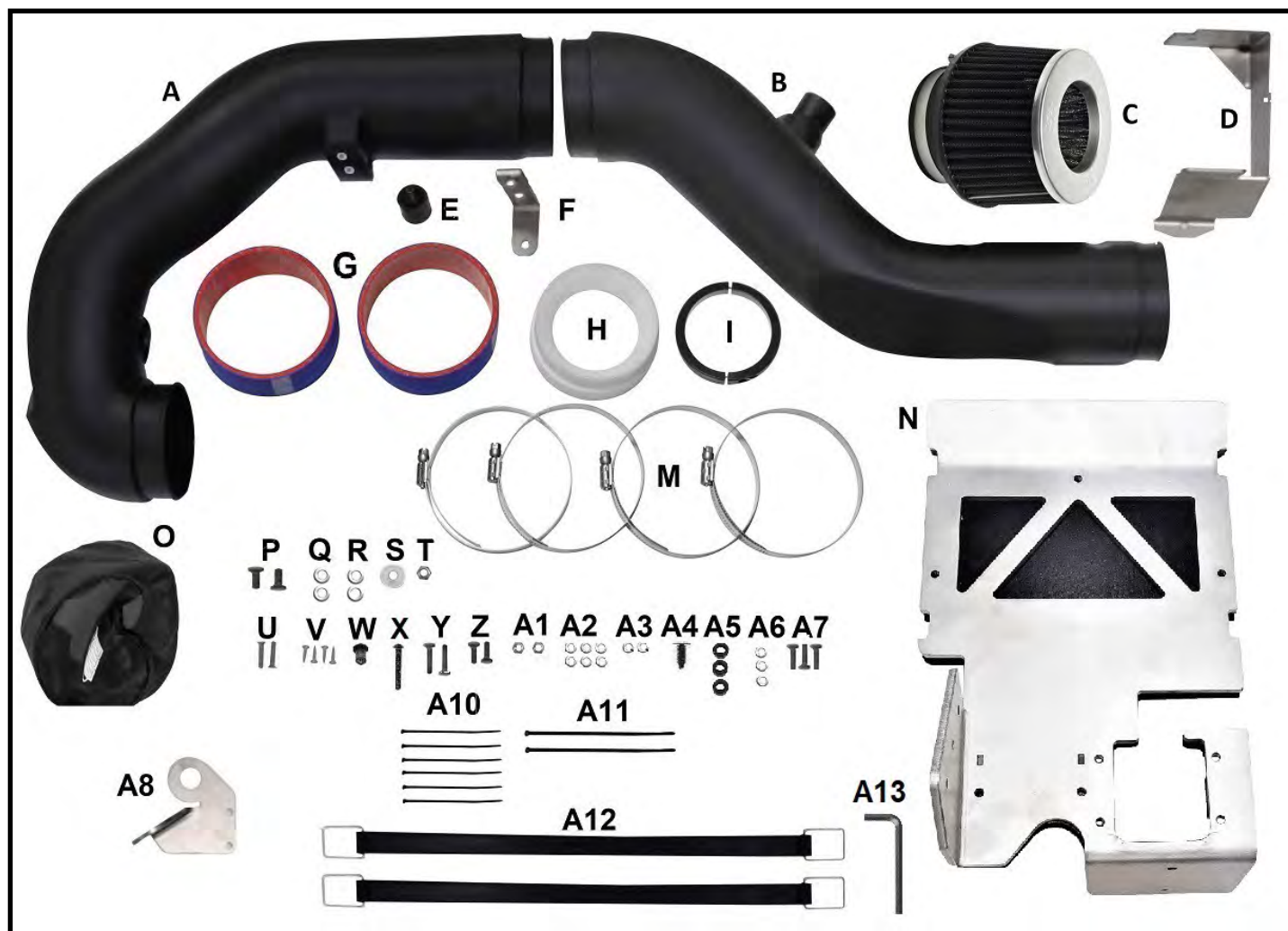




RIVA RACING
PERFORMANCE PRODUCTS & ACCESSORIES

Sea-Doo 2020+ 230 GTX/Wake Pro/GTR Power Filter Kit

RS13171-1



Applications: Sea-Doo 2020+ 230 GTX/Wake Pro/GTR

Approximate Installation Time:

3 hrs. (GTX or Wake Pro) / 4.5 hrs. (GTR)

Required Materials:

Blue Loctite
Red Loctite

Required Add-on Options:

Catch Can/Engine Breather Kit
— OR —
Power Filter Breather Hose

Part #

N/A
N/A

Part #

RS19050-BCC-5
RS19050-PFBH

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>



Sea-Doo 2020+ 230 GTX/Wake Pro/GTR Power Filter Kit

RS13171-1

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	RK13090-2	1	
D	Coolant Reservoir Bracket		1	
E	Loard 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" screw s (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	Nylock 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	M635CTBA2	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	Nylon Unthreaded Spacers, 1/2" OD, 1/4" L, Black	90176A155	3	
A6	M6 Wave Washer	435.06	3	
A7	Bolt. M6 x 16 SHCS	538078SS	3	
A8	Front Engine Lift Bracket		1	
A10	Zip Tie, Small, (4")	97447A050	1	
A11	Zip Tie, Med, (5.5)	TY23MX	6	
A12	Seadoo Strap	830146SS	2	
A13	7/67" 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.



RIVA RACING
PERFORMANCE PRODUCTS & ACCESSORIES

Sea-Doo 2020+ 230 GTX/Wake Pro/GTR Power Filter Kit

RS13171-1

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.

These instructions are separated by procedure and by model. Procedures may be different for different models. Be sure to follow the specific procedures for your model and year.

Disassembly procedures for 2020+ GTX 230 and Wake Pro 230 begin on page 4.

Disassembly procedures for 2020+ GTR 230 begin on page 6.

DISASSEMBLY 230 GTX / Wake Pro

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

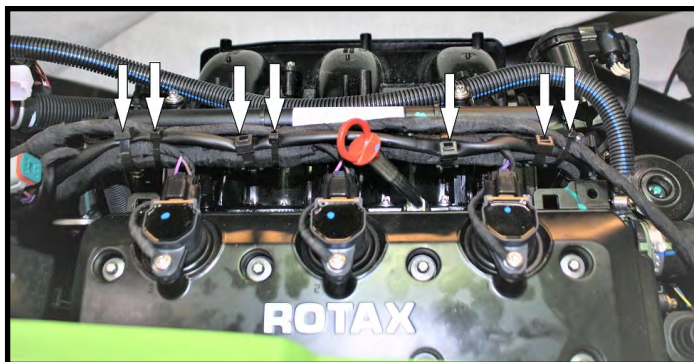


Remove engine compartment access cover. Remove plastic engine cover.

