

Pressure Testing

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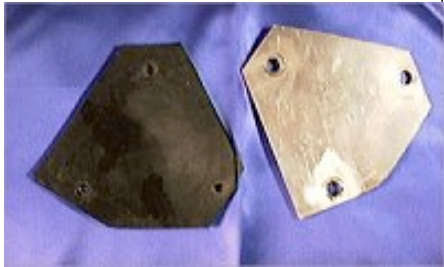
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ATV at Off-Road.com

What is pressure testing? Pressure testing is a test performed on a two stroke engine to ensure that the engine has no air leaks. An air leak in a two stroke engine can cause a lean condition in your engines air-fuel mixture. This in turn can result in serious engine damage. For example: Piston seizure, detonation, etc. **Note: There is absolutely no way to ensure that your engine doesn't have an air leak without performing the following test.** To pressure test your engine you will need a few special items. See below for instructions on building your own pressure test device. To test the engine: cylinder, head, reed cage, intake manifold and spark plug must all be installed and properly torqued. Exhaust pipe and carb must not be installed.

1. A steel or aluminum plate must be bolted onto the exhaust side of the cylinder using a piece of rubber as a gasket.
Note: With Yamaha Banshee and other spigot type cylinders you can use rubber freeze plugs.
2. A round fitting with pressure gage attached should be clamped into the intake manifold on the cylinder.
Note: Yamaha Banshee and other twin cylinder engines should use a solid plug in one side and fitting with gauge on the other side.
Note: When testing Suzuki Quadracers 250/500 it may be necessary to plug the transmission breather hose. This is necessary because the pressure will sometimes leak around the powervalve o-rings and into the transmission case. This will work because baskets and seals in the transmission part of your engine should be air tight.
3. With equipment in place, use a hand pump to fill the sealed engine with 6 lbs of air pressure.
4. Once 6 lbs of pressure is pumped into the engine. Set a timer for 6 minutes. Engine must hold a full 6 lbs of pressure for 6 minutes without any loss.
5. If gauge shows a loss of pressure, squirt all gasket surfaces with a water based soapy solution (Windex, 409, etc.) If there is a leak at any surface you will see soap bubbles. Re-torque any areas that leak.
6. If you cannot locate the leak by looking externally, consult a qualified two stroke mechanic.
7. If after 6 minutes the gauge shows no loss in pressure, remove testing equipment and continue assembly of machine.

Building your own pressure testing device. All parts can be found at any good hardware store. total cost should be around \$15.



Exhaust port Materials

1. Small sheet of steel or aluminum (enough to fit over exhaust port).
2. Sheet of rubber gasket material

Cut and drill material to fit your exhaust port. Use existing exhaust bolts to hold blocking plate in place. If using aluminum, tighten just enough to get a good seal. Use a small amount of grease on the gasket to help the seal. **DO NOT OVER TIGHTEN.**



Intake port Materials

1. PVC fitting that fits snugly inside your intake manifold (where the carb mounts). A 1 1/4 inch slip to 3/4 inch threaded pipe fitting works perfectly for a Honda TRX 250R motor. Shown in white in the picture.
2. A 3/4 x 1 inch plastic pipe nipple. Shown in black.
3. A 3/4 in pipe fitting that has 3/8 inch female threaded fitting and an air valve fitting at the end. Shown as silver
4. A low pressure air gauge.
5. Pipe thread compound.

Assemble as shown using thread compound on all threaded joints.



Use this device as show above. **REMEMBER ONLY USE A**

HAND PUMP TO ADD PRESSURE TO THE MOTOR.

References: Duncan Racing Tech Sheet