CHRYSLER 850RE; ZF8HP50, ZF8HP75 ZIP KIT®

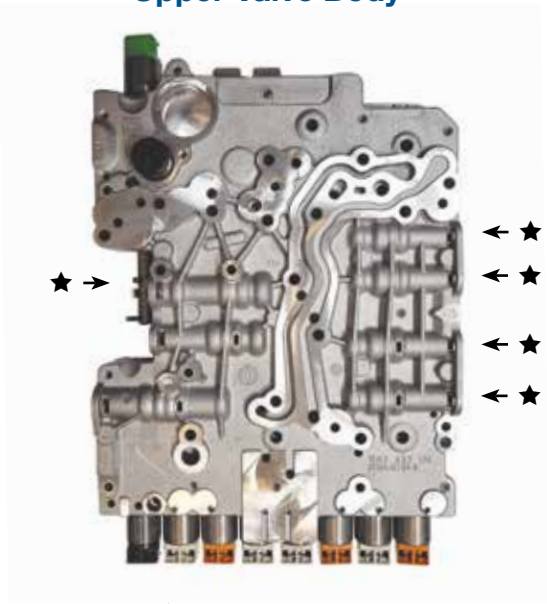
PART NUMBER ZF8-GEN2-ZIP **IDENTIFICATION GUIDE**

Chrysler 845RE; ZF8HP45/70/90* (Gen. 1)

Lower Valve Body

KEY: Orange Cap = Normally Low (NL); White Cap = Normally High (NH)

Upper Valve Body



★ = 5 Valves in Casting

Chrysler 850RE; ZF8HP50/75/95* (Gen. 2)

Lower Valve Body

KEY: Cream Cap = Normally Low (NL); Blue Cap = Normally High (NH)

Upper Valve Body

Upper valve body has NO valves in the casting.

***NOTE:** ZF8HP90/95 units may differ.

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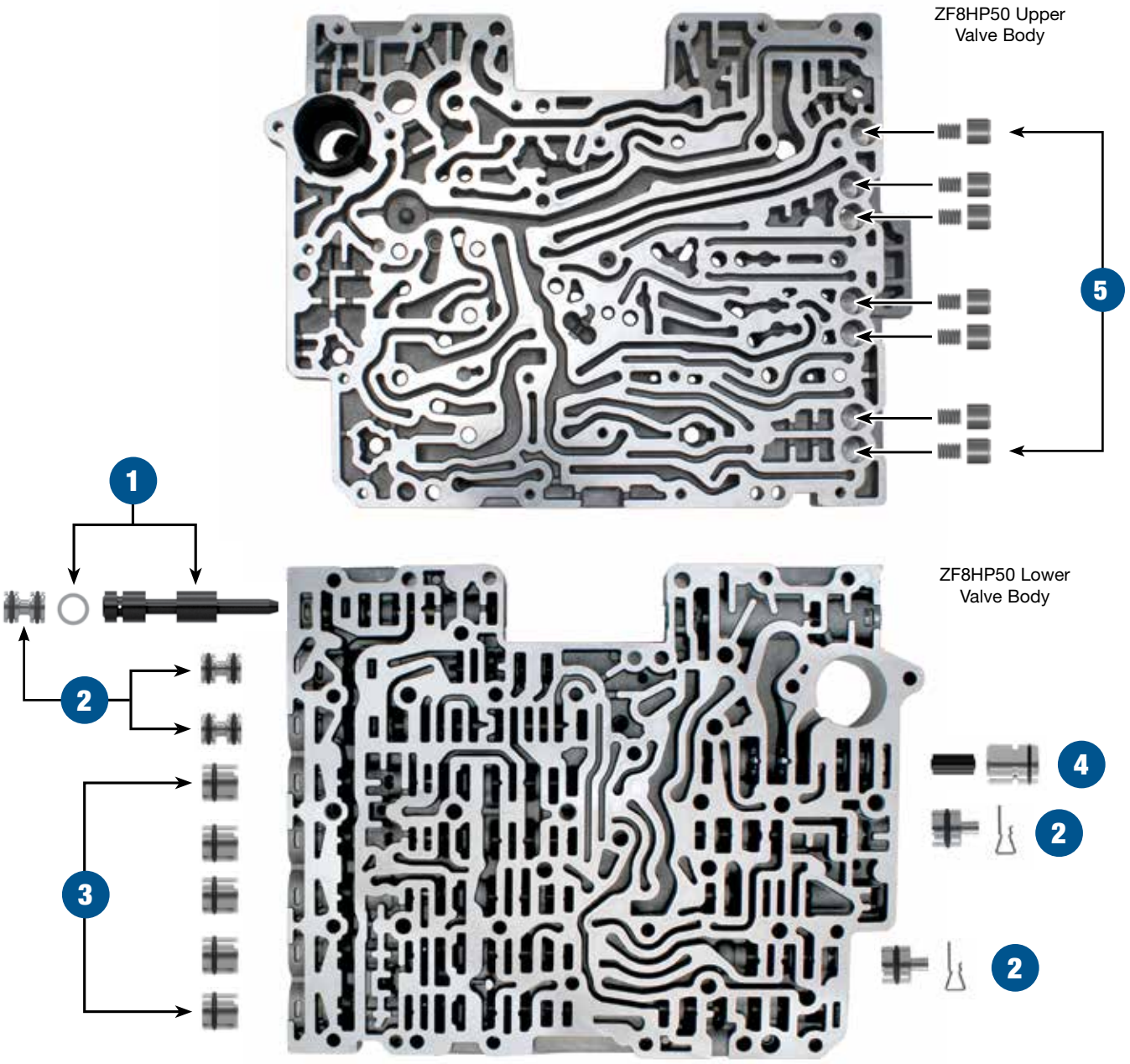
CHRYSLER 850RE; ZF8HP50, ZF8HP75 ZIP KIT®

