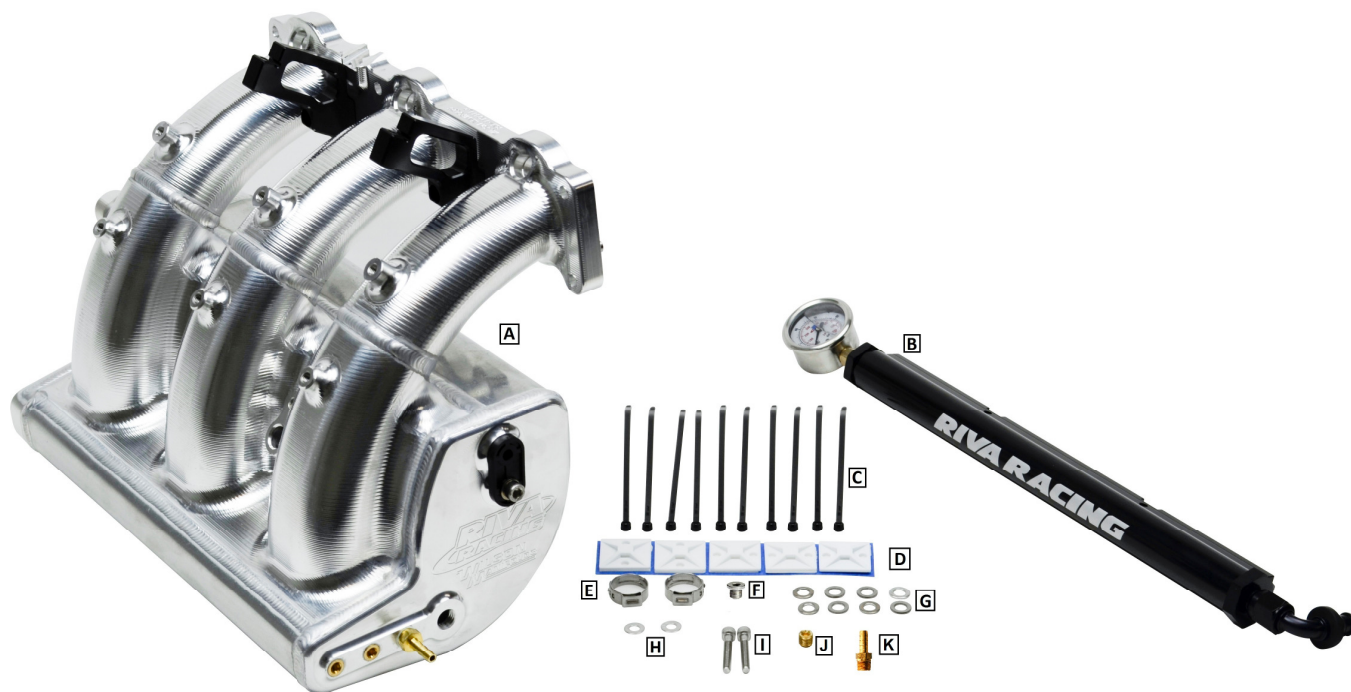




**RIVA RACING**  
PERFORMANCE PRODUCTS & ACCESSORIES

## **Billet Intake Manifold**

*PART# - RS12050-BIM*



**Applications:** Sea•Doo 300/260/255/215 Engines

**Approximate Installation Time:** 2hrs.

**Recommended Specialty Tools:**

Fuel Disconnect Tool

**Part #**

529036037

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 \*\*\***



## **Billet Intake Manifold**

### **COMPONENT LIST**

		QUANTITY	PART NUMBER	DESCRIPTION
A	<input type="checkbox"/>	1		Billet Manifold Assembly with Fuel Rail mounts, 2 screw plugs, 1 block off plate and 1 barb fitting installed
B	<input type="checkbox"/>	1	RS12050-BFR	Fuel Rail assembly with gauge installed
C	<input type="checkbox"/>	10	TY24MX	Zip Tie Med
D	<input type="checkbox"/>	5	7566K62	Cable tie holder adhesive back screw mount
E	<input type="checkbox"/>	2	16700020	Oetiker clamp 18.5mm
F	<input type="checkbox"/>	1	9029-12X1.5	12 MM Plug screw with sealing washer
