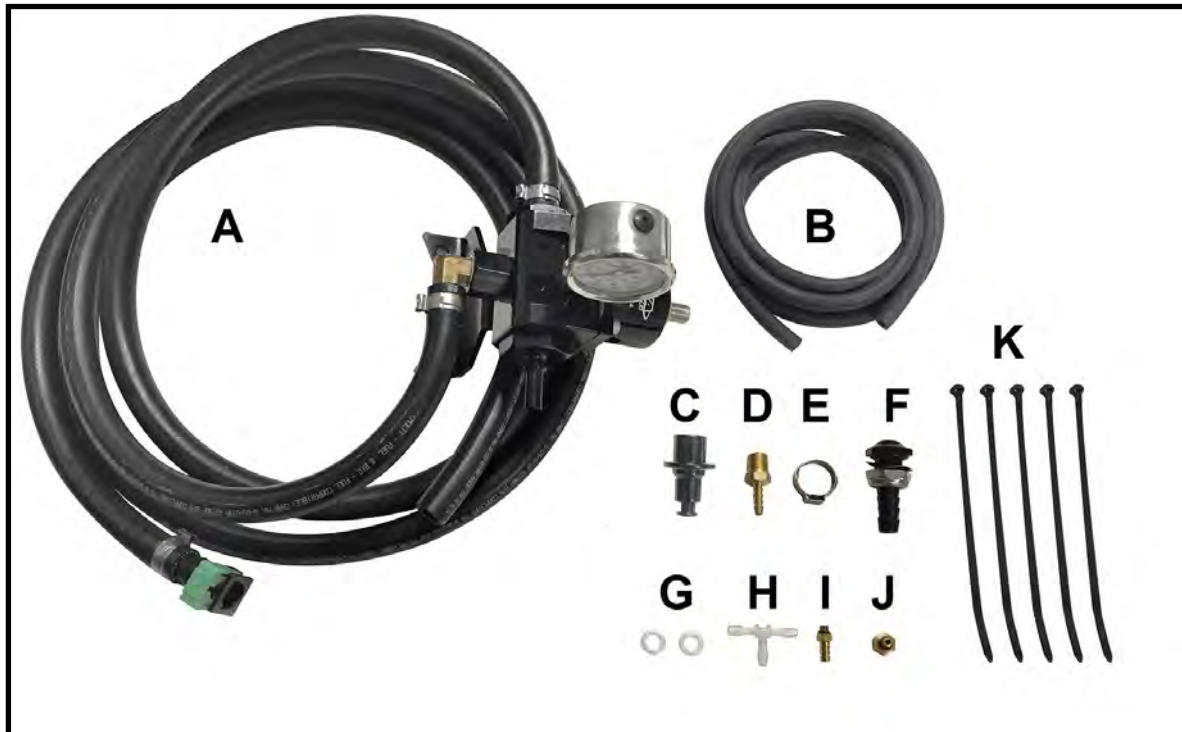




RIVA RACING
PERFORMANCE PRODUCTS & ACCESSORIES

Fuel Pressure Regulator Kit

RY12070-RRFPR-6S5-1



Applications: 2012+ Yamaha 1.8L

Approximate Installation Time: 2 Hr. static pressure installation (4 Hr. rising rate installation)

Recommended Specialty Tools:

Oetiker Pliers

Part #

C-48550347

Required Materials:

N/A

Part #

N/A

We strongly recommend the use of a service manual to familiarize yourself with the various components and procedures involved with this installation. Please note that some of the original hardware removed in the disassembly process will be used in the installation process. These instructions have been written in step-by-step format and refer to illustrations. Read through instructions entirely before performing installation. Please follow these step-by-step instructions and illustrations carefully.

