

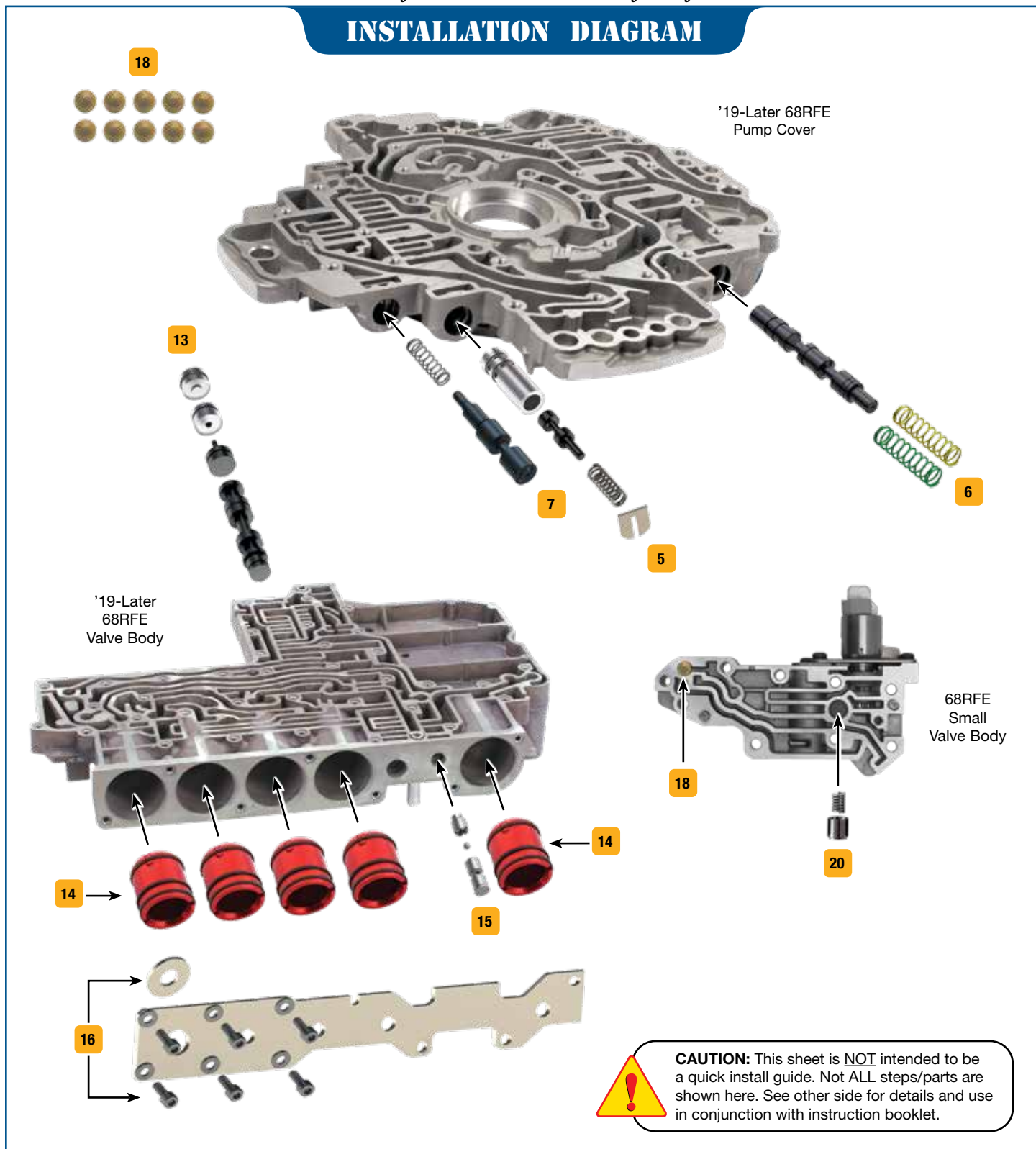
# Chrysler 68RFE '19-Later SURE CURE KIT

PART NUMBER SC-RFE-453-19

INSTALLATION GUIDE

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

## INSTALLATION DIAGRAM



## Kit Contents & Installation Steps

See instruction booklet for details. **Note:** OS = Oversized

### 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 Reg. Bore

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

### Step 4 Ream TCC Regulator Bore



**NOTE:** Requires Sonnax tool kit F-44912-TL12 or F-92835-TL25 with VB-FIX alignment fixture, not included in this kit. See note on page 1.