PART NUMBER ZF8-GEN2-ZIP **QUICK GUIDE**

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

INSTALLATION DIAGRAM



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.

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Kit Contents & Installation Steps

Step 1 Replace Priming Valve & Seal

Place Sonnax scarf-cut seal into shallow groove on Sonnax valve. Use Sonnax Slippery Stick **O-LUBE** to lubricate the seal. Roll the sealed valve on a bench to size the seal into the groove. Install OE spring, followed by Sonnax priming valve, spring stem first. Ensure spring stem is seated inside spring when installed.

Packaging Pocket 1

- Valve
- Seal

Step 2 Replace End Plugs & "Y" Shaped Valve Retainers

Ensure valve bores are cleaned and clear of dirt and debris. Use Sonnax Slippery Stick **O-LUBE** to lubricate the O-rings. Roll the O-ringed end plugs on a bench to size the O-rings into the groove. Install each end plug into the bores shown on page 1. Reinstall OE retaining clips or Sonnax "Y" shaped retainer clip (where applicable).

Packaging Pocket 2

- End Plugs (2)
- Internal End Plugs (3)
- O-Rings (9) 1 Extra
- "Y" Retainers (2)

Step 3 Replace Latch Valve End Plugs

Ensure the latch valve end plug bore is cleaned and clear of dirt and debris. Use Sonnax Slippery Stick **O-LUBE** to lubricate the O-rings. Roll the O-ringed end plugs on a bench to size the O-rings into the grooves. Install the OE springs into the Sonnax end plugs. Then install the plug and spring assemblies into the appropriate bores followed by OE retaining clip.

Packaging Pocket 3

- End Plugs (5)
- O-Rings (6) 1 Extra

Step 4 Replace Reducing Valve

Ensure the reducing valve bore is cleaned and clear of dirt and debris. Use Sonnax Slippery Stick **O-LUBE** to lubricate the O-ring. Roll the O-ringed sleeve on a bench to size the O-rings into the groove. Carefully insert Sonnax O-ringed reducing valve/sleeve assembly into the bore and reinstall the OE retainer.

Packaging Pocket 4

- Valve
- Sleeve
- O-Rings (2) 1 Extra

Step 5 Replace Accumulator Pistons & Springs

NOTE: All accumulators are in the upper valve body.

Ensure accumulator bores are cleaned and clear of dirt and debris. Install one Sonnax spring in each bore. Install one Sonnax accumulator piston in each bore; open side towards spring.

Packaging Pocket 5

- Pistons (7)
- Springs (7)

Step 6 Replace Solenoid O-Rings

Use Sonnax Slippery Stick **O-LUBE** to lubricate the O-rings. Roll the O-ringed solenoid on a bench to size the O-rings into the groove. Install each solenoid into the correct bore. Reinstall OE retaining bracket.

Packaging Pocket 6 *Not Shown on Page 1*

• X-Large O-Ring	Replace Park Control Solenoid Middle
• Large O-Ring	Replace Park Control Solenoid End
• Medium O-Rings (7)	Replace Control Solenoid Middle
• Small O-Rings (7)	Replace Solenoid End

The parts listed here may be protected by patent number 8,794,108.

