Kawasaki Ultra Fuel Pump Upgrade

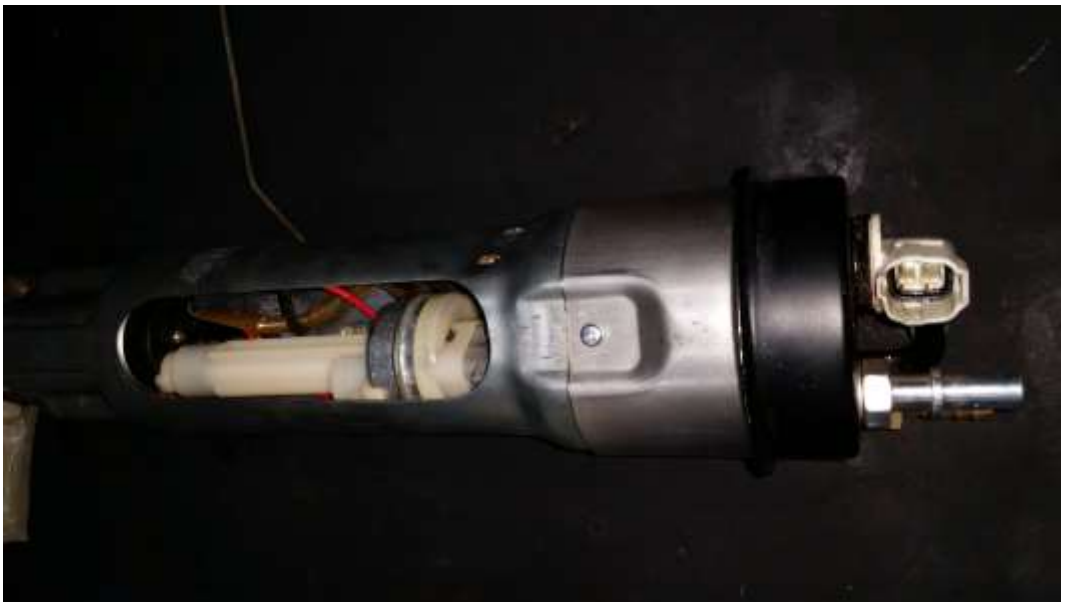
Necessary Tools:

1) Screw Driver Set

2) Heat Gun
3) Solder
4) Wire Strippers
5) Motor Oil
6)13/32 drill bit

This manual will show you step by step instructions on how to install a high volume fuel pump and rising rate fuel pressure regulator.

1) Remove fuel pump from jet ski



2) Remove the 3 screws at top of fuel pump and carefully pull the cover off. Be easy, there are short wires attached that can rip.

3) Using a long screwdriver, disconnect the two connections in the top half of the pump. Make sure not to force anything!

4) Remove top half of fuel pump.

5) Drill a hole for the 90 degree return fitting included. MAKE SURE TO CLEAN ALL METAL SHAVINGS OFF THOUROUGHLY AND DEBUR INSIDE! Drill a 13/32 hole, but make sure there is clearance for the nut! Steel washer goes on top, green sealing washer goes underneath. Tighten nut. The

metal return line below can be oriented in any location as long as the fuel line does not kink!

6) Remove OEM fuel pressure regulator and plastic fuel tube.

7) Remove metal tab holding fuel bag on pump. Then remove three screws holding the fuel pump bracket to the metal housing. Slide the fuel pump out. NOTE*** Record the position of the fuel pump, so that the new pump will fit in the exact location.

8) Trim clip as shown below, and install on new fuel pump.

9) Install new fuel pump in the housing. Make sure to reuse everything! There will not be any extra parts! The bag, clip, all grommets, and rubber cushion will all be reused. NOTE** Rubber cushion on the bottom of the fuel pump, does not fit perfectly on the new pump. Do not modify it! Make sure it sits on the pump as best as possible, tighten the assembly as much as possible so that it will not fall out. You want the entire pump assembly to be snug. Any looseness and it will leak!

10)Remove clip and OEM fuel pressure regulator.

11)When removing the fuel pressure regulator, if there is corrosion, this will need to be cleaned with a Dremel wire wheel only. Make sure to remove all rubber grommets and gaskets. Clean parts thoroughly after using the wire wheel.