G	<input type="checkbox"/>	2	90107A011	#10 Washer, 316 SS
H	<input type="checkbox"/>	2	92196A276	Bolt 10-32 x 1-1/4, SCHS
I	<input type="checkbox"/>	1	109UA	1/8" NPT Countersunk Plug
J	<input type="checkbox"/>	1	220E	3/8"x 1/8" NPT Barb Fitting

Packed with pride by: \_\_\_\_\_

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@rivamotorsports.com](mailto:tech_support@rivamotorsports.com)

## **- INSTALLATION INSTRUCTIONS -**

Remove D.E.S.S. lanyard.

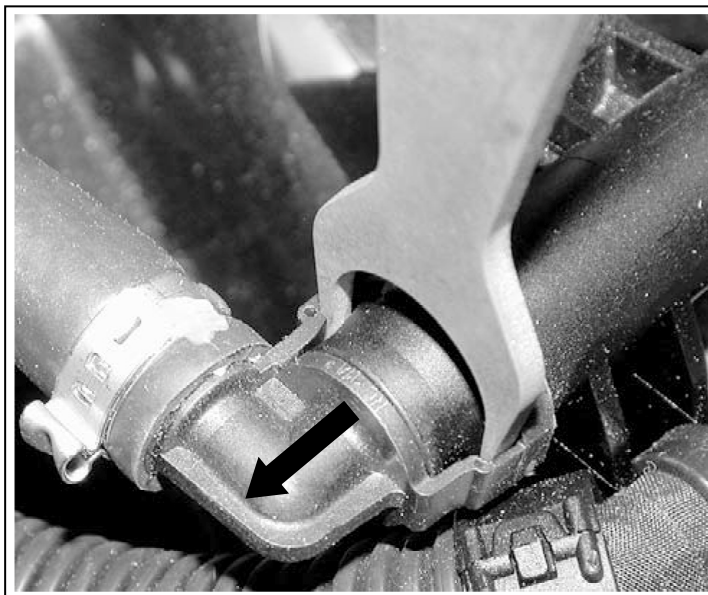
Disconnect air intake ducting from throttle body.

Remove oil dipstick.

Remove engine cover.

Wrap absorbent shop rag around fuel supply hose at front of intake manifold. Disconnect fuel supply hose. (Figure 1)

Figure 1



**NOTE:** It may be necessary to rotate fuel hose fitting to align the tool ends with the openings of the locking mechanism.

Unplug ECU connectors.

Remove (cut) all zip ties (1) securing wiring harness to intake manifold. (Figure 2, 3, 4)

