

Hurricane YXZ 400 Turbo Kit Install Manual

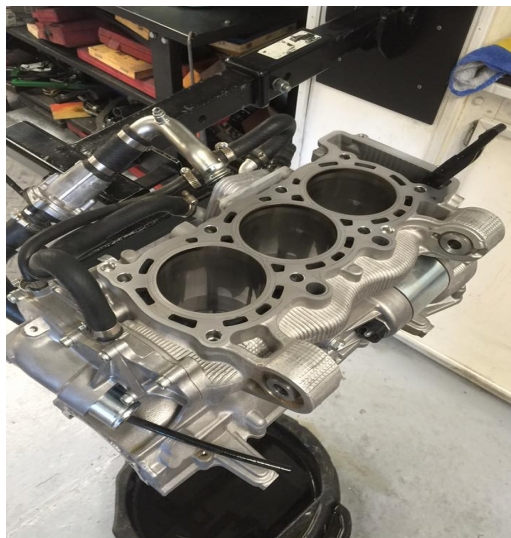
Push drivers seat all the way forward. Remove 4 bolts holding passenger seat and remove the seat. Remove plastic screw clips from centre console cover and set aside. Remove 5 dzus fasteners and cargo carrier cap. Remove plastic screw clips along top of cargo carrier behind the seats. Remove cover from under oil tank. Remove 7 torx bolts in the bed of cargo carrier. Remove 3 screws and 2 plastic screw clips holding rear fenders and set fenders aside. Remove 2 screws near seat belt recoil from cargo carrier to fire wall. Standing at the right rear tire, push plastic cargo carrier in and up over roll bar behind oil tank. Remove cargo carrier from YXZ. Using the supplied template draw and cut the inside passenger corner of carrier. Also using the template cut out the air filter hole on carrier. Remove 4 bolts and 6 clips from passenger under seat panel and remove it exposing the gas tank area. Remove the shield over the drive shaft plate allowing you to remove the bolts that connect the motor and drive shaft plate.

Remove heat shield over muffler. Remove muffler and factory air box. Remove air temp sensor from air box and install it into the intercooler. Remove header and cut pipe using supplied template following instructions on template.

At the lower rear driver side wall disconnect the coolant hose from water pump and drain the system. Disconnect starter wire from starter and unplug stator cover at wall of passengers side. Unplug oil and speed sensor wires from lower drivers side of motor. Disconnect the oil lines from motor going to oil tank. Plug the lines not to lose oil or drain if its time to change oil.

To remove engine disconnect Fuel line. Disconnect injectors, electrical and vacuum from throttle body. Remove throttle body from engine and laid it out of the way on drivers side as the throttle cable is still attached. Disconnect the hose from thermostat housing and sensor wire. Now you can remove two bolts drivers side motor mounts. With help supporting motor now remove from lower frame on passenger side mount leaving mount attached to the motor. Tip motor on its side as your removing it from the YXZ.

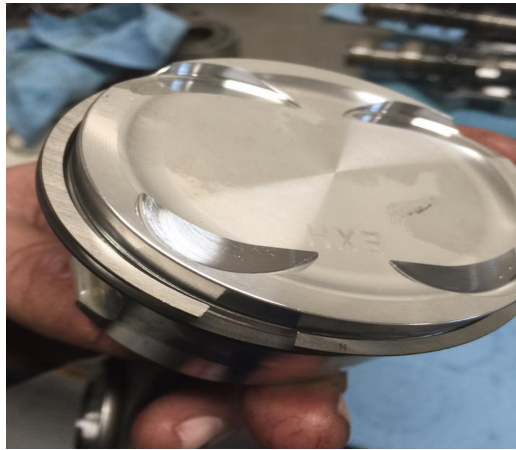
Mount the motor on your stand or on work bench. Disassembled and clean the block.



