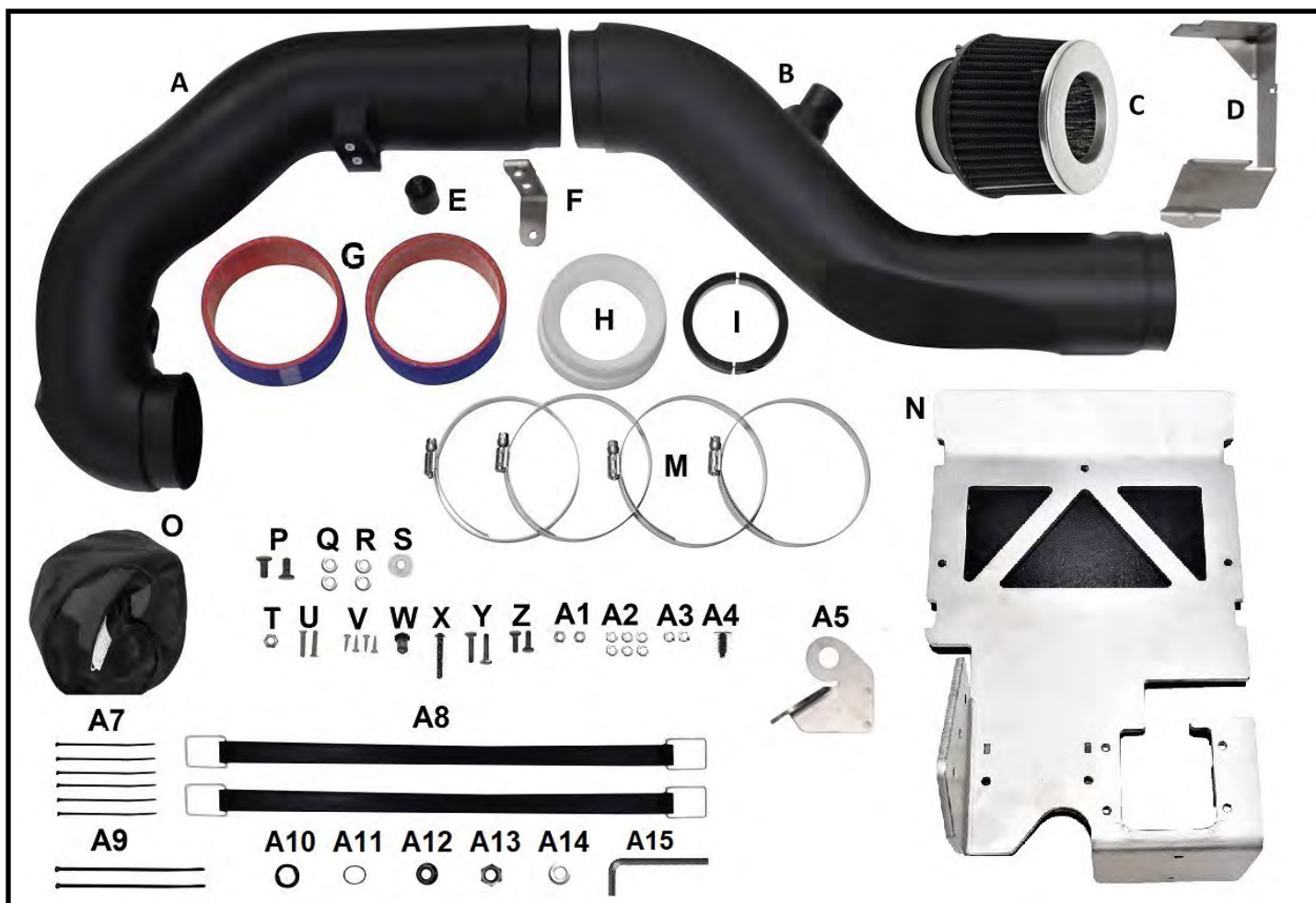




RIVA RACING
PERFORMANCE PRODUCTS & ACCESSORIES

Sea-Doo 2018~19 230 RXT/GTX/Wake Pro Power Filter Kit

RS13170-2



Applications: Sea-Doo 2018~19 230 RXT/GTX/Wake Pro

Approximate Installation Time:

4.5 hrs.

Recommended Specialty Tools:

None

Part #

N/A

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>

Required Materials:

Blue Loctite

Red Loctite

Part #

N/A

N/A

Required Add-on Options:

Catch Can/Engine Breather Kit

— OR —

Power Filter Breather Hose

Part #

RS19050-BCC-5

RS19050-PFBH



Sea-Doo 2018~19 230 RXT/GTX/Wake Pro Power Filter Kit

RS13170-2

COMPONENT LIST

Item	Description	RIVA Part #	Qty. Req.	Notes
A	Inlet Tube A	RTL-RS13140	1	
B	Inlet Tube B	RTL-RS13140	1	With Large Lord Mount installed
C	Air Filter	RK13090-4	1	
D	Coolant Reservoir Bracket		1	
E	Lord Mount, SM	2NPE7	1	
F	L Bracket		1	
G	Silicone Coupler, (4" ID x 2-1/8" L)	RY15-04/2.0	2	
H	Velocity Stack		1	
I	Threaded Ring Assy		1	With 6-32 x 1/2" screws (2)
M	Hose Clamp, (#64)	6564E-52	4	
N	Electronics Bracket	FSM-RS13171-B	1	
O	Pre-Filter, (Black, W/ Riva Logo)	RK13090PF-BK	1	
P	Hex Bolt, M8 x 16 MM SHCS	538110SS	2	
Q	Washer, Flat M8	369023SS	2	
R	Washer, Lock M8	369023SS	2	
S	Washer, Fender M8	410.8.24	1	
T	Nyloc Nut, M8	561040SS	1	
U	Screw, Flat Head, M6 X20 PFHS	830158SS	2	
V	Self Tapping Screw	92470A196	4	
W	M6 Well Nut	67741967	1	
X	Torx Bolt, Pan Head, M6 x 35	MI635CTBA2	1	
Y	Bolt, M6 x 20 SHCS	538080SS	2	
Z	Bolt, M6 x 12 SHCS	051.6.12	2	
A1	M6 Nylock Nuts	369021SS	2	
A2	M6 Flat Washer	536060SS	6	
A3	Washer, Lock M6	95610A580	2	
A4	Push Clip, Univ. Blk	100.6.20	2	
A5	Front Engine Lift Bracket		1	
A7	Zip Tie, Small, (4")	97447A050	1	
A8	Strap	2938501204	2	
A9	Zip Tie, Med, (5.5)	TY23MX	6	
A10	Sensor Mount Collar	QCA-RS13140-SRB	1	In Sensor Relocation Bung package
A11	O-Ring		1	In Sensor Relocation Bung package
A12	Sensor Mount		1	In Sensor Relocation Bung package
A13	Plug		1	In Sensor Relocation Bung package
A14	Sealing Washer		1	In Sensor Relocation Bung package
A15	7/64" Allen Wrench	7122A17	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@rivaracing.com.



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RS13170-2

Notes and Precautions

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.

AIRBOX DISASSEMBLY

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

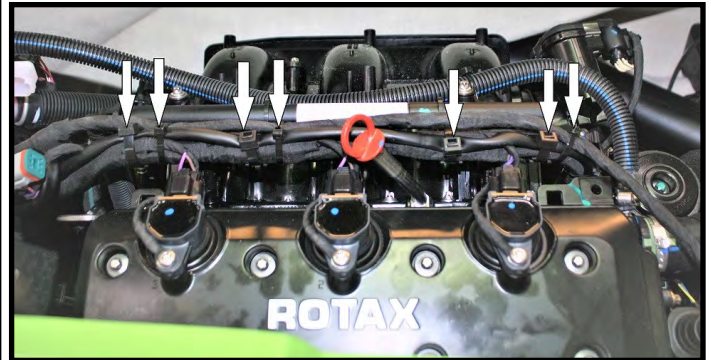


Remove engine compartment access cover. Remove plastic engine cover.

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

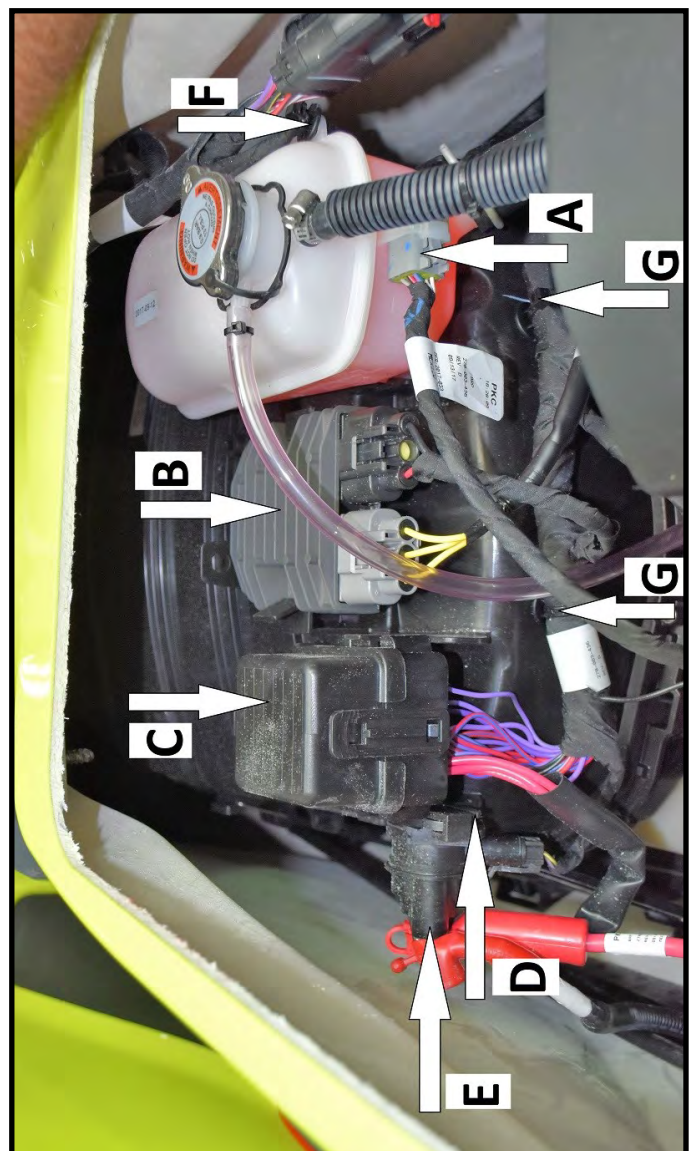
Cut off all zip ties securing wire harness to fuel rail. (Figure 2)

