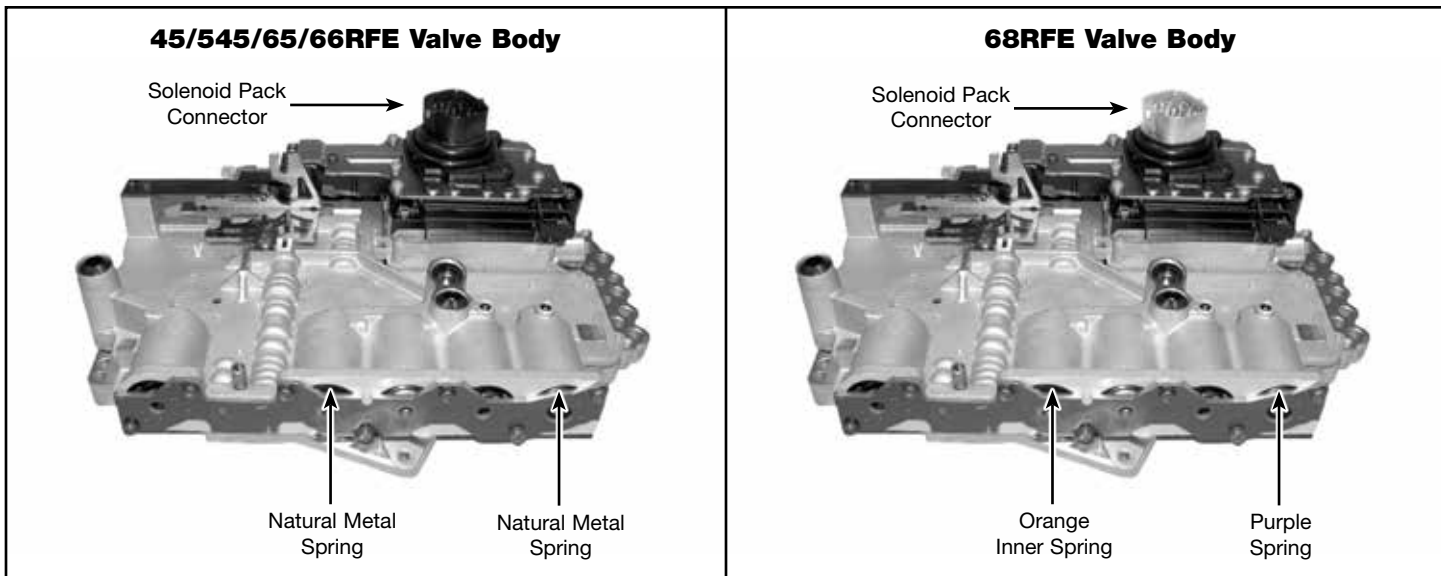


**Chrysler '18-Earlier 45RFE, 545RFE, 65RFE, 66RFE 68RFE SURE CURE KIT**

**PART NUMBER SC-RFE-420**

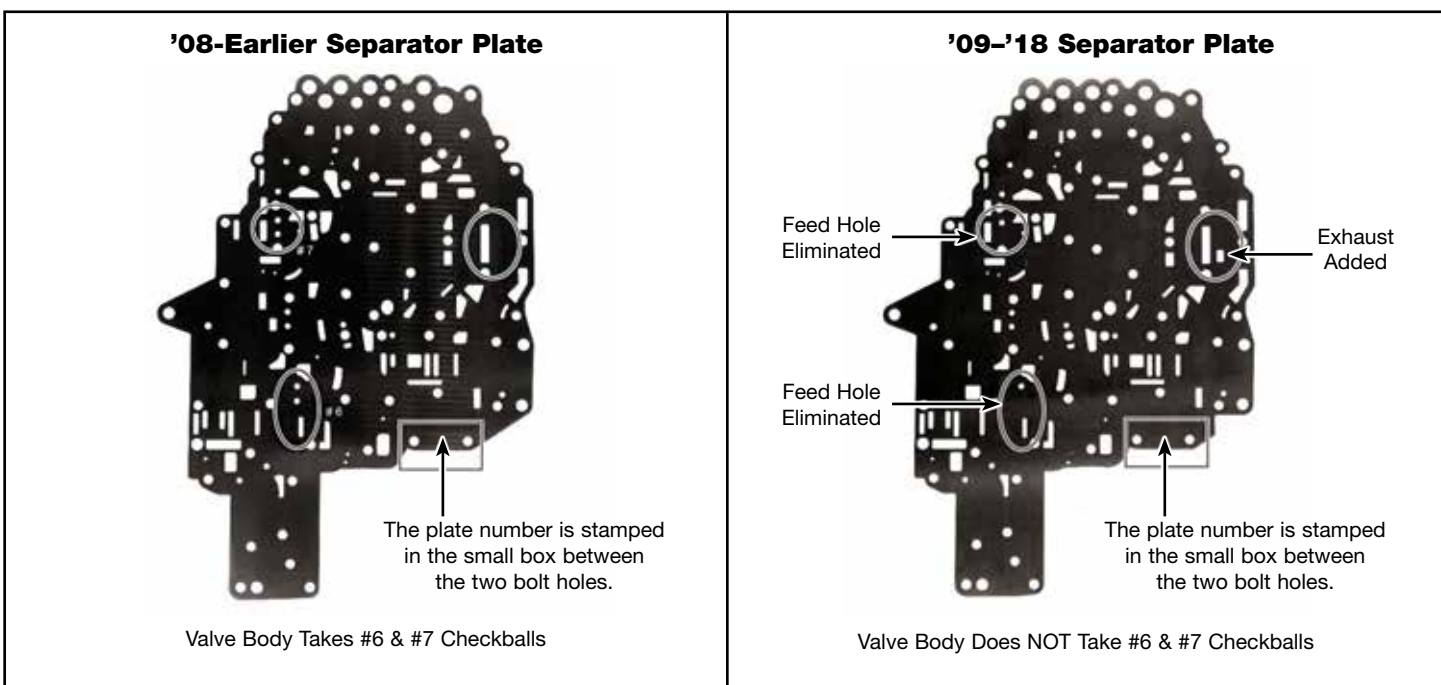
**IDENTIFICATION GUIDE**



**Solenoid Pack Connector = Year ID**

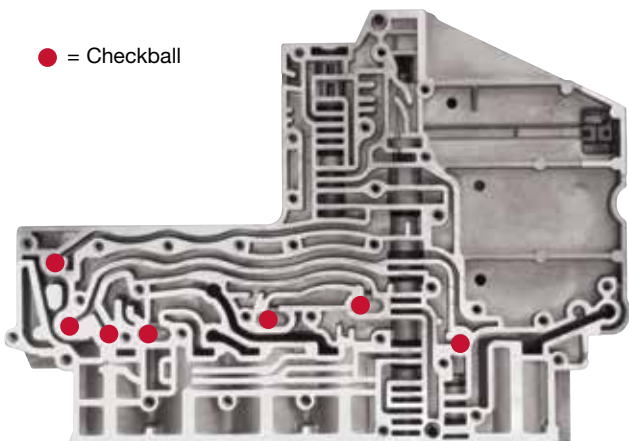
Color	Year	Units
Black	'99-'03	45RFE ('99-'03) & 545RFE ('01-'03) only when they have 7 checkballs
White	'04-'08	45RFE ('04), 545RFE ('04-'08) & 68RFE ('07-'08) when they have 7 checkballs
Gray	'09-'18	545RFE ('09-'12), 65RFE ('12-'18), 66RFE ('12-'18) & 68RFE ('09-'18) when they have 5 checkballs

