BAVARIAN AUTOSPORT

Rising Rate / Adjustable Fuel Pressure Regulator Installation Instructions

NOTE: *The installation instructions will assume that the installer is familiar with the standard installations process for a fuel pressure regulator. Differences or deviations from the standard installation will be noted in these instructions. Tuning tips, which are applicable to all versions will follow the installation tips.*

TUNING NOTE: *We strongly recommend the use of a high-pressure fuel pressure gauge to determine the settings for the Rising Rate / Adjustable Fuel Pressure Regulator. If a gauge is unavailable, you may order the Bavarian Autosport Fuel Pressure Test Kit, #2150.*

On ALL applications, it is recommended that a fuel pressure reading be taken at idle, with the vacuum line connected, (to use as a reference point) before removing the original regulator.

SAFETY NOTE: *The fuel system is under pressure.* ***Wear safety glasses or goggles when opening the system. Always wear protective gloves when handling gasoline. If gasoline is ingested, seek immediate medical attention.*** *Have a large absorbent rag handy and slowly undo the regulator mounting hardware while holding the rag around the fuel connection area to block and absorb the fuel, which will be released under pressure.*

325i/is/ic
92 thru 95

M3
95 thru 96

525i/it
91 thru 96

APPLICABLE TO:
AFPRM-R NEW

PROCEDURE:
****FOR BEST RESULTS, PLEASE READ THESE INSTRUCTIONS STEP BY STEP BEFORE STARTING INSTALLATION****

1. Access the stock fuel pressure regulator. The regulator is mounted to the rear of the fuel rail. This requires removal of the cowl (upper firewall) harness cover box, and fuel rail cover.

(see Figure 1 for steps 2 through 9)

2. The original fuel return hose and nipple (at the rear of the fuel rail) will be unused once the regulator adapter block is installed in place of the stock regulator (*the stock return line nipple will be blocked off internally and there will be no hose attached at this nipple*). Therefore, you can leave the original return hose in place on the nipple (the opposite end of the hose will be disconnected from the return piping at the chassis). Choosing to do this will allow you to complete the installation without having to remove the fuel rail to access the hose clamp on the return nipple at the rear of the fuel rail.

3. Once you have accessed the stock regulator, remove the vacuum line and the retaining clip and pull the regulator out of the rail.

4. Locate the fuel pressure regulator adapter block and the small brass nipple which screws into the top of the block. Wrap the threads of the nipple with teflon tape and screw in into the adapter block and tighten.

Lubricate the o-ring on the new regulator adapter block and install it into the fuel rail, in place of the stock regulator. Replace the securing clip.

5. Follow the vacuum line to the nipple on the rear-underside of the intake manifold. Remove the vacuum hose from the manifold nipple. Install the supplied length of new vacuum hose onto the intake manifold nipple. Route the hose under the intake manifold, over to the driver side of the engine compartment where you plan on mounting the new regulator.

6. Route the supplied length of new fuel hose from the new regulator mounting area, under the intake manifold to the nipple on the new regulator adapter which you have mounted in the fuel rail. Secure the fuel hose to the regulator adapter block nipple with a hose clamp.

7. Follow the original return fuel line (from the rear of the fuel rail) under the intake manifold to the point where it attaches to the pipe at the chassis (metal tube) with a hose clamp. Pull the hose off at *the chassis pipe* connection. Cut the supplied new fuel hose (once you have the first line run to the regulator mounting pint as in Step 5) and route it from the new regulator mounting point, under the manifold to the chassis return pipe. Secure the hose to the chassis return pipe with a hose clamp.

8. Assemble the new pressure regulator by installing a thread-in nipple into one of the side ports of the regulator body (which side–depends on how you are mounting the regulator). Install the plug into the opposite side. Install the second nipple into the bottom hole of the regulator body. Wrap all threads with teflon tape before installation.

