Kawasaki 4-Stroke Supercharger Kit

PART# RK1785

***APPLICATION*:** `04~05 Kawasaki STX-15F

Please read the following completely prior to beginning installation.

Although every effort has been made to simplify this kit and the installation instructions, 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!** A Kawasaki service manual (part# 99924-1325) is required for various disassembly and assembly procedures. Please note that some of the original clamps and hardware removed during the disassembly process will be used during the installation process. All stock waterlines (with the exception of the stock bilge system) will be replaced with heavy-duty Synflex® waterline that is supplied with this kit. Replacement engine gaskets are provided with this kit as well.

These instructions have been written in point form and refer to illustrations. 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 'left', 'right', 'front' and 'rear' are based on normal riding position.

FUEL REQUIREMENT:

Due to the nature of this kit you are required to run VP Race Fuel MS109 (Jet X). Please note that engine damage will occur if this fuel recommendation is not followed.

SUPERCHARGER KIT PARTS

Required Specialty Tools	Part#
Small bottle jack	N/A
Large cutting wheel/tool	N/A
Welder	N/A
Heat Gun	N/A

Recommended Specialty Tools	Part#
1-3/4” hole saw bit	N/A
10”L x 1/4"drive extension	N/A
1/4" drive universal	N/A
5/16” x 1/4" drive socket	N/A
Gates Sonic Tension Meter (model 507C)	7420-0577

– INSTALLATION INSTRUCTIONS –

ENGINE REMOVAL:

1. Turn ignition off, remove lanyard, disconnect battery cables and remove battery.
2. Remove engine following steps outlined in section 7 of Kawasaki service manual. **NOTE: Replace oil filter if engine was run previously. Please recycle used oil and oil filter.**

   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.
3. Replace stock pistons, rings, piston pins, clips, cylinder head gasket and cylinder base gasket with supplied forged pistons, rings, piston pins, clips, cylinder head gasket and cylinder base gasket following the steps outlined in section 6 of the Kawasaki service manual.

   NOTE: This is an involved process requiring advanced mechanical skills and 4-stroke engine experience. DO NOT ATTEMPT if you are not mechanically inclined or familiar with 4-stroke engines.
4. Remove OE crankshaft coupler and discard.

EXHAUST SYSTEM MODIFICATIONS:

5. Inside hull under rear grab handle remove air inlet tubes. Disconnect hoses for stock bilge pick-ups from breather fittings. (see illustration #1)
6. Remove exhaust hose connecting primary muffler (left water box) to secondary muffler (right water box). Disconnect remaining hoses from breather fittings. Remove exhaust hose connecting secondary water box to exhaust outlet. (see illustration #2) **NOTE: Retain hose clamps.**
7. Remove section of foam between top deck and pump area and discard.
8. At rear of hull remove and discard plastic exhaust outlet nozzle. Remove exhaust outlet, cut 5-3/4” from end of flange and weld a bead around modified end of exhaust outlet. (see illustration #3) **NOTE: Sand or file edge after modifying.**
9. Install one supplied silicone coupler onto modified exhaust outlet and secure using OE hose clamp. (see illustration #4) Install exhaust outlet into hull and secure using stock hardware. (see illustration #5) **NOTE: Be sure rubber gasket is in place between flange and hull. Do not use any sealant. Apply blue Loc-tite to bolts. Do not over tighten bolts.**
10. Install supplied billet exhaust outlet tip using supplied hardware. (see illustration #6) **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.**
11. Remove primary muffler (left water box) from hull through rear engine compartment opening. (see illustration #7) **NOTE: It is necessary to rotate muffler to ease removal through opening. Take care not to damage seal on hull. Applying a generous amount of glass cleaner to outside of muffler and to rubber seal will ease removal.**
12. Remove the three Phillips® head screws securing mounting plate for electrical components to hull. Carefully lay assembly in bottom of hull under footwell. (see illustration #8)
13. Inside hull remove foam padding under front of secondary muffler (right water box). Remove rubber padding between muffler and hull (3 pieces total). Move muffler forward and up onto lower ledge of battery tray. (see illustration #9)

