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AEM
HI-Flow Fuel Rail
Installation Manual
25-109



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Legal Restrictions



STOP!

THIS PRODUCT HAS LEGAL RESTRICTIONS.
READ THIS BEFORE INSTALLING/USING!

WARNING! THIS IS A RACE ONLY PRODUCT MANUFACTURED AND SOLD FOR INSTALLATION ON VEHICLES DESIGNED TO BE USED SOLELY FOR COMPETITION PURPOSES. ONCE THIS PART IS INSTALLED, THE VEHICLE MAY NEVER BE USED, OR REGISTERED OR LICENSED FOR USE, ON A PUBLIC ROAD OR HIGHWAY. IF YOU INSTALL THIS PART ON YOUR VEHICLE AND USE THE VEHICLE ON A PUBLIC ROAD OR HIGHWAY, YOU WILL VIOLATE THE CLEAN AIR ACT AND MAY BE SUBJECT TO PERSONAL CIVIL OR CRIMINAL LIABILITY, INCLUDING FINES OF UP TO \$4,819 PER DAY. IT IS THE RESPONSIBILITY OF THE INSTALLER AND/OR USER OF THIS PRODUCT TO ENSURE THAT IT IS USED IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IF THIS PRODUCT WAS PURCHASED IN ERROR, DO NOT INSTALL AND/OR USE IT. THE PURCHASER MUST ARRANGE TO RETURN THE PRODUCT FOR A FULL REFUND. THIS POLICY ONLY APPLIES TO INSTALLERS AND/OR USERS WHO ARE LOCATED IN THE UNITED STATES; HOWEVER CUSTOMERS WHO RESIDE IN OTHER COUNTRIES SHOULD ACT IN ACCORDANCE WITH THEIR LOCAL LAWS AND REGULATIONS.

Warning

WARNING!

Improper installation and/or adjustment of this product can result in major engine/vehicle damage. For technical assistance visit our dealer locator to find a professional installer/tuner near you.

Note: AEM holds no responsibility for any engine damage or personal injury that results from the misuse of this product, including but not limited to injury or death.

Introduction

Read and understand these instructions BEFORE attempting to install this product. Do not smoke while working on the fuel system. Keep open flames or sparks away from your work area. Be sure to relieve fuel pressure while engine is off.

Installation

1. Getting Started

- Make sure vehicle is parked on a level surface.
- Set parking brake.
- Disconnect the negative cable from the negative battery terminal.**
- If the engine has run within the past two hours let it cool down.
- Clean area around the fuel rail so that dirt cannot get into the engine.

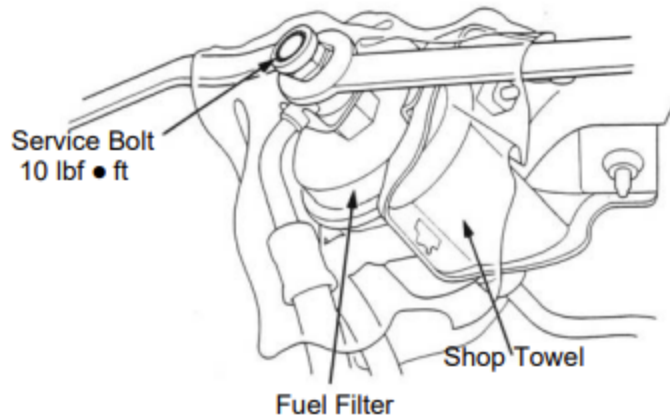
Note:

- Replace the washer between the service bolt and the special banjo bolt whenever the service bolt is loosened. (where equipped)
- Replace all washers whenever the bolts are removed.
- Replace all cushion rings, seal rings and fuel injector insulators when fuel rail is disassembled.

2. Relieving fuel pressure

- Remove the fuel fill cap.
- On models equipped with a 6 mm service bolt. (illustrated below) If your vehicle is not equipped with a 6 mm service bolt, then proceed to step c.

