ROYAL PURPLE®
SYNTHETIC OIL

2020

# CONSUMER PRODUCT GUIDE

# TABLE OF CONTENTS

## THE BIRTH OF A NEW LUBRICANT TECHNOLOGY

Royal Purple was founded as an industrial lubricants company by John Williams, a pioneer in developing synthetic lubricants as far back as the 1950's. He continued pursuing his passion for lubrication by serving as a consultant to numerous companies after his retirement in the 1980's.

In 1986, an oil production company asked Williams to solve chronic bearing failures in their large compressors. He found that there was not a lubricant available that could handle the extreme demands of the equipment. He put his extensive lubrication background to work in developing a new lubrication technology.

Williams developed a new additive technology that fortified lubricants with unusually high film strength capable of protecting bearings under extreme loads. This unique technology also had exceptional oxidation stability for long oil life. The new lubricant provided outstanding protection against rust and corrosion in wet and high temperature applications, cleaned equipment and prevented varnishing and sludge build-up.

The new lubricant easily solved the company's equipment problems. The plant manager said it was so superior to anything he had tried before that it should not look like other lubricants. Williams elected to make the lubricant purple. The new lubricant became the cornerstone of Royal Purple's product line. Williams decided to name the company Royal Purple since historically the color purple was so expensive to produce that only royalty used the color.

## THE COMPANY EVOLVES

Industrial customers initially tried Royal Purple on the most demanding and problem equipment. Customers could easily explain the rationale for switching lubricants because no other products performed as well. Over time, industrial customers were able to document the energy and maintenance cost savings to justify upgrading their entire plants to Royal Purple industrial lubricants.

Along the way, Royal Purple began formulating racing lubricants at the request of many industrial customers who were also part-time racers. Racers noticed that Royal Purple not only dramatically reduced wear, but also maximized horsepower and torque. Demand for Royal Purple racing oils rapidly spread throughout all forms of racing.

The formulation of racing oils laid the foundation for the development of super-premium motor oils for consumer use. Royal Purple consumer motor oils and other automotive products were introduced through national automotive parts retailers beginning in 2003. There are now nearly 25,000 retailer locations in the US selling Royal Purple consumer products.

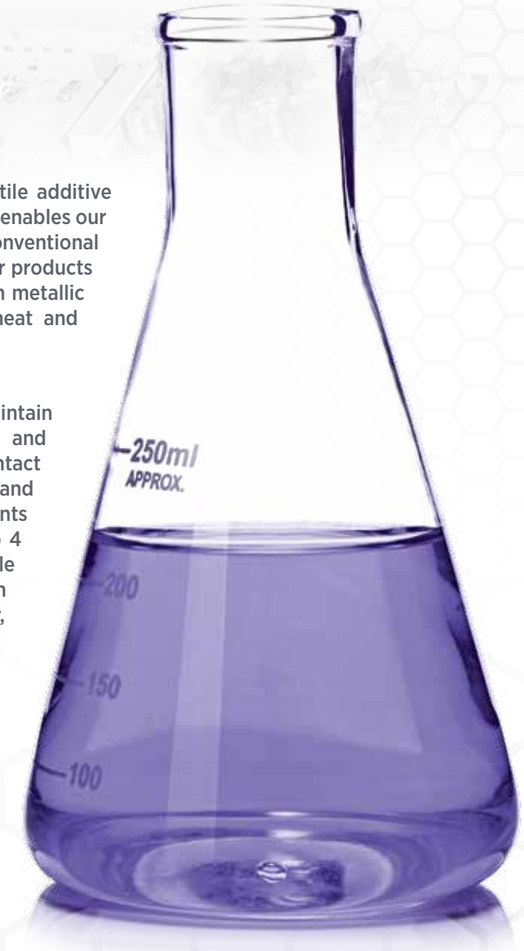
Today, Royal Purple is widely recognized as both a super-premium line of consumer automotive products and as a leading primary lubricants supplier to industrial end markets competing head-to-head with the largest oil companies. Royal Purple continues to grow in the US and internationally. Royal Purple was acquired in 2012 by Calumet Specialty Products Partners, LLC (CLMT), a leading refiner and processor of specialty hydrocarbon products headquartered in Indianapolis, IN.

## ADVANCED TECHNOLOGY CREATES ADVANCED PRODUCTS

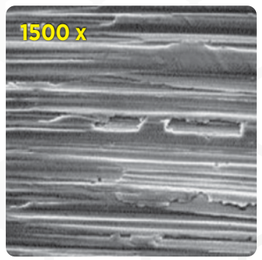
Synerlec® additive technology is Royal Purple's most versatile additive technology and the cornerstone of our product line. Synerlec enables our products to significantly outperform ordinary synthetic and conventional lubricants. This proprietary additive technology improves our products on a molecular level, creating high-strength ionic bonds with metallic surfaces that allow our lubricants to react to sustained heat and pressure with increased film strength and lubricity.

## HIGH FILM STRENGTH IMPROVES PERFORMANCE

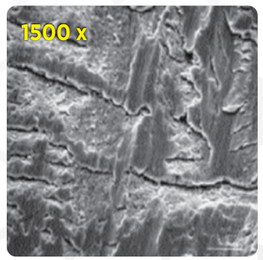
The film strength of a lubricant is its inherent ability to maintain a protective oil film, resisting the effects of load, speed and temperature. When the oil film is breached, metal to metal contact occurs, which results in greater friction and heat generation and accelerated wear. Royal Purple's Synerlec-enhanced lubricants provide dramatically increased oil film strength that is 3 to 4 times as strong as oil film provided by any other comparable lubricant. This dramatically improved film strength results in less metal-to-metal contact, less short and long-term wear, lower operating temperatures and increased piston ring seal in engines. Royal Purple's Synerlec-enhanced lubricants respond to increased pressure with increased oil film strength, where other lubricants have been displaced. Take a look at the following photos:



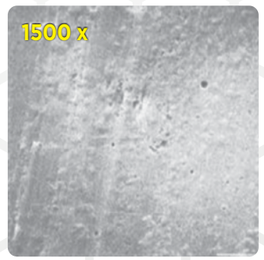

## BEARING COMPARISON




A new bearing surface appears smooth until magnified 1500X.




The bearing is scuffed after using a leading synthetic motor oil.




The bearing is visibly smoother after using Royal Purple HPS.

# MOTOR OILS

Royal Purple's premium synthetic motor oils provide superior performance and protection for a variety of vehicle applications. Our motor oil line covers gasoline and diesel vehicles under warranty; high performance and out of warranty; high mileage over 75,000 miles; and racing oils.


## AVAILABLE PACKAGE SIZES

## MULTI-GRADE OILS

0W-20, 0W-40, 5W-20, 5W-30, 5W-40 & 10W-30

Royal Purple® High Performance engine oils carry the current API and ILSAC engine oil licenses, as well as the GM dexos1™* gasoline engine oil approval.

**BETTER WEAR PROTECTION**
Enhanced additive technology prevents metal-to-metal contact beyond both GM dexos1™* and ILSAC GF-5 specs

**INCREASED PROTECTION AGAINST LSPI**
Advanced additive chemistry helps reduce Low Speed Pre-Ignition in today's turbocharged Gasoline Direct Injection engines

**INCREASED FUEL EFFICIENCY**
A low coefficient of friction results in optimized fuel efficiency (the fuel economy of our 5W-30 meets the fuel economy requirements of a 5W-20 oil)

**BETTER PROTECTION FOR VEHICLE EXHAUST EMISSIONS EQUIPMENT**
Patented anti-wear additive chemistry minimizes the harmful effects exhaust gases pose to the catalyst

**IMPROVED COMPATIBILITY WITH FUELS CONTAINING ETHANOL**
Patented additive technology prevents the white sludge and lubrication starvation that can occur with higher concentration gasoline-ethanol blends

**SUPERIOR CORROSION PROTECTION**
No rust observed in standard industry testing

**dexos1™ is a registered trademark of the General Motors Corporation.*

**6x GREATER WEAR PROTECTION****
Coats engine surfaces, maximizing engine life.

**2x BETTER OXIDATION RESISTANCE****
Maximum protection from oil breakdown.

***Comparisons based on dexos1 Gen2, API SN+, and/or ILSAC GF-5 requirements*

See Duralec® diesel motor oils on pages 16 – 17

## HIGH PERFORMANCE MULTI-GRADE OILS — TYPICAL PROPERTIES*

| ASTM TESTS | | SAE GRADE / API SERVICE | | | | | |
|---|---|---|---|---|---|---|---|
| | | 0W-20 [1,6] SN PLUS | 0W-40 [2] SM | 5W-20 [1,5] SN PLUS | 5W-30 [1,3] SN PLUS | 5W-40 [2] SM | 10W-30 [1,4] SN PLUS |
| D445 | Viscosity | | | | | | |
| | cSt @ 40˚C | 45.75 | 79.9 | 46.19 | 62.40 | 93.7 | 61.59 |
| | cSt @ 100˚C | 8.59 | 14.3 | 9.55 | 10.54 | 15.7 | 10.05 |
| D2270 | Viscosity Index | 168 | 182 | 153 | 159 | 179 | 150 |
| D4683 | HTHS | 2.7 | 3.6 | 2.6 | 3.1 | 3.9 | 3.2 |
| D4684 | Pumping Viscosities | | | | | | |
| | cP @ -40˚C | 29,100 | 20,000 | — | — | — | — |
| | cP @ -35˚C | — | — | 15,800 | 25,300 | 13,040 | — |
| | cP @ -30˚C | — | — | — | — | — | 12,200 |
| | cP @ -25˚C | — | — | — | — | — | — |
| | cP @ -20˚C | — | — | — | — | — | — |
| D92 | Flash Point ˚C (˚F) | 232 (450) | 241 (465) | 227 (440) | 238 (460) | 218 (425) | 243 (470) |

*Properties are typical and may vary.
1 API SN Plus Resource Conserving and ILSAC GF-5.
2 0W-40 and 5W-40 meets and/or exceeds European specs ACEA A3/B3-04 warranty requirements and is recommended for passenger car gasoline and light duty diesel engines.
3 5W-30 meets Chrysler FCA US MS-6395, Ford WSS-M2C946-A, and GM 6094M specifications and GM dexos1™* Gen 2 warranty requirements for gasoline engines.
4 10W-30 meets Chrysler FCA US MS-6395 and GM6094M specification for gasoline engines.
5 5W-20 meets Chrysler FCA US MS-6395, Ford WSS-M2C945-A and GM6094M specifications and warranty requirements for gasoline engines.
6 0W-20 meets Chrysler FCA US MS-6395 specification and GM dexos1™* Gen 2 warranty requirements for gasoline engines.
API designations are subject to change. Call our technical department at 888-382-6300 for additional information. For a complete list of OEM approved applications, download a product sheet at www.royalpurple.com.