### Step 5 Install OS TC Limit Valve Kit

#### Packaging Pocket 1

- Valve
- Sleeve
- Spring
- Retainer Plate

### Step 6 Install OS Lube Regulated PR 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. See important note in Booklet, Page 2.

### Step 7 Install OS TCC Regulator Valve Kit

#### Packaging Pocket 3

- Valve
- Spring

### Step 8 Verify Pump Vacuum Test

### Step 9 Reassemble Pump

### Step 10 Disassemble Valve Body

### Step 11 Ream Solenoid Switch Valve Bore

**NOTE:** Requires Sonnax tool kit F-92835-TL31 with VB-FIX alignment fixture, not included in this kit.

### Step 12 Ream OS Low/Reverse Bore

**NOTE:** Requires Sonnax tool kit F-92835-TL45 with VB-FIX alignment fixture, not included in this kit.

### Step 13 Install OS Solenoid Switch Valve & Plug Kit

#### Packaging Pocket 4

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

### Step 14 Install Accumulator Piston Kit

#### Packaging Pockets 5 & 6

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

### Step 15 Install OS Low/Reverse Checkball Kit

#### Packaging Pockets 9

- Outboard Sleeve
- Inboard Sleeve
- Checkball

### Step 16 Install Accumulator Cover Plate Kit

#### Packaging Pockets 8 & 10

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

### Step 17 Valve Body Vacuum Test

### Step 18 Reassemble Valve Body & Checkballs

#### Packaging Pocket 7

- Checkballs .250" Dia. (10)
- NOTE:** See usage note on page 7

### Step 19 Disassemble TCC & Accumulator Housing

### Step 20 Install Accumulator Piston & Spring

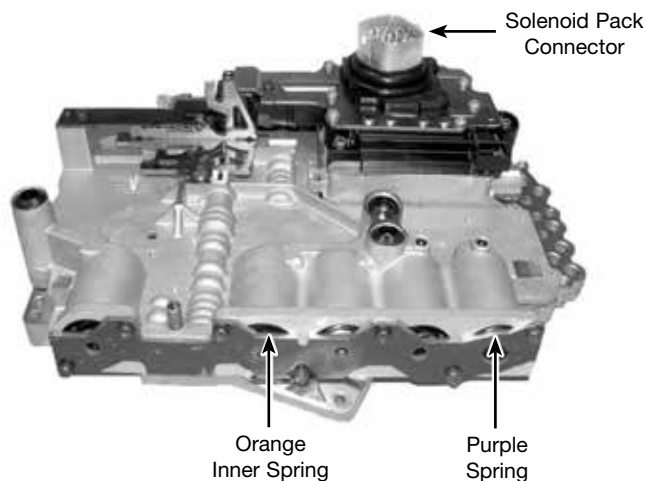
#### Packaging Pocket 7

- Piston
- Spring

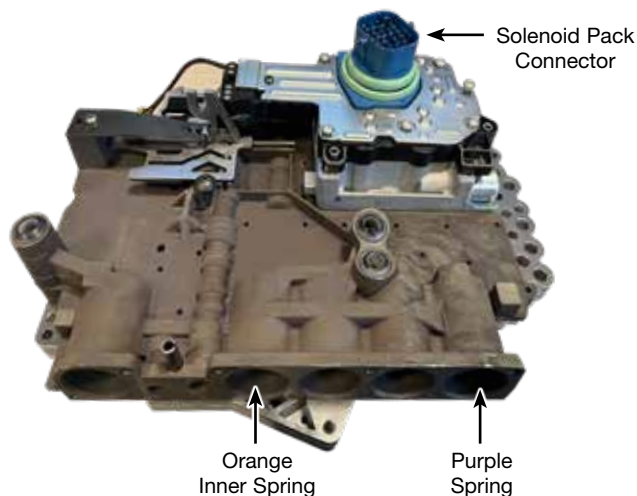
### Step 21 Reassemble TCC & Accumulator Housing & Checkball

