

# INSTALLATION INSTRUCTIONS

## MKIII SUPRA/SOARER FUEL RAIL

TOYOTA 1JZ-GTE ENGINE

Support: [info@radiumauto.com](mailto:info@radiumauto.com)

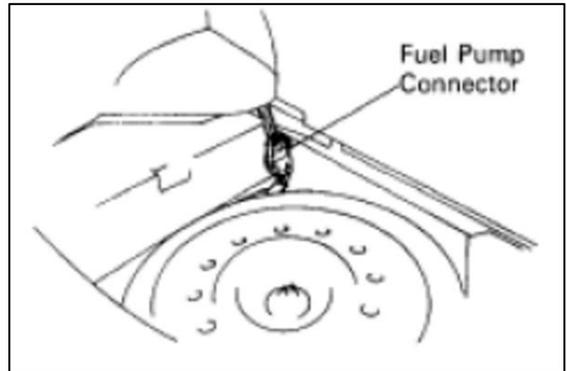
Document# 19-0118

**WARNING: DO NOT EXPOSE WORK AREA TO ANY SPARKS OR FIRE. DO NOT SMOKE WHILE OPERATING ON THE FUEL SYSTEM. CLEAN UP ALL FUEL SPILLS IMMEDIATELY. WORK IN A WELL VENTILATED AREA.**

1. If accessible, refer to the factory Toyota Service Manual for disassembly questions. To relieve fuel pressure, temporarily disconnect the fuel pump connector (as shown) or remove the fuel pump fuse. Start and idle the vehicle and allow the engine to stall. Turn the ignition OFF and remove the key. Disconnect the battery's (-) negative terminal. Install fender covers to protect the paint and body.

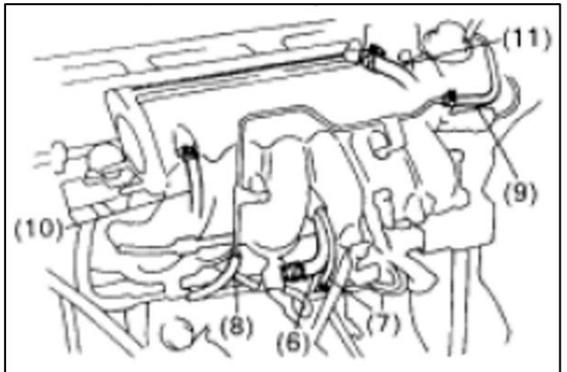
Remove the following components: throttle body, oil dipstick and guide for engine (and A/T), air intake chamber brace, control cable bracket from air intake chamber.

Unplug the IACV, turbo pressure sensor, and fuel pressure control connectors. Remove the bolt and disconnect the engine wire protector from the body.



2. Disconnect the following hoses:

Air hose from IACV, air intake chamber hose from vacuum pipe on IACV pipe, air hose for EGR from valve pipe, PCV valve hose, vacuum hose from fuel pressure regulator, IACV hose from No.4 water bypass pipe (6), air intake chamber EVAP hose from manifold brace (7), EVAP hose from No.2 vacuum pipe (8), charcoal canister EVAP hose from No.2 vacuum pipe (9), PS air hose from air intake chamber (10), brake booster vacuum hose from union on air intake chamber (11).



3. Disconnect EGR gas temperature sensor connector.

Remove the following: EGR pipe, water bypass pipe, manifold brace, and the air intake chamber assembly (shown). Consider replacing the gasket.

Disconnect the following: camshaft position sensor connectors, wire clamps from injector holders, and injector connectors.