HIGH PERFORMANCE MOTOR OIL

## HIGH PERFORMANCE MULTI-GRADE PART NUMBERS

| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 0W-20 | 55-Gal. Drum | 55020 | 300967175008 |
| | 6-Gal. BIB | 60020 | 300967175033 |
| | 5-Gal. Pail | 05020 | 300967175017 |
| | 3 x 5-Qt. Case | 53020 | 300967175189 |
| | 5-Qt. Bottle | 51020 | |
| | 6 x 1-Qt. Case | 06020 | 300967175115 |
| | 1-Qt. Bottle | 01020 | |
| 0W-40 | 6 x 1-Qt. Case | 06484 | 301897175115 |
| | 1-Qt. Bottle | 11484 | |
| 5W-20 | 55-Gal. Drum | 55520 | 301907175008 |
| | 6-Gal. BIB | 60520 | 301907175033 |
| | 5-Gal. Pail | 05520 | 301907175017 |
| | 3 x 5-Qt. Case | 53520 | 301907175189 |
| | 5-Qt. Bottle | 51520 | |
| | 6 x 1-Qt. Case | 06520 | 301907175115 |
| | 1-Qt. Bottle | 01520 | |
| 5W-30 | 55-Gal. Drum | 55530 | 301909175008 |
| | 6-Gal. BIB | 60530 | 301909175033 |
| | 5-Gal. Pail | 05530 | 301909175017 |
| | 3 x 5-Qt. Case | 53530 | 301909175189 |
| | 5-Qt. Bottle | 51530 | |
| | 6 x 1-Qt. Case | 06530 | 301909175115 |
| | 1-Qt. Bottle | 01530 | |
| 5W-40 | 5-Gal. Pail | 05540 | 300968175017 |
| | 6 x 1-Qt. Case | 06540 | 300968175115 |
| | 1-Qt. Bottle | 01540 | |
| 10W-30 | 5-Gal. Pail | 05130 | 301071175017 |
| | 3 x 5-Qt. Case | 53130 | 301071175189 |
| | 5-Qt. Bottle | 51130 | |
| | 6 x 1-Qt. Case | 06130 | 301071175115 |
| | 1-Qt. Bottle | 01130 | |


## HIGH PERFORMANCE STRAIGHT-GRADE PART NUMBERS

| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| SAE 30 | 6 x 1-Qt. Case | 06030 | 301149175115 |
| | 1-Qt. Bottle | 01030 | |
| SAE 40 | 6 x 1-Qt. Case | 06040 | 301905175115 |
| | 1-Qt. Bottle | 01040 | |
| SAE 50 | 55-Gal. Drum | 55050 | 301444175008 |
| | 5-Gal. Pail | 05050 | 301444175017 |
| | 6 x 1-Qt. Case | 06050 | 301444175115 |
| | 1-Qt. Bottle | 01050 | |


## HIGH PERFORMANCE STRAIGHT-GRADE OILS — TYPICAL PROPERTIES*

| ASTM TESTS | | SAE GRADE / API SERVICE | | |
|---|---|---|---|---|
| | | 30 / SJ | 40 / SJ | 50 / SJ |
| D445 | Viscosity | | | |
| | cSt @ 40˚C | 79.0 | 121 | 182 |
| | cSt @ 100˚C | 10.6 | 14.2 | 18.6 |
| D2270 | Viscosity Index | 119 | 113 | 113 |
| D92 | Flash Point ˚C (˚F) | 229 (445) | 235 (455) | 224 (435) |

*Properties are typical and may vary.

# EXTENDED LIFE OIL FILTERS


Royal Purple® premium oil filters provide superior filtration and flow, outstanding particulate capacity and heavy duty construction for cleaner oil and longer filter life.

### EACH FILTER FEATURES

+ 100% synthetic micro-glass media that catches 99% of particles 25 microns and larger, and 80% of particles 10 microns and larger
+ High-performance silicone anti-drain back valve that prevents dry starts
+ Extra heavy-duty rubber base gasket that ensures a leak-free seal
+ A thick walled steel filter housing for spin-on filters endures higher burst strength than conventional filters

### PERFORMANCE ADVANTAGES

**1. SHELL**
A thick, heavy exterior shell provides extra security against puncture from road debris.

**2. FILTER ELEMENT**
100% synthetic filtration media with steel screen backing provides superior filtration, low restriction to flow and high particulate capacity.

**3. STEEL BACKPLATE**
Heavy gauge steel provides up to twice the burst strength of ordinary filters.

**4. METAL END-CAPS**
Provides rigid support for filtration media enhancing internal sealing.

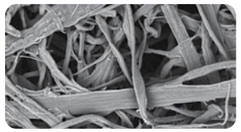
**5. METAL CENTER TUBE**
Metal construction prevents filter element collapse.

**6. BYPASS VALVE**
Ensures oil flow in situations of excessive filter element flow restriction.

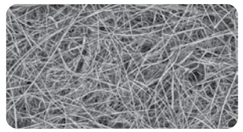
**7. SILICONE ANTI-DRAINBACK VALVE**
Prevents dry starts by limiting oil drain back after shutdown. Silicone outperforms and outlasts standard nitrile rubber in both extreme cold and hot oil temperatures.

**8. GASKET**
Premium nitrile rubber and special lubricity compounds reduce torque during installation and removal.

### FILTER MEDIA COMPARISON



Magnification of 250x, photo shows conventional cellulose filtration fibers. The spaces allow larger particles to pass through to your engine.



Royal Purple's state-of-the-art synthetic filtration media provides greater filtration efficiency and particulate capacity while minimizing flow restriction.

**Average beta rating based on ISO 4548-12 multi-pass test methods:**

$\beta_{25}$ = 100 (at 25 or greater micron, media is 99% efficient.)

$\beta_{20}$ = 75 (at 20 or greater micron, media is 98.7% efficient. Also considered absolute rating.)

$\beta_{10}$ = 5 (at 10 micron or greater, media is 80% efficient.)


**To find more information about Royal Purple premium oil filters, including what filter fits my car and where to buy the filters, please visit: filters.royalpurple.com**



# HMX® HIGH MILEAGE MOTOR OIL

Royal Purple® HMX® is specifically formulated with robust zinc / phosphorus anti-wear additives and Royal Purple's proprietary additive technology Synerlec® to minimize wear and restore lost engine performance.

HMX is chemically enhanced to revitalize hardened seals reducing oil consumption common in higher mileage engines. Stout detergents remove engine deposits and maintain cleanliness promoting engine longevity.

Royal Purple's advanced Synerlec technology provides an exceptional film strength by reducing friction for peak engine performance. Synerlec also provides outstanding oxidation resistance to safely extend oil drains, and an ionic attraction to metal components maintaining a film of oil on parts minimizing start-up wear.

### PERFORMANCE ADVANTAGES

+ Minimizes wear and restores lost engine performance
+ Increased protection against LSPI
+ Fortified with Zinc/Phosphorus anti-wear additive
+ Extended drain intervals
+ Exceptional oxidation stability
+ Reduces engine deposits
+ Superior corrosion protection


PLEASE NOTE: Royal Purple HMX meets API Service SN performance requirements for gasoline engines. Royal Purple recommends this product for any four-cycle gasoline engine with 75,000 miles (120,000 km) or more.

**6x GREATER WEAR PROTECTION****
**Coats engine surfaces, maximizing engine life.**

**2x BETTER OXIDATION RESISTANCE****
**Maximum protection from oil breakdown.**

***Comparisons based on dexos1 Gen2, API SN+, and/or ILSAC GF-5 requirements*

### AVAILABLE PACKAGE SIZES

### MULTI-GRADE OILS

5W-20, 5W-30 & 10W-30

### HMX — TYPICAL PROPERTIES*

| ASTM TESTS | | SAE GRADE | | |
|---|---|---|---|---|
| | | 5W-20 | 5W-30 | 10W-30 |
| D445 | Viscosity | | | |
| | cSt @ 40˚C | 46.54 | 62.80 | 71.78 |
| | cSt @ 100˚C | 8.39 | 10.88 | 11.70 |
| D2270 | Viscosity Index | 158 | 166 | 158 |
| D5293 | Cold Crank Simulator | | | |
| | cP @ -30˚C | 4,142 | 4,977 | — |
| | cP @ -25˚C | — | — | 3,739 |
| D2896 | TBN, mg KOH/g | 9.1 | 9.1 | 9.1 |
| D97 | Pour Point ˚C (˚F) | -45 (-49) | -45 (-49) | -45 (-49) |
| D92 | Flash Point ˚C (˚F) | 221 (430) | 230 (446) | 224 (436) |

*Properties are typical and may vary.

### HMX PART NUMBERS

| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 5W-20 | 3 x 5-Qt. Case | 37518 | 301906175189 |
| | 5-Qt. Bottle | 17518 | |
| | 6 x 1-Qt. Case | 67511 | 301906175115 |
| | 1-Qt. Bottle | 17511 | |
| 5W-30 | 3 x 5-Qt. Case | 11749 | 301445175189 |
| | 5-Qt. Bottle | 11748 | |
| | 6 x 1-Qt. Case | 11745 | 301445175115 |
| | 1-Qt. Bottle | 11744 | |
| 10W-30 | 3 x 5-Qt. Case | 11751 | 301147175189 |
| | 5-Qt. Bottle | 11750 | |
| | 6 x 1-Qt. Case | 11747 | 301147175115 |
| | 1-Qt. Bottle | 11746 | |


Royal Purple® HPS® Series motor oil is specifically formulated to maximize performance and meet the demands of high performance and modified engines. HPS is recommended for vehicles no longer under manufacturer warranty and for those seeking a higher level of performance and protection.

Royal Purple HPS oils are fortified with a high level of zinc / phosphorus anti-wear additive and a generous dose of Royal Purple's proprietary Synerlec® additive technology. These unique formulations enable HPS oils to outperform leading synthetic and conventional lubricants in both gasoline and diesel engines. HPS meets ACEA E9-16.

