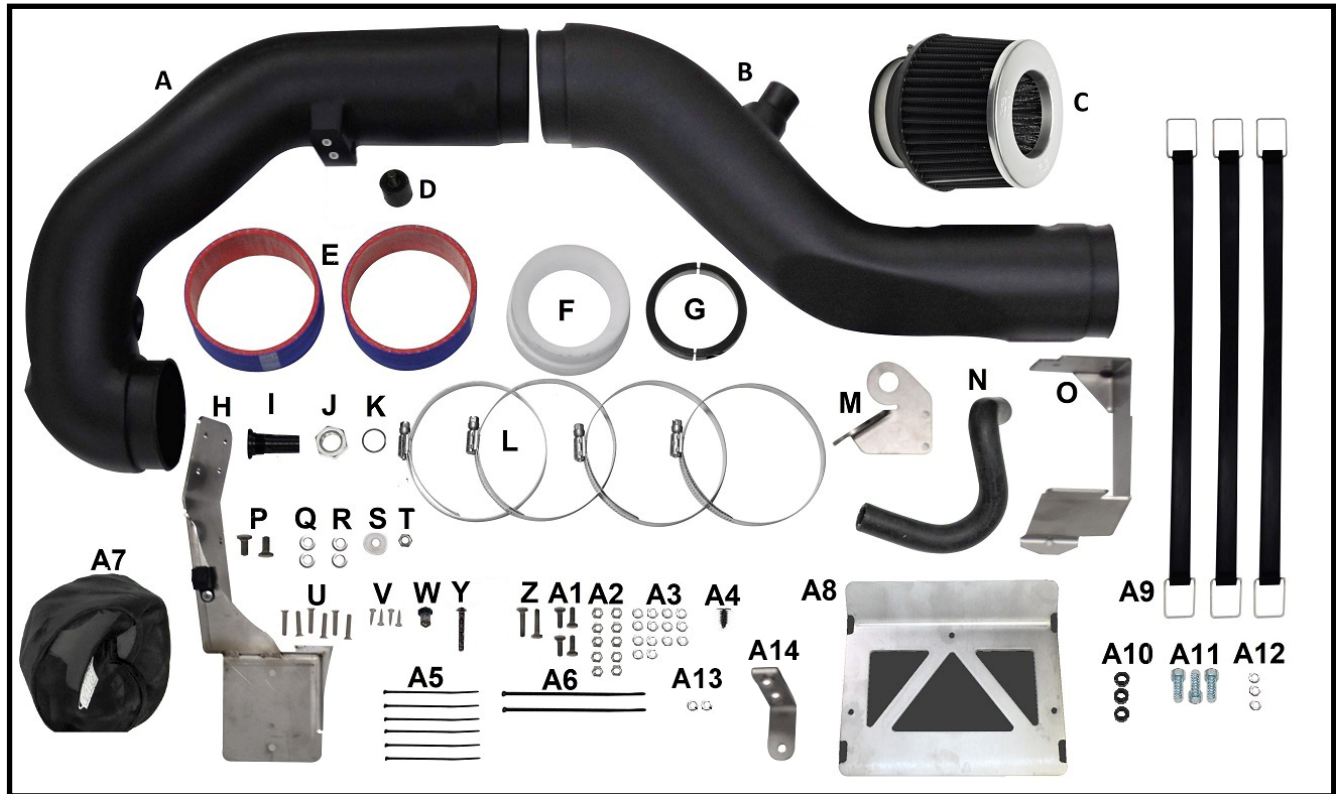




Sea-Doo RXT/GTX 300 2020+ Power Filter Kit

RS13121



Applications: Sea-Doo 2020+ RXT/GTX 300 Models (ST3)

Approximate Installation Time: 3 hrs.

Recommended Specialty Tools:

Part #

N/A

Required Materials:

