

LubeNews

OFFICIAL PUBLICATION OF MAXIMA HIGH PERFORMANCE PRODUCTS

TWO-CYCLE PSYCHO!

HOW TO MAKE YOUR 2-CYCLE RUN LIKE IT SHOULD...

By Dick Lechien

Do you have thick black oily drool coming out your expansion chamber/silencer? Some people will tell you to run less oil to get rid of the oily drool. Granted, less oil mixed in the gas running through your engine will produce less oily residue, but this is not the solution. The reason this heavy black oil is migrating through your expansion chamber and silencer is because the engine is not tuned properly. Some stage or stages of the carburetor are too rich causing reduced exhaust port temperatures. When exhaust port temperatures are too low, the oil does not turn into carbon smoke

vapor. It simply oxidizes and becomes the thick black oily drool that migrates through the expansion chamber, eventually plugging up your silencer.

DROOL ISN'T COOL

So, how do we fix this problem?

Obviously, we need a higher exhaust port temperature. Most people are able to tune and adjust the main jet portion of their carburetors, but when it comes to the pilot jet, air screw and needle adjustments, many times riders don't realize how important these adjustments are for the proper tuning of a 2-cycle engine. 99% of the time this black drool coming out your exhaust chamber is caused by a pilot jet that is 1 or 2 sizes too large. We will cover the exact tuning procedures for your pilot jet in a few minutes.

RING SEAL IS GOOD

First, we want to explain what is wrong with some common misunderstandings about tuning and oil mix ratios. What happens when you reduce the amount of oil mixed with your gas or increase the mix ratio? Increasing the ratio from 32:1 to 50:1 means you now have 50 parts of gas for every 1 part of oil, when you used to have 32 parts gas to each 1 part of oil. When you run less oil than you should for your application, you could be losing some valuable piston ring seal, which can result in a power loss. You could be sacrificing your engine's life span by starving your engine of life saving lubrication. The worst-case scenario of not running enough oil in your gas mixture can be engine seizure or crankshaft failure. If you run too much oil in your mixture for your application, your engine can run too hot, because the excessive oil acts like an insulator in the combustion chamber and will not allow the engine to transfer the heat and cool itself down.

When you increase the mix ratio (reduce the amount of oil mixed in the gas), this also makes your engine run richer. You will have "more" gas and "less" oil going through your carburetor at any given time. Anytime the oil ratio is changed, the carburetor settings need to be checked and adjusted if necessary. The same holds true when you decrease the mix ratio (increase the amount of oil mixed in the gas).

Increasing the amount of oil will make your engine run leaner and if you add too much oil you could run the risk of engine damage if you don't adjust the carburetor settings accordingly to adjust for the leaner mixture. The selected oil ratio should be determined by the oil migration time through your 2-cycle engine for your particular application.

SAY WHAT?

What is this oil migration time? The oil migration time is the time it takes the oil that is mixed in your gas to go from your carburetor through the crankcase and out the exhaust port.

The lower the rpm (revolutions per minute) range of your engine, the longer some of the oil remains in your engine and the less oil you will need in your gas mixture. The size of your engine, the velocity (speed of the air) through your engine and the amount of sustained full throttle usage required for your application determines the oil migration time through your engine. The velocity of the air going through your engine is largely determined by the rpm of your engine.

A single piston 500cc 2-cycle engine used in a motocross application will lubricate just fine and provide optimum power with a 50:1 gas to oil ratio, because of the slower rpm's this big single piston engine turns at. A much higher rpm 125cc single 2-cycle engine used in a motocross application will need a 32:1 gas to oil ratio to provide optimum power and the best oil protection for the engine. However, a 125cc engine used in a go-kart or road race application will require an oil mixture ratio in the 20:1 to 24:1 range. A 125cc engine used in a trials bike would work fine with a 100:1 oil mixture ratio, providing a high quality 2-cycle oil was used. The brand of the 2-cycle oil, or the fact that there is smoke or black drool coming out the expansion chamber, has very little or nothing to do with the gas and oil ratio that should be used.

Continued on Pg. 2

WINNERS CIRCLE



PRIDMORE WINS!

Jason Pridmore and his Attack Racing Suzuki win at Daytona--taking the AMA 750 SuperSport class



THE GIRLS' GOT GAME

Jessica Patterson continued her dominating ways by capturing the 2000 WML MX Championship



JAMMER'S BACK!