Figure 2

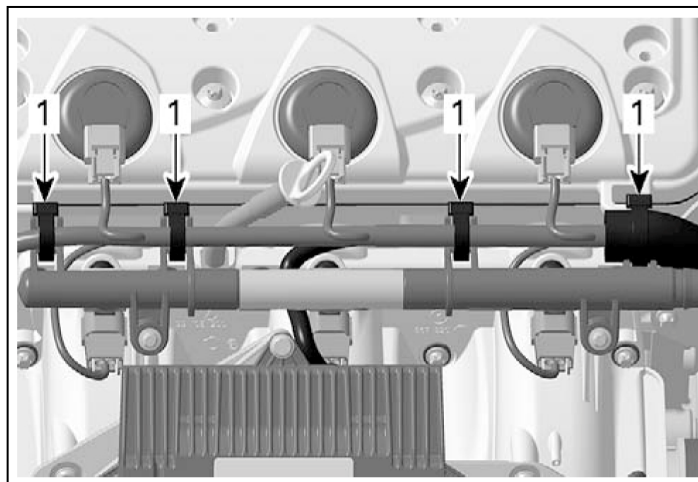


Figure 3

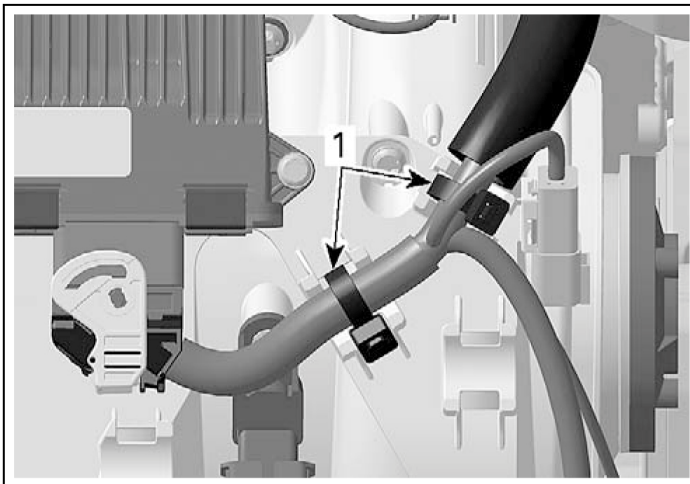
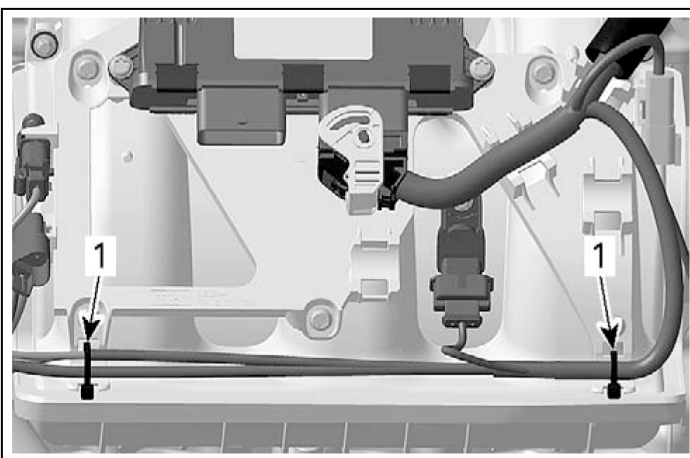


