

## 2007 ULTRA 250X OIL CONTAMINATION MANAGEMENT SYSTEM



Thank you for purchasing the Oil Contamination Management System. We are proud and committed to offer High Performance Solutions of the highest quality, and the lowest cost possible, to our fellow Personal Watercraft enthusiast. The aluminum components of this kit were machined from 6061 billet using state of the art CNC machines and anodized for corrosion resistance.

This system can significantly reduce frustration and operating costs by extending the life of your engine oil, which has been shortened prematurely by dilution arising from condensed, unburned fuel vapor and moisture being reintroduced to it. It maximizes the flow of blow-by crankcase vapors while providing a very aesthetically pleasing, easily accessible, clean and convenient “no mess” method to drain fluids collected in the factory oil separator which ordinarily would be routed back to the oil pan.

This system is a “must have” for a stock ski and is particularly effective on modified engines where the boost or fuel delivery systems have been enhanced. This system is also a significant enhancement, compatible, and maximizes the potential of other aftermarket “ventilation kits” currently available as of May 2008. The ability to return to stock, if ever desired, is as simple as the installation, (less any modification to breather box).

- 30% larger crankcase fitting maximizes flow of “blow-by gases”
- Maximizes the relief of pressure inside crankcase allowing engine to rev more freely
- Easy to use and install while being aesthetically pleasing
- Eliminates vapors condensed in separator from contaminating oil
- Reduce the need to change oil prematurely due to excessive contamination
- CNC Machined 6061 Billet Aluminum, Anodized for beauty and protection against corrosion
- Already affordable system will essentially pay for itself after just a few rides
- Enhances and is compatible with other aftermarket “vent kits”

## **WARNING:**

Although this system can significantly reduce frustration and operating costs by curtailing dilution of engine oil due to contamination, you should use caution and become familiar with the effects of this system on your watercraft as it can be influenced by the manner in which you operate it. It is strongly suggested to continuously monitor your engine oil level.

The system prevents contaminants and innocuous oil mist condensed in the oil separator from draining back into the oil pan by blocking the return path with a valve that provides a convenient way to drain what has been collected. Under normal conditions, the oil separator should only collect a minute amount of oil mist, however, there is a possibility in certain situations where oil *could* be discharged into the separator, resulting in the reduction of oil inside the engine to potentially dangerous levels. Some situations could include, but are not limited to; jumping, freestyle maneuvers, rollovers, or any situation where the top rear portion of the valve cover becomes the “low point”. Should you desire to operate your watercraft in any of these manners, reconnect the drain line back to your separator per factory routing for your session. If at any time your watercraft’s ignition is interrupted by self protection, you should immediately check to ensure you have sufficient oil level, provided it is safe to do so.

This product is for race use only and there is no warranty expressed or implied with the purchase or use of this product. In addition, the manufacturer, distributor or reseller of this product shall not be held liable for any damages that occur in connection with the use of this product. All risk associated with the use or misuse of this product sold by us, our dealers or resellers is strictly the responsibility of the user or purchaser. By purchasing this part you agree to accept full liability.

## REQUIRED TOOLS

Flat tip screw driver	12mm combination wrench
#2 Phillips screw driver	12 mm combination flex head/open end wrench (snap-on part #number FHOM12B or equivalent)
Pliers	4 mm Allen wrench
3/8 drive ratchet	Drill motor
3/8 drive, 10, 12, and 14 mm sockets	7/8" inch drill bit or stepped drill bit (Unibit or equivalent)
Medium strength thread locker	Assortment of nylon zip ties
Rubber mallet	

## OEM Kawasaki Parts

Exhaust manifold gasket part # 11061-3742

Exhaust pipe gasket part # 11061-3762

2008 crankcase fitting to valve cover hose part# 92192-3829 (optional for factory look)

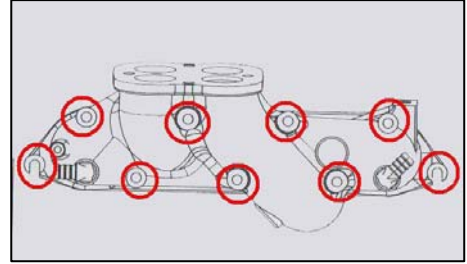
## Crank Case Fitting Installation Guide

Please read through this guide and service manual prior to performing work in order to familiarize yourself with the procedure. Pay careful attention to where hoses and hardware are connected. You may wish to use tape or alternate labeling method to ease reassembly. This installation guide is provided to ease installation. Please refer to your factory service manual for additional section views, information, and specifications.