Red Loctite

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 *****



RS13121 2020+ RXT/GTX Power Filter Kit

COMPONENT LIST

| | <u>Description</u> | <u>Qty</u> | <u>Part #</u> | <u>Notes</u> |
|-----|------------------------------------------|------------|-----------------|---------------------------------|
| A | Tube A | 1 | | |
| B | Tube B | 1 | | with large lord mount installed |
| C | Air Filter | 1 | RK13090-2 | |
| D | Loard Mount, Sm | 1 | 9232K17 | with nylon washer |
| E | Silicone Coupler, (4" ID x 2-1/8" L) | 2 | RY15-04/2.0 | |
| F | V-Stack | 1 | QCA-RS13140 | |
| G | Threaded Ring | 1 | | with screws |
| H | Electrical Bracket | 1 | FSM-RS13120-BS | with Diag plug socket installed |
| I | Barbed Fitting with O-ring (Breather) | 1 | | assembled, fitting, o-ring, nut |
| J | 7/8" Nut | 1 | | assembled, fitting, o-ring, nut |
| K | O Ring, Buna Dash #119, (Barbed Fitting) | 1 | 9452K83 | assembled, fitting, o-ring, nut |
| L | Hose Clamp, (#64) | 4 | 6.56E-49 | |
| M | Front Lift Eye/ Intake Bracket | 1 | FSM-RS13140-B | |
| N | Molded Hose | 1 | 19625 | |
| O | Reservoir Bracket | 1 | FSM-RS13120-BS | |
| P | Bolt, 8 X 16mm, SHCS | 2 | 830236SS | |
| Q | Washer, Lock M8 | 2 | 4478 | |
| R | Washer, Flat M8 | 2 | 369023SS | |
| S | Washer, Fender M8 | 1 | 410.8.24 | |
| T | Nut, Nyloc M8 | 1 | LMNL5X00800 | |
| U | Screw, Flat Head, 6 x 20mm PFHS | 6 | 100.6.20 | |
| V | Screw, Self Tapping | 4 | 92470A196 | |
| W | Well Nut, 6mm | 1 | 67741967 | |
| X | Bolt, Button head Torx 6 x 35mm | 1 | M1635CTBA2 | |
| Y | Bolt, 6 x 25mm HHCS | 2 | 830158SS | |
| A1 | Bolt, 6 X16mm HHCS | 4 | LMHC3X06016 | |
| A2 | Nut, Nyloc 6mm | 10 | 561030SS | |
| A3 | Washer, Flat 6MM | 14 | 369021SS | |
| A4 | Plastic Dart | 1 | 502.5005.1 | |
| A5 | Zip Tie, 4" | 6 | TY23MX | |
| A6 | Zip Tie, 5.5" | 2 | TY24MX | |
| A7 | Pre Filter | 1 | RK13090PF-BK | |
| A8 | ECU Bracket | 1 | FSM-RS13121-ECU | |
| A9 | Rubber Strap (Fuel Tank) | 3 | 2938501204 | |
| A10 | Nylon Unthreaded Spacers | 3 | 90176A155 | |
| A11 | M6 X 16MM SHCS | 3 | 538078SS | |
| A12 | M6 Wave Washer | 3 | 435.06 | |
| A13 | M6 Lock Washer | 2 | | |
| A14 | L Bracket | 1 | | |

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

- INSTALLATION INSTRUCTIONS -

Remove seats.

Remove access cap (A) and screws (13) at locations shown. **Note: Screws at location B go through the deck and are secured with nuts and washers underneath. Do not drop nuts and washers into hull. Retain hardware for re-use.** Figure 1

Figure 1



Remove engine compartment access cover. Remove plastic engine cover.

Disconnect battery cables. **Note: Disconnect negative cable first.**

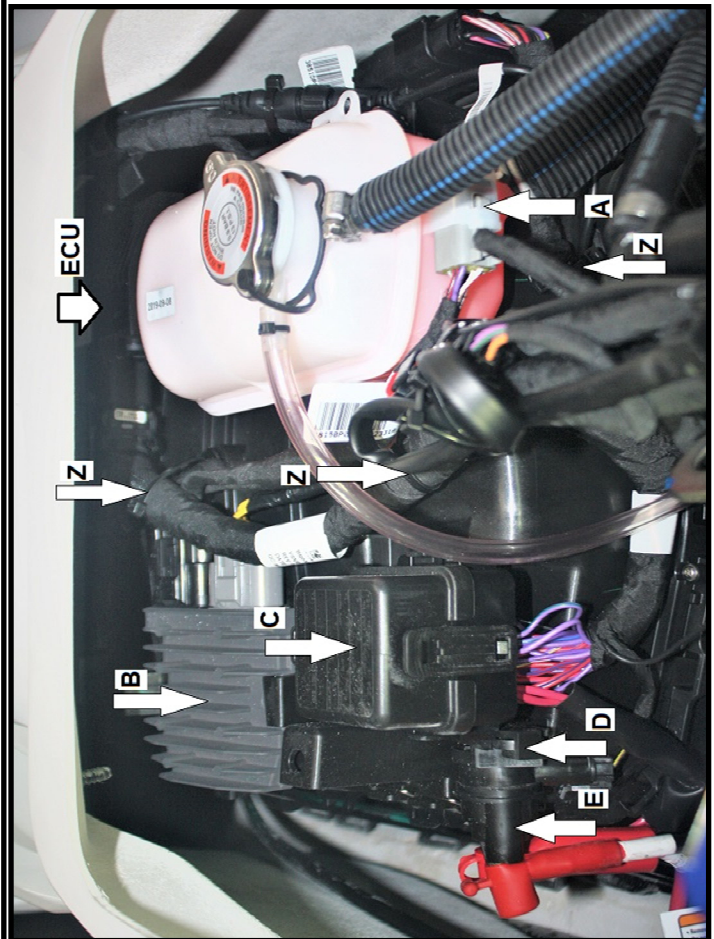
Cut off all zip ties securing wire harness to fuel rail. (Figure 2)

Figure 2



Remove diagnostic plug (A) from coolant reservoir. Unclip voltage regulator (B) and fuse box (C) from airbox and drop into hull. Push catch (D) and lift starter relay (E) to remove from airbox. Unclip reservoir from airbox. **Note: support reservoir to prevent coolant leak.** Cut zip ties (Z) securing harness to airbox. (Figure 3)

Figure 3



Disconnect rubber straps (3 each side) holding airbox on top of fuel tank. Remove straps from craft and discard. (Figure 4) (Only shows left side of airbox.)

Note: Do not remove the longer straps at the front of the tank that do not hold the airbox.