***** ALLOW ENGINE TO COOL COMPLETELY BEFORE PERFORMING INSTALLATION *****

***** NO SMOKING *** NO SMOKING *** NO SMOKING *****

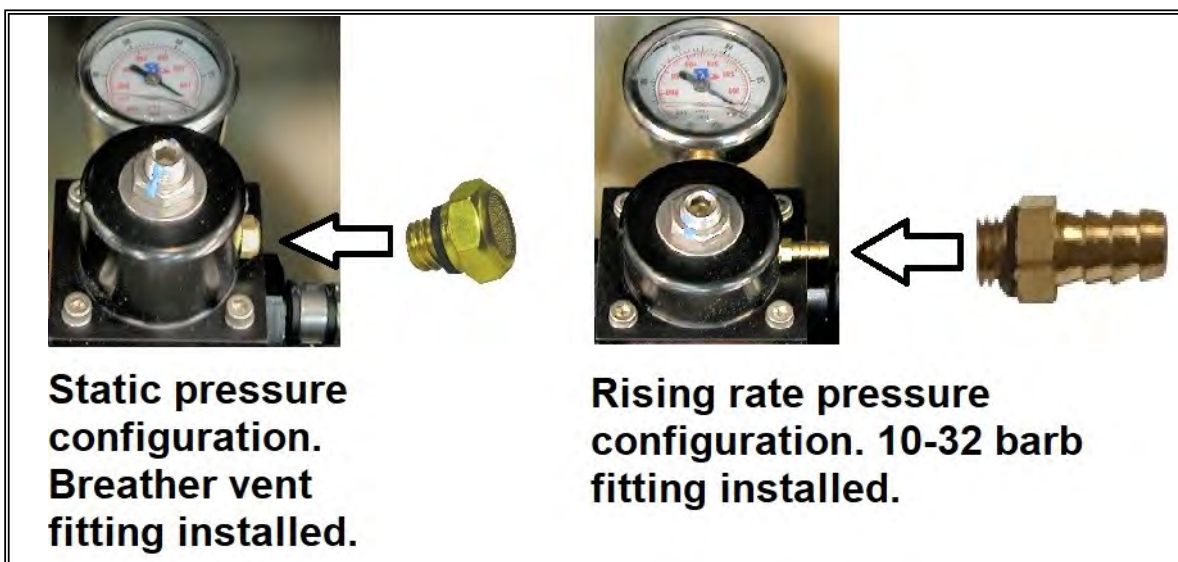


Fuel Pressure Regulator Kit

RY12070-RRFPR-6S5-1

		QUANTITY	PART NUMBER	DESCRIPTION
A	☐	1		Fuel Pressure Regulator Assembly
B	☐	5	27042-1	5/32" Hose
C	☐	1	RY12040-FPRBO-6S5	Billet Block Off
D	☐	1	220A	1/8"-NPT Brass Barb Fitting
E	☐	1	16700017	Oetiker Clamp
F	☐	1	RS12050-38RF-08	Return Fitting (Black)
G	☐	2	369021SS	6mm Flat Washer
H	☐	1	53415K167	Plastic Tee
I	☐	1		10-32 to 5/32" Barb Fitting
J	☐	1	9833K18	10-32 Breather Vent Fitting
K	☐	5	TY24MX	Zip Tie 5"

Your kit was inspected and verified before being carefully packaged by our staff. Please check package contents before beginning assembly. If you have a question about missing or damaged items please contact RIVA Technical Support directly at (954) 247-0705 or by e-mail at tech_support@rivaracing.com.



Note: For greater convenience, install correct fitting into supplied regulator before installing regulator onto fuel tank.

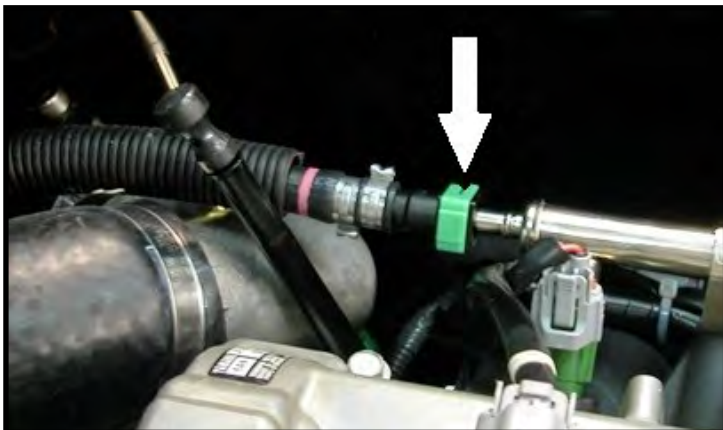
- INSTALLATION INSTRUCTIONS -

Remove seat(s) and plastic engine cover. Drain fuel tank completely.

While holding a heavy shop rag under fitting disconnect fuel supply hose from front of engine fuel supply rail.

NOTE: Fuel system is under pressure. Use care when disconnecting. (Figure 1)

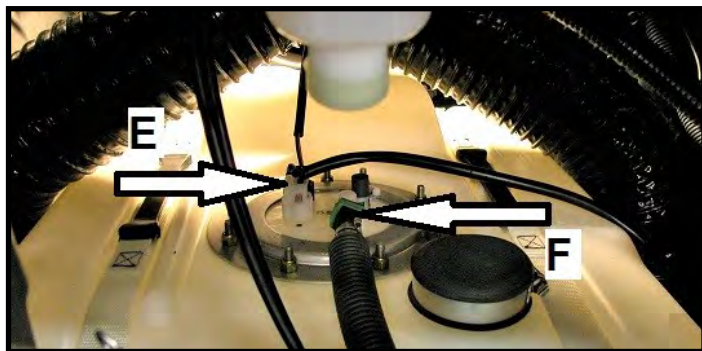
Figure 1



Refer to OEM service manual to gain access to fuel tank for your model ski.

At top of fuel tank disconnect electrical connectors (2) (E in figure 2) and fuel supply hose (F in figure 2).

Figure 2



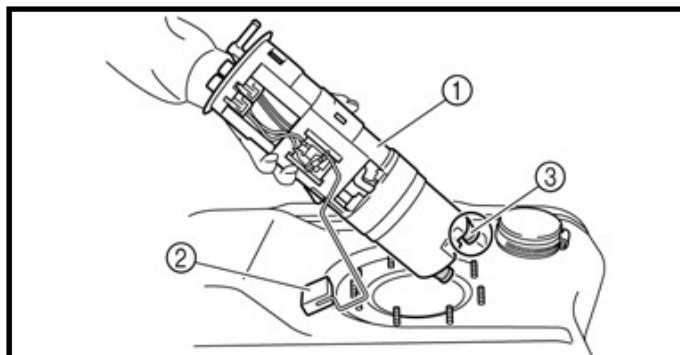
Remove the brass nuts (9) securing fuel pump to fuel tank. Remove stainless retainer ring (R in Figure 3).

