



# **RIVA RACING**

**PERFORMANCE PRODUCTS & ACCESSORIES**

## **Yamaha 4-stroke Supercharger System**

**PART# - RY1726**

**APPLICATIONS:** FX-160, FX-High Output; FX-High Output Cruiser

Please read the following instructions completely prior to beginning installation. Although every effort has been made to simplify this kit, advanced mechanical skills are required for the proper completion of this installation. It is recommended that your local **RIVA** Performance Products Dealer install this kit.

A hoisting apparatus will be required to remove the engine assembly. ***Do not attempt this without assistance!*** We strongly recommend a Yamaha service manual (part# LIT-18616-02-83) to familiarize you with the various engine components and disassembly procedures. Please note that most of the original clamps and hardware that is removed in the disassembly process will be used during the installation process. These instructions have been written in point form and refer to illustrations, (see illustration #) and templates (see template #). Please follow these step-by-step instructions and illustrations carefully. The included hardware and related small parts are supplied on two boards; please do not remove the parts or hardware from the boards until instructed to do so. These boards are labeled *Hardware Board A* and *B*. They will be referred to as (HWB A #\_) and (HWB B #\_) in these instruction steps. References to the left or right of the boat are based on a normal riding position.

### **FUEL REQUIREMENT:**

Due to inconsistencies in pump fuel quality and octane ratings, we have changed the required fuel specification for our FX-HO –SC System. The new fuel requirement is a mix of 50% 92+ octane pump fuel and 50% 100+ octane race fuel. Please note that engine damage can occur if this fuel recommendation is not followed.

### **PARTS LISTING**

1 x Instruction sheet	1 x Tensioner
1 x Hardware Board A	1 x Belt
1 x Hardware Board B	1 x Air box assembly
1 x Fuel System Board	1 x Air box cover
1 x EFI Control Unit assembly	4 x Velocity Stack Kit
1 x Supercharger	1 x Free Flow Exhaust Kit
1 x Power Filter	1 x Crankshaft pulley
1 x Pre-filter	1 x Breather assembly
1 x Supercharger bracket	2 x 1/2" Inner cooler water lines
1 x T bracket	1 x 3/4" Water line
1 x Oil tank mounting plate	1 x 1/2" Oil tank water line
1 x Engine oil line adapter plate	1 x 5/8" Exhaust water line
1 x Oil tank oil line adapter plate	

## **- INSTALLATION INSTRUCTIONS -**

### **ENGINE REMOVAL PREPARATION:**

1. Disconnect wrist lanyard and battery cables.
2. Remove hull deck beam and set aside. (see illustration #1)
3. Drain engine oil completely and remove engine oil filter. ***NOTE: Please recycle used oil and oil filter.***
4. Remove electrical box from bulkhead.
5. Disconnect the 5 water hoses noted in illustration #2 with an 'A'.
6. Remove service lid inside front storage compartment allowing access to fuel tank area. Disconnect the eight electrical connections noted in illustration #2 with a 'B'.
7. Vent fuel tank by loosening fuel filler cap. Disconnect fuel feed line quick connect fitting on fuel tank. ***NOTE: There may be some fuel in line. Use care when disconnecting fuel line.***
8. Remove coupler cover and discard.
9. Remove strap holding water box in place. Remove exhaust pipe joint connecting exhaust system to water box. (see illustration #3)

10. Remove grease hose from grease fitting on thermostat. (see illustration #2)
11. Remove zip ties holding main wiring harness to hull along left side of craft and pull wiring harness towards bulkhead.
12. Pull battery cables through bulkhead into engine area.
13. Remove the four M8 bolts securing engine to engine mounts. Carefully remove shims from engine mount locations. **NOTE: There may or may not be shims at each engine mount location. Be sure to keep any shims removed together and mark their location for the installation process.**

#### **ENGINE REMOVAL:**

**NOTE: Clear an area on a sturdy workbench or heavy-duty cart to place engine after removal. Be sure to carefully place engine on a smooth surface so as not to damage oil pan. It is recommended that you have assistance for the engine removal process. (see illustration #4)**

1. Secure electrical box to top of engine. Suspend engine by all three-engine hangers using three separate hoist cables. Slowly lift the engine upward.
2. Once engine is elevated enough carefully remove hoist cable from front engine hanger suspending engine from the two rear engine hangers on oil tank only. Take care not to allow front of engine to drop suddenly.
3. Lift engine completely out of hull while rotating clockwise. Place on workbench or heavy-duty cart.