## Valve Body

**68RFE '18-Earlier Valve Body**



**68RFE '19-Later Valve Body**

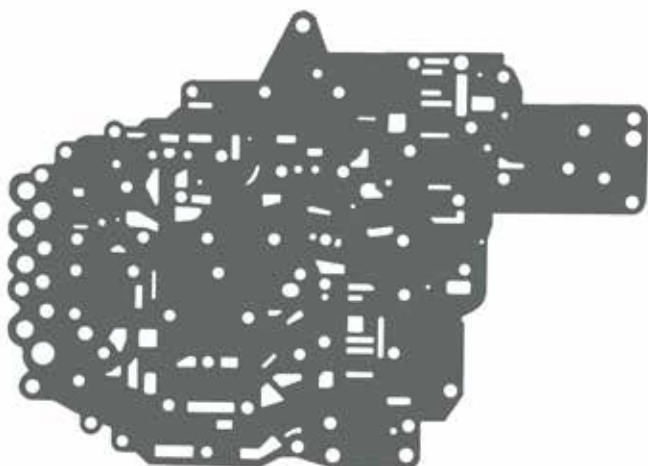


## Solenoid Pack Connector

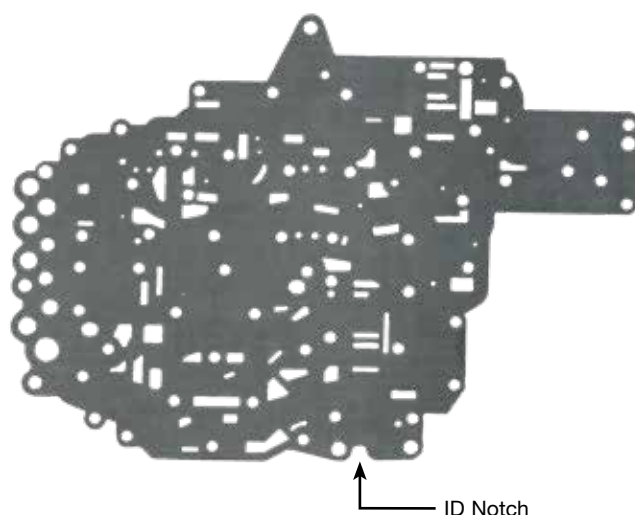
Color	Year	Units
Gray	'09-'18	68RFE ('09-'18) when they have 5 checkballs
Blue & Green	'19-Later	68RFE ('19-Later) when they have 5 checkballs

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

**'09-'18 Separator Plate**



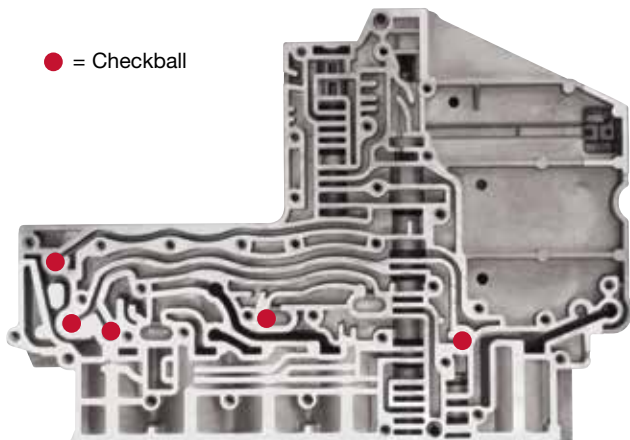
**'19-Later Separator Plate**



## Checkball Locations

### '09-'18 Checkball Locations

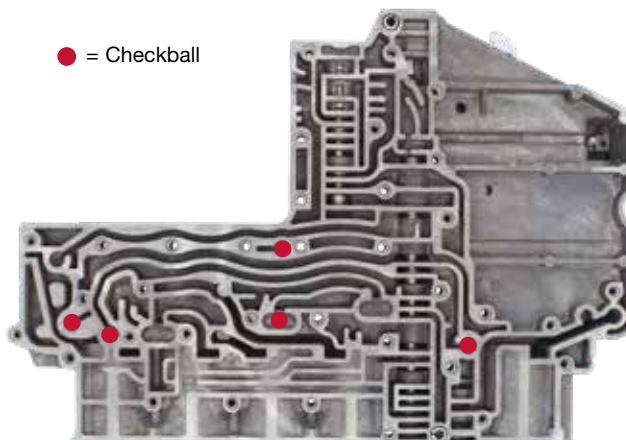
● = Checkball



Insert 5 Sonnax Checkballs

### '19-Later Checkball Locations

● = Checkball



Insert 5 Sonnax Checkballs

### Step 1 Disassemble 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 Reg. 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 Bore

- Remove and set aside OE retaining clip.
- Remove and set aside OE end plug.
- Remove and discard OE TCC regulator valve and spring.
- Ream TCC regulator bore (for reaming instructions/reamer care, please visit [www.sonnax.com](http://www.sonnax.com)). Sonnax reaming tool kit **F-92835-TL25** or **F-44912-TL12** and **VB-FIX** are required for this operation.