14. At battery tray just in front of muffler place a small bottle jack approximately 1” from end of muffler. Expand jack until it is suspended between top deck and battery tray. (see illustration #10 & 11) **NOTE: Position of bottle jack base is critical. Take care not to crush electrical wires, battery strap clips and steering cable.**
15. Slowly expand bottle jack to allow room for muffler to move forward and up onto upper ledge of battery tray. Once muffler clears upper ledge of battery tray retract bottle jack allowing top deck to rest on top of muffler. (see illustration #12)
16. Move bottle jack forward approximately 2-3/4” (3-3/4” from end of muffler) and expand until it is suspended between top deck and battery tray. (see illustration #12) **NOTE: Position of bottle jack base is critical. Take care not to crush electrical wires, battery strap clips and steering cable.**
17. Slowly expand bottle jack until muffler is loose. While rotating muffler pull forward and upwards to remove. Once muffler is clear retract bottle jack completely and remove from hull.
18. Remove muffler from hull through rear engine compartment opening and discard. **NOTE: It is necessary to rotate muffler so as to ease removal. Take care not to damage seal on hull. Applying a generous amount of glass cleaner to outside of muffler and rubber seal will ease removal.**
19. Inside hull remove strap for secondary muffler by carefully grinding down head of rivet securing it to hull. **NOTE: Do not remove by pulling or prying. Apply silicone sealant to opening area after removing.**
20. Remove end cap of primary muffler by cutting at weld. (see illustration #13) Inside muffler remove inner ring at edge. (see illustration #14) Inside muffler drill out baffle cap using a 1-3/4” hole saw bit. (see illustration #15 & 16) **NOTE: Sand all edges thoroughly.**
21. Replace muffler end cap. **NOTE: An experienced welder should perform this step.**
22. Remove brass fitting from top of muffler inlet tube and discard. Remove 90° brass fitting from bottom of muffler inlet tube and install into top of muffler inlet tube pointing forward. Install supplied block-off fitting found on HWB A #3 into bottom of muffler inlet tube. **NOTE: Apply pipe thread sealant to fittings. Do not over tighten fittings.**
23. Replace primary muffler into left hull cradle. **NOTE: It is necessary to rotate muffler so as to ease installation. Take care not to damage seal on hull. Applying a generous amount of glass cleaner to outside of muffler and rubber seal will ease installation.**
24. Thoroughly clean primary muffler outlet using a non-residual cleaner. Install second supplied silicone coupler completely onto curved end of exhaust tube. (see illustration #17) Loosely install two OE clamps onto primary muffler outlet and one onto coupler on exhaust outlet. **TIP:** Spray a generous amount of glass cleaner into couplers prior to installing.
25. Install straight end of exhaust tube into coupler on exhaust outlet. Align curved end of exhaust tube with primary muffler outlet and slide coupler onto outlet completely. (see illustration #18) Secure hose clamps. **TIP:** Use recommended specialty tools to reach clamp at exhaust outlet coupler. **NOTE: Do not over tighten clamps.**
26. Install hoses to stock bilge pick-ups onto breather fittings. **NOTE: Route hose for rear pick-up (left side) through Free Flow Exhaust Tube.** (see illustration #18)
27. Replace remaining stock bilge hoses and air inlet tubes.

ELECTRICAL SYSTEM MODIFICATIONS:

28. Inside engine compartment remove fuse case, starter relay and main relay from electrical component mounting plate completely. Disconnect ECU and regulator/rectifier connectors. **NOTE: Take care not to damage electrical wires. Retain hardware for use during installation.**
29. Remove electrical component mounting plate from engine compartment. Remove stock ECU from plate and discard. Prior to mounting supplied Mitsubishi Racing ECU we recommend modifying end of mounting plate as it will no longer be utilized. (see illustration #19) Install modified ECU found on HWB A #5 and secure using OE hardware. **NOTE: Apply blue Loc-tite to bolts. Do not over tighten.**
30. Replace electrical component mounting plate in engine compartment. **NOTE: Apply red Loc-tite to screws. Do not over tighten screws.** Reattach fuse case. **NOTE: Apply blue Loc-tite to bolt. Do not over tighten bolt.**
31. Inside hull remove electrical wiring, steering cable, battery straps and battery strap clips from battery tray. **NOTE: Take care not to damage plastic clip when removing. Retain battery pad and battery strap hardware for use during installation. TIP:** Battery straps and clips are through-bolted to stock battery tray.
32. Install battery straps and clips onto supplied aluminum battery tray. (see illustration #20) **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.**