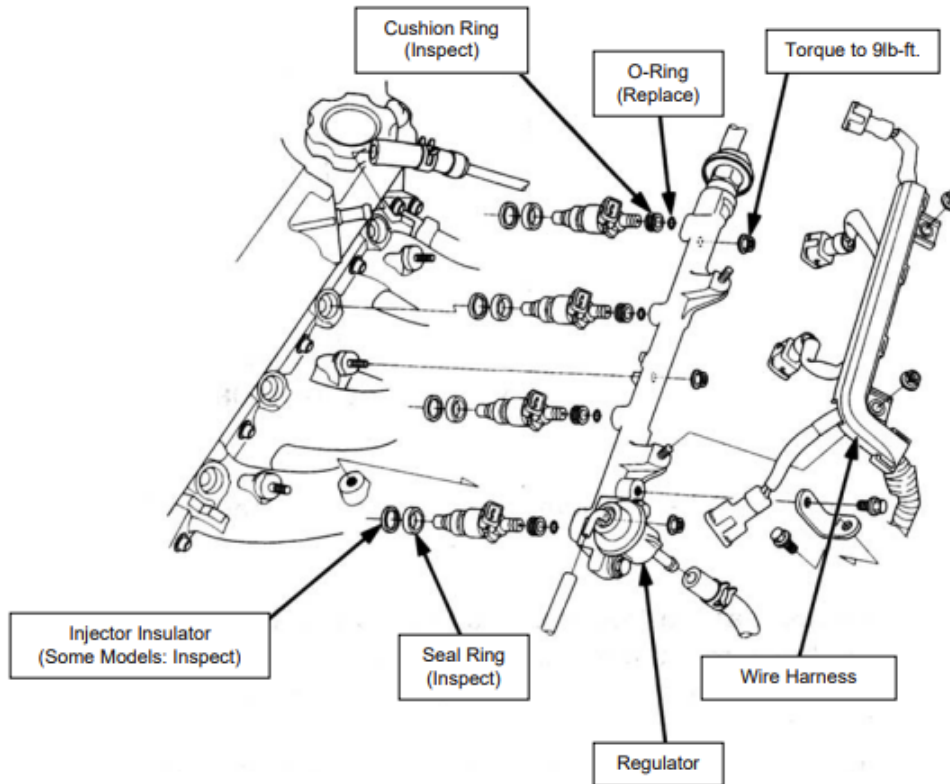
- i. Use the box end wrench on the 6 mm service bolt on top of the fuel filter or fuel rail, while holding the special banjo bolt with another wrench.
- ii. Place a rag or shop towel over the 6 mm service bolt.
- iii. Slowly loosen the 6 mm service bolt one complete turn.
- iv. Leave service bolt loose until all pressure has been relieved.
- v. Tighten service bolt to 10 lbf-ft.



- c. On models not equipped with a 6 mm service bolt.
 - i. Use a box end wrench on the 12 mm banjo bolt on top of the fuel filter.
 - ii. Place a rag or shop towel over the 12 mm banjo bolt.
 - iii. Slowly loosen the 12 mm banjo bolt one complete turn or until all pressure has been relieved.
 - iv. Torque the 12 mm banjo bolt to 25 lbf-ft.

3. Removal of stock fuel rail, injectors and fuel pressure regulator

- a. Loosen and remove the nut holding the fuel inlet banjo fitting to the fuel rail. Be careful not to loose either of the two crush washers.
- b. Disconnect the wire harness connectors from the fuel injectors.
- c. Disconnect the vacuum hose from the fuel pressure regulator.
- d. Place a rag or shop towel over the fuel pressure regulator and remove the two 6mm retaining bolts.
- e. Position the fuel pressure regulator out of the way. Be careful not to loose the o-ring that goes between the fuel rail and the fuel pressure regulator.
- f. Loosen and remove the retainer nuts/bolts on the fuel rail, injector harness, and any other components that may be bolted to the fuel rail.
- g. Remove the fuel rail from the intake manifold.
- h. Remove the fuel injectors from the intake manifold. Note: Some models have an injector insulator on the injector tip (the end of the injector that goes into the intake manifold) and some models do not. Note the arrangement your model has and be sure to reassemble the injector assembly correctly.
- i. Refer to the image below as a guide for proper dis-assembly/reassembly.
- j. Inspect all seals, o-rings and washers. If any of these components look at all worn or damaged, then replae with genuine Honda parts.



4. Assembly of the AEM Fuel Rail

- a. Lubricate the threads of the banjo adaptor fitting with a light coat of engine oil. Place a -6 crush washer over the side with the larger threads and install the banjo adaptor fitting into the end of the AEM Fuel Rail that matches the placement of the fitting on the stock fuel rail. Be sure that the crush washer is centered under the head of the fuel inlet fitting.