### PERFORMANCE ADVANTAGES

- Exceptionally high film strength for dramatic reductions in engine wear and reduced engine heat to extend the life of your engine
- Advanced additive chemistry helps reduce Low Speed Pre-Ignition in today's turbocharged Gasoline Direct Injection engines
- Improved sealing between the piston ring and cylinder wall maximizes horsepower and torque and optimizes fuel economy
- Exceptional oxidation stability extends oil life and allows for more miles driven between oil changes saving you time and money
- Advanced synthetic solvency reduces engine deposits and keeps engines clean
- Outstanding wear protection for valve train components, including performance roller lifter and high lift flat tappet camshafts and lifters
- Superior corrosion protection

### AVAILABLE PACKAGE SIZES

### MULTI-GRADE OILS

5W-20, 5W-30, 10W-30, 10W-40 & 20W-50

*All HPS viscosities are formulated for gasoline and diesel engine use.*

### HPS — TYPICAL PROPERTIES*

| ASTM TESTS | | SAE GRADE | | | | |
|---|---|---|---|---|---|---|
| | | 5W-20 | 5W-30 | 10W-30 | 10W-40 | 20W-50 |
| D445 | Viscosity | | | | | |
| | cSt @ 40˚C | 43.51 | 56.25 | 57.66 | 71.25 | 127.70 |
| | cSt @ 100˚C | 8.39 | 11.03 | 10.97 | 13.08 | 18.52 |
| D2270 | Viscosity Index | 173 | 193 | 186 | 188 | 163 |
| D5293 | Cold Crank Simulator | | | | | |
| | cP @ -30˚C | 3,758 | 5,127 | — | — | — |
| | cP @ -25˚C | — | — | 3,782 | 5,272 | — |
| | cP @ -15˚C | — | — | — | — | 5,067 |
| D2896 | TBN, mg KOH/g | 10.3 | 10.1 | 10.8 | 9.9 | 10.1 |
| D97 | Pour Point ˚C (˚F) | -51 (-60) | -51 (-60) | -48 (-54) | -48 (-54) | -45 (-49) |
| D92 | Flash Point ˚C (˚F) | 232 (450) | 216 (420) | 232 (450) | 229 (445) | 229 (445) |
| D6278 | Shear Stability % Loss @ 100˚C | 1.89 | 1.98 | 3.61 | 3.21 | 2.77 |

*Properties are typical and may vary.



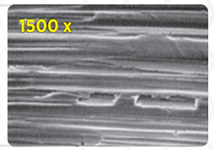
HPS® HIGH PERFORMANCE STREET MOTOR OIL

### HPS PART NUMBERS

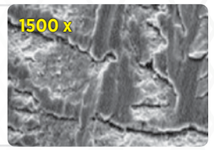
| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 5W-20 | 55-Gal. Drum | 37520 | 301072175008 |
| | 6 x 1-Qt. Case | 36520 | 301072175115 |
| | 1-Qt. Bottle | 31520 | |
| 5W-30 | 55-Gal. Drum | 37530 | 301150175008 |
| | 5-Gal. Pail | 35530 | 301150175017 |
| | 6 x 1-Qt. Case | 36530 | 301150175115 |
| | 1-Qt. Bottle | 31530 | |
| 10W-30 | 5-Gal. Pail | 35130 | 301899175017 |
| | 6 x 1-Qt. Case | 36130 | 301899175115 |
| | 1-Qt. Bottle | 31130 | |
| 10W-40 | 55-Gal. Drum | 37140 | 301901175008 |
| | 5-Gal. Pail | 35140 | 301901175017 |
| | 6 x 1-Qt. Case | 36140 | 301901175115 |
| | 1-Qt. Bottle | 31140 | |
| 20W-50 | 55-Gal. Drum | 37250 | 301443175008 |
| | 6 x 1-Qt. Case | 36250 | 301443175115 |
| | 1-Qt. Bottle | 31250 | |

### BEARING COMPARISON

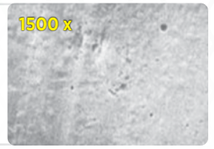
A new bearing surface appears smooth until magnified 1500X.



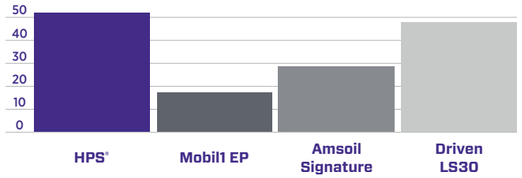

The bearing is scuffed after using a leading synthetic motor oil.




The bearing is visibly smoother after using Royal Purple HPS.



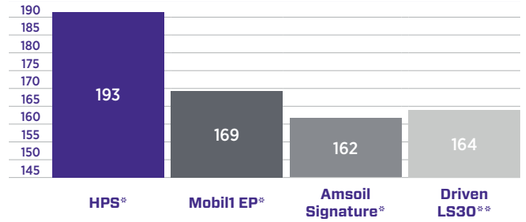

### Film Strength (Max PSI) ASTM D-2782 (Comparative SAE 5W-30s)*




Film strength is the oil's ability to withstand a load without being displaced by pressure. Film strength is very important in areas designed to have full hydrodynamic lubrication (HDL) such as the crankshaft and rod/ main bearings. A lack of film strength leads to greater metal-to-metal contact and wear throughout the engine. High film strength is key in performance engines and/ or forced induction engines which see more severe operation and a higher rate of crank flex.

*Testing performed 2016-2019 by Southwest Research Institute.

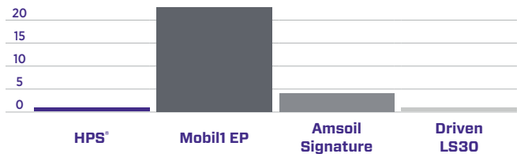
### Viscosity Index ASTM D-2270 (Comparative SAE 5W-30s)




Viscosity Index (VI) indicates the oil's change in viscosity with changing temperature, and is calculated using viscosity measurements at 40C and 100C. Less change in viscosity results in a higher VI. An oil with a higher viscosity index provides better lubricity and greater protection across all operating temperatures, thickening less when cold and thinning less when hot.

*Information gathered from manufacturers' websites. **Testing performed 2016-2019 by Southwest Research Institute

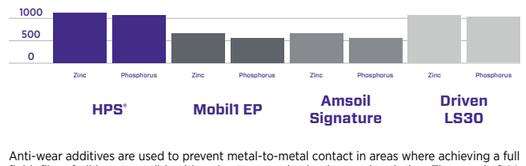
### Shear Stability ASTM D-6278 (Comparative SAE 5W-30s)*




Shear stability is the oil's ability to resist permanent viscosity loss. Low quality base oils and/ or low quality VI polymers result in oils that can shear very quickly. This viscosity loss increases mechanical wear rates due to a thinner and weaker lubricant film between mating surfaces. Also, as the viscosity decreases, oil operating temperatures can rise due to decreased lubricity and greater metal contact, resulting in an increased rate of oxidation and overall degradation of the oil. Further, as the oil shears the added friction robs horsepower and efficiency.

*Testing performed 2016-2019 by Southwest Research Institute.

### Anti-Wear Elements (Comparative SAE 5W-30s)*




Anti-wear additives are used to prevent metal-to-metal contact in areas where achieving a full fluid film of oil is not possible either due to excessive load or engine design. The camshaft(s) and lifters as well as piston skirts are key examples of areas relying heavily upon anti-wear metals. Performance engines, particularly, need higher quality and increased amounts of anti-wear additives due to greater loads on the camshaft caused by higher ramp rate camshafts and higher springs pressures.

*Testing performed 2016-2019 by Southwest Research Institute.

# MAX-CYCLE® MOTORCYCLE OIL


Royal Purple® Max-Cycle® is specifically formulated to exceed the demands of highly stressed engines and transmissions. It is recommended for use in both air-cooled and liquid-cooled 4-cycle engines and is compatible with wet-clutch transmissions.

Formulated with select synthetic base oils and Royal Purple's proprietary Synerlec® additive technology, Max-Cycle provides improved film strength when compared to the leading synthetic and mineral oil. Its shear stability and oxidation resistance promotes greater performance and protection.

Max-Cycle meets or exceeds API requirements and is rated JASO MA2, the highest wet clutch compatibility rating under the JASO T903:2011 Clutch Friction Test.

### PERFORMANCE ADVANTAGES

+ Greater wear protection
+ Cleaner, more efficient engines
+ Superior rust / corrosion protection
+ Cooler operation and less parasitic power loss

### AVAILABLE PACKAGE SIZE

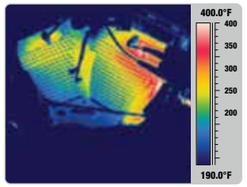
**MULTI-GRADE OILS**
10W-40 & 20W-50

### MAX-CYCLE PART NUMBERS

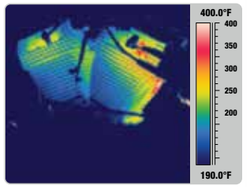
| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 10W-40 | 6 x 1-Qt. Case | 06315 | 301069175115 |
| | 1-Qt. Bottle | 01315 | |
| 20W-50 | 6 x 1-Qt. Case | 06316 | 301890175115 |
| | 1-Qt. Bottle | 01316 | |

### REDUCES HEAT

Improved combustion and reduced friction help to prevent overheating and to extend the life of the oil and the engine. In an independent test conducted on an American-made V-Twin motorcycle, engine temperatures were reduced 25˚F to 44˚F just by switching to Royal Purple. See graphics below:




Thermal imaging results with factory synthetic oil




Thermal imaging results after switching to Max-Cycle

### MAX-CYCLE — TYPICAL PROPERTIES*

| ASTM TESTS | | SAE GRADE | |
|---|---|---|---|
| | | 10W-40 | 20W-50 |
| D445 | Viscosity | | |
| | cSt @ 40˚C | 92.0 | 165 |
| | cSt @ 100˚C | 14.0 | 20.0 |
| D2270 | Viscosity Index | 155 | 141 |
| D5293 | Cold Crank Simulator | | |
| | cP @ -25˚C | 5,341 | — |
| | cP @ -15˚C | — | 4,491 |
| D2896 | TBN, mg KOH/g | 9.6 | 9.5 |
| D92 | Flash Point ˚C (˚F) | 204 (400) | 213 (415) |
| D6892 | Pour Point ˚C (˚F) | -49 (-56) | -26 (-15) |
| D4683 | HTHS | | |
| | cP @ 150˚C | 3.95 | 5.05 |

*Properties are typical and may vary.



