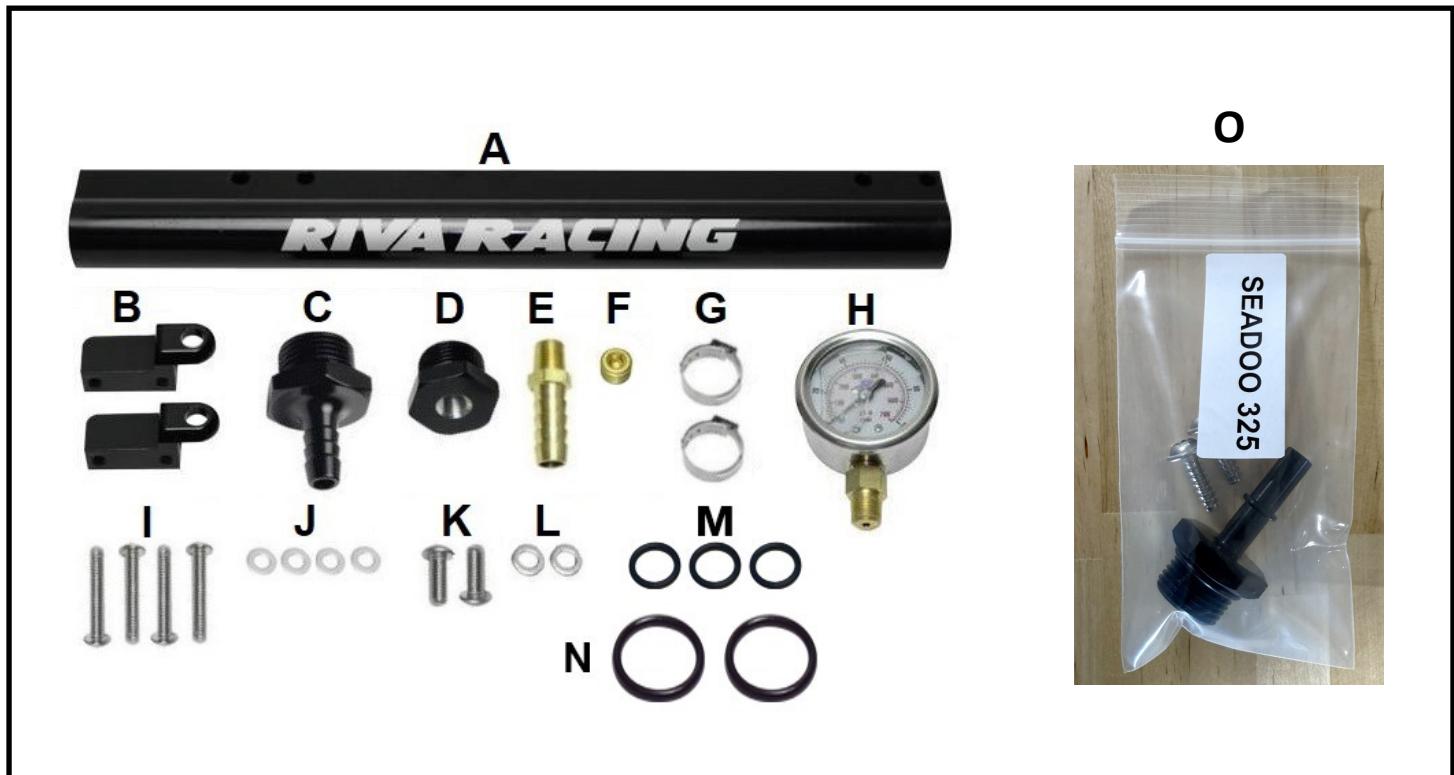




**RIVA RACING**  
PERFORMANCE PRODUCTS & ACCESSORIES

## Sea-Doo High Flow Billet Fuel Rail

RS12050-BFR-BK-1



### Applications:

All Sea-Doo 1503 and 1630 4-TEC Engines

### Approximate Installation Time:

1.0 Hr.

### GET THE LATEST UPDATES!

Prior to installation, go to the RIVA Racing online Instruction Library to download the latest version of these instructions:

<https://rivaracing.com/instructions>

### Recommended Specialty Tools:

Fuel Hose Disconnect Tool  
(All except 325hp models)

### Part #

529036037

### Required Materials:

Blue Loctite  
Pipe Thread Sealant (fuel resistant)

### Part #

N/A  
N/A



## Sea-Doo High Flow Fuel Rail Kit

*RS12050-BFR-BK-1*

### **COMPONENT LIST**

Item	Qty.	Part Number	Description	Notes
A	1	QCA-RS12050-FR	Fuel Rail Body	Part of QCA-RS12050-FR
B	2		Fuel Rail Mounts	Part of QCA-RS12050-FR
C	1		Barbed End Fitting, AN10 to 3/8	Part of QCA-RS12050-FR
D	1		#10 Port Plug with O-Ring	Part of QCA-RS12050-FR
E	1	220E	3/8" Brass Barbed Fitting	
F	1	109UA	1/8" Brass NPT Counter Sunk Plug	
G	2	16700017	Oetiker Clamp (17)	
H	1	RY12040-GAUGE	Fuel Pressure Gauge	
I	4	10C125SBCS	10-24 x 1-1/4 BHCS	
J	4	10NWTFS	#10 Flat Washers	
K	2	.6C16SBCS	Bolt, 6MM x 16MM, BHCS	
L	2	.6NWTFS	M6 Flat Washer	
M	3	QCA-RS12050-IS	Injector Spacer	
N	2	93125K49	O-Ring	Installed on fittings in fuel rail
	1	RS12050-FCF-AN10	Barbed End Fitting, AN10 to Quick-connect	
O	1	93125K49	O-Ring	Installed on fitting RS12050-FCF-AN10
	2	STP380600200E	Torx Screw, 6x20 (T-30)	

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](mailto:tech_support@rivaracing.com).

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 \*\*\***

**Caution: Whenever using electric or battery operated tools inside the hull be sure it is well ventilated and no fumes are present. Failure to do so could result in a fire, or explosion and serious personal injury or death.**

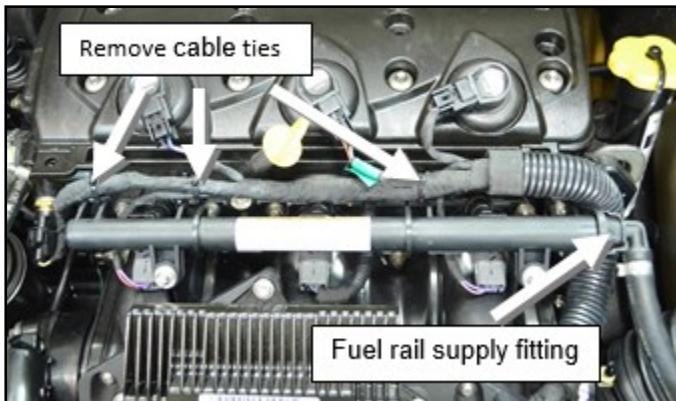
**This kit is not intended for use on pollution controlled vehicles. Installation on pollution controlled vehicles may constitute a violation of state or local statutes.**

# Installation Instructions

Remove lanyard and disconnect battery cables. **NOTE: Negative (black) first. Positive (red) second.**

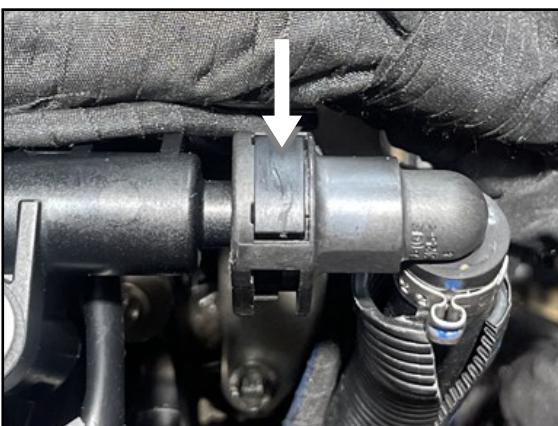
Loosen fuel filler cap to relieve pressure inside fuel tank.

