

Power Up GearMaxx™ is Specifically Engineered to:

- **Reduce Downtime and Catastrophic Failure**
- **Eliminate Dry-Starts**
- **Protect at Extreme Temperatures**
- **Extend Oil Service Life**
- **Reduce Corrosion**
- **Improve Energy Efficiency**

Replacing a gear box is one thing, but delaying a job because equipment has failed is another. Down time costs money and damages reputations. GearMaxx™ has been developed to enhance the lubricating properties of extreme pressure oils. Changing industry technology dictates improvements & demands specialization. Power Up has met this challenge.

Reduce Downtime & Catastrophic Failure

Advanced extreme pressure boundary additives provide unequalled protection in high load/high friction conditions. Proper lubrication under extreme conditions reduces mechanical malfunctions and failures.

Enhance Fuel Economy

Anti-Wear components control scuffing and wear under light to extreme loading conditions providing enhanced gear and bearing lubrication. Reducing frictional losses and minimizing wear can result in improved power and reduced energy consumption.

Eliminate Dry Starts

Polar anti-wear & extreme pressure additives are attracted to polar metallic surfaces and are able to strongly adhere, providing a protective lubricating interface. This allows for a significant friction reduction and protection of vital drive train components during start.

Protect at Extreme Temperatures

Viscosity index improves maintain lubricant flow and shear stability over wide temperature ranges.

Improve Energy Efficiency

Dispersants keep contaminants in suspension and remove varnish buildup in old engines.

Colin has a '87 Case 2394 tractor with a 33 ft Morris cultivator without harrows and his brother has an identical tractor and cultivator. Colin's tractor was treated with **Gen49D™** in the fuel as well as **EngineMaxxLA™** in the engine and **GearMaxx™** power shift transmission but his brother's was not treated. They were working in the same field on the same day and the tractor using Power Up products could operate 2 hours longer before refueling which translates into cultivating a full 160 acres, whereas Colin's brother could only work 120 acres before refueling. The actual fuel consumption on Colin's tractor dropped from 8 gallons per hour to 6 gallons per hour. - **Collin & Dodie Greenwald from Fox Valley, SK**



Extend Oil Service Life

Oxidation inhibitors prevent the breakdown of the gear oil. Increased performance of the basic lubricating components allow for an increase in the useful lifetime of the oil.

Reduce Corrosion

Rust and Corrosion inhibitors protect against the adverse effects of moisture (condensation build up in oils) and oil oxidation caused by wear metals suspended in the oil.

APPLICATIONS

Gear reducers, bearing housings, posi-trac and limited slip differentials (unless friction modifier already present), cone and jaw crushers, pulverizing equipment, final drives, conveyor gear boxes, standard transmissions, drop boxes, rotary tables, tube & ball mills, chain drives, mud pumps, bull gear gear, pinion sets, etc.

The primary benefit of GearMaxx™ is to reduce the friction caused by asperity (metal to metal) contact in the boundary lubrication regime. It is designed for lubricated systems which call for extreme pressure (EP) oils.

Available in the following convenient sizes:

150 mL (5 oz.) bottle

1 Litre (35 oz.) bottle

4 Litre (1 Gallon / 175 oz.)

20 Litre (5.5 Gallon / 700 oz.)

205 Litre (56 Gallon)



GEARMAXX: A BREAKTHROUGH IN WEAR REDUCTION FOR EXTREME PRESSURE GEAR OILS



GEAR OIL ADDITIVE

Power Up **GearMaxx** has been developed to greatly enhance the lubricating properties of extreme pressure gear oils. Changing industry technology dictates improvements and demands specialization. Power Up has met this challenge head on.