- INSTALLATION INSTRUCTIONS -

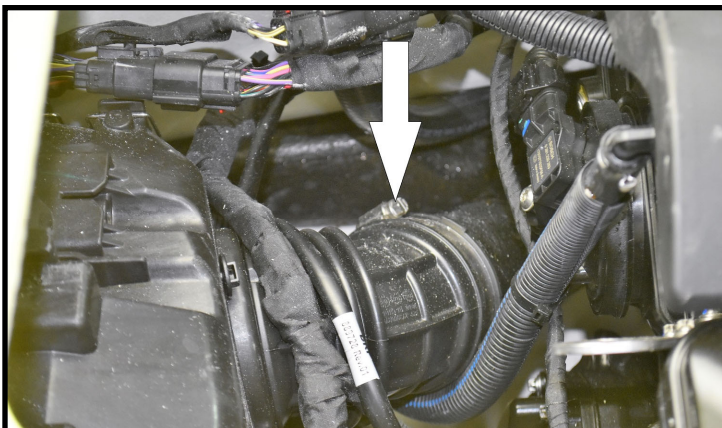
Figure 4



Cut zip ties securing harness to rear of airbox.

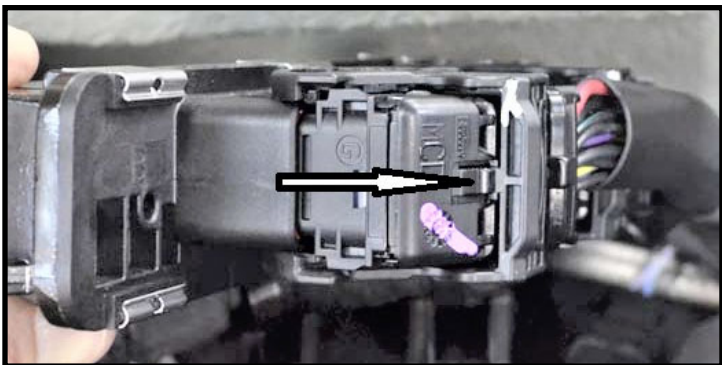
Release clamp holding OEM inlet tube to airbox hose and disconnect hose from tube. (Figure 5)

Figure 5



Remove screws (3) securing ECU to airbox. Disconnect harness plugs from ECU. Depress tab on ECU connector and rotate lever to push connector off ECU. (Figure 6)

Figure 6



Disconnect front and rear harness connectors (2) (C) and cut off harness support clamp (S). (Figures 7 and 8)

Figure 7

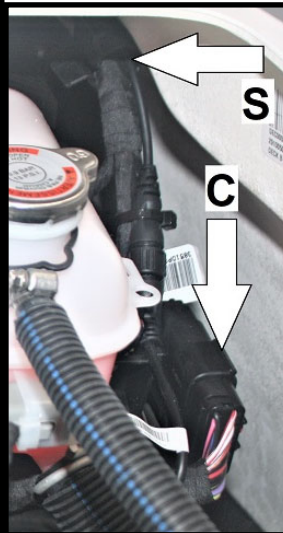
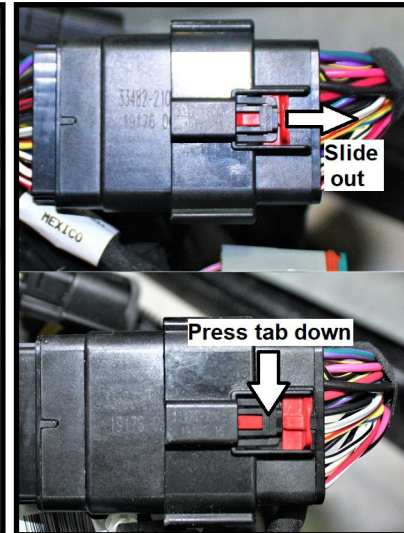


Figure 8



Reaching around and over airbox, with side cutters, cut all zip ties securing harness to airbox.

With Torx #15 bit remove screws at front (2) and rear (3) of airbox. This must be done by "feel" as the front screws cannot be seen from the rear. Note location of screws in Figure 9.

Figure 9



Insert a flat bladed screwdriver into the joint between the upper and lower halves of the airbox and pry apart. Continue lifting upper half of airbox until completely separated from lower.

Reach into separated airbox and remove front (2) and rear (1) air tubes.

- INSTALLATION INSTRUCTIONS -

Remove upper airbox half from ski and discard. Remove lower half of airbox from ski and discard.

Replace OEM rubber straps (6), previously removed, with supplied rubber straps (3). Replacement straps stretch all the way across the tank. Install strap onto hook on side closest to you. Grasp opposite end of strap with pliers on rubber behind wire and push it onto hook on opposite side of tank. (Figure 10) **Note: Spray underside of strap and top of tank with foaming glass cleaner to make it easier to stretch straps over tank. It is helpful to have a second person to push the strap hook onto the second hook in the hull when you have it properly stretched.**

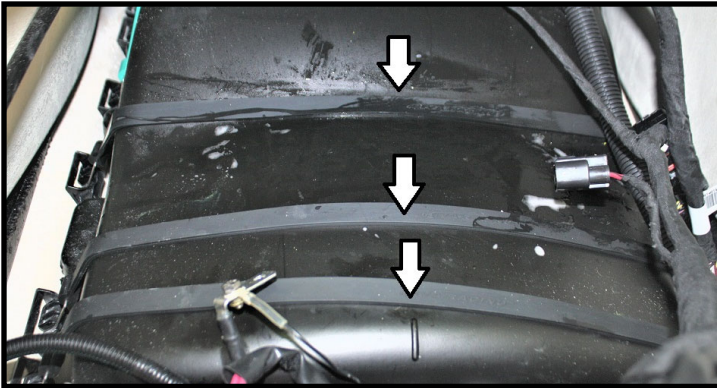


Figure 10

Release clamp (A) securing supercharger inlet hose to rear of OEM inlet tube. Pull hose off inlet tube. Remove OEM inlet tube by sliding out through front storage compartment.

