



AEROMOTIVE
Part # 14134
Subaru Fuel Rails for Top Feed Injectors
'02-'14 WRX & '07-'14 STI
INSTALLATION INSTRUCTIONS

CAUTION:

Installation of this product requires detailed knowledge of automotive systems and repair procedures. We recommend that this installation be carried out by a qualified automotive technician.

Installation of this product requires handling of gasoline. Ensure you are working in a well ventilated area with an approved fire extinguisher nearby. Extinguish all open flames, prohibit smoking and eliminate all sources of ignition in the area of the vehicle before proceeding with the installation.

When installing this product, wear eye goggles and other safety apparel as needed to protect yourself from debris and sprayed gasoline.

WARNING!

The fuel system is under pressure. Do not open the fuel system until the pressure has been relieved. Refer to the appropriate vehicle service manual for the procedure and precautions for relieving the fuel system pressure.

The enclosed Aeromotive fuel rails utilize o-ring sealed AN-08 style ports; these ports are **NOT PIPE THREAD** and utilize **NO THREAD SEALANT**. To use the enclosed fuel rails in your vehicle's fuel system you must install the necessary adapter fittings and o-rings, high pressure fuel lines and regulator to adapt your system to the configuration and ports of these fuel rails. Please call for a catalog of the complete line of quality Aeromotive products.

The enclosed Aeromotive fuel rails are intended to be installed on an unmodified OEM intake manifold of the identified application. Aeromotive cannot guarantee the proper fitment on aftermarket intake manifolds and the end user is responsible for verifying proper fitment and assumes all liability.

When installing o-rings it is important to place a small amount of light oil on both the o-ring and the mating surface to ease installation and prevent damaging the o-ring.

The following installation instructions are for a typical installation, for specific year and model installation instructions please refer to your vehicles service manual.

Aeromotive system components are not legal for sale or use on emission controlled motor vehicles.

1. Once the engine has been allowed to cool, disconnect the negative battery cable, relieve fuel system pressure and drain engine coolant, referring to the appropriate vehicle service manual for the procedure on doing so.
2. First the factory manifold must be removed using the following steps, for specific details and instructions refer to the factory service manual.
3. Remove the turbo intercooler (top mount only) and air intake duct.
4. Disconnect all the wiring harness connections, noting where each goes.
5. Remove the bolts holding accessories and brackets to the manifold.
6. Disconnect all vacuum lines from the manifold, noting where each goes.
7. Remove the tumbler valve bolts connecting them to the heads, keeping the intake bolted to the top of the tumbler valve. In some cases it may be easier to remove the tumbler valves from the intake manifold.
8. Disconnect the fuel lines from the fuel rail assembly located on the driver side by the firewall, placing clean shop towels around the fuel lines to catch any gasoline that may be spilled during their removal

Failure to satisfy all safety considerations will result in fire, explosion, injury and/or loss of life to yourself and/or others.

9. Carefully lift off the intake manifold, tumbler valve, OE fuel rail assembly.
10. Remove the three bolts holding the OE fuel lines to the intake manifold.
11. Remove the four bolts holding the OE fuel rails to the tumbler valves.
12. Remove the OE fuel rail assembly from the intake manifold assembly, being careful not to damage the fuel injector o-rings.
13. Place clean shop towels around the injectors to catch any gasoline that may be spilled during their removal. Remove each of the injectors from the manifold by gently pulling upward on each of the injectors.

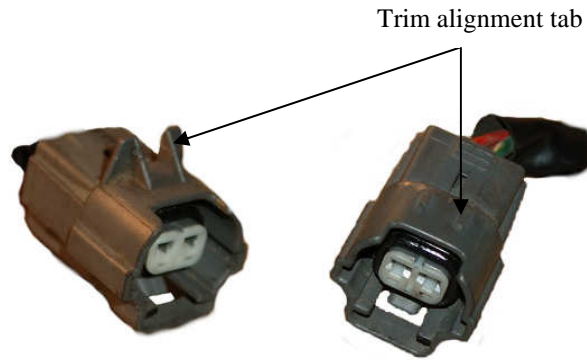
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14. Remove the old o-rings from the fuel injectors, inspect the injectors for any dirt or debris and clean if needed. It is suggested that the old o-rings be replaced, contact your local parts store or dealer to purchase the correct replacement o-rings.

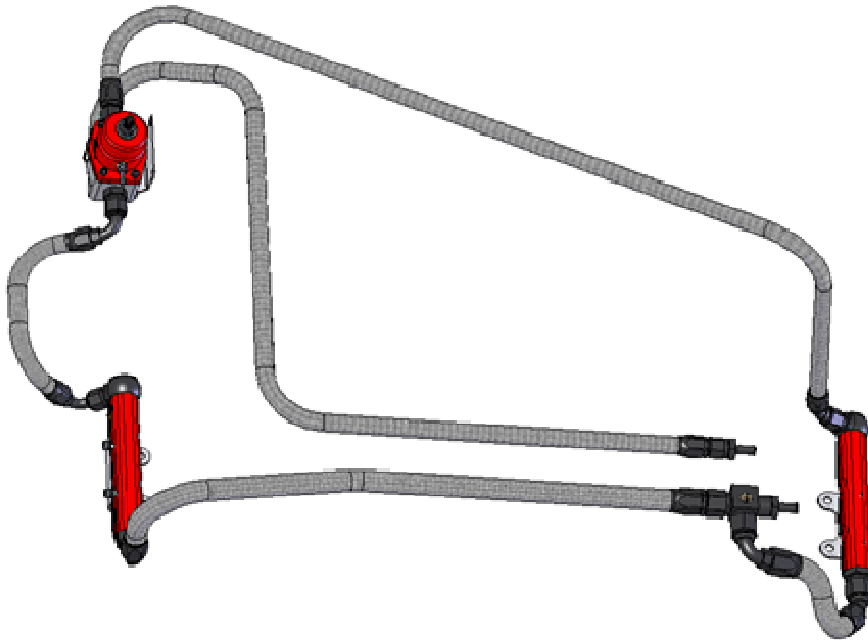
15. Coat the new fuel injector o-rings with a light oil to ease installation.
16. Carefully install the new injector o-rings on the injectors.