33. Place aluminum battery tray onto stock battery tray. **NOTE: Make sure tray is straight and forward battery strap bolt is against edge of hull support before drilling. (see illustration #21)** Drill forward and inward most rivet hole. Install one supplied rivet found on HWB A #2. **DO NOT SECURE RIVET.** Drill rear and outward most rivet hole. Install one supplied rivet found on HWB A #2. **DO NOT SECURE RIVET.** (see illustration #21) Drill remaining eight (8) rivet holes (holes in battery tray without threads). Remove battery tray and clean area thoroughly.
34. Apply silicone around ledge of stock battery tray. (see illustration #22) Install aluminum battery tray and secure using supplied rivets found on HWB A #2. Secure wiring harness fastener to forward, right hand corner of battery tray. (see illustration #23) Place rubber battery pad into battery tray.
35. Remove battery lead cable from starter relay and disconnect small ignition lead wire connector. (see illustration #24) Cut small lead wire at center. Using supplied wire and connectors found on HWB A #4 splice wire together. (see illustration #25) **NOTE: DO NOT CRIMP CONNECTORS. Connectors contain solder. Apply heat moderately until solder collapses securing wire to connectors.**
36. Install starter relay and main relay onto aluminum battery tray. Secure using stock hardware. **TIP:** Insert bolts into starter relay before placing relay onto battery tray. **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.** Rotate engine lead cable 180-degrees to face forward and secure. Replace battery lead cable and connect ignition lead wire. (see illustration #26) **NOTE: Do not over tighten nuts.**

FUEL SYSTEM MODIFICATIONS:

CAUTION: The following steps should be performed in a clean, well-ventilated working environment. Allow all fuel system components to dry thoroughly before performing work.

37. Install supplied fuel pressure regulator found on HWB A #6 onto right side of ignition coil bracket (opposite side from coils). You will need to drill one 1/4" hole to accommodate regulator bracket. (see illustration #27) Secure fuel pressure regulator using supplied hardware found with fuel pressure regulator so that 90° brass fitting is on top. (see illustration #28) **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.**

NOTE: Do not tamper with the fuel pressure regulator adjustment setting. This was preset by RIVA's Performance Development Team.

38. Remove stock fuel pump assembly (pick-up) from tank and hull completely. Remove fuel lines from top of fuel pump assembly and cut to make four sections the following lengths:
    - Two 8" pieces.
    - One 10" piece.
    - One 11.5" piece.
39. Install modified fuel lines as follows (see illustration #28 & 29):
    - One 8" section to fuel pressure regulator inlet fitting (front). Secure using supplied oetiker clamp.
    - One 8" section between fuel pressure regulator outlet fitting (rear) and fuel filter inlet fitting (bottom). Secure end to fuel pressure regulator fitting using supplied oetiker clamp. Secure end to fuel filter inlet using stock wide band spring clamp.
    - 10" section to fuel filter outlet fitting (top). Secure using stock wide band spring clamp.
    - 11.5" section to fuel regulator return fitting (90° fitting at top). Secure using supplied oetiker clamps and tool.
40. At bottom of fuel pump assembly remove fuel pump retainer. (see illustration #30A) Remove push-on clip securing fuel pump screen to fuel pump inlet and discard (see illustration #30B). Carefully remove fuel pump screen from fuel pump inlet and set aside. (see illustration #30C) **NOTE: Keep fuel pump screen free of debris and foreign matter.**
41. Remove outer housing from fuel pump assembly retainer cap to expose fuel pump and fuel regulator. (see illustration #31A) Remove and discard fuel pump and fuel regulator. (see illustration #31B)
42. Remove spiral wrap from fuel pump electrical wires. Cut blue and black wires at middle and discard connector. (see illustration #32A) **TIP:** Stagger cuts to match supplied electrical connector wires. Secure supplied electrical connector found on HWB A #6 to modified fuel pump wires using supplied heat seal connectors found on HWB A #7. (Red to blue; black to black) **NOTE: DO NOT CRIMP CONNECTORS. Connectors contain solder. Apply heat moderately until solder collapses securing wire to connectors.**
43. Replace electrical wire spiral wrap. Install supplied fuel pump found on HWB A #7 into fuel pick-up hose completely and secure with wide band spring clamp. Connect electrical wire to fuel pump. (see illustration #33A)
44. Slide fuel pump assembly into outer housing. Secure housing to retainer cap using three OE Phillips head screws. (see illustration #33B) **NOTE: Apply red Loc-tite to screws. Do not over tighten screws.** Due to inconsistencies in manufacturing you may be required to expand fuel pump housing to accommodate supplied fuel pump. **Do not force.**

