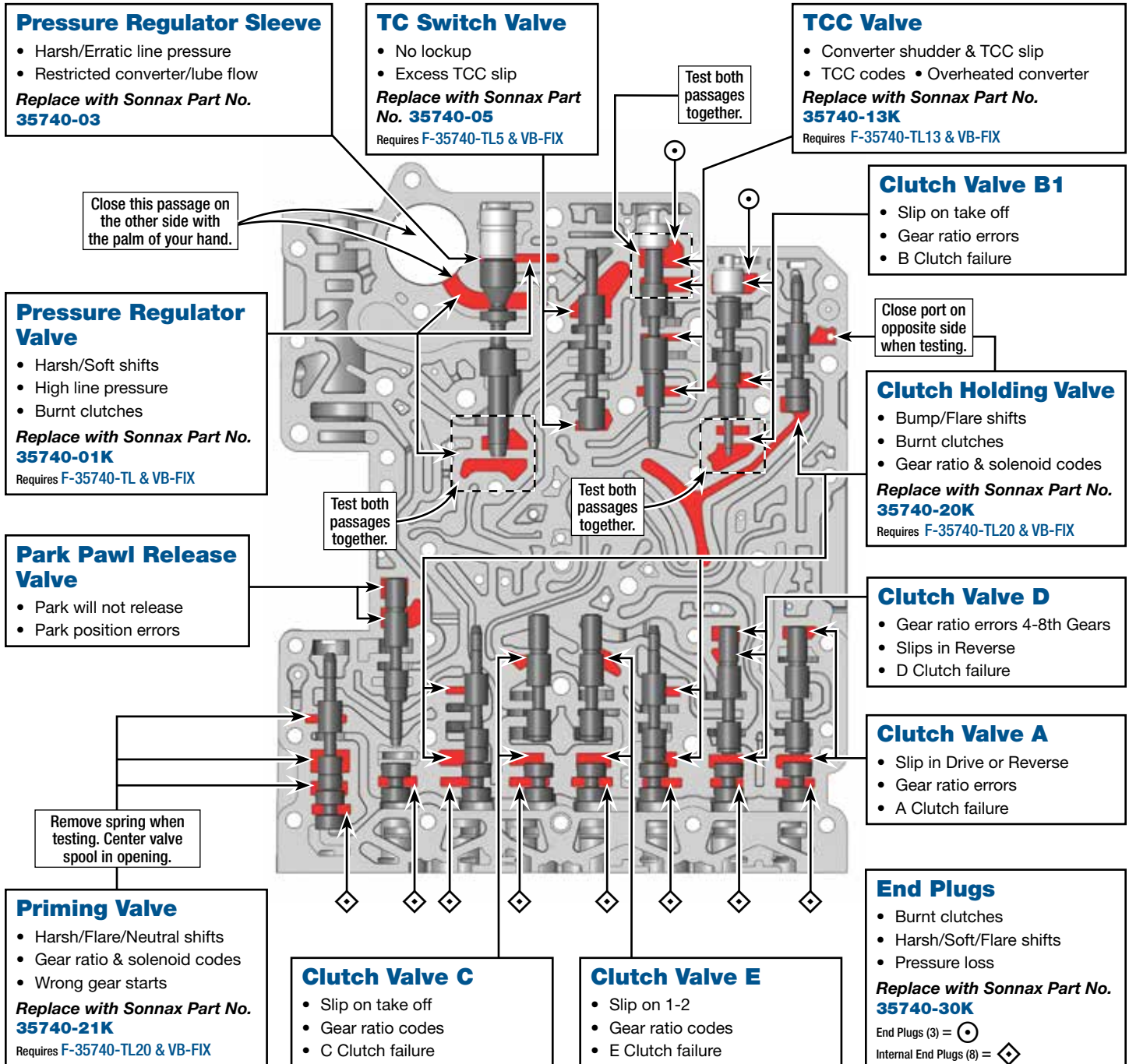


**NOTE:** OE valves are shown in rest position and should be tested in rest position unless otherwise indicated. Test locations are pointed to with an arrow. Springs are not shown for visual clarity. Low vacuum reading indicates wear.

## Lower Valve Body • ZF8HP45 Shown

**NOTE:** Critical wear areas and vacuum test locations shown for **ZF8HP45** and **ZF8HP70** only.

**NOTE:** Do not use this information for ZF8HP55 units as valve locations and porting differ. See page 8 for ZF8HP55 information.



