



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 noted for replacement.



Lower Valve Body • ZF6HP21, Generation 2, M-Shift Shown Here

Click on Sonnax part numbers to see more information.

Clutch B Control Pressure Regulator Valve

- Burnt B Clutch
- 3rd or 5th Shift complaints

Clutch C Control Pressure Regulator Valve

- Burnt B Clutch
- 2nd or 6th Shift complaints

Clutch A Control Pressure Regulator Valve

- Delayed/Harsh Forward engagement
- Flare/Neutral on 5-4 downshift
- No 4-5 shift
- VFS 1/A Solenoid control code

Replace with Sonnax Part No.
95740-28K Boost Valve & Sleeve Kit
95740-66K Oversized Valve Kit, M-Shift Only
95740-72K Oversized Valve Kit, E-Shift Only
 95740-66K: Requires F-95740-TL66 & VB-FIX
 95740-72K: Requires F-95740-TL72 & VB-FIX

Clutch E Control Pressure Regulator Valve

- Bumpy 1-2 upshift
- 2-1 Downshift flare or neutral
- EDS 4 control code

Replace with Sonnax Part No.
95740-28K Boost Valve & Sleeve Kit
95740-66K Oversized Valve Kit, M-Shift Only
95740-72K Oversized Valve Kit, E-Shift Only
 95740-66K: Requires F-95740-TL66 & VB-FIX
 95740-72K: Requires F-95740-TL72 & VB-FIX

Bypass Clutch Control Regulator Valve

- Converter overheat & low release pressure
- Excessive TCC slip/cycling RPM
- Firm up/downshifts
- TCC related codes

Replace with Sonnax Part No.
95740-73K Requires F-95740-TL73 & VB-FIX

End Plugs

Inconsistent shift quality

Replace with Sonnax Part No.
95740-27K NOTE: Several Locations = ★

Clutch A Latch Valve

- Burnt A Clutch
- 4-5 Shift complaints

End Plugs

Inconsistent shift quality

Replace with Sonnax Part No.
95740-30K

! There are numerous OE circuit/worm-track configurations. They are make, model, generation and E- vs M-Shift dependent. Use the illustrated port locations as a guide for identifying specific valve spools to vacuum test on alternate circuit configurations.

Clutch D2 Brake Latch Valve

- 1st/2nd Shift complaints
- EDS 6 codes
- Burnt D brake

Test part after inserting test nut into bottom of bore.

Shift Valve 1

No failsafe

Clutch D1 Brake Latch Valve

- 1st/2nd Shift complaints
- EDS 6 codes
- Burnt D brake

Converter Release Regulator Valve

- Excessive TCC slip RPM & related codes
- Harsh lockup apply & release
- Harsh downshifts
- Converter overheat

Replace with Sonnax Part No.
95740-05K
 Requires F-95740-TL5 & VB-FIX

Test 2: Test this port with valve in inverted position. Hold valve and spring in place with enclosed testing end plug.

Lubrication Control Valve

- Excessive cooler pressure (ruptured hoses or cooler)
- Bushing and/or planet overheat

Replace with Sonnax Part No.
95740-71K Requires F-95740-TL71 & VB-FIX

Clutch Cooling Valve

- Burnt A Clutch
- Burnt D Brake

Test 2: Test this port after inserting test nut into bottom of sleeve.

Main Pressure Regulator Valve

- Delayed/No Reverse
- Poor shift quality
- Slip Forward/Reverse
- Erratic or high/low line pressure

Replace with Sonnax Part No.
95740-29K Pressure Regulator Sleeve
95740-69K Oversized PR Valve Kit
 Requires F-95740-TL69 & VB-FIX