9. Connect the hose coming from the regulator adapter block (mounted in the fuel rail) to the side nipple on the new regulator, secure with a hose clamp. Connect the other hose (which goes to the chassis return pipe) to the bottom nipple of the regulator, secure with a hose clamp. Connect the vacuum line to the small nipple on the top of the regulator.

10. Securely mount the new regulator.

11. Start the engine and check for leaks.

12. Replace all covers and panels.

13. Proceed to the “Tuning Tips” section.

TUNING TIPS:

1. Install the fuel pressure gauge into the inlet hose on the pressure side of the fuel rail.

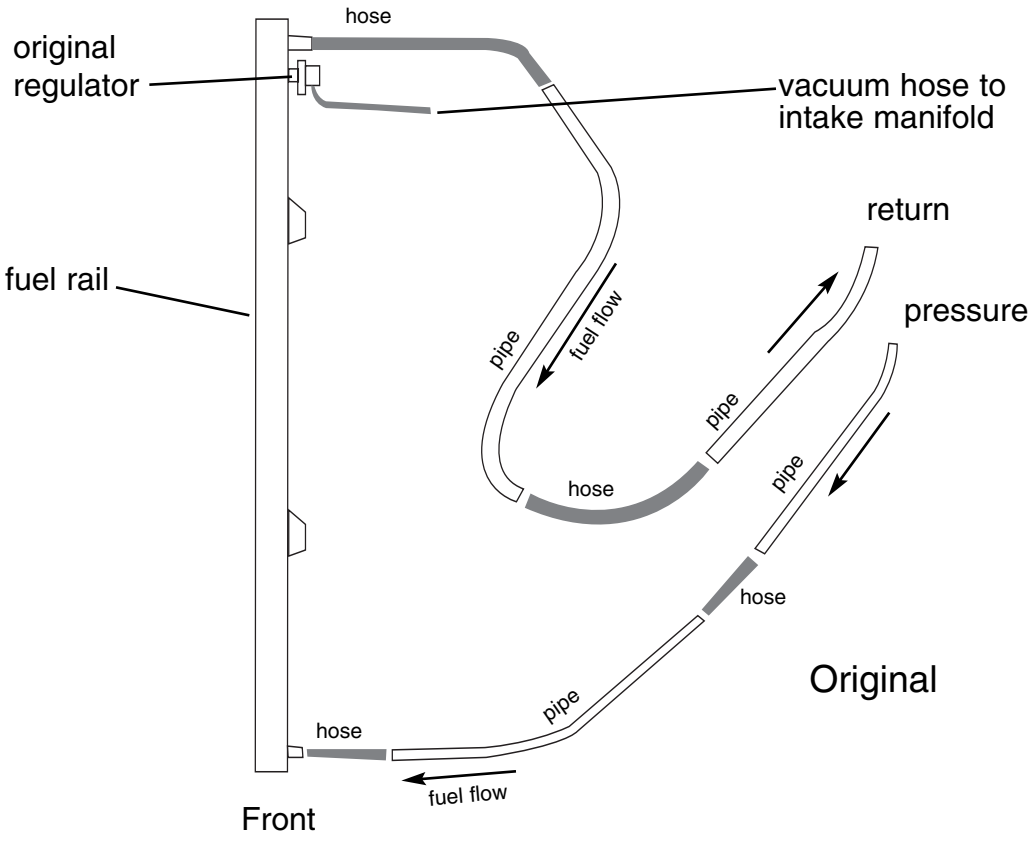
2. Remove the 12mm acorn nut covering the adjuster screw on the regulator. Loosen the 12mm lock nut but do not remove it.