CHRYSLER 850RE; ZF8HP50, ZF8HP75 ZIP KIT®

PART NUMBER ZF8-GEN2-ZIP **INSTALLATION & TESTING BOOKLET**

Torque Specifications

Mechatronic-to-Case 8Nm/71 in-lb **Valve Body Halves Bolts** 5Nm/44 in-lb	**Complete Valve Body-to-Case** 8Nm/71 in-lb
Plastic Oil Pan to Case 10Nm/89 in-lb	

Clearance

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

Fluid

Complete Fill Required 9.5 qt. 8 L	**Service Fill Approx.** 4.2 qt. 4 L
Chrysler Fluid Mopar® 6815795AA	**ZF Fluid** ZF-Lifeguard® 8

Drive-Cycle Relearn

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

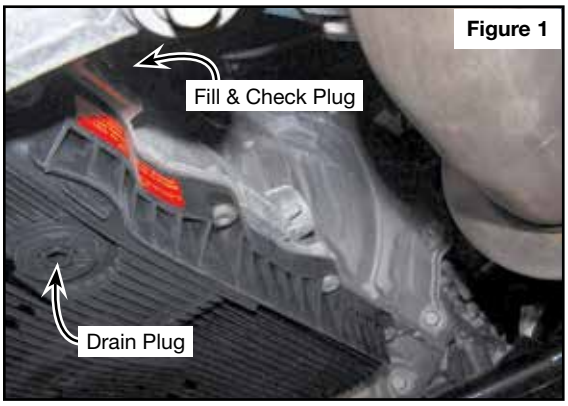

Figure 1

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 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 qt (8 L) (**Figure 1**).

Zip Kit Instructions

1. Valve Body Removal from Case

a. Remove 14 bolts to drop valve body from case (**Figure 2**).

b. Remove four bolts and lift up metal bracket to release connector from TCM (**Figure 3**).

c. Remove connector from case (**Figure 4**).

d. Remove valve body from case.
The valve body may have to pried down on the front end because of the suction and output tubes (**Figure 5,** page 2).

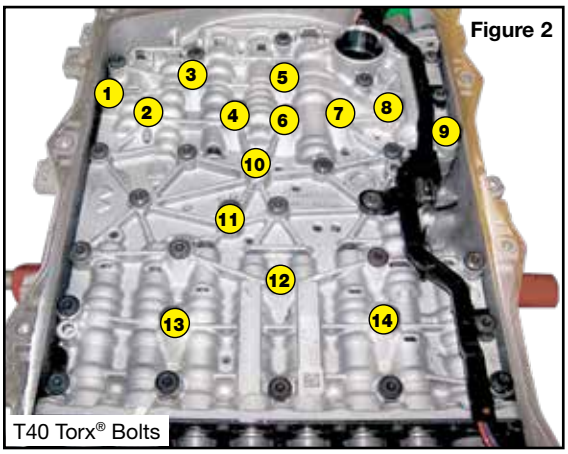

Figure 2

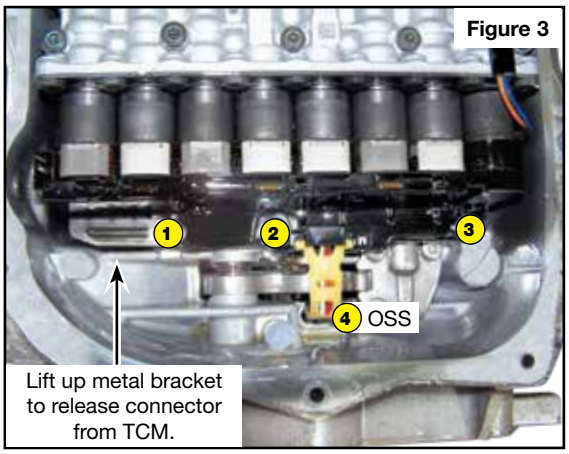

Figure 3

Figure 4

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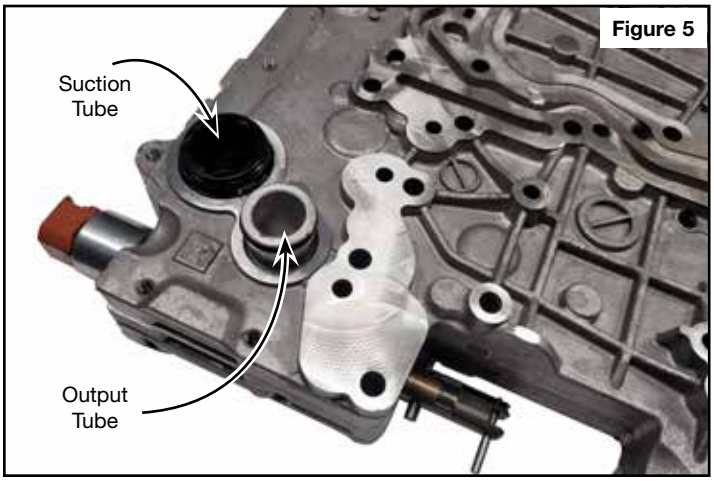


Figure 5

2. Valve Body Disassembly

a. Disconnect three TCM harness retaining bolts (**Figure 6**).

