sonnax®
PERFORMANCE

HIGH PERFORMANCE **TRANSMISSION** PARTS

Instructions

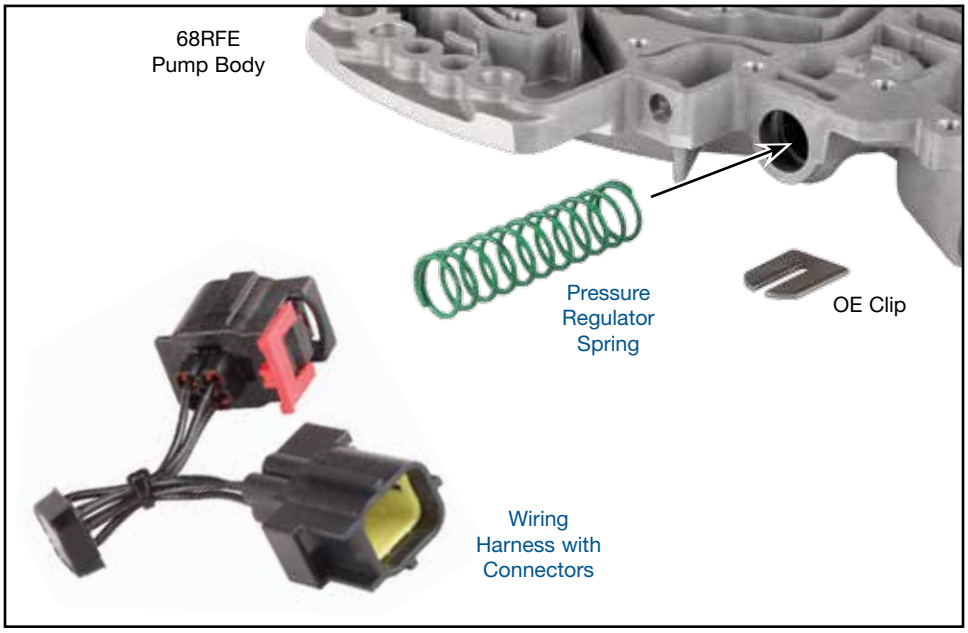
Chrysler 45RFE, 545RFE, 65RFE, 66RFE & 68RFE

Line Pressure Booster Kit

Part No. RFE-LB1

- Wiring Harness with Connectors
- Pressure Regulator Spring

Patent No. 8,275,530



CAUTION: Make sure the key is removed from ignition and beware of hot exhaust.

Figure 1

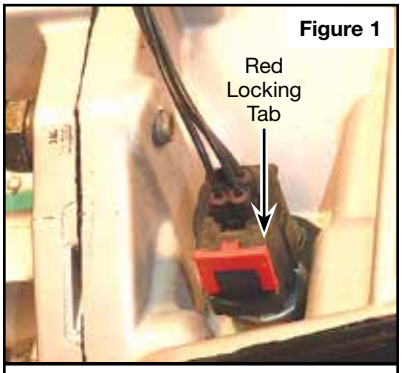


Figure 2

1. Harness Installation

Disassembly

a. Remove harness connector from the transmission sensor by using a flat blade screwdriver or similar tool to gently back out the red locking tab about 1/4" (**Figures 1 & 2**).

b. Depress inner black locking tab while carefully removing connector from the sensor.

NOTE: Do **NOT** pull directly on the harness wires or damage may result.

Assembly

a. Connect vehicle harness to Sonnax line pressure booster, then push in the red locking tab. Attach other booster connector to transmission sensor connector and push in the red locking tab.

b. Inspect and verify harness is safely routed away from hot exhaust and sharp edges.

c. Using capable scan tool, perform the clutch volume index (CVI) reset procedure so the control unit can adapt to the new pressure.

d. If no scanner is available, test drive at light-to-medium throttle through several shifts so the control unit can adapt to the new pressure.

2. Pressure Regulator Spring Installation

NOTE: Pressure regulator spring is optional, see page 2, item 3 for details.

a. Remove transmission. Remove and disassemble pump.

b. Remove and discard OE pressure regulator spring.

c. Install Sonnax spring. Reassemble and reinstall transmission.