# ENGINE BREAK-IN OIL

Engine builders have grown increasingly concerned that current engine oils that are API licensed for new cars and trucks do not provide adequate wear protection for freshly built performance engines, particularly those using flat tappet camshafts and lifters. Royal Purple has addressed this issue with Royal Purple® Break-In Oil.

Royal Purple Break-In Oil is formulated to provide the critical wear protection needed by the engine valve train and camshaft while allowing new piston rings to quickly seat to the engine cylinder walls. Break-In Oil combines highly refined mineral oil (preferred for engine break-in) with an advanced additive package containing elevated levels of zinc/phosphorus anti-wear additive to optimize wear protection during the sensitive engine break-in phase.

Royal Purple Break-In Oil is a fully formulated conventional 10W-30 engine oil and does not require the use of any other chemical additives. Royal Purple recommends switching to a high-performance synthetic Royal Purple engine oil after break-in for maximum engine performance and protection.

We recommend using our Engine Break-In Oil for a minimum of 500-1,000 miles in street driven gasoline engines to assure that the complete ring break-in has been completed before switching to one of our full synthetic engine oils. If need be, you can use for up to 2500 miles.


### BREAK-IN OIL PART NUMBERS

| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 10W-30 | 6 x 1-Qt. Case | 06487 | 301439175115 |
| | 1-Qt. Bottle | 11487 | |

### AVAILABLE PACKAGE SIZE

**MULTI-GRADE OIL**
10W-30

### BREAK-IN OIL — TYPICAL PROPERTIES*

| ASTM TESTS | | SAE GRADE |
|---|---|---|
| | | 10W-30 |
| D445 | Viscosity | |
| | cSt @ 40˚C | 76.0 |
| | cSt @ 100˚C | 12.0 |
| D2270 | Viscosity Index | 155 |
| D4684 | Pumping Viscosity | |
| | cP @ -30˚F | 18,200 |
| D92 | Flash Point ˚C (˚F) | 204 (400) |

*Properties are typical and may vary.

# SNOW 2-C™ 2-CYCLE SNOWMOBILE MOTOR OIL


Royal Purple® Snow 2-C™ is a high performance 2-cycle engine oil that improves performance and reduces wear in both standard and high performance 2-cycle snowmobile gasoline engines. The synthetic solvency of Snow 2-C keeps spark plugs and exhaust ports clean for maximum engine efficiency. This engine cleanliness, combined with Snow 2-C's low coefficient of friction promotes increased horsepower and engine speed.

Snow 2-C is formulated with Royal Purple's proprietary, synthetic Synerlec® additive technology that protects rings, bearings and cylinder walls from metal-to-metal contact and guards against scuffing, galling and welding, which can occur in severe conditions. Snow 2-C is ideally suited for snowmobile applications due to its low temperature fluidity and pumpability for cold weather service. Suitable for oil-injected and pre-mix applications.

### PERFORMANCE ADVANTAGES

+ Greater wear protection
+ Superior corrosion protection
+ Saves fuel
+ Reduces exhaust emissions
+ Ashless
+ Increases performance
+ Keeps engines clean and burns clean

### AVAILABLE PACKAGE SIZE

### SNOW 2-C PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 3 x 1-Gal. Case | 43511 | 301468175195 |
| 1-Gal. Bottle | 04511 | |

### SNOW 2-C — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 46.0 |
| | cSt @ 100˚C | 8.40 |
| D2270 | Viscosity Index | 162 |
| D5293 | Cold Crank Simulator | |
| | cP @ -3˚F | 5,300 |
| D92 | Flash Point ˚C (˚F) | 132 (270) |
| D6892 | Pour Point ˚C (˚F) | -51 (-60) |
| D4502 | Density | |
| | Specific Gravity @ 60 ˚F | 0.863 |
| | Pounds / Gallon | 7.2 |

*Properties are typical and may vary.



# HP 2-C® 2-CYCLE MOTOR OIL

Royal Purple® HP 2-C® is a high performance engine oil that improves performance and reduces wear in both standard and high performance 2-cycle gasoline engines.

Royal Purple HP 2-C is recommended for use in both pre-mixed and oil injected gasoline 2-cycle engines in outboard motors, motorcycles, jet skis, chain saws, etc. For cold weather oil injected applications, Royal Purple recommends its Snow 2-C.

The ashless formulation and synthetic solvency of HP 2-C keeps spark plugs and exhaust ports clean for maximum engine efficiency. HP 2-C is formulated with Royal Purple's proprietary, synthetic Synerlec® additive technology that protects rings, bearings and cylinder walls from metal-to-metal contact and guards against scuffing, galling and welding, which can occur in severe conditions. This engine cleanliness combined with the low coefficient of friction of Royal Purple HP 2-C promotes increased horsepower and engine speed. Engines operate with greater combustion efficiency and go longer between overhauls when lubricated with HP 2-C.

### PERFORMANCE ADVANTAGES

+ Greater wear protection
+ Increased horsepower
+ Superior rust / corrosion protection
+ Cooler operation and less parasitic power loss
+ Ashless to minimize exhaust deposits


### AVAILABLE PACKAGE SIZES

### HP 2-C — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 46.0 |
| | cSt @ 100˚C | 7.50 |
| D2270 | Viscosity Index | 129 |
| D92 | Flash Point ˚C (˚F) | 116 (240) |
| D6892 | Pour Point ˚C (˚F) | -45 (-49) |
| D130 | Corrosion Test | |
| | 3 hrs. @ 210 ˚F | 1a |
| | 24 hrs. @ 210 ˚F | 1a |
| D665 | Rust Test | |
| | Fresh Water | Pass |
| | Salt Water | Pass |

*Properties are typical and may vary.

### HP 2-C PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 3 x 1-Gal. Case | 43311 | 302011175195 |
| 1-Gal. Bottle | 04311 | |
| 6 x 1-Qt. Case | 06311 | 302011175115 |
| 1-Qt. Bottle | 01311 | |

Duralec® from Royal Purple® is a complete line of high performance lubricants specifically developed for all of your fleet vehicle needs. Duralec Commercial products are the most advanced lubricants in the market today.

# DURALEC


## DURALEC SUPER MOTOR OIL

Duralec Super motor oil is a high performance synthetic engine oil made for those diesel engines requiring the use of an emissions compliant oil for the 2007 and 2010 emissions equipment such as: DPF's, Catalytic Converters, EGR, and SCR injection with the ultra low sulfur diesel fuels found in North America and Europe.

Duralec Super motor oil is specifically formulated to maximize component life, extend drain intervals and improve fuel performance with excellent high temperature break down resistance and low temperature pumpability to minimize cold-induced startup wear.

### PERFORMANCE ADVANTAGES

+ Greater wear protection
+ Greatly extends oil drain intervals
+ Superior corrosion protection
+ Reduces exhaust emissions
+ Keeps engines clean
+ API-licensed CK-4 diesel motor oils
+ Will not harm seals

Duralec Super 15W-40 meets API Service CK-4, CJ-4, CI-4 Plus, CI-4 warranty requirements for diesel engines. It also meets Cummins CES 20086; Detroit Diesel DFS 93K222; Mack EO-S-4.5; Volvo VDS-4.5; CAT ECF-3; Ford WSS-M2C171-F1; ACEA E9-16; Daimler MB 228.31; Renault RLD-4; MTU Type 2.1; Deutz DQC III-10 LA; and JASO DH-2.

### AVAILABLE PACKAGE SIZES

**MULTI-GRADE OIL**
15W-40

### DURALEC SUPER PART NUMBERS

| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 15W-40 | 320-Gal. Tote | 88154 | 300905490322 |
| | 275-Gal. Tote | 68154 | 300905490316 |
| | 55-Gal. Drum | 55154 | 300905490008 |
| | 5-Gal. Pail | 05154 | 300905490017 |
| | 3 x 1-Gal. Case | 43154 | 300905490195 |
| | 1-Gal. Bottle | 04154 | |
| | 6 x 1-Qt. Case | 06154 | 300905490115 |
| | 1-Qt. Bottle | 01154 | |



COMMERCIAL LUBRICANTS

DURALEC


## DURALEC ULTRA MOTOR OIL

Royal Purple Duralec Ultra motor oil is specifically formulated to maximize performance and meet the demands of today's heavy-duty engines. Duralec Ultra is fortified with a high level of zinc/phosphorus anti-wear additive and Royal Purple's proprietary Synerlec additive technology.

Synerlec creates a tenacious ionic bond with metal surfaces, providing protection upon startup and greatly increased film strength that helps eliminate metal-to-metal contact, even under severe conditions.

Duralec Ultra reduces parasitic loss to save fuel and its synthetic solvency keeps internal engine parts cleaner than detergents alone. Superior oxidation resistance also greatly extends drain intervals and minimizes oil degradation. Duralec Ultra motor oil is recommended for use in both two-cycle and four-cycle diesel applications including automotive, commercial fleet and stationary industrial diesel engines.

### AVAILABLE PACKAGE SIZES

**MULTI-GRADE OILS**
10W-30 & 15W-40

### DURALEC ULTRA PART NUMBERS

| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 10W-30 | 55-Gal. Drum | 87456 | 301440490008 |
| | 3 x 1-Gal. Case | 80456 | 301440490195 |
| | 1-Gal. Bottle | 83456 | |
| 15W-40 | 3 x 1-Gal. Case | 80561 | 301902490195 |
| | 1-Gal. Bottle | 83561 | |

# RACING OILS

At Royal Purple® we recognize that no matter what type of racing you do, you require the best protection and performance for your vehicle. From grassroots micro-sprint, autocross, go-karts and junior dragster to road racing and rallycross, Royal Purple racing oils turn your racing ride into an outperformer from practice to the checkered flag.


Royal Purple® XPR® (Extreme Performance Racing) oils are recommended for use in various racing applications, and are popular in a variety of motorsports including: NASCAR, NHRA, World of Outlaws and Bonneville Salt Flats. Contains Royal Purple's proprietary Synerlec® additive technology.

### PERFORMANCE ADVANTAGES

+ Greater wear protection on startup
+ Increased protection against LSPI
+ Increased horsepower
+ Extends equipment life
+ No flushing required when switching from other synthetic engine oils or conventional engine oils
+ Non-foaming
+ Outstanding rust / corrosion protection
+ High temperature service capability
+ XPR resists displacement, dilution and emulsion caused by exotic fuels, such as alcohol and methanol.

Please consult Royal Purple's Technical Department at rpautotech@royalpurple.com for assistance in choosing the racing oil for your specific application.