**NOTE:** All components of **F-92835-TL25** are also included in **F-44912-TL12** which has additional components. If you already have purchased **F-44912-TL12**, you do not need to purchase **F-92835-TL25**. If using **F-44912-TL12**, use reamer **F-44912-RM13**. Reamer **F-44912-RM12** and the reamer stop are not used.

### Step 5 Install Oversized 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.

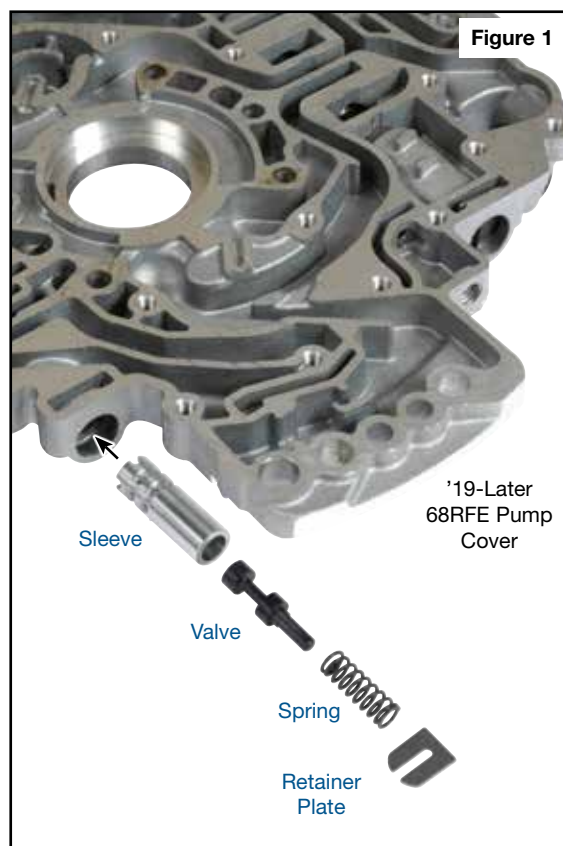


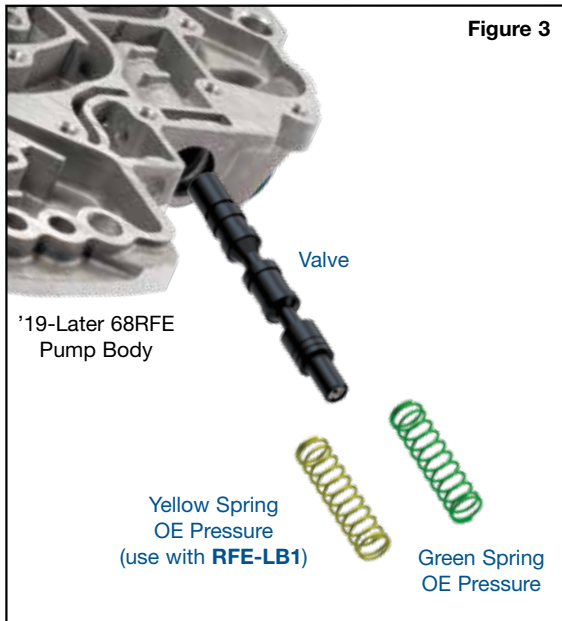
Figure 1



Figure 2

**WARNING!** Extreme wear of OE cast pump bore is possible and beyond the ability of reaming to fix. If wear gap exceeds .094\"/>





