

## Vacuum Test Plate Kit

### Part No.

# 34994-VTP



- Plate
- Seal
- Push Pins (5) 1 Extra
- Alignment Pins (2)
- Bolts (2)
- Washers (2)
- Wing Nuts (2)

## Vacuum Test Stand Kit

### Part No.

# VACTEST-01K

- Vacuum Test Stand
- Test Plate
- Vacuum Plate Sealing Pad
- Vacuum Test Foam Pad
- Push-to-Connect Fitting
- Assorted Testing Tips (6)
- Testing Tip Adapter Tube
- Flexible Tubing
- Flared Tubing with Flared Nut

## Instructions

### 1. Assembly

- a. Ensure vacuum test plate and seal are both clean and free of debris.
- b. Install two alignment pins into plate at indicated threaded holes. Thread into non-engraved side of plate (**Figure 1**).
- c. Place seal onto non-engraved side of plate, aligning orifice holes. Remove any entrapped air between plate and seal by peeling seal up at plate edge. Gradually place seal back on plate from center toward edge.
- d. Push plastic push pins into seal and plate from seal side, just far enough for head to lightly contact seal.

**NOTE:** Sonnax recommends starting with only four corner locations. If seal sags away from plate, other push pin locations should also be used.

### 2. Testing

- a. Place assembled vacuum test plate over casting, using engraved casting outline as guide. Alignment pins should enter casting bolt holes.
- b. Using Sonnax vacuum test stand kit **VACTEST-01K** (sold separately, **Figure 2**) and small vacuum tip, vacuum test at numbered orifices on plate. These numbers correspond to the bore numbers called out in the exploded view of the valve body on page 6. The chart on page 8 provides descriptions of individual circuit checked and space to document actual vacuum readings and minimum vacuum standards.

**NOTE:** Vacuum Test Data Sheet on page 7 can be used to establish minimum vacuum standards at individual bore locations.

- c. Light finger-tip pressure may need to be applied on plate during testing. Included bolts, washers and wing nuts can be used at indicated bolt locations for firmer seal, but are not required. If used, place bolts through casting, seal and plate from the back of casting. Tighten wing-nut against plate, finger-tight only.

### 3. Cleaning

Seal and plate can be cleaned as needed with mild soap and water to remove debris.

### 4. What should my vacuum test results be?

While a properly calibrated and maintained test stand will give consistent vacuum reading results for a specific circuit and amount of wear, evaluating these results requires establishing your own pass/fail criteria. Variables which influence vacuum readings are the number of spools tested in a captive circuit, spool diameter size and contact length of the spool within the bore.

Pass/Fail standards are specific to your setup and process, but they also must be based on your experience, quality sensitivity, warranty concerns and cost/pricing structure. Sonnax recommends that you keep a record of vacuum results for each valve body at each tested circuit/port location. This lets you compare results over time to help determine for your shop what an acceptable vacuum reading is for each circuit/port location.

A chart specific to this application is provided in this booklet indicating valve and circuit checked at each orifice location. Room is provided to record results and compare to your minimum vacuum standard. A generic vacuum test data sheet also is provided that can be used to evaluate multiple cores to establish your minimum vacuum standard. These documents can be printed or downloaded and stored on your computer.