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. Remove plastic rivet (F) securing harness to reservoir. Unclip reservoir from airbox. **Note: support reservoir to prevent coolant leak.** Cut zip ties (G) securing harness to rear of airbox. (Figure 3)

Figure 3



AIRBOX DISASSEMBLY

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.)

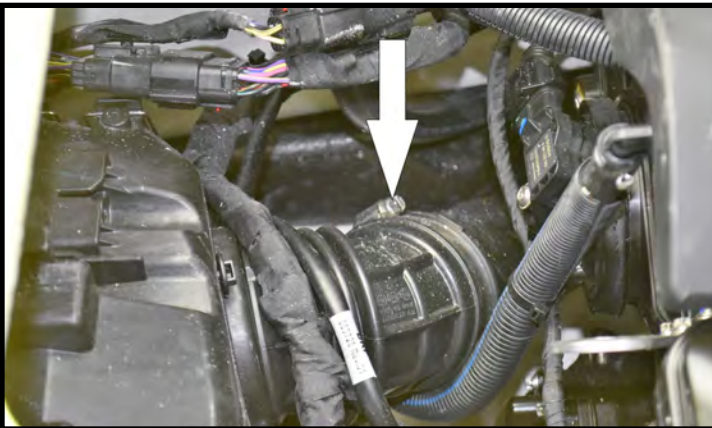
Note: Do not remove the longer straps at the front of the tank that do not hold the airbox.

Figure 4



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

Figure 5



Remove front and rear harness connectors (2) (C) from support. Using side cutters cut off harness support clamp (S). (Figure 7)

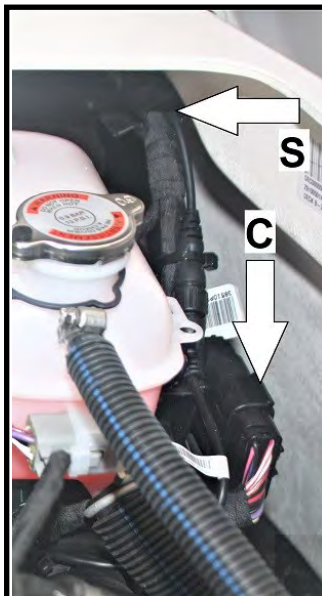


Figure 7

Disconnect front and rear harness connectors by pulling out lock and depressing tab. (Figure 8)

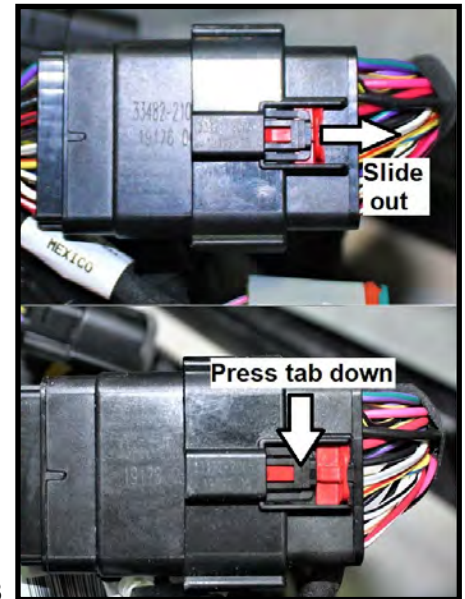


Figure 8

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

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

PROCEED TO SUPERCHARGER INLET REMOVAL (Page 6)