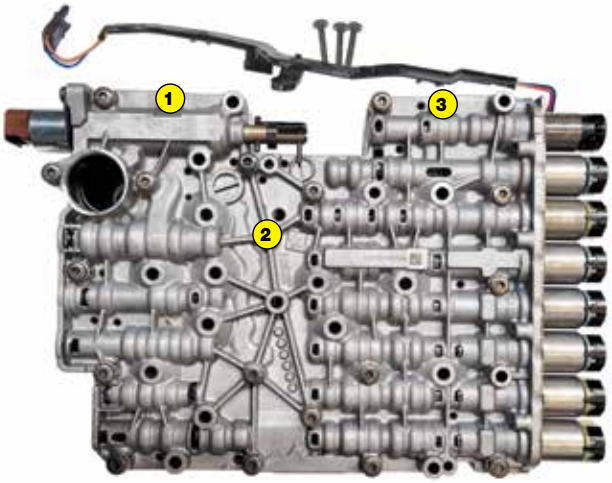
b. Remove remaining five TCM bolts (**Figure 7**).

c. Remove the TCM by gently prying it off the valve body and lifting up (**Figure 8**).

d. Remove 17 bolts to split valve body apart (**Figure 9**).

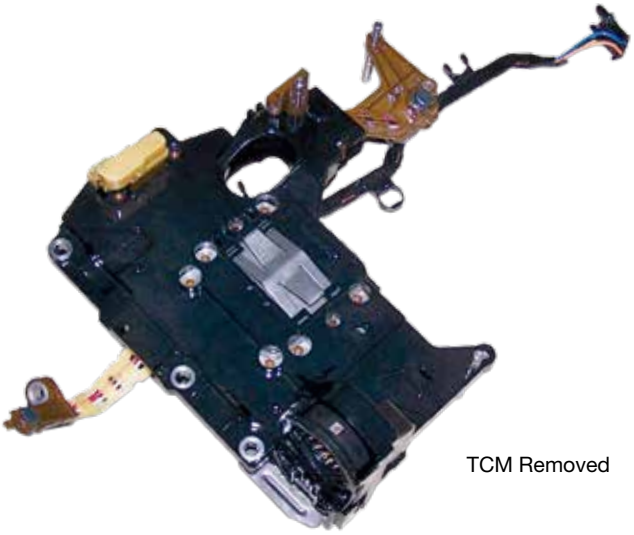
e. Pry valve body halves away from separator plate where indicated (**Figure 10, page 3**).

ZF8HP50 Upper Valve Body **Figure 6**

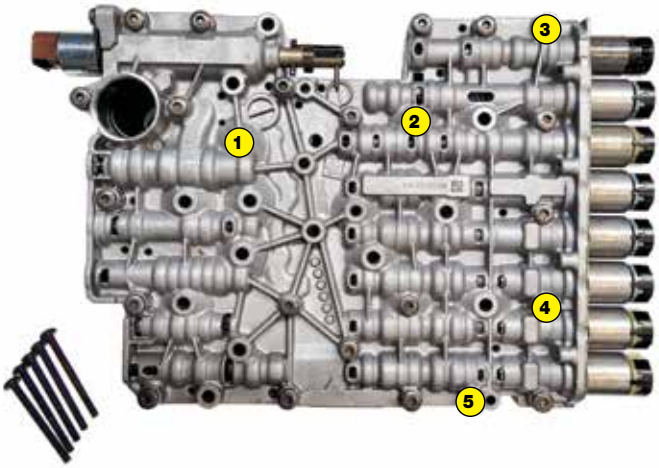


Remove three TCM harness retaining bolts.

ZF8HP50 TCM **Figure 8**

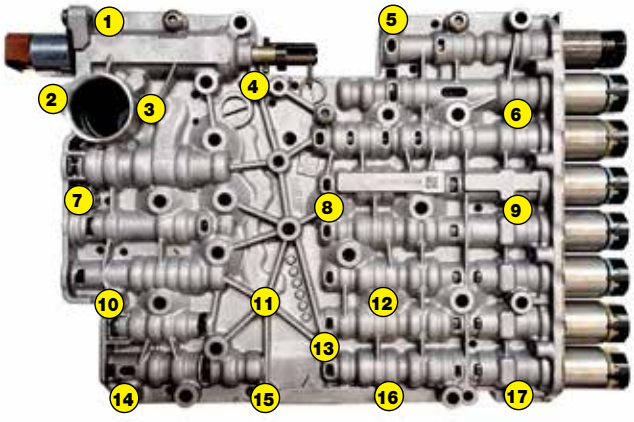

TCM Removed

ZF8HP50 Upper Valve Body **Figure 7**



Remove five remaining TCM harness retaining bolts.