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

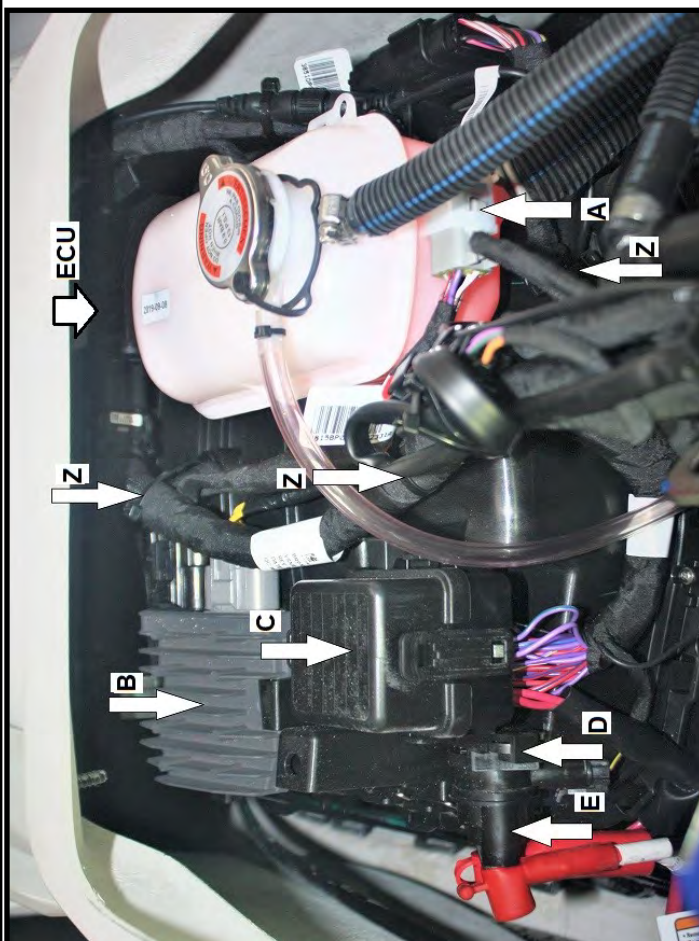
Cut off all zip ties securing wire harness to fuel rail. (Figure 2)

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, next page, 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.

DISASSEMBLY 230 GTX / Wake Pro

Figure 4



Cut zip ties securing harness to rear of airbox.

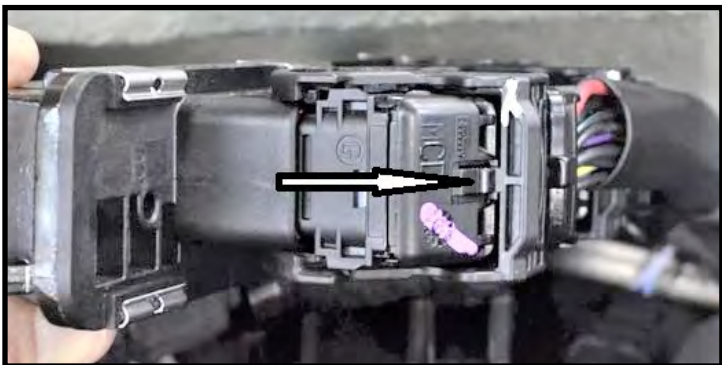
Loosen clamp holding OEM inlet tube to airbox hose and disconnect hose from tube. (Figure 5)

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

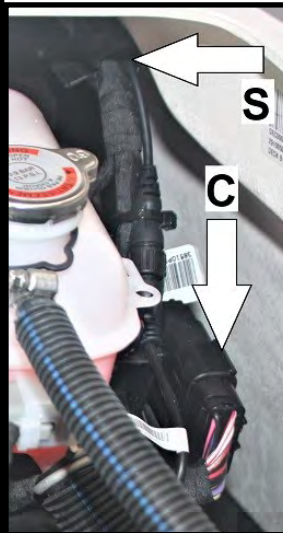
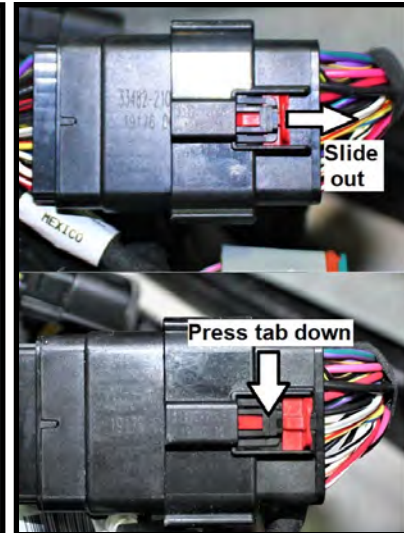


Figure 8



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

**PROCEED TO SUPERCHARGER INLET REMOVAL
ALL MODELS (Page 10)**

DISASSEMBLY GTR 230

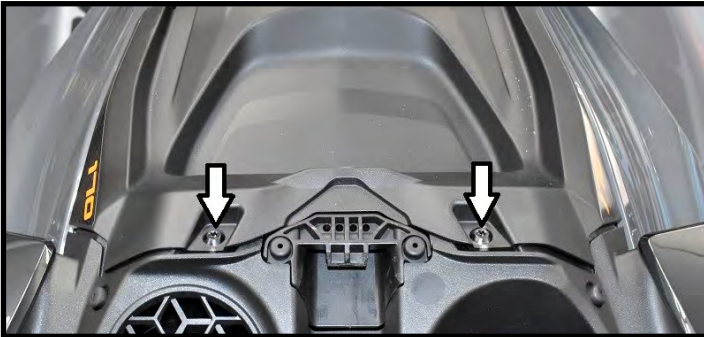
While it is possible to install this RIVA Powerfilter kit in the conventional manner by reaching into the engine compartment through the top opening, RIVA recommends separating the top deck from the hull to facilitate access.

Remove seats.

Disconnect battery cables from battery. (Note: Disconnect negative cable first.)

Open front storage compartment and remove screws (2) retaining gauge panel. (Figure 11) Save screws for reuse.

Figure 11



Pull gauge panel up to remove from craft.

Remove steering cable bolt and nut to disconnect steering cable. (Figure 12) Save bolt for re-use.



Figure 12

Remove screw securing left side lateral trim panel. (Figure 13) Save screw for re-use.

Figure 13

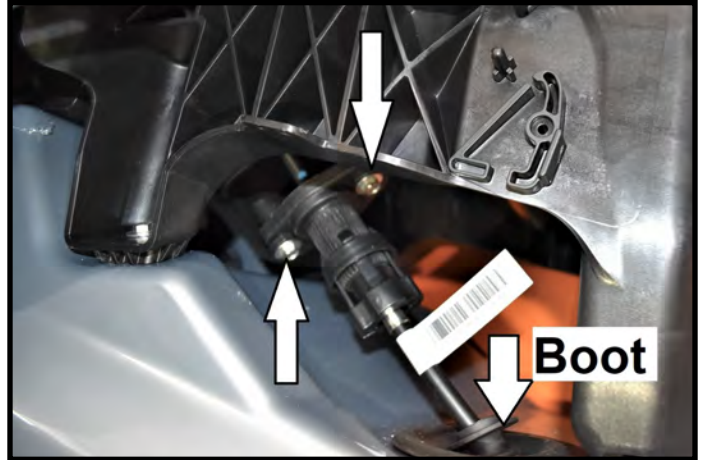


Pull left side lateral trim panel straight back to remove from craft.

Repeat steps to remove right side lateral trim panel.

Remove bolts (2) securing steering cable adjuster to body. Push rubber boot down cable and free of body panel. (Figure 14) Save bolts for re-use.

Figure 14



Inside front storage compartment remove plastic rivets (2) and disconnect elastic cord. (Figure 15) Save for re-use.