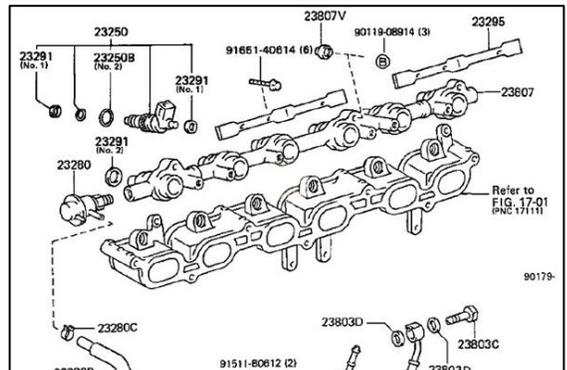


4. After the engine has cooled, place shop towels down under the fuel inlet pipe. Slowly loosen the banjo bolt and catch any gasoline that drips out.

Place shop towels down under the fuel pressure regulator return pipe. Slowly disconnect and catch any gasoline that drips out.

Remove the 3 fuel rail bolts and injectors assembly. Drain the excess fuel into a safe container for disposal.

**Keep the 3 intake manifold fuel rail spacers** in place as they will be reused. If the OEM spacers have been misplaced, here is the part number: **Toyota 90561-08009**.



5. Thoroughly clean out any dirt or debris found in the intake manifold injector seat bores.

Install each included O-ring onto the billet Radium injector seat lip, as shown.

Next, **lubricate the injector seat O-rings with engine oil.**

Press the Radium injector seats down firmly into the 6 intake manifold injector ports until fully seated. If necessary, use a small rubber mallet.



6. There are 2 different sets of mounting feet included. Choose the 2 that are compatible with the fuel injectors used (see next step). Orientate the feet as shown and secure to the rail using the 6 socket head bolts and a 4mm Allen hex wrench. Apply a thread-locker (not included).

**Lubricate all adapter fitting O-rings** and secure to all 8AN ORB ports.



7. For proper fuel injector fitment, reference the fuel rail product page at [www.radiumauto.com/Top-Feed-Fuel-Rail-for-Toyota-1JZ-GTE-P945.aspx](http://www.radiumauto.com/Top-Feed-Fuel-Rail-for-Toyota-1JZ-GTE-P945.aspx)

In the example shown, the tall mounting feet are installed. However, these fuel injectors specifically use billet hats to make them taller than necessary (in this application). If clearance is an issue, consider removing these hats (if equipped) and replacing the mounting feet with the shorter ones that are included.

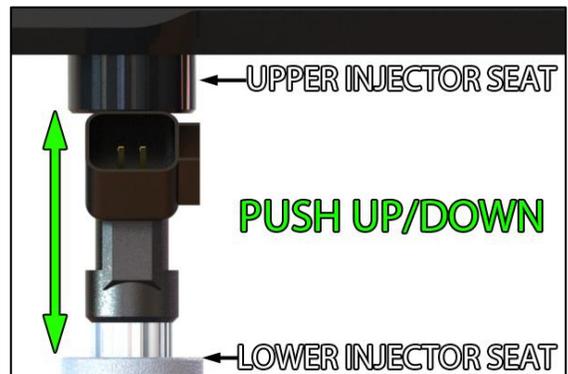
**Lubricate each fuel injector's top and bottom O-rings with engine oil.** Fully insert the injectors into the Radium fuel rail bores.



8. **Using the OEM fuel rail spacers**, position the fuel rail assembly on the intake manifold. Install the OEM M8 bolts and torque to 15ftlbs (21Nm) using a 12mm socket wrench.

As a test, push the fuel injectors downward until they bottom out. Now inspect the injectors' upper O-rings and confirm they are still inserted into the fuel rail injector bores. Do not pressurize the fuel system until the proper height is achieved.

Orientate the fuel injectors such that the electrical connectors do not experience any interference with the surrounding area. Remove the OEM plastic wire harness cover as it will likely not fit. Finally, plug in each of the 6 fuel injector connectors.



9. Reminder: The Radium fuel rail kit does not include a feed supply hose as most applications require custom fuel hoses.

After everything is reinstalled in a reverse order, cycle the key a few times (without starting engine). This allows the fuel pump to prime the system. **CHECK FOR LEAKS!** If no leaks are found, start the engine and check for leaks again while the engine is running.

Installation complete.