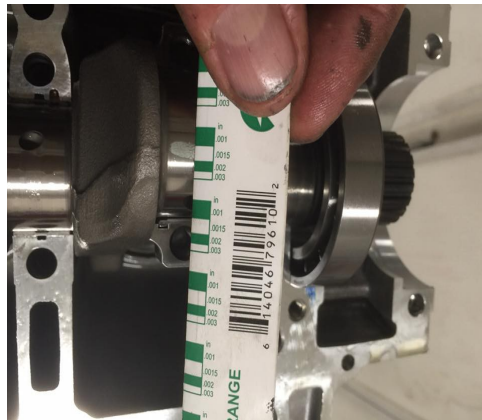
CP uses Kram-lox wrist pin clips. Be sure to get the tang seated into the recess as shown. Be sure to oil the pin as its installed. Pistons are assembled on the rods. Notice the exh stamp on the dish. That marks the exhaust side of the piston and i like to assemble on the rods so that the name Carrillo faces the out drive of the engine. Rings are fitted and measured with a feeler gauge. Set top ring .015in with bottom ring measuring .017 or greater.



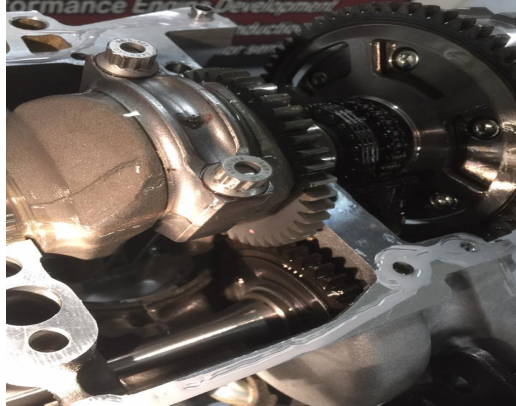
Rings are installed on pistons and ready for cylinders. Notice the shiny molly ring is the top ring and marking is up. Place the ring gaps 45deg's apart on piston. Oil piston rings before re-installing pistons into block.



Its a good idea to check the rod bearing clearance when changing rods. First we torque the caps on dry to 45lbs. Using plastic gauge to check the clearance of .0012in - .0015in.



After bearings clearance you need to lube both of rods bearings and re-torqued 45lbs. Be sure to align the balance shaft to crank as below. The hole with pink paint on crank lines with the hole mark on the balance shaft. Yamaha Bond along the outer part of lower case and reinstall using the stock torquing specifications.



Install the oil pump making sure your drive chain is on the crank shaft out drive and oil pan installed.



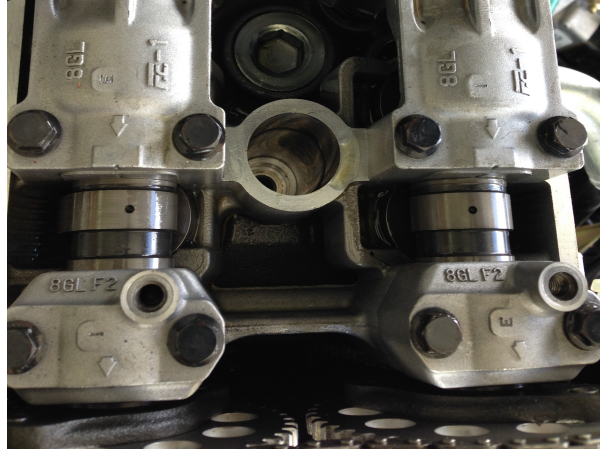
Clean the stud with brake clean and apply red loctight to the threads as they enter the block. Screw 7 of the studs to the bottom. **Do not tighten**. The 8th stud at the water pump apply lots of lock tight and install at **depth of 82mm** from deck level. Let the lock tight cure before torquing the head at water pump.

Ready for the head. Bring the piston at the stator to top dead center. We spray a light coat of copper on the top and bottom of the gasket to insure a perfect seal. We need to flip the head upside down to make sure that the gasket surface is clean and dry. We install a couple of heater hoses in place of the cams to hold all the buckets in place while its tipped. The black gasket material will wipe off with brake clean. Never use an abrasive when a multi layer gasket is used. Install gasket and head onto the block.



Install the ARP washers first. Lube the nuts with Carrillo bolt lube or equivalent. Torque the head down in **three steps** from the centre outward starting at **35lb** torque, then **45lb** then **55lb**

First align the crank mark as shown in the picture with cam dots up. Install the cam gears as shown.