Figure 1

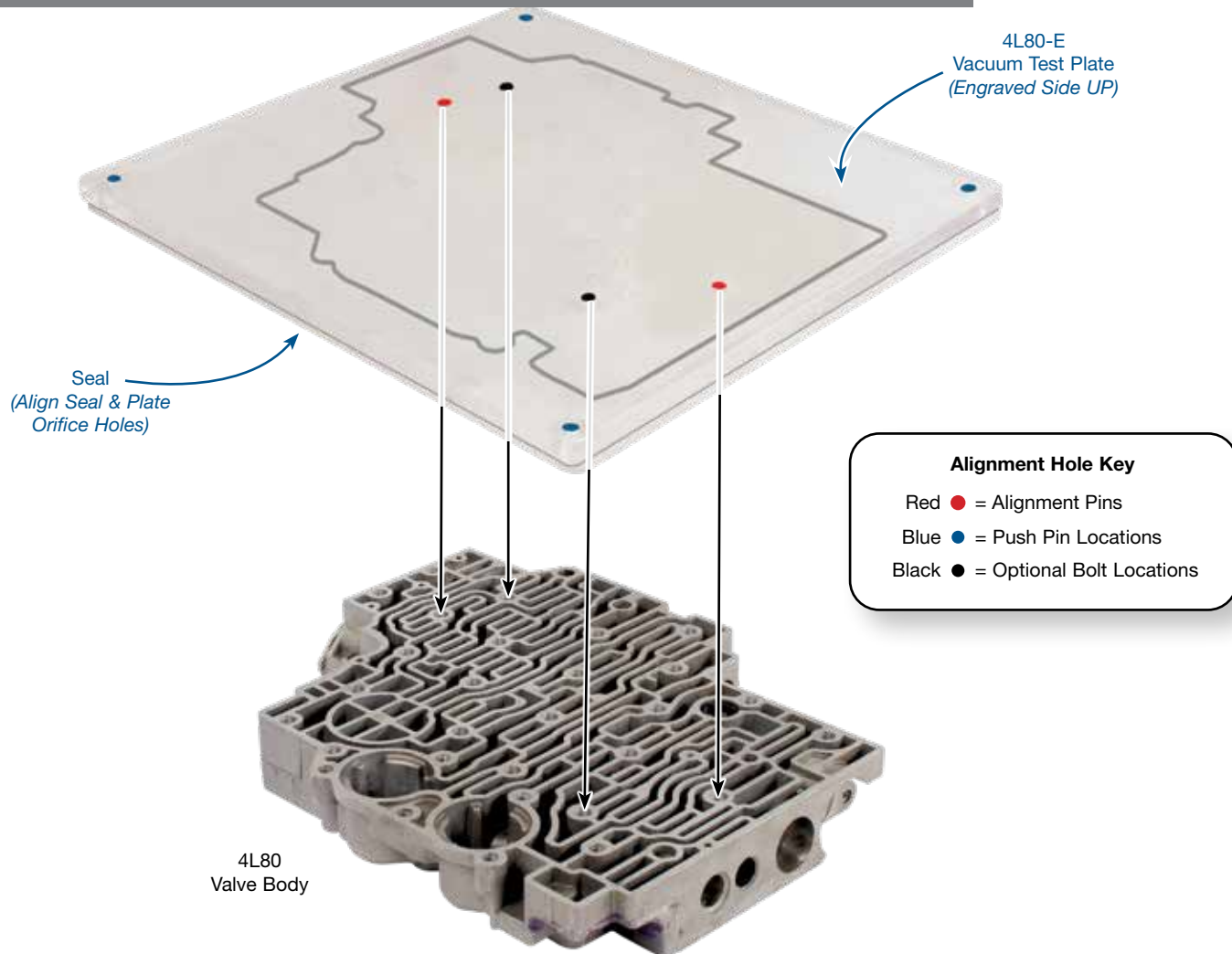
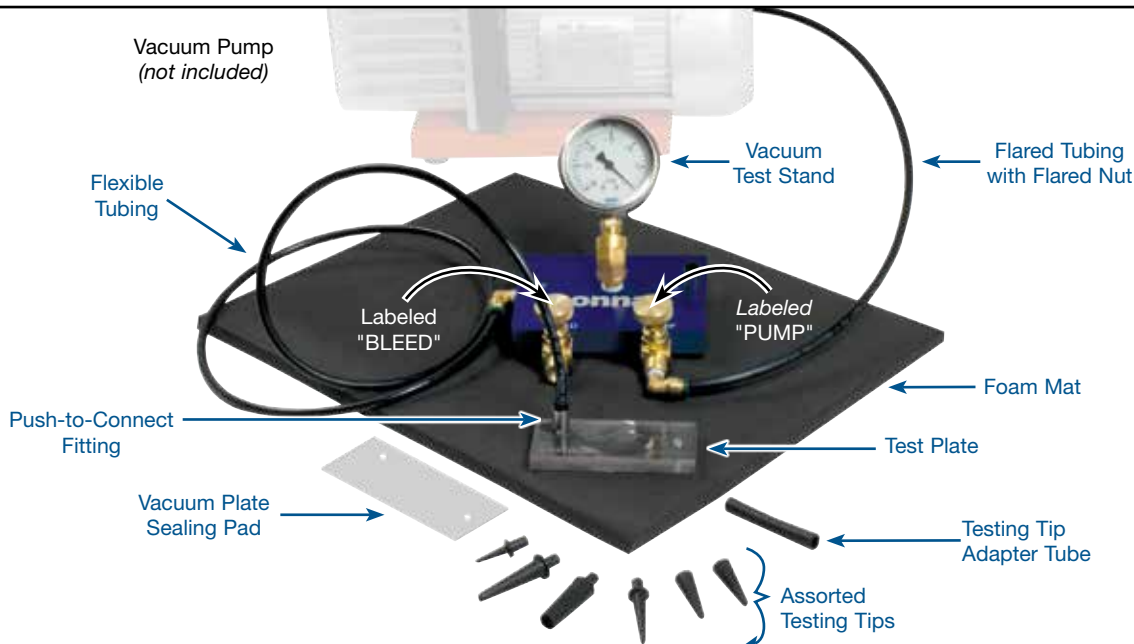