45. Install fuel pump screen onto fuel pump inlet and secure using supplied push-on clip (see illustration #34A & B). **NOTE: Apply even pressure when installing push-on clip.** Replace fuel pump retainer (with rubber and secure using three OE Phillips head screws. (see illustration #34C) **NOTE: Apply red Loc-tite to screws. Do not over tighten screws.**
46. Install fuel pump assembly (pick-up) into fuel tank so fittings are facing rearward and electrical connector is facing forward. (see illustration #29) Secure using OE hose clamp. **NOTE: Do not over tighten clamp.**
47. On inlet manifold at throttle body opening remove bolt just below inlet air pressure sensor. (see illustration #35A) Drill out threads using a 7/16" drill bit. Retap using a 1/4"-18 NPT tap. Thoroughly clean. Install supplied straight brass fitting found on HWB A #9. **NOTE: Apply pipe thread sealant to fitting. Do not over tighten fitting.** Install one end of supplied vacuum hose found on HWB A #9 and secure using supplied zip tie found on HWB A #9. (see illustration #35B)
48. Remove fuel delivery pipe from inlet manifold. Discard OE injectors, hardware and spacers. Install supplied injectors found on HWB A #8 and secure using supplied spacers and hardware found on HWB A #9. **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.**
49. On fuel delivery pipe remove and discard 90° fitting at throttle body end. Install supplied block-off fitting found on HWB A #9. (see illustration #36) **NOTE: Apply pipe thread sealant to fitting. Do not over tighten fitting.** Rotate fitting at opposite end of fuel delivery pipe 90° counter clockwise. (see illustration #36)

ENGINE OIL LINES:

50. Locate oil lines at rear, underside of engine (oil pan). (see illustration #37) Cut right most oil line 4.25" from 90° brass fitting. Install one end of supplied T fitting with hose [& oetiker clamps] found on HWB A #11. Install spliced section of stock hose onto open end of T fitting and secure using supplied oetiker clamps. (see illustration #37) Open end of black hose will be installed onto supercharger oil outlet fitting in a later step.
51. At oil cooler remove oil pressure switch. (see illustration #38) Install supplied T fitting found with braided oil line on HWB A #10. Install male end of braided oil line into T fitting. Install oil pressure switch into front of T fitting. (see illustration #39) **NOTE: Apply pipe thread sealant to all fittings. Do not over tighten fittings.**
52. Secure braided oil line hanger to oil cooler cover plate. (see illustration #39) Secure remaining oil line hangers to rear of engine. (see illustration #40) **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.**
53. Relocate engine ground wire to bolt just below magneto lead wire on output cover. (see illustration #42) **NOTE: You will need to enlarge bolthole opening in wire connector. Remove paint from output cover where ground wire makes contact. Apply blue Loc-tite to threads on bolt. Do not over tighten bolt. Apply grease to grounding point before replacing rubber boot.**
54. Install 18" of supplied 1/2" waterline onto upper fitting on output cover plate and 26" of supplied 1/2" waterline onto lower fitting on output cover plate. (see illustration #42) Secure waterlines using supplied oetiker clamps and tool found on HWB B #6.