#### **ENGINE DISASSEMBLY:**

1. Disconnect the 3/4" water line from thermostat. Remove thermostat housing from oil tank by removing the two M6 retaining bolts.
2. Remove grease fitting from thermostat housing and set aside. It will be installed in the hull preparation stage. (see illustration #2)
3. Unplug ground wire connector located on side of oil tank. (see illustration #5)
4. Remove vent hoses from oil separator assembly. Remove oil separator assembly and discard, retain band clamps for use later.
5. Remove all cooling and breather hoses from oil tank.
6. Remove the five M10 bolts and two M10 nuts securing oil tank to engine. Remove oil tank from engine. Retain hardware for use during installation process.
7. Remove the two o-ringed connectors left in oil tank or engine at connecting point and discard.
8. Remove oil tank bracket from engine. (see illustration #6) Retain hardware; discard bracket.
9. Remove OE drive coupler from crankshaft and discard.
10. Remove stock air filter case cover and air filter element and discard. (see illustration #7)
11. Remove OE flame arrestors and discard. (see illustration #7)
12. Disconnect throttle cable from throttle wheel. Remove throttle cable from air filter case. Retain hardware. (see illustration #7)
13. Remove OE fuel feed line to engine from throttle body fuel inlet pipe. (see illustration #7)
14. Remove fuel hose bracket and grommet from front of air filter case. Retain hardware, grommet and bracket. (see illustration #7)
15. Remove all wire harness connectors from mounting locations on outside of air filter case.
16. Disconnect fuel injection sub wiring harness outside of air filter case. (see illustration #7)
17. Remove the eight M8 bolts securing throttle bodies to throttle body joints. Carefully separate the throttle bodies from throttle body joints. Disconnect the 8 sub wiring harness connectors from throttle bodies. 1-Sensor assembly coupler; 4-Fuel injector couplers; 1- Throttle position sensor coupler; 1-Joint connector; 1-Bypass motor valve. (see illustration #7)

**NOTE: Seal throttle body joints to prevent debris or foreign objects from entering engine.**

18. Remove the bypass valve motor; bracket and hoses from throttle body. **Note: the order hoses are removed and their attachment points for reference during installation process.** (see illustration #8)
19. Disconnect valve cover breather hose from underside of air filter case. (see illustration #8)
20. Remove the three bolts securing air filter case to air filter case stays and set aside. (see illustration #9) Remove air filter case from motor.
21. Remove the four rubber gaskets sealing air filter case to throttle body joints and set aside. (see illustration #9)
22. Remove the three air filter case stays from motor and set aside. Note their locations for installation later. (see illustration #9)
23. Remove the five M6 bolts from oil pump housing on engine. (see illustration #10)

## **ENGINE PREPARATION:**

1. Install engine oil line adapter plate onto oil pump housing using the five supplied M6 socket head cap bolts found on HWB A #1. (see illustration #11) **NOTE: Use blue Loc-Tite. Torque bolts to 39 N•m (3.9 kgf • m, 28 ft•lb)**
2. Install included supercharger mounting plate onto rear of motor using the five supplied M10 bolts on HWB A #2. (see illustration #12) It will be necessary to slightly rotate the brass fittings on the engine oil line adapter plate when installing supercharger bracket. **NOTE: Use blue Loc-Tite. Torque bolts to 39 N•m (3.9 kgf•m, 28 ft•lb)** Once supercharger mounting plate is secured rotate brass fittings to original location. (see illustration #11)
3. Install included 'T' bracket between supercharger mounting plate and engine. (see illustration #13) Secure to supercharger mounting plate using the four supplied 3/8" socket head cap bolts, lock washers and flat washers found on HWB A #3. **NOTE: Use blue Loc-Tite. Torque bolts to 39 N•m (3.9 kgf•m, 28 ft•lb)** Install the two supplied M10 socket head cap bolts found on HWB A #4 securing 'T' bracket to engine. **NOTE: Use blue Loc-Tite. Torque bolts to 39 N•m (3.9 kgf•m, 28 ft•lb)**
4. Remove the M6 socket head cap bolt and washer at base of rear most intake tract (cylinder #4). Using the OE washer, install the supplied vacuum fitting found on HWB B #6 in its place. (see illustration #14) **NOTE: Do not over tighten vacuum fitting.**
5. Attach vacuum line found on HWB A #17 to vacuum fitting and secure with included zip tie. Route the vacuum line under previously installed 'T' bracket, between the supercharger bracket and the motor, so that the open end is facing right side of the hull. The open end will be connected to bypass valve in a later step.