1. For safety purposes, disconnect the negative battery cable and ensure both immobilizer key in addition to the lanyard are removed from the watercraft.
2. Remove both seats.
3. Remove seat base using 10mm socket to remove (4x) 6mm acorn nuts and washers. Lift seat base upward to clear studs then rearward to clear towing cleat.
4. We recommend at this time to consider protecting your paint from accidental damage.
5. Locate temperature sensor. Sensor is located in horizontal exhaust casting, (the pipe which has the supercharged name plate on it). Follow sensor wire down to its connector, carefully cutting zip ties holding it to wire loom and unplug it by pushing lock and pulling plastic connectors apart. Upon removal of the pipe, be careful the wire does not snag on other components.
6. Locate outlet water hose on cast elbow connected to horizontal exhaust casting. Loosen hose clamp using #2 Phillips screw driver and twist end of hose while gently pulling hose off fitting. Secure clamp and position hose for working clearance.
7. Locate rubber coupling between cast elbow and aluminum water muffler. Loosen top hose clamp at the cast elbow to water muffler coupling using a flat tip screw driver.
8. Remove "supercharged" name plate by using a 4mm Allen wrench to remove (2x) 4mm Allen head screws. Remove horizontal exhaust casting and elbow as a set from exhaust manifold by using a 12mm socket to remove (4x) 8mm bolts and 14mm socket to remove (1x) 10mm bolt. Lift upward and use a slight rocking action to release cast elbow from rubber hose coupling at muffler. The set may need slight tapping of rubber mallet to break the seal at the exhaust manifold. Pay close attention to gasket orientation and handle gasket gently if you are going to reuse it. (We recommend using new Kawasaki gaskets)
9. Remove clamp and crankcase breather hose from front of valve cover. Hose will still be attached at breather box. Secure clamp.
10. Remove front flush and rear outlet water hoses from exhaust manifold using a #2 Phillips screw driver. Secure both clamps. Remove water bypass hose (smaller hose secured with zip tie) on front of exhaust manifold. Position all three hoses for working clearance.



11. Remove exhaust manifold bolts/acorn nuts and washers. There are a total of (7x) 8mm bolts and (2x) 8mm acorn nuts/washers. NOTE: Be very careful to not drop the two acorn nuts and washers into hull. Preferred tool is a snap-on metric 12mm combination flex head/open end wrench (part number FHOM12B) or equivalent. Bolts will not remove completely from manifold. When they are completely loose you will be able to slide them freely in and out of the manifold. Leave bolts in manifold being careful not to drop them into hull as you remove it. You may have to tap manifold lightly with rubber mallet to dislodge it from the engine. Remove exhaust manifold by lifting out away from engine while lifting straight up, then tilt and rotate over the top of valve cover. Locate and take note of the gasket orientation.

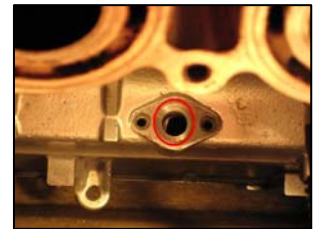


12. Remove crankcase breather box mounting bolts using 10mm socket (4x 6mm bolts). Lift breather box up off of crank case fitting with an upward and outward motion while slightly twisting back and forth.
13. Remove crank case breather fitting using 10 mm socket (2x 6mm bolts). Discard original o-ring.

14. Place supplied o-ring into recess in block. Apply medium strength thread locker on both supplied (6mm) socket head cap screws, place supplied washers on cap screws, and install new billet aluminum crankcase fitting ensuring o-ring is centered under the fitting. Thread both cap screws in evenly and torque.