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LINE PRESSURE BOOSTER KIT RFE-LB1

Instructions

Achieving a Progressive Pressure Boost in RFEs: Chrysler 45RFE, 545RFE, 65RFE, 66RFE & 68RFE

1. Compared to other common transmissions, what is different about the RFE pressure control system?

RFE units have a full range pressure transducer and real-time adaptive closed-loop pressure control system. This system is unique to the Chrysler RFE transmissions. Because of this, it is not possible to raise pressure in an RFE the same way you would in other transmissions. Installing a stronger pressure regulator spring or larger boost valve will not be effective because the RFE control module will simply adapt and return pressure to OE specification. An electrical booster option is necessary to raise pressure on an RFE.

2. What are the differences between the Sonnax RFE-LB1 kit compared to old 44957-LB1 & -LB2 kits?

The previous Sonnax RFE Line Boosters had two versions, **44957-LB1** (diesel) and **44957-LB2** (gas).

In diesel applications the Pressure Control Solenoid (PCS) duty cycle is closer to the 5% operational low-limit and pressure is generally higher than gas applications. As a consequence the **44957-LB1** (diesel) increased pressure less than the **44957-LB2** (gas). In rare instances a low pressure trouble code P0868 could set due to higher adapted pressures, or higher than typical system voltage. Higher system voltage increases current (amperage) to the PCS solenoid, causing a further reduction in PCS duty cycle as the system tries to adjust pressure. The P0868 low pressure code sets when PCS duty cycle tries to exceed the 5% operational low-limit. The **RFE-LB1** is an improved design with an integrated chip (IC) circuit and a stronger pressure regulator spring. The improved design has three benefits over the **44957-LB1** and **44957-LB2**:

a. A progressive pressure increase (approximately 10 psi) at lower pressure ranges and a greater increase (approximately 25 psi) at higher pressure ranges.

b. Greater sensor voltage range compared to old design reduces potential for trouble codes.

c. One kit can be used in both gas and diesel applications.

3. What results can be expected when the RFE-LB1 is installed?

Like the old **44957-LB1** and **44957-LB2**, this Sonnax **RFE-LB1** can be installed with just the harness, without installing the included stronger pressure regulator spring. With this scenario, pressure will increase as described. To achieve the pressure increase, the computer lowers the PCS duty cycle operational range. In rare cases, vehicles with higher system voltages or high commanded pressures may set trouble codes as the PCS duty cycle reaches the limit of its operational range. In the rare instance this occurs, the only option is to either remove the Line Booster harness or install the pressure regulator spring. If the Line Booster kit is being installed when the transmission is removed from the vehicle, simply install the stronger pressure regulator spring in the pump, and the harness when the transmission is reinstalled. With this scenario, pressure will be increased as described, however because of the new spring load, the system will make the higher pressure while the PCS duty cycle operating range remains close to original (**reference chart below**).

Scenario	Comments	**Line Pressure** (as measured with gauge and Mopar adaptor 8259)	**PCS Duty Cycle Operational Range** (OE limits are 5% & 62%)	Trouble Codes
1. RFE-LB1 Harness & Spring	Best combination when transmission is removed from vehicle.	Increases progressively from 10 psi to 25 psi increase at higher pressure ranges.	PCS operational range remains close to original 5%.....(← PCS Op Range →).....62%	Unlikely to occur.
2. RFE-LB1 Harness Only	Best option when transmission is NOT removed from vehicle.	Increases progressively from 10 psi to 25 psi increase at higher pressure ranges.	PCS operational range is lowered 5%...(← PCS Op Range →).....62%	In rare cases P0868 can occur as the PCS duty cycle reaches the limit of its operational range in vehicles with programmers installed, with higher system voltages or commanded pressures.
3. RFE-LB1 Spring Only	Not recommended No benefits No concerns	No pressure increase.	PCS operational range is raised 5%.....(← PCS Op Range →)...62%	Unlikely to occur.
Line pressure sensor signal voltage, desired and actual line pressure (as read with scanner) remain unchanged under scenarios 1, 2 and 3. To measure actual pressure inside the transmission requires adaptor tool 8259 and pressure gauge.				