Figure 2



**Critical Wear Areas & Vacuum Test Locations**

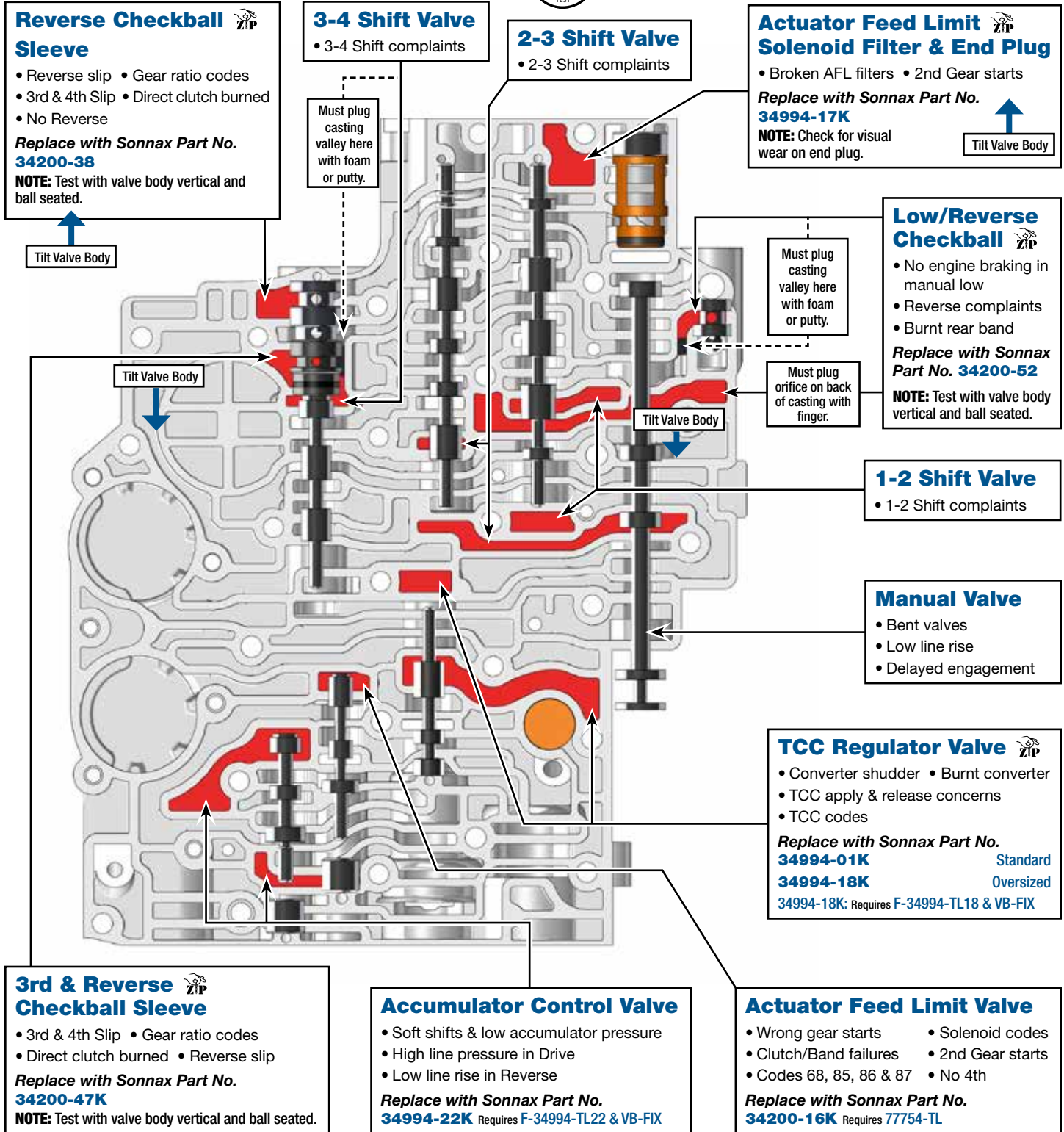


**NOTE:** OE valves are shown in rest position and should be tested in rest position unless otherwise indicated. Test locations are pointed to with an arrow. Springs are not shown for visual clarity. Low vacuum reading indicates wear and Sonnax parts are noted for replacement.

**Valve Body - 4L80-E Shown**



For specific vacuum test information, refer to individual part instructions included in kits and available at [www.sonnax.com](http://www.sonnax.com).

