



RED LINE SYNTHETIC OIL CORP.

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TWO STROKE RACE & KART OIL

Two stroke Race & Kart oil is the ultimate in 2-cycle performance with improved power and perfect cleanliness. Designed for: high performance & high R.P.M. Motorcycles / Competition / Road Bikes / Racing Outboards. Extremely popular lubricant for jet skis, where it provides very crisp throttle response. Jet ski users should always refer to manufacturer's specifications. Two-Stroke Racing Oil, provides the cleanliness of low deposit oil, but is formulated with additional lubricity to keep even the highest-revving engines perfectly clean. Two Stroke Racing Oil can be used as a premix or as an injection oil. Two stroke Kart Oil has the same specifications as Red Line Two Stroke Racing Oil. Equipment produces more power, less noise and significantly longer bearing life. Keeps spark plugs, pistons and valves clean, to prevent ring sticking and scuffing which gives easier starts. Rust protection is superior. Immediate benefits can include equipment operating more economically (fuel lasts longer), and reduction in noise pollution & smoke pollution. Using Red Line Synthetics reduces wear by a factor off up to four (4) times over other brand mineral and 'synthetic' oils, hence the 'proven to outperform' label.

2-5% INCREASE IN POWER

Will not leave sticky residue in expansion chambers and on the rear of the bike. Dyno tests have shown 2-3% improvement in power, using a fresh engine, but the actual improvement is considerably greater compared to other lubricants. As the engine wears and develops deposits, which restrict ring mobility and increase back-pressure in the exhaust, the power output declines. But with Red Line Two stroke race oil the reduced wear keeps the engine fresh and the complete absence of deposits keeps output high.

REDUCED WEAR

Measurement of lower-end bearing wear has shown that two stroke race oil provides less wear after 7 hours than racing castor or other synthetics after only 45 mins.

LEANEST OIL / FUEL RATIO

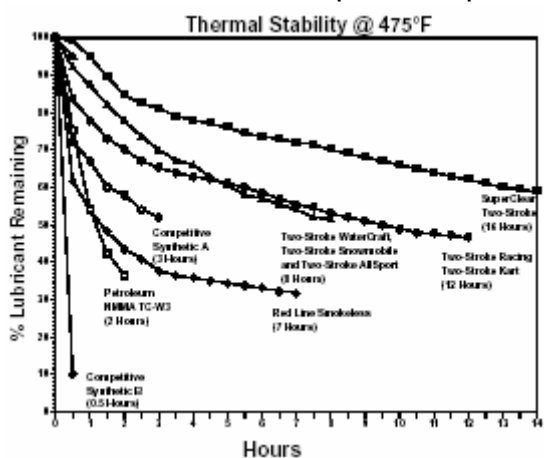
Red Line two cycle lubricants will allow the leanest oil:fuel ratio of any product on the market. If other lubricants have successfully operated at, for example 50:1, then the Red Line lubricant for that application can also be used at the same ratio. After reviewing the performance at a given ratio, the amount of oil can be reduced slightly, to determine whether the reduced ratio is satisfactory or whether additional decreases can be achieved.

All Red Line Two-Cycle lubricants are designed to provide the greatest protection and the maximum power from a two-cycle engine. Red Line has many different two-cycle lubricants which vary in lubricity, thermal stability, and ash-containing or ashless detergent type. The greatest degree of cleanliness and lubricity is provided by our SuperClean Two-Stroke Oil and closely followed by the Two-Stroke Racing Oil. The SuperClean (not avail in Aust) provides the best cleanliness, while **the Two-Stroke Racing Oil provides the best lubricity, which is far superior to castor bean oil, petroleums, and other synthetics.** This lubricant provides excellent lubricity and perfect cleanliness even in race engines operating at 15,000 rpms. But not every engine has such demanding requirements. That is why we have many other two

cycle lubricants to lubricate factory stock or slightly modified engines with a less costly product without making any compromise in durability.

The main difference in our two-cycle lubricants is the temperature stability of the basestocks used. The more thermally-stable the basestock, the higher the cost of the lubricant, with the SuperClean and **the Two-Stroke Racing Oil product being the cleanest and most thermally stable products on the market.** All of these synthetic lubricants provide better cleanliness, better protection, and burn cleaner than any petroleum or other synthetic product available. Many engines will not see the extreme temperatures encountered in racing situations and can be perfectly lubricated with the Two-Stroke AllSport™ Oil, Watercraft or Snowmobile lubricants - leaving no piston deposits.