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

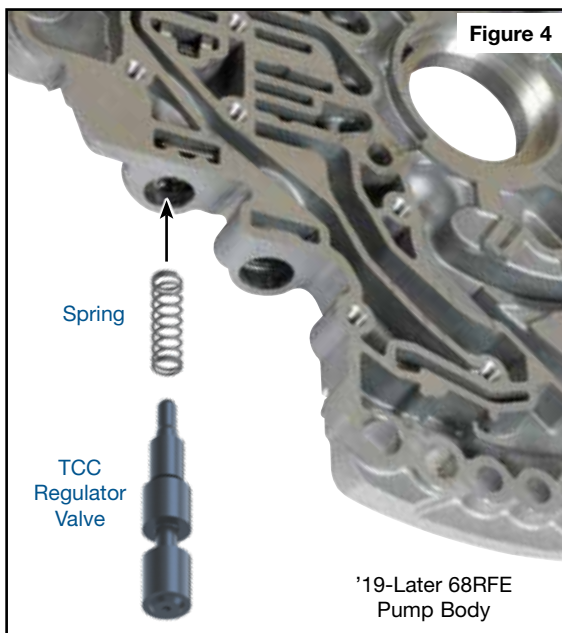
- Install Sonnax pressure regulator valve.
- Select appropriate Sonnax spring (**Figure 3**). Install spring into bore. Ensure spring is seated over valve spring guide.
- Reinstall OE retaining clip.

**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.

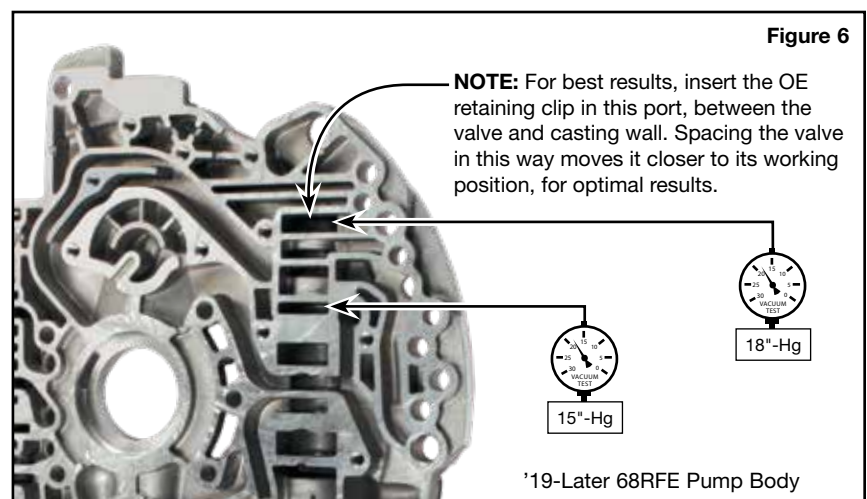
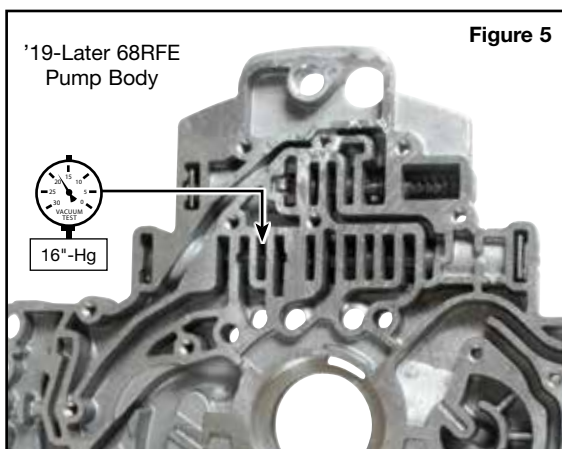
## Step 7 Install Oversized TCC Regulator Valve Kit (Figure 4)