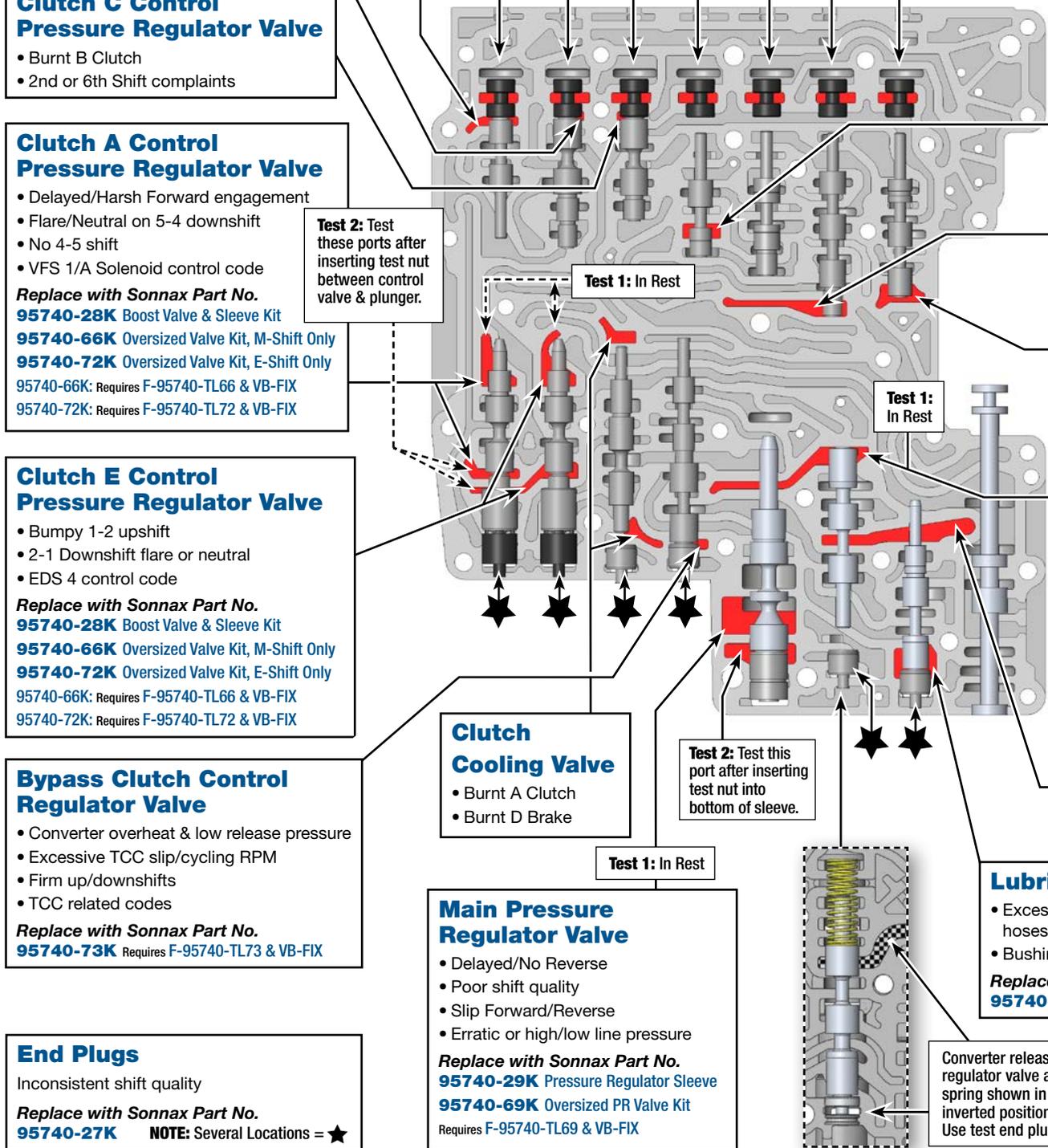
Converter release regulator valve and spring shown in inverted position. Use test end plug.

Test 1: In Rest

Test 1: In Rest

Test 1: In Rest

Test 2: Test these ports after inserting test nut between control valve & plunger.





