



2-Stroke Engine FAQ

1. Why is air filter maintenance so important?

On a 2-Stroke unlike a 4-Stroke when abrasives (dirt, sand, silt etc) pass through a damaged, improperly cleaned or overly dirty air filter, the foreign debris goes directly thru the intake track and attacks the piston skirt. This causes the piston to wear prematurely. Resulting in a power loss, increased piston to cylinder wall clearance and possibly engine failure due to a broken piston skirt or a broken ring.

2. What is optimum premix ratio?

DR has found thru years of testing that for 2-Stroke engines from 200cc to 500cc, a 32 to 1 ratio works best. The premix oil in your gasoline is responsible for many things. Including; Crankshaft and Main Bearing Lubrication, Ring Seal, Piston Lubrication and Top End Bearing Lubrication. DR recommends that MAXIMA Castor 927 is the premier 2-Stroke oil to use in most cases.

3. Why should race fuel be used?

Using the proper race gas in your hi-performance 2-Stroke ATV will give your engine considerable reliability over pump gas or aviation fuel. Some of the positive benefits include; a cooler more consistent burn, jetting consistency, decreased preignition/detonation, decreased operating temperature, less power loss after engine reaches peak temperature, improved lubrication.

DR likes to use this example when discussing race fuel. If you were a serious athlete would you eat junk food for maximum performance? No. You would not. Do not ask your engine to make additional power and then feed it poor quality fuel. It just doesn't make sense.

DR recommends using a race fuel with motor octane rating from 105 to 112. An excellent choice for most applications is VP C-12 or TRICK Leaded (blue/aguq).

4. When should I repack my silencer?

Your silencer is one of the most often over looked performance components on your 2-stroke ATV. An improperly packed or blown out silencer can rob from your engine as much as 20% of its horsepower.

For the average rider it is advisable to repack their silencer every 25 hours. For the semi serious ATV racer it is advisable to repack the silencer every 10-15 hours. For maximum performance the silencer should be repacked every 3-5 hours. When repacking the silencer on your ATV you should always use the packing material offered by the silencer manufacture. When repacking Fat Boy Silencers only use genuine Fat Boy repack kits.



Always check silencer core and other related parts for any premature wear or damage.

5. What is 2-Stroke Porting?

The simplest way to define 2-stroke porting is to say true 2-stroke porting is an adjustment made to the port timing of the engine. During the porting process the ports heights, widths and angles are adjusted. These adjustments are done using small pneumatic or electrical die grinders. When 2-stroke porting is performed by a skilled professional the power curve of the (in conjunction with the exhaust pipe, compression, carburetor etc.) engine can be altered to enhance power in a specific RPM range. You can increase bottom end, midrange and or top end. Porting performed by an accomplished professional, using proven specifications will maintain the vast majority of the engines reliability. Proper porting requires 2 main skills. 1) The hand skill to perform all the necessary grinding, cutting and shaping. It generally takes a good 5-10 years for a person to become really proficient. It is similar to painting a picture. You either have the talent or you do not. 2) The knowledge to know what, when, where and why to cut, reshape and alter your cylinder. There is no magic school or book that explains things. The background knowledge generally required to understand what one is really doing takes years of testing, reading, listening and working as an apprentice. Unfortunately most people only know enough to be dangerous. You would probably have trouble filling your bathroom with ATV engine tuners who truly understand and can perform what they think.

6. What is squish angle and squish clearance?

The squish angle of the cylinder head is the angle of the squish band. The squish band is built or machined into many 2-stroke heads in the outer diameter of the head. Its general purpose is to squeeze the air/fuel mixture into the center area of the combustion chamber. Squish clearance is the distance from the crown of the piston at TDC to the squish band in the cylinder head.

7. How do I perform a compression test?

It is imperative that a high quality gauge is used. DR recommends using a Snap-On gauge. Perform the test with the engine cold. Install threaded probe into cylinder head with fuel tank removed. Hold the throttle wide open and kick the machine over aggressively until the needle on the gauge quits moving. It generally takes 15-20 kicks to get a maximum reading. Repeat test 3 times, recording all test results. Helpful Hints; If needle on gauge drops after kicking gauge is bad. Always note length of threaded area on probe in relation to the length of your spark plug. There is a direct correlation to probe length and measured compression. If initial tests give unrealistic readings, try alternative gauge.