

Product Name: **FPR**
 Product Description: Fuel Pressure Regulator
 Product Number: TS-0401-110X
 Document Version: V1.00 Rev B



IMPORTANT NOTES ON YOUR FUEL PRESSURE REGULATOR

- **Do NOT remove or adjust the collar.**
- Turbosmart accepts no responsibility whatsoever for incorrect installation of this product which is potentially hazardous and can cause serious engine damage or personal injury. Ensure there are no leaks in your fuel system after installation and you have checked fuel suitability.
- Use only high quality fittings ensuring maximum sealing reliability. Optional Turbosmart fitting kit available.
- Ensure that all plumbing is appropriately secured, is the correct size and chemical rating for your application when fitting your FPR.
- Your fuel pressure regulator should be mounted at least 100mm from any significant heat source.
- Gauge port is 1/8" NPT.

RECOMMENDATIONS

- **Turbosmart recommends that your fuel pressure regulator (FPR) is fitted by an appropriately qualified technician**
- **Turbosmart recommends that the engine Air-Fuel ratio checked once fuel pressure is set.**
- Optional Turbosmart fuel rail adaptor kits: TS-0402-100X (Honda, Nissan, Toyota, Mitsubishi, Subaru, Ford, Audi and more supported)
- Optional Turbosmart fuel filter kits: TS-0402-113X (-6 to -10 AN)
- Optional Turbosmart fuel fitting kits: TS-0402-11XX (NPT, -6 to -10 AN)

HOW TO INSTALL YOUR FUEL PRESSURE REGULATOR

TOOLS REQUIRED

External circlip pliers to suit 27mm circlip
 Non-marking spanners to tighten fittings.

KIT CONTENTS

Please check that the following items have been provided in your FPR kit.

Quantity	Description	Use
1	Turbosmart FPR	Main unit
1	27mm External Circlip	Secures the mounting bracket to the main unit
1	Mounting Bracket	Mounting bracket used for remote mounting the FPR
1	Turbosmart Sticker	Turbosmart sticker

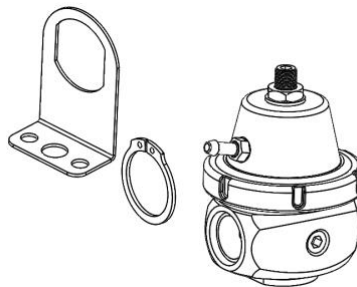


Figure 1 - Kit Contents

FPR OVERVIEW

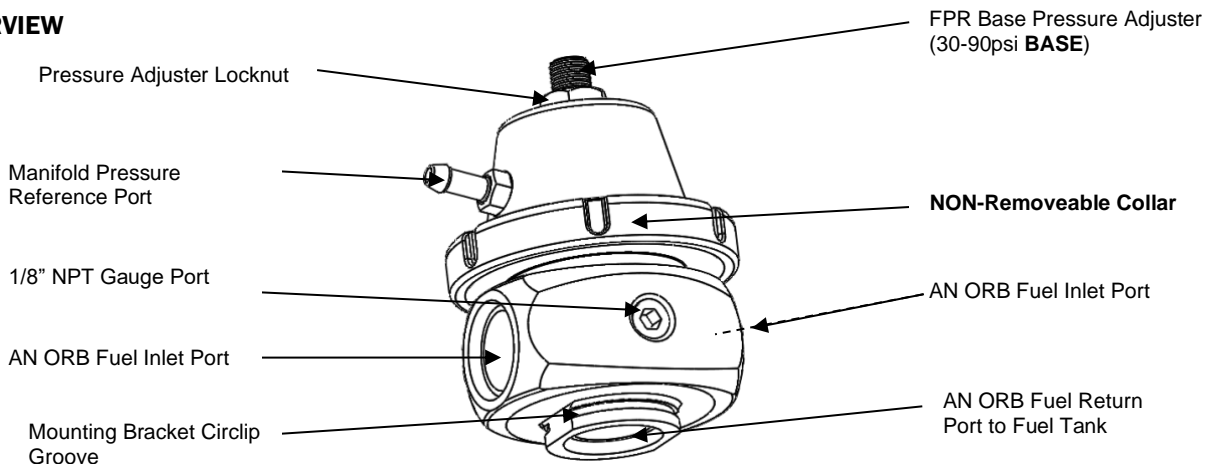


Figure 2 - FPR Overview

FITTING YOUR FPR

1 Locate fuel pressure feed line, base pressure and determine mounting location

This line is usually found by identifying your injectors, the fuel rail the injectors are mounted to and then the line that is feeding the fuel rail. Turbosmart recommends determining your current base fuel pressure with your existing regulator to identify a reference for the base pressure you set the new regulator to. This can be done with any reputable pressure gauge at idle and with the vacuum hose disconnected from the regulator. Take time to determine where you wish to mount the FPR in the engine bay. Some examples of placement for your FPR are:

- Mounted against chassis
- Mounted onto fuel rail
- Mounted onto intake manifold

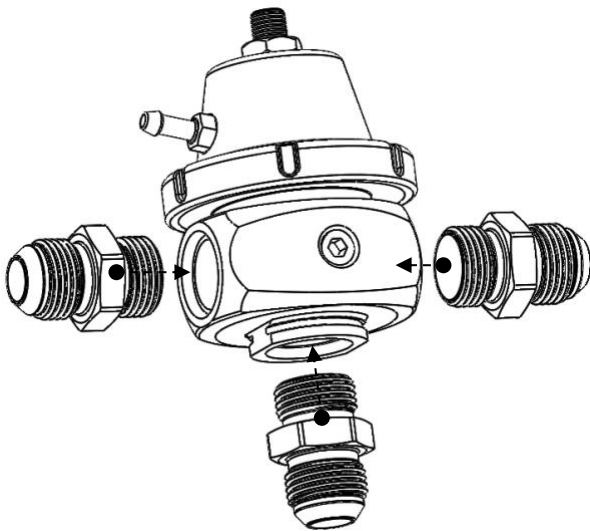
CAUTION!

Do not place the FPR near a significant heat source as this may lead to severe engine fires.

2 Prepare FPR for installation

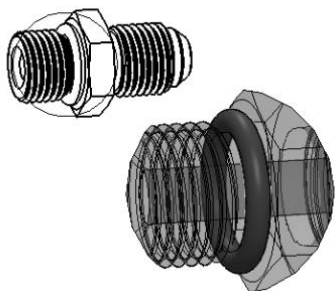
Prior to mounting the FPR, install fittings into FPR with high quality AN ORB fittings ensuring the O-Ring is present. Optional Turbosmart fitting kits available – TS-0402-11XX (NPT, -6 to -10 AN)

Please note that O rings are not used in the FPR 800 due to the tapered thread. A fuel safe thread lubricant should be used.



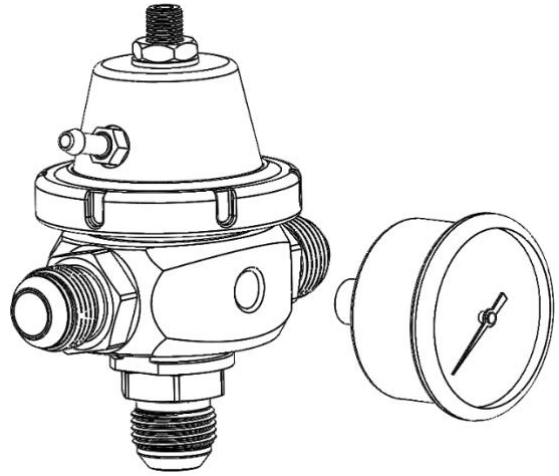
CAUTION!

Ensure correct installation of fittings to prevent high pressure and temperature fuel leaks which can lead to extremely dangerous fires. See below for example of ORB fitting – note the O-ring.



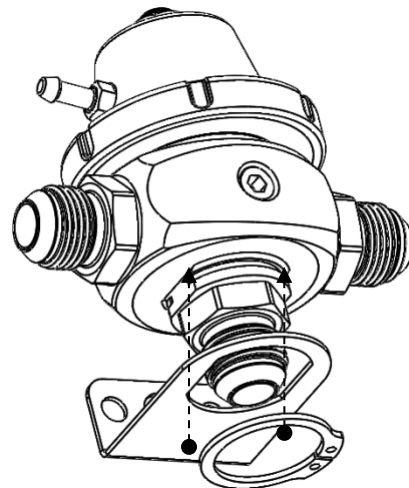
3 Fit Gauge or Sensor Port (OPTIONAL)

This step is optional. Prior to mounting the FPR, install 1/8" NPT gauge or sensor. Unscrew existing 1/8" NPT blank anti-clockwise with 3/16" hex key. Apply thread lubricant and screw in clockwise until finger tight, then tighten further 1-2 turns for seal. Turbosmart gauge kit optional – TS-0402-2023.