ENGINE INSTALLATION:

55. Install supplied 1/2" thru-hull fitting found on HWB A #1 at pump transom between stock cooling and bilge fittings to left of pump. **NOTE: Apply silicone sealant to fitting.**

    Recommended Skat-Trak Magnum Pump, steering cable, manual trim cable and modified OEM intake shoe should be installed at this time. Follow manufacturer's installation recommendations. **TIP:** Prior to installing recommended intake grate we strongly recommend modifying the four bolthole locations to accept 8mm bolts.
56. Thoroughly clean threads on end of crankshaft. Install supplied coupler pulley onto crankshaft. **NOTE: Apply grease to crankshaft threads. Torque to 50 N·m (5.0 kgf·m, 36 ft·lb).** Install new engine oil filter. **NOTE: Do not over tighten filter.**
57. Place supplied synchronous belt found on HWB B #7 into hull over drive shaft coupler. Install engine into hull following steps outlined in section 7 of Kawasaki service manual. **NOTE: Take care not to damage coupler pulley when installing engine into hull. Do not fill engine with oil at this time.**
58. Install 39" of supplied 1/2" waterline onto fitting on intake side of cylinder. (see illustration #43) Install 43" of supplied 1/2" waterline onto fitting on exhaust outlet side of cylinder. (see illustration #44) Secure waterlines using supplied oetiker clamps and tool found on HWB B #6.
59. Remove and discard exhaust manifold stud above cylinder exhaust outlet #4. (see illustration #44) Install exhaust manifold. **NOTE: A replacement gasket has been supplied with this parts kit. Do not install exhaust manifold bolt #8. Special bolts have been supplied with this parts kit to replace stud and bolt.** Install exhaust pipe support bracket. **NOTE: Apply blue Loc-tite to support bracket bolts only. DO NOT APPLY TO EXHAUST MANIFOLD STUDS.**

60. Reconnect OE bypass waterline to 1/4” straight barbed fitting between exhaust runners 1 & 2. (see illustration #41) Secure using supplied zip ties found on HWB B #12.
61. Thoroughly clean muffler inlet flange using a non-residual cleaner. Slide coupler on exhaust pipe onto muffler inlet flange completely. Secure hose clamps. **NOTE: Make sure rings are in ring grooves in exhaust pipe. Do not over tighten clamps.**
62. Install inlet manifold onto engine. **NOTE: A replacement gasket has been supplied with this parts kit. Do not apply Loc-tite to studs or nuts. Do not over tighten nuts. DO NOT INSTALL THROTTLE BODY AT THIS TIME.**
63. Install ignition coil bracket using stock hardware. **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.**
64. Install modified fuel lines as follows (see illustration #28 & 29):
    - 8” section from fuel pressure regulator INlet fitting (front) to fuel pump outlet fitting (right).
    - 10” section from fuel filter outlet fitting (top) to fuel delivery pipe inlet fitting.
    - 11.5” section from fuel regulator return fitting (90° fitting at top) to fuel pump return fitting (left).
    - Secure hoses using stock wide band spring clamps.

COOLING LINE INSTALLATION:

To aid with routing and replacement of the stock waterlines we have supplied a technical drawing of the entire cooling system and its related components with these instructions. Please refer to illustration # 41 on page 12 of the Installation Images for locations and lengths.