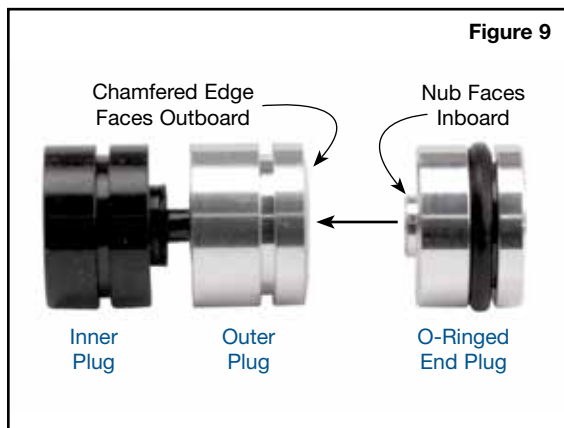
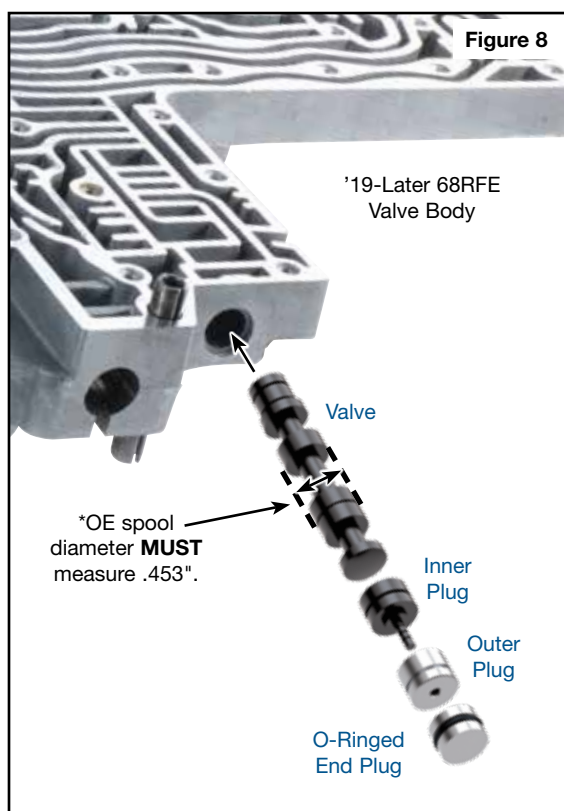
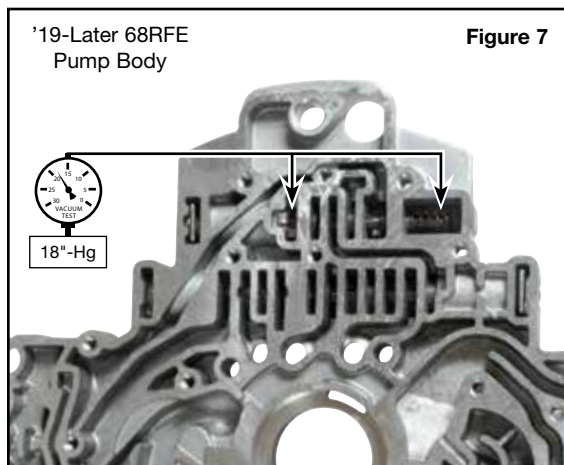
- Install Sonnax spring and Sonnax TCC regulator valve.
- Reinstall OE end plug and retainer.



## 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 valve in the recommended testing ports. Vacuum should hold a minimum of 18 in-Hg (**Figure 7**).





## Step 9 Reassemble Pump

## Step 10 Disassemble Valve Body

## Step 11 Ream Solenoid Switch Valve Bore

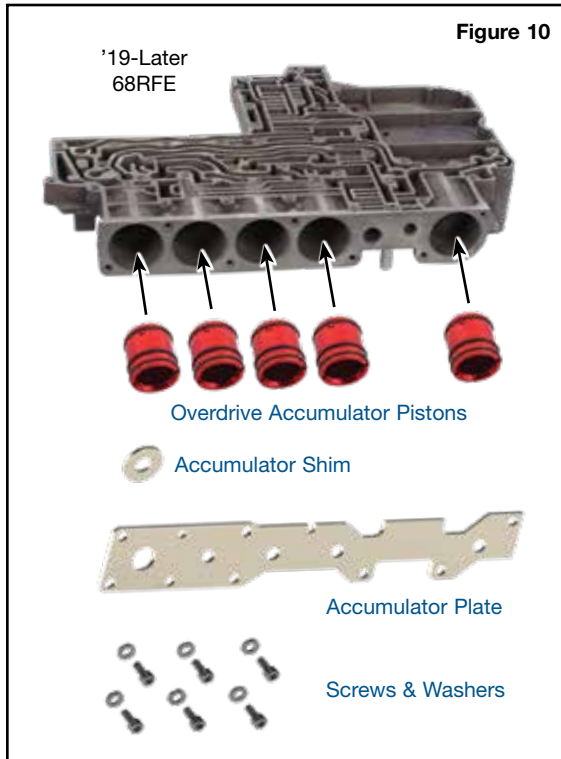
- Remove OE retainer, end plug and switch valve plugs and set aside.
- Remove OE solenoid switch valve and measure large spool.
- Discard OE end plug, switch valve plugs and switch valve. Save OE retainer for reuse.
- Align the **VB-FIX** to ream the solenoid switch valve and plug bore using Sonnax tool kit **F-92835-TL31**.
- Ream the bore and clean thoroughly.