Figure 3



Note front of fuel pump in relation to bow of craft. Fuel pump must be tilted toward its front as you lift upward so as not to damage fuel gauge float.

Figure 4

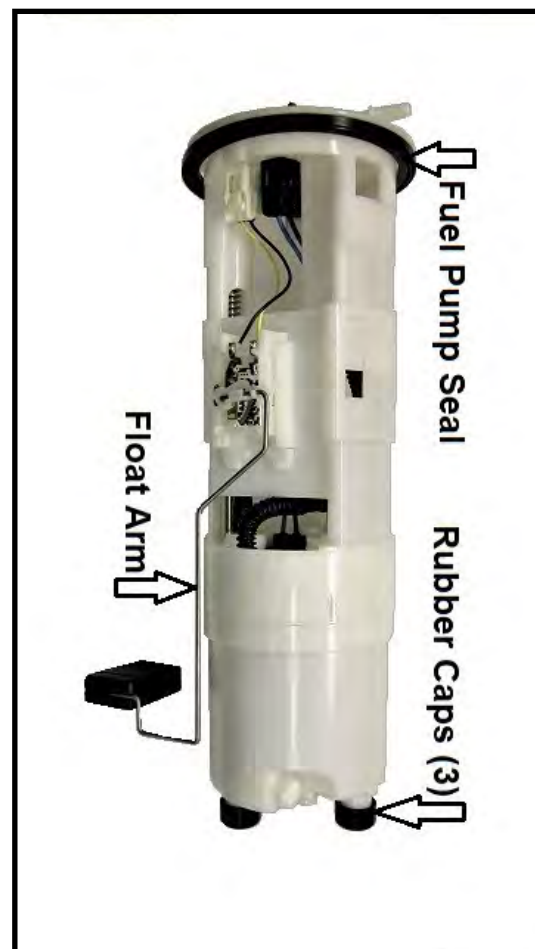


1) Fuel Pump Module 2) Fuel Gauge Arm 3) Rubber Caps

TIP: Twist fuel pump assembly clockwise and tilt towards the right to remove. **Note: BE PATIENT!!! This process requires careful maneuvering to remove fuel pump assembly.**

Drain fuel from fuel pump assembly by tipping upside down. Inspect bottom of fuel pump. There should be three rubber caps (one per post – figures 4 and 5). If any are missing they must be removed from fuel tank and replaced on pump module. (Figure 5)

Figure 5



- INSTALLATION INSTRUCTIONS -

Disconnect white gauge sender electrical connector at underside of top of fuel pump sender. (Figure 6)

Figure 6

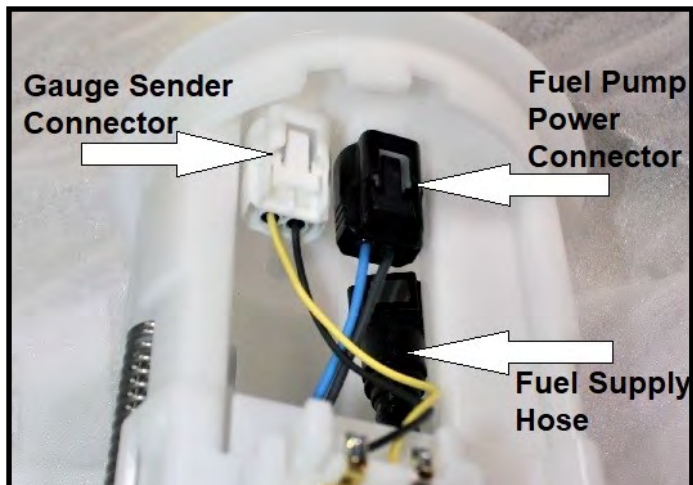


Figure 7

Carefully squeeze stopper hooks (#3 in figure 7) together. Push upward to remove stopper. Push in on tabs (b in figure 7) and slide float arm and sender unit up to remove.