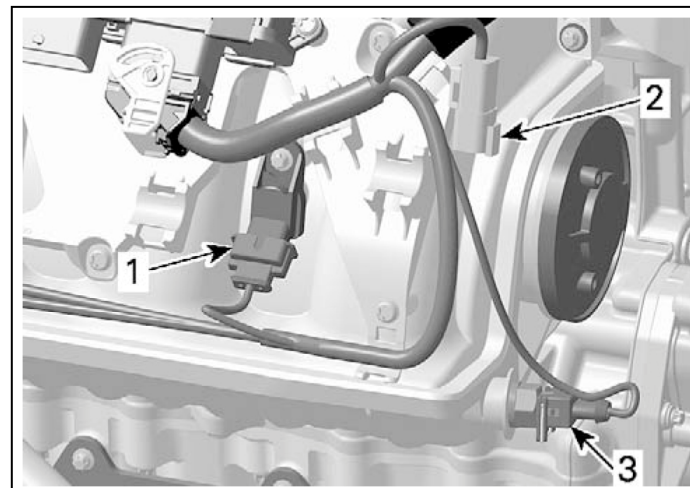
Figure 4



Unplug ignition coil and fuel injector connectors

**260 / 255 / 215 Engines** Unplug MAP sensor (1) and MAT sensor (3). Unclip Engine Connector (2)

Figure 5

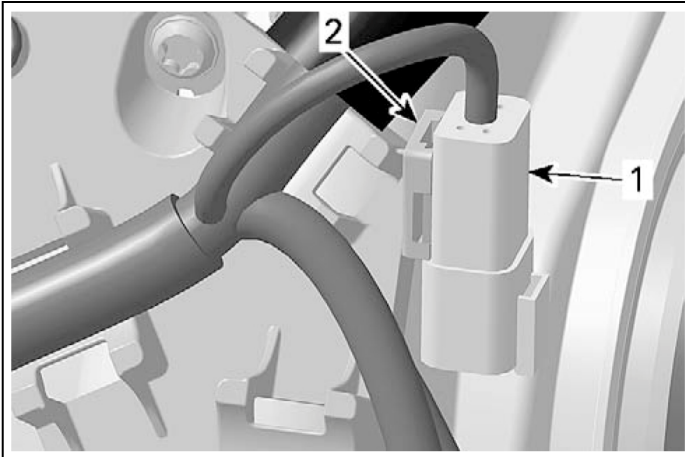




## **- INSTALLATION INSTRUCTIONS -**

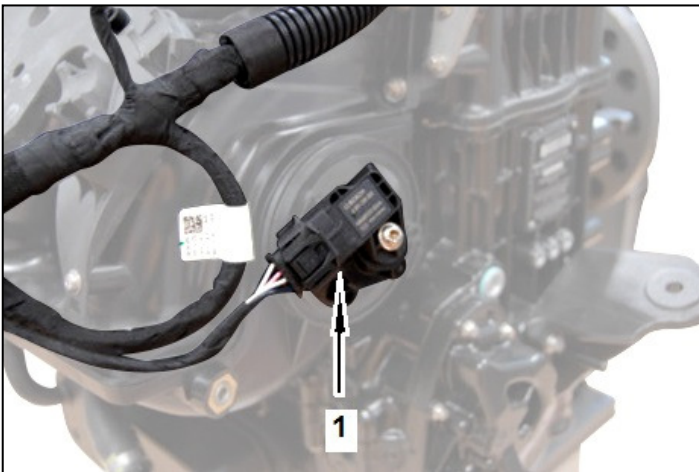
Detach Engine Connector (1) from ECU support bracket (2)(Figure 6)

Figure 6



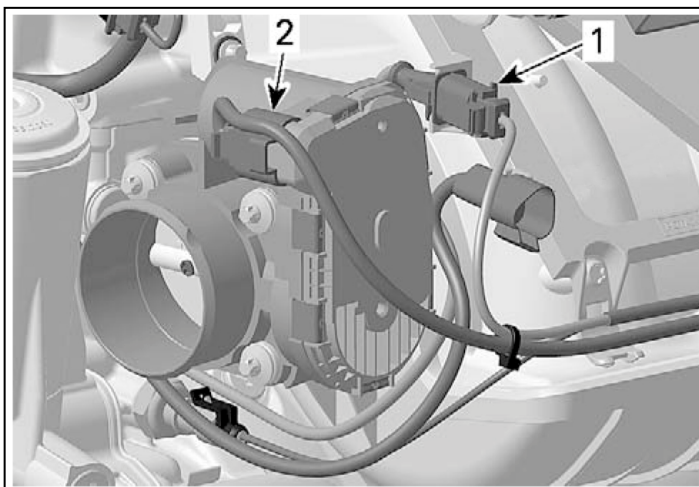
**300 Engines** Unplug MAPTS sensor (1) (Figure 7)

