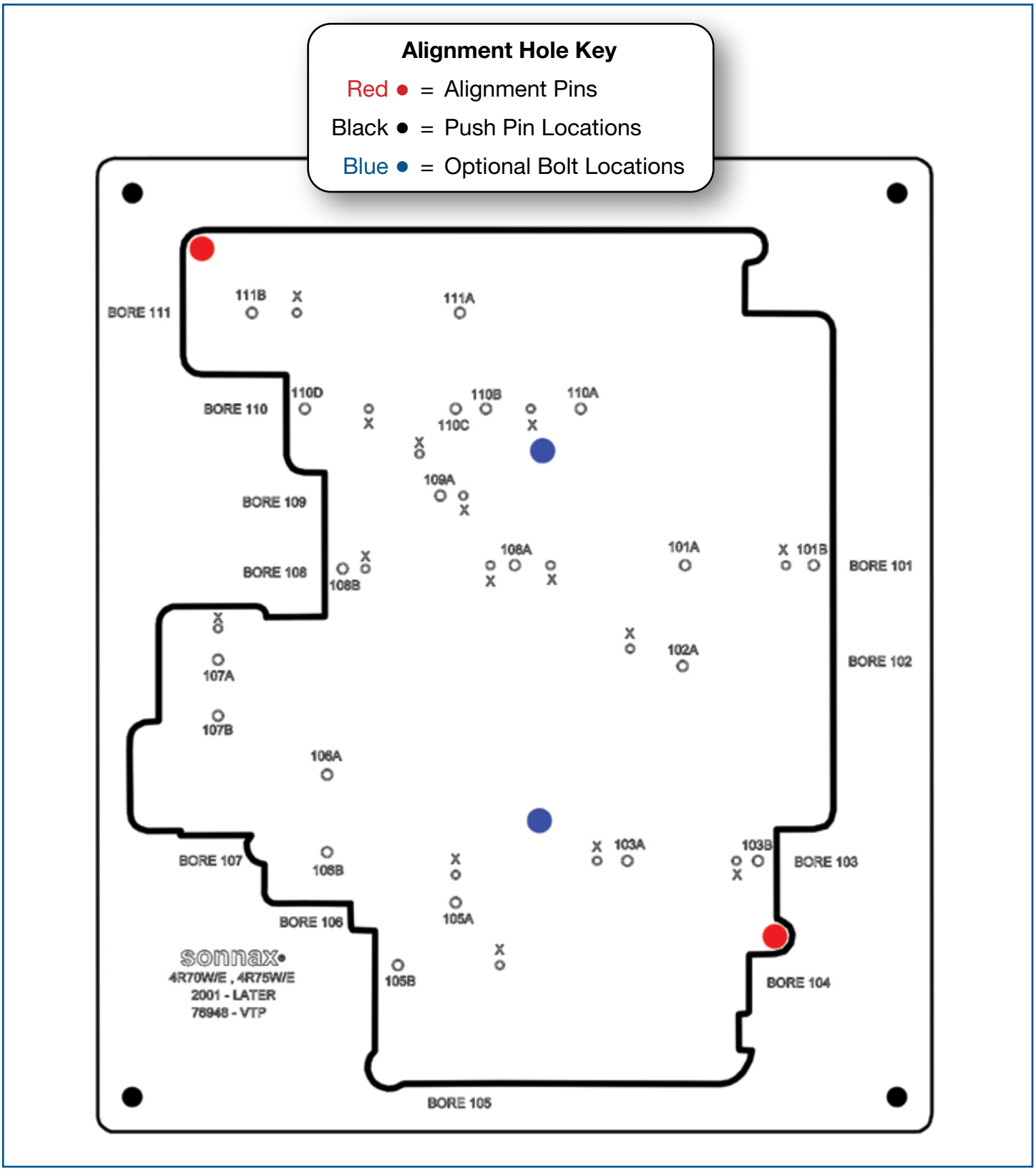
Ford 4R70E, 4R70W, 4R75E, 4R75W, AODE Vacuum Test Plate Kit

PART NUMBER 76948-VTP **INSTRUCTIONS**



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Vacuum Test Plate

Part No. 76948-VTP

TOOL REQUIRED

- Plate
- Seal
- Push Pins (4)
- 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.