**NOTE:** A good rule of thumb is to replace the solenoid pack with the same color as the original in the vehicle.



**'08-Earlier Checkball Locations**

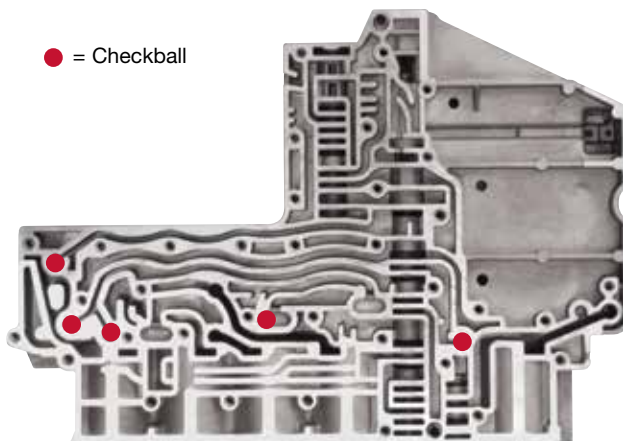
● = Checkball



Insert 7 Sonnax Checkballs in Locations Shown Above

**'09-'18 Checkball Locations**

● = Checkball



Insert 5 Sonnax Checkballs in Locations Shown Above

**Chrysler '18-Earlier 45RFE, 545RFE, 65RFE, 66RFE, 68RFE SURE CURE KIT**

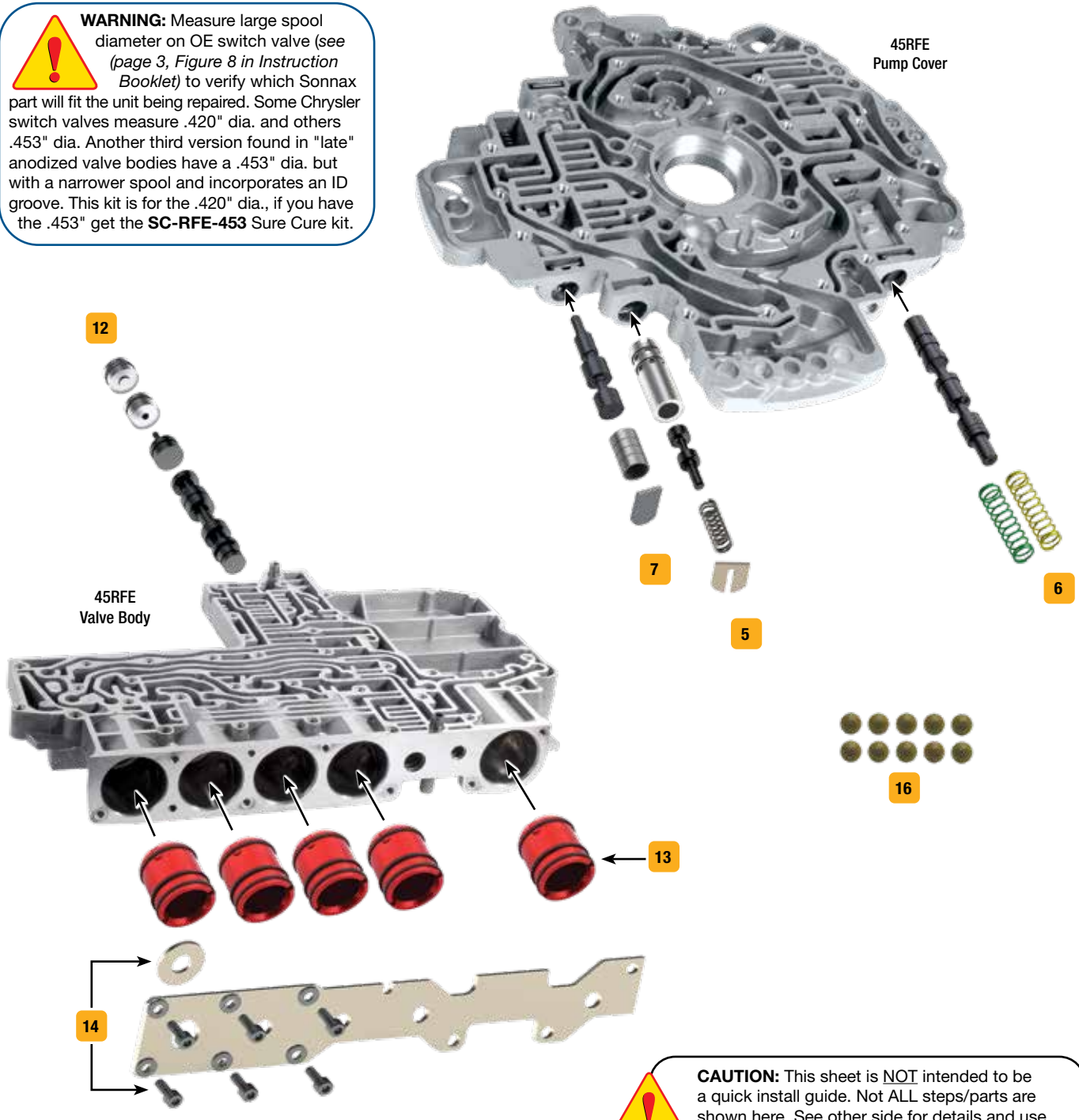
**PART NUMBER SC-RFE-420**

**INSTALLATION GUIDE**

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

**INSTALLATION DIAGRAM**

**WARNING:** Measure large spool diameter on OE switch valve (see page 3, Figure 8 in Instruction Booklet) to verify which Sonnax part will fit the unit being repaired. Some Chrysler switch valves measure .420" dia. and others .453" dia. Another third version found in "late" anodized valve bodies have a .453" dia. but with a narrower spool and incorporates an ID groove. This kit is for the .420" dia., if you have the .453" get the **SC-RFE-453** Sure Cure kit.



**CAUTION:** This sheet is NOT intended to be a quick install guide. Not ALL steps/parts are shown here. See other side for details and use in conjunction with instruction booklet.

## Kit Contents & Installation Steps See instruction booklet for details.

### Step 1 Disassemble Pump

### Step 2 Ream TC Limit Bore

**NOTE:** Extreme wear of the OE cast pump bore is possible and beyond the ability of reaming to fix. If wear gap exceeds .094", pump replacement is required.