Primary Benefits of GearMaxx:

- Reduced friction
- Extremely high film strength
- Increased Energy Efficiency
- Improved lubrication
- Reduced dry starts
- Increases component life and equipment availability.
- Reduced operating temperatures
- Reduced maintenance costs and downtime

Applications for GearMaxx:

Recommended wherever EP (extreme pressure) oils are used at 5% rates. Including but not limited to:

- Gear Reducers
- Bearing Housings
- Chain Drives
- Standard Transmissions (except synchromesh at 3% rates)
- Bull Gears and Pinions
- Mud Pumps
- Differentials (except limited slip or positrac)
- Final Drives
- Low Ash Engines
- Cone and Jaw Crushers
- Rotary Tables
- Tube and Ball Mills
- Drop Boxes

BOUNDARY LUBRICANT FOR GEAR OIL

Power Up **GearMaxx** is specially formulated for use in all types of mobile and industrial equipment where Extreme Pressure (EP) oils are called for (API GL-3 or greater). Specific applications include gear reducers, bearing housings, differentials (except posi-trac or limited slip), cone and jaw crushers, pulverizing equipment, final drives, conveyor drive gear boxes, standard transmissions, drop boxes, rotary tables, tube and ball mills, chain drives, mud pumps, bull gear and pinion sets, etc.



The primary benefit of **GearMaxx** is to reduce the friction caused by asperity (metal to metal) contact in the boundary lubrication regime. It is designed for lubricated systems which call for extreme pressure (EP) oils and engines requiring low ash-content oils.

Secondary Benefits of GearMaxx:

- Reduces ultrasonic wear noise which relates directly to component wear.
- Reduces dry start-ups.
- Lowers operating temperatures and slows oil degradation.
- Decreases wear in cold temperature applications (conventional EP additives are very dependent upon temperature to chemically react with the wear surfaces). The high film strength protection provided by>NNL 690G is less dependent on temperature.
- Reduces fuel and/or electrical amperage consumption in gearbox or reducer applications.
- Improves filtration efficiency by reducing the generation of large wear particles.
- Non toxic.

"When we did our inspections on our mudpumps prior to using your product we would always find a lot of metal flake on the magnets that we placed in the bottom of our oil reservoirs. Since adding GearMaxx to our gear oil, we have dramatically reduced the amount of these metal particles found thus increasing the life of our mudpumps. These findings along with our oil analysis program we feel that we are saving thousands of dollars in wear related costs."

