# sonnax Zip Kit® Available

## **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.

### **Lower Valve Body** ZF6HP21, Generation 2, M-Shift Shown



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

Click on Sonnax part numbers to see more information.

#### **Clutch A Latch Valve**

- Burnt A Clutch
- 4-5 Shift concerns

### **Clutch B Control Pressure Regulator Valve**

- Burnt B Clutch
- · 3rd or 5th Shift concerns

### **Clutch C Control Pressure Regulator Valve**

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

### Clutch A Control 2 **Pressure Regulator Valve**

- 5-4 Flare/Neutral Delayed/Harsh Forward
- VFS 1/A solenoid control code No 4-5

Replace with Sonnax Part Nos. 95740-28K Boost Valve & Sleeve Kit or 95740-72K Oversized Valve Kit, E-Shift Only Requires F-95740-TL72 & VB-FIX

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

### Clutch E Control & **Pressure Regulator Valve**

- Coastdown Neutral Harsh downshifts
- Flare shifts & bind-ups
- Pressure control out-of-range codes

Replace with Sonnax Part Nos. 95740-28K Boost Valve & Sleeve Kit or 95740-72K Oversized Valve Kit, E-Shift Only Requires F-95740-TI 72 & VB-FIX

### **Bypass Clutch Control Regulator Valve**

- TCC codes Low converter pressure
- Excess TCC slip RPM & related codes
- Overheated converter Flare/Harsh shifts
- Rough idle in Reverse

### End Plugs 🛣

Inconsistent shift quality

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

### End Plugs 🛣

Inconsistent shift quality

Replace with Sonnax Part No. 95740-30K

Vacuum test these plugs at the retainer slot. This checks both diameters of the plug.

Test 1: In Rest

#### Clutch D2 Brake **Latch Valve**

Test 1:

In Rest

- 1st or 2nd Shift concerns
- EDS 6 codes Burnt D brake

Test part after inserting test nut into bottom of bore.

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.

#### **Shift Valve 1**

No fail safe

#### **Clutch D1 Brake Latch Valve**

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

### **Converter Release Regulator Valve**

- Excessive TCC slip RPM & related codes • Flare shifts
- Harsh TCC apply & release
- Low TCC release pressure
- Rough idle in Reverse
- Harsh downshifts
- Overheated converter

#### 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.

#### Clutch **Cooling Valve** • Burnt A Clutch

- Burnt D Brake

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

Test 1: In Rest

### Lubrication 🔏 **Control Valve**

- Bearing/Bushing/Planetary/Lube failures
- Low converter pressure Overheating
- TCC codes & concerns
- Rough idle in Reverse

Replace with Sonnax Part Nos. 95740-05A or

95740-71K Requires F-95740-TL71 & VB-FIX

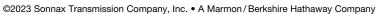
Converter release regulator valve and spring shown in inverted position. Use test end plug.

### Main Pressure 38 **Regulator Valve**

- Erratic line pressure High line pressure
- Broken parts from excessive line pressure
- Restricted converter/lube flow

Replace with Sonnax Part Nos. 95740-29K Pressure Regulator Sleeve or 95740-69K Oversized PR Valve Kit

Requires F-95740-TL69 & VB-FIX



ZF6-GEN2\_VacTestGuide 08-18-23



**Critical Wear Areas & Vacuum Test Locations Zip** 

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** ZF6HP21, Generation 2, M-Shift Shown



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

Click on Sonnax part numbers to see more information.

OE accumulator pistons should be flush with or approximately .030" lower than the casting surface. It is common for the rubber insert to lose tension.

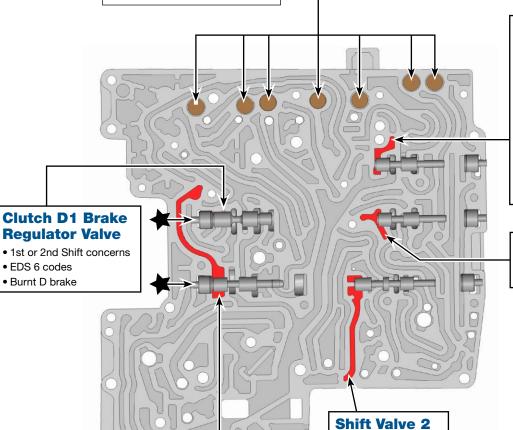
Each of these pistons can be vacuum tested from the exhaust hole on the opposite side of the casting.

### **Accumulator Pistons**

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

Replace with Sonnax Part No. 95740-15K

> Burnt A & E clutches Shift concerns



#### **Solenoid Pressure Regulator Valve**

- Delayed engagement
- Flare/Neutral shifts
- Harsh downshifts
- High line pressure
- Harsh upshifts
- Wrong gear starts
- Gear ratio & solenoid codes
- TCC slip

Replace with Sonnax Part No. 95740-64K Requires F-95740-TL17 & VB-FIX

#### **Clutch E Latch Valve**

- 4th. 5th or 6th Shift concerns
- EDS 4 control codes

### End Plugs 🛣

Inconsistent shift quality

Replace with Sonnax Part No. 95740-27K

**NOTE:** Several Locations =

#### Shift Valve 3 M-Shift Only

• Harsh Reverse • Reverse slip • D1 Brake burned

#### Position Valve E-Shift Only

• Shift concerns • A Clutch burned • B Clutch burned • E Clutch burned

Replace with Sonnax Part No.

95740-75K E-Shift Only Requires F-95740-TL75 & VB-FIX



## **OE Exploded View**

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

**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
	E-Shift 108 107
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## **OE Exploded View**

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

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

