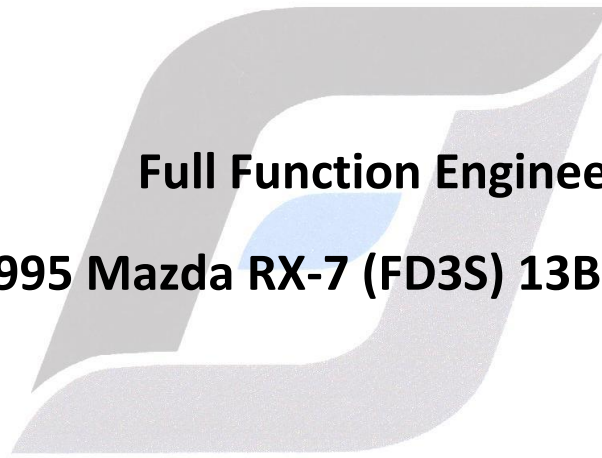


READ BEFORE INSTALLATION



Full Function Engineering

1993-1995 Mazda RX-7 (FD3S) 13B-REW Full Fuel Kit

F U L L F U N C T I O N

Notice of Performance

Many of the parts that we sell are of a high performance nature and may cause additional stress on your vehicle. We cannot guarantee the integrity of your automobile. Full Function Engineering shall not be responsible for damages due to neglect or damages caused by products we sell. Some parts we sell are intended for off-highway use and may not be smog legal or D.O.T approved. Federal and State laws may prohibit use of said products on your vehicle; we recommend consulting your local authorities.

Be safe during installation and use your head on the road.

Failure to comply CAN cause an engine fire. Keep a fire extinguisher at hand.

WARNING

FFE rails are designed to be a perfect fit but require some attention to attain this.

Proper fitment is **YOUR** job to ensure.

(Full Function Engineering holds NO liability for improper install)

NOTE: This system is not designed to be used in conjunction with factory rat's nest and hardlines.

You should **NOT** have to tension the rail bolts to “snug” the injectors.

If your injectors will not rotate (with light force) or,

The spacers do not seat tightly between the rail and intake manifold/block,

DO NOT PROCEED.

The bolts should torque to the manufacturers recommended specifications with no gap between the spacer, rail and intake manifold.

These rails REQUIRE the removal of the plastic diffusers and associated spacers. Take precautionary steps when removing as they can break and fall into intake ports.

The provided spacers have a flat end which installs on the engine or intake manifold side. The protrusion inserts into the rail for alignment.

If you believe you received the incorrect fitment for your injectors or engine please refer to the bolt and spacer picture below and also our injector fitment guide on the website.

If you have questions, fitment issues or suggestions please contact us.

Included Parts:



1. 13B-REW Secondary Fuel Rail
2. 2x Secondary Rail spacers (34, 48, or 60mm)
3. 13B-REW Primary Fuel Rail
4. 2x Primary Rail spacers (48mm)
5. 4x Lower Injector insert with 8x o-rings
6. Fuelab Mini FPR with hardware
7. Fuelab 0-120 PSI Pressure Gauge
8. Fuelab -6 Fuel Filter
9. 2x OEM Hardline adapter to -6 Male
10. Swivel Adapter -6 ORB to -6 ORB
11. Swivel Adapter 90 degree -6 ORB to -6 Male AN
12. 3x -6 ORB to -6 AN Male
13. -6 ORB Plug
14. 3x 90 degree -6 Push-lock Hose End
15. 5x Straight Push-lock -6 Hose End
16. 10x feet E85 compatible -6 push-lock hose

1. Disconnect Battery.
2. Relieve fuel pressure using FSM procedures.
3. Remove OEM fuel rails, fuel injectors, and Air Control Valve following the procedures and precautions of the FSM.
4. CAUTIOUSLY remove plastic diffusers (air bleed sockets) in injector bores of lower intake manifold and center iron. Breaking these during removal will result in debris falling into intake ports.
5. Install injectors (lubricate o-rings) into FFE fuel rails (1 and 3) with lower o-ring inserts (5). *See Injector Fitment Guide to ensure correct fitment.*
6. Install primary fuel rail with injectors to center iron ensuring o-rings have been fully seated using accompanying spacers and hardware (4). There should be no gaps under the rail spacers to rail and fuel injectors should still be able to rotate and move up and down slightly (~0.5-2mm). Tighten to OEM spec 14-19 ft/lb.
7. Repeat for secondary fuel rail (1) and spacers (2).
8. Assemble and install FPR (6) and fittings. Lubricate all o-rings prior to installation. *See Figure 1.*
 - a. Install the double sided swivel -6 ORB (11) into one side port. Keep in mind the orientation of the gauge port as you may want to point the gauge towards the passenger side of the car for better visibility/accessibility.
 - b. Install the -6 ORB plug (13) into the open side port.
 - c. Install the -6 90 degree swivel fitting (10) into the bottom return port of the FPR with the -6 AN male pointed towards the driver's side of the car.
 - d. Install FPR assembly to secondary fuel rail (1) at firewall end of rail.
 - e. Install the gauge (7) or pressure sensor into the gauge port using Teflon tape.
9. Install -6 ORB to -6 AN male (12) into 3 remaining open ports of fuel rails (1 and 3) ensuring the o-ring is lubricated and fully seated.