ZF8HP50 Upper Valve Body **Figure 9**



Remove 17 bolts to split valve body in half.

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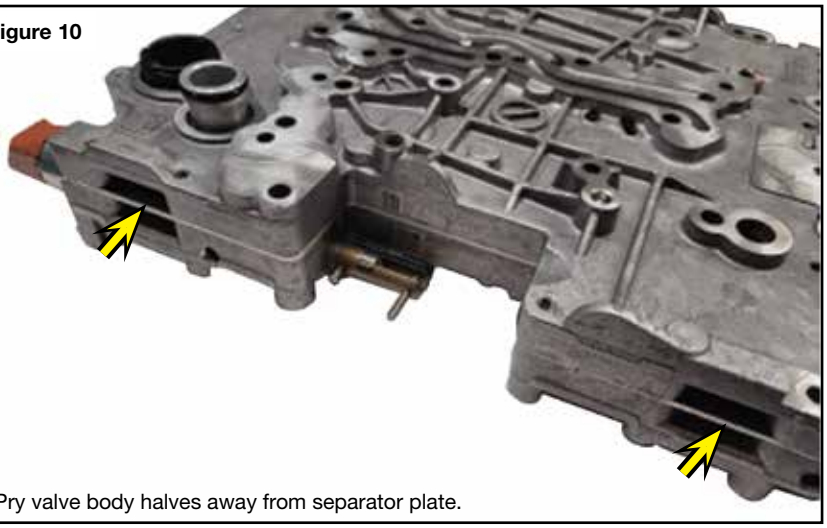
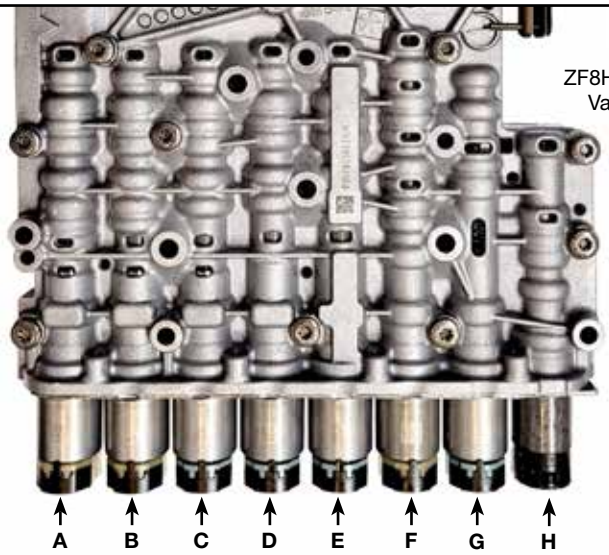
Figure 10



Pry valve body halves away from separator plate.

Figure 11

ZF8HP50 Lower Valve Body



Solenoid Identification & Location Chart

Solenoid I.D.	A	B	C	D	E	F	G	H
Chrysler	SOL A	SOL B	SOL D	SOL E	SOL C	SOL TCC	SOL LPS	SOL Park

NOTE: The **B** & **D** solenoids changed locations from the previous ZF8 Gen. 1 applications.

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 (**Figure 11**).

Sonnax recommends vacuum testing critical wear areas not covered by this kit to determine whether additional Sonnax parts are required (**see pages 4–8**).

4. Reassembly

After all Zip Kit components are installed, reassemble the lower valve body. Install the small parts, relief valves and checkballs into the upper valve body, then install the separator plate onto the upper valve body. Install the lower valve body onto the separator plate and upper valve body. Install the retaining bolts in the locations as shown in **Figure 9**. Reinstall the TCM and wiring as shown in **Figures 6, 7** and **8**. Refer to page 1 for torque specs for all the retaining bolts.

NOTE: The separator plate has a bonded gasket which may delaminate during disassembly. If any damage or delamination to the gasket is present, a new separator plate should be used. Verify which one you need by checking the old plate part number (**Figure 12**).

Figure 12

Separator Plate Part Number

NOTE: There may be variations of this part number, (52854971AA) based on application.