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 5. 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.

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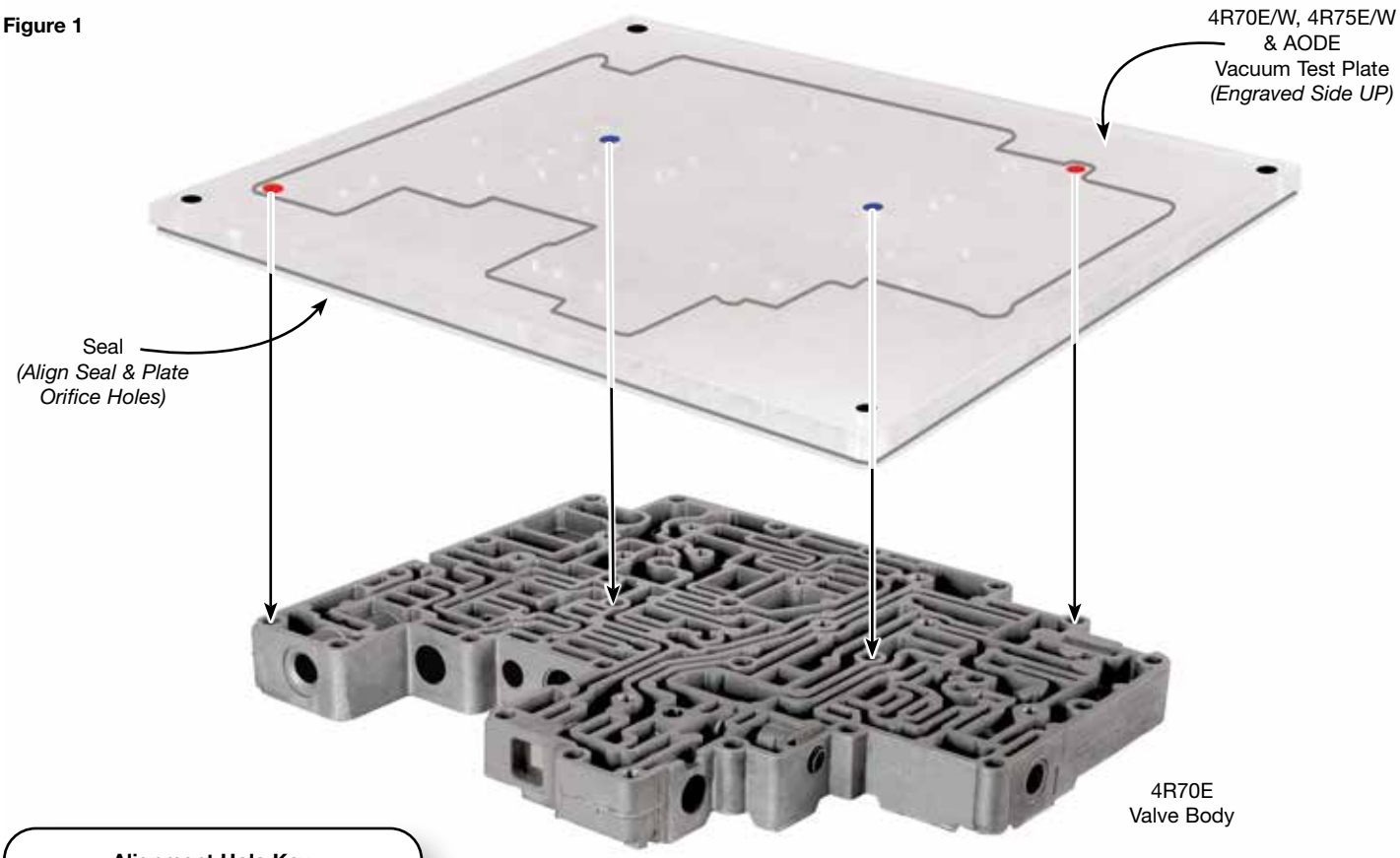
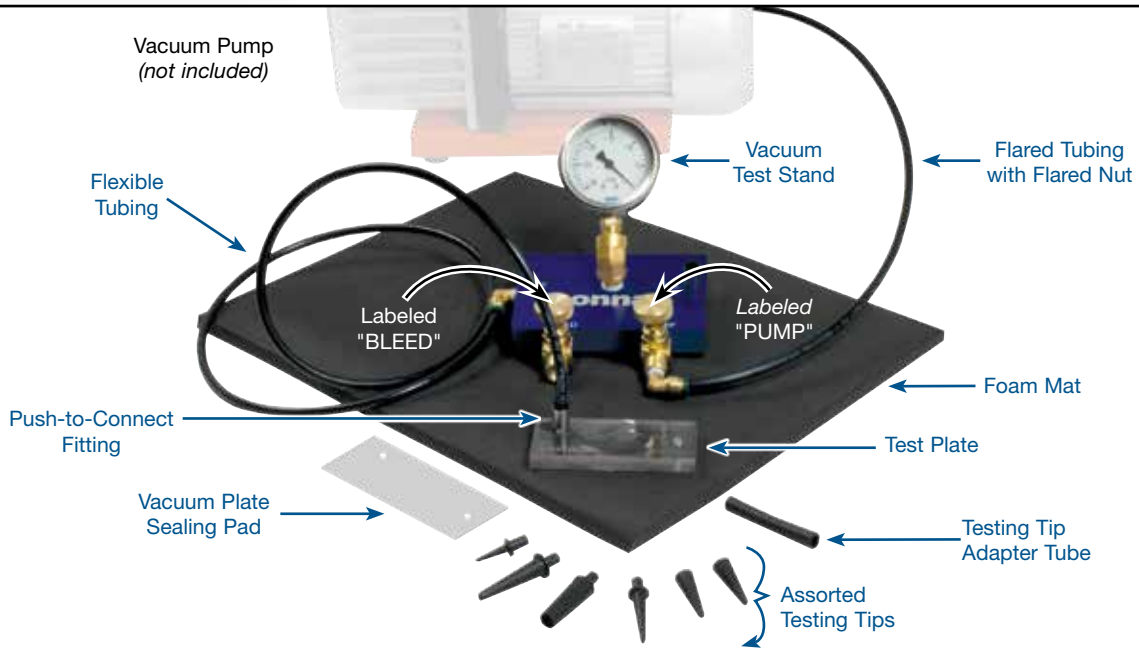
Figure 1