15. If you intend to install original 2007 breather box (such in cases where you wish to maximize the effectiveness of an aftermarket breather box spacer), you will need to remove original grommet from crankcase breather and enlarge grommet hole to 7/8". We recommend using a stepped drill bit commonly known as a "unibit". Clean and dry breather box from all metal shavings and oil residue. Apply a small amount of silicone sealant in the groove of the newly supplied grommet and install into the 7/8" hole. Apply a small amount of silicone to the crankcase fitting before installing breather box being careful not to get any inside the fitting. Slip breather box assembly onto crankcase fitting and align breather box holes with holes in block. Use inspection mirror to ensure grommet is properly installed in breather box and on crankcase fitting before proceeding. Apply medium strength thread locker on 4 breather box mounting bolts. Start all 4 bolts by hand, then torque evenly.



16. Locate supplied hose and cut 2¼ inches from end of hose for later use.
17. If you intend to mimic the 2008 ultra's system leave breather box off. Install long piece of supplied hose, (or 2008 Kawasaki hose, part # 92192-3829), on billet crankcase fitting using factory clamp.
18. Clean and remove gasket material left on machined mating surface on the head, exhaust manifold and horizontal exhaust casting. Be careful not to remove any metal from the machined surfaces or allow any debris to fall into any exhaust or water ports on engine and exhaust components.
19. Place new exhaust manifold gasket on engine orientated as observed earlier in the disassembly process.
20. Install exhaust manifold using the original 7 bolts and 2 acorn nuts w/washers. Start all bolts/nuts by hand and snug lightly and evenly, then torque. Kawasaki does not provide a sequence to our knowledge, so we suggest you use your own judgment or follow the old standard of torquing the center bolt first and alternate side to side in a crisscross pattern, working toward the ends until you have torqued all 9 fasteners to their respective specification.
21. Install front and rear water lines and clamps onto exhaust manifold. Tighten hose clamps using #2 Phillips screw driver.
22. Install bypass hose water line onto exhaust manifold. (Small water line that uses zip tie for clamp).
23. Install hose from billet crank case fitting or if using the original breather box hose onto front nipple of valve cover using factory hose clamp.
24. Slip cast elbow and horizontal exhaust casting set partially into rubber coupling on water muffler. Place new gasket between horizontal exhaust casting and exhaust manifold, orientating new gasket like original gasket as observed earlier in disassembly. Install 5 bolts (4x) 8mm bolts/washers and (1x) 10mm bolt/washer through exhaust pipe to exhaust manifold. Start all bolts/nuts by hand and snug lightly and evenly. Torque the (4x) 8mm bolts and (1x) 10mm bolt in a crossing pattern as noted above. Tighten clamp at cast exhaust elbow and rubber coupling.
25. Install "supercharged" name plate by applying medium strength thread locker to nameplate screws and using 4 mm Allen wrench to tighten.
26. Route, plug in, and secure temperature sensor wire and loom using zip ties as original.

## Oil Separator Valve and Hose Plug Installation Section

1. Remove bottom hose and clamp from Oil Separator. Secure clamp for later use.
2. Install supplied billet plug into end of hose and clamp tightly using one of the supplied clamps.
3. Remove top lifting eye bolt and install billet plug onto lifting eye using original bolt after applying medium strength thread locker to threads.

IMPORTANT: Ensure hose routing does not interfere with throttle operation and secure accordingly. If the need arises to remove engine using the lifting eye, reinstall bolt without plug.

4. Install supplied 2¼ inch hose on drain valve using one factory hose clamp. Install assembly onto bottom port of oil separator and secure with one supplied hose clamp. TIP: Glass cleaner will ease this process and allow a bit of working time. Ensure valve is positioned with drain tube pointing down and that nipple on the end of valve slips inside separator port. Ensure valve is closed by turning red knob clockwise to its limits – Do not over tighten.
5. Reinstall seat base and washers. Apply medium strength thread locker in nuts and tighten.
6. Install seats.
7. Reconnect battery cable.



## OPERATION

1. To drain, place suitable container under drain tube.
2. Turn red knob counterclockwise until fluid begins to drain, but never past the groove machined in the clear body as shown. If you desire to extend the range of the drain tube, 3/8" i.d. tubing will fit over the drain port.
3. Close valve by turning clockwise – do not over tighten.

**\*IMPORTANT\*** Ensure valve is closed and check oil level, at minimum, before and after every ride. Dispose of drained liquid according to local regulations.

