



AEROMOTIVE
Part # 14111
98 ½ - '03 4.6L DOHC Fuel Rails
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.

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

The enclosed fuel rails are intended for use on by-pass style fuel systems, for installation on non-bypass systems a fuel pressure sensor adapter, Aeromotive p/n 15112, is available through your local speed shop.

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.

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.

1. Once the engine has been allowed to cool, disconnect the negative battery cable and relieve fuel system pressure, referring to the appropriate vehicle service manual for the procedure on doing so.
2. Check for any dirt or debris around the fuel injectors. If any is evident, wash it off with some solvent parts cleaner or wipe it off with a clean shop towel.
3. Disconnect the electrical connector at each injector, making note of the location of each.
4. Disconnect the supply and return (if applicable) fuel lines from the OEM fuel rails. Place clean shop towels around the open fuel lines to catch any gasoline that may drip out and to prevent any dirt from entering the fuel lines.
5. Remove the air intake tube.
6. Label and disconnect any electrical wiring, vacuum lines and throttle body components that will interfere with the fuel rail removal and installation.
7. Remove the 4 mounting bolts that attach the fuel rail to the intake manifold.
8. Place clean shop towels around the injectors to catch any gasoline that may be spilled during their removal. Remove the injectors from the manifold by gently pulling upward on the fuel rail / injector assembly. Keep all injectors connected to the fuel rails. If an injector does pull out of the fuel rail, it may spill a large amount of gasoline.
9. Carefully remove the fuel injectors from the OEM fuel rail.
10. 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 auto parts store for replacement o-rings.
11. Coat the new fuel injector o-rings with a light oil to ease installation.
12. Carefully install the new injector o-rings on the injectors.
13. Install the appropriate union fittings and o-rings in each end of the fuel rail, we recommend Aeromotive p/n 15605 for AN-06 or Aeromotive 15607 for AN-08. The front of the fuel rail on the right side (passenger) of the motor will be a close fit with the OEM coolant manifold, Typically using an Aeromotive fitting p/n 15605 AN-06 fitting in conjunction with an AN-06 90 degree hose end will clear, for best results use an AN-08 male o-ring boss hose end available from most larger fitting manufacturers, Aeroquip, Goodridge, Russell, etc.
14. Place a thin coat of light oil in the fuel rail injector bores and in the lower intake manifold injector bores to help prevent cutting the o-rings during installation.

15. Carefully place each of the fuel injectors in the corresponding fuel injector bore of the Aeromotive fuel rails.
16. Place each of the fuel rail / injector assemblies onto the lower intake manifold, ease the fuel injectors into the injector bores in the lower intake being careful that the injector does not dislodge itself from the fuel rail. When installing the right (Passenger) fuel rail, the center most thread boss on the bottom side of the upper intake manifold may need slightly clearanced for proper fit with the fuel rail, in some applications.
17. Place the provided aluminum spacer between the fuel rail mounting boss on the lower intake and the fuel rail bracket, reinstall the rail mounting bolts and tighten.
18. Using an after-market fuel pressure regulator similar to Aeromotive p/n 13101 or 13109 (If you are converting the fuel system to a return style system) or a fuel pressure sensor adapter similar to Aeromotive p/n 15112 (If you are maintaining the non-return style fuel system) in conjunction with high pressure fuel lines and fittings, plumb the remainder of the fuel system.

Ensure the any spilled gasoline and any gasoline soaked shop towels are cleaned up and removed from the vicinity of the vehicle!

19. Reinstall any electrical wiring, vacuum lines, fuel lines and throttle body components that where removed for the original fuel rail removal.
20. 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.
21. 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.
22. Once the fuel system has been confirmed to be leak free, test drive the vehicle to insure proper operation and re-check the fuel system for leaks. If any leaks are found, immediately shutoff the engine and repair the leak(s).

Thanks for purchasing another quality product designed, engineered and manufactured in
Kansas City, USA!

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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.

No person, party or corporate entity other than Aeromotive shall have the right to: determine whether or not this Limited Warranty is applicable to any Aeromotive product, authorize any action whatsoever under the terms and conditions of this Limited Warranty, assume any obligation or liability of any nature whatsoever on behalf of Aeromotive under the terms and conditions of this Limited Warranty.

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.