4 Mounting your FPR

With all fittings installed onto the FPR, the FPR can now be mounted. Place the mounting bracket over the base of the FPR in the orientation of your choice, place the circlip over the top of the mounting bracket and with external circlip pliers expand the circlip and push down until the circlip clicks into place. Your mounting bracket is now successfully installed and you can now mount your FPR in your specified location. Proceed to connect your fuel lines.



5 Start engine and check for leaks

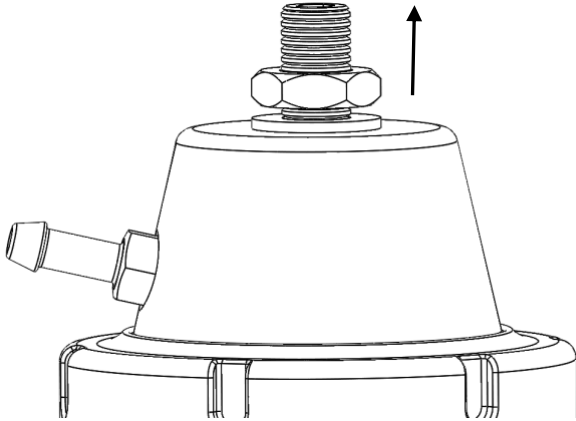
Congratulations, your FPR is installed and ready for use. Double check all fittings, lines and mountings then proceed to activate fuel pumps and check for leaks.

CAUTION! If fuel leaks are present – switch off engine immediately and rectify leaks. See over for troubleshooting steps.

ADJUSTING YOUR FPR

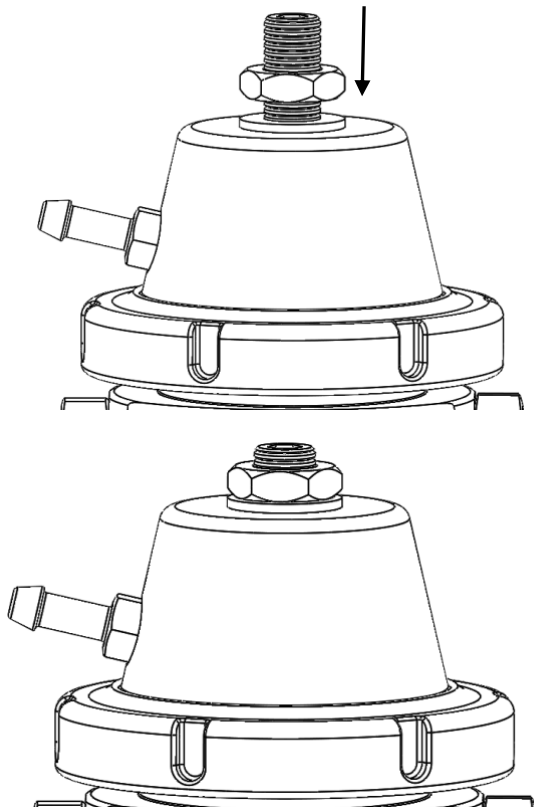
1 Remove signal reference hose and loosen 13mm locking nut

Remove vacuum/pressure signal reference hose from nipple and loosen 13mm locking nut on top of FPR anti-clockwise to allow for free movement of the adjuster screw.



2 Adjust base pressure

Ensure battery voltage is sufficient and idle engine. Observe the base pressure on the gauge or your data logging device, turn the adjuster with a 4mm hex tool clockwise to increase fuel pressure and anti-clockwise to decrease fuel pressure. The example below is an increase in fuel base pressure.



CAUTION!
Avoid screwing adjuster in forcefully as this will not allow for the device to regulate fuel pressure and can cause damage to your fuel pumps

3 Tighten 13mm locking nut and reconnect signal reference hose

Once base pressure has been successfully set, reconnect the signal reference hose and tighten the 13mm locking nut preventing the adjuster screw from self-adjusting. Your FPR has now been adjusted.

CAUTION!
An incorrect setting of fuel pressure may cause your engine to run lean with the potential for detonation. Turbosmart recommends air-fuel ratios are checked immediately after base pressure adjustments.

TROUBLE SHOOTING

- FPR Leaking – Check fittings are tight and O-Rings are present or not damaged.
- FPR regulating below 30psi (275kPa) – Ensure fuel pump pressure is above 30psi with no regulator, if fuel pressure is below 30psi, the FPR will not regulate until inlet pressure exceeds 30psi. Possible faulty fuel pump/electrical connection.
- FPR regulating above 80psi (345kPa) – Ensure fuel return line is not restricted causing a pressure build up for the regulator.
- FPR not holding base pressure – Ensure fuel pumps are active.
- Failing the above, submit a technical request to tech@turbosmart.com.au with information of your engine, fuel type and photos of installation