Figure 15

Separate bulk-head halves and remove from storage compartment.

Loosen hose clamps on fuel filler and vent hose. (Figure 16)

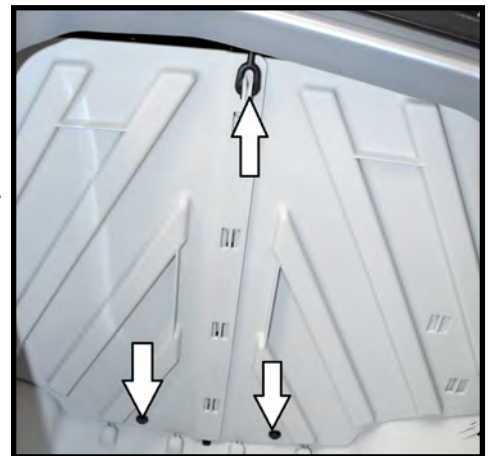
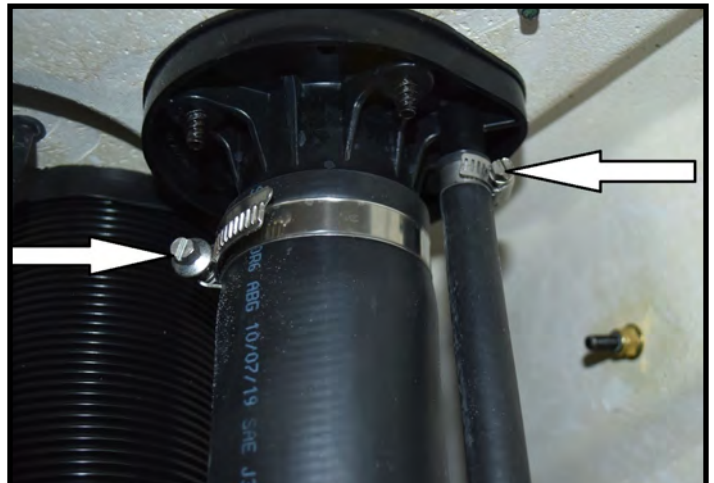


Figure 16



DISASSEMBLY GTR 230

Remove fuel filler hose from fitting and cover with a clean shop rag. Remove vent line from fitting. Save clamps for re-use.

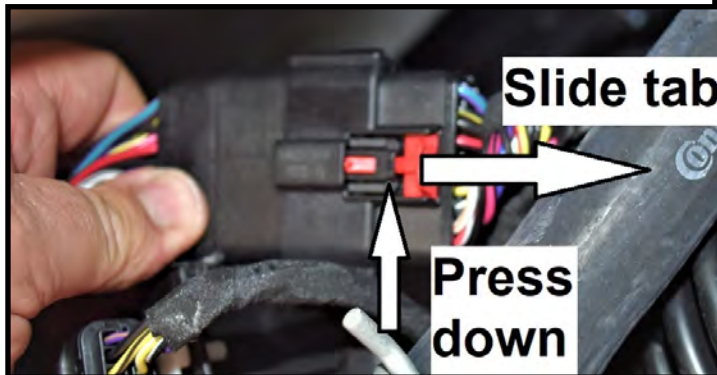
Inside engine compartment on right side of coolant reservoir locate two steering harness electrical connectors. (Figure 17)

Figure 17



Slide the connectors off the holder. Slide the red tab all the way out. Press down on lock tab while pulling connector apart. (Figure 18)

Figure 18



Remove front bumper screws (4). (Figure 19)

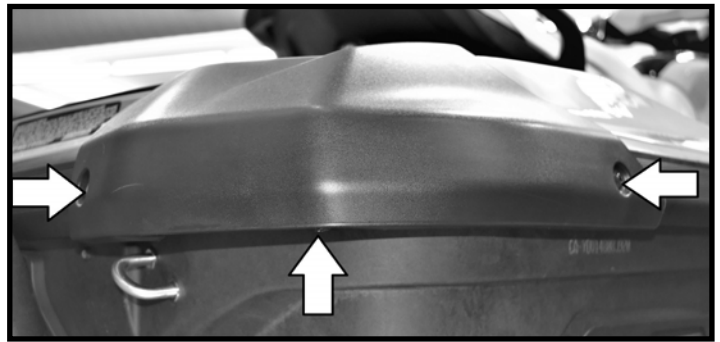
Figure 19



Remove front bumper.

Remove screws in both rear corner bumper covers. (3 per side.) (Figure 20)

Figure 20



Remove both rear corner bumper covers.

Grasp rear bumper and pull top edge out while rotating downward to remove bumper. (Figure 21)

Figure 21



Before removing side bumpers mark where one end of each bumper lies on body. This will make it easier to position the bumper correctly when installing. (Figure 22)

Figure 22



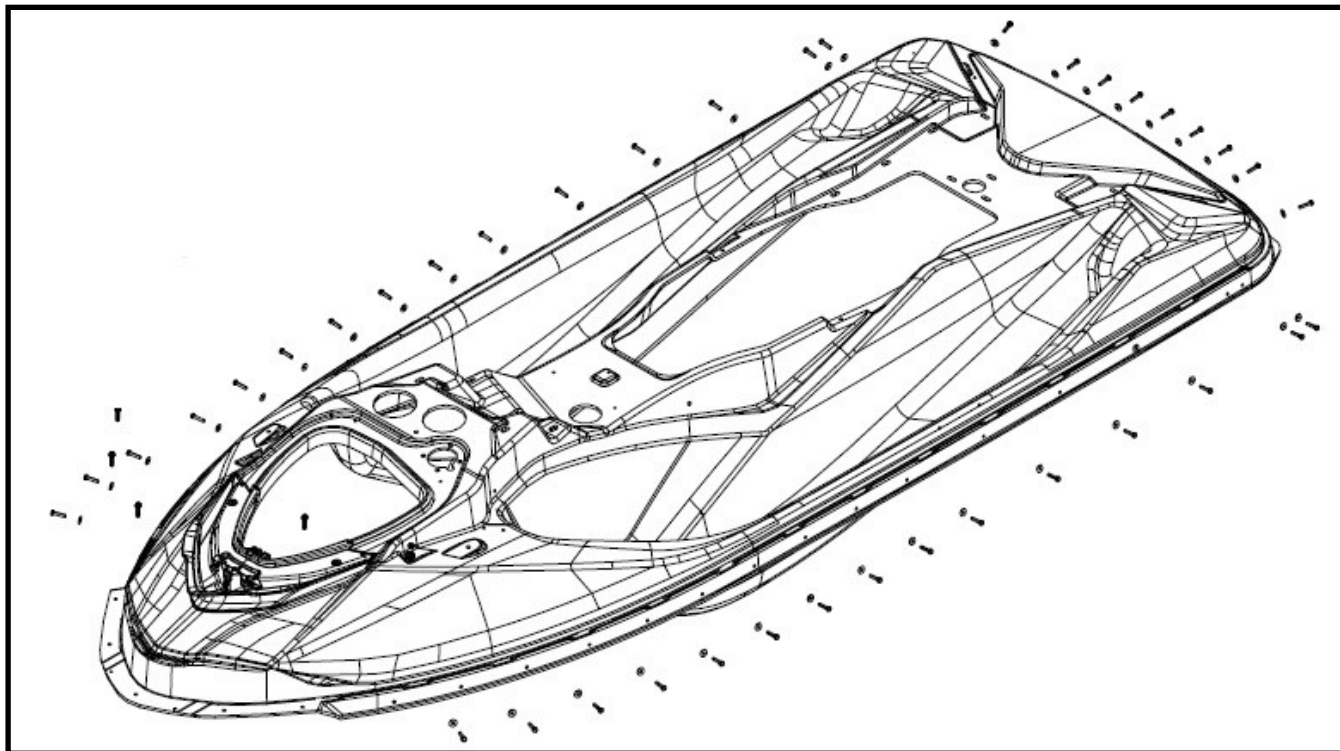
As with rear bumper, pull top of side bumpers out and down to remove from craft.