Release clamps (B, C and D) and remove OEM supercharger inlet hose and crankcase breather hose. (Figure 11)

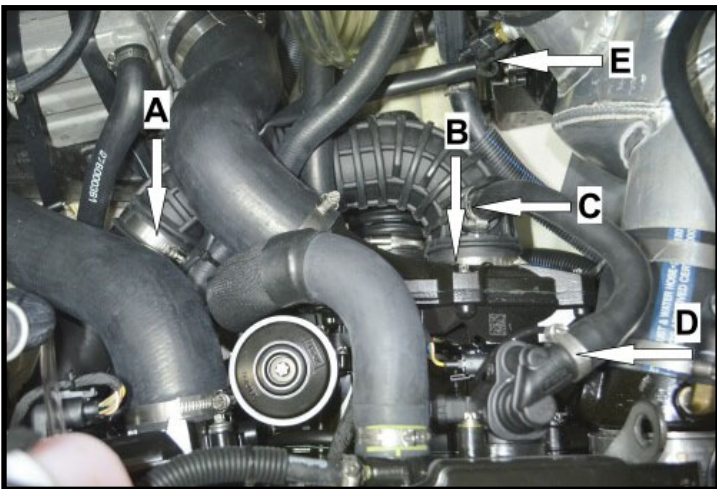
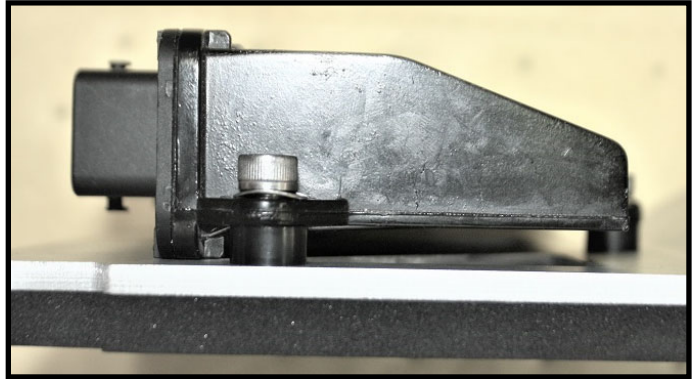


Figure 11

Attach ECU to supplied ECU Bracket using supplied 6 x

16mm SHCS (3), M6 wave washers (3), and unthreaded



nylon spacers (3). (Figure 12)

Figure 12

Lift supplied rubber tank strap closest to bow and insert assembled ECU bracket under it.

Lift middle strap and place over rear portion of bracket and position in cut-outs. (Figure 13)

Reconnect harness to ECU.



Figure 13

Re-connect front and rear harness connectors. Lock connector plugs reversing procedure in figure 8.

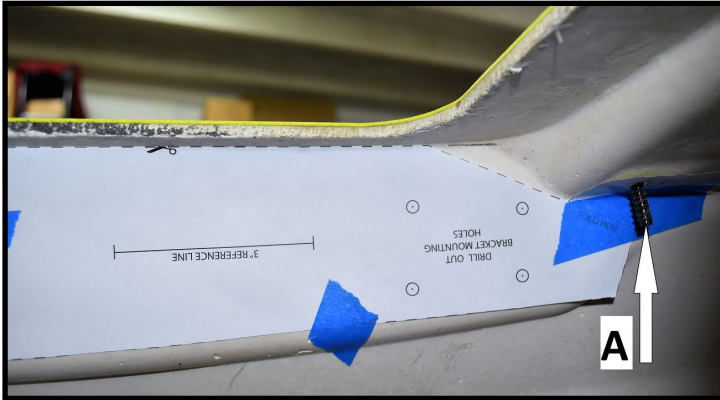
Cut out templates for electrical bracket and reservoir bracket. (Page 10 and 12) If you printed these templates on your own printer make sure that the scale printed on the templates measures as indicated.

Punch out holes in templates where indicated.

Slip hole punched into electrical bracket template over LH

- INSTALLATION INSTRUCTIONS -

Figure 14



Install voltage regulator onto electrical bracket using supplied 6 x 25mm HHCS (2), 6mm flat washers (4), and 6mm nyloc nuts (2).

Note: Extremely Important
Failure to follow these instructions may cause damage to hull or fuel tank

Align electrical bracket holes with template and verify clearance for fuel tank and battery as shown. (Figure 15) **Note:** there should be at least 1/2" of clearance between battery negative terminal and voltage regulator and at least 1/4" of clearance between bracket and fuel tank. Move bracket if necessary to assure proper clearance. Mark actual hole locations on template if bracket must be moved to allow clearance.