# OE Exploded View

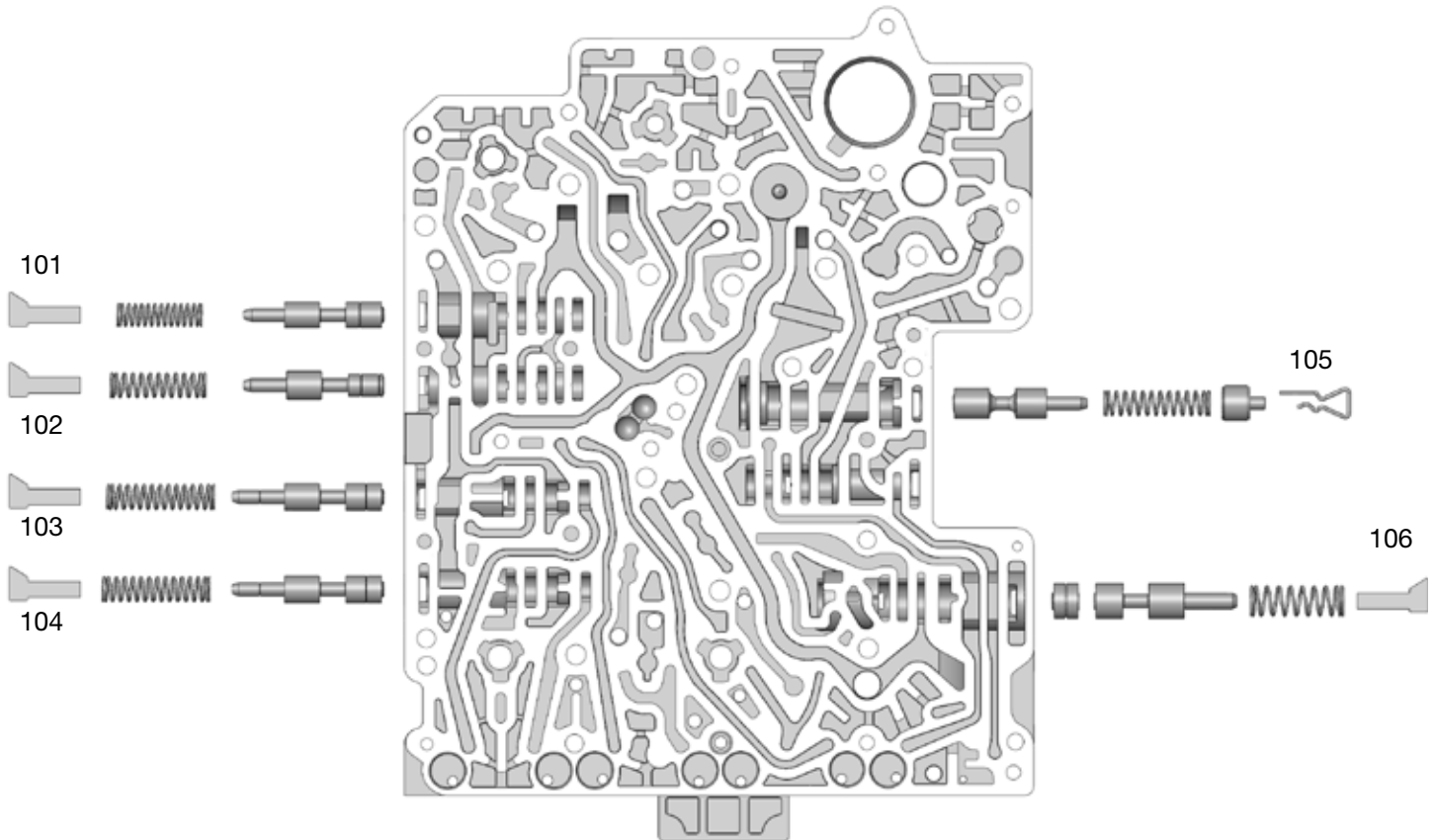
## Upper Valve Body • ZF8HP45 Shown



**NOTE:** Valve lineup locations shown for ZF8HP45 and ZF8HP70 only.



**NOTE:** Do not use this information for ZF8HP55 units as valve locations and porting differ. See page 8 for ZF8HP55 information.