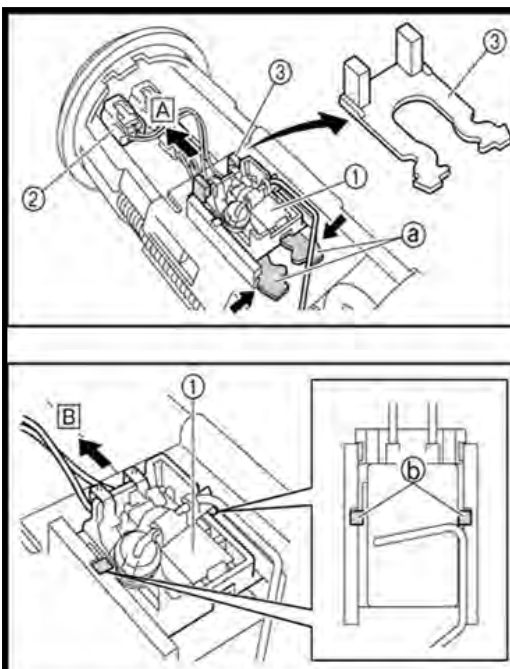


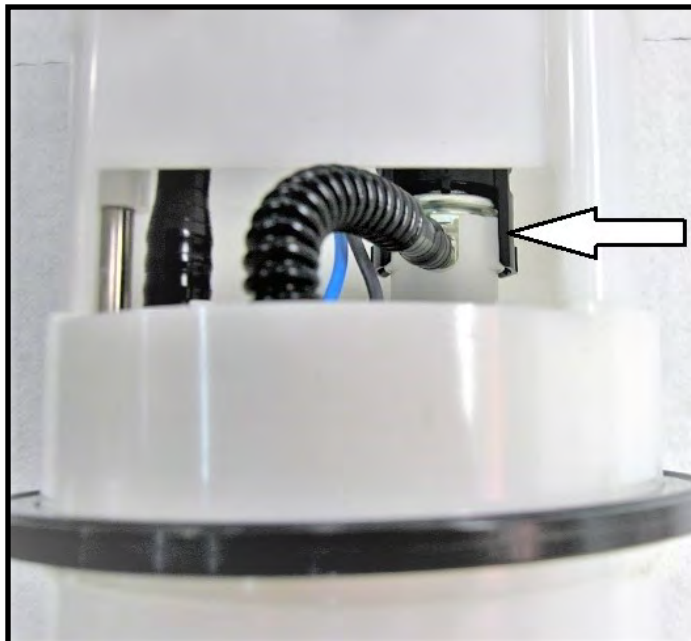
Figure 8

Locate OEM fuel pressure regulator and clip. (Figure 8)



Using a flat bladed screwdriver, carefully pry off clip and remove OEM fuel pressure regulator from seat. (Figure 9)

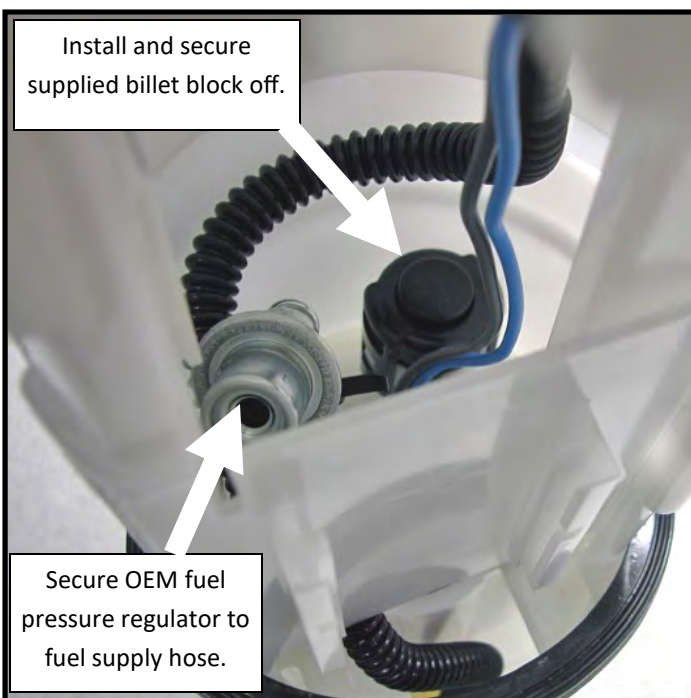
Figure 9



Transfer o-ring from OEM fuel pressure regulator to supplied billet block off. Install block off into seat and secure with OEM clip. **TIP: Lubricate o-ring with a thin coat of engine oil.**

Route OEM fuel pressure regulator upward along fuel supply hose and secure together with supplied zip tie. (Figure 9)

Figure 9



Replace float arm and sender unit on fuel pump module. Reconnect gauge sender connector. (Refer to figure 6.)

- INSTALLATION INSTRUCTIONS -

At top of fuel pump module cut off fitting flush with top of module. (Figure 10)

Figure 10

Using a 1/4" drill bit carefully drill a pilot hole through module top. Once pilot hole is complete enlarge hole using 1/2" drill bit. **Warning!** Do not attempt to drill to full size in one step without creating 1/4" pilot hole first. (Figure 11)

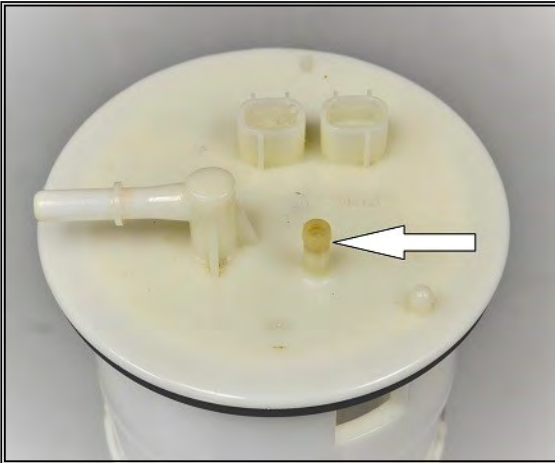


Figure 11

Smooth edges of hole. Thoroughly clean fuel module. Install supplied billet return fitting. Secure fitting using 6mm hex key and open end wrench. (Figure 12)