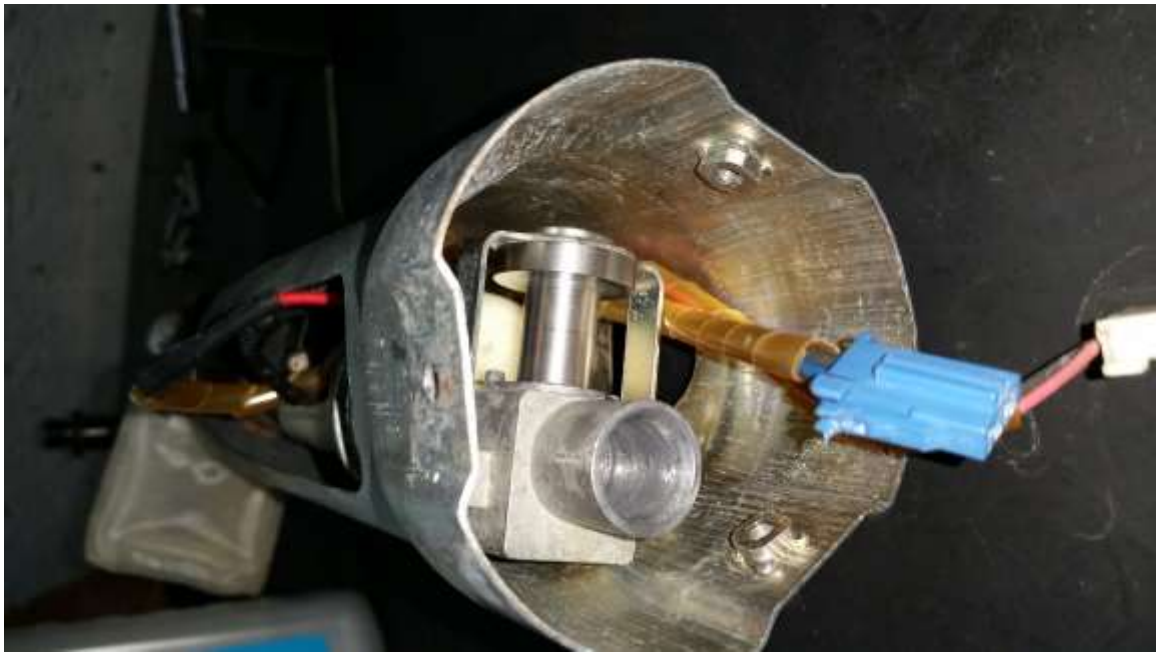
12) Install the fuel pressure regulator block off as shown below. Make sure to oil o-ring. Press this gently into the spot where the OEM fuel pressure regulator was.

13)Install block off by installing the bracket and screws.

14)Oil and install grommet.

15) You must use the stock fuel pump harness with the new fuel pumps connector. Clip the end that goes into the OEM fuel pump, and strip. Solder the new connector on. Make sure positive goes to positive! Shrink tubing must be slid on before soldering. Solder and use heat gun for the shrink tubing. For safety, it may be best to stagger the wires, just in case they touch.

16) Slide plastic tube on as shown and then the rest of the guts. A spare o-ring for the top feed tube is included just in case the original one is damaged or ripped.



17) Install pump electrical connections and slide on cover. Install three screws.