## **HULL PREPARATION:**

1. Locate template #1 in instruction images. Cut out and affix to right, forward side of bulkhead. (see illustration #15)
2. Cut out 3" hole using a 3" hole saw bit. Drill out thermostat mounting hole using a 5/16" drill bit. (see illustration #15)
3. Install protective rubber strip found on HWB B #1 onto inside edge of 3" hole in bulkhead. Secure using super glue or contact cement.
4. Mount previously removed thermostat onto forward, upper right side of bulkhead using the supplied M8 socket head cap bolt, washers, nylock nut and billet spacer found on HWB B #2. (see illustration #16)
5. Attach the OE " water inlet hose to upper, " rearward-facing fitting on thermostat. Secure using OE band clamp. (see illustration #16)
6. Locate the 3/8" water bypass hose previously removed from the thermostat. Cut off 3-1/2" from the end of the hose and reattach to the 3/8 fitting on the thermostat. The hose can now be secured to the right side of hull with two supplied zip tie blocks and zip ties found on HWB A #17.
7. Remove OE exhaust baffle and exhaust hose connected to water box outlet. Retain hose clamps for use when installing supplied Free Flow Exhaust Kit.
8. Remove the OE flush hose from its mount on the bulkhead and remove the mount and zip tie block by drilling out the rivets.
9. Locate template #2 in the instruction images. Cut out and affix to rear lip of hull deck beam. Drill out the four holes using a 5/16" drill bit. (see illustration #17)
10. Install oil tank mounting plate behind bulkhead so bend faces up and forward. Reinstall the hull deck beam and secure. Fasten the oil tank mounting plate to the deck beam using the four supplied M8 socket head cap bolts, washers and nylock nuts found on HWB A #5. (see illustrations #18A & 18B)
11. With a permanent marker, mark the location of the five holes in oil tank mounting plate on the bulkhead. (see illustration #19)
12. Relocate the OE flush hose mount to the rear, upper left side of the bulkhead. Install using the two supplied rivets found on HWB A #6. (see illustration #20) **NOTE: Insert rivets from forward side of bulkhead.**
13. Remove oil tank mounting plate and hull deck beam. Drill the five holes in bulkhead using a 5/16" drill bit. **NOTE: Oil tank mounting plate and hull deck beam will be installed permanently later in the process.**
14. Remove ride plate and jet pump assembly.
15. In jet pump area locate and remove the six-nylock nuts and washers securing exhaust outlet to hull.
16. Remove exhaust outlet and carefully cut as instructed. (see illustration #21) Retain 4" section for use when installing Free Flow Exhaust Kit. Discard middle section.
17. Thoroughly clean inside of OE exhaust hose sections and water box outlet with a non-residual cleaner.