The SuperClean Two-Stroke Oil will tolerate temperatures approximately 100°F greater than the Smokeless Oil and provides perfect cleanliness in even the most extreme applications.



The graph demonstrates the cleanliness capability of Red Line lubricants compared to a high-quality petroleum NMMA TC-W3 lubricant and other synthetics. The chart above indicates the evaporation rate of different lubricants at 475°F. The time indicated is the time required for the lubricant to decompose to a sticky mass capable of sticking a two-cycle piston ring. The NMMA TC-W3 lubricant is a baseline with which to judge the Red Line lubricants. All Red Line lubricants provide significantly better stability than the

petroleum reference. This indicates that Red Line lubricants will withstand the higher temperatures found in racing two-cycle applications and will also leave more lubricant on the cylinder walls to assist in the prevention of piston scuffing. A competitive synthetic two-cycle (B) showed very little deposit formation upon heating, but evaporated very quickly, with little lubricant remaining at temperatures found in the ring area. Another did not evaporate as quickly and would provide better scuff protection than petroleum, but has relatively poor ability to prevent ring stick. Red Line lubricants are extremely clean and data below demonstrates that Red Line lubricants provide better scuff protection and reduced bearing and ring wear. Red Line can provide both better cleanliness and reduced wear.

Two-Stroke Racing Oil / Two-Stroke Kart Oil - provides cleanliness which but formulated with additional lubricity to keep even the highest-revving engines perfectly lubricated.

Two-Stroke Racing Oil is also exceptionally clean and this cleanliness makes it an extremely popular lubricant for jet skis, where it provides very crisp throttle response, up to 2-3% improvement in power, and will not leave a sticky residue in expansion chambers, waterboxes, or down the sides of the ski. We have several years experience with this oil in V-6 outboard racing in Champ Boats and Off-shore racing where it provides improved power, half the wear of other high-quality oils, and perfect cleanliness in even endurance racing. Dyno tests have shown 2-3% improvement in power, using a fresh engine, but the actual improvement is considerably greater compared to other lubricants. As the engine wears and develops deposits which restrict ring mobility and increase backpressure in the exhaust, the power output

declines. But with Red Line Two- Stroke Racing Oil the reduced wear keeps the engine fresh and the complete absence of deposits keeps power output high. Two- Stroke Racing Oil can be used as a premix or as an injection oil.

Red Line – Better than Racing Castor!

Terry Ives Industries obtained perfect engine condition in their 100cc Yamaha KT-100 school karts after 25 hours of use. In this same type engine under 3 hours of competition at 20:1, the piston clearance increased only 0.00025 inch. Racing castor would provide between 0.001-0.002 inch wear under the same conditions. No ring, ring land, or cylinder wall wear was apparent in this 3 hour engine and skirt scuffing was virtually eliminated. In the Rotax 256 In-line Twin and the 125 Single the results were equally impressive. No obvious wear could be seen and skirt scuffing was virtually eliminated. No carbon deposits were formed and all combustion residue was easily wiped clean. Plug life is greatly extended. Emmick Enterprises obtained similar results in a Yamaha KT-100 which operates in the 350°-420°F cylinder head temperature range and up to 15,000 rpms. No scuffing and very low wear were observed after 7 hours of competition. A measurement of the lower-end bearing indicated that Two-Stroke Racing Oil provided less wear after 7 hours than racing castor or other synthetics after only 45 minutes. Many kart racers report that they can operate their engines at temperatures of 25°F greater than when using racing castor or other synthetics, without fear of piston sticking, enabling a considerable increase in power to be obtained.

New Ring Seating - Red Line Two-Stroke Racing Oil generally should not be used to seat a new ring because of the extreme slipperiness of the lubricant. A petroleum two-cycle lubricant used at normal loads for 15 minutes should be adequate for ring seating. Red Line Two-Stroke Oils can be used for ring seat if the engine is operated at 80% load for 15 minutes immediately after start up. Red Line is compatible with petroleum lubricants, so system flushing is not necessary.

Compatibility - Red Line Two-Cycle lubricants are compatible with petroleum, castor and most synthetic lubricants. They may be mixed together in concentrated form or the fuel without separation or gel formation.

Rust Prevention - all Red Line Two-Cycle lubricants are designed to provide greater rust protection than required for BIA certification. The rust protection in Red Line two-cycle lubricants make them suitable for fresh-water or marine use.