Alignment Hole Key

Red ● = Alignment Pins
Blue ● = Optional Bolt Locations
Black ● = Push Pin Locations

Figure 2



Critical Wear Areas & Vacuum Test Locations

ZIP Drop-In Zip Valve™ Parts Available

AODE-4R75E-ZIP Zip Kit® 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.

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

4R75E Valve Body

Boost Valve ZIP
- Low Reverse boost • Reverse slip • No Reverse
- Delayed Reverse • Low line rise in Reverse
- Burnt Reverse clutch

Replace with Sonnax Part No. **76948-02K***

NOTE: Fits all '91-later applications.

Main Pressure Regulator Valve ZIP
- Poor shift quality • Soft shifts • Low line rise
- Erratic buzz • Premature clutch/band failure

Replace with Sonnax Part No.

76948-01 ***or*** **76948-16K** (1991-1995)

76948-16K Requires F-76948-TL & VB-FIX

76948-09 ***or*** **76948-17K** (1996-Later)

76948-17K Requires F-76948-TL & VB-FIX

Bypass Clutch Control Valve
- Code 628, 741, 1741, 1744
- No lockup • TCC slip
- Low cooler flow

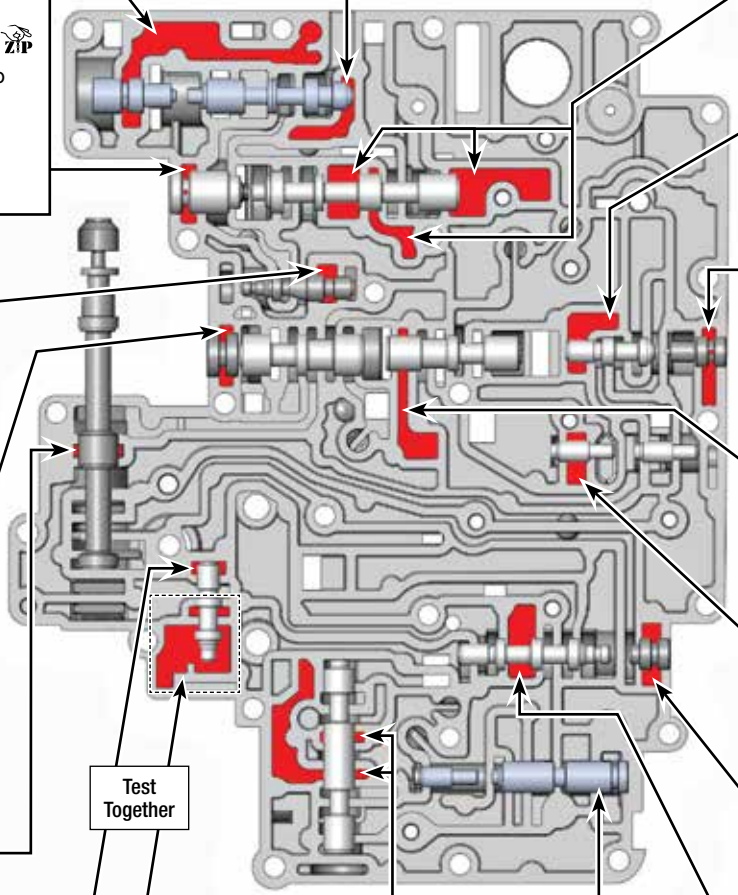
Replace with Sonnax Part No.

76948-31 Requires 76948-TL6 or F-76948-FL6

Bypass Clutch Control Plunger Valve & Sleeve ZIP
- Shudder • Code 628 • No lockup
- TCC apply & release concerns
- Delayed lockup

Replace with Sonnax Part No.

76948-04K*



Overdrive Servo Regulator Valve
- No 4th
- Burnt OD band
- 4-3 Neutral

Converter Pressure Limit Valve
- Low converter pressure
- Lube failures

Replace with Sonnax Part No.

76948-58K

Requires F-76948-TL47 & VB-FIX

Overdrive Servo Regulator Valve & Sleeve ZIP
- 4-3 Neutral • No 4th
- Burnt OD band

Replace with Sonnax Part No.

76948-29K*

NOTE: '01–Later

2-3 Shift Valve
- Erratic shift timing
- Oil leaks

Center this valve land in the passage as indicated.

1-2 Shift Valve
- No 2nd
- Wrong gear starts
- Gear ratio codes

3-4 Capacity Modulator Valve
- 3-4 Flare
- Slips in manual Low

Manual Valve
- Delayed engagement
- Low line pressure
- Burnt bands/clutches

Replace with Sonnax Part No.

76948-46 Requires F-76948-TL46

Test Together

2-3 Backout Valve
- No 2-3 • 2-3 Quality poor
- Gear ratio codes

3-4 Shift Valve End Plug ZIP
- Burnt bands
- No Reverse • No 4th

Replace with Sonnax Part No. **76948-49K**

Solenoid Regulator Valve ZIP
- Erratic shifts • 2-3 Neutral • Neutral after 4th
- 3rd & Reverse only • No 2nd
- Loss Forward under hard acceleration from a stop

Replace with Sonnax Part Nos.

