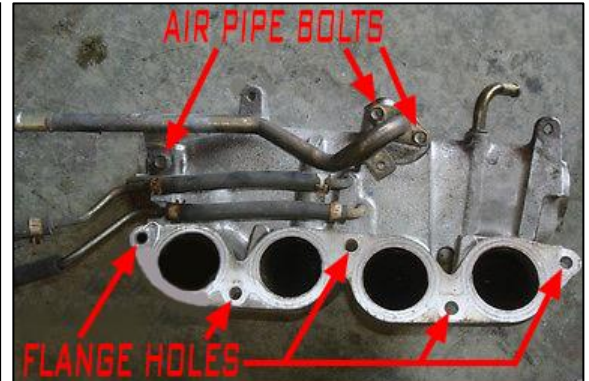


**WARNING: DO NOT EXPOSE WORK AREA TO ANY SPARKS OR FIRE. DO NOT SMOKE WHILE OPERATING ON THE FUEL SYSTEM. CLEAN UP ALL FUEL SPILLS IMMEDIATELY. WORK IN A WELL VENTILATED AREA.**

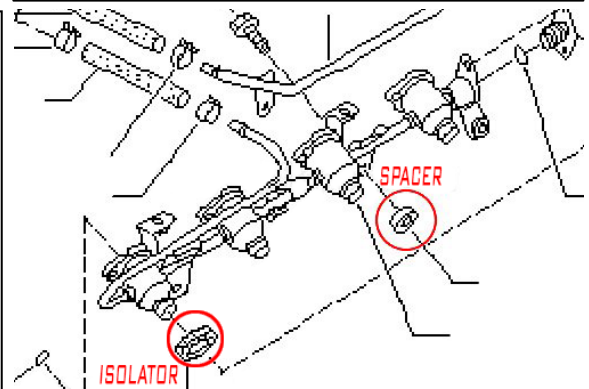
1. Remove fuel pump fuse and start engine. Allow engine to stall. This relieves fuel pressure in lines. Replace fuel pump fuse. Disconnect battery. Unbolt the upper plenum and permanently remove the air pipe (shown) from the intake manifold. NOTE: the included billet IACV spacer will internally close-off this passageway so an external block-off plate is NOT necessary for this 2-bolt flange.

Unplug injectors and disconnect harness from fuel rail. Carefully pull vacuum tubing off fuel pressure regulator (FPR). Release and pull back clamps on FPR return hose and fuel feed hose. Gently disconnect both fuel hoses and catch all spilled fuel.



2. Use a 12mm socket wrench to remove the three primary M8x1.25mm fuel rail mounting bolts. Next, gently lift fuel rail up just enough to expose the 4 rubber fuel injector isolator cushions. They will either be stuck around the lower portion of the injector or still be in the intake manifold injector ports. Also, find the 3 black plastic spacers found underneath each fuel rail tab. These pieces will NOT be reused.

Remove the fuel rail from the vehicle. It will contain fuel. Drain excess fuel into a safe container for disposal.



3. As shown, insert the provided O-rings into the injector seat grooves.



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

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

Press the Radium injector seats down firmly into the 4 intake manifold injector ports until fully seated. If necessary, use a small rubber mallet.



5. Install all fittings into the 3 ports (front, bottom, rear) of the rail. These are 3/8-16 (8AN ORB). To prevent failure, lubricate all adapter port fitting O-rings.

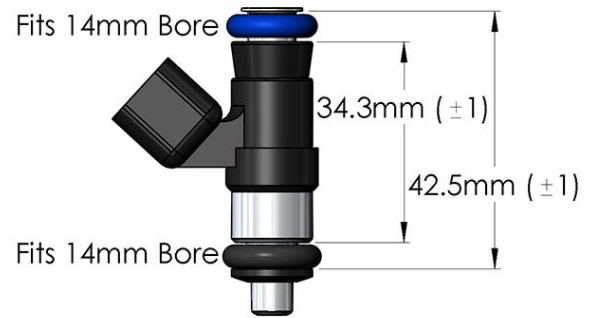
If reusing the OEM FPR, the Radium FPR adapter will need to be clocked for proper fitment once installed back on the engine. Transfer the OEM FPR from the OEM rail to the Radium adapter. NOTE: the OEM FPR will NOT clear the throttle body if using the OEM intake manifold. The rear port must be used.