18. Install 4" section of OE exhaust hose onto water box outlet and secure using OE hose clamp. (see illustration #22) Replace modified stock exhaust outlet, rotate the outlet forward (see illustration #23) and secure using OE nylock nuts and washers. **NOTE: Do not use any sealant when replacing exhaust outlet. Torque nuts to 5.4 N·m (0.54 kgf·m, 3.9 ft·lb)**
19. Insert the Free Flow Exhaust Tube into the modified exhaust outlet and into the 4" section of OE exhaust hose on the water box outlet and secure using OE hose clamps. (see illustration #24) **NOTE: It may be necessary to use window cleaner to ease installation. Do not over tighten hose clamp.**
20. A 5/8" hole can now be drilled in the left of transom plate just above trim cable. The supplied 1/2" thru-hull fitting found on HWB B #4 can now be installed **NOTE: Use a below- waterline silicone sealant. Do not over tighten fitting.**
21. Replace OE pump strainer with supplied High Flow Pump Strainer found on HWB B #4. Be sure to remove the o-ring from the OE strainer and re-use. Secure using the four supplied M6 hex head bolts, lock washers and flat washers. **NOTE: Use blue Loc-Tite on threads.** Thread supplied 1/2" Barbed x 1/4" NPT brass fitting into High Flow Pump Strainer. **NOTE: Apply pipe thread sealant to threads. Do not over tighten.**
22. Install recommended impeller (not included) and 'optional' Skat-Trak Magnum Pump stator section. Replace jet pump assembly. **NOTE: Use a below- waterline silicone sealant. Do not over tighten fitting.**
23. Connect High Flow Pump Strainer to 1/2" thru-hull fitting with provided 1/2" water line and hose clamps found on HWB B #4. **NOTE: Do not over tighten hose clamps.** Install ride plate.
24. A 1/2" hole can now be drilled just below the rear grab handle to the left of the OE bilge fitting and the supplied 1/2" aluminum bypass installed. **NOTE: Use a below- waterline silicone sealant. Do not over tighten fitting.**
25. Attach the two supplied 1/2" water lines marked "inner cooler lines"; one to the 1/2" thru-hull fitting and one to the 1/2" water bypass fitting. Secure using supplied 1/2" hose clamps. **NOTE: Do not over tighten hose clamps.** Route waterlines forward through 3" hole drilled in bulkhead and along side the steering cable. The open ends will be connected later.
26. Cut the grease hose attached to the short shaft housing approximately 2" above the short shaft-housing nipple. Reinstall the grease fitting previously removed from the thermostat into grease hose and secure with supplied zip tie. (see illustration #25)
27. The fuel pump and regulator assembly will now be installed. (see illustration #26) Note the location of the regulator and fuel pump mounts. Remove the OE rubber block-off cap and four OE nylock nuts from the tank. Install the fuel pump and regulator assembly. **Install the supplied M6 flat washers before installing the OE nylock nuts when securing fuel pump and regulator brackets. Do not over tighten nuts.** Attach the fuel feed line quick connect fitting to the fuel pump module.
28. Splice the supplied fuel pump wiring harness found on HWB B #5 into the OE fuel pump harness (blue and black two wire harness that connects to the OE fuel pump module) approximately 4" from the connector. (see illustration #27)  
**NOTE: Do not tamper with the regulator adjustment setting. This was preset by the RIVA Performance Department.**

## **ENGINE INSTALLATION:**

1. Place supplied serpentine belt under coupler on short shaft.
2. Install engine into craft. Please use caution and refer to hoisting procedure used in the engine removal steps. (see illustration #4)

A strap should be attached around the coupler side of the motor since the lifting point brackets are no longer attached.

**NOTE: Do not lift the motor by the coupler or supercharger brackets.**

3. Replace any shims removed earlier and secure motor to engine mounts.
4. Thoroughly clean exhaust chamber outlet coupler, water box outlet coupler and exhaust joint pipe using a non-residual cleaner. Install exhaust joint pipe between exhaust chamber and water box securing with OE hose clamps. (see illustration #3) **NOTE: Do not over tighten hose clamps.** Secure water box retaining strap.
5. Reattach OE water inlet hose to OE engine cooling distribution log under engine using OE band clamp.
6. Install the supplied 3/4" hose between the 1/2" fitting on the bottom of thermostat and to valve cover water outlet fitting. Secure with OE band clamps. (see illustration #28)
7. Install oil tank mounting plate. Secure to bulkhead with the five supplied M8 countersunk socket head cap bolts, washers and nylock nuts found on HWB A #8. **NOTE: Do not install hull deck beam at this time.**
8. Attach supplied breather assembly to oil tank mounting plate using the two supplied M6 socket head cap bolts and flat washers found on HWB A #9. (see illustration #28) **NOTE: Use blue Loc-Tite. Do not over tighten bolts.**
9. Route 1/4" breather assembly drain hose through 3" hole previously drilled in bulkhead and secure to fitting on crankcase at lower right side just in front of motor mount. Secure with OE band clamp. (see illustration #29)