### AVAILABLE PACKAGE SIZES

**MULTI-GRADE OILS**

0W-8, 0W-20, 5W-20, 0W-30, 5W-30, 5W-40, 10W-40, 5W-50, 20W-50 & 10W-60

### RACING OILS

+ XPR 0W-8 is an ultra-light viscosity racing motor oil formulated for use in drag racing, motorcycle sprint racing, etc.
+ XPR 0W-20 & 5W-20 are light viscosity racing motor oils that are excellent for drag racing and kart racing.
+ XPR 0W-30 & 5W-30 are light viscosity racing motor oils that are excellent for drag racing and kart racing.
+ XPR 5W-40 & 10W-40 are designed for marine, oval track and endurance car racing. Capable of withstanding long intervals of extreme heat, these are extremely popular in sprint cars, late models and World of Outlaws racing.
+ XPR 5W-50 & 20W-50 are formulated for running extended periods under extreme pressure and heat. These are used in oval track, marine and drag racing and are very popular in sprint cars, late models, truck pullers and bracket racing.
+ XPR 10W-60 is specifically formulated to increase horsepower and torque in high performance modified and racing engines and is popular in endurance road racing and rallycross.



XPR® EXTREME PERFORMANCE RACING OIL

### XPR PART NUMBERS

| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 0W-8 | 6 x 1-Qt. Case | 06009 | 301448175115 |
| | 1-Qt. Bottle | 01009 | |
| 0W-20 | 6 x 1-Qt. Case | 06008 | 301073175115 |
| | 1-Qt. Bottle | 01008 | |
| 5W-20 | 6 x 1-Qt. Case | 06011 | 301450175115 |
| | 1-Qt. Bottle | 01011 | |
| 0W-30 | 5-Gal. Pail | 05010 | 301913175017 |
| | 6 x 1-Qt. Case | 06010 | 301913175115 |
| | 1-Qt. Bottle | 01010 | |
| 5W-30 | 5-Gal. Pail | 05021 | 300864175017 |
| | 6 x 1-Qt. Case | 06021 | 300864175115 |
| | 1-Qt. Bottle | 01021 | |
| 5W-40 | 6 x 1-Qt. Case | 06042 | 302195175115 |
| | 1-Qt. Bottle | 01042 | |
| 10W-40 | 55-Gal. Drum | 55041 | 301914175007 |
| | 5-Gal. Pail | 05041 | 301914175017 |
| | 6 x 1-Qt. Case | 06041 | 301914175115 |
| | 1-Qt. Bottle | 01041 | |
| 5W-50 | 6 x 1-Qt. Case | 06052 | 302196175115 |
| | 1-Qt. Bottle | 01052 | |
| 20W-50 | 5-Gal. Pail | 05051 | 301915175017 |
| | 6 x 1-Qt. Case | 06051 | 301915175115 |
| | 1-Qt. Bottle | 01051 | |
| 10W-60 | 6 x 1-Qt. Case | 06061 | 301152175115 |
| | 1-Qt. Bottle | 01061 | |


### XPR — TYPICAL PROPERTIES*

| ASTM TESTS | | SAE GRADE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0W-8 | 0W-20 | 5W-20 | 0W-30 | 5W-30 | 5W-40 | 10W-40 | 5W-50 | 20W-50 | 10W-60 |
| D445 | Viscosity | | | | | | | | | | |
| | cSt @ 40˚C | 27.47 | 40.08 | 47.5 | 43.99 | 54.94 | 61.43 | 74.55 | 80.97 | 137.2 | 102.4 |
| | cSt @ 100˚C | 5.6 | 8.68 | 8.45 | 9.9 | 10.6 | 12.69 | 13.26 | 19.24 | 19.73 | 22.19 |
| D2270 | Viscosity Index | 148 | 203 | 155 | 220 | 187 | 211 | 182 | 261 | 165 | 246 |
| D5293 | Cold Crank Simulator | | | | | | | | | | |
| | cP @ -35˚C | 2,519 | 4,200 | — | 4,564 | — | — | — | — | — | — |
| | cP @ -30˚C | — | — | 3,664 | — | 4,157 | 4,684 | | 5,610 | — | — |
| | cP @ -25˚C | — | — | — | — | — | — | 3,978 | — | — | 5,526 |
| | cP @ -15˚C | — | — | — | — | — | — | — | — | 4,208 | — |
| D2896 | TBN, mg KOH/g | 10.1 | 10.1 | 10.4 | 10.0 | 10.4 | 10.1 | 10.2 | 10.1 | 10.1 | 10.2 |
| D97 | Pour Point ˚C (˚F) | -66 (-87) | -63 (-81) | -48 (-54) | -60(-76) | -54 (-65) | -45 (-49) | -45 (-49) | -48 (-54) | -45 (-49) | -42 (-44) |
| D92 | Flash Point ˚C (˚F) | 199 (390) | 216 (420) | 227 (440) | 221 (430) | 213 (416) | 224 (436) | 210 (410) | 207 (404) | 213 (416) | 204 (400) |
| D130 | Copper Corrosion | 1a | 1a | 1a | 1a | 1a | 1a | 1a | 1a | 1a | 1a |

*Properties are typical and may vary.

Royal Purple® gear oil has the ability to protect and outperform ordinary oils by combining our proprietary additive technology and friction modifiers. Available in viscosities for automotive and marine applications, our high performance gear oils will provide high performance results that will keep your gears running smoother and longer.

Manual or automatic transmissions, Royal Purple has you covered. Compatible with other friction materials and transmission fluids, you'll notice the difference the first time you shift.

# MAX ATF® AUTOMATIC TRANSMISSION FLUID


Royal Purple® Max ATF® is a synthetic, high performance, automatic transmission fluid. Its high film strength helps to dramatically reduce heat and wear.

Automatic transmissions generate a great deal of heat and depend on the transmission fluid for cooling and protection. More than 90 percent of all automatic transmission failures are caused by overheating. A 20˚F reduction in fluid temperature can double the life of the transmission (Source: Perma Industries Inc.). Max ATF significantly reduces heat to extend the life of your transmission.

Max ATF is fully compatible and can be mixed with other automatic transmission fluids. However, for the best results drain or flush the current oil and then fill with Max ATF. Max ATF is recommended in vehicles requiring any of these automatic transmission fluids:

Allison C-4, TES-295
Audi G-052-162, G-052-990, G-055-025
BMW 7045E, LA2634, LT71141
Chrysler ATF+, ATF+2, ATF+3, ATF+4
Chrysler Mopar ASRC
Ford FNR5, MERCON®, MERCON® V
GM DEXRON®, DEXRON® II, DEXRON® IID, DEXRON® IIE, DEXRON®-IIIF, DEXRON® IIIG, DEXRON®-IIIH
Esso LT 71141
Honda ATF-Z1 (except in CVT's)
Hyundai SP-II, SP-III
JWS 3309, JWS 3314, JWS 3317
Kia Red-1, SP-II, SP-III
Idemitsu K17
JASO 1-A
MAN 339F, 339 V1, 339 V2, 339 Z1, 339 Z2
Mazda ATF-M III, ATF-MV
Mercedes Benz 236.1, 236.2, 236.3, 236.5, 236.6, 236.7, 236.9, 236.10, 236.11
Mitsubishi SP-II, SP-III
Nissan 402, Matic-D, Matic-J, Matic-K
Shell 3403, LA2634,
M-1375.4 (ZF 6-Speed AT)
Subaru ATF, ATF-HP
Suzuki 3314, 3317
Texaco ETL-7045E, ETL-8072B, N402
Toyota T-III, T-IV
Voith 55.6335.XX (G607)
Volvo Pass Car (4-6 Speed AT), 97340 (Construction Equipment), 97341
VW G-052-162, G-052-990, G-055-025
ZF TE-ML, 03D, 04D, 05L, 09, 11B, 14A, 16L, 17C, TE-ML 14B

PLEASE NOTE: Max ATF is NOT recommended for the following applications: Allison TES-389, DEXRON® VI, Ford Type F and MERCON® SP & LV, Honda DW-1, Hyundai SP-IV and NWS-9638, Kia SP-IV, JWS 3324, MAN 339 Z3, Mercedes Benz 236.8, 236.12, 236.14 & 236.15, Mitsubishi SP-IV and ATF J2, Nissan Matic-S, Saab 93-165-147, Toyota WS (JWS 3324) and ZF TE-ML 14C. Max ATF is not recommended for use in any CVT or DCT applications.

*Dexron® is a registered trademark of General Motors Corporation.*
*Mercon® is a registered trademark of Ford Motor Company.*

## AVAILABLE PACKAGE SIZES

## MAX ATF PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 5-Gal. Pail | 05320 | 301143175017 |
| 6 x 1-Qt. Case | 06320 | 301143175115 |
| 1-Qt. Bottle | 01320 | |

## MAX ATF — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 38.0 |
| | cSt @ 100˚C | 7.50 |
| D2270 | Viscosity Index | 169 |
| D2983 | Brookfield Viscosity | |
| | cP @ -10˚C (14˚F) | 550 |
| | cP @ -20˚C (-4˚F) | 1,100 |
| | cP @ -30˚C (-22˚F) | 2,520 |
| | cP @ -40˚C (-40˚F) | 7,950 |
| D92 | Flash Point ˚C (˚F) | 202 (395) |
| D97 | Pour Point ˚C (˚F) | -69 (-92) |

*Properties are typical and may vary.



# SYNCHROMAX® MANUAL TRANSMISSION FLUID

Royal Purple® Synchromax® is recommended for manual transmissions that specify an automatic transmission fluid or other light-viscosity oil. It is also ideal for transfer cases and 2-cycle motorcycle gear boxes that specify light-viscosity lubricants.

Synchromax is formulated with Royal Purple's synthetic, proprietary Synerlec additive technology, offering improved shift quality over a wide temperature range and reduced gear noise.

Synchromax is fully compatible with all types of friction materials and offers excellent corrosion and oxidation protection without affecting the soft metals commonly found in manual transmission synchronizers.

### PERFORMANCE ADVANTAGES

+ Greater wear protection
+ Smoother shifts
+ Excellent rust / corrosion protection
+ Reduces friction for more power
+ Lowers operating temperatures
+ Can be used as a replacement for Auto-Trak II, VersaTrak® and Synchromesh


## AVAILABLE PACKAGE SIZE

## SYNCHROMAX — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 39.0 |
| | cSt @ 100˚C | 7.50 |
| D2270 | Viscosity Index | 162 |
| D2983 | Brookfield Viscosity | |
| | cP @ -10˚C (14˚F) | 550 |
| | cP @ -20˚C (-4˚F) | 1,330 |
| | cP @ -30˚C (-22˚F) | 3,100 |
| | cP @ -40˚C (-40˚F) | 9,178 |
| D92 | Flash Point ˚C (˚F) | 207 (405) |
| D97 | Pour Point ˚C (˚F) | -51 (-60) |

*Properties are typical and may vary.