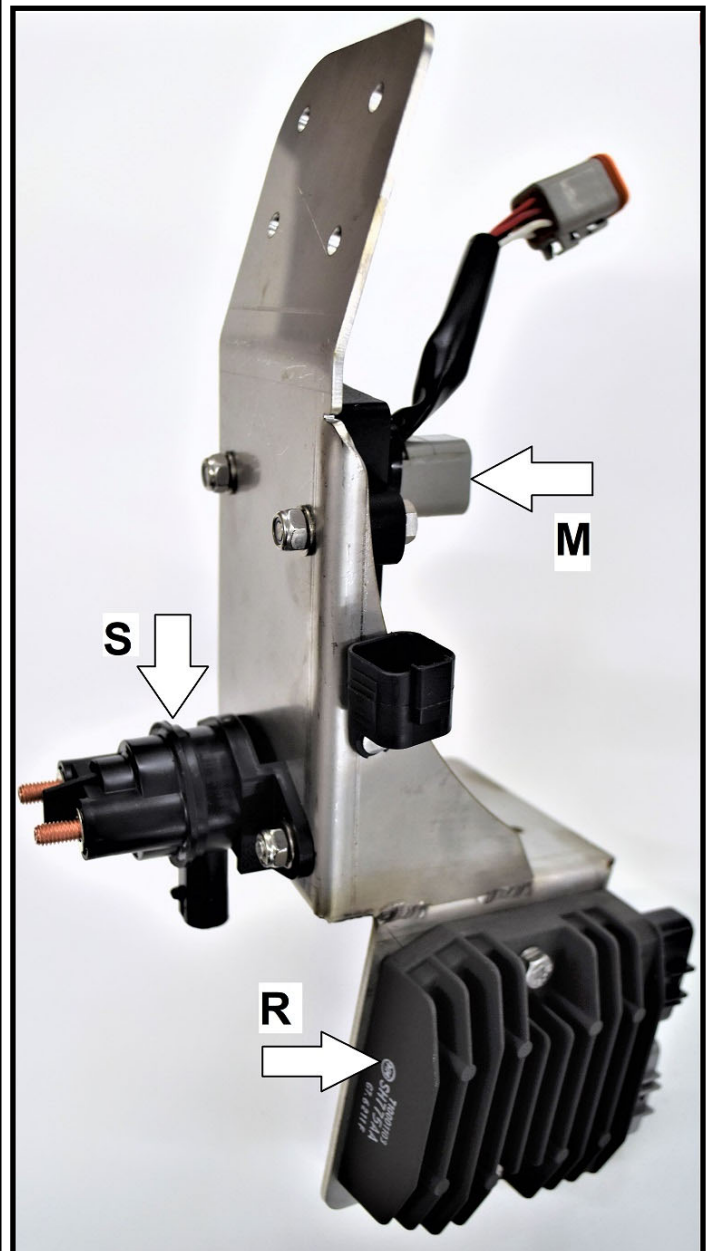
Figure 15



Drill through hull from inside with 17/64" drill bit at 4 hole locations shown on the template. Countersink holes from outside of hull to allow heads of supplied 6x30mm PFHS to sit flush with hull surface.

Using supplied 6X16mm HHCS (2), 6mm nyloc nuts (2) and 6mm flat washers (4), install starter relay (S) onto electrical bracket as shown. If unit is equipped with **optional** SCOM module (M) install onto electrical bracket as shown using supplied 6x35mm HHCS (2), and 6mm nyloc nuts (2) and 6mm flat washers (4) from SCOM kit. (Figure 16)

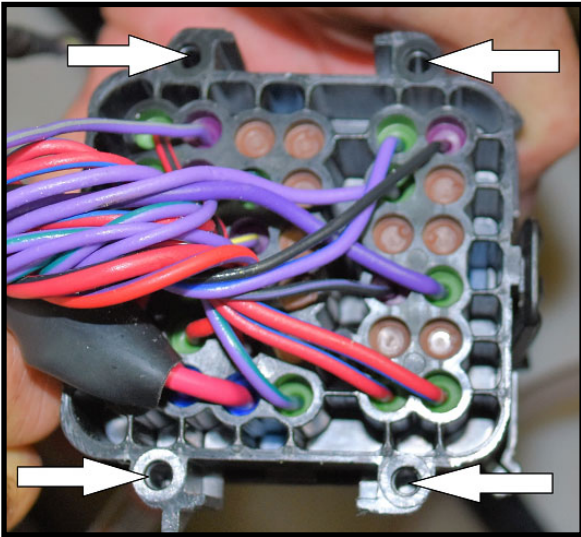
Figure 16



Fuse block has 4 holes on the bottom to accept mounting screws. (Figure 17)

- INSTALLATION INSTRUCTIONS -

Figure 17



Invert electrical bracket and install fuse box onto electrical bracket as shown using supplied self tapping screws (4).

Note: Do not “wind up” harness wires when installing. (Figure 18)

Figure 18

Install bracket onto hull using supplied 6x20mm PFHS (4), 6mm nyloc nuts (4), and 6mm flat washers (4). (Figure 19)



Figure 19

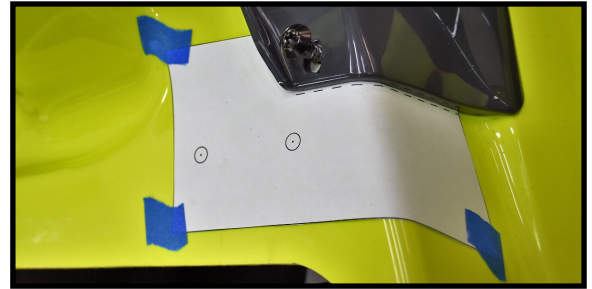


Using zip ties from kit secure wire harness to supplied rear fuel tank strap.