Place bumpers, corner bumper covers and screws aside for reinstallation later.

DISASSEMBLY GTR 230

Remove bolts (40) around the perimeter of the hull and body. (Figure 23) Save bolts for reinstallation.

Figure 23



With assistance, remove top deck by lifting straight up from hull. Guide steering cable through cable access hole in top deck. Set top deck aside.

Cut Zip ties (4) securing electrical harness. (Z, Figure 24)

Disconnect fuel pump electrical connector. (F, Figure 24)

Unclip steering cable from holder. (S, Figure 24)

Unclip Fuse Box (FB, Figure 24) and drop into space between engine and airbox.

Unclip voltage regulator from airbox (R, Figure 24) and drop into space between engine and airbox.
Note: Do not disconnect from wire harness.

Remove screws (3) from ECU. (ECU, Figure 24) Drop ECU with harness into space between engine and airbox.

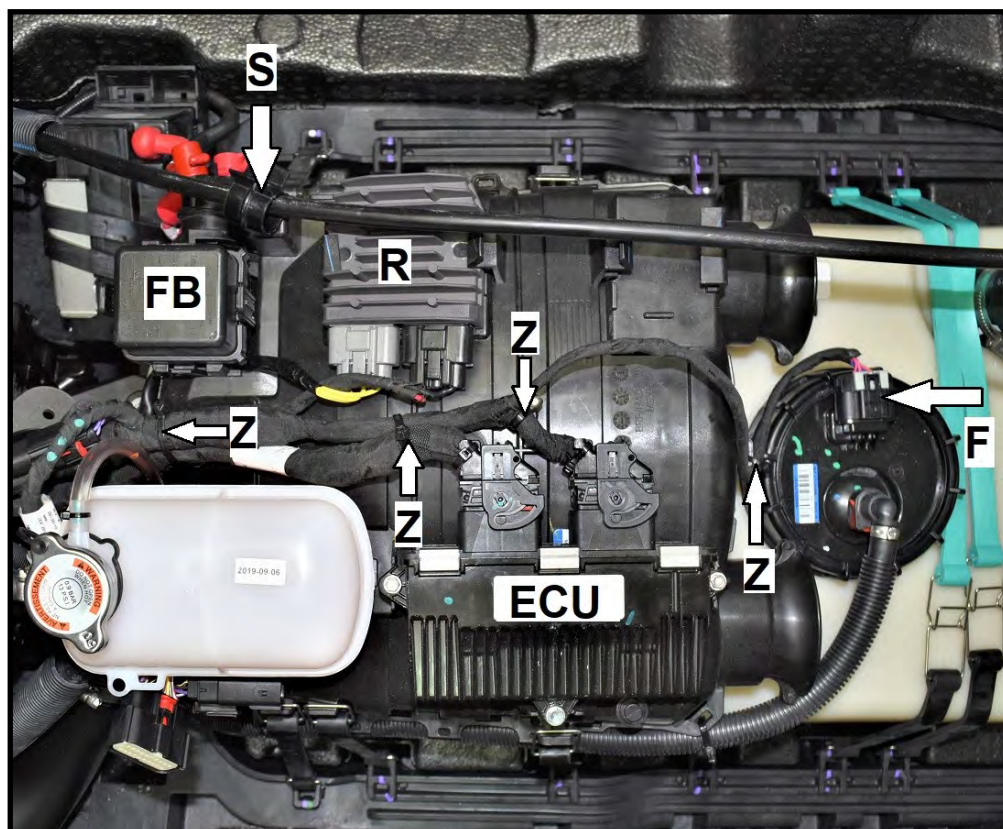
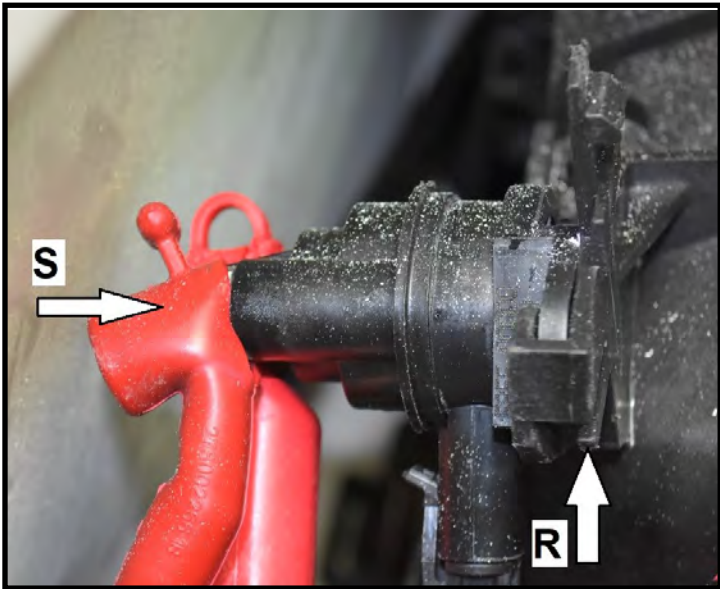


Figure 24

DISASSEMBLY GTR 230

Disconnect starter cable (S, Figure 25) from starter relay. Retain nut for re-use. Push release. (R, Figure 25) Pivot starter relay up out of bracket on airbox and drop into hull.

Figure 25



Remove diagnostic plug (A) from coolant reservoir. Unclip reservoir and remove from airbox. **Note: support reservoir to prevent coolant leak.** (Figure 26)

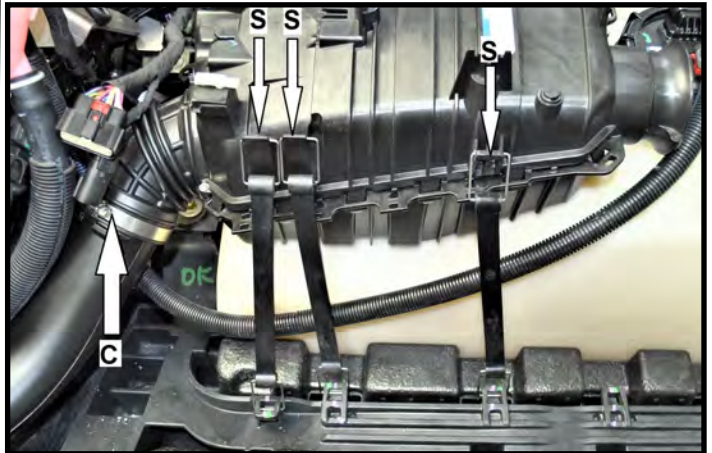
Figure 26



Cut zip ties along back and right side of airbox holding wire harness and fuel line to airbox.