The Yamaha torque spec is 10nm. We torque them to 9nm because an aged engine often will pull the threads at 10nm

We slot the gears to allow the timing to be reset. We have tried to make setting the cam timing easier by having a cam aligning jig. Use the cam alignment jig to set the cam timing as shown. Apply a liberal amount of red loctight to the clean and dry cam bolts for final assembly. The loctight will form an eccentric in the slot.



Re-gap the spark plugs to .018in. Reinstall valve cover, coils, coolant and air hoses. Remove factory plug on head at rear of throttle bodies and install supplied oil supply fitting with brass washer.....
Be careful not to over-tighten.

Before reinstalling your motor you need to prepare your fuel system. As shown in picture use a step drill bit. To drill 1/2 hole inside centre console to allow fuel return hose from the regulator to follow stock fuel line layout.

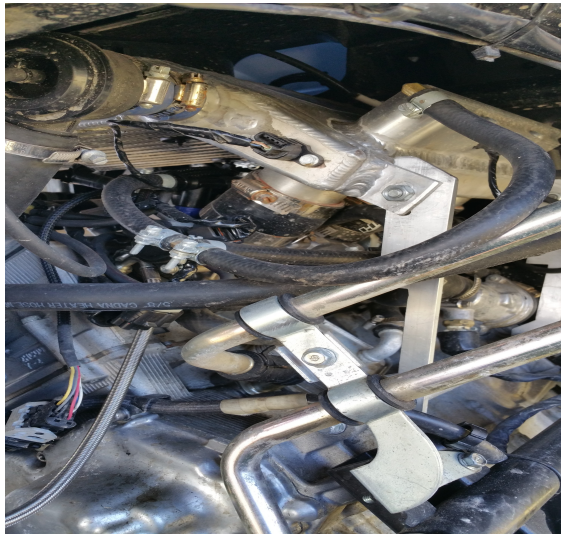


Remove the stock fuel pump from tank. Remove the pump from assembly and install the supply pump with hose, clamps and solder wires to plug as shown above. With supplied fuel pump temp plate drill 1/2 hole in top plate for return fitting seen in picture.

Reinstall fuel pump back in tank. Remove the stock fuel hose and install the new fuel hose supply. Remove stock plug on fuel rail. Install supply fuel adp, regulator and fuel return hose.

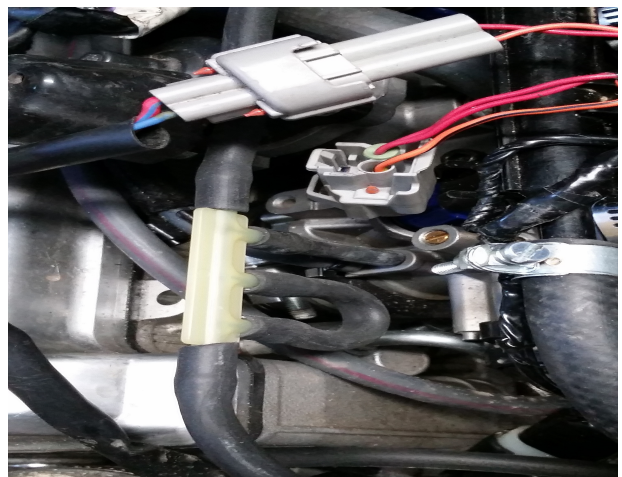
Your motor is ready to be re-installed at this time.

Install supplied 90 degree braided oil line on the fitting you installed on the head. Re-mount the throttle bodies. Install supplied fuel ``T`` to rail fuel line from tank and let other hose hang until intercooler time.



Lay Hurricane control box over centre console. Connect injector connectors to stock injector plugs and injectors with wire colours matching injectors at firewall Green, middle Yellow, rear injector Orange. Plug in TPS and crank sensor connectors and ground Hurricane control box. Connect the supplied jumper cable to stock air temp connector and lay across the motor.

Insert rubber intercooler cushion in air injection solenoid bracket as shown in picture.



Install intercooler support kit as shown in picture below. Install 3 supplied intercooler couplers on throttle bodies and clamp tight. Remove rubber cap from rear vacuum nipple on rear throttle body and push on the short 7/64 vacuum hose from manifold kit as picture shows. Connect one vacuum hose to Hurricane control box and let the other hose hang behind engine.