**NOTE:** Requires Sonnax tool kit F-44912-TL with VB-FIX alignment fixture, not included in this kit.

### Step 3 Ream Pressure Regulator Bore

**NOTE:** Requires Sonnax tool kit F-44912-TL10 with VB-FIX alignment fixture, not included in this kit.

### Step 4 Ream TCC Regulator/ Accumulator Bore

**NOTE:** Requires Sonnax tool kit F-44912-TL12 with VB-FIX alignment fixture, not included in this kit.



**NOTE:** This repair requires two reamers and a reamer stop. The reamer stop is used for reamer #1 only, failure to use the reamer stop could/will damage the pump core beyond repair.

### Step 5 Install TC Limit Valve Kit

#### Packaging Pocket 1

- Valve
- Sleeve
- Spring
- Retainer Plate

### Step 6 Install Oversized Lube Regulated Pressure Regulator Valve Kit

#### Packaging Pocket 2

- Valve
- Green Spring
- Yellow Spring

**NOTE:** The green spring is for OE pressure. The yellow spring is for use with the RFE-LB1.

**NOTE:** Check casting wall at the pressure regulator valve between the line and lube/converter circuits. If a hole has been drilled in this wall, it must be plugged shut to receive full benefits from this valve.

### Step 7 Install Oversized TCC Regulator & Accumulator Valve Kit

#### Packaging Pocket 3

- TCC Regulator Valve
- Accumulator Valve
- Spring Retainer

### Step 8 Pump Vacuum Test Verification

### Step 9 Reassemble Pump

### Step 10 Disassemble Valve Body

### Step 11 Ream Solenoid Switch Valve Bore

**NOTE:** Confirm you have the SC-RFE-420 kit. This kit requires Sonnax tool kit F-92835-TL32 with VB-FIX alignment fixture, not included in this kit. Sonnax 92835-BST is not required but recommended as well.

### Step 12 Install Oversized Solenoid Switch Valve & Plug Kit

#### Packaging Pocket 4

- Valve
- Inner Plug
- Outer Plug
- End Plug
- O-Rings (2) 1 Extra

### Step 13 Install Accumulator Piston Kit

#### Packaging Pockets 5 & 6

- Pistons (5)
- Guide Seals (10)
- Seals (5)

### Step 14 Install Accumulator Cover Plate Kit

#### Packaging Pockets 8 & 9

- Shim
- Screws (6)
- Washers (6)
- Plate

### Step 15 Valve Body Vacuum Test Verification

### Step 16 Reassemble Valve Body Section & Checkballs

#### Packaging Pocket 7

- Checkballs .250" Dia. (10)

**NOTE:** 10 checkballs are provided, but not all will be needed. Confirm what you need with the provided identification guide.

## Step 1 Dissassemble Pump

## Step 2 Ream TC Limit Bore

- Remove and discard OE retainer, spring and valve.
- Align **VB-FIX** to ream the TC limit valve bore using Sonnax tool kit **F-44912-TL**.
- Ream the bore and clean thoroughly.

## Step 3 Ream Pressure Regulator Bore

- Remove OE retaining clip and save for reuse.
- Remove and discard OE pressure regulator spring and valve.
- Align **VB-FIX** to ream the lube regulated PR Valve bore using Sonnax tool kit **F-44912-TL10**.
- Ream the bore and clean thoroughly.

## Step 4 Ream TCC Regulator/ Accumulator Bore

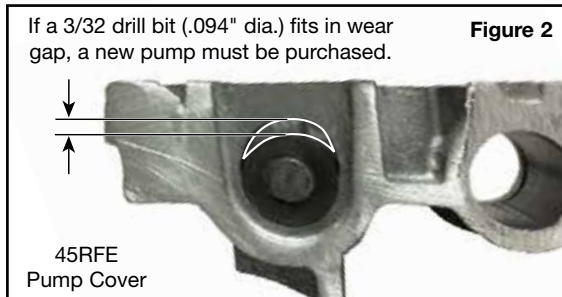
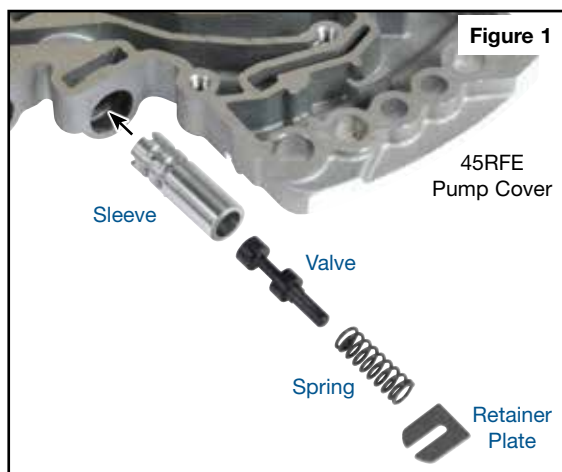
- Remove and discard OE accumulator spring retainer and accumulator valve.
- Set aside the OE accumulator spring for reuse.
- Remove and discard the OE TCC regulator valve.
- Set aside the OE TCC regulator valve spring and retainer for reuse.
- Align **VB-FIX** to ream the TCC regulator/accumulator valve bore using Sonnax tool kit **F-44912-TL12**.
- Insert the reamer stop into bore, ensuring it contacts bottom of bore.
- Ream the TCC regulator/accumulator bore using reamer marked #1, ream until reamer contacts reamer stop. Remove reamer #1 and reamer stop, be certain all debris has been removed from the pump while maintaining initial setup/alignment.
- Using reamer #2, ream until reamer contacts bottom of bore.
- Ream the bore and clean thoroughly.