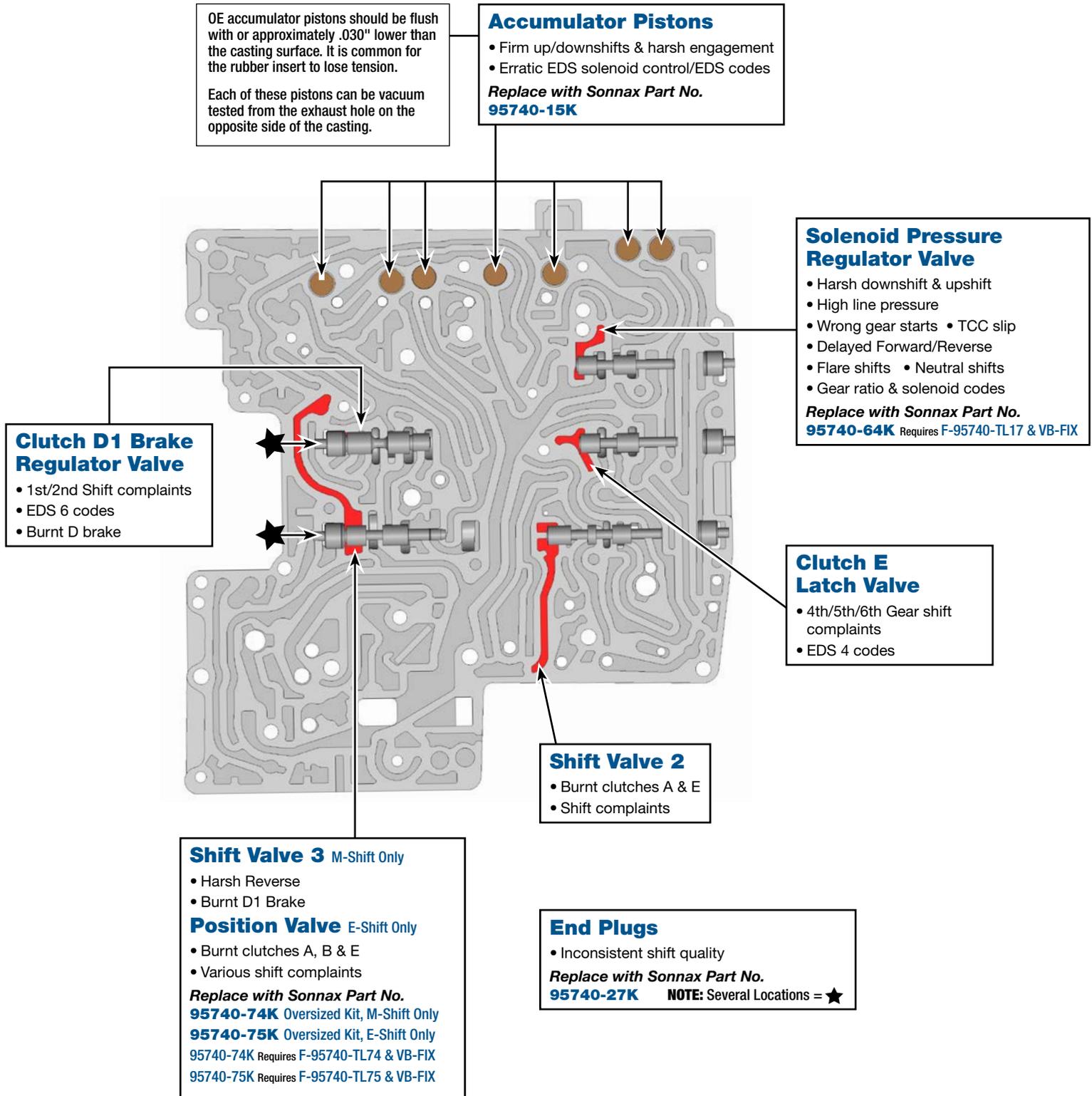
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Upper Valve Body • ZF6HP21, Generation 2, M-Shift Shown Here

Click on Sonnax part numbers to see more information.