10. Attach 1/2" valve cover vent hose to valve cover fitting and secure with OE band clamp. (see illustration #30)  
Secure mid-section of hose to thermostat using supplied zip ties on HWB A #17. The two remaining vent hoses will be connected after oil tank is installed.

#### **OIL TANK INSTALLATION:**

1. Remove the two coupler cover grommets and grommet brackets from oil tank by removing the M6 hex head bolts and discard. (see illustration #31)
2. Remove grounding cable assembly from oil tank. (see illustration #5) Discard cover plate and hardware. Carefully remove rubber grommet from wiring harness.
3. Install the two supplied M6 socket head cap bolts and flat washers found on HWB A #10 into the bolt holes used earlier to mount the thermostat to the side of the oil tank.
4. Install oil tank oil line adapter plate onto oil tank securing with the two OE M10 bolts and nuts removed earlier from the oil tank. (see illustration #32)
5. Install supplied 1/2" hose to fitting on the bottom side of the oil tank. Secure with OE band clamp. (see illustration #32)
6. Insert oil tank into rear area of hull. Route the oil lines attached to oil tank oil line adapter plate through 3" hole previously drilled in the bulkhead. Secure to oil tank mounting plate using two OE M10 bolts (removed earlier) in lower mounting points and two supplied M10 bolts found on HWB A #11 in the upper two mounts. (see illustration #33) **NOTE: Use blue Loc-Tite. Torque bolts to 39 N•m (3.9 kgf•m, 28 ft•lb)**
7. Attach oil lines to corresponding brass 'T' fittings coming from engine oil line adapter plate. Secure using two supplied 1/2" oetiker clamps found on HWB A #12. **NOTE: Oil lines are color-coded and must be installed correctly to ensure correct oil flow.**
8. Route the \_" oil tank cooling water supply hose under the drive shaft and forward through the existing 3" hole in the bulkhead. Attach to the 'T' fitting in the main cooling distribution hoses under the engine. Secure with OE band clamp.
9. Install supplied 5/8" hose between the fitting on the side of the oil tank and top of exhaust chamber boot. Secure using OE band clamps.

#### **SUPERCHARGER AIR BOX INSTALLATION:**

1. Remove OE fuel injection wiring harness from OE air filter case by removing the two M6 bolts securing harness and feeding it out through the bottom of the air filter case. Install into the supercharger air box in reverse order of removal.
2. Install the four rubber gaskets previously removed into the four openings at bottom of supercharger air box.
3. Install the three OE air filter case stays onto engine using the three supplied M8 socket head cap screws, flat washers and billet spacers found on HWB A #14. (see illustrations #34A & 34B) **NOTE: Billet spacers are to be placed between stays and engine mounting locations. Use blue Loc-Tite on bolts. Torque to 39 N•m (3.9 kgf•m, 28 ft•lb)**
4. Install supercharger air box onto engine taking care not to dislodge or pinch rubber sealing gaskets when sliding over throttle body joints.
5. Remove the two setscrews securing the sensor assembly to throttle bodies. **NOTE: Do not remove the sensor assembly. Removing the setscrews allows injector assembly to easily slide into position.** (see illustration #35)
6. Install the throttle bodies into the supercharger air box by sliding the fuel inlet tube through the fuel inlet opening on the side of the box and positioning the throttle body into the throttle body joints. Make sure throttle body locating pins line up with throttle body joints. Secure throttle bodies to throttle body joints using OE M8 bolts. **NOTE: Use blue Loc-Tite. Torque bolts to 22 N•m (2.2 kgf•m, 16 ft•lb)**
7. Reconnect the 7 sub wiring harness connectors to throttle bodies. 1 x Sensor assembly coupler; 4 x Fuel injector couplers; 1 x Throttle position sensor coupler; 1 x Joint connector. (see illustration #8) The Bypass motor valve will be connected and installed later.
8. Secure supercharger air box to OE air filter case stays using OE M8 bolts and supplied blue vibration washers found on HWB A #14. (see illustration #35) **NOTE: Vibration washers are to be placed between stays and air box. Use blue Loc-Tite on bolts. Torque to 18 N•m (1.8 kgf•m, 13 ft•lb)**
9. The drain fitting located on the front lower left corner of the air box can be opened and drained in the unlikely event that water enters your air box. This valve must be closed (turned clockwise) during normal operating conditions. (see illustration #36)
10. Install setscrews removed in step #5 securing the sensor assembly.