## SYNCHROMAX PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 6 x 1-Qt. Case | 06512 | 301889175115 |
| 1-Qt. Bottle | 01512 | |

# MAX GEAR® GEAR OIL


Royal Purple® Max Gear® is recommended for use in automotive front and rear differentials, manual transmissions and transfer cases that specify use of an API GL-5 or GL-4 fluid. It is noncorrosive to soft yellow metals (brass, bronze, copper), and is synchronizer safe. Max Gear also works great in marine gear applications. Not for use in gear boxes, transmissions and lower units with wet clutches.

Max Gear is an ultra-tough, high performance gear oil designed to provide maximum protection to heavily loaded gears while maximizing power throughout the drivetrain. Max Gear outperforms ordinary gear oils by combining the highest quality synthetic oils with Royal Purple's proprietary Synerlec® additive technology. Max Gear makes gears run smoother, quieter, cooler and longer without overhauls.

### PERFORMANCE ADVANTAGES

+ Maximizes horsepower
+ Extends gear and bearing life
+ Reduces operating temperature
+ Lower coefficient of friction
+ Superior corrosion protection
+ Separates rapidly from water
+ For use with open, limited-slip and locking differential
+ Contains limited-slip friction modifier

### AVAILABLE PACKAGE SIZES

### MAX GEAR — TYPICAL PROPERTIES*

| ASTM TESTS | | SAE GRADE | | | |
|---|---|---|---|---|---|
| | | 75W-90 | 80W-90 | 75W-140 | 85W-140 |
| D445 | Viscosity | | | | |
| | cSt @ 40˚C | 100 | 160 | 187 | 313 |
| | cSt @ 100˚C | 16.5 | 17.4 | 27.5 | 28.5 |
| D2983 | Brookfield Viscosity | | | | |
| | cP @ -12˚C | — | — | — | 22,000 |
| | cP @ -26˚C | — | 57,000 | — | — |
| | cP @ -40˚C | 65,000 | — | 135,000 | — |
| D92 | Flash Point ˚C (˚F) | 163 (325) | 177 (350) | 191 (375) | 177 (350) |
| D97 | Pour Point ˚C (˚F) | -51 (-60) | -39 (-38) | -54 (-65) | -39 (-38) |

*Properties are typical and may vary.

### MAX GEAR PART NUMBERS

| VISCOSITY | PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|---|
| 75W-90 | 5-Gal. Pail | 05300 | 301894175017 |
| | 6 x 1-Qt. Case | 06300 | 301894175115 |
| | 1-Qt. Bottle | 01300 | |
| 80W-90 | 5-Gal. Pail | 05302 | 301437175017 |
| 75W-140 | 5-Gal. Pail | 05301 | 301070175017 |
| | 6 x 1-Qt. Case | 06301 | 301070175115 |
| | 1-Qt. Bottle | 01301 | |
| 85W-140 | 6 x 1-Qt. Case | 06303 | 301146175115 |
| | 1-Qt. Bottle | 01303 | |

Royal Purple's premium synthetic products go beyond lubrication. Our line of Performance Chemicals are formulated to improve fuel economy and restore power for gasoline and diesel vehicles, boats, and lawn and seasonal equipment.

# MAX-CLEAN® FUEL SYSTEM CLEANER


Royal Purple® Max-Clean® is a state-of-the-art high performance fuel system cleaner that maximizes the performance of your fuel system. Max-Clean restores fuel economy by deeply penetrating deposits and cleaning injectors, carburetors, intake valves and combustion chambers.

Royal Purple Max-Clean is EPA / CARB Compliant. Recommended for use in gasoline and diesel engines and can be used with all ethanol blends or biofuel. Max-Clean can be used in both 4-cycle & 2-cycle engines and will not harm vehicle emissions equipment.

### PERFORMANCE ADVANTAGES

Multiple product fleet tests were conducted on various makes and models of vehicles. Royal Purple found that after as little as one treatment Max-Clean can:

+ Restore fuel economy an average of 3.2%
+ Restore horsepower an average of 2.6%
+ Reduce hydrocarbon, NOx and CO emissions (on average 12%, 13% and 18% respectively)
+ Prevent rough idle, hesitation and stalling
+ Prevent premature spark plug fouling
+ Reduce deposit-related engine knocking and pinging

Royal Purple Max-Clean also stabilizes fuel during low-use and storage periods, preventing varnishing of fuel.

### MAX-CLEAN PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 6 x 20-Oz. Case | 11723 | 300990175256 |
| 20-Oz. Bottle | 11722 | |

### RECOMMENDED TREAT RATE

Pour entire contents of bottle into nearly empty tank immediately before refueling, then install fuel on top of additive. One (1) can treats up to 20 gallons. For tank sizes outside of this range, use one (1) ounce per gallon. In two-cycle engines, use one (1) ounce per gallon.

### RECOMMENDED USAGE

Max-Clean should be used every 10,000 miles or annually, whichever comes first.

The illustration below shows the before and after effects of switching to Max Clean.


Illustration of before and after effects.



# MAX-ATOMIZER™ FUEL INJECTOR CLEANER

Royal Purple® Max-Atomizer™ is a highly concentrated, high performance fuel injector cleaner. It is specially formulated to solve problems with today's direct injection engines, but can be used with any type of fuel injection. Max-Atomizer contains highly concentrated polyether amine (PEA) detergents that quickly clean clogged and coked injectors to restore maximum injector flow. This optimizes injector spray patterns and better atomizes fuel as it enters the combustion chamber. The result is improved fuel economy, enhanced power and performance, reduced emissions, smoother idle, and quicker, easier starts. Max-Atomizer is the only fuel injector cleaner that also stabilizes ethanol, which chemically breaks down to cause harmful effects to an engine.

### PERFORMANCE ADVANTAGES

+ Restores fuel economy
+ Stabilizes ethanol
+ Maximizes horsepower
+ Improves responsiveness
+ For use in both gasoline and diesel engines
+ Recommended for all ethanol blends
+ Will not harm vehicle emissions equipment
+ EPA / CARB Compliant


### RECOMMENDED TREAT RATE

Pour entire contents of bottle into nearly empty tank immediately before refueling, then install fuel on top of additive. Minimum recommended dose is one (1) 6oz. bottle to 20 gallons of fuel. The maximum effective dose is one (1) 6oz. bottle to 10 gallons of fuel.

### MAX-ATOMIZER PART NUMBERS

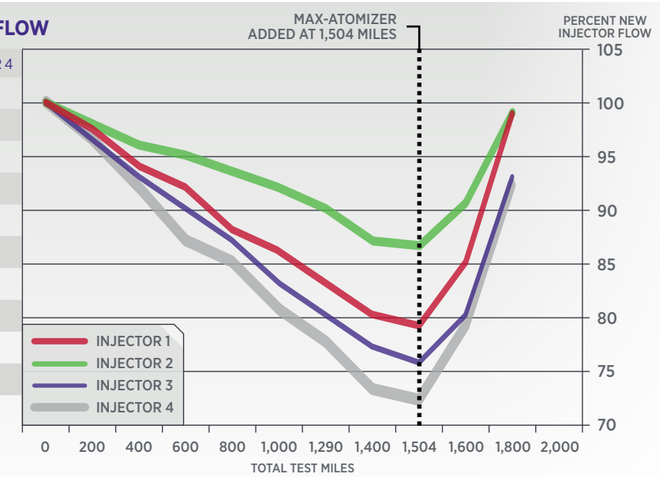
| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 12 x 6-Oz. Case | 18000 | 301822175048 |
| 6-Oz. Bottle | 18000 | |

### RECOMMENDED USAGE

For best results, use at every fill-up.
Minimum recommended usage is every 3,000 miles.

### MAX-ATOMIZER RESTORES FUEL INJECTOR FLOW

| MILEAGE | INJECTOR 1 | INJECTOR 2 | INJECTOR 3 | INJECTOR 4 |
|---|---|---|---|---|
| 0 | 100 | 100 | 100 | 100 |
| 200 | 97.5 | 98 | 96.5 | 96.5 |
| 400 | 94 | 96 | 93 | 92 |
| 600 | 92 | 95 | 90 | 87 |
| 800 | 88 | 93.5 | 87 | 85 |
| 1,000 | 86 | 92 | 83 | 80.5 |
| 1,200 | 83 | 90 | 80 | 77.5 |
| 1,400 | 80 | 87 | 77 | 73 |
| 1,504 | 79 | 86.5 | 75.5 | 72 |
| 1,600 | 85 | 90.5 | 80 | 79 |
| 1,800 | 99 | 99 | 93 | 92.5 |



# MAX-TANE® TOTAL DIESEL PERFORMANCE


Royal Purple® Max-Tane® is formulated for year-round use in all types of light, medium and heavy duty diesel engines, and is compatible with any type or grade of diesel fuel, including #1 diesel and #2 diesel, biodiesel and ultra-low-sulfur diesel (ULSD). Max-Tane is specifically formulated to solve problems associated with today's new HPCR (High Pressure Common Rail) diesel injection systems. Safe for use with all types of diesel exhaust emission systems equipment, including diesel particulate filters (DPFs) and catalytic converters. Do not pour into Diesel Exhaust Fluid.

### PERFORMANCE ADVANTAGES

+ Increases Cetane Number by up to 8*
+ Increases fuel economy by up to 10%
+ Improves engine startup and reliability in both warm and cold temps
+ Improves cold flow by preventing gelling
+ Cleans deposits from fuel injectors, combustion chambers, intake valves and piston crowns
+ Provides lubricity to entire fuel system
+ Reduces smoke and odor

* When used as directed.

### MAX-TANE PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 6 x 20-Oz. Case | 06755 | 301695175256 |
| 20-Oz. Bottle | 11755 | |

### RECOMMENDED TREAT RATE

The minimum recommended dosage is one (1) ounce per five (5) gallons of diesel fuel. High performance applications can safely use one (1) ounce per two (2) gallons of diesel fuel for maximum benefit. If uncertain of exact tank size, round up. Replace cap after bottle has been emptied and dispose of properly.