Loosen clamp securing inlet tube to airbox hose. (C, Figure 27)

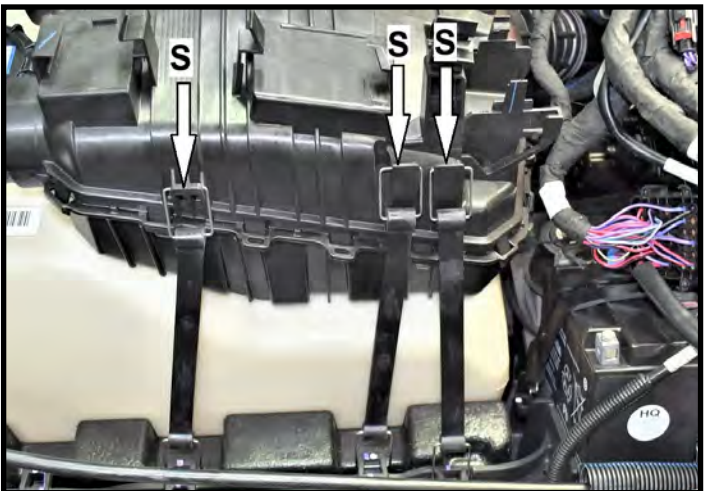
Figure 27



Remove inlet tube from airbox hose connector.

Remove straps (3) right (S, Figure 27) and (3) left (S, Figure 28) securing airbox.

Figure 28



Remove airbox. Discard airbox and straps.

**PROCEED TO SUPERCHARGER INLET REMOVAL
ALL MODELS (Page 10)**

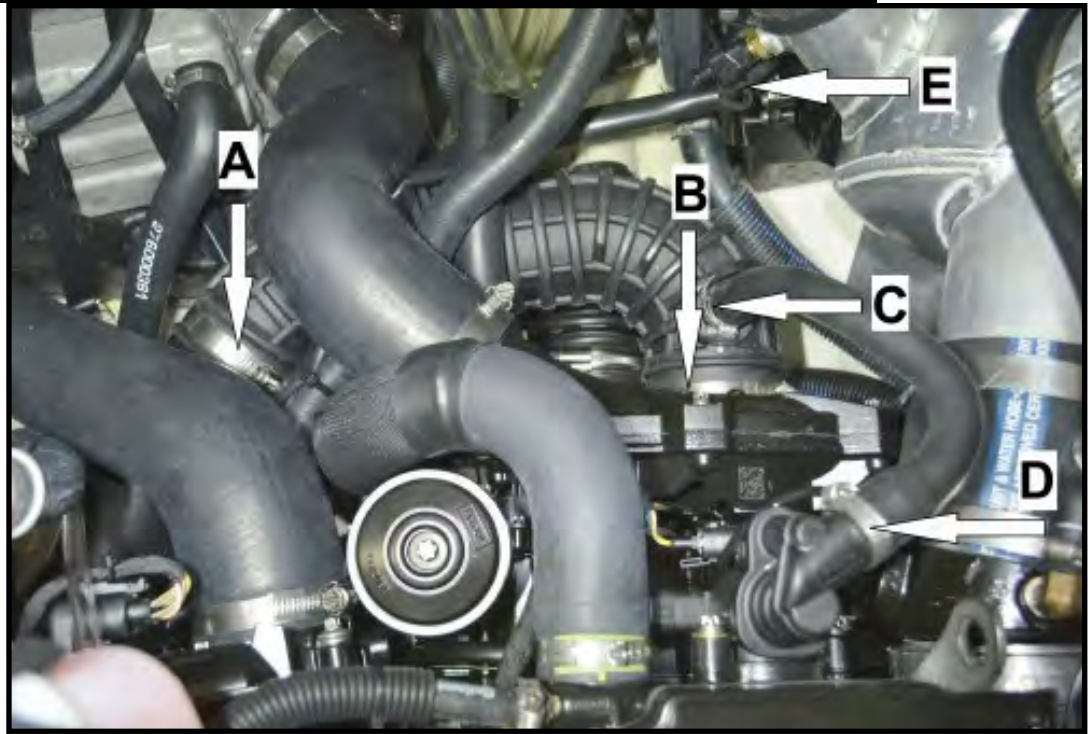
SUPERCHARGER INLET REMOVAL ALL MODELS

Figure 29

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.

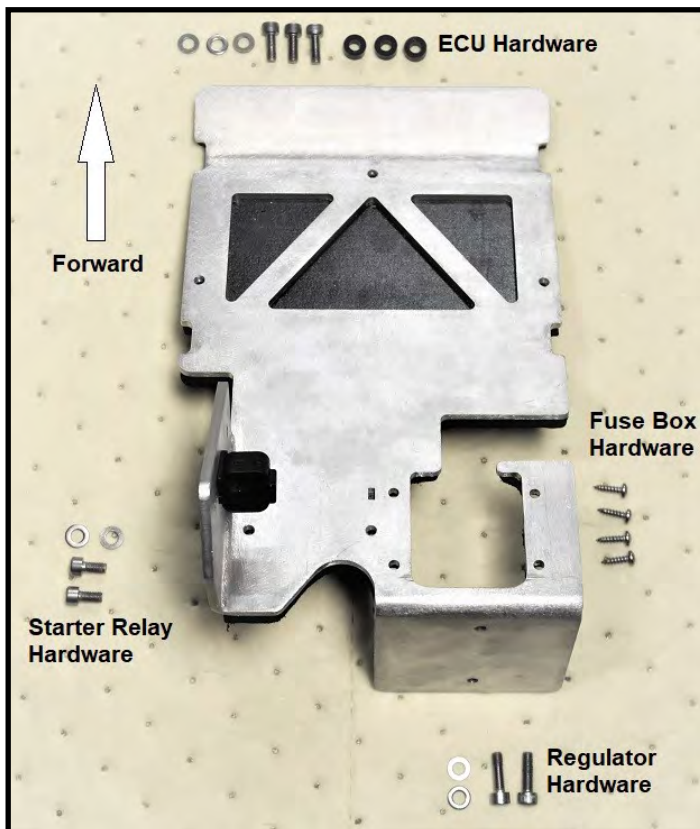
Loosen clamps (B, C and D) and remove OEM supercharger inlet hose and crankcase breather hose. (Figure 29)

PROCEED TO ELECTRONICS BRACKET ASSEMBLY ALL MODELS
(This Page)



ELECTRONICS BRACKET ASSEMBLY ALL MODELS

Figure 30 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 33, 35 and 36, 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 31, 32) **Note: do not twist wire harness.**