8X World Champion Jeff "The Jammer" Jacobs rejoins The Maxima Team for 2001, hoping to add more titles to his already illustrious career



SMITH GETS HOT!

Team Suzuki Offroad's Rodney Smith starts the season off strong by taking the second round of the 2001 GNCC Series in Macon, GA

WINNERS CIRCLE



BROTHERS 1 AND 2!

Brian & Pat Garrahan take 1-2 in the first round of the Natl. Championship Hare Scrambles in Hollister, California



DONNY B DOES IT!

Donny Bonnicksen captures the 2001 WSA Vet Pro Championship Title aboard his screaming red Polaris



HEYYYYYYY ABBOT!

Destry Abbot kept his winning ways going taking the 1st round of the 2001 AMA Natl. Hare & Hound Championship



EBSCO SUZUKI WINS WERA 24 HOUR!

Team EBSCO Suzuki/Corona Extra won the 2000 WERA Heavyweight Superstock 24 Hr. Natl. Championship at Willow Springs

TUNE UP TIME

So, how do you start tuning your 2-cycle engine? First off, get the starting point on your carburetor settings from your local dealer or call your motorcycle manufacturer direct. Also, remember that racing 2-cycle engines should not idle. If your engine idles when you let go of the throttle, you need to adjust the throttle stop screw or the throttle cable adjustment to allow the carburetor slide to close completely. While you're at it, check to make sure the throttle slide stays down whenever you move the handlebar from side to side. You will be able to slow down in the corners a lot easier and faster if your bike doesn't idle.

When you have your engine warmed up, hold the throttle grip flange with your thumb and fore finger by holding the throttle grip flange tightly to the throttle housing that is clamped to the handlebar. This will allow you to hold the throttle open at a steady rpm. It is usually easier if you get a buddy to help you do this part. You want to hold the throttle open and steady so that the engine is running at about 1,200 rpms, and sounds like, "tat, tat, tat, tat."

With the throttle being held steady so that the rpm's don't change, adjust the air screw on the carburetor slowly in and out, at 1/4 turn each adjustment, until you find the highest running rpm spot. The engine should noticeably slow when you go in too far. When you back out the screw the rpm's will increase up to a point and then will not change when you keep backing out the screw. Find the point where the rpm's are at the highest point and stop backing the screw out right there. When you are satisfied That you've found the correct adjustment, shut the engine off and see how far the air adjustment screw is backed out. You check this by slowly screwing in the air screw in 1/4 turn increments, counting as you go, to see how many turns the air screw is out from the carburetor.

If your air screw is more than 1-3/4 turns out, this means you need the next size smaller pilot jet. If the air screw is less than 1 turn out, this means you need the next size larger pilot jet. After you have changed the pilot jet in the carburetor, you need to repeat the tuning process above and find the optimum rpm point by adjusting the air screw. Higher quality 2-cycle racing oils that have the capacity to withstand higher engine temperatures are more sensitive to proper carburetor tuning.

This is the reason why some customers, after changing to a high quality racing 2-cycle oil, may find that they have the dreaded black drool coming from their expansion chambers. If you observe closely, you will never see black drool on a factory race bike or a highly tuned professional race team bike. 99.9% of all factory and professionally tuned race bikes will use a 32:1 oil mix ratio for motocross applications.

COOL YOUR JETS

Remember altitude and ambient temperature will affect your jetting (lean or rich.) On cold damp days your engine will run slightly leaner; hot dry days will cause your engine to run slightly richer. The higher the change in altitude, the richer your engine will run. A change from a higher altitude to a lower altitude will cause your engine to run leaner. The octane of your gasoline will also affect your jetting. Gasoline with a higher octane, like "race" gas, has a slower burn speed and will cause your engine to run richer. Gasoline with a lower octane, like 92 octane pump gas, will burn much faster and cause your engine to run leaner. Choose your gasoline and octane rating, tune your carburetor to match and then stick to it for practice days "and" for race day. It is not a good idea to use inexpensive pump gas with a lower octane rating for practice and then try and use a race gas with a higher octane on race day.