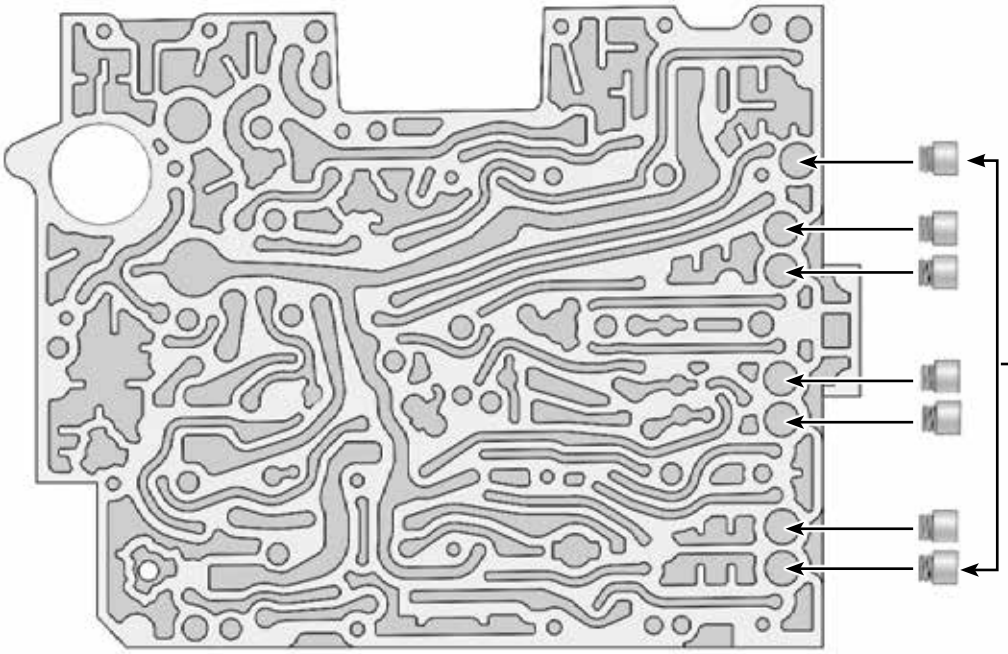
Critical Wear Areas & Vacuum Test Locations

ZIP Drop-In Zip Valve™ Parts Available

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 and Sonnax parts are noted for replacement.

Upper Valve Body • ZF8HP50 Shown

For specific vacuum test information, refer to individual part instructions included in kits and available at **www.sonnax.com**.



Accumulator Pistons

ZIP

- Downshift clunk
- Firm shifts
- Erratic EDS solenoid control and/or EDS codes

Replace with Sonnax Part No.
95740-15K*

Test with dampener upside down and test plate orifice off center from rubber piston end.

*Part numbers with an asterisk (*) are included in this Zip Kit.

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 and Sonnax parts are noted for replacement.

Lower Valve Body • ZF8HP50 Shown

For specific vacuum test information, refer to individual part instructions included in kits and available at **www.sonnax.com**.

Pressure Regulator Valve
- Poor line pressure control
- Low line rise in Drive
- Soft shifts
- Burnt clutches
- Premature clutch failure
- Low pressure

Replace with Sonnax Part No.
35740-40K
Requires F-35740-TL & VB-FIX

Reducing Valve ZIP
- Poor line pressure control
- Low line rise in Drive
- Soft shifts
- Burnt clutches

Replace with Sonnax Part No.
35740-38K*

TC Pressure Valve
- No lockup
- TCC apply codes
- TCC apply & release concerns

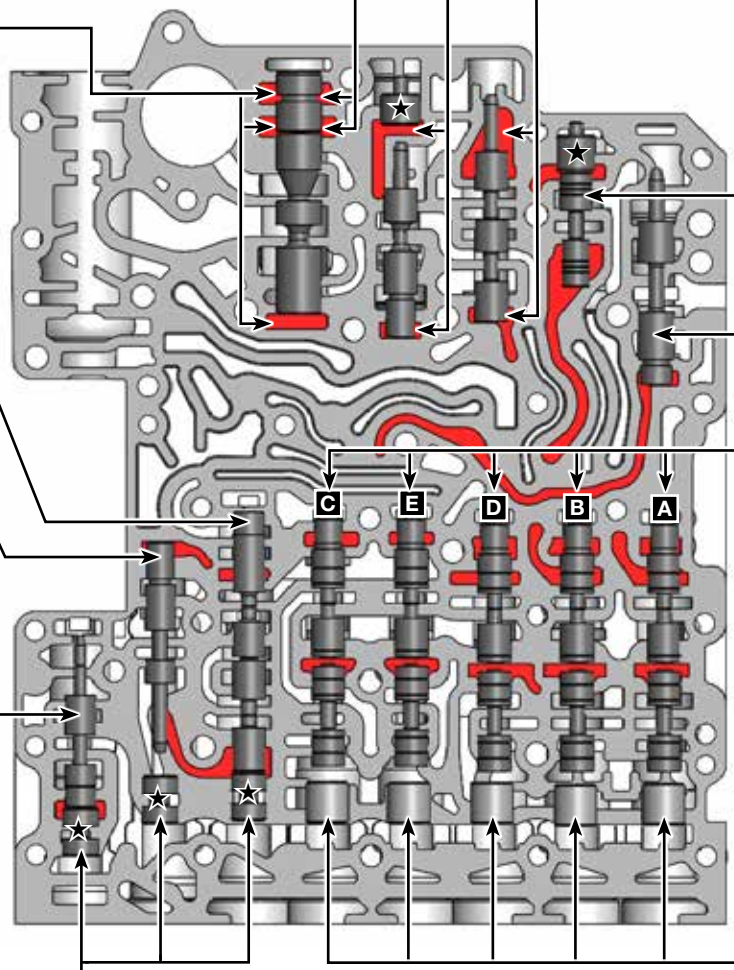
TC Switch Valve
- Converter shudder & TCC slip
- Damaged TCC linings
- TCC codes
- Overheated converter
- Poor fuel economy