Biodegradability - the synthetic lubricants used in Red Line products are more biodegradable than petroleum-based lubricants.

Fuel Stability - Red Line Two-Cycle lubricants will dissolve in gasoline at ratios of at least 15:1 and will not separate in even freezing conditions. Red Line Two-Cycle lubricants will help stabilize fuels and prevent rust for seasonal storage.

Mix Ratios - proper mix ratios should be determined by the engine builder for the application being considered. Choosing the proper ratio depends on bearing and piston design, piston

clearance, rpms, and air:fuel ratio. Higher rpm engines and those operating at high cylinder head temperatures require more oil in the fuel to maintain proper lubrication.

When switching to Red Line Oil, begin with the same ratio at which other lubricants have operated successfully. Red Line Two-Cycle lubricants will allow the leanest oil:fuel ratio of any product on the market.

If other lubricants have successfully operated at, for example, 100:1, then the Red Line lubricant for that application can also be used at the same ratio. After reviewing the performance at a given ratio, the amount of oil can be reduced slightly, to determine whether the reduced ratio is satisfactory or whether additional decreases can be achieved. A significant advantage of the Red Line Two-Cycle lubricants is that rich oil:fuel mixtures can be used without significantly altering the combustion characteristics of the fuel and still provide excellent throttle response.

Fuel / Oil Ratio Chart.

18:1= 275ml of Oil to 5 Litres of Fuel.
 20:1= 250ml of Oil to 5 Litres of Fuel.
 25:1= 200ml of Oil to 5 Litres of Fuel.
 30:1= 165ml of Oil to 5 Litres of Fuel.
 40:1= 125ml of Oil to 5 Litres of Fuel.

As a starting point, the Two-Stroke Racing Oil is generally operated at ratios between 16:1 to 32:1. The **Two-Stroke Racing Oil** is used at mixtures of **24:1** to **32:1** for 9,500 rpm outboard race motors, **50:1** for high-output operation, and up to **100:1** if the engine is properly designed for reduced oil mixtures. The Two-

Stroke Watercraft Oil, Two-Stroke AllSport™, and Two-Stroke Smokeless can also be operated at ratios between 24:1 and 100:1, depending on the designed lubricating requirement.

Kart Racing Application:

Two stroke Kart Oil has the same specifications as Red Line Two Stroke Racing Oil.

<i>Classes: Midgets</i>	<i>Age 7-10 yrs,</i>	<i>Engine: Comer S80.</i>	<i>Oil Ratio: 30:1</i>
		<i>Engine: Yamaha KT100J.</i>	<i>Oil Ratio: 40:1</i>
<i>Rookies</i>	<i>Age 10-12 yrs,</i>	<i>Engine: Yamaha KT100J.</i>	<i>Oil Ratio: 40:1</i>
<i>Junior National</i>	<i>Age 12-16 yrs</i>	<i>Engine: Yamaha KT100J.</i>	<i>Oil Ratio: 25:1</i>
<i>Junior Clubman</i>	<i>Age 12-16 yrs</i>	<i>Engine: Yamaha KT100S.</i>	<i>Oil Ratio: 20:1</i>
<i>Junior Piston Port</i>	<i>Age 12-16 yrs</i>	<i>Engine: (Many Makes)</i>	<i>Oil Ratio: 18:1</i>
<i>Senior National.</i>		<i>Engine: Yamaha KT100J.</i>	<i>Oil Ratio: 25:1</i>
<i>Senior Clubman.</i>		<i>Engine: Yamaha KT100S.</i>	<i>Oil Ratio: 20:1</i>
<i>Senior Piston Port.</i>		<i>Engine: (Many Makes).</i>	<i>Oil Ratio: 18:1</i>
<i>Formula 100.</i>		<i>Engine: (Many Makes).</i>	<i>Oil Ratio: 18:1</i>
<i>200cc Super.</i>		<i>Engine: (Many Makes).</i>	<i>Oil Ratio: 18:1</i>

****Carburetor Jet Settings are based on Driver preference or plug reading**

Product Available As

BAR CODE	CODE	ITEM	UNIT SIZE	METRIC
83522 40403	RL156	TWO CYCLE KART OIL	16FLOZ	473 ml
83522 40405	RL156-4	TWO CYCLE KART OIL	1G	3.784 Ltr
83522 40603	RL154	TWO STROKE RACE OIL	16FLOZ	473 ml
83522 40605	RL154-4	TWO STROKE RACE OIL	1G	3.784 Ltr