Figure 7



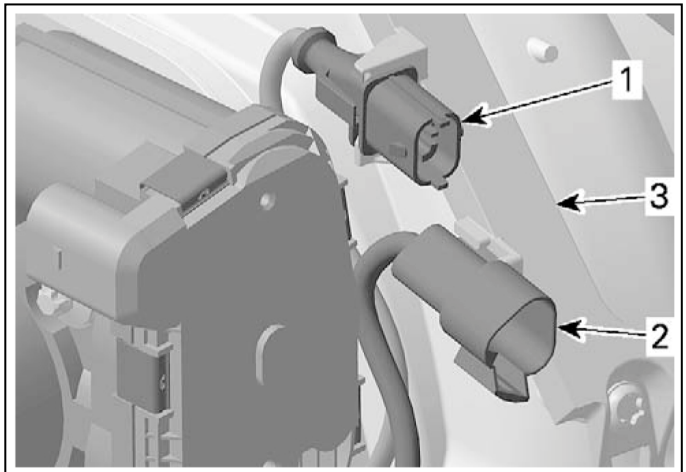
**All Models:** Unplug Knock Sensor (1) and Throttle Actuator (2). (Figure 8)

Figure 8



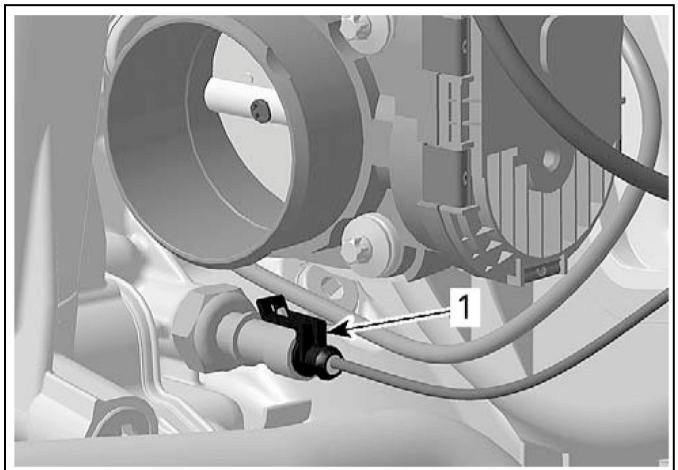
Detach KS Connector (1) and Magneto Connector (2) from ECU support (3). (Figure 9)

Figure 9



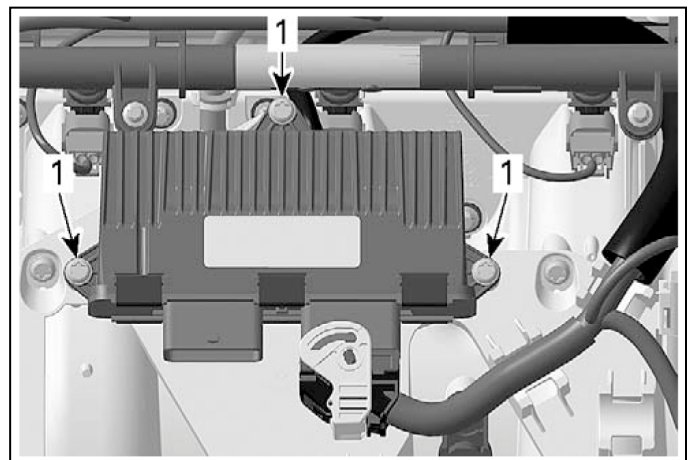
Unplug Oil Pressure Switch (1). (Figure 10)

Figure 10



Remove ECU (3 bolts) (1). (Figure 11)

Figure 11

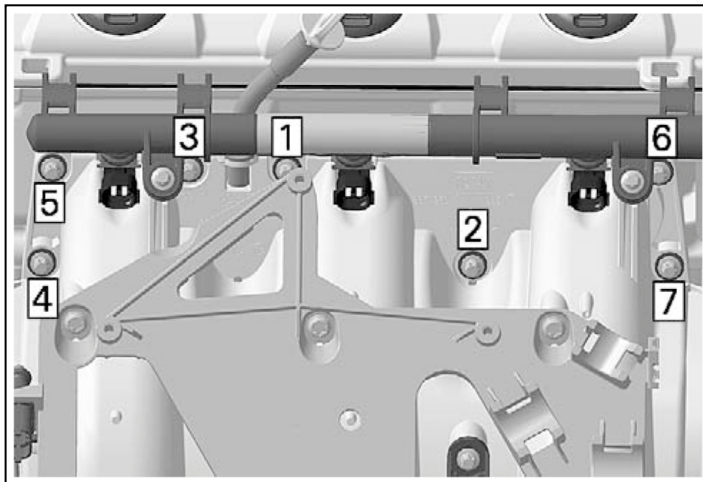


## **- INSTALLATION INSTRUCTIONS -**

Move wiring harness away from intake manifold (towards fuel tank).