Remove cable ties (3) securing engine wire harness to fuel rail.

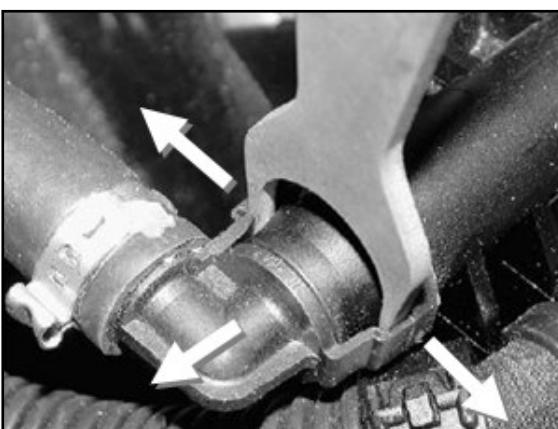


Place an absorbent shop rag around fuel rail supply fitting at front of intake manifold. Carefully disconnect fitting. **NOTE: Fuel line is under pressure.**

**325hp Models:** Depress button on 90-degree fitting.



**All except 325hp Models:** Use Sea-Doo tool 529036037 to spread locking tabs.

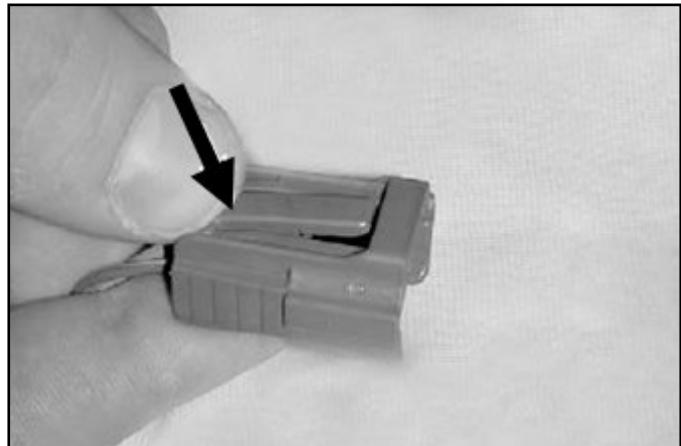


Drain the excess fuel from supply line into a safe container. **NOTE: Clean spilled fuel immediately.**

Remove retaining screws (2) securing fuel rail to intake manifold and discard.

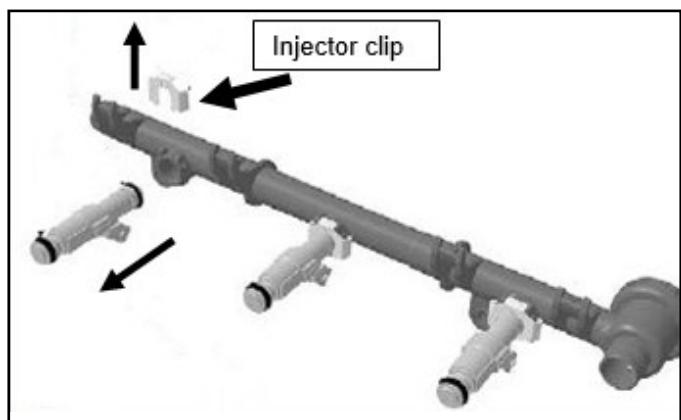
Gently pull fuel rail little by little, end to end, to remove fuel rail with injectors. **NOTE: Raise front of fuel rail to avoid spilling fuel into hull.**

While holding front of fuel rail upwards, disconnect electrical connectors (3) from fuel injectors. Remove by pressing locking tab on bottom of connector and gently pulling. **NOTE: Do not pull wires.**

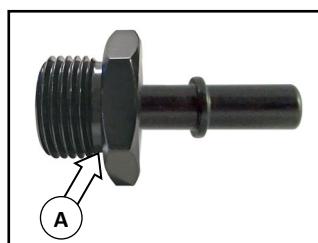


Remove fuel rail from hull. Carefully drain any excess fuel from rail into a safe container.