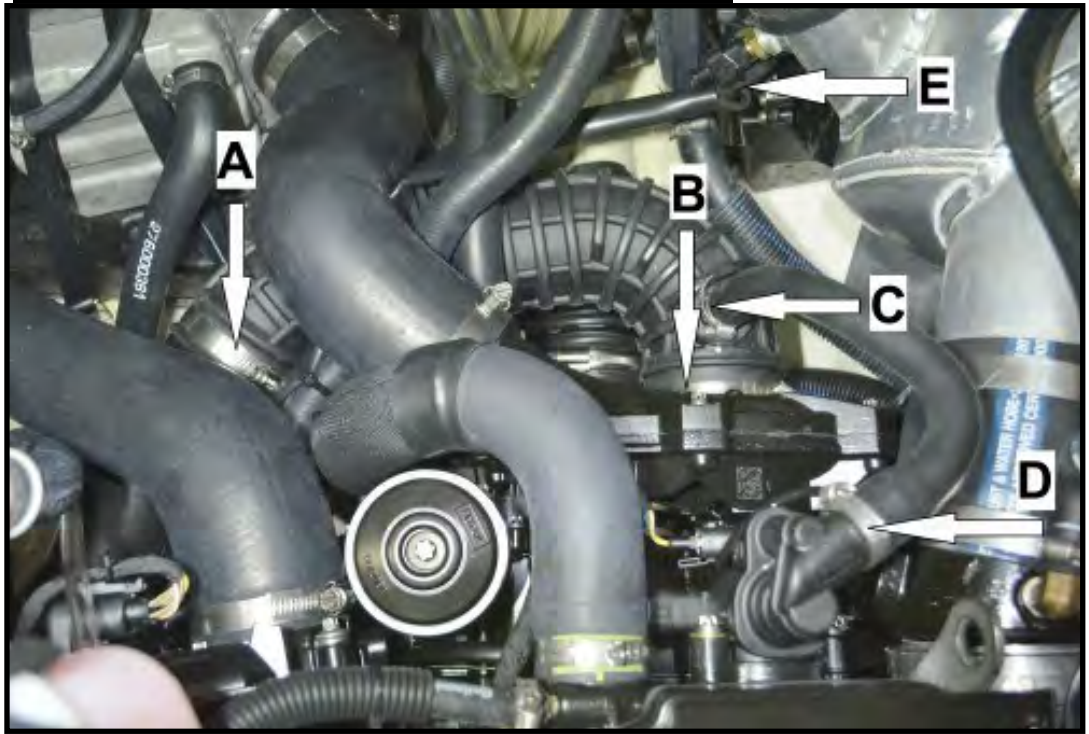
SUPERCHARGER INLET REMOVAL

Figure 10

Loosen clamp (A) securing supercharger inlet hose to rear of OEM inlet tube. Pull hose off inlet tube. Remove OEM inlet tube by sliding out toward front of craft.

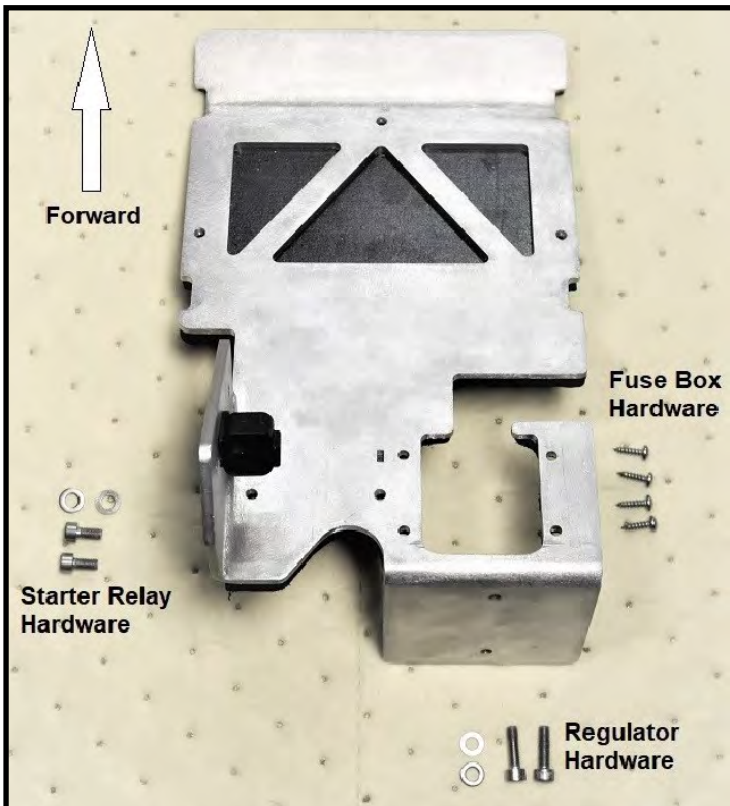
Loosen clamps (B, C and D) and remove OEM supercharger inlet hose and crankcase breather hose. (Figure 10)

PROCEED TO ELECTRONICS BRACKET ASSEMBLY (This Page)



ELECTRONICS BRACKET ASSEMBLY

Figure 11 Electronics bracket and hardware



Temporarily place supplied Electronics Bracket in position on fuel tank. Slip fuse box harness through cutout in right rear of bracket and position fuse box on bracket. (See figures 14, 15 and 16, next page) Rotate fuse box if nec-

essary to straighten wire harness. Invert supplied Electronics Bracket. Using supplied self tapping screws (4) attach fuse box to Electronics Bracket inserting screws from beneath as shown. (Figures 12, 13) **Note: Do not twist wire harness.**

