

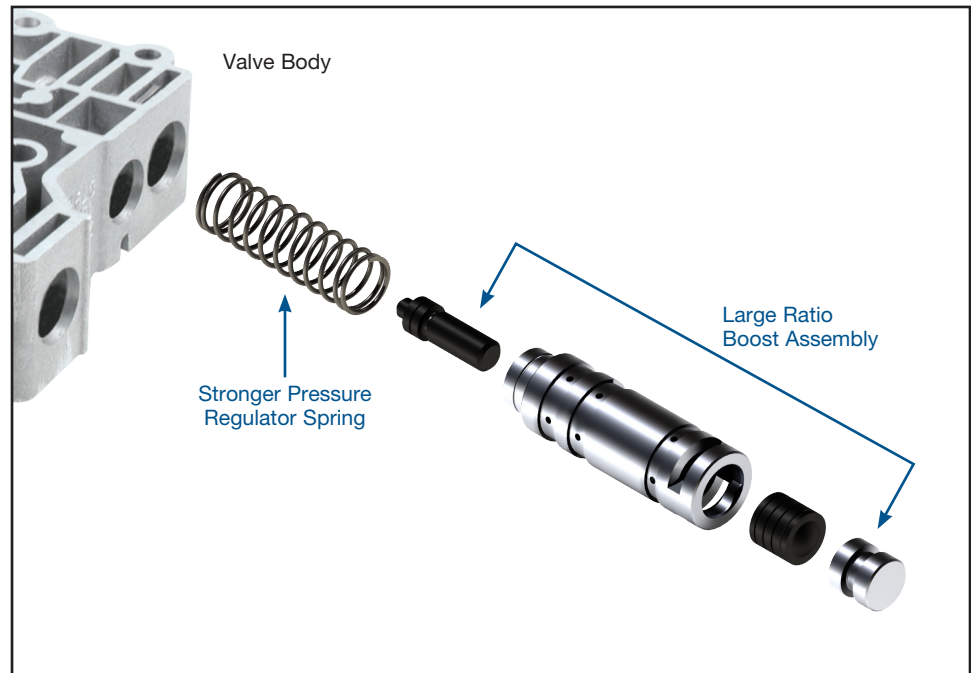
4T65-E

Line Pressure Booster Kit

Part No.

4T65E-LB1

- Large Ratio Boost Assembly
- Stronger Pressure Regulator Spring

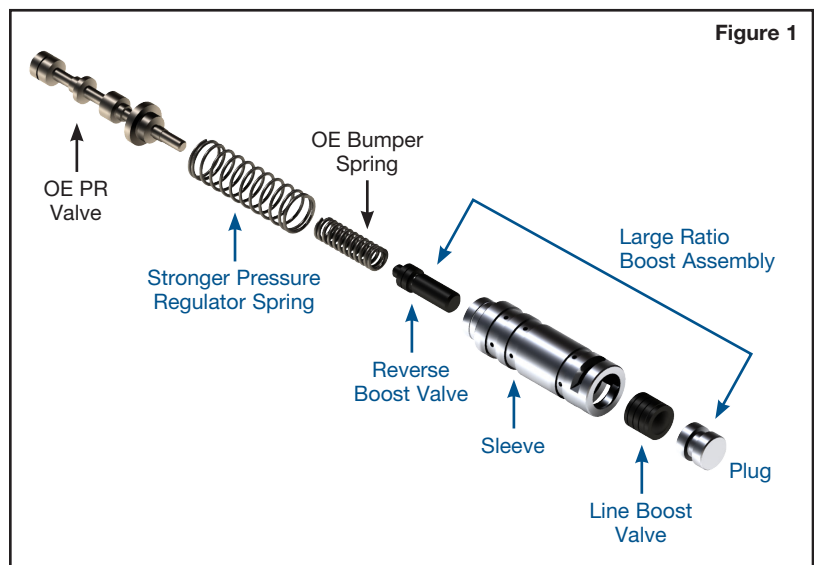


1. Disassembly

Discard the original boost sleeve/valves and large diameter pressure regulator spring. Retain the OE pressure regulator valve, bumper spring and retaining clip.

2. Installation

- Install the original small bumper spring and the Sonnax stronger pressure regulator spring.
- Install the Sonnax boost assembly with the open end toward the two springs, carefully push the sleeve assembly into the valve body (**Figure 1**).
- Install the retaining clip.