## Step 12 Ream Oversized Low/Reverse Bore

- Remove OE retainer clip and save for reuse.
- Remove and discard OE end plug and valve.
- Ream Low/Reverse switch bores with bores.
- Align the **VB-FIX** to ream the solenoid switch valve and plug bore using Sonnax tool kit **F-92835-TL45**.
- Ream the bore and clean thoroughly.

## Step 13 Install Oversized Solenoid Switch Valve & Plug Kit

- 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.



## Step 14 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.

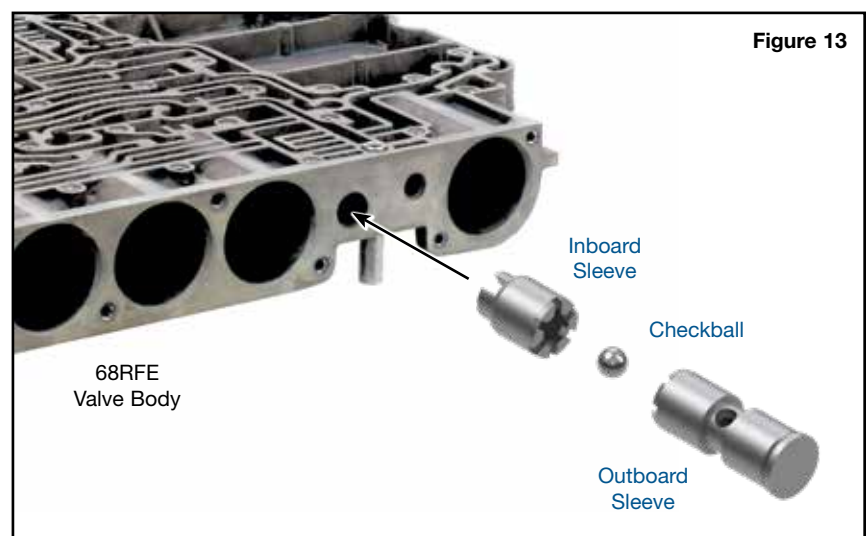
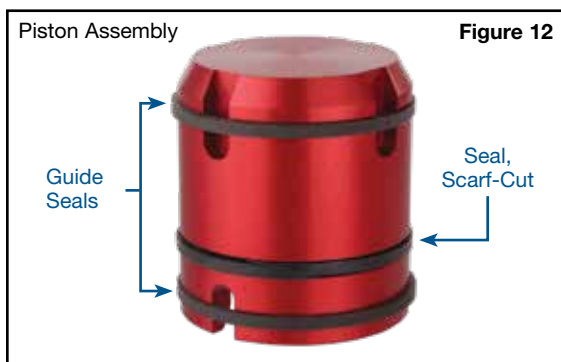
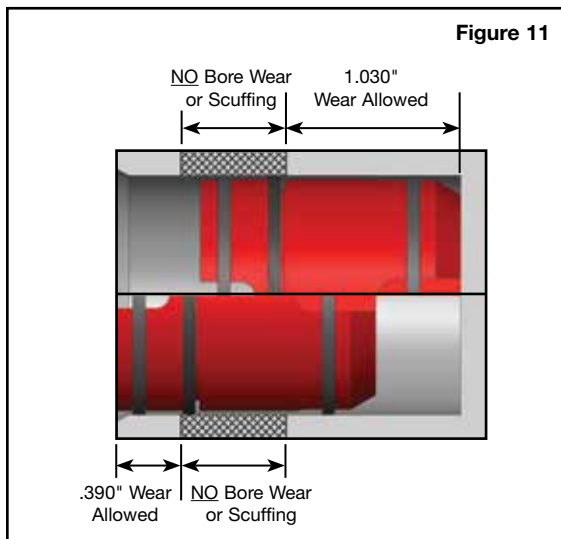
**NOTE:** Inspect accumulator bores in the valve body for scuffing and wear in the area indicated (**Figure 11**). The bore should be smooth in the hatched area shown.

- 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.