Figure 12

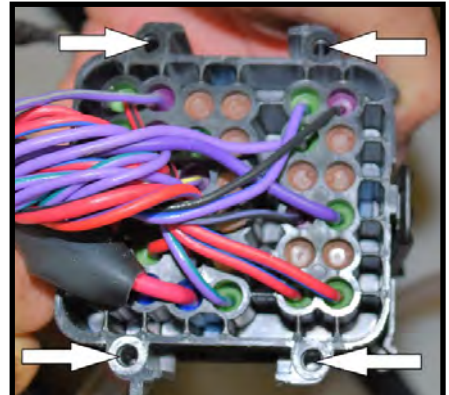
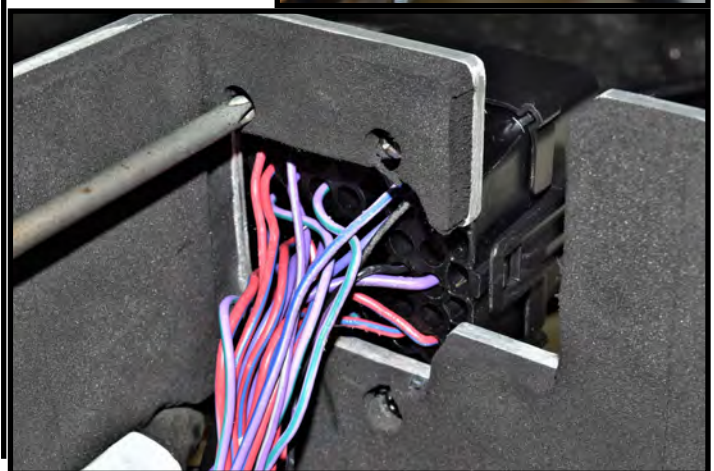


Figure 13



ELECTRONICS BRACKET ASSEMBLY

Return Electronics Bracket to position on fuel tank. Position voltage regulator on portion of bracket between fuel tank and engine, with harness plugs pointing to left side of craft. **Note: do not twist wire harness.**

Lift bracket for access and secure regulator to bracket using supplied M6 x 20 SHCS (2) and M6 flat washers(2). **Note: Apply blue Loctite to screw threads.** (Figure 14)

Figure 14



Return Electronics Bracket to fuel tank. Install supplied Rubber Straps (2) over tank and Electronics Bracket. (Refer to completed assembly Figure 16)

Using supplied M6 x 12 SHCS (2) and M6 flat washers (2) install starter relay on left side of electronics bracket. **Note: Apply blue Loctite to screw threads.** (Figure 15)

Figure 15



Figure 16



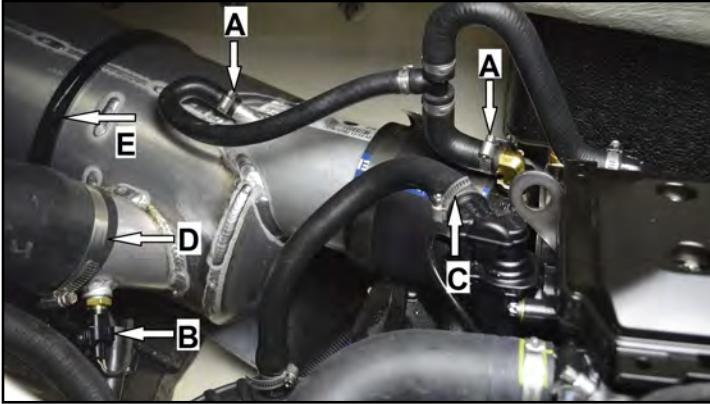
Note: If installing RIVA Catch Can Kit install now following instructions in kit.

WATERBOX TEMPERATURE SENSOR RELOCATION

Skip this step if using RIVA waterbox.

Disconnect waterlines between exhaust manifold and waterbox (A) Disconnect exhaust outlet hose from waterbox (D). Remove rubber strap around waterbox (E). (Figure 17)

Figure 17



At exhaust clamp loosen t-bolt nut enough to allow end ('T') to be removed from band clamp. Remove exhaust clamp. (Figure 18)

Figure 18

Remove waterbox assembly from hull. Remove temperature sensor from waterbox. Install supplied plug with sealing washer into OEM temperature sensor hole. **NOTE:**

Apply red Loctite to threads. Do not over tighten.

Place supplied Sensor Mount Collar onto waterbox outlet tube, curved side down. Position collar next to weld. **Note:** **Make sure collar is not on weld bead!** Trace inside opening of collar with a marker. (Figure 19)

Figure 19



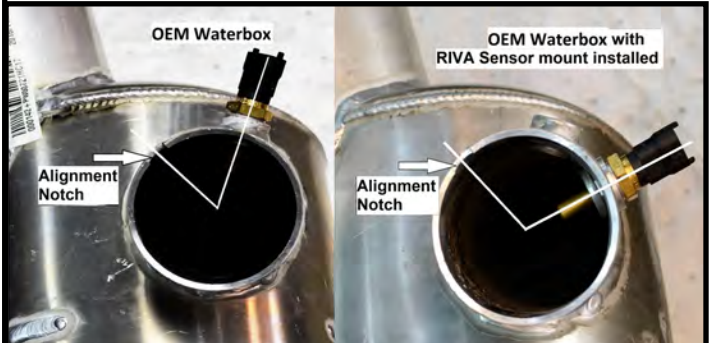
Measure and mark the center of the hole (Figure 20)

Figure 20

Hole center should be at 3:00 to 4:00 position with respect to alignment notch in waterbox tube. (Figure 21)