Figure 31

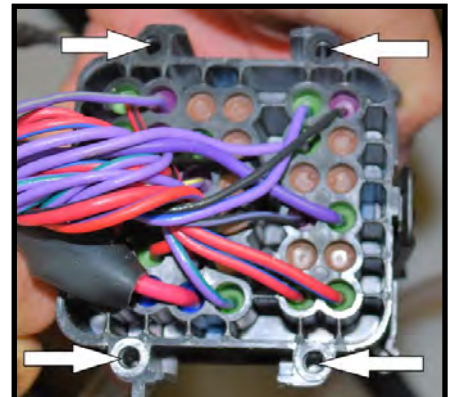


Figure 32



ELECTRONICS BRACKET ASSEMBLY ALL MODELS

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

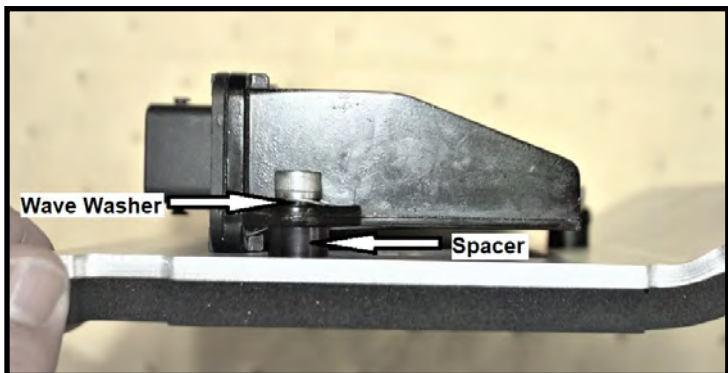
Lift bracket for access and secure regulator to bracket using supplied M6 x 20 SHCS (2) and M6 flat washers(2). **Note: Apply blue Loctite to screw threads.** (Figure 33)

Figure 33



Return Electronics Bracket to fuel tank and position ECU on bracket. Arrange ECU harness so it is not twisted. Secure ECU to bracket with supplied nylon spacers (3), M6 X 16 SHCS (3), and M6 wave washers (3). Place one spacer between ECU and bracket at each screw location. (Figures 34) **Note: Apply blue Loctite to screw threads.**

Figure 34



Install supplied Rubber Straps (2) over tank and Electronics Bracket. (Refer to completed assembly Figure 36)

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.

Reconnect starter cable to starter relay (Figure 35)

Figure 35



(GTR only) Reconnect fuel pump electrical connector. (F in Figure 24, page 7).

Figure 36

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



PROCEED TO POWER FILTER INSTALLATION ALL MODELS (Page 12)

POWER FILTER INSTALLATION ALL MODELS

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 ILctite to threads.** (Figure 37)

Figure 37

Only if not using breather catch can!!



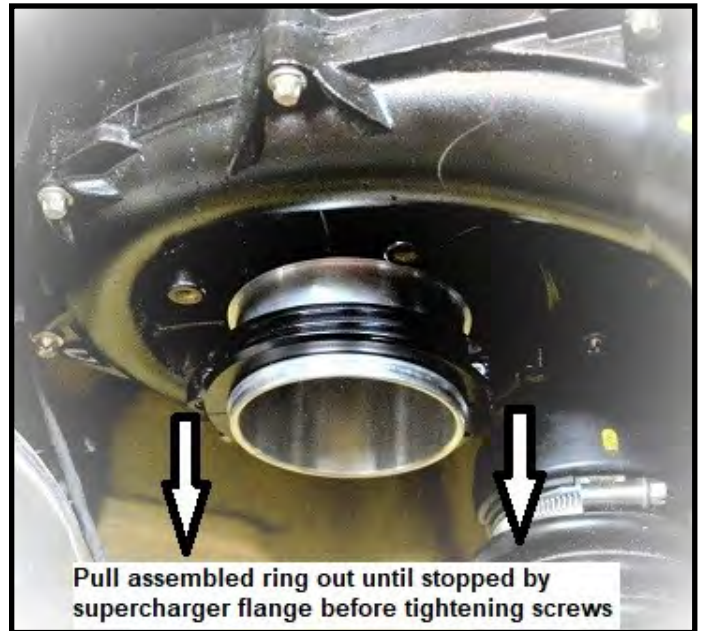
Remove OEM front engine lifting eye and replace with supplied Engine Lift Bracket as shown. Re-use OEM M6 torx head screws. **Note: Apply red Loctite to screw threads.** (Figure 38)



Figure 38

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 supercharger inlet and tighten allen screws using supplied allen wrench. **Do not over tighten screws. Do not use**



Loctite on threads. (Figure 39)

Figure 39



Screw supplied velocity stack onto threaded ring. Tighten hand tight. Be sure velocity stack is seated all the way onto threaded ring. (Figure 40)

Figure 40

POWER FILTER INSTALLATION ALL MODELS

Figure 41



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 42).

Figure 42



Center bracket evenly side-to-side on mounting point. Once bracket is properly aligned tighten bolts (Figure 43). **Note: Apply blue Loctite to screw threads. Do not overtighten bolts.**

Figure 43



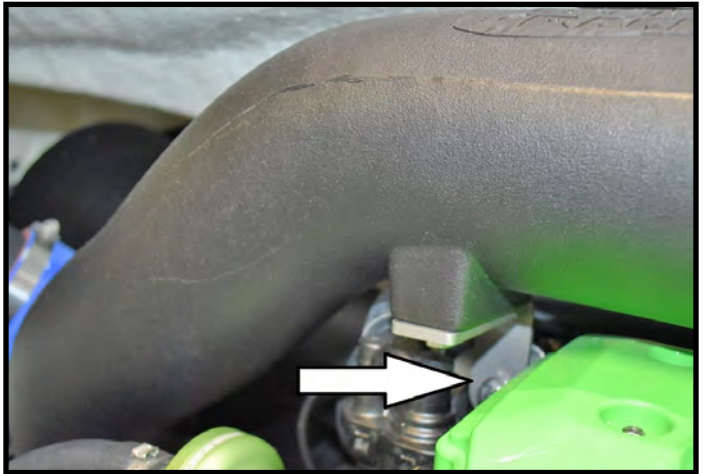
Install supplied lord mount onto L bracket using supplied M8 x16 SHCS (1), M8 flat washer (1), and M8 lock washer (1). (Figure 44)

Figure 44



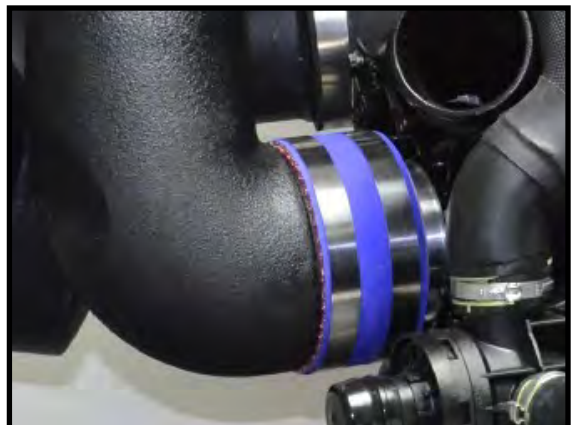
Install supplied Inlet Tube A onto velocity stack. Velocity stack must slide into inlet tube until it is completely seated. When inlet tube is properly installed lord mount on L bracket will align with the hole in rear engine lift bracket. Install M8 nyloc nut (1) and M8 fender washer (1) onto lord mount stud. **Note: Do not tighten.** (Figure 45) **Tip: Lubricate coupler and tube with glass cleaner.**

Figure 45



Pull loose hose clamp onto coupler over inlet tube and tighten. (Figure 46) **Do not over tighten clamps.** **Tip: Lubricate coupler and tube with glass cleaner.**

