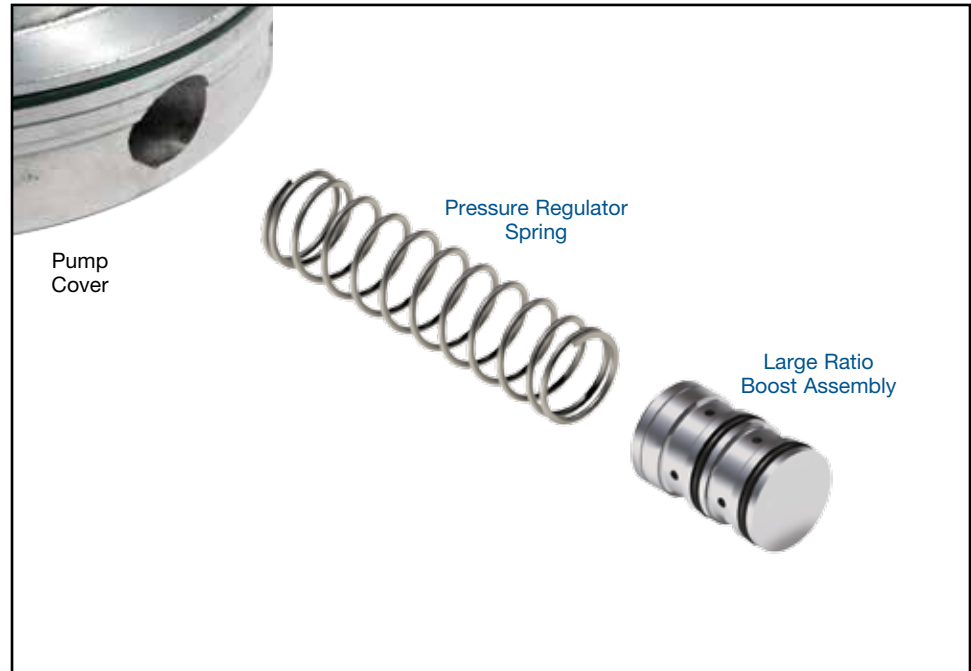


Ford 4R100, E40D

Line Pressure Booster Kit

Part No.
4R100-LB1

- Large Ratio Boost Assembly
- Pressure Regulator Spring
- O-Rings (2)



1. Disassembly

Discard the original boost sleeve/valve and large diameter pressure regulator spring. Save the small bumper spring.

2. Bore Preparation

O-rings included in this kit provide extra insurance toward preventing cross leaks and should always be installed.

- Carefully inspect snap ring grooves, feed holes or bore edges and de-burr if necessary to reduce cutting. A non-abrasive tool such as a radial wire brush (**Figure 1**) works best, but the bore should always be thoroughly cleaned after any de-burring.
- Place the two O-rings into the grooves on the boost sleeve, roll sleeve over bench to resize the O-rings, then pre-lube the O-rings. Sonnax Slippery Stick™ (**O-LUBE**) or Door Ease® are ideal for this purpose.

3. Installation

- Install Sonnax line to lube PR valve **36424-04K** or OE PR valve, the original small bumper spring and the new pressure regulator spring.
- With the open end toward the two springs, carefully push the sleeve assembly into the pump body, but only deep enough to reinstall the retaining ring.
- Install the retaining ring to the pump body.

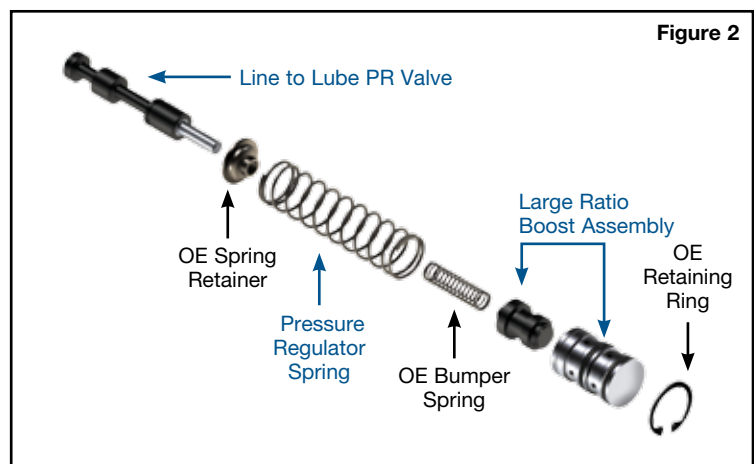
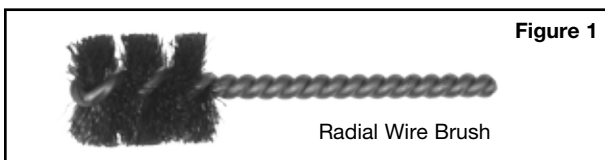