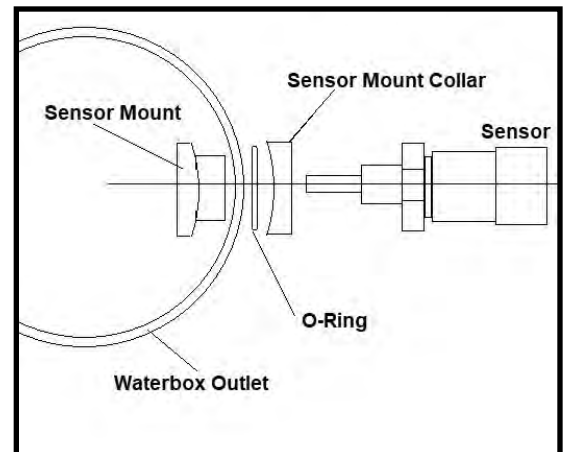
Figure 21



Center punch and drill hole center with a 1/4" drill bit. Enlarge hole to full size using a 5/8" drill bit.

Press supplied o-ring into groove in curved side of Sensor Mount Collar. Insert supplied Sensor Mount through hole from inside of pipe. Slip collar over mount. Install temperature sensor into Sensor Mount and tighten. **Apply red Loc-tite to threads. Do not overtighten.** (Figure 22)

Figure 22



Reinstall waterbox and coupler assembly onto exhaust manifold reversing removal procedure. **NOTE: Do not tighten hose clamp yet. Tip: Lubricate inside of coupler and outside of exhaust manifold with glass cleaner to ease installation.** Leave waterbox loose and exhaust outlet disconnected to make it easier to install Power Filter Inlet Tube A.

PROCEED TO POWER FILTER INSTALLATION (Page 9)

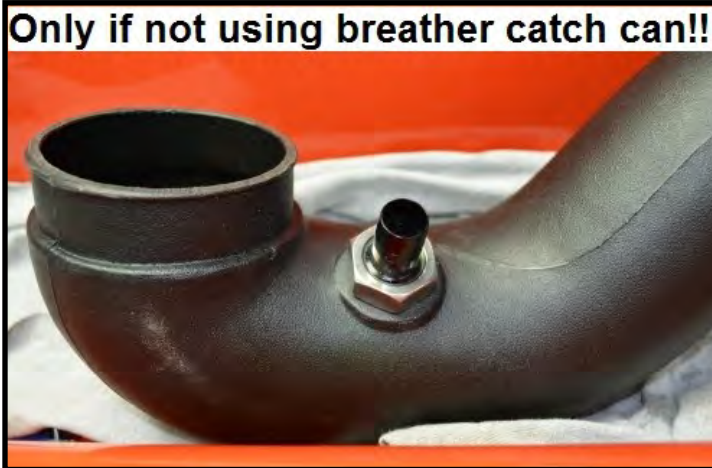
POWER FILTER INSTALLATION

Important: If you are using the RIVA Breather Catch Can/ Engine Breather Kit (RS19050-BCC-5) install it now using the instructions supplied with that kit.

If you are using the RIVA Power Filter Breather Hose (RS19050-PFBH) follow the installation steps below.

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 red Loctite to threads.** (Figure 23)

Figure 23



Remove OEM front engine lifting eye and replace with supplied Engine Lift Bracket as shown. Re-use OEM M6 torx head screws. **Note: Apply red Loctite to screw threads.** (Figure 24)

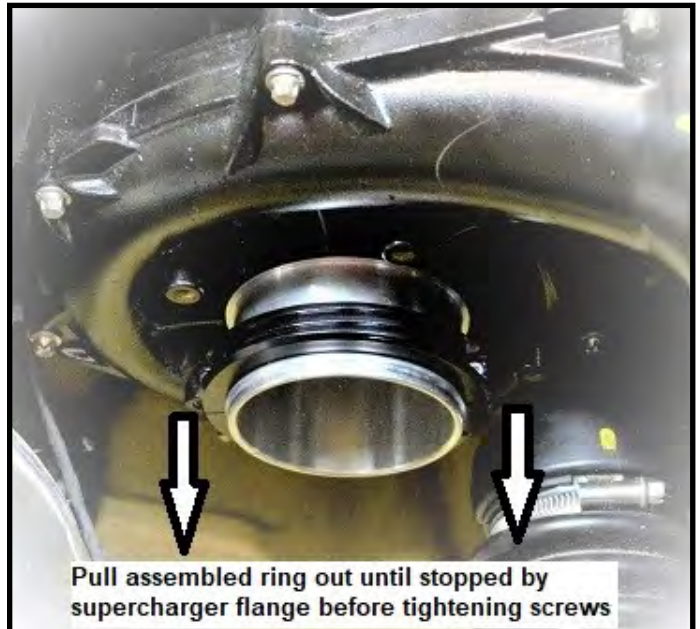
Figure 24



Loosen bolts in supplied threaded ring and slip over supercharger 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 su-

percharger inlet and tighten allen screws using supplied allen wrench. **Do not over tighten screws. Do not use Loctite on threads.** (Figure 25)

Figure 25



Screw supplied velocity stack onto threaded ring. Tighten hand tight. Be sure velocity stack is seated all the way onto threaded ring. (Figure 26)

Figure 26



Slip supplied silicone coupler onto velocity stack. Slide two supplied hose clamps loosely over silicone coupler. Tighten clamp closest to engine only. (Figure 27, next page) **Tip: Spray glass cleaner on inside of coupler and outside of Velocity Stack to ease installation.**

POWER FILTER INSTALLATION

Figure 27



Loosely install supplied stainless steel support bracket onto 'Tube A' as illustrated below using supplied M6 x 16 HHCS (2) and M6 lock washers (2) (Figure 28).