**NOTE:** This repair requires two reamers and a reamer stop. The reamer stop is used for reamer #1 only, failure to use the reamer stop could/will damage the pump core beyond repair.

## Step 5 Install TC Limit Valve Kit (Figures 1 & 2)

- Ensure all debris has been removed from bore and pump body.
- Insert Sonnax sleeve, slotted end first. Ensure sleeve seats at bottom of bore.
- Check retaining plate fitment and modify if needed:
  - With some castings the sleeve may interfere with Sonnax retainer plate. In these cases, trim the non-slotted end of the sleeve just enough to clear the plate.
  - Ensure the retainer plate sits below flush of the machined flat surface of pump body. Run a straight edge over the area to see if it catches on retainer plate. If necessary, grind a few thousandths of an inch off retainer so it sits just below flush.
- Insert Sonnax valve and spring into installed sleeve.
- Compress spring, secure assembly with Sonnax retainer plate.



If a 3/32 drill bit (.094" dia.) fits in wear gap, a new pump must be purchased.



**WARNING!** Extreme wear of the OE cast pump bore is possible and beyond the ability of reaming to fix. If wear gap exceeds .094" dia., pump replacement is required (Figure 2).

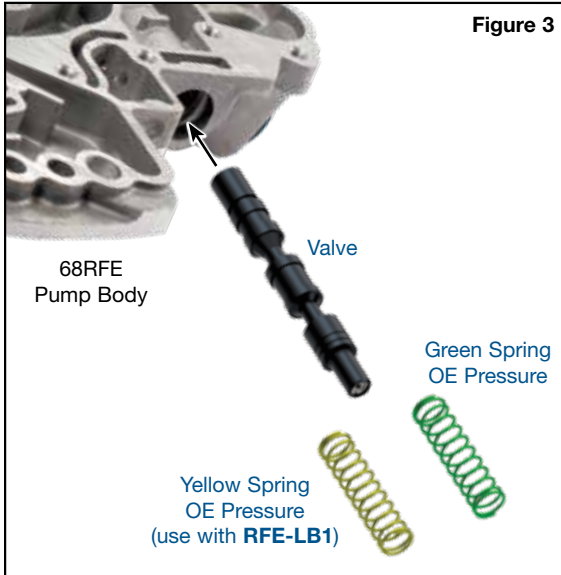


Figure 3

## Step 6 Install Oversized Lube Regulated Pressure Regulator Valve Kit

- Ensure all debris has been removed from valve bore and body.
- Install Sonnax pressure regulator valve.
- Select appropriate Sonnax spring (**Figure 3**). Install spring into bore. Ensure spring is seated over valve spring guide.
- Reinstall OE retaining clip.

**NOTE:** The green spring is for OE original pressure. The yellow spring is for use with the RFE-LB1 (not included).

**NOTE:** Check casting wall at the pressure regulator valve between the line and lube/converter circuits. If a hole has been drilled in this wall, it must be plugged shut to receive full benefits from this valve.