76948-14K ***or*** **76948-47K** Recommends F-76948-TL & VB-FIX

2-3 Capacity Modulator Valve
- 2-3 Flare • No 3rd & 4th

NOTE: Not used in '01–Later

3-4 Shift Valve
- No 4th
- Gear ratio codes

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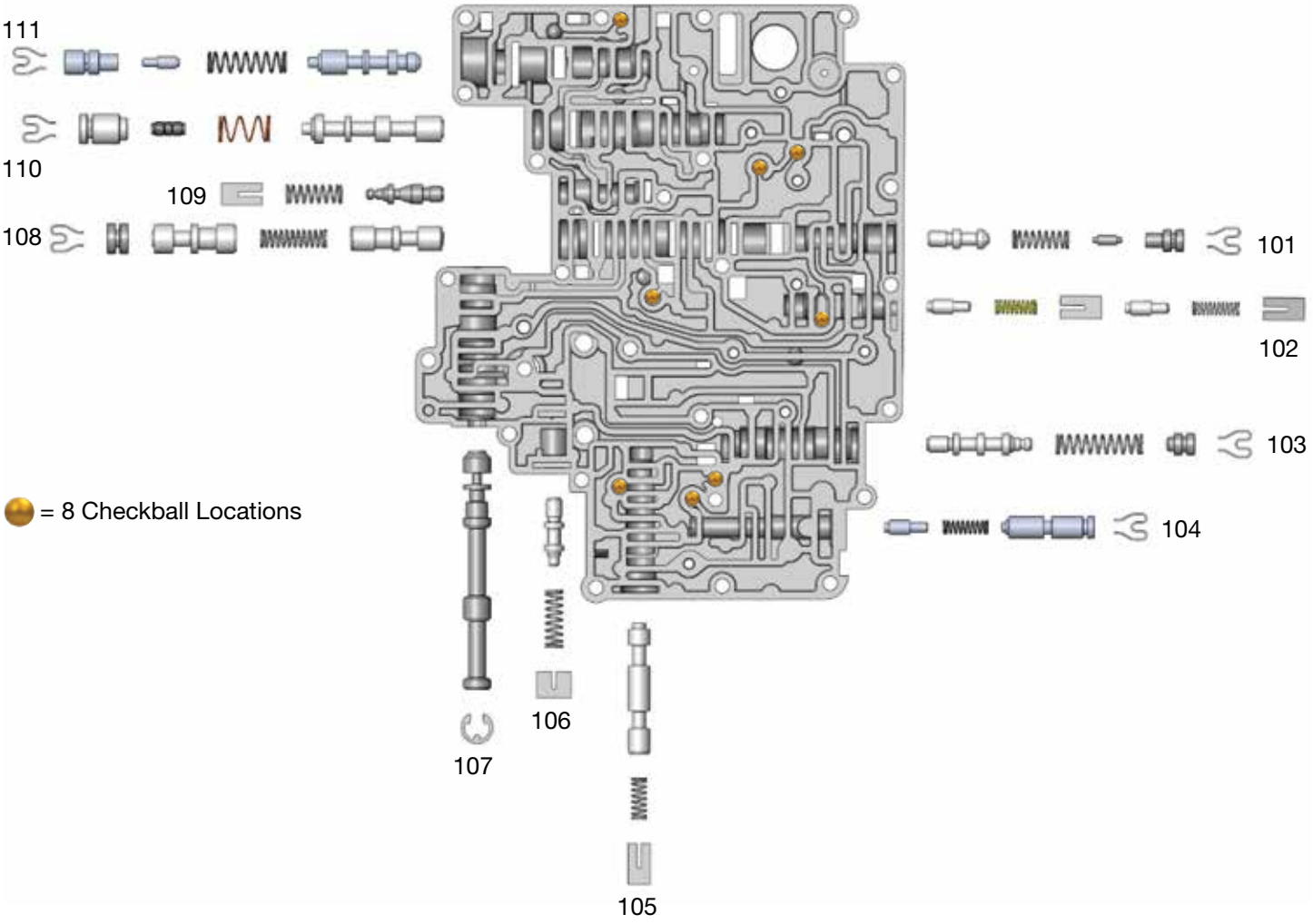
OE Exploded View

