EngineMaxx

A balanced Group II hydrocracked engine oil formula designed for gasoline engine oils with API SM/SN and ILSAS GF-5 specifications.

EngineMaxx is designed to blend with engine oils to complement and enhance the protection of equipment under difficult performance requirements where the oil alone proves inadequate. Can also be used to extend the service life of oils.

EngineMaxx helps to increase service life by improving the ability of the oil to neutralize contaminants and acidic by-products, enhance sheer stability and oxidation resistance and improving wear protection through the use of proprietary lubrication chemistry and premium additive technology.

EngineMaxx is compatible with mineral based (Group II + III) and synthetic-based polyalphaolefin and diester (Group IV) engine oils bearing API service categories SM, SN.

EngineMaxx contains no solid particles or heavy metals and is compatible with manufacturer specifications for extended service engine oils.

EngineMaxx: Use with API SM/SN gasoline engine oils. Intended for internal combustion engines. Also compatible with API service categories before SM, diesel oil categories prior to CJ-4 that do not require low ash content, and with oils meeting ACEA and other manufacturer specifications.

PART #	3100-1-12 (1L x 12)	3100-20-1 (20L Pail)
	3100-4-4 (4L X 4)	3100-205-1 (205L Drum)

Over the life of a fluid the additive package depletes. EngineMaxx can extend fluid life and slow the process of oil degradation. Friction reduction, specifically in boundary or mixed lubrication conditions, lowers operating temperature, limiting the effects of oil oxidation. EngineMaxx can also improve the total base number (TBN) of the engine oil and be used to re-additize oil that has lost crucial additives over the service life of the oil.

EngineMaxx is intended for use in internal combustion engine crankcases when blended with the appropriate SAE viscosity oil as specified by the OEM. Oil sampling is recommended when extending fluid service life. EngineMaxx can be used to enhance existing additive packages or for creating custom oil blends. Always ensure oil blends meet the minimum requirements as outlined by the OEM

DESIGNED FOR PERFORMANCE

- Extend oil service life.
- Improves energy efficiency and fuel economy.
- Integrates well with synthetic and conventional engine oils.
- Eliminates dry starts.
- Reduces ultrasonic noise caused by component wear.
- Improves filtration efficiency by reducing the generation of large wear particles.
- Increases equipment availability; extends component life.
- Provides greater protection for engines.
- Enhances film strength and improves shear resistance.

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ADDITIVE PACKAGE OVERVIEW

Viscosity Index Improvers: Enhanced VI maintains lubricant flow and improve shear stability of the oil, especially at extreme temperatures.

Extreme Pressure/Anti Wear additives: Polarized AW, Friction Modifier and EP components provide unequaled protection in high load, high friction conditions. Fluid strength increase allows for significant friction reduction and protection of engine crankcase components. Polarized film protects during start up conditions

Detergents and Dispersants: Maintains cleanliness and keeps contaminants in suspension. May remove varnish buildup in older engines.

Seal Conditioners: reduces the long term effects of heat exposure to elastomer seals, keeping seals pliable.

Oxidation Inhibitors and Acid Neutralizers: Enhanced alkaline reserve prevents oil breakdown during service life. Increased stability and performance of the basic lubricating components of the oil.

Rust and Corrosion Inhibitors: Protects against adverse effects of moisture and oil oxidation caused by free wear metals present in oil.

This carefully balanced formula is designed to complement and enhance the existing API oil formulations. EngineMaxx should be mixed with the oil prior to putting in the application. May be added to crankcase directly when needed. Oil Analysis is recommended when extending fluid service life. TREAT RATIO 3%-5% of crank case capacity depending on severity of service.

TYPICAL PROPERTIES	ASTM METHOD	EngineMaxx	TYPICAL EFFECT ON API OILS
Appearance		Clear, Light Amber Liquid	No Change
Viscosity @ 40°C (cSt)	D 445	87	No Change
Viscosity @ 100°C (cSt)	D 445	9	No Change
Viscosity Index	D 2270	113	Variable*
Density @ 20° C (g/ml)	D 941	1.0	No Change
Pour Point (°C)	D 97	-21	Slight Decrease
Flash Point COC (°C)	D 92	195	No Change
Fire Point COC (°C)	D 92	200	No Change
Acid Number (TAN)	D 664	0.62	Decrease ~30%
Base Number TBN (mg KOH/g)	D 2896	12.8	Increase ~0.5
Solid Particles (Zinc, Lead, PTFE, Graphite, MoS2)		None	No Change
Calcium (ppm)		4209	Increase ~210ppm
Phosphorus (ppm)		953	Increase ~50ppm
Rust Prevention	D 665	Pass	Pass
Copper Corrosion	D 130	1B	1B
Elastomer Compatibility (3% in 10W 30 Oil)			
Nitrile, Neoprene, Fluorocarbon	D 4289	Pass, Pass, Pass	Pass, Pass, Pass

** Viscosity index improvement is based on the % concentration of EngineMaxx and the type of Viscosity Index Improver in the stock oil. Additional friction modifiers are not recommended when using EngineMaxx as the FM chemistry may interfere with performance.*