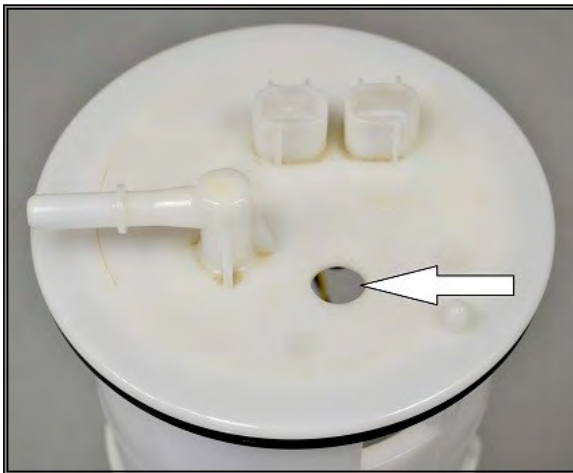
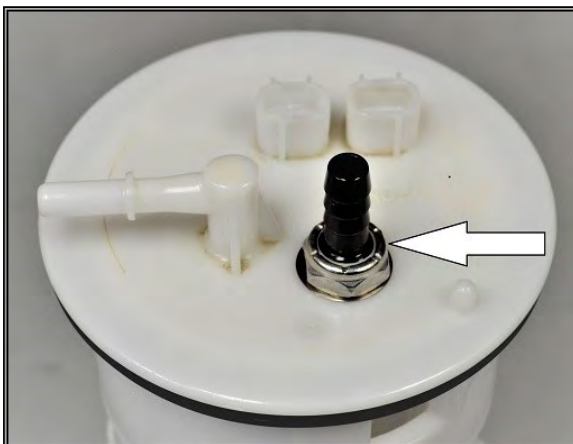


Figure 12

Make sure 3 rubber caps are on bottom of fuel pump and fuel pump seal is in place around top of module. (Refer to figure 5, page 3.)



Place fuel pump into hull between engine and fuel tank in upright position. Note front of pump module in relation to bow and turn 90 degrees counterclockwise. (Figure 13)

Figure 13



Rotate top of pump module to left as you lift it up over the top of the fuel tank. Guide fuel sender float into tank. (Figures 14 and 15)

Figure 14



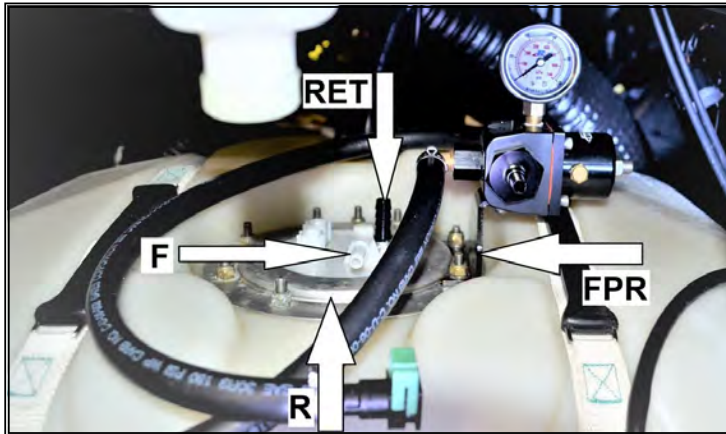
Figure 15



- INSTALLATION INSTRUCTIONS -

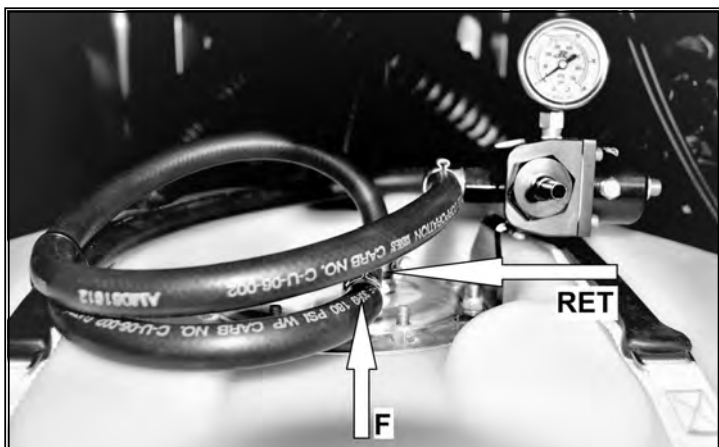
Once fuel sender float is inside tank, lower module into tank and orient front to back. Place OEM stainless retain-er ring (R) onto module and tank studs. Mount supplied Fuel Pressure Regulator (FPR) onto tank studs on right side of module. Secure with OEM brass nuts and sup-plied 6mm flat washers (2). (Figure 16)

Figure 16



Connect hose with green clip from regulator to fuel module outlet fitting. (F in Figures 16 and 17) Connect regula-tor return line to billet return fitting previously installed into module top. (RET in figures 16 and 17) Secure with sup-plied hose clamp. **Note: Do not overtighten clamp.**

Figure 17



Connect OEM fuel supply hose from fuel rail to output fitting of fuel pressure regulator. (Figure 18)

Figure 18



As installed, at this point, the fuel pressure regulator is set for static (fixed) fuel pressure operation. This is the proper configuration for most, but not all, RIVA stage kits and tunes. Refer to Appendix 1, "Enabling Rising Rate" for instructions on how to configure the regulator for rising rate operation.

Check bilge for rags, tools etc.

Adjusting base fuel pressure.