10. Plumb primary and secondary rails using two 90 degree -6 hose ends (14) and a section of -6 push-lock hose (16). See *Figure 2* and Push-lock hose end assembly instructions.
11. Install hardline adapters (9) to OEM return and feed line. Hard line adapters require cutting off 'nipple' on OEM line with small pipe cutters. Slide the nut on tube followed by the ferrule. Thread the adapter together and tighten so that ferrule squeezes the tube creating a compression seal.
12. Mount Fuelab fuel filter (8) in desired location. Plumb in line of feed from firewall to primary fuel rail (3).
13. Cut -6 hose to required length for return and feed lines. Leave some slack to make installation easier.
14. Assemble return fuel hose (16) with straight hose ends (15) on either side.
15. Install return line ensuring hose ends are securely tightened.
16. Tighten all fittings and hose ends before testing for leaks.
17. If using 34mm secondary fitment and retaining ACV, reinstall Air Control Valve using FSM procedures or install ACV block-off plate if necessary.
18. Reconnect battery and prime fuel system to check for leaks. If there is a leak, STOP, disconnect battery and contact us for assistance.
19. With engine off and fuel pump running adjust FPR to desired fuel pressure.
20. Reinstall injector electrical connectors, upper intake manifold, and any other removed items using FSM procedures.

Figure 1.

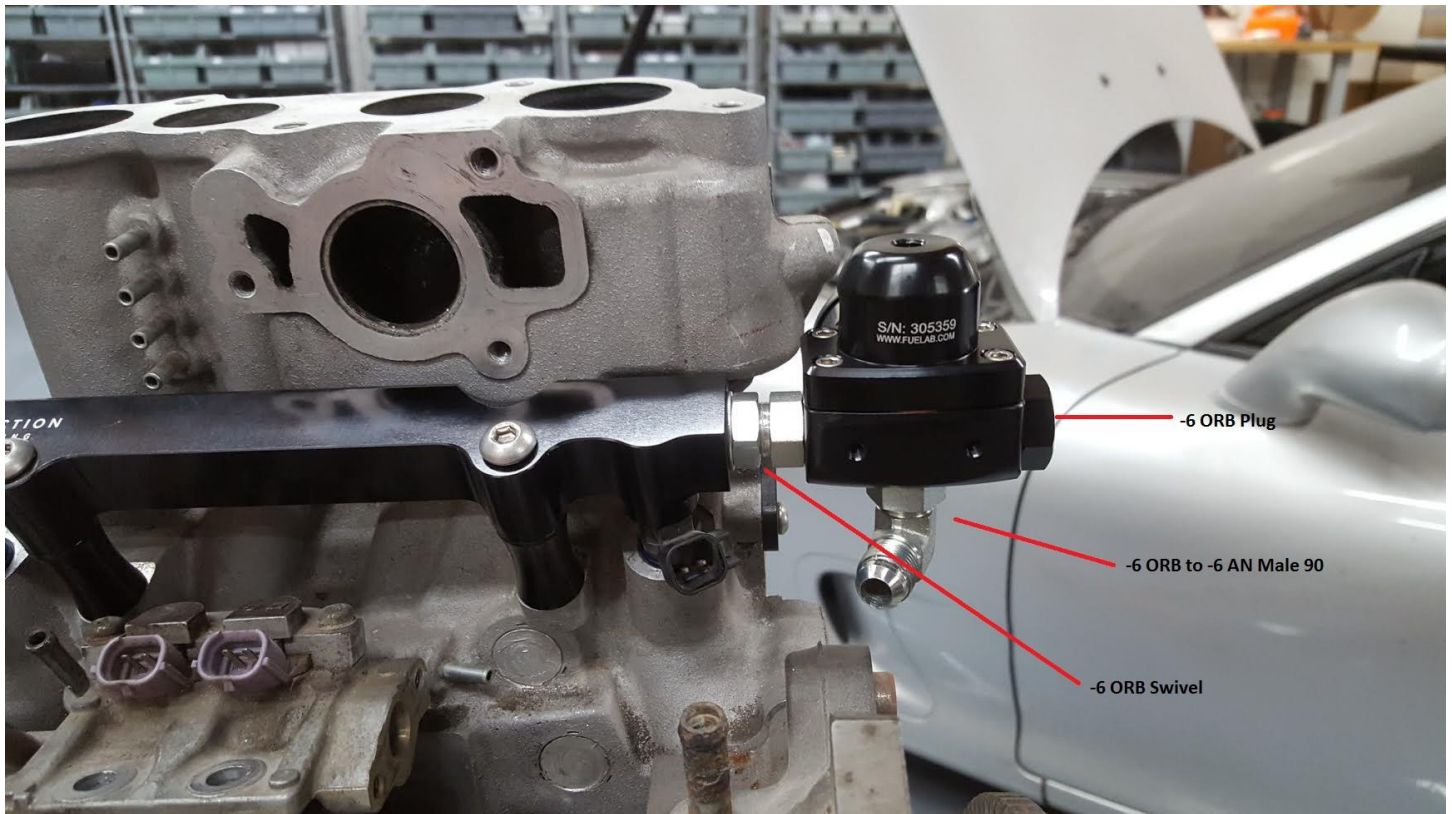


Figure 2.



Push-lock hose end assembly instructions:

To assemble hose ends first cut hose to desired length. Keep in mind that some extra slack in hose can be beneficial for an easier install. Clamp the hose end in a vise firmly so that hose can be pressed onto the barb of the fitting. Apply liberal lubricant such as WD40 to both hose end and inside of hose. Using a heat gun on low setting (hair dryer could also work), GENTLY warm the rubber hose. DO NOT OVERHEAT hose or it can cause deformation. While hose is warm, press onto barb of fitting completely up to the stop. The hose end is now complete, but clamps are available for extra security. Clean out the hose and dry with compressed air. Contamination from hose assembly is one of the most frequent causes of fuel injector failure.

Please contact us if you have any concerns or questions during install.

Email: fullfunctioneng@gmail.com