Figure 28



Center bracket evenly side-to-side on mounting point. Once bracket is properly aligned tighten bolts (Figure 29). **Note: Apply blue Loctite to screw threads. Do not overtighten bolts.**

Figure 29



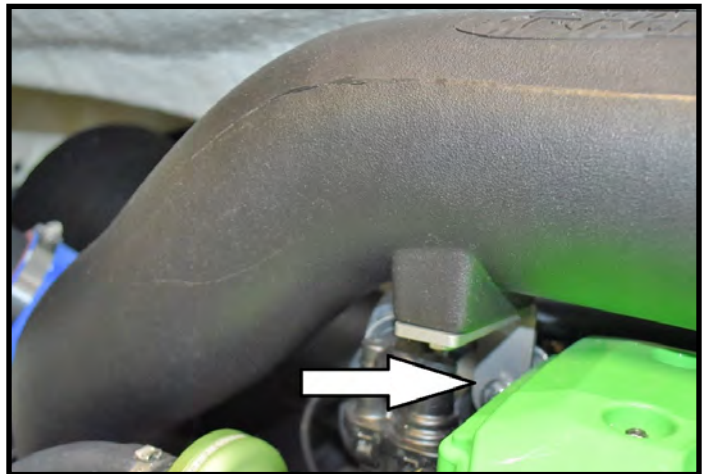
Install supplied lord mount onto L bracket using supplied M8 x16 SHCS (1), M8 flat washer (1), and M8 lock washer (1). (Figure 30)

Figure 30



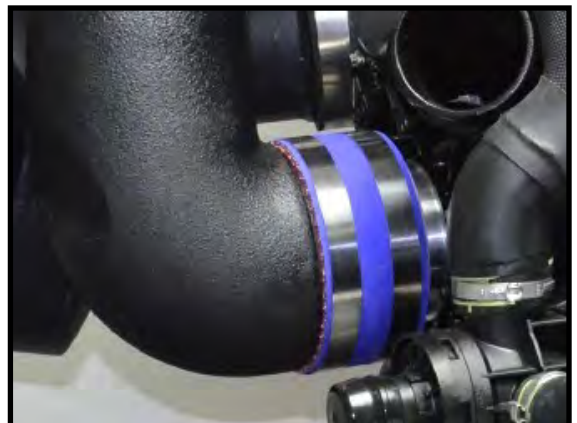
Install supplied Inlet Tube A onto velocity stack. Velocity stack must slide into inlet tube until it is completely seated. When inlet tube is properly installed lord mount on L bracket will align with the hole in rear engine lift bracket. Install M8 nyloc nut (1) and M8 fender washer (1) onto lord mount stud. **Note: Do not tighten.** (Figure 31) **Tip: Lubricate coupler and tube with glass cleaner.**

Figure 31



Pull loose hose clamp onto coupler over inlet tube and tighten. (Figure 32) **Do not over tighten clamps. Tip: Lubricate coupler and tube with glass cleaner.**

Figure 32



POWERFILTER INSTALLATION

If using OEM breather system install formed hose onto crankcase vent valve (D in Figure 10, page 6) and barbed fitting previously installed into Inlet Tube A. **Note: Short end of formed hose goes onto barbed fitting.**

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

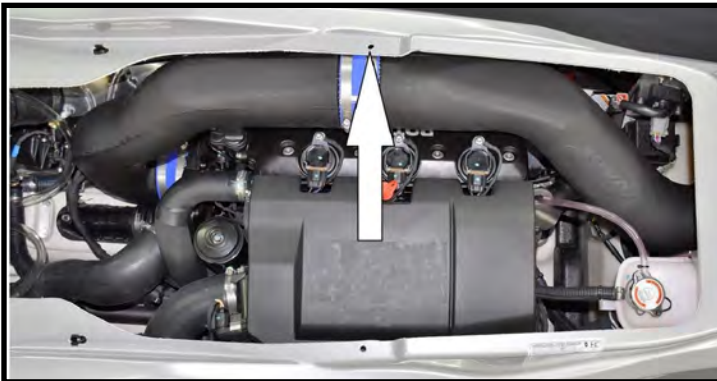
Install Flame Arrestor and Pre-filter onto supplied Inlet Tube B using supplied hose clamp. Install supplied silicone coupler onto Inlet Tube B. Slide supplied hose clamps onto Inlet Tube B but do not tighten. (Figure 33) **Tip: Lubricate Flame Arrestor, coupler, and tube with glass cleaner to ease installation.**