11. Install throttle cable through the cable opening on left side of supercharger air box. Install throttle cable end into throttle wheel and secure the jam nuts. Test throttle cable and butterfly movement making sure butterflies open and close fully. Secure cable to air box using two OE M6 bolts removed earlier. (see illustration #37)
12. Install fuel hose bracket with rubber grommet over fuel rail end and onto front of supercharger air box. Secure with OE band clamp and two OE M6 bolts. (see illustration #38) **NOTE: Use blue Loc-Tite. Torque bolts to 7.6 N•m (0.76 kgf•m, 5.5 ft•lb) Do not apply any type of sealant to rubber grommet.**
13. Install fuel feed line from tank onto fuel rail end and secure using supplied oetiker found on HWB A #7. Secure the fuel hose to fuel hose bracket. (see illustration #38)
14. Install the bypass valve motor to the mounts inside the supercharger air box. Place the two supplied M8 washers found on HWB B #7 onto the two OE M8 bolts removed earlier and secure the motor to the air box. (see illustration #39)
15. Replace the four OE vacuum hoses connected to bypass valve motor with supplied 1/4" hoses found on HWB B #7. (see illustration #39)
16. Reattach bypass motor wiring harness connector to the bypass valve motor. It may be necessary to remove some of the wiring insulation so that the connector can reach the motor in its new location. (see illustration #39)
17. Install supplied Velocity Stacks onto throttle bodies. Apply a thin coat of grease onto o-rings and install into o-ring groove on inside of velocity stacks. Holding the velocity stack at a slight angle, gently press the stacks onto throttle bodies taking care not to pinch or dislodge o-rings. Tighten setscrew, but do not over tighten. The o-rings secure velocity stacks to throttle bodies, the setscrew is only an added measure of security. (see illustration #40)  
**NOTE: Thoroughly inspect inside of supercharger air box for tools, foreign objects and anything that may obstruct the operation of throttle cable and throttle linkages. Test throttle trigger operation once again for smoothness making sure butterflies open and close properly.**
18. Install the supercharger air box cover so that the logo is facing the right side of the boat. Secure using the twenty-eight supplied M5 counter sunk Phillips-head screws found on HWB A #15. **NOTE: Use blue Loc-Tite. Do not over tighten screws. Take care not to dislodge o-ring. Do not apply sealant or grease to o-ring.**

#### **ELECTRICAL INSTALLTION:**

1. Reinstall OE electrical box and secure using the four supplied M8 flange bolts and billet spacers found on HWB A #13. Billet spacers are to be placed between electrical box and bulkhead.
2. Reconnect all electrical connections.

The additional fuel pump wire harness spliced in earlier can now be connected to the fuel pump.

3. The additional fuel pump wiring spliced into the main harness earlier can now be connected to the fuel pump mounted on the fuel tank.