4R75E Valve Body



Valve Body Descriptions

I.D. No.	Description
101	Overdrive Servo Regulator Valve (Inboard), Overdrive Servo Regulator Valve & Sleeve (Outboard)
102	3-4 Capacity Modulator Valve (Inboard), 2-1 Capacity Modulator Valve (Outboard)
103	3-4 Shift Valve
104	2-3 Capacity Modulator Valve
105	2-3 Backout Valve
106	Solenoid Regulator Valve
107	Manual Valve
108	1-2 Shift Valve (Inboard), 2-3 Shift Valve (Outboard)
109	Converter Pressure Limit Valve
110	Bypass Clutch Control Valve (Inboard), Bypass Clutch Control Plunger Valve & Sleeve (Outboard)
111	Main Pressure Regulator Valve (Inboard), Boost Valve & Sleeve (Outboard)

Zip Kit®

The First Step in Correcting Common Shift Problems

Part No. '96-Later Only
AODE-4R75E-ZIP

- Input Shaft Seals (2)
- Main Pressure Regulator Valve
- Boost Valve Kit
- Bypass Clutch Control Plunger Valve Kit
- 2-3 Shift Valve O-Ringed End Plug
- Solenoid Regulator Valve Retainer
- Overdrive Servo Regulator Valve Kit
- Checkballs (8)
- Valve Body Retainer Plate Kit
- Overdrive Servo Pin Kit
- Pump Cover Seals (2) Early
- Output Shaft Seals (2)
- Intermediate Clutch Spiral Retaining Ring Kit
- Pump Cover Seals (2) Late

The Sure Cure®

Comprehensive Kit for Big Problems You Don't Want Back

Part No. '95-Earlier
SC-AODE

- Main Pressure Regulator Valve
- Boost Valve Kit
- Bypass Clutch Control Plunger Valve Kit
- O-Ringed End Plug Kit
- Solenoid Regulator Valve Retainer Shim
- Overdrive Servo Pin Kit
- Spiral Retaining Ring Kit
- Output Shaft Seals (2) PTFE
- Input Shaft Seals (2) PTFE
- Pump Cover Seals (2) Early
- Overdrive Servo

Part No. '96-Later Only
SC-AODE-4R75E

- Oversized Pressure Regulator & Boost Valve Kit
- Bypass Clutch Control Plunger Valve Kit
- 2-3 Shift Valve O-Ringed End Plug
- 3-4 Shift Valve O-Ringed End Plug
- Overdrive Servo Regulator
- Overdrive Solenoid Regulator Valve Kit
- Valve Body Retainer Plate Kit
- Intermediate Clutch Spiral Retaining Ring Kit
- Output Shaft Seals (2)
- Input Shaft Seals (2)
- Checkballs (8)
- Overdrive Servo Pin Kit
- Pump Cover Seals, Late (2)
- Pump Cover Seals, Early (2)

Remanufactured Valve Bodies

Great for Getting Big Jobs Done Fast, Done Right

Every valve body is completely disassembled, cleaned, updated, solenoids tested and replaced as needed. Each is then hydraulically and electronically tested so it's ready to install. That's guaranteed Sonnax quality you can trust, backed by a limited lifetime warranty.

NOTE: These remanufactured valve bodies have three accumulator plates on the valve body. A 2-3 accumulator support plate is added during the remanufacturing process to eliminate separator plate cracking and cross-leaking.

Remanufactured valve bodies F098 and F095 are direct replacements. No modifications are needed as they completely interchange with the OE valve body. Shift and lockup solenoids are included with the valve body.

Part No. '01-'08
F095

Part No. '09-Later
F098

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Application:

Vacuum Test Data Sheet

Bore Locations	Vacuum Readings, in-HG										Calculated Average Vacuum	Minimum Vacuum Standard
	Core 1	Core 2	Core 3	Core 4	Core 5	Core 6	Core 7	Core 8	Core 9	Core 10		

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The Sonnax vacuum test data sheet is a document that can be printed or downloaded and stored on your computer. This test data sheet helps to track vacuum readings in critical wear areas from up to 10 cores of the same type. Comparing results from 10 cores aids in wear pattern identification.