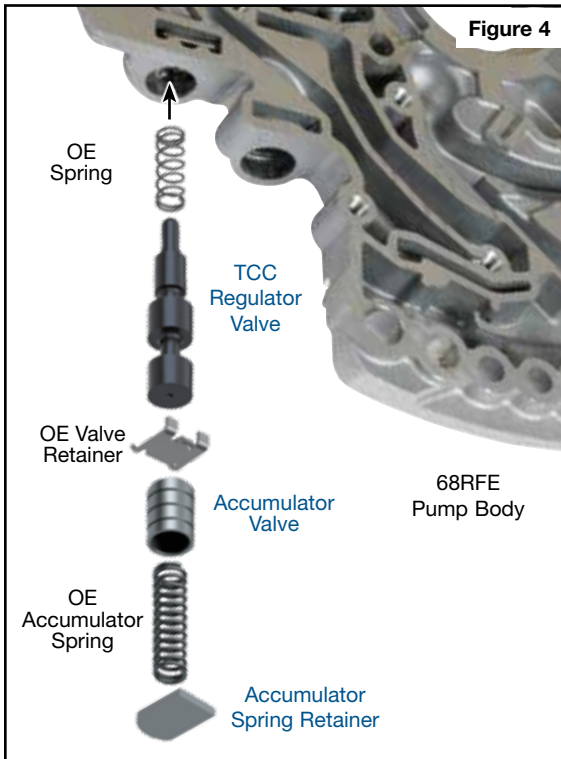


Figure 4

## Step 7 Install Oversized TCC Regulator & Accumulator Valve Kit

- Reinstall OE TCC regulator spring, followed by Sonnax TCC regulator valve and the OE retainer (**Figure 4**).
- Install Sonnax TCC accumulator valve.
- Reinstall OE accumulator spring.
- Secure with Sonnax accumulator spring retainer.

## Step 8 Pump Vacuum Test Verification

- Vacuum test the TC limit valve in the recommended testing ports. Vacuum should hold a minimum of 16 in-Hg (**Figure 5**).
- Vacuum test the lube regulated pressure regulator valve in the recommended testing ports. Vacuum should hold a minimum of 15 and 18 in-Hg (**Figure 6**).
- Vacuum test the TCC regulator & accumulator valve in the recommended testing ports. Vacuum should hold a minimum of 18 in-Hg (**Figure 7**).

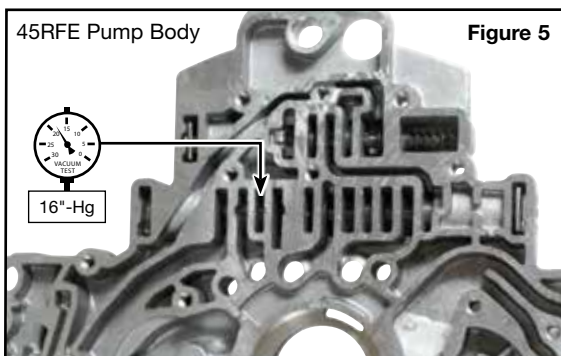


Figure 5

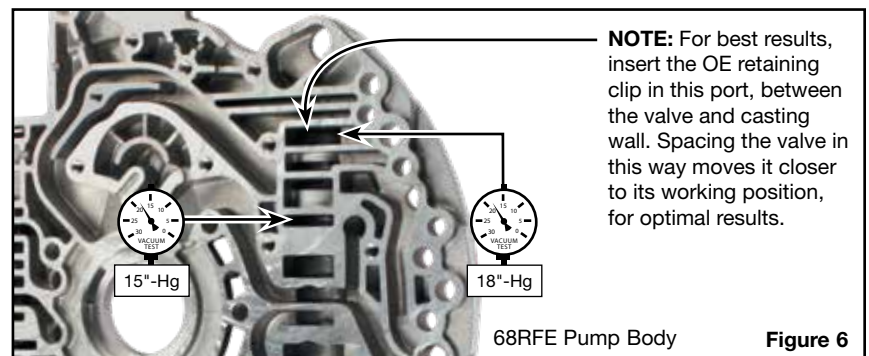


Figure 6

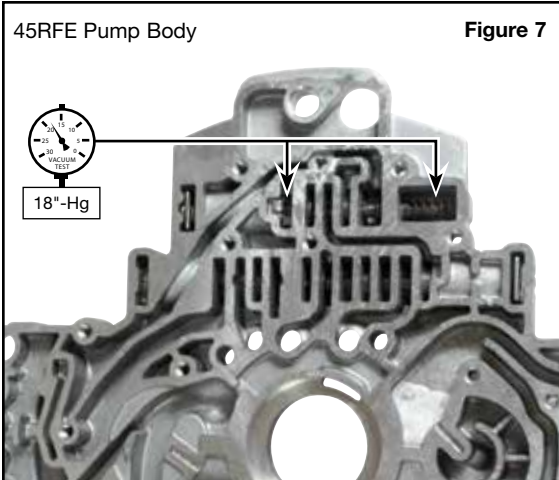


Figure 7

## Step 9 Reassemble Pump

## Step 10 Disassemble Valve Body

## Step 11 Ream Solenoid Switch Valve Bore



**WARNING:** Measure large spool diameter on OE switch valve (Figure 8) to verify which Sonnax part will fit the unit being repaired. Some Chrysler switch valves measure .420" dia. and others .453" dia. Another third version found in "late" anodized valve bodies have a .453" dia. but with a narrower spool and incorporates an ID groove. If you have the .420" dia valve, you need to confirm you have the **SC-RFE-420** Sure Cure Kit. If you have the .453" dia. valve confirm you have the **SC-RFE-453** Sure Cure kit.