Pat Burns, General Manager, Energy Drilling - Natchez, Mississippi

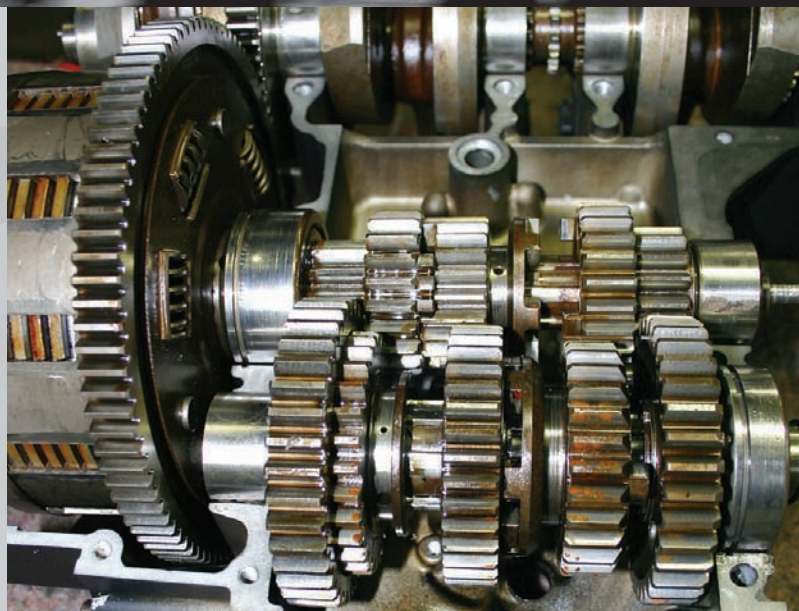




GEARMAXX: INSIST ON THE MOST TECHNOLOGICALLY ADVANCED GEAR LUBRICANT AVAILABLE

Typical Properties of GEARMAXX		
Property	Method	Result
Appearance		Clear, light amber liquid
Color	ASTM D1500	Less than 1.5
Viscosity @ 40°C (104°F) @ 100°C (212°F)	ASTM D445	80 cSt 8.5 cSt
Viscosity Index	ASTM D2270	73
Specific Gravity @ 60°F (15.6°C)	ASTM D941	0.99 (H2O =1)
Density	ASTM D941	0.99 g/mL
Pour Point	ASTM D97	-4°F (-20°C)
Flash Point	ASTM D92	305°F (152°C)
Acid Number	ASTM D664	1.5 mg KOH/g
Zinc Content, ppm Lead Content, ppm		nil nil
Colloidal Suspension (Solid particles, PTFE, graphite, MoS2)		none

Special Notations on GEARMAXX	
Viscosity:	A 5% application of GearMaxx in typical 90 weight gear oil results in little or no change in viscosity or viscosity index.
Pour Point:	GearMaxx is formulated to have a negligible effect on the pour point of typical gear oils.
Ash Content:	Power Up GearMaxx has a very low total ash content (less than 0.2%). It is therefore suitable for use in the crankcase of engines that require a low ash or ashless oil.
Application:	GearMaxx is intended for use in gear boxes using extreme pressure (API GL-3 or greater) oils. It should be added with each oil change at 5% of the gear oil volume. In engine cranks, GearMaxx should be added at 3% of the oil volume each time the oil is changed. It can also be used in automatic transmissions at an application rate of 1%, power shift transmissions at 3% and in circulating systems at 3% to 5%, depending upon operating conditions. GearMaxx is compatible with all mineral oils and polyalphaolefin and diester based synthetic oils. GearMaxx is not recommended for use with water based fluids, phosphate esters or polyglycol fluids.



Test Data on GEARMAXX		
Property	Method	Result
Copper Strip Corrosion (266°F (130°C) x 2 Hours)	ASTM D130	1a
Rust Preventing Characteristics - GEARMAXX - 5% GEARMAXX in ISO 220 gear oil	ASTM D665	Pass Pass
Foaming Tendency - 5% GEARMAXX in ISO 220 gear oil Sequence 1 Sequence 2 Sequence 3	ASTM D892	Nil Nil Nil

Product Application:

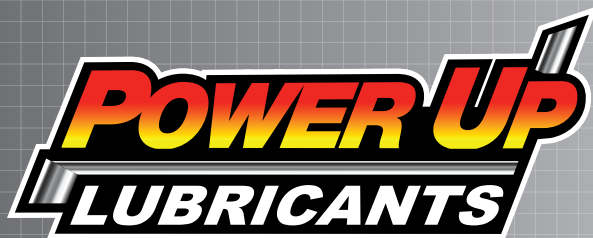
GearMaxx is intended for use in all types of mobile and industrial equipment where EP oils are called for. GearMaxx should be applied with each oil change at 5% of the gearbox capacity. With gear oils heavier than ISO 320, GearMaxx should be used at 3%. In internal combustion engine cranks using low ash or ashless oils, GearMaxx should be used at 3% of the oil volume with each change. It is also suitable for use in automatic transmissions at an application rate of 1%, in power shift transmissions at 3%, and in circulating systems at 3% or 5%, depending on the severity of service. GearMaxx is compatible with mineral based oils and with synthetic oils based on polyalphaolefins and diesters. At recommended application rates, it will not effect typical gear or engine oil viscosity ratings or seal materials.