**NOTE: Posts on the fuel pump are marked Positive and negative. Be sure to connect the blue wire to the positive post and the black to the negative post.**

4. Install EFI Control Units to Velcro on forward side of oil tank mounting plate above bulkhead. (see illustration #41) Route EFI Control Unit wires to left side of hull and forward. Connect Fuel Control Unit into OE wiring harness between the OE connectors from the air box and main harnesses.
5. Attach ground wire to M6 bolt on cylinder head (see illustration #42). Secure wires to OE harness.
6. The ground wire connector removed from the oil tank earlier can now be installed. Attach ground wire eye connectors to M6 bolt on rear of cylinder head and connect to main harness. (see illustration #42)
7. Route blue boost hose to left side of hull and up towards the supercharger air box. Attach to the boost fitting on rear of supercharger air box and secure with supplied zip tie. (see illustration #43) Secure hose to hull with supplied zip tie blocks and zip ties found on HWB A #17. .
8. **Initial settings for RIVA E.F.I. Control Unit.** Initial settings are **recommendations only** and will vary due to altitude and atmospheric conditions. When making adjustments, do so in small increments only. (see illustration #44) **NOTE: Our Pro-Series E.F.I. Control Unit is designed to increase the amount of fuel delivered only. It will not allow you to lean out the fuel beyond the stock fuel curve.**

#### **SUPERCHARGER INSTALLTION:**

1. Install supplied supercharger Power Filter with pre-filter onto supercharger air inlet. Secure with supplied hose clamp. **NOTE: Do not over tighten hose clamp.**
2. Install supercharger onto supercharger bracket and secure with the 5 supplied 3/8" socket head cap bolts, lock washers and flat washers found on HWB A #16. The oil hose labeled green must be routed under the supercharger, behind the supercharger bracket and to the right of engine. (see illustration #45)
3. Remove the red sealing caps from supercharger oil hoses and attach to corresponding 3/8" brass 'T' fittings. Secure using supplied oetiker clamps found on HWB A #12. **NOTE: Supercharger is shipped with a small amount of oil. Use care when removing red sealing caps.**

4. Install supercharger support arm found on HWB B #8 to supercharger and supercharger support bracket. **NOTE: Support fits only one way; shorter spacer at top and larger spacer at bottom. Use blue Loc-Tite.** Install the bottom bolt and spacer into the lower supercharger bracket hole first and secure. Now, while holding the top rod end, carefully rotate the support until the top mount bolt lines up with its hole location in the supercharger. (see illustration #45)
5. Once the top bolt is secure, by hand gently rotate the support until tension is felt. Hold the support in this position and lock down the jam nuts.
6. Install supplied belt tensioner onto supercharger 'T' bracket. (see illustration #47) **NOTE: Use blue Loc-Tite. NOTE: This next step is requires assistance. Do not attempt alone. Doing so may damage belt, pulleys, tensioner and/or cause injury. Please note the path of the belt around the pulleys and tensioner.** (see illustration #46)
7. One person should twist the tensioner fully counter clockwise relieving the tension, while the other, making sure the belt is lined up correctly on the coupler pulley, positions it around the tensioner wheel and upward onto the right side of the supercharger pulley. Using a ratchet, carefully turn the supercharger pulley counter clockwise to guide the belt onto the pulley. **NOTE: Do not try to pry the belt onto the pulley as damage will result.**
8. Install the supplied aluminum connecting tube between supercharger and inner cooler. Secure with hose clamps. (see illustration #47) **NOTE: It may be necessary to use window cleaner to ease installation. Do not over tighten hose clamps.**
9. Attach open end of vacuum hose previously installed on engine to bypass valve on underside of aluminum connecting tube. Secure with supplied zip tie. (see illustration #47)
10. Install hull deck beam using OE hardware. Secure the oil tank mounting plate to hull deck beam using supplied M8 socket head cap bolts, washers and nuts.

#### **SEAT MODIFICATION:**

1. In order for the air box to clear the seat a small section of the seat base needs to be removed. Do not cut through the plastic cross sections completely. (see illustration #48)
2. Using a dremmel tool or small grinder, carefully grind the section removing just the top layer.

The installation is now complete. Thoroughly inspect inside of hull for tools, parts, rags, etc. Once you are certain any loose objects in hull have been removed run craft on flush kit to test for leaks and smooth operation. **NOTE: Do not attempt to make any adjustments or services while engine is running. Doing so could result in injury.**

#### **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)

#### **1-Year Limited Warranty**

**RIVA** Racing Supercharger kits carry a one-year 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. Hardware, hoses, 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 must accompany all warranty claims.

Warranted replacement parts will be returned freight collect.

**Remember, the water belongs to everyone. Please ride responsibly.**