Only if using RIVA Open Loop Cooling Kit skip this section on installing reservoir and bracket. Secure diagnostic plug in socket provided on electrical bracket.

Insert RH lateral cosmetic panel screw through hole punched in reservoir bracket template and tape template in place as shown. (Figure 20)

Figure 20



Using a 17/64" drill bit, drill two holes through body at locations indicated on template. Countersink top side of holes to allow heads of supplied 6x20mm PFHS to fit flush with hull surface.

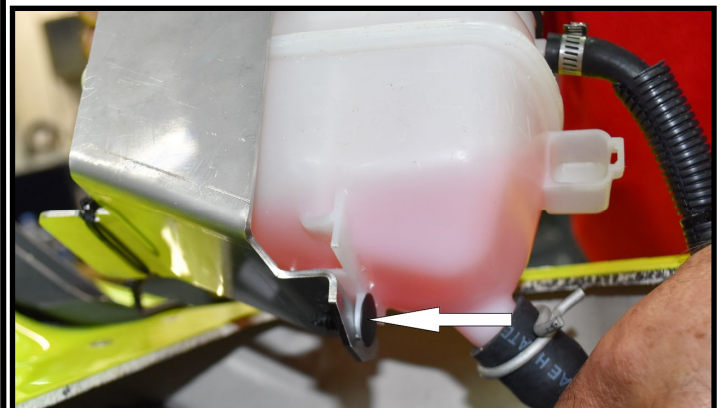
Using a 5/32" drill bit, drill a hole in forward reservoir mount and secure to reservoir bracket with supplied 5.5" zip tie as shown. (Figure 22)

Figure 22

Insert supplied plastic dart through existing holes in reservoir and bracket to secure aft end of reservoir to bracket. (Figure 23)



Figure 23



Install bracket onto body with supplied 6x20mm PFHS (2), 6mm nyloc nuts (2), and 6mm flat washers (2). (Figure 24)

- INSTALLATION INSTRUCTIONS -

Figure 24

Insert diagnostic plug in socket on reservoir.

Using supplied 4" zip ties secure harness wires together in front of engine.

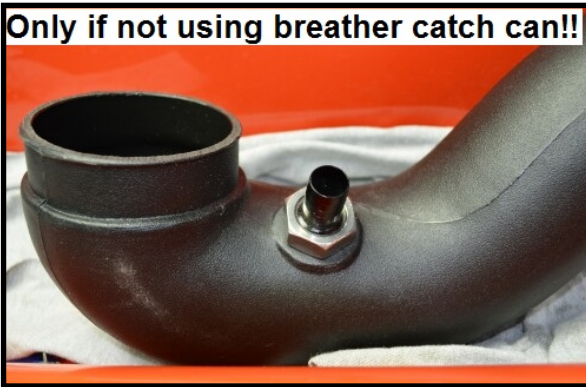
If using optional RI-VA Breather Catch Can Kit install now following instructions in kit.

If you plan to use the OEM crankcase breather system you must install a fitting into the new inlet pipe to accept the crankcase breather hose.

Using a Dremmel, Roto Zip or similar tool, make a 7/8" diameter hole in the center of the boss provided on the supplied inlet tube A. Place the supplied o-ring on the supplied 7/8" barbed fitting and insert it through the hole from the inside of the inlet tube. Secure with supplied 7/8" nut. **Note: Apply silicone sealer to threads.** (Figure 25)

Figure 25

Remove OEM front engine lifting eye and re-place with supplied mount bracket / lift eye as shown. Reuse OEM 6mm torx head screws. **Note: Apply red loctite to screw threads.** (Figure 26)



Remove OEM front engine lifting eye and re-place with supplied mount bracket / lift eye as shown. Reuse OEM 6mm torx head screws. **Note: Apply red loctite to screw threads.** (Figure 26)

Figure 26

Loosen bolts in supplied threaded ring and slip over super-charger inlet. Note:

Assemble ring so that both ring halves have two dots showing. (This will align threads in both halves.) Position



threaded ring against flare on supercharger inlet and tighten allen screws. **Do not over tighten screws. Do not use Loctite on threads.** (Figure 27)

Figure 27

Screw velocity stack onto threaded ring. Tighten hand tight. Be sure velocity stack is seated all the way onto threaded ring. (Figure 28)