Available in the following convenient sizes:

150ml (5 oz.) bottle
1L (35 oz.) bottle
4L (1.4 gal) jug
20L (5.5 gal) pail
205L (56 gal) drum

GEARMAXX GREATLY ENHANCES GEAR OILS





TECHNICAL INFORMATION

Product Description

- Gear Oil Boundary Lubricant Additive Package
- Used in mobile and industrial equipment where extreme pressure oils are required (API GL-3 or greater)
- Low ash content less than (0.2%)
- Provides boundary lubrication reducing friction caused by asperity (metal to metal) contact
- Engineered to reduce ultrasonic noise which is directly related to component wear
- Reduces dry starts, protective film maintains lubrication at start
- Formulated to improve filtration by reducing the generation of large wear particles which clog the filtration system
- Developed to reduce fuel and electrical power consumption
- Adds many years of life to components

Applications: Gear reducers, bearing housings, posi-trac and limited slip differentials (unless friction modifier already present), cone and jaw crushers, pulverizing equipment, final drives, conveyor gear boxes, standard transmissions, drop boxes, rotary tables, tube & ball mills, chain drives, mud pumps, bull gear & pinion sets, etc. Add at 3-5% to EP Gear Oil or 50mL (1½oz.) per liter (quart)

Typical Properties

Properties	Method	Results
Appearance		Clear, Light, Amber Liquid
Color	ASTM D1500	1.5
Viscosity @ 40°C	ASTM D445	70 cSt
Viscosity @ 100°C	ASTM D445	10 cSt
Viscosity Index	ASTM D2270	129
Density @ 20°C	ASTM D941	0.96 g/mL
Pour Point	ASTM D97	-35°C
Flash Point (COC)	ASTM D92	176°C
Fire Point (COC)	ASTM D92	196°C
Acid Number	ASTM D664	1.5
Zinc and Lead Content		None
Solid particles, PTFE, graphite, MoS2 content		None
Copper Corrosion	ASTM D130	1a
Rust Prevention	ASTM D665	Pass
- GearMaxx		Pass
- 5% GearMaxx in ISO 220 Gear Oil		
Foaming Tendency	ASTM D892	None
5% GearMaxx in ISO 220 Gear Oil		



RECOMMENDED PRODUCT APPLICATION

Formerly Known as NNL 690



ENGINE OIL ADDITIVE

Component	ENGINEMAXX
Gasoline Engines	3-5%
Diesel Engines	3-5%
Hydraulic & Gear Applications Requiring Engine Oil	3-5%

Formerly Known as NNL 690G



GEAR OIL ADDITIVE

Component	GEARMAXX
Standard Trans. using EP Gear oil	3-5%
Standard Trans. using ATF	3-5%
Diff's/Transfer cases using EP Gear oil	3-5%
Diff's/Transfer cases using ATF	3-5%
Limited Slip Diffs (NO Friction Modifier)	3-5%
Gear Drives (w/EP Gear Oil)	3-5%

5% application rate for extreme operating conditions and initial use.

3% application rate for maintenance service

Many 2-stroke engines require low-ash or ashless oils. In these EngineMaxxLA™ should be used.

Use GearMaxx™ in place of friction modifier.



LOW ASH ENGINE OIL ADDITIVE

Component	ENGINEMAXXLA
High Mileage Gas Engines	3-5%
Diesel Engines	3-5%
High Mileage Diesel Engine	3-5%
Engines requiring Low-Ash / Ashless Oil	3-5%
Small, air cooled two-stroke engines	3-5%
Small, water cooled two-stroke engines	3-5%
High Hour Hydraulic & Gear Applications Requiring Engine Oil	3-5%



HYDRAULIC OIL ADDITIVE

Component	HYDRAMAXX
Automatic Transmissions	1%
Power Steering Pumps	3-5%
Hydrostatic Drives	3-5%
Powershift trans.	3-5%
Ag-tractor TDH systems	3-5%
Hydraulic Systems	3-5%
Compressors	3-5%
Hydraulics/Compressors with water separators	3-5%

Application Ratios

1% = 10ml/Litre or 0.3oz/qt

3% = 30ml/Litre or 1oz/qt

5% = 50ml/Litre or 1.7oz/qt