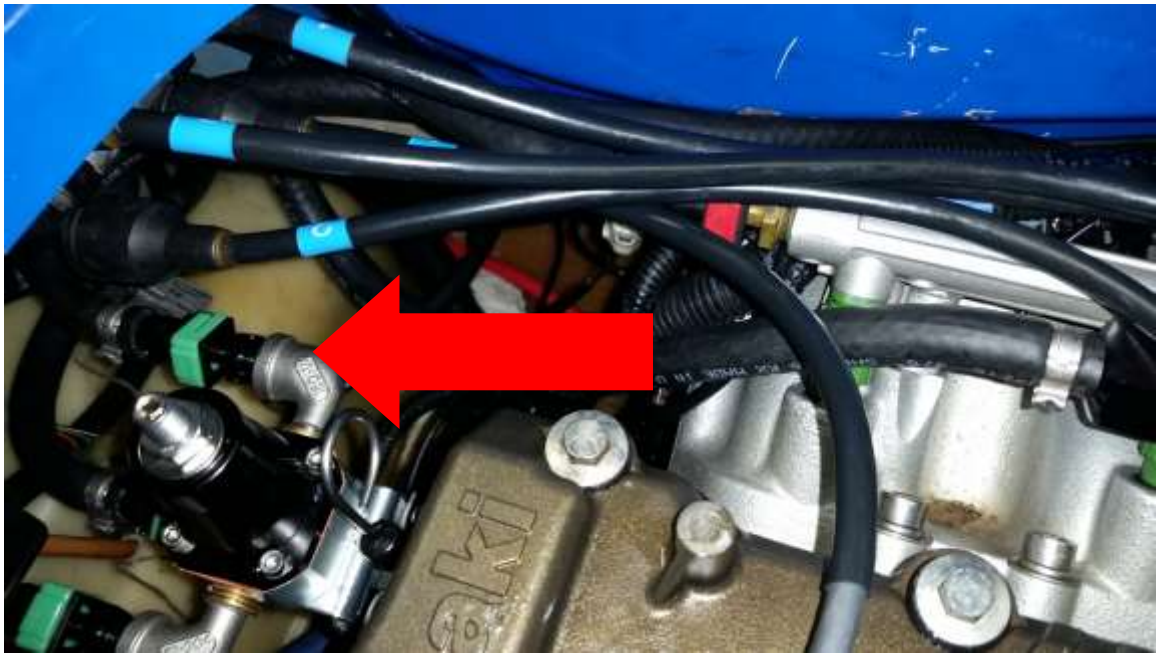
18)Now your fuel pump is ready for installation. Now install the rising rate fuel pressure regulator on to the dip stick tube as shown below.

19) You must remove your OEM fuel line and remove the push to connect fittings from the line (The red push to connect fittings are being reused here). This will go on the other end of the small hose indicated by the arrow above (The shortest hose). Attach the short hose to the feed line coming off the top of fuel pump (This will need to be trimmed, so do not install until it is the proper length!). The feed line is the metal line on the stock pump. NOTE** The red Kawasaki push to connect fittings are slightly smaller than the ID of the provided fuel line. In order to prevent leaks, you must use two crimp clamps provided. See image below.

Here is the short hose.

20) Install the medium size hose to the stainless steel 90 degree return line on top of the tank that you installed earlier. Use the crimp clamp supplied. Please make sure there are no KINKS! Trim line if necessary!

Return line setup in picture below.



21) Install the remaining fuel line (Longest line) push to connect fitting to the fuel rail feed line which is the red arrow above. Secure with crimp clamp supplied. If you are using this for static fuel pressure DO NOT attach vacuum line. For Stage 3 and Stage 6 kits, you must use the rising rate function. Please see instructions below.

22) Install vacuum line. Install supplied T fitting with mini crimp clamps on MAP sensor for the boost reference line (If you need a rising rate setup.)

23) Base fuel pressure will depend on machine. Do not run the machine until base fuel pressure is set at idle. Follow the list below of recommended base fuel pressures.

24) For tuning, refer to the AFR gauge for more exact tuning. With base fuel pressure set, that should get you close to the correct AFR needed. You want an AFR of 11-11.8. Rich is safer than lean, but lean produces more power. This AFR should be tuned for MAX RPM. Peak horsepower is 8200 RPM,

which should be achieved if possible. Impeller pitching may be necessary.

25) NOTE: If exhaust is leaky, O2 sensors will not last more than a few full throttle runs. If this is so, you can replace all exhaust gaskets. More than likely, there will still be moisture in the system. We recommend installing the 02 sensor exactly when you are ready to tune. If the O2 is installed and you ride out to the tuning destination, it will not work. It must be used when you are ready to tune.

Ultra 250/260	44 PSI
Ultra 300	48 PSI
Ultra 310	56 PSI

If you have any questions, please contact us!

Installation Complete!

Installation guide provided by kawiperformance.com