Base fuel pressure is the pressure of the fuel exiting the regulator at idle. For static (fixed) pressure operation, this pressure will not vary from idle to wide open throttle. For rising rate fuel pressure operation, pressure will vary from this number to a higher number rising one pound for each pound of

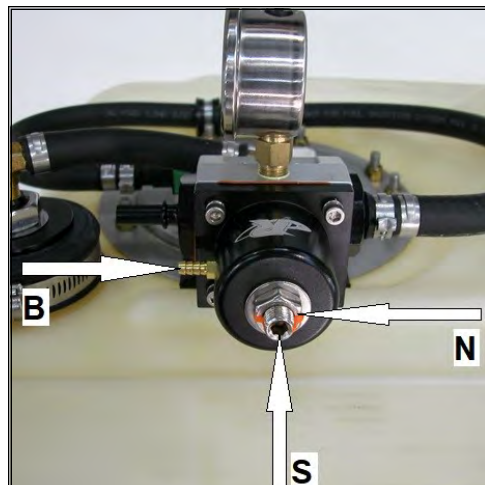
Whether the regulator is to be used in static or rising rate configuration the following is the procedure for setting the base fuel pressure.

1. If regulator has been configured for rising rate, disconnect vacuum hose from barb fitting (B) and plug line. (Figure 19)
2. Using a 3/16" allen wrench secure adjustment screw (S). (Figure 19)
3. Using a 9/16" combo wrench loosen jam nut (N) securing adjustment screw. (Figure 19)
4. Hook craft up to flush kit.
5. Start craft's engine and allow to idle.
6. Start water flowing to flush kit.
7. To increase fuel pressure, turn screw (S) in (clockwise). To reduce pressure turn screw (S) out (counter clockwise).
8. Tighten jam nut (N).
9. Rev engine up 2~3 times and allow to return to idle. Verify gauge is reading desired pressure.
10. Turn water off.

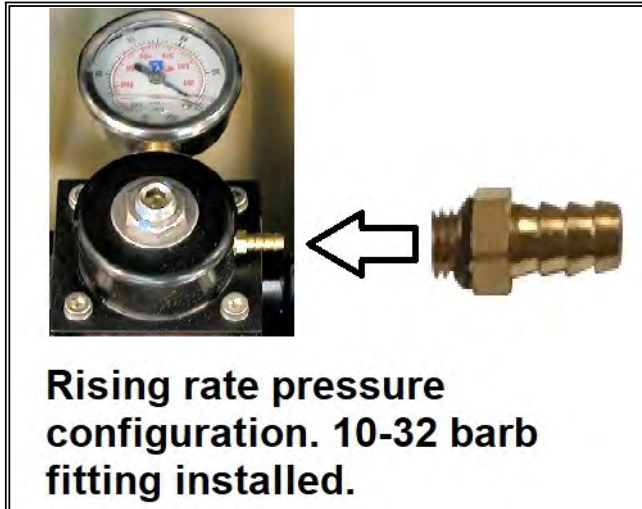
Figure 19

11. Turn engine off.

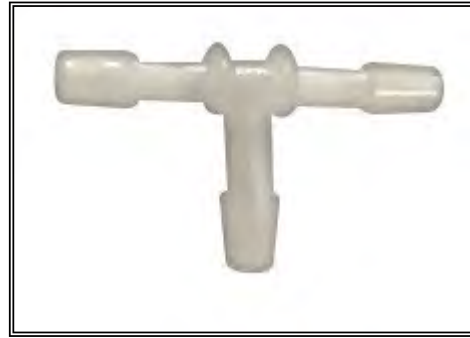
Reconnect vacuum hose to fuel pressure regulator fitting and secure with a zip tie.



Appendix 1: Enabling Rising Rate



Install 10-32 barb fitting into regulator body if configuring for rising rate operation.



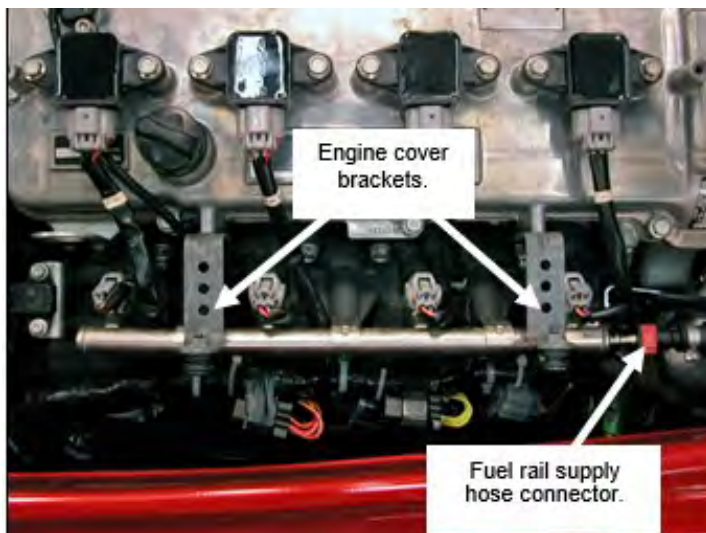
If your craft is equipped with a RIVA blow off valve that already has a vacuum connection to the manifold as described below, use the supplied plastic Tee fitting to connect the fuel pressure regulator vacuum line to the blow off valve vacuum line.

Note: Do not use the plastic Tee fitting to connect the fuel pressure regulator to the MAP sensor hose. Incorrect air / fuel ratios could result.

- INSTALLATION INSTRUCTIONS -

Remove seat. Remove plastic engine cover. Remove brackets (2) on right side of valve cover for plastic engine cover. Disconnect fuel rail supply hose. **Note: Be careful not to spill fuel.** (Figure 1)

Figure 1



Disconnect spark plug coil and fuel injector electrical connectors.