<b>Upper Valve Body Descriptions</b>			
<b>I.D. No.</b>	<b>Description</b>	<b>ZF Valve Name</b>	<b>Chrysler Valve Name</b>
101	Holding Valve B2	HV-B2	HV-B2
102	Clutch Valve B2 - B Clutch NIC (Neutral Idle Control)	KV-B2	CV-B2
103	Holding Valve A	HV-A	HV-A
104	Holding Valve D	HV-D	HV-D
105	Torque Converter Pressure Valve	WD-V	TC-V
106	Position Valve (Outboard) Default Position Valve (Inboard)	Pos-V, PosD-V	Pos-V, PosD-V



# OE Exploded View

## Lower Valve Body • ZF8HP45 Shown



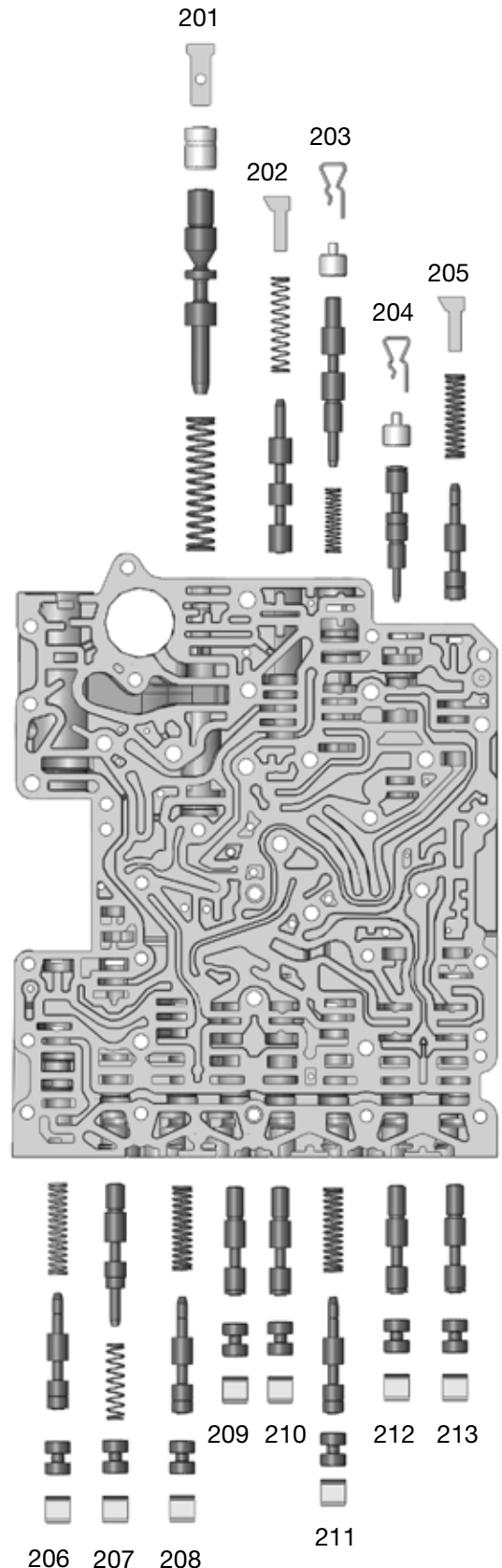
**NOTE:** Valve lineup locations shown for **ZF8HP45** and **ZF8HP70** only.



**NOTE:** Do not use this information for ZF8HP55 units as valve locations and porting differ. See page 8 for ZF8HP55 information.

### Lower Valve Body Descriptions

I.D. No.	Description	ZF Valve Name	Chrysler Valve Name
201	Main Pressure Regulator Valve and Sleeve	SYS-DR-V	LP-V (Inboard) RED-V (Outboard)
202	Torque Converter Switch Valve	SV-WD	SV-TC
203	Torque Converter Clutch Valve	WK-V	TCC-V
204	Clutch Valve B1	KV-B1	CV-B1
205	Holding Valve B1	HV-B1	HV-B1
206	Priming Valve	DR-RED-V	PR-V
207	Park Pawl Release Valve	PS-V	Park-V
208	Holding Valve C	HV-C	HV-C
209	Clutch Valve C	KV-C	CV-C
210	Clutch Valve E	KV-E	CV-E
211	Holding Valve E	HV-E	HV-E
212	Clutch Valve D	KV-D	CV-D
213	Clutch Valve A	KV-A	CV-A