65. Install the two supplied 1/2” water bypass fittings found on HWB A #1 at rear of the craft above boarding platform. **TIP:** Use holes left in hull by removing towing cleat under grab handle. **NOTE: Apply silicone sealant to fittings.**
66. Secure loose end of waterline attached to intake side of cylinder to supplied 1/2” bypass fitting. Secure loose end of waterline attached to exhaust side of cylinder to OE bypass fitting at top of pump inside hull. (see illustration #41) Secure using supplied oetiker clamps and tool found on HWB B #6.
67. Install 3.5” of supplied 1/2” waterline onto straight brass fitting in exhaust manifold between exhaust runners 2 and 3. Install supplied 1/2” brass T-fitting found on HWB A #12 into 3.5” length of waterline. (see illustration #41) Secure using supplied oetiker clamps and tool found on HWB B #6.
68. Install 43” of supplied 1/2” waterline between flush kit and T-fitting at exhaust manifold. Install waterline from upper fitting on output cover to open end of T-fitting at exhaust manifold. (see illustration #41) Secure using supplied oetiker clamps and tool found on HWB B #6.
69. Install 32” of supplied 1/2” waterline between 90° fitting at end of exhaust manifold and upper fitting on oil cooler. Install 57” of supplied 1/2” waterline between lower fitting on oil cooler and stock thru-hull fitting inside hull at pump. (see illustration #41) Secure waterlines using supplied oetiker clamps and tool found on HWB B #6.
70. Install 10.5” of supplied 1/2” waterline between 90° fitting on underside of exhaust pipe and 90° fitting at top of primary muffler inlet. (see illustration #41) Secure using supplied oetiker clamps and tool found on HWB B #6.
71. Use 1/2” waterline supplied with Skat-Trak Magnum pump to connect water outlet fittings on pump to thru-hull fittings at transom (2 stock; 1 supplied). Secure using supplied oetiker clamps and tool found on HWB B #6.

SUPERCHARGER INSTALLATION:

72. Remove engine hook from rear of cylinder head. Retain engine hook. Discard hardware.
73. Insert the supplied bolts found on HWB B #1 into their respective locations on the supplied supercharger support bracket. (see illustration #45A)
74. Install supercharger bracket onto engine and loosely secure using supplied hardware found on HWB B #2. (see illustration #45B) **NOTE: Apply blue Loc-tite to bolts. Do not torque bolts at this time.**
75. Install supercharger support bracket spacer between supercharger support bracket and rear of cylinder head. (see illustration #46) Secure using supplied hardware found on HWB B #6. **NOTE: Engine hook must be installed between cylinder head and supercharger support bracket spacer. Do not torque bolts at this time.**
76. Install secondary support bracket between exhaust manifold and supercharger support bracket. (see illustration #46) Secure using supplied hardware found on HWB B #4. **NOTE: Apply blue Loc-tite to bolts. Do not torque bolts at this time.**
77. Torque all bolts securing supercharger brackets to engine in order specified in installation illustrations 47 & 46. **NOTE: Do not over tighten bolts.**
78. Route braided oil line through opening in secondary supercharger support bracket. (see illustration #46)
79. Place synchronous belt into supercharger support bracket. (see illustration #48)