Remove bolts (1-7) securing intake manifold to engine. (Figure 12)

Figure 12



Pull intake manifold away from motor. Remove oil dipstick tube from manifold.

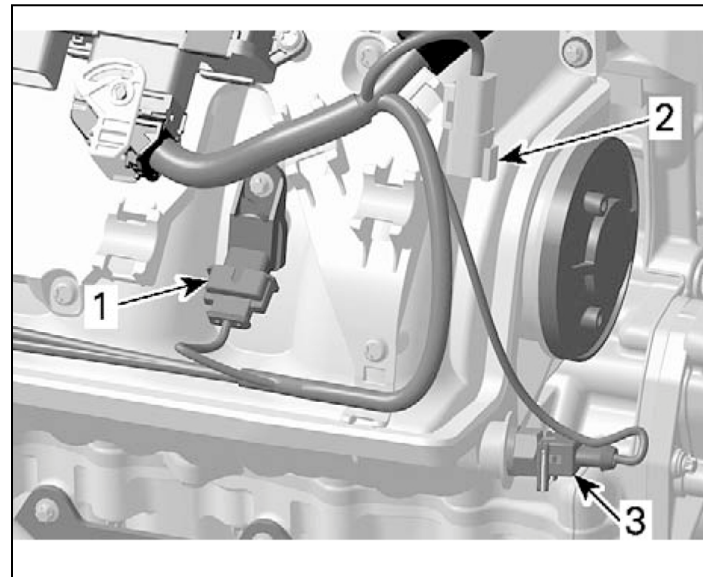
Remove stock intake manifold.

**215 / 255 / 260 Engines** Transfer MAP sensor (1) to Billet Intake Manifold, (location 1 in figure 14). **NOTE: Apply blue Loctite to threads. Torque bolts to 80 lbf·in / 9 N·m.** (Figure 13)

Transfer MAT sensor (3) to Billet Intake Manifold, (location 3 in figure 14) RIVA & Sea·Doo both recommend replacing the brass washer. **NOTE: Do not apply Loctite to threads. Torque to 150 lbf·in / 17 N·m.** (Figure 13)

Install supplied Block Off Plate and screw in location 2 in figure 14. **NOTE: Apply blue Loctite to threads. Torque bolt to 80 lbf·in / 9 N·m.**

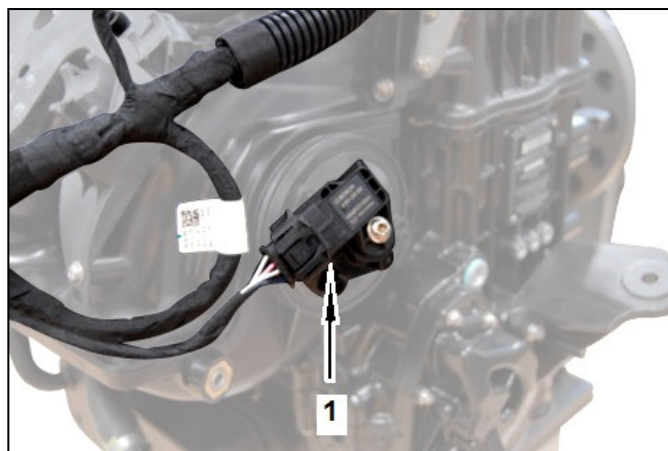
Figure 13



**300 Engines** Remove installed block off plate and screw from billet manifold location 2 and install in location 1. **NOTE: Apply lubricant to o-ring on block off to ease insertion. NOTE: Apply blue Loctite to threads. Torque bolt to 80 lbf·in / 9 N·m.**