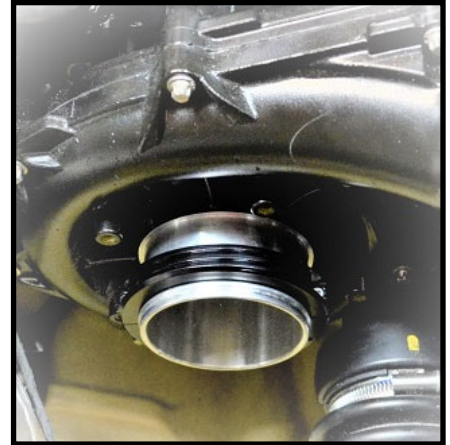
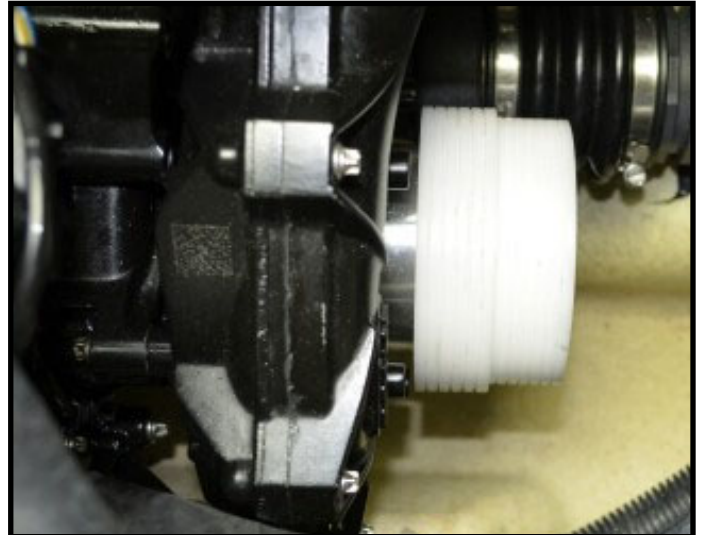


Figure 28



Slip supplied silicone coupler onto velocity stack. Slide two supplied hose clamps loosely over silicone coupler. Tighten clamp closest to engine only. (Figure 29) **Tip: Spray glass cleaner on inside of coupler and outside of Velocity Stack to ease installation.**

Figure 29



- INSTALLATION INSTRUCTIONS -

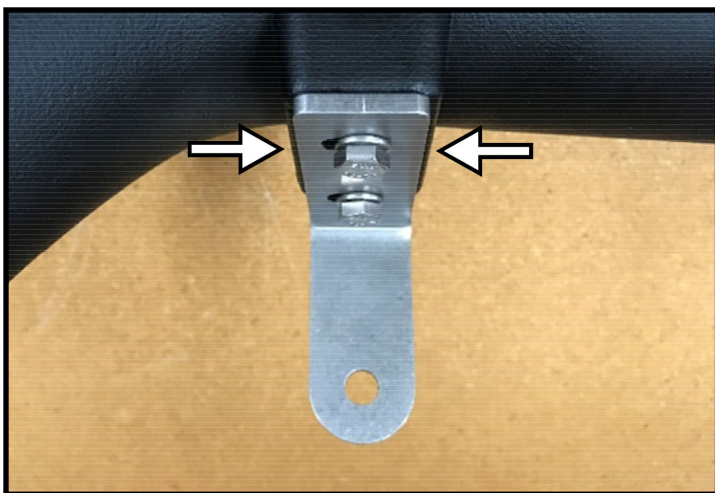
Loosely install supplied stainless steel support bracket onto 'Tube A' as illustrated below using 2 each of the supplied M6 hex cap bolts and M6 lock washers (Figure 30).

Figure 30



Center bracket evenly side-to-side on mounting point. Once bracket is properly aligned tighten bolts (Figure 31). **NOTE: Do not overtighten bolts.**

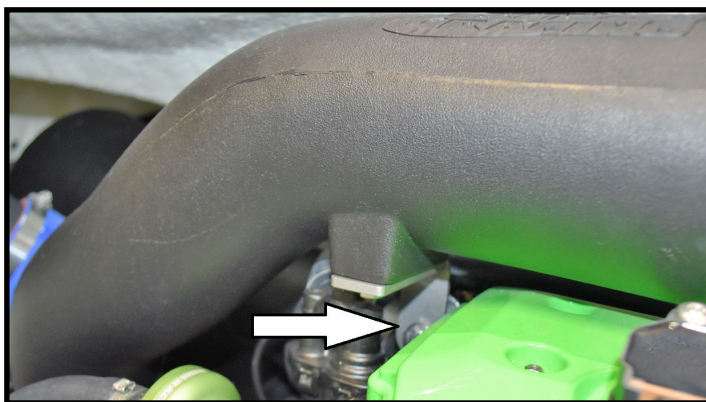
Figure 31



NOTE: Bracket is slotted to accommodate superchargers with spacer plates.

Install Inlet Tube A onto velocity stack. Velocity Stack must slide into Inlet Tube until it is completely seated. When inlet tube is properly installed lord mount on L bracket will align with the hole in rear engine lift eye. Install 8 mm nyloc nut and fender washer onto lord mount stud. Do not tighten. (Figure 32)

Figure 32



Pull loose hose clamp onto coupler over Inlet Tube and tighten. (Figure 33) **Do not over tighten clamps. Tip: Lubricate coupler and tube with glass cleaner.**

Figure 33



If using OEM breather system install formed hose onto crankcase vent valve and barbed fitting previously installed into Inlet Tube A. Short end of formed hose goes onto barbed fitting.