Recording results allows an average vacuum reading for each bore to be calculated. Your minimum vacuum standard for each bore can be established from this data. These standards should reflect your warranty requirements and customer needs.

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Orifice Legend

Unit Stock or Tag No. _____

Orifice Location	Valve/Circuit Checked	Sonnax Part Number	Actual Vacuum Reading	Minimum Vacuum Standard
101A	Overdrive Servo Regulator Valve			
101B	Overdrive Servo Regulator Valve & Sleeve	76948-29K		
102A	3-4 Capacity Modulator Valve			
103A	3-4 Shift Valve			
103B	3-4 Shift Valve End Plug	76948-49K		
105A	2-3 Backout Valve			
105B	2-3 Backout Valve			
106A	Solenoid Regulator Valve	76948-14K or 76948-47K		
106B	Solenoid Regulator Valve			
107A*	Manual Valve	76948-46		
107B*	Manual Valve	76948-46		
108A	1-2 Shift Valve			
108B	2-3 Shift Valve End Plug	76999-MED		
109A	Converter Pressure Limit Valve	76948-58K		
110A	Bypass Clutch Control Valve	76948-31		
110B	Bypass Clutch Control Valve	76948-31		
110C	Bypass Clutch Control Valve	76948-31		
110D	Bypass Clutch Control Valve Plunger Valve & Sleeve	76948-04K		
111A	Main Pressure Regulator Valve	76948-01, -16K, -09, -17K		
111B	Boost Valve	76948-02K		

*NOTE: When testing tese locations, place the manual valve so that the wide spool is centered in the port being tested, as illustrated below.

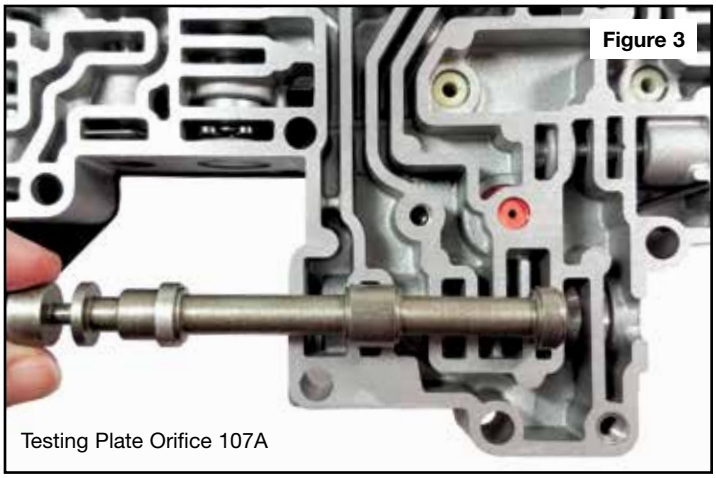
Figure 3
Testing Plate Orifice 107A

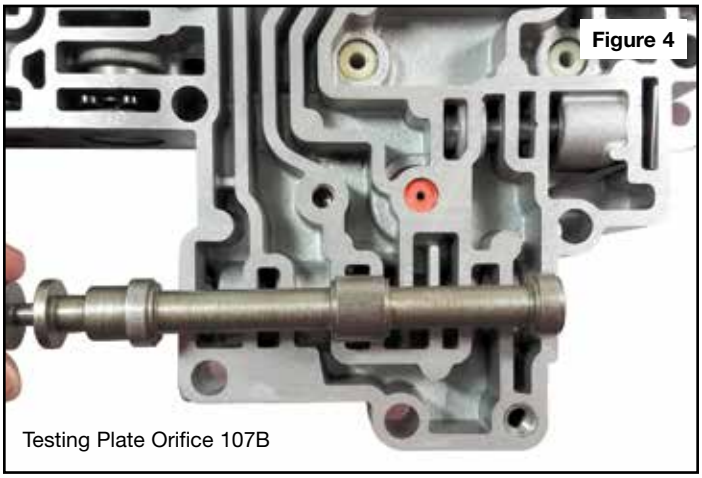
Figure 4
Testing Plate Orifice 107B

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