TC Clutch Regulator Valve
- TCC shudder
- TCC slip codes
- TCC lining failure

Position Valve
- Park will not release
- Park position errors

Park Rod Control Valve
Park release issues

Park Pawl Release Valve
Park release issues



A–E Regulator Valves & Latch Valves
- [A] & [B] Slips in FWD & REV
- [A] & [B] No movement
- [A] Slips in 7th or 8th Gear
- [A–E] Gear ratio codes
- [B] Failsafe
- [C] Slips in 1st or 3rd Gear
- [C] No 5th, 6th or 7th Gear
- [D] No Reverse
- [D] No 4th through 8th
- [E] Slips on 1-2 upshift
- [E] No 2nd, 3rd or 4th

Solenoid Regulator Valve
- Wrong gear starts
- Damaged engagements
- Solenoid performance codes
- Flare/Harsh/Neutral shifts

End Plugs ZIP
- Soft/Flare/Harsh shifts
- Burnt clutches
- Pressure loss

Replace with Sonnax Part No.
35740-45K ★ = 5 Locations

Latch Valve End Plugs ZIP
- Low solenoid feed pressure
- Erratic shift feel & engagement
- Inconsistent shift quality
- Premature clutch failure

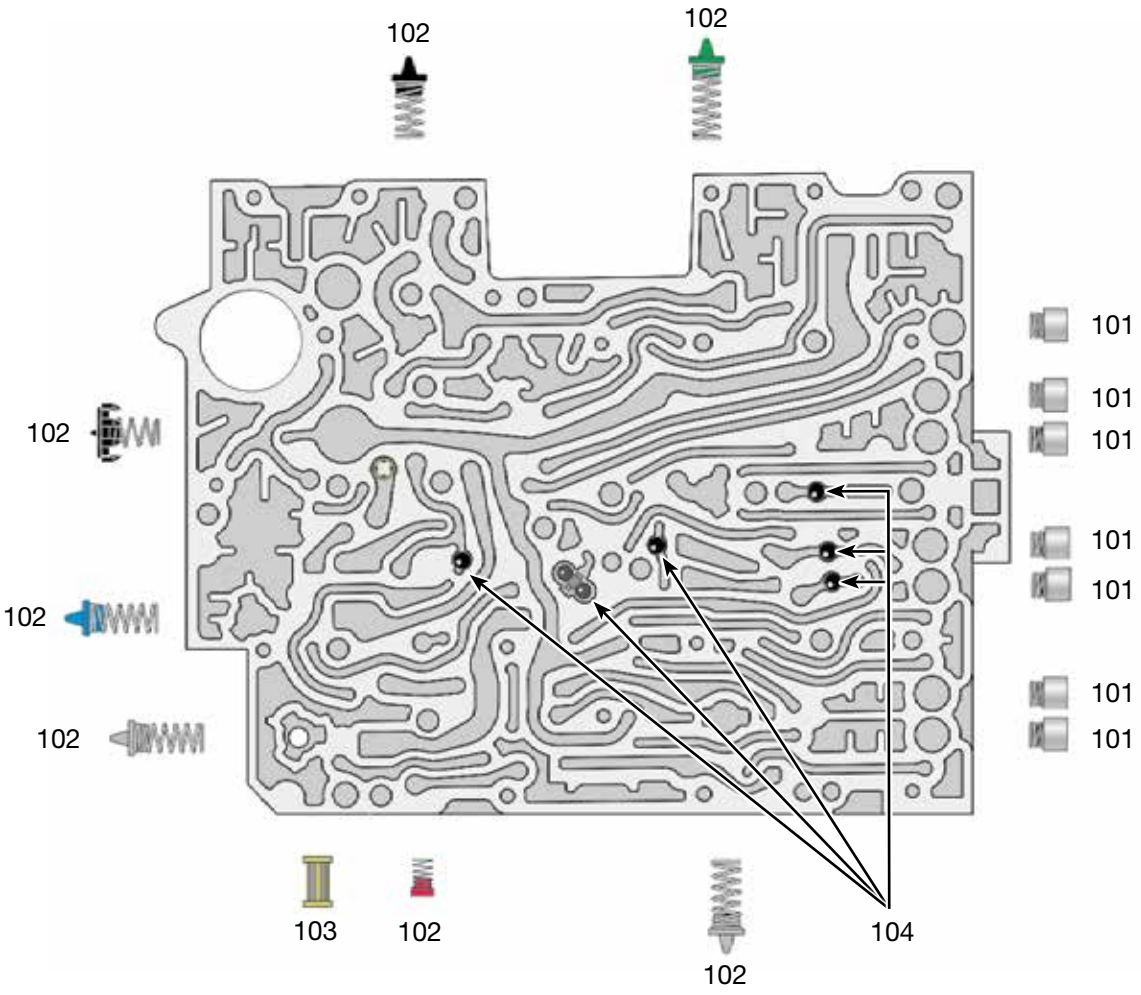
Replace with Sonnax Part No. **35740-44K**