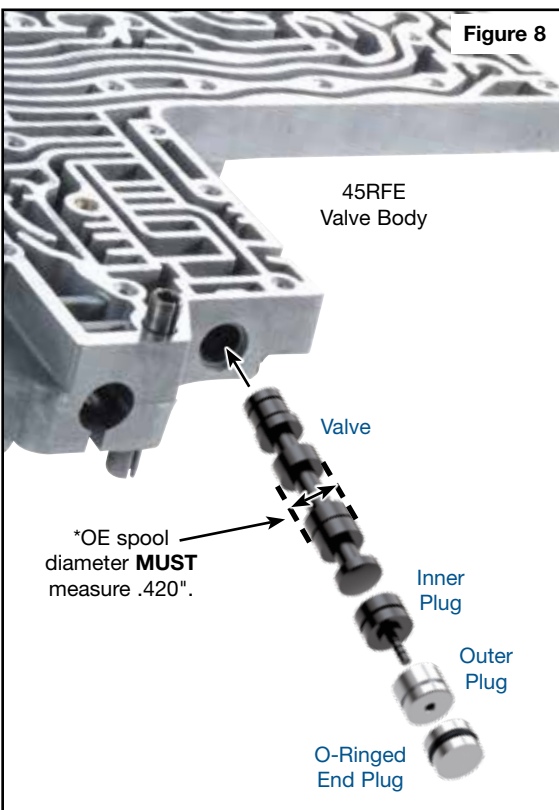


Figure 8

- Remove OE retainer, end plug and switch valve plugs and set aside.
- Remove OE solenoid switch valve and measure large spool. Confirm you have the correct Sure Cure kit.
- If OE switch valve spool measures .420" dia., discard OE end plug, switch valve plugs and switch valve. Save OE retainer for reuse.
- Align the **VB-FIX** to ream the solenoid switch valve and plug bore using Sonnax tool kit **F-92835-TL32**. The use of **92835-BST** bore sizing tool is also recommended but not required.
- Ream the bore and clean thoroughly.

## Step 12 Install Oversized Solenoid Switch Valve & Plug Kit

- Ensure all debris has been removed from valve bore and valve body.
- Install Sonnax solenoid switch valve, small diameter first (Figure 8).
- Install Sonnax switch valve plugs. Outer plug has a slight chamfered edge on one side; this side must face outward (Figure 9).
- Install Sonnax O-ring into groove of Sonnax end plug. Lubricate O-ringed end plug with Sonnax Slippery Stick **O-LUBE**. Roll on clean bench to size O-ring into groove.
- Insert O-ringed end plug into bore, nub facing inward (Figure 8 & 9).
- Reinstall OE retainer.

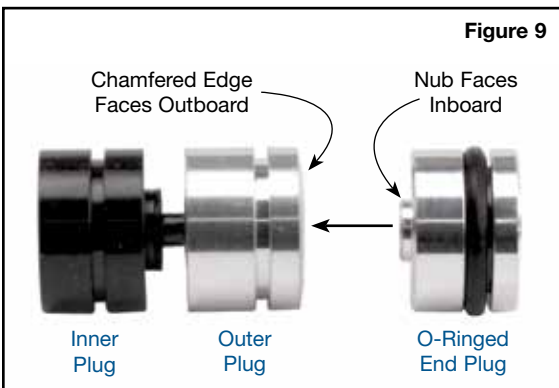
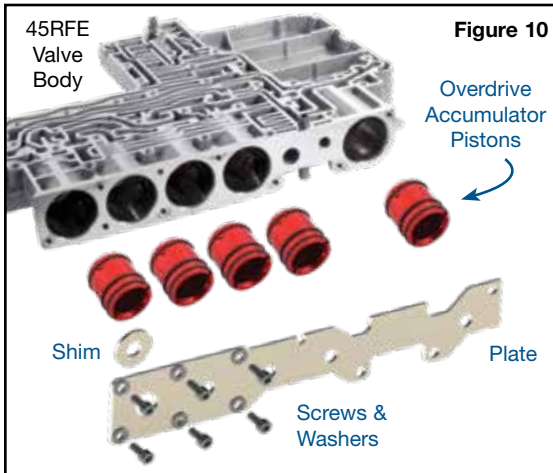