80. While supporting supercharger in hull attach open end of oil line from previously installed T fitting at oil pan to straight barbed fitting at underside of supercharger. (see illustration #55) Secure using supplied oetiker clamp and tool found on HWB B #6.
81. Install supplied supercharger onto supercharger support bracket making sure synchronous belt is seated onto supercharger and coupler pulleys. (see illustration #49) **NOTE: Apply blue Loc-tite to bolts. Do not over tighten bolts.**
82. Assemble supplied belt tensioner found on HWB B #9 onto supercharger support bracket so that smooth side of belt is against tensioner. (see illustration #50 & 51) **NOTE: When installed properly snap ringS holding bearings in tensioner face supercharger support bracket. (see illustration #50) Do not over tighten bolt & nut.**
83. Tension synchronous belt by pushing idler wheel firmly against belt and tighten retaining bolt. (see illustration #52) There should be no slack in belt. **NOTE: A sonic meter is recommended to properly set belt tension at 160~165Hz. We recommend using a Gates Sonic Tension Meter (model 507C). Please go to www.gates.com to find the dealer nearest you. Incorrect belt tension will cause premature wear and decrease belt life. (see illustration #53 & 54)**
84. Attach braided oil line to 90° threaded fitting at top, left side of supercharger. (see illustration #55) **NOTE: Do not over tighten fitting. Do not apply any type of pipe thread sealant to fittings.**
85. Install throttle body following steps outlined in section 3 of Kawasaki service manual.
86. Install lord mount with bracket found on HWB B #8 onto tab at top of supplied Power Cooler. (see illustration #56) **NOTE: Apply blue Loc-tite to bolt. Do not over tighten bolt.**
87. Install Power Cooler onto throttle body inlet completely. While supporting Power Cooler lift upward until lord mount sits flush against underside of hull deck support. (see illustration #57) Trace around outside of lord mount.
88. Remove Power Cooler. At center of tracing drill a 3/8” hole. (see illustration #58) **NOTE: Thoroughly clean hull.**
89. Replace Power Cooler. Secure lord mount to hull using supplied bolt and washers. **NOTE: Apply blue Loc-tite to bolt. Do not over tighten bolt.** Secure coupler to throttle body using OE hose clamp from stock air box. **NOTE: Do not over tighten clamp.**
90. Install supplied silicone coupler found on HWB B #11 onto supercharger outlet and secure using supplied hose clamps. (see illustration #59) Loosely install second hose clamp over coupler. Install one OE hose clamp onto Power Cooler inlet coupler.
91. Apply a generous amount of glass cleaner onto both ends of supplied connecting pipe. Install pipe between supercharger and Power Cooler. (see illustration #59 & 60) Secure hose clamps. **NOTE: Connecting pipe fits one way only. Smaller diameter end installs into supercharger coupler. Do not over tighten clamps.**
92. Install vacuum hose from inlet body onto fitting on Power Cooler bypass valve. (see illustration #59) Secure using supplied zip tie found on HWB A #9.
93. Install 21.5” of supplied 1/2” waterline between stock thru-hull cooling line fitting at right side of pump and 90° water inlet fitting at top of Power Cooler. Install 28” of supplied 1/2” waterline between previously installed 1/2” water bypass fitting and 90° water outlet fitting at top of Power Cooler. (see illustration #41) Secure waterlines using supplied oetiker clamps and tool found on HWB B #6.
94. Install oil separator tank. It will be necessary to relocate oil separator tank approximately 2” forward from stock mounting location to clear supercharger support bracket and exhaust manifold. (see illustration #61) Attach stock breather hoses to their corresponding locations on oil separator tank and secure using stock wide band spring clamps.
95. Install one supplied air filter found on HWB B #10 onto T fitting between valve cover breather hoses. Install second supplied air filter found on HWB B #10 into end of breather hose from fitting at top of oil separator tank. Reroute breather hose from top of oil separator tank to run under valve cover breather hoses. (see illustration #61) Secure using supplied zip ties found on HWB B #12. **NOTE: Do not over tighten clamps.**
96. Install supplied Power Filter onto supercharger inlet and secure hose clamp. (see illustration #60) **NOTE: Do not over tighten clamp.**
97. Add engine oil following the steps outlined in section 2-12 of the Kawasaki service manual.
98. Install battery with positive terminal to rear of craft and secure battery straps. Connect battery cables. **NOTE: Connect positive cable first. Do not over tighten bolts. Apply dielectric grease to terminals.**

The installation of your supercharger kit is now complete! Thoroughly inspect inside of hull for tools, loose parts, rags, etc. Once you are certain all loose objects in hull have been removed run craft on a 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

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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.

PERIODIC MAINTENANCE RECOMMENDATIONS

- Change engine oil and filter every 25 hours of operation. **NOTE: Recycle used oil and filter.**
- Clean and gap spark plugs every 12 hours of operation. Change if necessary.
- Check supercharger belt before and after every use for proper tension, wear, cracks and/or missing pieces. If any are visible replace belt.
- Go over all hardware to ensure proper torque. Inspect entire steering system from handlebars to steering nozzle for loose or worn components. Lubricate all moving parts before and after every ride.
- Charge battery periodically to ensure maximum performance!
- Do not use fuel in fuel tank if more than 10 days old. Always use fresh MS109 (Jet X). Do not add fuel stabilizer or booster.

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