Transfer combined MAP and MAT sensor (2) from OEM manifold to billet manifold location 2. **NOTE: Apply blue Loctite to threads. Torque bolt to 80 lbf·in / 9 N·m.** (Figure 13)

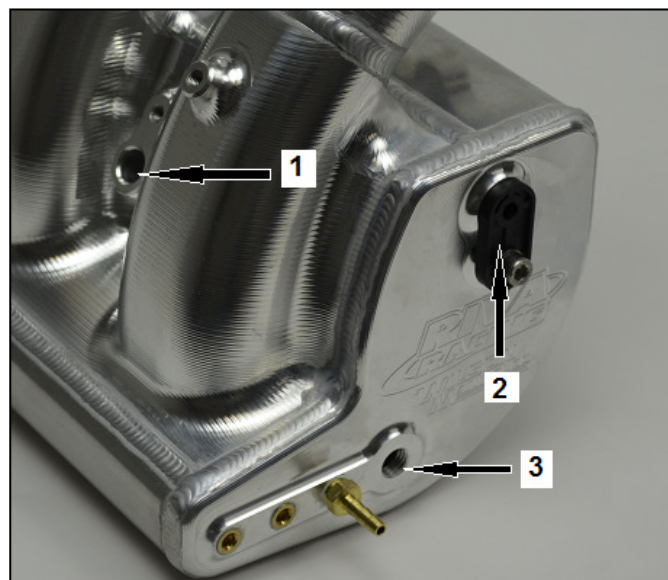
Figure 13



Install supplied Block Off Plate and screw in location 1 in figure 14. **NOTE: Apply blue Loctite to threads. Torque bolt to 80 lbf·in / 9 N·m.**

Install supplied threaded block off plug in location 3. **NOTE: Apply pipe sealant to threads.** (Figure 14)

Figure 14



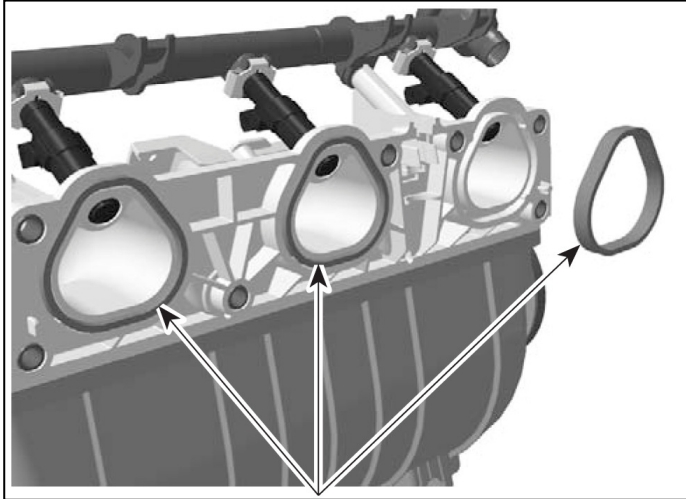
**All Models:** Transfer throttle body (with gasket) to Billet Intake Manifold. **NOTE: Do not apply Loctite to threads. Torque to 80 lbf·in / 9 N·m in a criss-cross pattern.**

Transfer o-rings to supplied Billet Intake Manifold. **NOTE: Apply light coating of grease.** (Figure 15)