Reconnect battery cables. **Note: Connect positive cable first.**

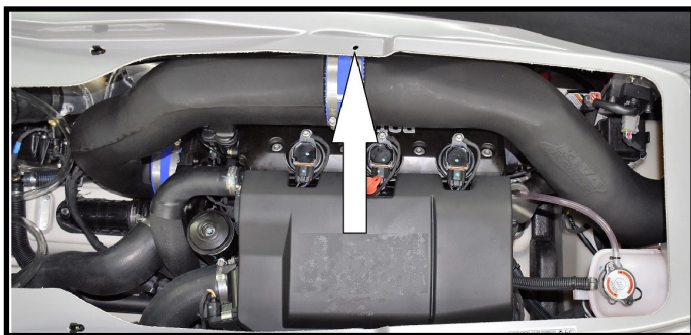
Install Flame Arrestor and Pre-filter onto Inlet Tube B using supplied hose clamp. Install supplied silicone coupler onto Inlet tube B. Slide supplied hose clamps onto inlet tube B but do not tighten. (Figure 34) **Tip: Lubricate Flame Arrestor, coupler, and tube with glass cleaner to ease installation.**

Figure 34



Drill out front LH engine access cover screw hole shown using a 1/2" drill bit. Insert supplied 6mm well nut. (Figure 35)

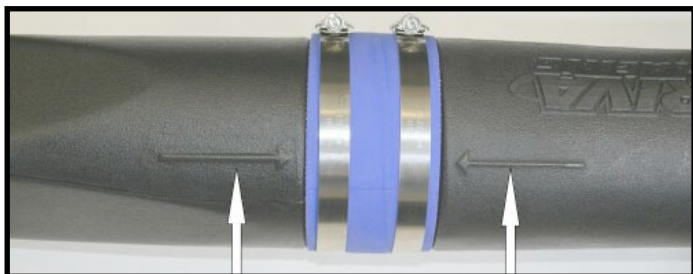
Figure 35



Insert filter end of assembled Inlet Tube B into starboard side of hull ahead of engine and rotate assembly until inlet tubes A and B are aligned. Pull Inlet Tube B back toward Tube A until the ends of the tubes meet and the coupler is fully installed.. Secure Inlet Tube B to front engine lift eye/ bracket with supplied 8 mm bolt, flat and lock washers. **Note: Apply Blue Loctite to threads.**

Align arrows on inlet tubes (Figure 36) and tighten fasteners on the lord mounts on Inlet Tubes A and B. Verify that Inlet tube does not touch oil filler cap or crankcase breather

Figure 36



While maintaining alignment tighten hose clamps on coupler between A and B. **Do not over tighten clamps.**

Check bilge for tools, rags, etc. attach harness to fuel rail with supplied zip ties. Reinstall plastic engine cover and engine access cover. Use supplied torx screw and 6mm flat washer in front LH cover hole (where well nut is located) instead of OEM screw and nut combination. Reinstall seats.

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.

Limited Warranty

RIVA Powerfilter 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.

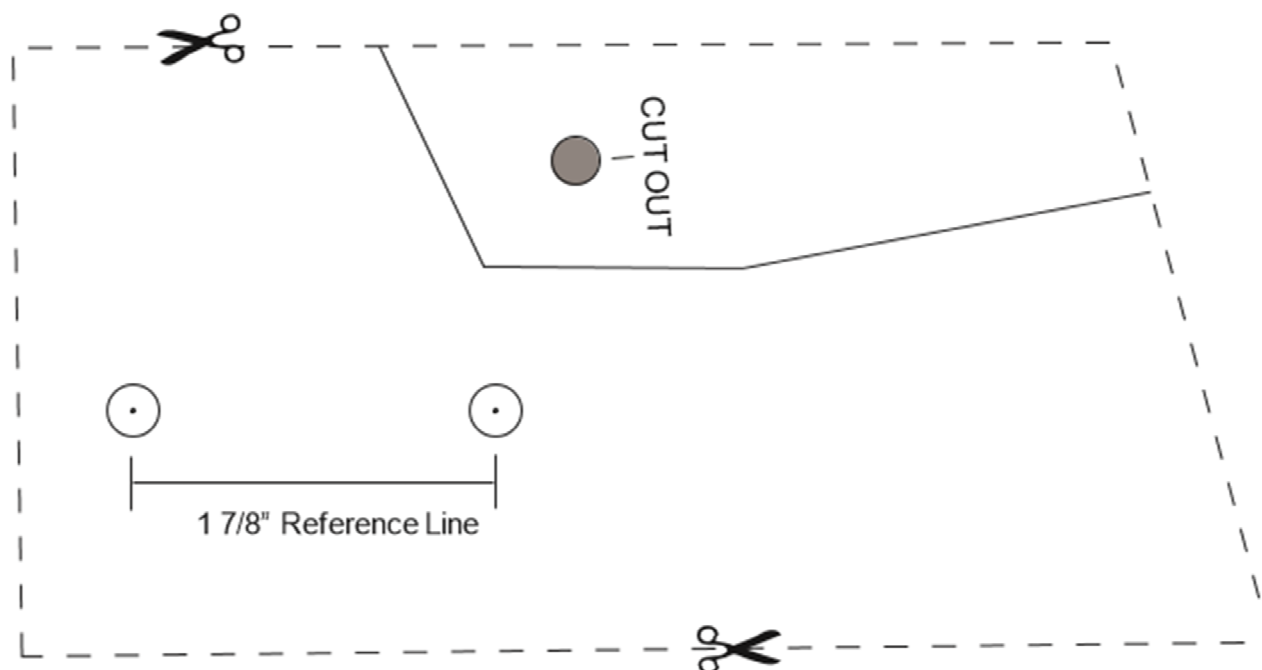
No other warranty, express or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose, applies. Various states do not allow for the limitation of incidental or consequential damages and therefore the above exclusion or limitation may not apply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

Reservoir Bracket Template.

Cut around outline and punch out hole as shown.



Note:

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ELECTRICAL COMPONENTS BRACKET