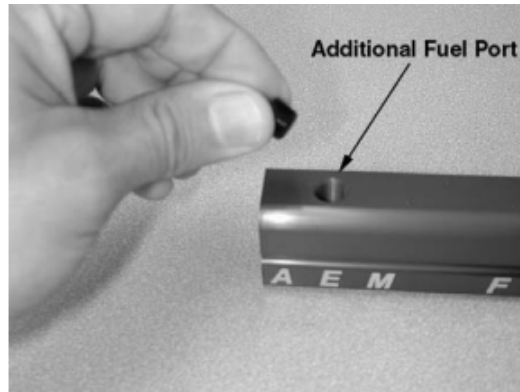


- b. Install the -6 plug on the opposite end of the rail. Once again lubricate the threads and place a -6 crush washer over the threaded side of the plug. Be sure that the crush washer is centered under the head of the fuel inlet fitting.



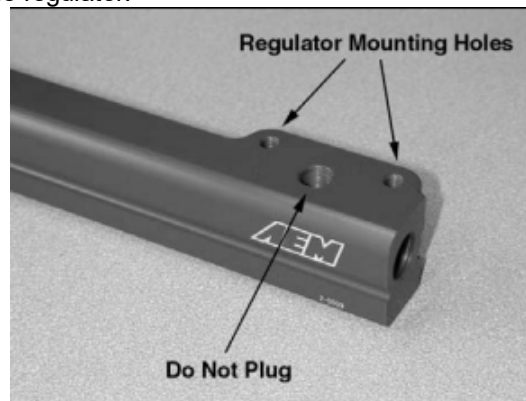


- c. The AEM Fuel Rail comes with an additional fuel port. If you are running a wet nitrous oxide system, or a fuel pressure gauge, then this port may be used for the additional fuel supply. If you are no in the need of an additional fuel source install the supplied 1/8" NPT plug.



Note: When installing the tapered plug or an other tapered fitting into the AEM Fuel Rail, use only lubricant or anti seize on the threads. Do not under an circumstances use liquid Teflon or Teflon tape as a sealant for an tapered plug or tapered fitting in any fuel system.

- d. Your kit comes supplied with two 1/8" NPT plugs. **DO NOT** install the additional 1/8" NPT plug if you are going to be using the stock regulator or an AEM adjustable regulator.



- e. Remove the old o-rings that are on top of the injectors. Coat the new o-rings, supplied with the kit, with clean engine oil and install them onto the injectors.
- f. Insert the o-ring end of the injectors into the AEM Fuel Rail.
- g. Coat the seal rings with clean engine oil and then install them into the intake manifold.
- h. Install the fuel rail/injector assembly back onto the vehicle. Make sure that all of the seals and o rings are properly seated, and installed without damage.
- i. Install and tighten the fuel rail retainer nuts to 9lb-ft.
- j. The location of your fuel pressure regulator on the AEM Fuel Rail will be different from the location on the O.E. fuel rail. Remove the extension return tube and have the return hose that comes from the firewall connect directly to the nipple on the regulator.
- k. Install the fuel pressure regulator onto the AEM Fuel Rail. Make sure that the o-ring is properly installed between the regulator and the fuel rail.
- l. Connect the vacuum hose to the top of the fuel pressure regulator. Some installations require the replacement of this hose with one that is longer.
- m. Remove the injector harness from the plastic case. Re-route the harness behind the rail and re connect the harness to the injectors.
- n. Install the fuel supply line to the AEM Fuel Rail.
- Be sure that a crush washer is positioned on both sides of the banjo fitting.
 - Torque the retaining nut to 12lb-ft. **DO NOT OVER TIGHTEN.**
 - Make sure the plug on the end of the fuel rail is tight.
- o. Install any remaining components that were removed during dis-assembly
- 5. Final Assembly and Inspection**
- a. Connect the negative battery terminal.



- b. Turn the ignition switch to the on position for approximately two seconds and then turn the ignition switch to the off position. Do not operate the starter.
 - i. Repeat this procedure three times, and then check all components that were removed during installation for any signs of fuel leakage.
 - ii. Check the area around the fuel inlet fitting, the -6 plug and the 1/8" NPT plug. If these three items were not installed correctly then they may be prone to leak.
 - iii. If there are signs of leakage you **MUST** correct the leak before proceeding.
- c. If there are no signs of leakage, then start engine and again check for leaks.
- d. If there are no signs of leakage on your final inspection, then the installation is complete.