Figure 46



POWERFILTER INSTALLATION ALL MODELS

If using OEM breather system install formed hose onto crankcase vent valve 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.**

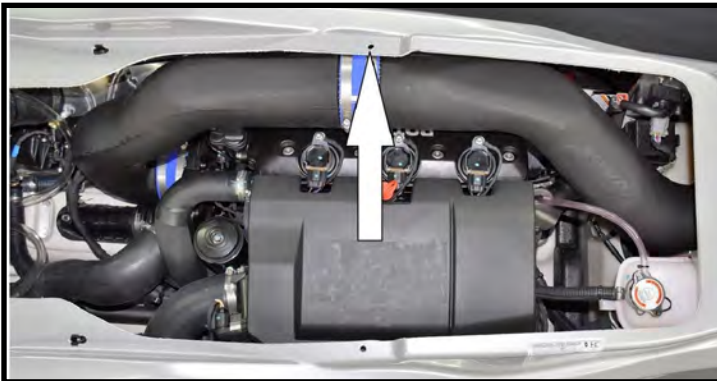
Install Flame Arrestor and Pre-filter onto supplied Inlet Tube B using supplied hose clamp. Install supplied silicone coupler onto Inlet Tube B. Slide supplied hose clamps onto Inlet Tube B but do not tighten. (Figure 47) **Tip: Lubricate Flame Arrestor, coupler, and tube with glass cleaner to ease installation.**

Figure 47



Drill out front LH engine access cover screw hole shown using a 1/2" drill bit. Insert supplied 6mm well nut. (Figure 48)

Figure 48



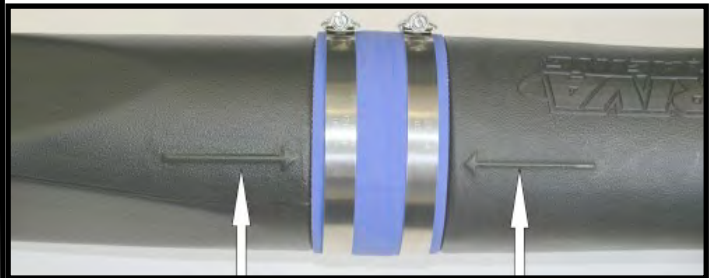
Insert filter end of assembled Inlet Tube B into starboard side of hull ahead of engine and rotate assembly until inlet tubes A and B are aligned. Pull Inlet Tube B back toward Tube A until the ends of the tubes meet and the coupler is fully installed. **Note: Do not tighten clamps at this time.** Secure 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 49) **Note: Apply Blue Loctite to threads.**

Figure 49



Align arrows on inlet tubes (Figure 50) 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 50



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

GTX 230 AND WAKE PRO 230: PROCEED TO COOLANT RESERVOIR BRACKET INSTALLATION (Page 16)

GTR: PROCEED TO REINSTALLATION OF TOP DECK GTR 230 (Page 15)

REINSTALLATION OF TOP DECK GTR 230

Check bilge for tools, rags, etc.

Reinstall upper deck, steering, and electrical connections, reversing disassembly procedure, using previously removed OEM hardware. **Note: Verify hull seal is in place before installation of top deck.**

Install and tighten top deck to hull with OEM hardware beginning at the rear then moving from rear to front in a criss-cross pattern. Lastly, install fasteners at bow. (Figures 51-53) Torque fasteners to 5-1/2 ft.lb. (7.5 Nm)

Figure 51

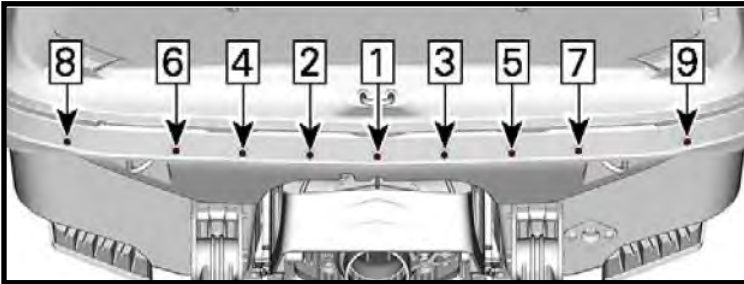


Figure 52

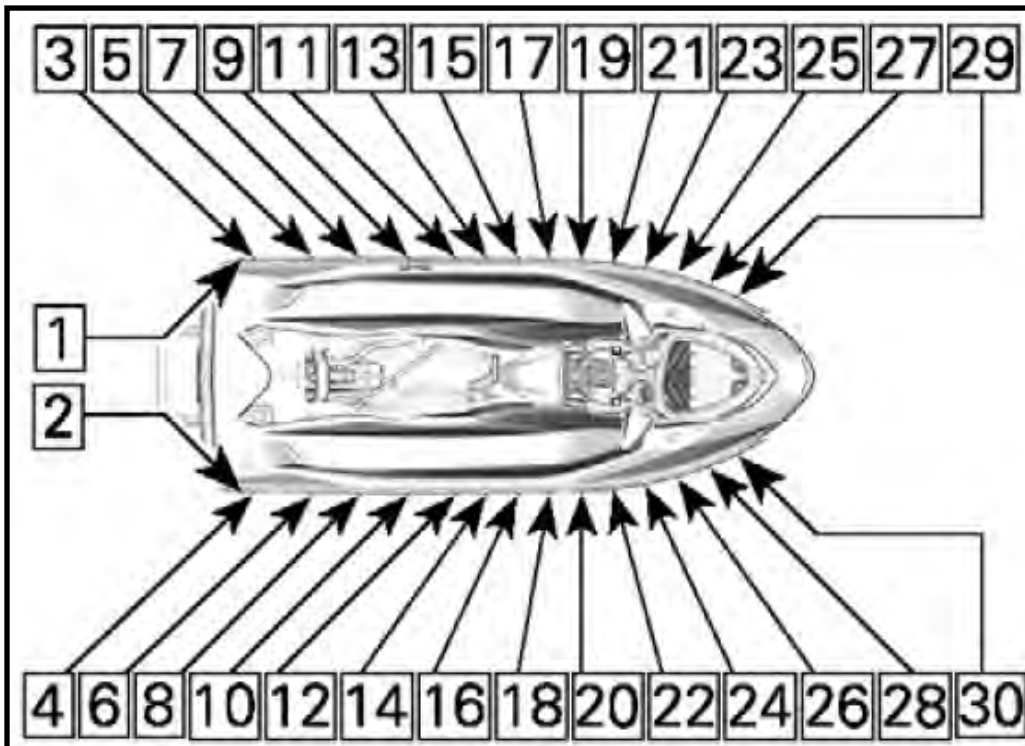
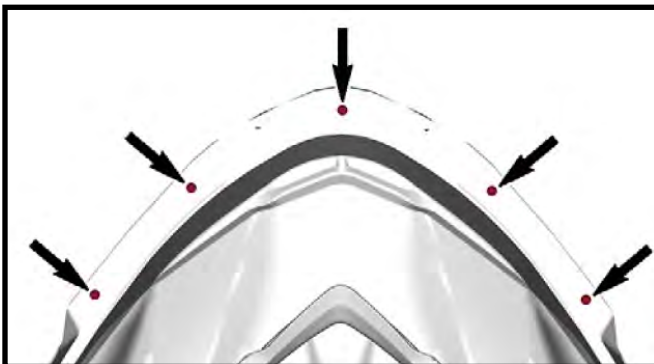


Figure 53



Reinstall bumpers with OEM hardware reversing removal procedure. Use alignment marks previously made to locate side bumpers. Install side bumpers first followed by rear and front bumpers.