MIX IT UP

If you want to figure out how many ounces of oil you need to add to each gallon of gasoline for your oil mix ratio, you just divide the ratio's larger number, (32 in a 32:1 ratio), into the number of ounces in a gallon, (128 ounces in a gallon). 128 divided by 32 equals 4. This means you will need 4 ounces of oil for each gallon of gasoline you are mixing. While we are on the subject of mixing, it is always better to take the total amount of oil you are going to use and mix with just one or two gallons of gasoline in the 5 gallon can, shaking vigorously. Then add the balance of the gasoline to this can and shake again. Metal airtight cans are best to store fuel but the best solution is to mix up what you need and use up what you mix.

We hope this information helps you tune your 2-cycle engine like the professionals do. If you have any questions, please contact us by e-mail: info@maximausa.com, fax us at (619) 449-9694, or call us at (619) 449-5000.

LUBE NEWS

Quick View

Extreme Racing Promotions KTM

"JunkYard" John Dowd



THIS ISSUE'S FEATURE RIDER

Personal Stats

Age: 35

Hometown: Chicopee, MA

Years Racing: 15

First Bike: Honda Z-50

Favorite Food: Anything not good for you--McDonald's

Favorite CD/Music: Rock/Metal

1998 125 West SX Champion

LN: We're excited to have you riding for Maxima this season. Tell us about your racing program for 2001?

JD: It's a little bit different than the last 6 years. I guess I'll be a privateer, but I'm excited...

LN: How does the KTM 4-stroke compare to your past rides? Yamaha and Kawasaki? And what advantages does it have?

JD: It's definitely fast, but it's a little heavier than the 2 strokes--hopefully it goes good...

LN: What is your favorite outdoor national track?

JD: Southwick...

LN: What is your most memorable MX moment up to this point?

JD: Winning the 1998 West SX Championship-- by winning the last race with only a 2 point lead going in...

LN: Who was your hero growing up?

JD: Rick Johnson or Scott Burnworth (for all those holeshots)!

LN: If you could change one thing about our sport, what would it be?

JD: Not having to deal with the hassle of travel. I'd like to be able to snap my fingers and be there! Or home...

LN: If you were involved in another pro sport, what would it be?

JD: Maybe watercraft racing--because you get to hang out at the beach all day!

LN: Who are your sponsors for this year?

JD: KTM, Moose, Scott, Bell, Alpinestars, Maxima, Pro Circuit, Dunlop, Twin Air, Renthal, Go Graphics, Acerbis, Cernic's, Remington, Artco...

LN: Anyone you would like to thank?

I'd like to thank all my sponsors--Al Cordner and John Franco, and of course my wife for putting up with everything!

LN: Thanks for the time John!--and good luck this season!

Product Spotlight

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MAXTIP • For post-winter storage try Maxima Fuel Storage



CLEAN IT UP

CleanUp™ Cleaner/Degreaser

Clean Up is multi-purpose spray-on degreaser and cleaner created for use on motorcycles, ATV's and personal watercraft. An excellent foam air filter cleaner that quickly washes out with water. Clean Ups highly effective emulsion formula contains no caustic chemicals and effectively removes heavy oil, grease, road tar and other contaminants. Clean Up is also safe for plastic fenders, rubber, alloy and chrome. Not intended for use on Lexan®/plastic windshields. Clean Up does strip wax from painted surfaces.

MAXTIP • Use Clean Up to effectively clean all foam air filters--quickly washes out with water!



KILLER CONTACT

Contact Brake Cleaner

The best contact cleaner on the market--period! Maxima CBC is a citrus scented, heavy-duty aerosol cleaner with a blend of special cleaning agents that displace moisture and remove grease, oil and other contaminants. Extra heavy propellant charge provides maximum spray pressure for those hard to reach areas. Outstanding for use on all engine and suspension parts, carburetors, brakes, ignitions, spark plugs and much much more. Environmentally friendly--Non-caustic, No VOCs.



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Tera Laho

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Mark Junge

EBSCO Suzuki

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Labasci Racing

Champion Cycles

Team Polaris
Jesse Strege

Team Polaris
Donny Bonnicksen
Julie Thul

Brian & Pat Garrahan

Ryan Morais

Russell Pearson

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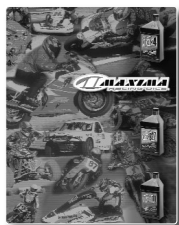
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