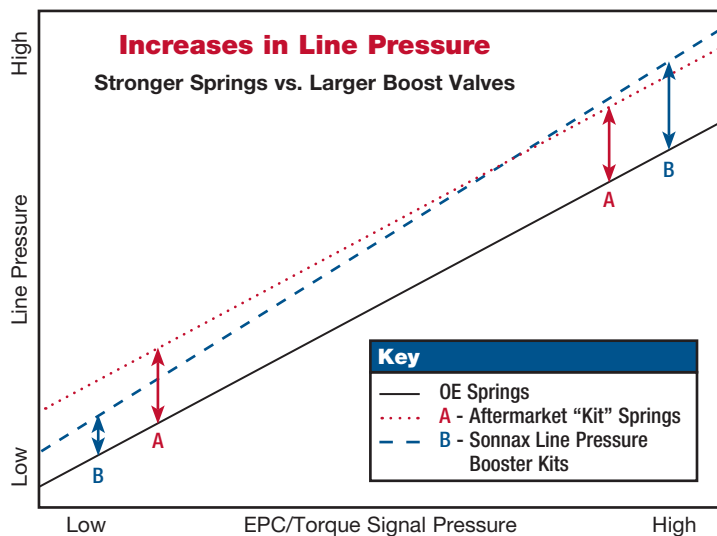


The Prescription for Optimum Pressure

Stronger pressure regulator springs raise pressure equal amounts at idle and maximum pressure. Many aftermarket “kit” springs are a compromise, raising pressure too much at idle and not enough at maximum pressures (**A** in graph). Larger boost valves, on the other hand, have a progressive effect on pressure, changing the rate of pressure increase (**B** in graph).

The Sonnax large ratio boost valves and stronger pressure regulator springs are designed to work together. This is an ideal combination: smooth engagements and lower load on the pump at idle, but a greater increase in pressure as the transmission is worked harder.

For a more in-depth look at raising line pressure, read *The Prescription for Optimum Pressure* in the Sonnax online technical library at www.sonnax.com.



Pump Tech

Good Pressure Depends on a Good Pump

Verify Pump Specifications

Excess clearance equals low pump volume and pressure.

Slide End Play	.0003" to .0016"
Rotor & Vane Endplay	.0020" to .0033"

Check for Wear

- Check with feeler gauge and straight edge over pump face, or with Plastigauge and bolt complete pump together. Too loose = low pressure. Too tight = no line rise, slide is stuck. To check, remove all pump parts and seals, assemble halves with just the pump slide and shake. You should hear pump slide moving inside.
- Carefully check torque signal regulator valve under EPC solenoid. Sticking, binding or wear will cause low line pressure.

Optional Shift Tech

Too Much of a Good Thing Causes Problems

Most times when a feed orifice is enlarged, the change in shift feel is far greater than intended and results in nuisance harsh shifts which many customers do not like. Sonnax kits raise line pressure in a progressive way so the biggest increase in pressure is at higher pressure ranges when it is needed most. This has an overall positive effect on shift feel without generating complaints.

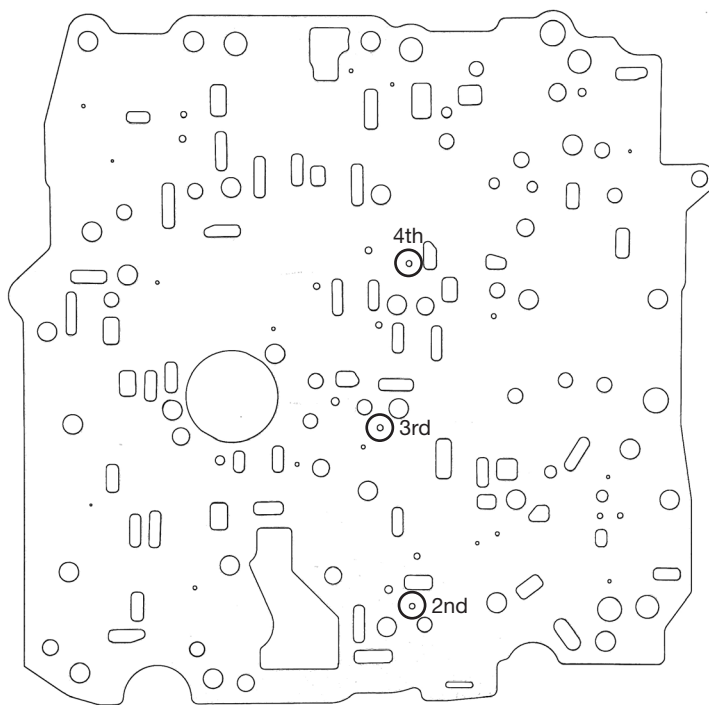
Sonnax does not recommend drilling feed holes in all transmissions or recommend specific drill sizes because there are so many different original calibrations and what works well in one may not work well in another. If you do wish to enlarge feed orifices, we have provided these guidelines to help you determine what drill size corresponds with a specific percentage increase in orifice area so you are less likely to cause problems.

Orifice Feed Hole Guidelines

Do not drill feed holes too large. A small change in diameter can make a big change in the area of the hole the oil flows through. Use this chart to determine drill diameter for any increase in orifice area that you think best suits the vehicle.

