

# Engine Removal / Installation

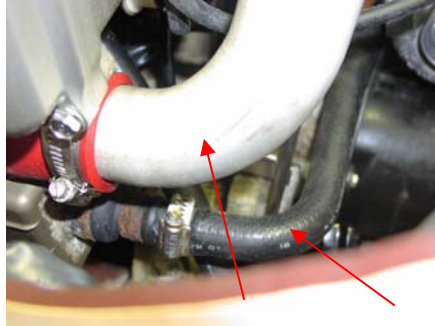
Honda 4-stroke



1) Remove side panels to access motor for removal.



2) Remove exhaust muffler, (3 bolts holding it to the exhaust manifold) then loosen large hose clamp from water box coupler and remove from watercraft. The turbo model is dismantled like the non turbo. The turbo will stay attached to the motor while removing complete engine.



3) On turbo model, remove turbo intercooler tube and 3/4 black rubber hose beneath it.



4) Blue coupler is removed from inlet tube and turbo along with the small wastegate hoses.



5) Remove screws holding air box lid to intake manifold. Behind this you will find the mounting hardware that holds the air box to the throttle bodies. Once this is out of the way you will see the intercooler below the air box (turbo model only). Remove the intercooler then the starter cables.

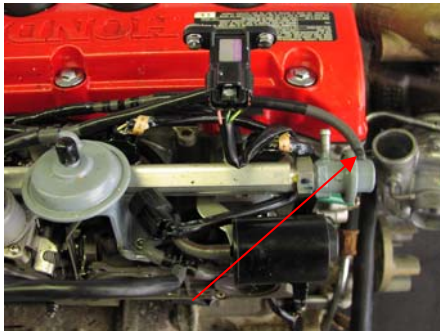


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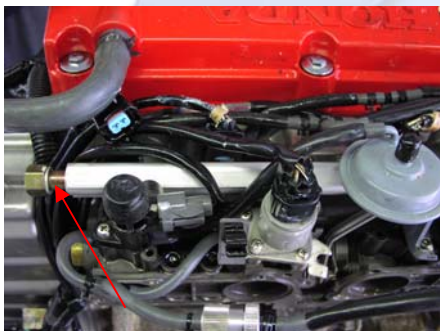
## Honda 4-stroke



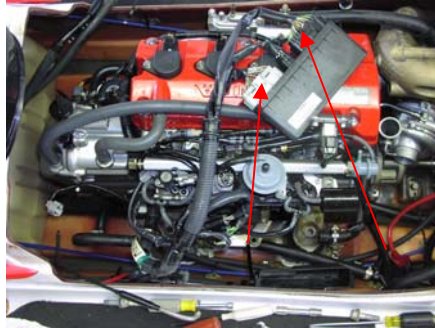
6) Remove throttle cable



7) Remove return fuel line

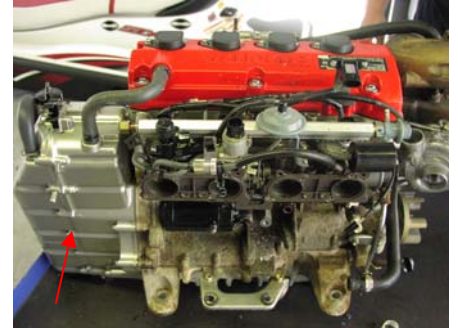


8) Remove fuel in line.



9) Unplug the engine wire harness from the connectors that are mounted to the hull, You will remove the complete engine with the wire harness attached to the sensors on the engine.

10) Remove engine using an engine crane. Be careful to check for any hoses that are still attached to the bottom of the motor. Lift slowly and slide motor forward to clear PTO coupler. Engine should look like the following picture. Notice all electrical items are still attached to the engine. Take your time and take pictures of the wire harnesses and sensor locations for the re-install.



11) Now that the engine is removed, it is time to remove the oil tank assembly. There are many parts to this task, so take notes on the location of all of the bolts holding the tank to the engine. The bolts are many different sizes; mark them well. This is one step that is worth having the factory service manual for. **DO NOT** force the tank off the front of the engine. There are a few bolts located behind the oil cooler that fasten the housing to the block along with the bolts on the oil pump and behind the oil pump.

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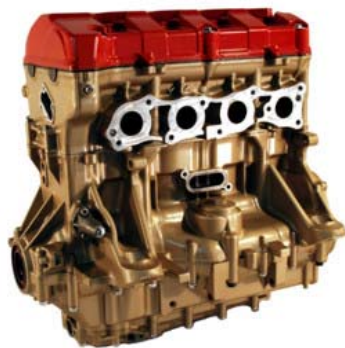
## Honda 4-Stroke



12) Once the oil tank is removed, the flywheel and starter drive gears can be removed. On the turbo version there are two counter balancer gears that need to be removed and kept for reinstallation. **DO NOT SEND MOTOR IN WITH THESE GEARS ON IT.**

The non turbo does not have the gears on it nor does it have the counter balancers. All other items on the front of the motor are to stay with the owner. Use the pictures as a reference on how the motor should look for sending in for an exchange core.

13) Remove the PTO coupler and sleeve. These do not get sent to SBT as part of the core.



14) Your engine should start looking like the above photos.

15) Please be advised that any items that you leave on the engine block that you don't see in the last 4 photos will not be returned to you. When your engine is sent to SBT it is sent to the core department to be dismantled, ANY ITEMS WE DO NOT NEED GET DISPOSED OF.