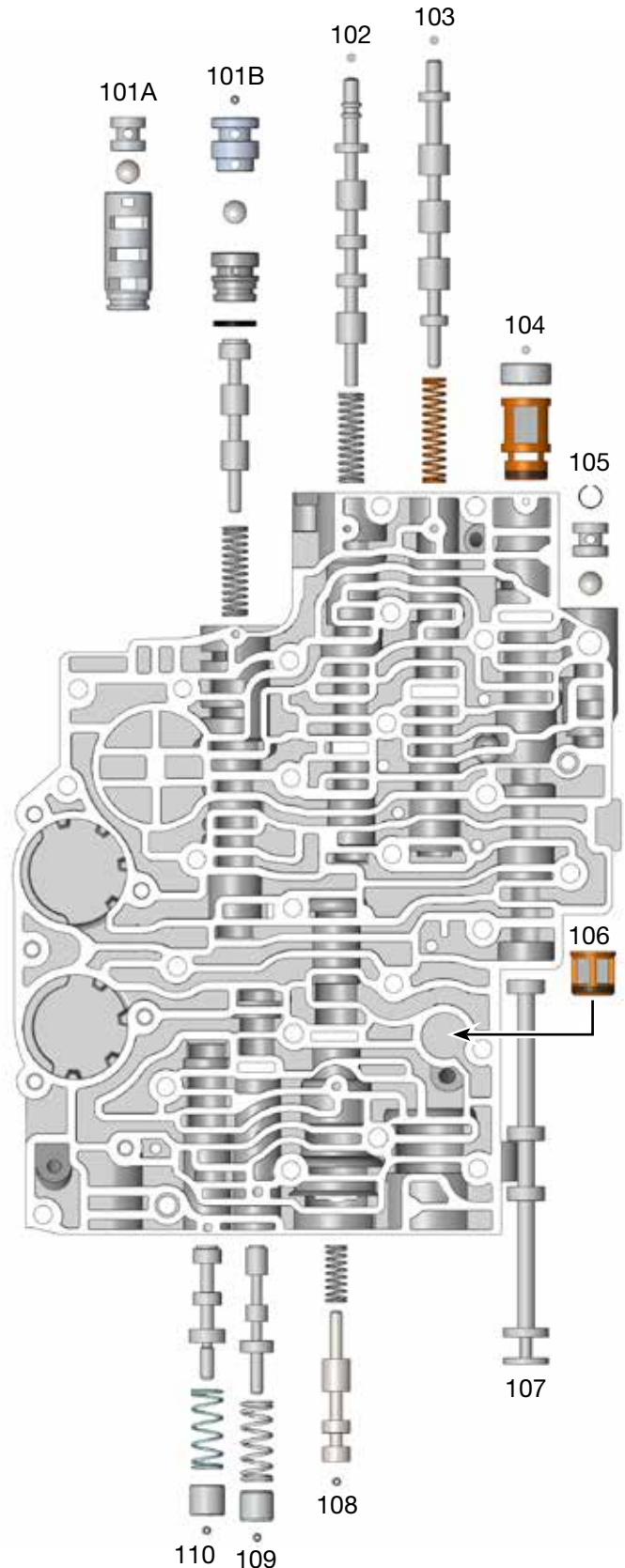


## OE Exploded View

### Valve Body - 4L80-E Shown

#### Valve Body Descriptions

I.D. No.	Description
101A	3rd/Reverse Checkball & Sleeve (Outboard, Early Style) 3-4 Shift Valve (Inboard)
101B	Reverse Checkball Sleeve (Outboard), 3rd Checkball Sleeve (Center), 3-4 Shift Valve (Inboard)
102	2-3 Shift Valve
103	1-2 Shift Valve
104	Actuator Feed Limit Solenoid Filter & End Plug
105	Checkball
106	Force Motor Feed Filter
107	Manual Valve
108	TCC Regulator Valve
109	Actuator Feed Limit Valve
110	Accumulator Control Valve





**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.

**NOTE:** This 34994-VTP vacuum test plate kit does not test pump port locations. Instead, use the small test plate and sealing pad included with the VACTEST-01K.