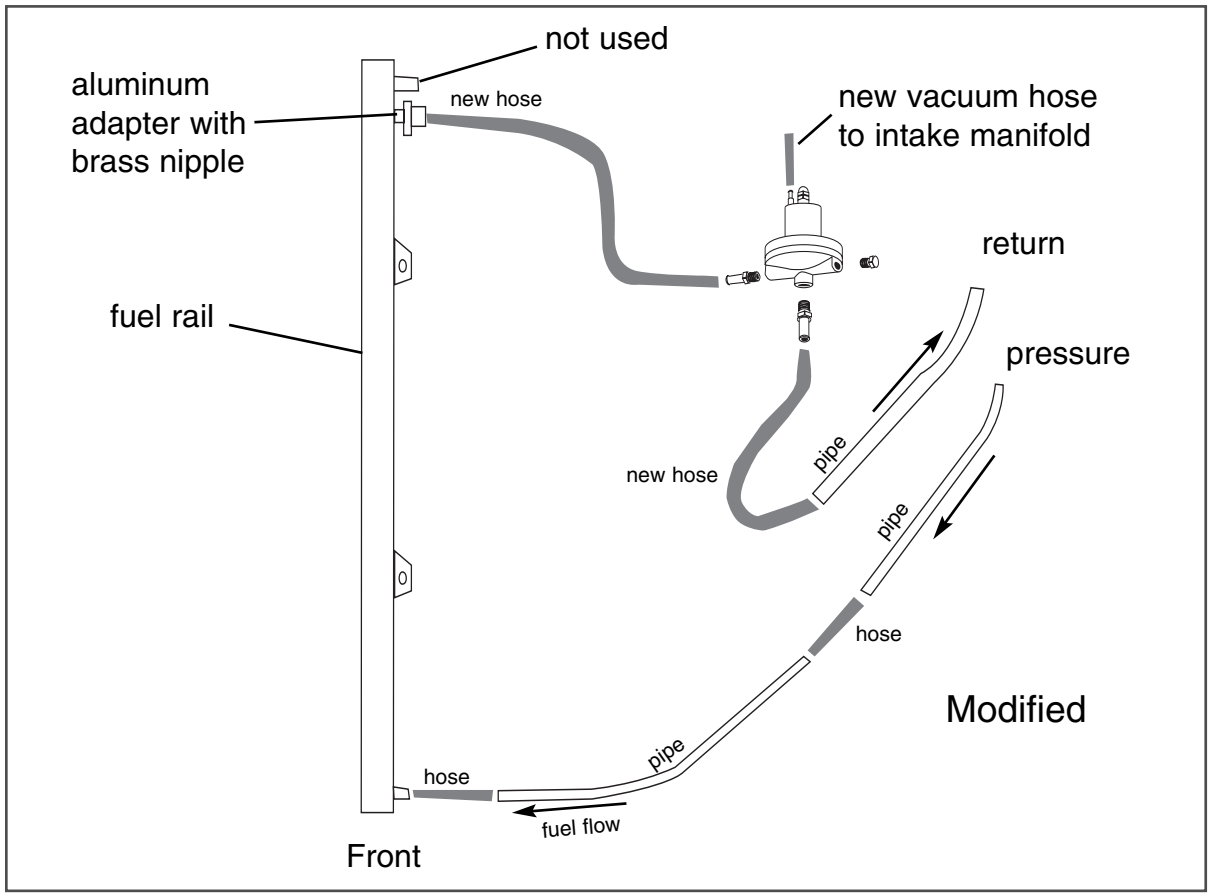
3. Turn the adjuster screw to achieve a pressure reading that matches the original idle reading taken before removing the original regulator. Be careful in turning the adjuster screw, 1/8 turn typically changes the pressure by 2lb to 3lb. DO NOT tighten the screw down or unscrew it by more than 2 turns.

4. Once the idle pressure is set at the same as the original, tighten the lock nut and install the acorn cover nut. Drive the car for a while to become familiar with this setting before doing any further adjustments.

The nature of the Rising Rate Regulator is that at idle and cruise (high vacuum conditions), where you do not need excessive pressure, the regulator is close to the stock setting. When you dip into the throttle (low vacuum) the pressure rises faster than a stock regulator, hence “Rising Rate”. It’s like having the best of both worlds!

As you become familiar with the characteristics of the Rising Rate Regulator, you can play around with raising and lowering the pressure. Change the pressure by only 2lb to 3lb at a time and drive the car to assess the changes.





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