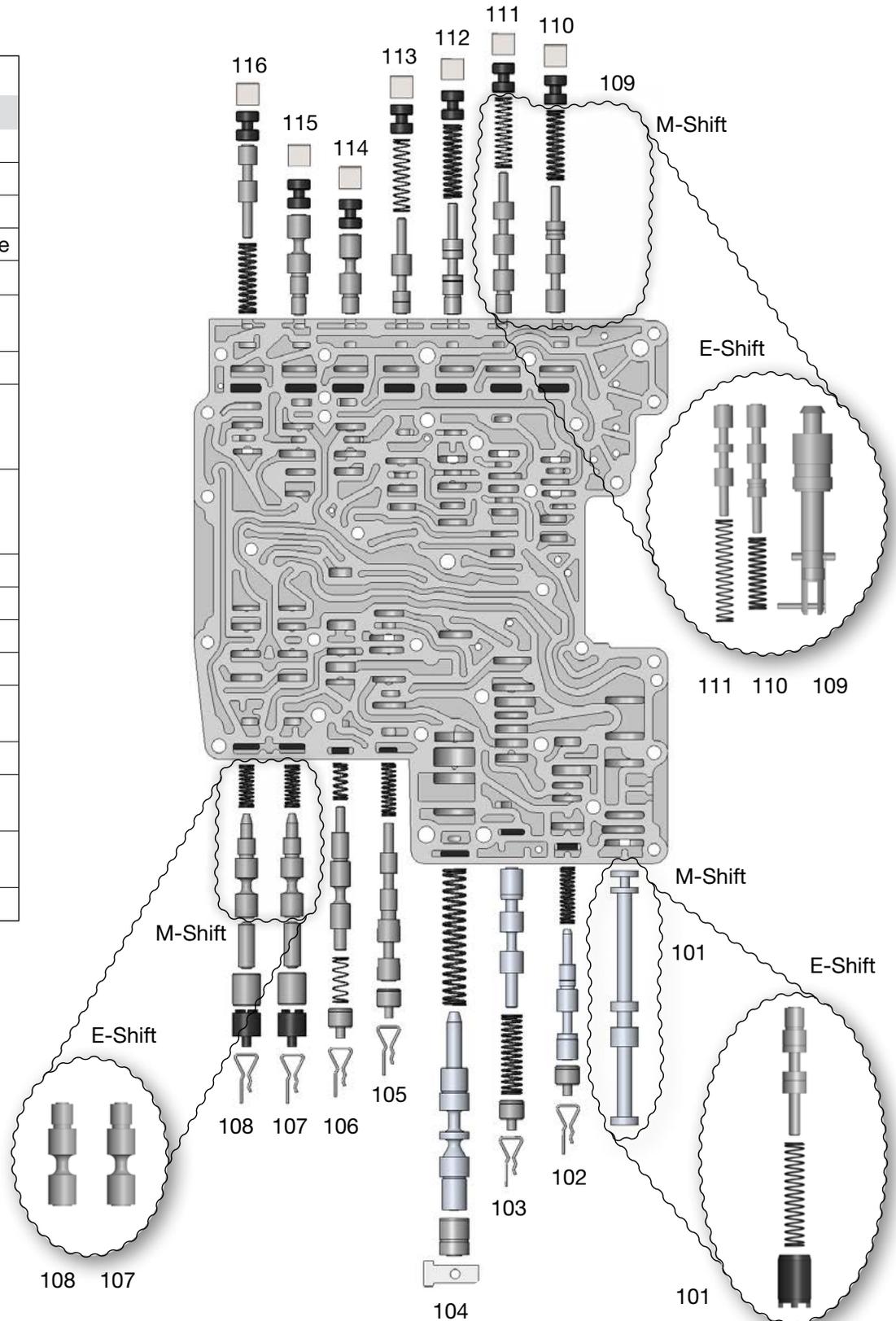


OE Exploded View

Lower Valve Body • ZF6HP21, Generation 2, M-Shift Shown Here

NOTE: Depending upon vehicle application, the OE springs, checkballs and worm tracks may vary.

Lower Valve Body Descriptions	
I.D. No.	Description
101	Parking Lock Valve in E-Shift
101	Manual Valve in M-Shift
102	Lubrication Control Valve
103	Converter Release Regulator Valve
104	Main Pressure Regulator Valve
105	Bypass Clutch Control Regulator Valve
106	Clutch Cooling Valve
107	Clutch E Control Pressure Regulator Valve (inboard) Boost Valve & Sleeve (outboard)
108	Clutch A Control Pressure Regulator Valve (inboard) Boost Valve & Sleeve (outboard)
109	Park Lock Cylinder in E-Shift
109	Empty in M-Shift
110	Clutch D1 Brake Latch Valve
111	Shift Valve 1
112	Clutch D2 Brake Pressure Regulator Valve
113	Clutch D2 Brake Latch Valve
114	Clutch C Control Pressure Regulator Valve
115	Clutch B Control Pressure Regulator Valve
116	Clutch A Latch Valve