For specific vacuum test information, refer to individual part instructions included in kits and available at [www.sonnax.com](http://www.sonnax.com).

**Pump - 4L80-E Shown**

**Pressure Regulator Valve End Plug**

- Harsh/Soft shifts
- Burnt clutches

Replace with Sonnax Part No. **34200-05K**

**NOTE:** Test indicated orifice with vacuum tip.

**Pressure Regulator Valve**

Engine surge at idle

- Low TCC release pressure
- Low cooler flow

Replace with Sonnax Part No. **34200-14K**

**Converter Limit Valve**

- Excessive converter pressure
- Harsh TCC apply

Seal this orifice when testing.

**TCC Valve & TCC Enable Valve**

- No converter apply
- Burnt converter lining

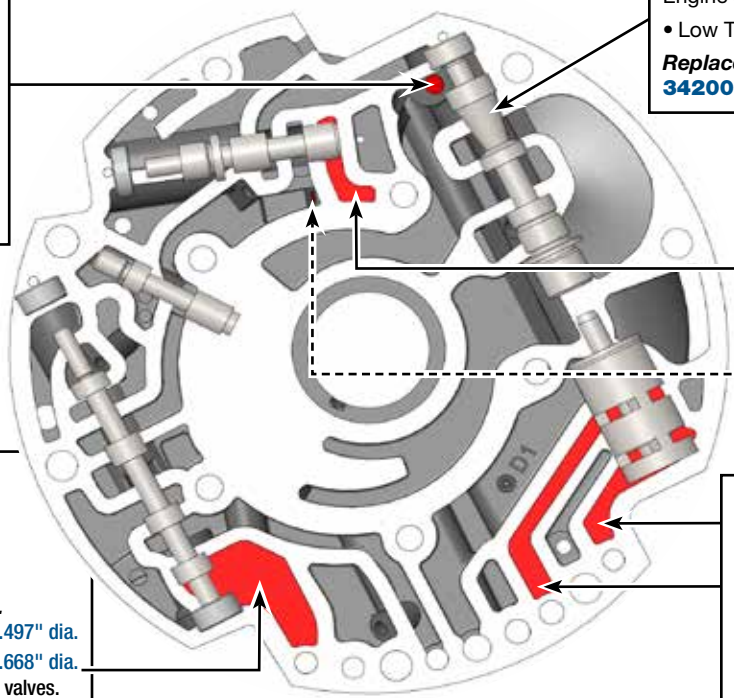
Replace with Sonnax Part No. **34994-13** O-Ringed End Plug .497" dia.  
**34994-14K** O-Ringed End Plug .668" dia.