PROCEED TO COOLANT RESERVOIR BRACKET INSTALLATION ALL MODELS (Page 16)

COOLANT RESERVOIR BRACKET INSTALLATION ALL MODELS

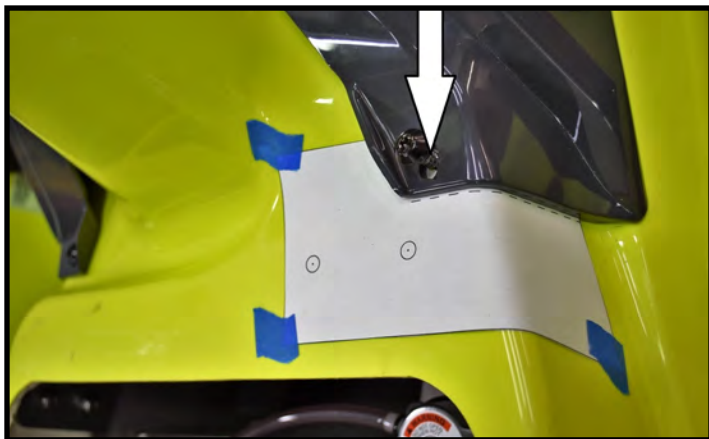
Only if using RIVA Open Loop Cooling Kit, skip this section on installing reservoir and bracket. Secure diagnostic plug in socket provided on electrical bracket.

GTX230, Wake Pro 230

Cut out template marked GTX and Wake Pro only. (Page 18). 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 54)

Figure 54



GTR 230

Cut out template labeled GTR only (page 19). Tape template to upper deck as shown. (Figure 55)

Figure 55



All Models

Using a 17/64" drill bit, with a drill extension if needed, 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.

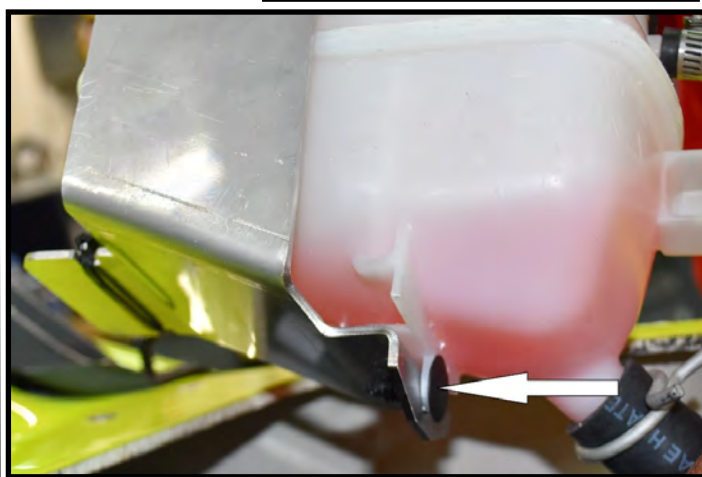
Using a 5/32" drill bit, drill a hole in forward reservoir mount and secure to reservoir bracket with supplied 5.5" zip tie as shown. (Figure 56)

Figure 56



Insert supplied plastic dart through existing holes in reservoir and bracket to secure aft end of reservoir to bracket. (Figure 57)

Figure 57



Install bracket to top deck with supplied M6 x 20 PFHS (2), M6 nyloc nuts (2), and M6 flat washers (2). (Figure 58)

Figure 58

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 17)

FINAL ASSEMBLY ALL MODELS

GTX AND WAKE PRO

Attach harness to fuel rail with supplied zip ties

Reinstall plastic engine cover.

GTR

Reconnect fuel filler hose, and fuel tank vent.

Reinstall storage compartment bulkhead.

Reinstall gauge panel.

Reinstall left and right side lateral trim panels.

ALL MODELS

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 6mm 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.

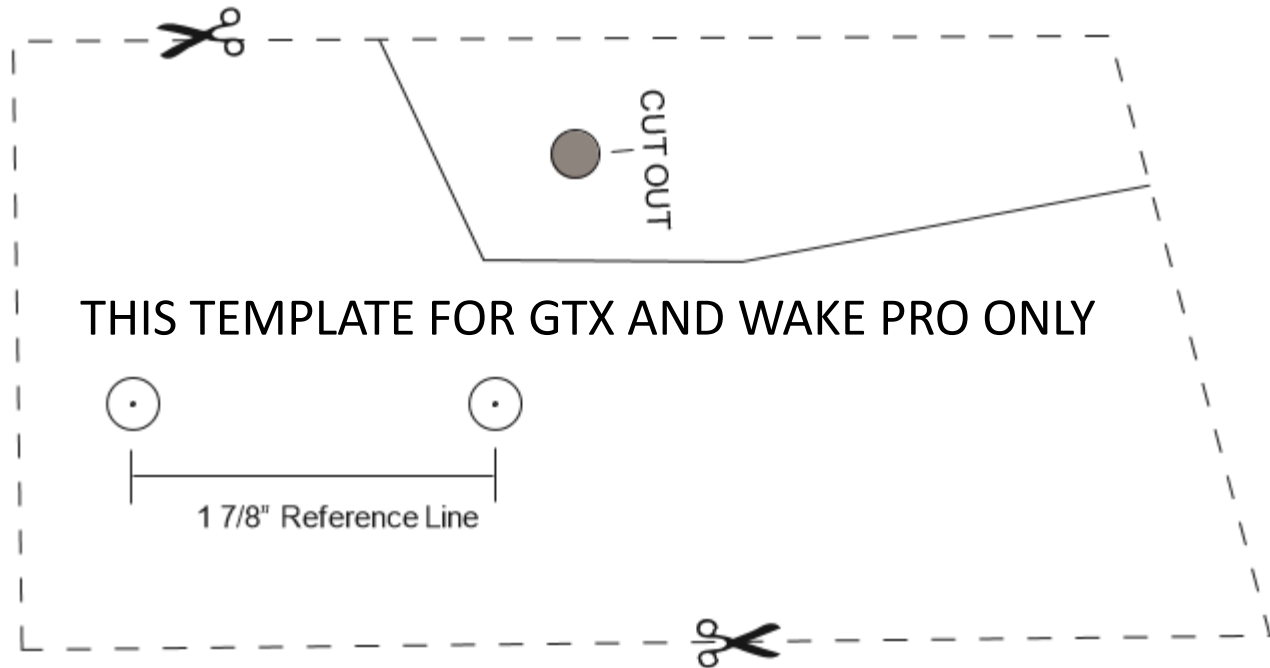
No other warranty, express or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose, applies. Various states do not allow for the limitation of incidental or consequential damages and therefore the above exclusion or limitation may not apply 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. **GTX 230 and Wake Pro 230 only**

Cut around outline and punch out hole as shown.



Reservoir Bracket Template. **GTR 230 Only**

RS13180 Coolant Reservoir Bracket Template



THIS TEMPLATE FOR GTR ONLY

3 Inch Reference Line