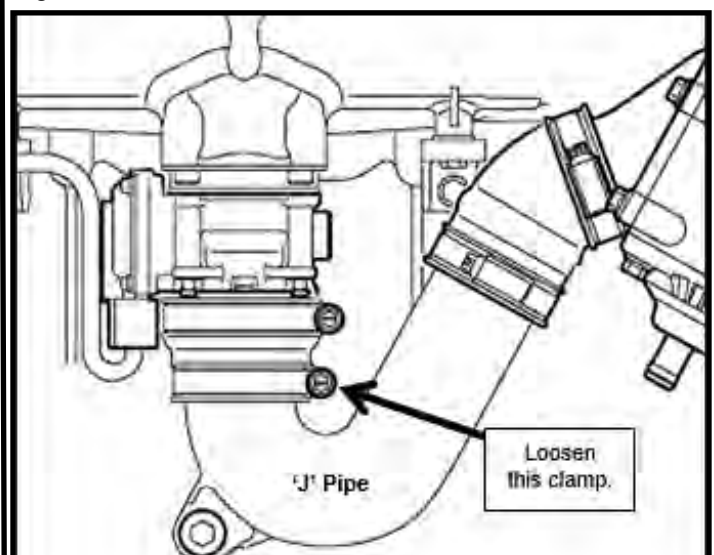
Remove bolts securing fuel rail to intake manifold. Remove bolt securing oil level gauge tube to front of intake manifold.

Lift up on fuel rail to remove fuel injectors from intake

manifold. Raise front of fuel rail up and move towards back of engine. You will need to disconnect several electrical connectors during this step. Store fuel rail assembly vertically in engine compartment to right of electrical box.

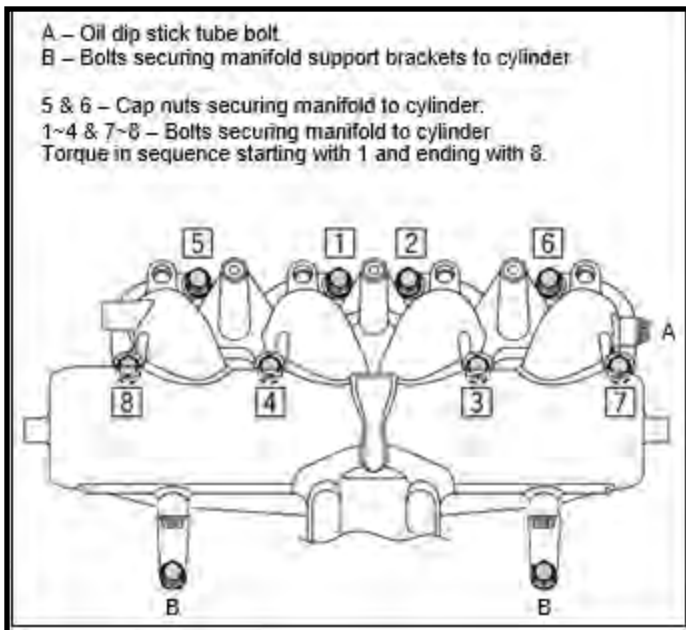
Reach down alongside intake manifold to locate coupler connecting throttle body to 'J' pipe. Loosen lower of two hose clamps securing coupler to 'J' pipe. (Figure 2)

Figure 2



Remove bolts and cap nuts securing intake manifold to engine. (Figure 3)

Figure 3



Disconnect map sensor electrical connector at rear of intake manifold.

Lift intake manifold up and away to remove from motor. Cover 'J' pipe and cylinder intake openings.

2017 and earlier SHO and SVHO models have an Aluminum intake manifold. 2018 and later models have a plastic intake manifold. In the following section use follow the instructions that apply to your intake manifold type.

2017 and earlier models with aluminum intake manifold:

Remove zip tie clip from boss at rear of intake manifold. (Figure 4)

Figure 4

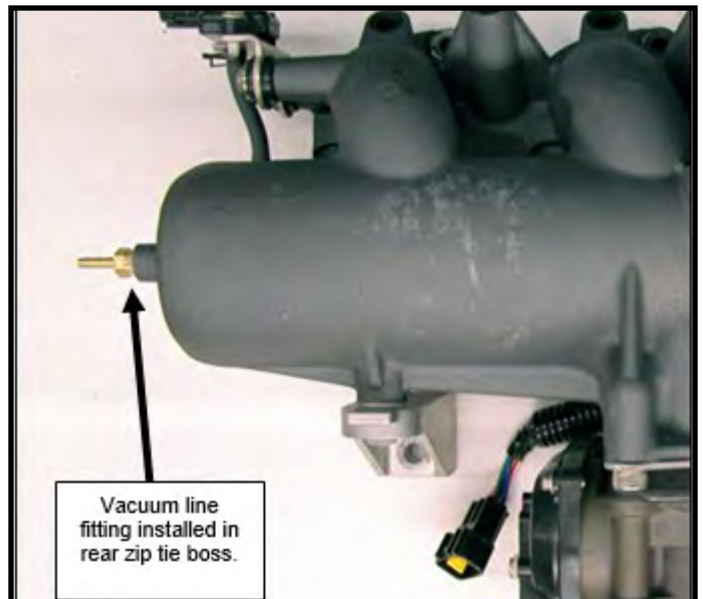


Carefully drill a hole into center of boss and into intake manifold using a 21/64" drill bit. **Note: It is important you use the proper size drill bit.**