**NOTE:** Tests TCC signal circuit of both valves.

**Boost Valve Assembly**

- Uncontrollable line rise
- High line pressure
- Broken parts
- Broken clutch piston

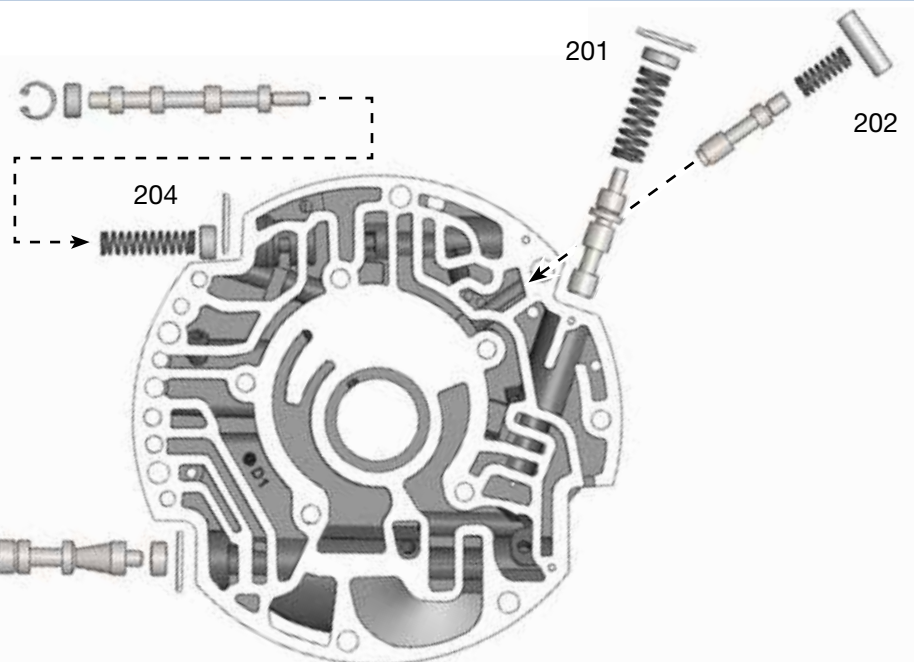
Replace with Sonnax Part No. **34200-01K** Valve Kit with O-Ring  
**34200-03K** Valve Kit, Factory Style  
**34200-10K** Self-Regulating Valve Kit



**OE Exploded View**

**Pump - 4L80-E Shown**

Valve Body Descriptions	
I.D. No.	Description
201	Converter Limit Valve
202	TCC Enable Valve
203	Pressure Regulator Valve (Inboard) Boost Valve Assembly (Outbound)
204	TCC Valve





## Orifice Legend

Unit Stock or Tag No.

Orifice Location	Valve/Circuit Checked	Sonnax Part Number	Special Instructions	Actual Vacuum Reading	Minimum Vacuum Standard
101A	3-4 Shift Valve & O-Ring on Reverse Check Ball Sleeve	<b>34200-47K</b>			
101B SI	3rd & Reverse Checkball Sleeve	<b>34200-47K</b>	Test with valve body vertical to seat ball, front of valve body down.		
101C SI	Reverse Checkball Sleeve	<b>34200-38</b>	Test with valve body vertical to seat ball, front of valve body up.		
102 A	2-3 Shift Valve Spring Side				
102 B	2-3 Shift Valve Inboard Spool				
103 A	1-2 Shift Valve Spring Side				
103 B	1-2 Shift Valve 2nd Inboard Land				
104 A	Actuator Feed Limit Screen & O-Ring	<b>34994-17K</b>			
105 A SI	Low/Reverse Checkball Seat Valve Body Side	<b>34200-52</b>	Test with valve body vertical to seat ball, and plug orifice on back of casting with finger.		
105 B SI	Low/Reverse Checkball Seat Plug Side	<b>34200-52</b>	Test with valve body vertical to seat ball, front of valve body up.		
108 A	TCC Regulator Valve Spring Side	<b>34994-18K</b> <b>34994-01K</b>			
108 B	TCC Regulator Valve Inboard Spool	<b>34994-18K</b> <b>34994-01K</b>			
109 A SI	Actuator Feed Limit Valve	<b>34200-16K</b>	Test with 1/8" shim in balance side.		
110 A	Accumulator Control Valve Inboard Spool	<b>34994-22K</b>			
110 B	Accumulator Control Valve Outboard Spool	<b>34994-22K</b>			