## OE Exploded View • ZF8HP55 Shown

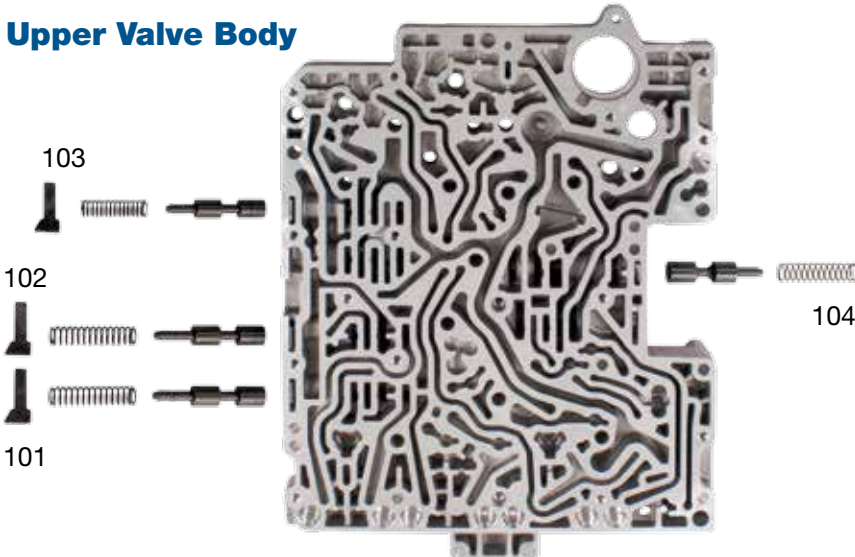


**NOTE:** Valve lineup locations shown for **ZF8HP55** only.



**NOTE:** Do not use this information for ZF8HP45 and ZF8HP70 units as valve locations and porting differ. See pages 4 – 7 for this information.

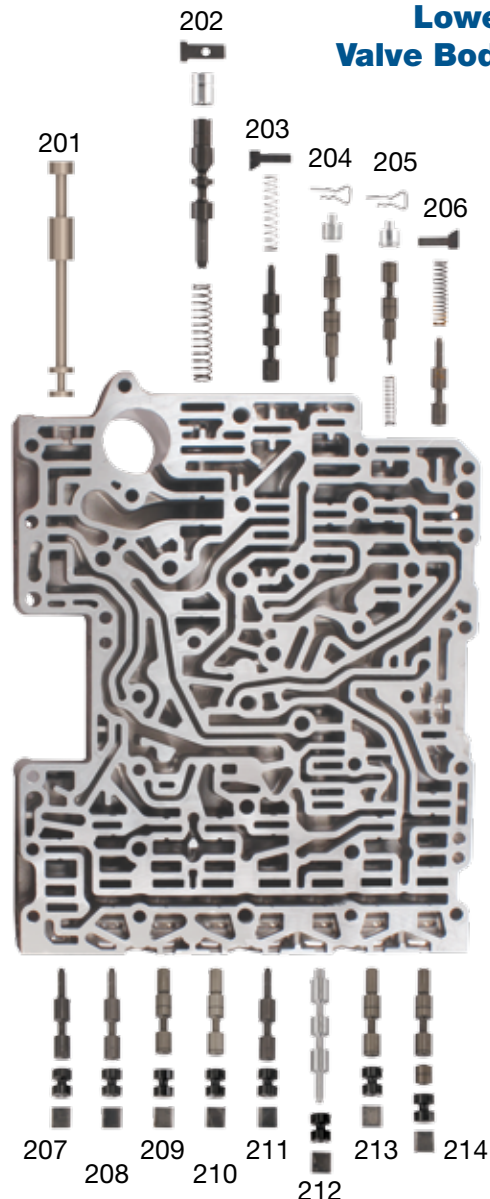
### Upper Valve Body



### Upper Valve Body Descriptions

I.D. No.	Description	ZF Valve Name
101	Holding Valve D	HV-D
102	Holding Valve A	HV-A
103	Holding Valve B2	HV-B2
104	TC Pressure Valve	WD-V

### Lower Valve Body



### Lower Valve Body Descriptions

I.D. No.	Description	ZF Valve Name
201	Manual Valve	
202	Pressure Regulator Valve	SYS-DR-V
203	TC Switch Valve	SV-WD
204	TC Clutch Valve	WK-V
205	Clutch Valve B1	KV-B1
206	Holding Valve B1	HV-B1
207	Priming Valve	DR-RED-V
208	Holding Valve C	HV-C
209	Clutch Valve C	KV-C
210	Clutch Valve E	KV-E
211	Holding Valve E	HV-E
212	Stationary Aluminum Valve	SV-1
213	Clutch Valve D	KV-D
214	Clutch Valve A	KV-A