Tap newly made hole using a 1/8" NPT Tap. **Note: Thoroughly clean intake manifold inside and out.** Install

brass vacuum fitting. (Figure 5) **Note: Apply pipe thread sealant to threads. Do not over tighten fitting.**

Figure 5



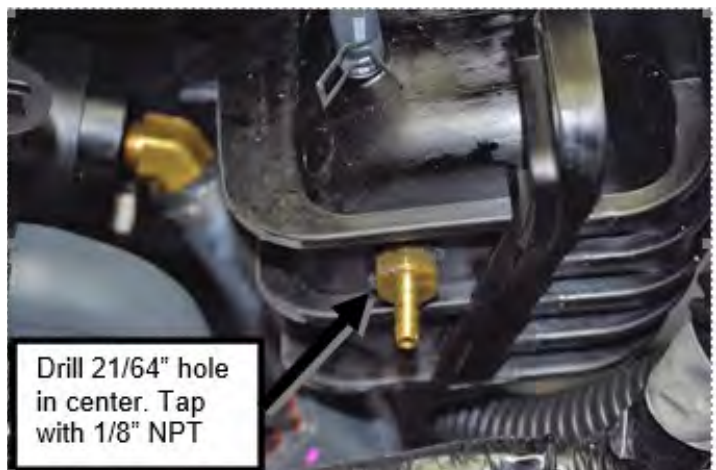
If you plan to one day upgrade your stock intercooler to a RIVA Power Cooler Kit we recommend you completely remove zip tie boss at front of intake manifold prior to replacing intake manifold. (Figure 4)

2018 and later models with plastic intake manifold:

Locate center of finless area below MAP sensor vacuum fitting on rear of intake manifold.

Carefully drill a hole into intake manifold in center of finless area using a 21/64" drill bit. **NOTE: It is important you use the proper size drill bit.** Tap newly made hole using a 1/8" NPT Tap. **Note: Thoroughly clean intake manifold inside and out.** Install supplied brass vacuum fitting. **Note: Apply pipe thread sealant to threads. Do not over tighten fitting.** (Figure 6)

Figure 6



- INSTALLATION INSTRUCTIONS -

All models:

At front of engine remove stock rubber hose connecting supercharger to intercooler. Retain clamps. Discard hose. (Figure 7)

Figure 7



Thoroughly clean supercharger outlet and intercooler inlet flanges with a non-residual cleaner. Install supplied heavy-duty silicone hose with blow-off valve and secure using stock clamps. **NOTE: Do not over tighten clamps.** (Figure 8)

Figure 8



Install intake manifold. **Tip: Apply generous amount of glass cleaner to outside of 'J' pipe and inside of throttle body coupler.** Secure intake manifold and oil level gauge tube using stock hardware.

Reinstall OEM manifold bolts and nuts previously re-

removed. Torque as specified in appropriate Yamaha OEM service manual for model. **NOTE: Apply blue Loc-tite to bolts.** Secure stock clamp at throttle body coupler. **NOTE: Do not over tighten clamp.**

Reconnect map sensor. Replace fuel rail making sure fuel injectors are installed completely into intake manifold.

NOTE: Apply blue Loc-tite to bolts. Do not over tight en bolts.

Reconnect fuel rail supply hose. **Note:** Be careful not to spill fuel.

Reconnect all electrical connections.

Install supplied vacuum hose. Route hose under fuel rail. Longer end of hose connects to blow-off valve. Shorter end connects to fitting installed at rear of intake manifold. (Figure 9)

Figure 9



Secure vacuum hose to blow-off valve, intake manifold fitting and fuel rail supports using supplied zip ties.

Replace engine cover brackets. **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.**

Replace plastic engine cover.

Check bilge for tools, rags, etc. Start craft and run using flush kit to check for proper operation.

Refer to page 6 for instructions on setting base fuel pressure.

***Remember, the water belongs to everyone.
Please ride responsibly and respect the environment!***

Technical Support

For answers to questions regarding installation or trouble shooting RIVA Performance Products contact:

RIVA Technical Support directly at (954) 247-0705 or by e-mail at tech_support@rivaracing.com.

Limited Warranty

RIVA Fuel Pressure Regulator Kits carry a 6 month limited warranty to the original purchaser. They are warranted to be free of defects in materials and workmanship under normal use and service. Customer modified components will be void of warranty. This warranty is limited to defects in the primary components only. Finish and/or wear marks in or on primary components are not covered under this warranty.

RIVA Racing's liability is expressly limited to the repair or replacement of the components contained within or associated with this kit. RIVA Racing agrees to repair or at RIVA's option, replace any defective unit without charge, if product is returned to RIVA Racing freight prepaid within the warranty period. Any equipment returned which, in RIVA's opinion, has been subjected to misuse, abuse, overheating or accident shall not be covered by this warranty.

RIVA Racing shall have no liability for special, incidental or consequential damages or injury to persons or property from any cause arising from the sale, installation or use of this product.

No other warranty, express or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose, applies. Various states do not allow for the limitation of incidental or consequential damages and therefore the above exclusion or limitation may not apply to you.

Warranty does not include the expenses related to freight or transportation of parts or compensation for any inconvenience or loss of use while being repaired. A copy of the original invoice and a Return Authorization Number (RA#) must accompany all warranty claims.

Warranted replacement parts will be returned freight collect.