Figure 9



**Figure 10**

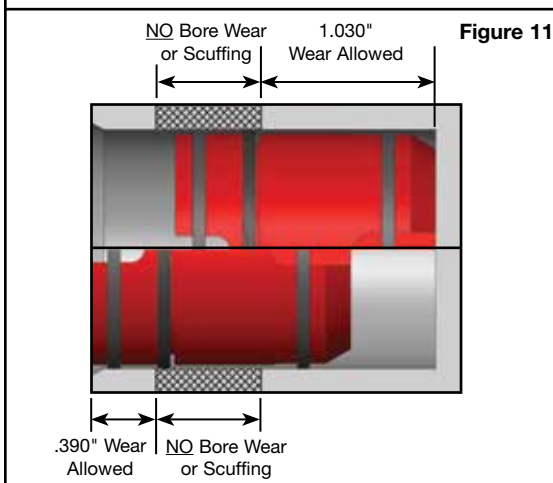
## Step 13 Install Accumulator Piston Kit

- Remove screws and accumulator piston cover plate (Figure 10). Discard OE cover plate.
- Remove OE piston and spring(s). When replacing multiple pistons, note the spring locations and quantities of each location.
- Clean and inspect the bore.

**NOTE:** Inspect accumulator bores in the valve body for scuffing and wear in the area indicated (Figure 11). The bore should be smooth in the hatched area shown.

- Install the two solid guide seals in grooves at each end of the piston (Figure 12).
- Install the scarf-cut seal in the middle position groove (Figure 12).
- Install piston into bore. If solid guide seals haven't been resized, extra care should be taken as each is compressed into the bore. To help with installation, size the outer seal first by installing the piston backwards about half way into bore and let rest a few minutes, then remove piston and install in correct direction.

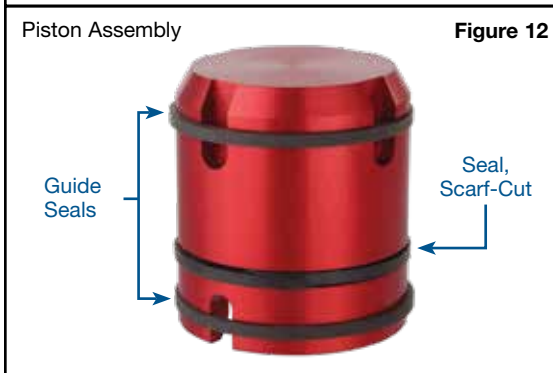
**NOTE:** Solid guide seals will have some drag until they have undergone a heat cycle.



**Figure 11**

## Step 14 Install Accumulator Cover Plate Kit

- Using the Sonnax accumulator cover plate as a template, drill and tap three additional holes into the valve body using No. 19 (.166" dia.) drill and the Sonnax thread tap 44892-TL.
- Place Sonnax shim between OE overdrive accumulator piston and spring.
- Install the Sonnax accumulator plate with six Sonnax screws and washers around the OD/UD accumulators. Reuse OE screws in other locations. Coat threads with thread locking compound.
- Torque six Sonnax screws to 70 in-lb. Torque four OE screws to 40 in-lb (Figure 10).



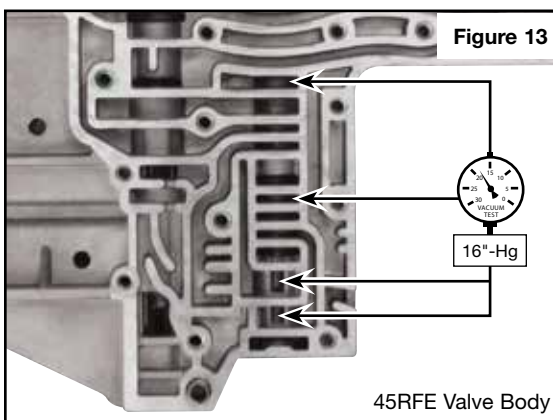
**Figure 12**

## Step 15 Valve Body Vacuum Test Verification

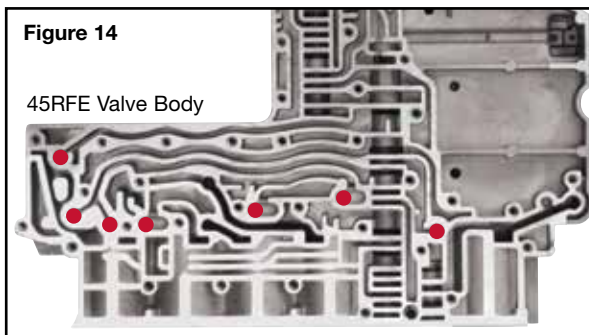
Vacuum test the Solenoid Switch Valve in the recommended testing ports. Vacuum should hold a minimum of 16 in-Hg (Figure 13).

## Step 16 Reassemble Valve Body & Checkballs

- Remove existing checkballs from the valve body (Figure 14).
- Install Sonnax checkballs in the same locations.



**Figure 13**



**Figure 14**

**NOTES:** Checkball numbers and locations change with year variations. Sonnax provides 10 checkballs.

Reference the ID Guide included in this kit to ensure correct number of checkballs are installed.