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17. Install the appropriate union fittings, adapters and o-rings (not included) in each end of the fuel rails. To prevent poor flow to the fuel injectors the use of cutoff or o-ring boss style union fittings is recommended. In order to preserve the factory “fuel pipe protectors” the following fitting configuration is recommended. The backside of each fuel rail we recommend using a banjo fitting, Aeromotive p/n 15636 for AN-06 lines. The front of the fuel rail on the right side (passenger) of the motor, we recommend using an AN-08 90-degree Male ORB hose end, Aeromotive p/n 15665. The front side of the fuel rail on the left side (Driver) of the motor, we recommend an AN-08 cutoff or o-ring boss union fitting, Aeromotive p/n 15607. The fuel will be supplied to each rail via the AN-08 fittings and exit the rail through the two AN-06 Banjo Fittings to the fuel pressure regulator.
18. Place a thin coat of light oil in the fuel rail injector bores to help prevent cutting the o-rings during installation.
19. Carefully place each of the fuel injectors in the corresponding fuel injector bore of the Aeromotive fuel rails.
20. Place each of the Aeromotive fuel rail / injector assemblies onto each of the tumbler valves, being sure to align the bottom of each injector with the injector bores in the tumbler valve.
21. Reinstall the fuel rail mounting bolts and tighten.
22. With the Aeromotive fuel rail properly secured to the intake manifold, Move the fuel injector vertically downward until it bottoms out on the intake manifold, In this downward position, inspect the upper fuel injector o-ring (on the fuel rail side) and insure it is fully covered by the fuel rail injector bore. If any of the o-ring is exposed, loosen the fuel rail bracket screws and adjust the installation height until the o-ring is no longer exposed and retighten the bracket screws. In the situation where the fuel injector has no vertical travel, either the fuel rail brackets can be adjusted or the brackets shimmed until the fuel injector fits freely. Do not pressurize the fuel rail until the proper fuel rail installation height is achieved.
23. Orientate the fuel injectors such that the electrical connector is aligned with the outer ends of the Aeromotive fuel rail.
24. It will be necessary to trim the alignment tabs off of the fuel injector wiring harness connectors.



25. Reinstall the intake manifold assembly, replacing gaskets and retightening bolts as outlined in factory service manual.
26. Using an after-market fuel pressure regulator, Aeromotive p/n 13101 or 13109 or similar, in conjunction with high pressure fuel lines and fittings, plumb the remainder of the fuel system. See diagram for Typical High Flow Fuel Rail Installation below.



Typical High Flow Fuel Rail Installation with Aeromotive Regulator
Ensure the any spilled gasoline and any gasoline soaked shop towels are cleaned up and removed from the vicinity of the vehicle!

27. Reinstall any electrical wiring, vacuum lines, fuel lines and throttle body components that where removed for the original fuel rail removal.
28. Refill engine coolant and check system for leaks

29. Reconnect the battery and turn the ignition to the ON position WITHOUT starting the car. After several second turn the ignition key to the OFF position, wait one minute. Repeat this process until you pressurize the fuel system.
30. With fuel pressure in the system, check for leaks from and around all the fuel system components and all fuel lines and connections. If any fuel leaks are found, turn the ignition key to the OFF position, remove any spilled gasoline and repair the leak before proceeding.
31. Once the fuel system has been confirmed to be leak free, set the regulator for the desired pressure if an adjustable regulator has been installed and test drive the vehicle to insure proper operation. Re-check the fuel and coolant systems for leaks. If any leaks are found, immediately shutoff the engine and repair the leak(s).

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AEROMOTIVE, INC. LIMITED WARRANTY

This Aeromotive Product, with proof of purchase dated on or after January 1, 2003, is warranted to be free from defects in materials and workmanship for a period of one year from the original date of purchase. No warranty claim will be valid without authentic, dated proof of purchase.

This warranty is to the original retail purchaser and none other and is available directly from Aeromotive and not through any point of distribution or purchase.

If a defect is suspected, the retail purchaser must contact Aeromotive directly to discuss the problem, possible solutions and obtain a Return Goods Authorization (RGA), if deemed necessary by the company. Please call 913-647-7300 and dial option 3 for the technical service dept. All returns must be shipped freight pre-paid to the company and with valid RGA before they will be processed.

Aeromotive will examine any product returned with the proper authorization to determine if the failure resulted from a defect or from abuse, improper installation, misapplication or alteration. Aeromotive will then, at it's sole discretion, return, repair or replace the product.

If any Aeromotive product is determined defective, buyer's exclusive remedy is limited in value to the sale price of the good. In no event shall Aeromotive be liable for incidental or consequential damages.

Aeromotive expressly retains the right to make changes and improvements in any product it manufactures and sells at any time. These changes and improvements may be made without notice at any time and without any obligation to change the catalogs or printed materials.

Aeromotive expressly retains the right to discontinue at any time and without notice any Aeromotive product that it manufactures or sells.

This warranty is limited and expressly limits any implied warranty to one year from the date of the original retail purchase on all Aeromotive products.

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This Limited Warranty covers only the product itself and not the cost of installation or removal.

This Limited Warranty is in lieu of and expressly excludes any and all other warranties, expressed or implied. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.