*NOTE: The older version Radium SR20DET S14/S15 fuel rail (Radium 20-0159), uses a 3/8" NPT front port. Use PTFE Teflon paste on the NPT fitting.*



6. For proper fitment, the top feed fuel injectors that will be used must match the dimensions, as shown.

Reference the fuel rail product page at [info@radiumauto.com](mailto:info@radiumauto.com) for more information.



7. Lubricate the fuel injector top O-rings. Fully insert the injectors into the fuel rail bores.

Install the included insulating washers under the three M8x1.25mm bolt heads.

Install the insulating spacers to the fuel rail, as shown.



8. Lubricate the fuel injector bottom O-rings.

While positioning the fuel rail in place, confirm the mounting bolts are lined up with the intake manifold bosses. Make sure all injectors are lined up properly in the injector seats, then press firmly on the fuel rail to seat the lower injector O-rings.

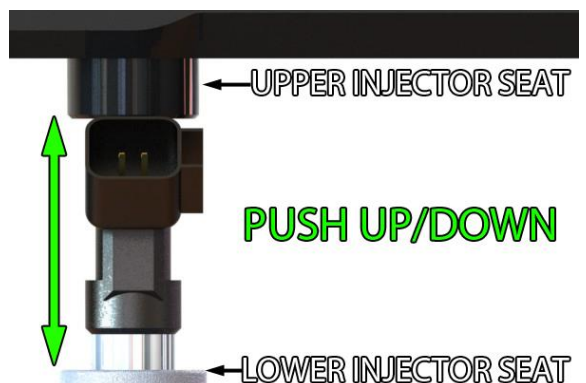
Using a 6mm Allen wrench, torque the 3 bolts to 10 ft-lbs (13.6Nm).



9. 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.

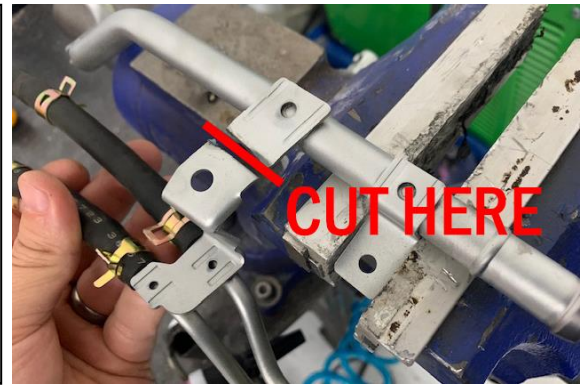
Orientate the fuel injectors such that the electrical connectors do not experience any interference with the surrounding area.

Note: wiring polarity on each injector does not matter.



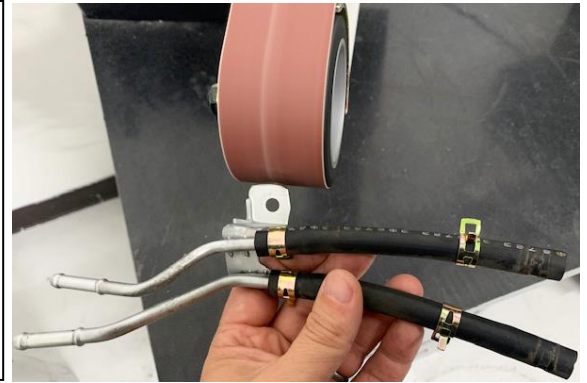


10. Find the air pipe assembly from an earlier step. Because the vacuum lines will still be used, cut the idle air pipe off at the location shown.



11. Deburr the cut edge.

Reinstall the vacuum lines to the upper plenum.



12. Tighten the included barbed fitting to the Radium IACV spacer.

NOTES:

1. Newer kits use an ORB barbed fitting. Lubricate the O-ring prior to installing.
2. Older kits used a NPT barbed fitting. Apply Teflon paste to the threads.



13. Remove the idle air control valve (IACV) from the intake manifold plenum.  
NOTE: If the OEM gasket is in good condition, it can be reused.

Sandwich the new gasket between the IACV spacer and the OEM IACV.

Place the OEM gasket on top. A new gasket (Radium P/N: 18-0014) is shown.

Insert the three included M6x1mm bolts through the assembly, as shown.



14. As shown, install the assembly to the upper intake manifold.

Secure the bolts using a 5mm Allen wrench.



15. Reinstall the upper intake manifold plenum.



16. Measure the distance from the charge pipe barb to the Radium IACV spacer barb and cut the provided hose to length.

Secure the IACV bypass hose using clamps.



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

After everything is reinstalled, 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 again while the engine is running.

**INSTALLATION COMPLETE**