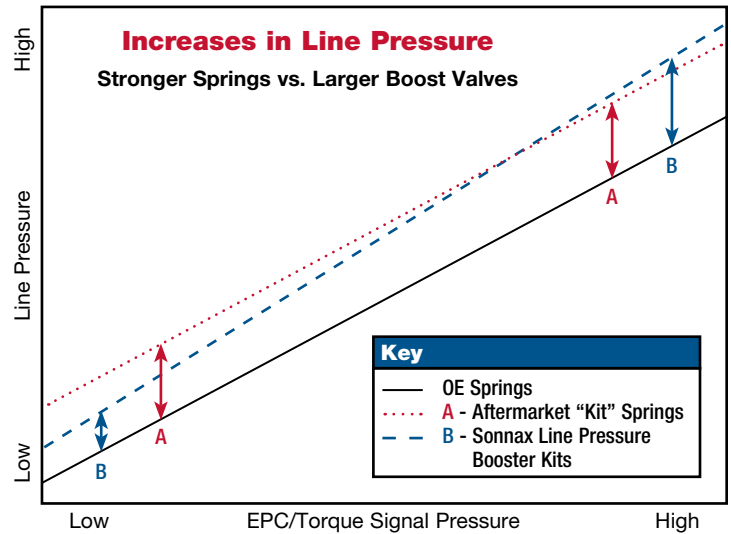
Figure 3

The Prescription for Optimum Pressure

Stronger pressure regulator springs raise pressure equal amounts at both idle and maximum load. Many aftermarket “kit” springs are a compromise, raising pressure too much at idle and not enough at maximum loads (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.

Gear Pocket Clearance	.001" to .0022" Check with feeler gauge and straight edge over pump face, or with Plastigauge and bolt complete pump together.
Outer Gear to Pump Body	.004" max.
Lobe to Lobe	.004" to .006" max.

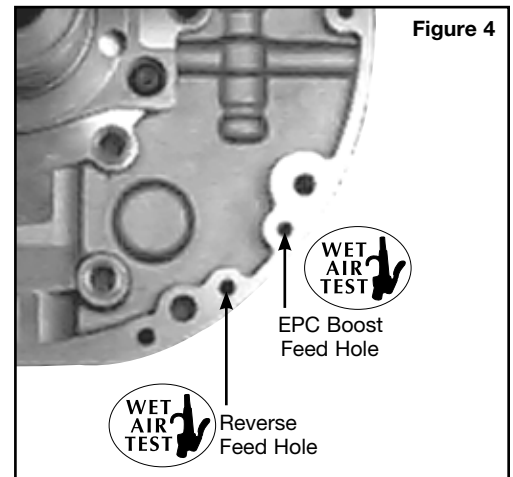
Check for Wear

- If gears are worn, replace with direct replacement Sonnax pump gear kit **36438A**.
NOTE: F5 and later casting number has larger volume (1.7 cu. in.) pump gears and is a preferred upgrade for early units with E9 and F2 (1.5 cu. in.) pump gears.
- Scratches and wear on pressure regulator valve indicate damaged pressure regulator bore.

Perform Wet Air Test

Pump Housing Flatness	.001"
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It is a good idea to perform the wet air test again (Figure 4) after installing the Sonnax line pressure booster kit. Continued leakage after replacing the boost valve and sleeve indicates cross leakage between the pump halves, which may be warped. Replace or resurface the pump halves to eliminate the remaining leakage, or use Loctite #518 gasket eliminator on the circuit from feed to boost sleeve.



Wet air tests can be done from either location for this particular application.