You can check all your fluids and top up as necessary.

Spread front stock muffler bracket for turbo clearance. Slide turbo assembly into place from behind left rear tire and insert exhaust pipe over header. Do not clamp at this time. Install muffler hanger assembly over lapping the rear stock muffler mount bracket. Install the 4 bolts and nut holding flange to turbo and tighten. Install the (2) 16mm bolt and nut from muffler to stock mount. Tighten stock clamp at stock header to turbo exhaust pipe. Clamp oil return hose to stator fitting. Connect the braided oil supply line end to the oil fitting on turbo.

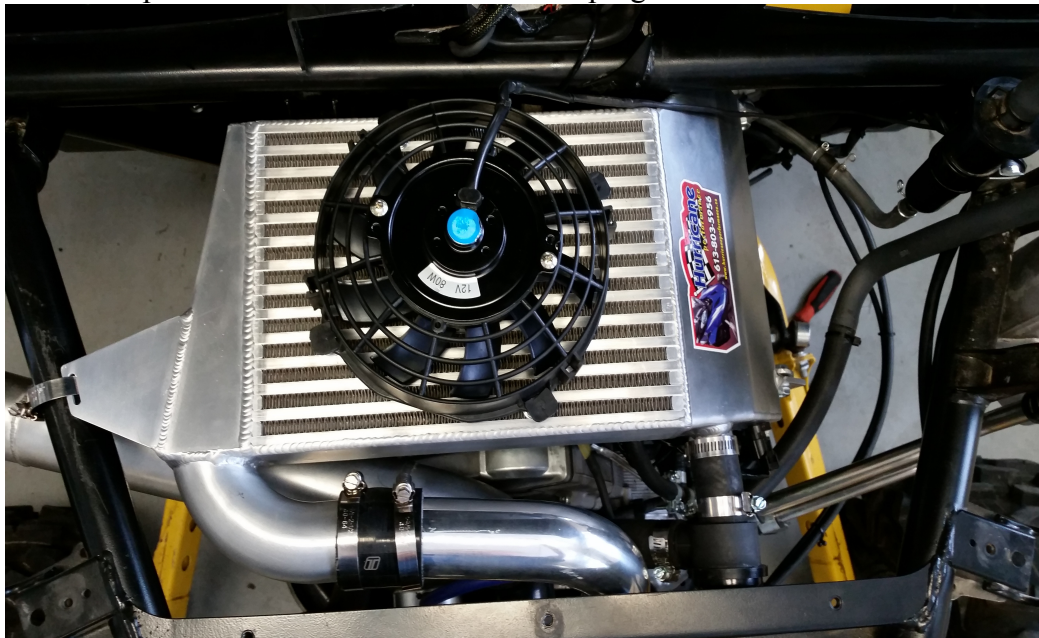
Hold intercooler on left of throttle bodies to install 1/2 idle hose and clamp. Work intercooler down on to throttle body couplers. Align intercooler mount brackets bolt to intercooler and tighten. Clamp the other end of intercooler to stock bar. Tighten clamps at throttle bodies to intercooler. Plug in air temp sensor.

Connect the other fuel hose from ``T`` to secondary injection system on intercooler. Plug in Hurricane control box. Then connect supplied vacuum hose from intercooler nipple to fuel regulator.

Lower turbo inlet pipe from top down and insert pipe into 90 elbow on turbo. Do not connect blow off valve yet. Connect oil vent hose from inlet pipe to oil tank vent hose and zip tie. Connect air injection solenoid hose to inlet pipe. Install 90 charge pipe from turbo to intercooler with supplied coupler and clamp tight. Align elbows until charge pipe is parallel with intercooler. Insert blow off valve coupler onto intercooler nipple and tighten clamp. Plug the remaining vacuum hose to blow off valve.

Lay fan harness along frame and plug T connector into stock tail light harness.

Reinstall cargo carrier, fenders and console. Be careful to insert air inlet pipe into hole that you made into cargo carrier compartment. Install air filter and clamp tight.



Thank you for purchasing the Hurricane YXZ1000R 400hp turbo kit. Although we have been careful to supply you with the highest quality kit possible, we assume no liability for damage to unit or personal injury