Figure 33



Drill out front LH engine access cover screw hole shown using a 1/2" drill bit. Insert supplied 6mm well nut. (Figure 34)

Figure 34



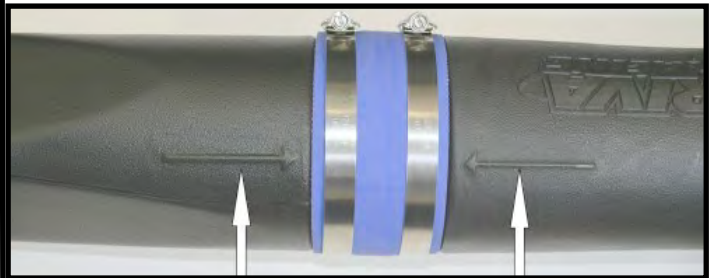
Insert filter end of assembled Inlet Tube B into starboard side of hull ahead of engine and rotate assembly until inlet tubes A and B are aligned. Pull Inlet Tube B back toward Tube A until the ends of the tubes meet and the coupler is fully installed. **Note: Do not tighten clamps at this time.** Secure Inlet Tube B to front engine lift bracket with supplied M8 x 16 bolt (1), M8 flat washer (1) and M8 lock washer (1). **Note: Do not tighten bolt.** (Figure 35) **Note: Apply Blue Loctite to threads.**

Figure 35



Align arrows on inlet tubes (Figure 36) and tighten fasteners on the lord mounts and L bracket 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 Inlet Tubes A and B. **Note: Do not over tighten clamps.**

PROCEED TO COOLANT RESERVOIR BRACKET INSTALLATION (Page 12)

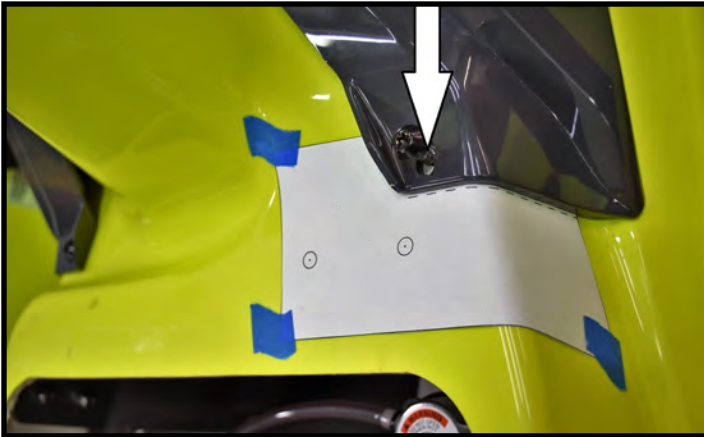
COOLANT RESERVOIR BRACKET INSTALLATION

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.

Cut out template marked RXT and GTX. (Page 14).
Punch out hole indicated on template.

Remove RH lateral cosmetic panel screw and reinstall through hole punched in reservoir bracket template. Tape template in place as shown. (Figure 37)

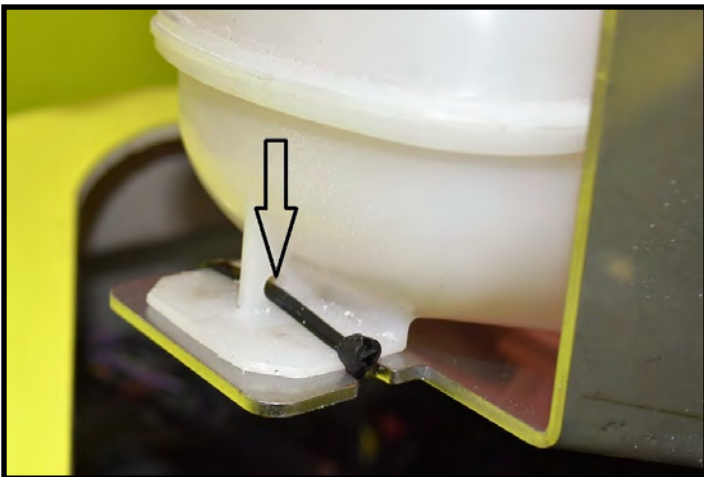
Figure 37



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 M6 x 20 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 38)

Figure 38



Insert supplied plastic dart through existing holes in reservoir and bracket to secure reservoir to bracket. (Figure 39)

Figure 39



Secure bracket to top deck with supplied M6 x 20 PFHS (2), M6 nyloc nuts (2), and M6 flat washers (2). (Figure 40)

Figure 40



Insert diagnostic plug into socket on reservoir.

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

PROCEED TO FINAL ASSEMBLY (Page 13)

FINAL ASSEMBLY ALL MODELS

Attach harness to fuel rail with supplied zip ties
Reinstall plastic engine cover.
Check bilge for tools, rags, etc.
Run craft on a flush kit to check for proper operation
Reinstall engine access cover. (Refer to Figure 1, page 4)
Use supplied torx screw and M6 flat washer in front LH cover hole (where well nut is located) instead of OEM screw and nut combination.
Reinstall seats.

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 Power Filter 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 for 2018~19 230 RXT, GTX & Wake Pro