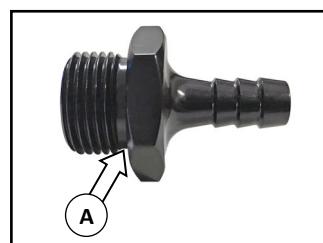
Remove injector clips (3) from fuel injectors & gently pull fuel injectors out of fuel rail.



Install barbed fuel supply line fitting on front of supplied billet fuel rail.



325hp Models



All except 325hp Models

**NOTE: Apply engine oil to o-ring prior to installing. Ensure o-ring is seated in groove (A). Do not overtighten fitting.**

# Installation Instructions

Your RIVA Billet Fuel Rail can be configured with or without a return line.

**1. No Return Line:** Install supplied brass 1/8" NPT block-off plug at end (rear) of fuel rail.



**2. Return Line:** Install supplied brass 3/8" barbed straight fitting at end (rear) of fuel rail. Use supplied Oetiker clamp to secure fuel return line to fitting.



**NOTE:** Apply fuel resistant pipe thread sealant to threads. Do not overtighten brass fittings.

**! IMPORTANT !** The fuel gauge supplied with this kit is for fuel pressure testing purposes only. This is a test gauge and should be removed from the fuel rail prior to riding or racing.



Inspect o-rings on fuel injectors. Replace o-ring(s) if any are worn or damaged.

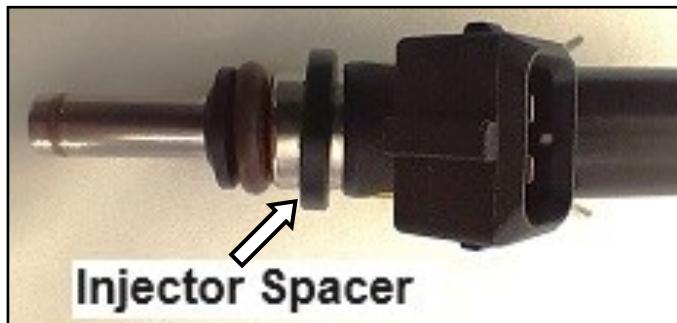
Apply a thin coat of engine oil to top o-ring on fuel injectors.

Install injectors into billet fuel rail by slowly rotating injector side to side while pushing in. **NOTE: Use care not to pinch or damage o-rings.**



Apply a thin coat of engine oil to bottom o-ring on fuel injectors.

Install one supplied injector spacer onto base of each fuel injector. **NOTE: Use care not to damage o-ring when installing spacers.**



Position fuel rail above intake manifold, aligning injectors with fuel injector ports. Rotate fuel injectors so that electrical connectors face down, towards intake manifold.

Carefully install fuel rail until fuel rail mounts stop against intake manifold mounts. **NOTE: Use care not to pinch or damage o-rings.**

Secure fuel rail in position using supplied hardware.

**325hp Models:** Use 6x20 Torx screws. **NOTE: Do not apply thread locker. Torque to 80 in·lb (9 N·m).**

**All except 325hp Models:** Use 6x16 BHCS and M6 & washers. **NOTE: Apply blue Loctite to threads. Torque to 80 in·lb (9 N·m).**

## ATTACHING FUEL SUPPLY HOSE:

**325hp Models:** Apply engine oil to barb fitting at front of fuel rail. Install fuel hose connector onto fitting ensuring it 'locks' in place.

**All except 325hp Models:** Remove existing fuel supply hose connector from fuel supply hose and discard.

Place supplied Oetiker clamp over end of fuel supply hose.

Install fuel supply hose directly onto barbed fitting at front of fuel rail and secure Oetiker clamp.



## Installation Instructions

Reconnect fuel injector electrical connectors (3).



\* Shown in test configuration (with fuel pressure gauge). Remove gauge before riding or racing.

Tighten fuel filler cap.

Clean up any fuel that may have spilled during installation process.

Reconnect battery cables. **NOTE: Positive (red) first. Negative (black) second.**

Check bilge for tools, rags, etc.

Run craft on a flush kit to check for proper operation.

***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](mailto:tech_support@rivaracing.com).

### Limited Warranty

RIVA Billet Fuel Rails 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.