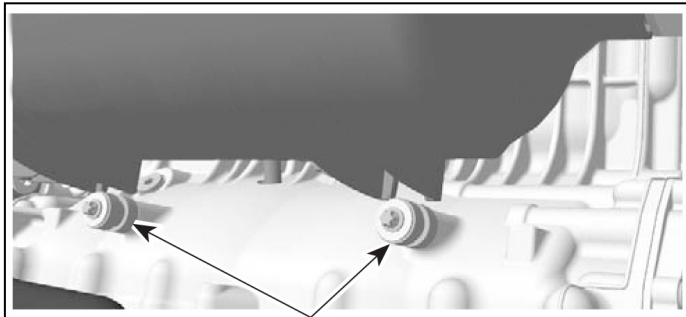
## **- INSTALLATION INSTRUCTIONS -**

Figure 15



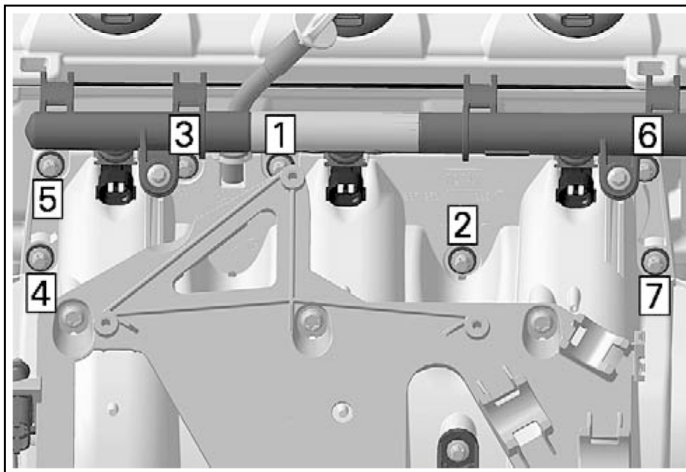
Install oil dipstick tube into manifold. Install Billet Intake Manifold onto engine mounting brackets. (Figure 16)  
Ensure that oil dipstick tube fits into crankcase opening.

Figure 16



Secure manifold to engine using stock Torx bolts and supplied M6 washers (7). **NOTE: Apply blue Loctite to threads. Torque to 80 lbf•in / 9 N•m.** (Figure 17)

Figure 17



Install fuel injectors. **NOTE: Apply engine oil to injector o-rings.**

Secure Billet Fuel Rail using supplied hardware. **NOTE: Apply blue Loctite to threads. Torque to 80 lbf•in / 9 N•m.**

The RIVA fuel rail can be installed in 2 configurations.

1. Installation with fuel rail block off. (Figure 18)

Figure 18



2. Installation with supplied fuel line return fitting. (Figure 19)

Figure 19



If installing fuel return line on back of fuel rail, use supplied Oetiker clamp to secure return hose to fitting

Choose your configuration & install fittings. **Note: Use pipe thread sealant on brass threaded fittings.**

**Important:** The fuel gauge supplied with the kit is for fuel pressure testing purposes only. This is a test gauge and should not be left on the fuel rail.



Secure fuel supply hose to barbed fitting at front of Billet Fuel Rail using supplied Oetiker clamp.

### Injector Applications:

RIVA/Wilson Billet Intake Manifold is designed to accept RIVA 75lb & 100lb Pro-Series Fuel Injectors only.

Install optional ECU Mounting Kit, if utilized, using hardware supplied with kit. **NOTE: Apply blue Loctite to threads. Torque to 80 lbf•in / 9 N•m.**



### ECU Mounting Kit Notes:

Brackets can be mounted in either direction.

'09 & newer Siemens ECU Only: Place supplied spacers between ECU and bracket (2 per bolt).

Mount ECU using supplied hardware. Apply blue Loctite to threads. Torque to 80 lbf•in / 9 N•m.--

Reconnect engine sensors electrical connectors.

Secure electrical wiring using supplied mounting tabs and zip ties.

Replace engine cover.

Replace oil dipstick.

Replace air intake ducting for throttle body. **NOTE: Do not over tighten clamp(s).**

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@rivamotorsports.com](mailto:tech_support@rivamotorsports.com).

### Limited Warranty

RIVA/Wilson Billet Intake Manifolds Kits carry a 90-day 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.

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