



## BAVARIAN AUTOSPORT

# Rising Rate/Adjustable Fuel Pressure Regulator Installation Instructions

**SAFETY NOTE:** The fuel system is under pressure. Wear safety glasses or goggles when opening the system. 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.

### PART NUMBERS:

AFPRM, AFPRM-L, AFPRM-R

**NOTE:** The three part numbers for the Bavarian Autosport Rising Rate/Adjustable Fuel Pressure Regulator will cover all BMW L-Jetronic and Motronic Bosch fuel injection applications. The regulators are installed in the same manner as the original regulator except for the remote mount AFPRM-R. These installation instructions assume that the installer is familiar with the standard installation 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.

**AFPRM** - Applicable to L-Jetronic and Motronic applications where the pressure regulator is mounted to the fuel rail by means of an O-ringed nipple which fits into a female receptacle on the fuel rail, the regulator is secured to the fuel rail with two 6mm (10mm hex head) bolts (excluding M3, M5 & M6...these will use the remote mount due to clearance problems).

1. Install the regulator exactly as you would an original replacement piece. It is easy to pinch the O-ring when trying to insert it into the female socket. This will cause a fuel leak. To ease assembly, coat the O-ring with oil or petroleum grease.
2. Finish assembly by reconnecting the vacuum and return fuel lines. Start engine and check for leaks. Proceed to the "Tuning Tips" section.

**AFPRM-L** - Applicable to L-Jetronic applications where the pressure regulator is mounted to the fuel rail by means of a 17mm tube nut and flare fitting.

1. Start engine and check for leaks. Proceed to the "Tuning Tips" section.

**AFPRM-R** - Applicable to '88 thru '91 M3, '88 M5 & all M6. These models require the use of the remote mount regulator due to valve cover clearance problems with the larger AFPRM regulator housing. Additionally, the remote mount AFPRM is used for early L-Jetronic applications where the regulator is mounted between the front and rear halves of the fuel rail using flexible fuel line and hose clamps.

### M Cars-

1. Install the remote fitting adapter to the fuel rail in place of the original regulator (lubricate the O-ring with oil or petroleum grease).
2. Before mounting the remote regulator body, wrap the threads of the two brass threaded nipples and the brass plug with teflon tape. Install one of the nipples in one of the side ports on the regulator body (use whichever port will be more appropriate to your desired mounting position). Install the other nipple in the center port. Install the plug in the remaining side port.
3. Determine where you would like to mount the regulator head unit (typically somewhere in the vicinity of the left inner fender) and mount it securely.



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4. Using the supplied 8mm fuel hose and hose clamps, connect the nipple on the remote adapter to the side inlet nipple on the regulator body. Connect the return fuel hose to the center outlet nipple on the regulator body. Using the supplied vacuum hose, connect the vacuum nipple on the top of the regulator body to the intake manifold nipple where the original vacuum hose is connected (in place of the original hose).
5. Start engine and check for leaks. Proceed to the "Tuning Tips" section.

#### Early L-Jetronic Cars -

1. The remote mount fitting will not be used for this application. Wrap the threads on the three brass nipples with teflon tape and install them into the three ports on the regulator body.
2. Install the regulator in place of the original and connect all fuel and vacuum lines, the side nipples are the inlets and the center nipple, you installed, is for the return fuel line.
3. Start engine and check for leaks. 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 (clockwise = richer, counter-clockwise = leaner). 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 at a setting that 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.