## Step 15 Install Oversized Low/Reverse Checkball Kit

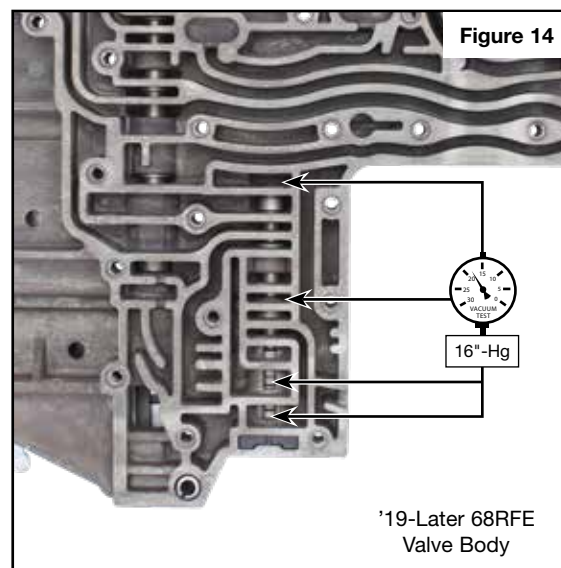
- Remove and discard OE end plug and valve.
- Ream low/reverse switch bore (for reaming instructions/reamer care, please visit [Sonnax.com](http://Sonnax.com)) Sonnax reaming tool kit **F-92835-TL45** and **VB-FIX** are required for this operation.
- Ensure all debris has been removed from valve bore and body.
- Install Sonnax inboard sleeve (**Figure 13**).
- Install checkball into outboard sleeve.
- Install outboard sleeve/checkball into bore.





## Step 16 Install Accumulator Cover Plate

- 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 threadlocking compound.
- Torque six Sonnax screws to 70 in-lb. Torque four OE screws to 40 in-lb (Figure 10).

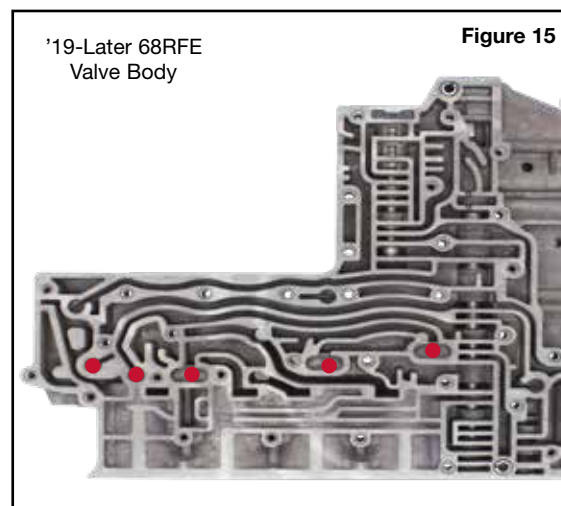


## Step 17 Valve Body Vacuum Test Verification

Vacuum test the solenoid switch valve in the recommended testing ports. Vacuum should hold a minimum of 16 in-Hg (Figure 14).

## Step 18 Valve Reassemble Valve Body & Checkballs

- Remove existing checkballs from the valve body (Figure 15).
- Install Sonnax checkballs in the same locations.

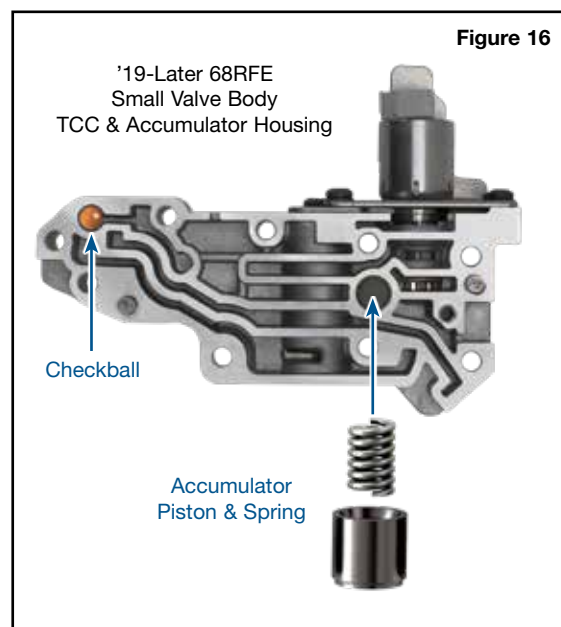


## Step 19 Disassemble TCC & Accumulator Housing

- Remove OE accumulator piston and discard.
- Ensure accumulator bore is cleaned and clear of dirt and debris.

## Step 20 Install Accumulator Piston & Spring

- Install Sonnax spring into the bore (Figure 16).
- Install Sonnax accumulator piston into the bore, open side toward spring.



## Step 21 Reassemble TCC & Accumulator Housing & Insert Sonnax Checkball