20 Ounces → 100 Gallons
15 Ounces → 75 Gallons
10 Ounces → 50 Gallons
5 Ounces → 25 Gallons



# MAX-BOOST® OCTANE BOOSTER

Royal Purple® Max-Boost® is a high-performance octane booster and fuel treatment that increases gasoline octane, reduces emissions, and enhances engine performance while stabilizing fuel. Max-Boost is formulated with MMT, which delivers the best octane enhancement to help eliminate engine damaging detonation, pre-ignition, and pinging or knocking from low octane gasoline.

Max-Boost is formulated for engines equipped with carburetors, port fuel injection and direct injection, as well as turbocharged, supercharged and nitrous-injected engines. Safe for use in leaded and unleaded gasolines, and alternate fuels like gasohol, reformulated gasoline, and all ethanol blends. Max-Boost is safe for oxygen sensors and catalytic converters.

### PERFORMANCE ADVANTAGES

+ Reduces engine knocking and pinging
+ Raises octane rating up to 30 points or 3 numbers
+ Restores power and fuel economy
+ Cleans deposits from fuel injectors
+ Restores lost power due to knock-retard in computer controlled engines
+ Replaces lead additives for protection of non-hardened valve seats
+ Stabilizes fuel


### RECOMMENDED TREAT RATE

One can treats up to 25 gallons of gasoline. Do not exceed 2 ounces of Max-Boost per gallon of fuel. Pour entire can into tank before fill-up. Clean immediately if spills occur, as product can permanently stain painted surfaces. Do not expose liquid to direct or indirect sunlight. Replace cap after can has been emptied, and dispose of properly.

PLEASE NOTE: Max-Boost is a racing formula and is not street legal. Please consult Royal Purple's automotive technical support department at 281-354-8600 or 888-382-6300 for more information.

### MAX-BOOST PART NUMBERS

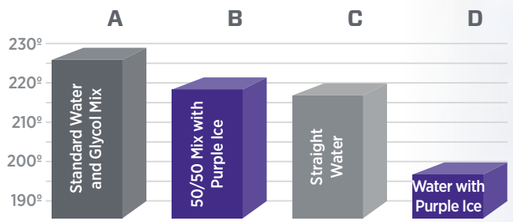
| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 6 x 16-Oz. Case | 06757 | 301697175039 |
| 16-Oz. Bottle | 11757 | |

# PURPLE ICE® COOLING SYSTEM OPTIMIZER


Royal Purple® Purple Ice® is a high performance radiator conditioner. Its advanced 2-in-1 corrosion inhibitor and wetting agent provides year-round defense against corrosion and reduces the surface tension of the radiator coolant to help reduce engine temperatures.

## REDUCED COOLANT TEMPERATURES

Extensive testing confirms Purple Ice reduces coolant temperatures better than comparable products while providing extra corrosion protection. For example, the average operating temperature of a 350 c.i.d. V8 engine (equipped with 160˚ thermostat) when dyno-tested with different coolants are:




A. Standard mix of water and glycol (antifreeze) — 228˚F
B. 50/50 water/glycol mix with Purple Ice added — 222˚F
C. Straight water (no corrosion protection) — 220˚F
D. Water with Purple Ice added — 200˚F

## PURPLE ICE PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 12 x 12-Oz. Case | 12600 | 500214175050 |
| 12-Oz. Bottle | 01600 | |

## RECOMMENDED TREAT RATE*

+ For use with 50/50 antifreeze / coolant mixture: 1 oz. / quart of cooling system capacity
+ For use with straight water or higher water percentage antifreeze / coolant mixture: 2 oz. / quart of cooling system capacity
+ Minimum of 20% antifreeze is recommended in street-driven vehicles. Purple Ice does not provide freeze protection. Use an appropriate amount of antifreeze for the cold temperatures in your area.

## PERFORMANCE ADVANTAGES

+ Reduces coolant surface tension to allow greater heat transfer, resulting in lower coolant temperatures
+ Reduces hot spots in the engine and cylinder heads, reducing the possibility of engine failure
+ Helps prevent overheating, keeps the system clean and extends the life of the water pump
+ Purple Ice is safe to use with water-only or antifreeze / water blends
+ Purple Ice is compatible with OEM and stock replacement coolants, including extended-life antifreezes
+ Purple Ice does not contain glycol and is safe and legal for track use

# SPECIALTY LUBRICANTS

Royal Purple® offers a variety of synthetic Synerlec® infused lubricants for a wide range of uses in both the DIY garage and home. Convenient and easy to use, these lubricants include assembly lube, grease, chain lube and a multi-purpose spray lubricant.

# MAX EZ® POWER STEERING FLUID


Royal Purple® Max EZ® is an advanced power steering fluid designed to maximize the life and performance of all power steering units. Max EZ is formulated with a blend of select synthetic base oils plus Royal Purple's proprietary Synerlec® additive technology, which is proven to make equipment run cooler, longer, quieter and more efficiently. Max EZ is compatible and can be mixed with any OEM or stock replacement power steering fluid and has excellent seal compatibility.

### PERFORMANCE ADVANTAGES

+ Greater wear protection
+ Clean, efficient equipment
+ Extended pump life
+ Much longer fluid life
+ Non-foaming
+ Outstanding rust / corrosion protection
+ High temperature service capability

### MAX EZ PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 12 x 12-Oz. Case | 12326 | 301145175050 |
| 12-Oz. Bottle | 01326 | |

### MAX EZ — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 48.0 |
| | cSt @ 100˚C | 8.50 |
| D2270 | Viscosity Index | 153 |
| D92 | Flash Point ˚C (˚F) | 204 (400) |
| D97 | Pour Point ˚C (˚F) | -45 (-49) |

*Properties are typical and may vary.



# MAX-TUFF™ SYNTHETIC ASSEMBLY LUBRICANT

Royal Purple® Max-Tuff™ is an ultra-tough, synthetic assembly lubricant. It's designed for use in the build or repair of any mechanical component that needs immediate lubrication and protection from the first use. Max-Tuff utilizes unique, synthetic molecules that adhere to metal surfaces to create a formidable, load-bearing physical barrier between surfaces. This minimizes the metal-to-metal contact and wear in boundary lubrication conditions. It also provides excellent protection against rust and corrosion of both ferrous and nonferrous metals.

### PERFORMANCE ADVANTAGES

+ Greater wear protection
+ Clean, efficient equipment
+ Extends equipment life
+ Compatible with conventional mineral and synthetic oils
+ Non-foaming
+ Outstanding rust / corrosion protection
+ High temperature service capability


### MAX-TUFF — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 650 |
| | cSt @ 100˚C | 47.0 |
| D2270 | Viscosity Index | 122 |
| D92 | Flash Point ˚C (˚F) | 191 (375) |
| D97 | Pour Point ˚C (˚F) | -39 (-38) |

*Properties are typical and may vary.

### MAX-TUFF PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 8-Oz. Bottle | 01335 | 301451175046 |

# MAX-CHAIN® SYNTHETIC CHAIN LUBRICANT


Royal Purple® Max-Chain® is an advanced, high performance, synthetic lubricant that provides excellent protection for chains, open gears and exposed metal surfaces subjected to severe loading — even in dusty, wet, acidic environments.

Max-Chain is a unique, thixotropic lubricant blended with a solvent carrier. When applied, Max-Chain penetrates the rollers, pins and bushings of the chain, then the carrier evaporates leaving a tenacious, dry, wax-like film. This non-tacky film effectively minimizes the collection of abrasive dust and other airborne contaminants. The EP properties of Max-Chain greatly reduce wear and effectively extend equipment life. Max-Chain is suitable for operating temperatures up to 400°F (after carrying solvent has evaporated) and provided excellent protection against rust and corrosion. Max-Chain uses a non-petroleum CO2 propellant.

### PERFORMANCE ADVANTAGES

+ Easily applied
+ Long lasting
+ Does not attract dust / particulates
+ Protects heavily loaded surfaces
+ Excellent corrosion protection

Max-Chain should be used in an up-right position to maximize aerosol propellant life.

### MAX-CHAIN PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 12 x 11-Oz. Case | 12330 | 500133175261 |
| 11-Oz. Can | 05330 | |

### MAX-CHAIN — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 4.90 |
| | cSt @ 100˚C | 1.70 |
| D92 | Aerosol Flash ˚C (˚F) | 102 (215) |

*Properties are typical and may vary.



# MAXFILM® SYNTHETIC PENETRATING LUBRICANT

Royal Purple® Maxfilm® is a high film strength, multipurpose, synthetic lubricant / penetrant that excels in a wide array of applications. Maxfilm deeply penetrates and loosens rusted parts. Once applied, its solvent carrier evaporates and leaves a tenacious, thixotropic lubricating film on all metal surfaces, providing long-lasting protection against wear, rust and corrosion.

Maxfilm contains Royal Purple's proprietary Synerlec® additive technology, which is proven to make equipment run smoother, cooler, quieter, longer and more efficiently. Maxfilm uses a non-petroleum (CO2) propellant.

### MAXFILM IS RECOMMENDED FOR:

+ Loosening stuck parts such as nuts, bolts, locks, hinges, etc.
+ Lubrication of power tools, hinges, chains, rollers, open gears, fishing tackle, lawn equipment, etc.
+ Preserving and protecting parts in storage, disassembled machinery parts, wire ropes, etc., against rust and corrosion
+ Use as a manual cutting fluid to facilitate the ease of hand drilling, tapping, metal cutting, etc., of steel and aluminum

For best results, shake Maxfilm well before each use and use the can in an upright position to maximize aerosol propellant life.


### MAXFILM — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 7.10 |
| | cSt @ 100˚C | 2.10 |
| D2270 | Viscosity Index | 101 |
| D92 | Aerosol Flash ˚C (˚F) | 102 (215) |

*Properties are typical and may vary.

### MAXFILM PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 12 x 11-Oz. Case | 15000 | 500262175261 |
| 11-Oz. Can | 05000 | |

# ULTRA-PERFORMANCE® GREASE


Royal Purple® Ultra-Performance® Grease (UPG) is a high performance, multi-purpose, aluminum-complex, synthetic EP grease which significantly increases bearing life and equipment reliability. It also makes bearings run smoother, cooler and quieter.

UPG is an excellent choice for a wide range of applications including bearings, U-joints, greased suspension components, and general purpose use. It offers outstanding extreme pressure performance and excellent resistance to emulsion with water and water wash-out. UPG is stable at high temperatures. It also has excellent oxidation resistance for extended service life and to provide a margin of safety between lubrication intervals.