*Part numbers with an asterisk (*) are included in this Zip Kit.

OE Exploded View

Upper Valve Body • ZF8HP50 Shown

NOTE: Depending upon vehicle application, the OE springs shown may not be present.

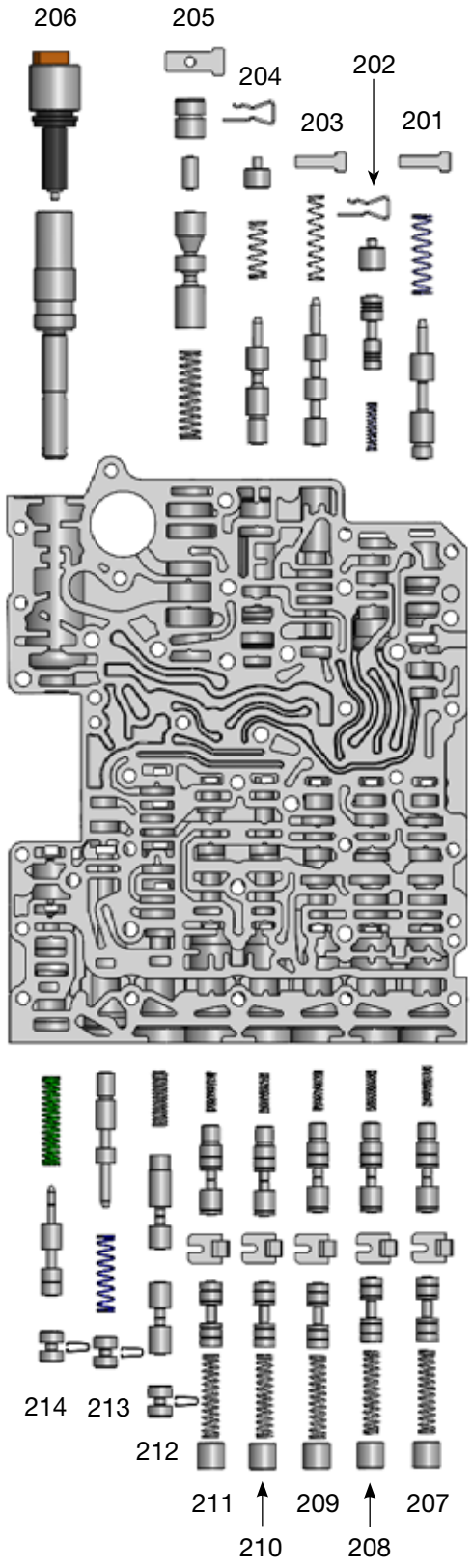


Upper Valve Body Descriptions	
I.D. No.	**Description**
101	Accumulator Piston
102	Check Valve
103	Screen
104	Checkball

OE Exploded View

Lower Valve Body • ZF8HP50 Shown

NOTE: Depending upon vehicle application, the OE springs shown may not be present.



Lower Valve Body Descriptions

I.D. No.	Description
201	Park Rod Control Valve
202	TC Clutch Regulator Valve
203	TC Switch Valve
204	TC Pressure Valve
205	Pressure Regulator & Reducing Valve
206	Park Rod Control Valve
207	A Regulator Valve & Latch Valve
208	B Regulator Valve & Latch Valve
209	D Regulator Valve & Latch Valve
210	E Regulator Valve & Latch Valve
211	C Regulator Valve & Latch Valve
212	Position Valve
213	Park Pawl Release Valve
214	Solenoid Regulator Valve