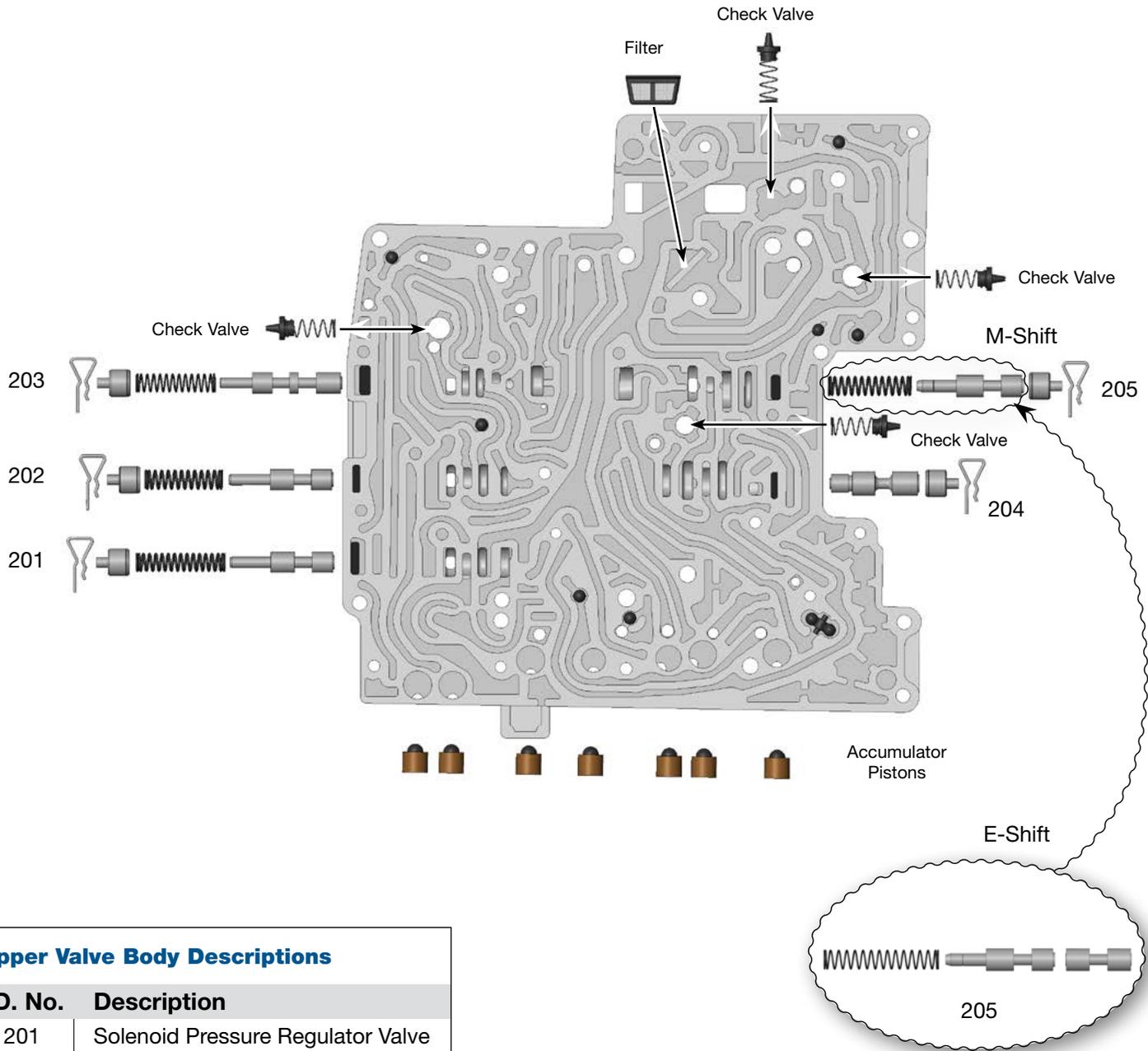




OE Exploded View

Upper Valve Body • ZF6HP21, Generation 2, M-Shift Shown Here

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Upper Valve Body Descriptions	
I.D. No.	Description
201	Solenoid Pressure Regulator Valve
202	Clutch E Latch Valve
203	Shift Valve 2
204	Clutch D1 Brake Regulator Valve
205	Shift Valve 3 in M-Shift
205	Position Valve in E-Shift