Original Orifice Diameter	Enlarged Diameter				
	← Conservative			Aggressive →	
	+10% area	+ 20% area	+ 30% area	+ 40% area	+ 50% area
0.040	0.042	0.044	0.046	0.047	0.049
0.045	0.047	0.049	0.051	0.053	0.055
0.050	0.052	0.055	0.057	0.059	0.061
0.055	0.058	0.060	0.063	0.065	0.067
0.060	0.063	0.066	0.068	0.071	0.073
0.065	0.068	0.071	0.074	0.077	0.080
0.070	0.073	0.077	0.080	0.083	0.086
0.075	0.079	0.082	0.086	0.089	0.092
0.080	0.084	0.088	0.091	0.095	0.098
0.085	0.089	0.093	0.097	0.101	0.104
0.090	0.094	0.099	0.103	0.106	0.110
0.095	0.100	0.104	0.108	0.112	0.116
0.100	0.105	0.110	0.114	0.118	0.122
0.105	0.110	0.115	0.120	0.124	0.129
0.110	0.115	0.120	0.125	0.130	0.135
0.115	0.121	0.126	0.131	0.136	0.141
0.120	0.126	0.131	0.137	0.142	0.147
0.125	0.131	0.137	0.143	0.148	0.153
0.130	0.136	0.142	0.148	0.154	0.159
0.135	0.142	0.148	0.154	0.160	0.165
0.140	0.147	0.153	0.160	0.166	0.171
0.145	0.152	0.159	0.165	0.172	0.178
0.150	0.157	0.164	0.171	0.177	0.184

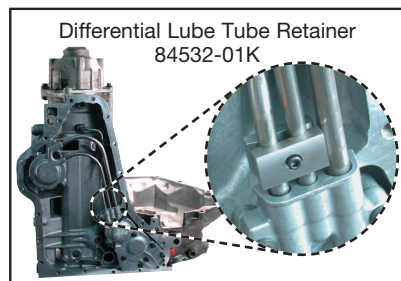
Orifice Feed Holes



Recommended Sonnax Products

Part No.	Unit
Hydraulic Booster Kits	
4R100-LB1	E40D, 4R100
4L60E-LB1	4L60-E, 4L65-E, 4L70-E*
4L60E-LB2	4L60-E, 4L65-E, 4L70-E**
700R4-LB1	4L60 (700-R4), 200-4R
400-LB1	400
4L80E-LB1	4L80-E, 4L85-E
4T65E-LB1	4T65-E
350-LB1	350
4R70W-LB1	A0DE, 4R70W, 4R75W
Electronic Booster Kits	
44957-LB1	68RFE
44957-LB2	45/545RFE

*Early-style pump **Late-style pump



Line Pressure Booster Kits

Hydraulic Booster Kits Sonnax hydraulic line pressure booster kits contain stronger pressure regulator springs and large ratio boost valves designed to work together to provide progressive pressure increases as driving conditions become more demanding. Sonnax springs are approximately 10% stronger than OE and more conservative in impact than other aftermarket “kit” springs.

Electronic Booster Kits Chrysler 45RFE, 545RFE and 68RFE units are unique because they utilize a true closed-loop pressure control system: the computer reads line pressure at all times through a full range pressure sensor. This means traditional methods of raising line pressure will have no effect because the computer simply re-adjusts the pressure until the voltage signal from the pressure sensor matches what the computer wants to see. Sonnax electronic line pressure boosters alter the pressure signal sent to the computer, causing the computer to raise line pressure. These kits are ideal for heavy duty and modified vehicles and even stock transmissions when a little extra pressure is desired. The booster installs easily between the pressure sensor and vehicle harness using OE-style sealed connectors.

Differential Lube Tube Retainer

84532-01K

The flexible hose for the differential lube tube line softens as temperature increases in the 4T60-E and 4T65-E units, causing pressure in the line to blow the steel tube out of the accumulator cover, resulting in loss of critical lube oil. The Sonnax differential lube retainer **84532-01K** is designed to clamp the differential lube tube to the secure forward servo feed tube, preventing the differential lube tube from blowing out of the accumulator cover. No machining required.

TCC Relief Valve Kit

84757-01K

4T65-E transmissions often suffer converter failure during high line pressure conditions such as max adapts or various codes due to excessive apply pressure. The torque converter piston is designed for operating pressures of 135 psi, but the OE apply pressure relief doesn't crack until 175 psi and can allow apply pressure to increase beyond that to more than 225 psi. At these high pressures the piston deflects, destroying the piston and lining. The Sonnax TCC relief valve kit **84757-01K** is calibrated to crack at 135 psi to prevent excess apply valve. No machining required.

Actuator Feed Limit Valve & Sleeve Kit

84596-02K

The OE AFL valve routes regulated line pressure to the pressure control solenoid and the 1-2, 3-4 shift signal circuit. Wear at the AFL valve bore can cause low torque signal and/or low 1-2, 3-4 shift solenoid and shift signal circuit pressure, resulting in Code 1811, maximum adapt or long shift, TCC slippage and wrong gear starts. Bore wear also can cause poor EPC control, leading to high line pressure and TCC piston damage. The Sonnax AFL valve and sleeve kit **84596-02K** restores hydraulic integrity to the AFL circuit. Requires reaming fixture **VB-FIX** and tool kit **F-84596-TL**.