### PERFORMANCE ADVANTAGES

+ Handles extreme loads
+ Reduces heat
+ Reduces wear
+ Lowers operating temperatures
+ Reduces vibrations

### AVAILABLE PACKAGE SIZES

### UPG PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 35lb. / 5-Gal. Pail | 35312 | 301961175015 |
| 14.1-Oz. Tube | 01312 | 301961175235 |

### UPG — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity (base oil) | |
| | cSt @ 40˚C | 180 |
| | NLGI Grade | 2 |
| | Texture | Buttery |
| | Thickener Type (soap base) | Aluminum Complex |
| D2265 | Dropping Point ˚C (˚F) | 274 (525) |
| D217 | Cone Penetration | |
| | Worked, 60 Strokes, mm | 285 |
| D2596 | 4-Ball EP Test | |
| | Weld Load, kg | 400 |
| | Load Wear Index, kg | 65.2 |
| | Weld Point, kg | 100 |
| D2266 | 4-Ball Wear Test | |
| | Scar Diameter, mm | <0.6 |
| D1743 | Rust Protection | Pass |
| D4084 | Copper Corrosion, 24 hr, 100 ˚C | 18 |
| D1264 | Water Washout, 79 ˚C, % | 4.5 |
| FTMS 791B | Oil Separation, % | <5 |

*Properties are typical and may vary.



# SYNFILM® RECIP. 100 RECIPROCATING AIR COMPRESSOR OIL

Royal Purple® Synfilm® Recip. 100 is recommended for lubrication of reciprocating air compressors (piston type) that specify a SAE 30 or a “non-detergent” 30 weight oil.

Synfilm Recip. 100 is a long life, high film strength, energy efficient, synthetic lubricant that significantly increases the reliability and efficiency of reciprocating air compressors. It excels at reducing wear and keeping discharge valves free of harmful carbon deposits. Synfilm Recip. 100 forms a better seal and reduces friction between the cylinder wall and piston rings for greater compressor efficiency. It is formulated with Royal Purple’s unique, proprietary Synerlec® additive technology, which is proven to make equipment run smoother, cooler, quieter, longer and more efficiently.

### PERFORMANCE ADVANTAGES

+ High film strength
+ Rapidly separates from water
+ Saves energy
+ Synthetic solvency
+ Longer oil life
+ Excellent corrosion protection


### SYNFILM RECIP. 100 — TYPICAL PROPERTIES*

| | ASTM TESTS | |
|---|---|---|
| D445 | Viscosity | |
| | cSt @ 40˚C | 100 |
| | cSt @ 100˚C | 10.1 |
| D92 | Flash Point ˚C (˚F) | 238 (460) |
| D97 | Pour Point ˚C (˚F) | -39 (-38) |
| D664 | Acid Number | 0.23 |
| D1401 | Demulsibility | 40/40/0 (30) |
| D892 | Foam Tests | |
| | Sequence I, II & III | Pass |
| D130 | Copper Corrosion | |
| | 3 hrs. @ 210˚F | 1a |
| | 250 hrs. @ 210˚F | 1a |
| | Cincinnati Millicron “A” | |
| | Corrosion / Oxidation | Pass |
| D665 | Rust Test | |
| | Fresh Water | Pass |
| | Salt Water | Pass |
| D2893 | Dry Air Oxidation | |
| | 312 hrs. @ 203˚F | |
| | % Viscosity Increase | 0 |
| | Precip. No. (% Solids) | 0 |

*Properties are typical and may vary.

### AVAILABLE PACKAGE SIZES

### SYNFILM RECIP. 100 PART NUMBERS

| PACKAGE SIZE | ITEM NO. | MATERIAL NO. |
|---|---|---|
| 6 x 1-Qt. Case | 06513 | 301996175115 |
| 1-Qt. Bottle | 01513 | |

# FAQS

Get the answers to frequently asked questions about our most popular products.



## MOTOR OILS

### What is the difference between HPS® and Royal Purple® High Performance motor oils?

Royal Purple High Performance motor oil is formulated specifically to meet current American Petroleum Institute (API), International Lubricant Standardization and Approval Committee (ILSAC), and Association des Constructeurs Européens d'Automobiles (ACEA) specifications for new vehicle warranties. Over the last several years, these specifications have become increasingly restrictive on certain additives, particularly those commonly used for anti-wear. As such, API/ILSAC compliant oils aren't the best solution for consumers that have modified their vehicles or those simply looking for the greatest performance.

HPS is formulated with consumers in mind. This motor oil line offers the incredible performance and protection provided by Royal Purple's proprietary Synerlec technology as well as a dramatically enhanced anti-wear package. HPS is also the choice for those seeking to maximize horsepower and torque, while reducing wear, heat and fuel consumption. HPS is the most robust engine oil Royal Purple makes for non-racing applications.

### Will HPS harm my catalytic converters?

No. Testing has shown no short or long term adverse affects on catalysts in mechanically sound vehicles.

### Can I use HPS in my diesel engine?

Absolutely. All viscosities of HPS are formulated for use in gas and/or diesel engines and are ideal for those with modified diesels or those simply looking for more performance out of their diesel.

### Are Royal Purple oils compatible with other motor oils?

Yes. Royal Purple lubricants are fully compatible with mineral or synthetic oils. No special procedures are necessary when switching to Royal Purple. We recommend against intentionally creating a mixture of different brands or product lines of engine oils.

### Can your motor oil be used in older engines?

Yes. Mileage and/or age is not a factor when used in a mechanically sound engine. In high-mileage applications, we do recommend running a minimum of two short 3,000 mile (5,000 km) intervals before extending the oil drain intervals. This will enable Royal Purple's high solvency to remove existing deposits gradually; if excessive, such deposits can restrict oil flow, as well as reduce the oil service life significantly.

### Can I use Royal Purple in my brand new car?

Yes. Royal Purple currently offers many viscosity grades of High Performance motor oils[1]. To allow for proper break-in of the engine, Royal Purple recommends waiting until the manufacturer's first scheduled oil change or a minimum of 2,000 miles (3218 km) in new gasoline engines. Allow a minimum of 6,000 miles (9656 km) before using Royal Purple in diesel engines.

### How many miles can I go between oil changes in vehicles that use gasoline?

Royal Purple suggests adhering to manufacturer's recommended oil change intervals for vehicles under warranty using Royal Purple High Performance SAE motor oils. With Royal Purple HMX® and HPS series oils, drain intervals may be extended to 15,000 miles (20,000 km) or one year, whichever occurs first in street-driven, mechanically-sound vehicles. For guidelines specific to your vehicle, we recommend contacting our technical department 888-382-6300.

### How many miles can I go between oil changes in vehicles that use diesel engine oil?

Royal Purple suggests adhering to manufacturer's recommended oil change intervals for vehicles under warranty. Vehicles no longer under warranty using Royal Purple Duralec Super, Duralec Ultra, or HPS engine oils, that hold 10-quarts of oil or more, can extend oil change intervals up to 15,000 miles (24,140 km) or one year, whichever occurs first in street-driven, mechanically-sound vehicles. For smaller capacity diesel engines, oil change intervals should be every 12,000 miles (19,312 km) or one year if using the Duralec Super engine oil series, or if using the Duralec Ultra or HPS engine oil series we recommend every 15,000 miles (24,140 KM) or 1 year. For guidelines specific to your vehicle, we recommend contacting our technical department at rpautotech@royalpurple.com.

### Is Royal Purple synthetic motor oil?

Yes. Royal Purple Motor Oils are composed of a proprietary formulation of synthetic base oils and synthetic additives containing iso-paraffinic diluents.

Royal Purple Break-In Oil is the only non-synthetic consumer engine oil offered by Royal Purple.

### Will synthetic oil cause my engine to leak or consume more oil?

Properly formulated synthetic oils will generally not cause an engine oil leak. Synthetic oils possess a higher degree of natural solvency, which can clean and remove deposits left by previous oils. The removal of extensive oil deposits can expose marginal or damaged oil seals, which may then leak. If an engine currently has excessive oil consumption (i.e. greater than 1 quart / 1,000 miles) the recommended course of action is to solve the oil consumption problem before switching to a synthetic.

### Should I use an oil additive with Royal Purple?

No. We strongly recommend against using any oil additives as do most automotive manufacturers. Engine oils are formulated with a fine balance of additives (anti-foam, corrosion inhibitors, anti-wear, detergent / dispersants, oxidation inhibitors), and more is not necessarily better. The use of an oil additive could upset the balance resulting in reduced performance.

## MOTOR OILS

### Does Royal Purple maintain its purple color after it's put into service?

No. The dye that's used to color the oil dissipates shortly after being put into service. The oil will appear brown at some point.

### Do your motor oils contain zinc/phosphorus?

Yes. All Royal Purple® engine oils contain the zinc/phosphorus compound zinc dialkyl dithiophosphate (ZDDP), but the maximum amounts are restricted by the current API oil specifications. For stock, non-performance automotive street applications, High Performance API SN PLUS licensed oils are OK. For better wear protection, Royal Purple HPS® and XPR® lines of engine oils are formulated with a higher concentration of the zinc and phosphorus anti-wear additive and are suitable for ALL flat tappet and roller tappet camshaft valve trains. For a specific recommendation, contact our tech department at 888-382-6300.

### Can your oil be used with flat tappet cams?

Yes. For stock, non-performance valve trains, Royal Purple High Performance oils (API SN PLUS and ILSAC GF-5 licensed) are OK. For upgraded performance flat tappet camshafts, and vintage high performance engines, we recommend our HPS or XPR engine oils. For a specific recommendation, contact our tech department at 888-382-6300.

### Is a special oil filter required when using Royal Purple?

While no special oil filter is required, we do recommend upgrading to a high quality oil filter. A high quality filter will prevent contaminants from circulating through the system and causing damage.

### Is HMX® different from your High Performance engine oils?

Yes, HMX is fortified with Royal Purple's proprietary Synerlec additive technology as well as additional seal conditioners beneficial to higher mileage engines to maintain elasticity of gaskets and seals. HMX is also formulated with a slightly higher amount of anti-wear additive to provide more wear protection for older engines.

### Why should I use a high mileage oil?

A properly formulated High Mileage oil like HMX will help reduce oil consumption and restore lost power. HMX is chemically enhanced to revitalize hardened seals reducing oil consumption common in higher mileage engines.

## OIL FILTERS

### Are Royal Purple Extended Life Oil Filters compatible with all conventional and synthetic oils?

Yes. All Royal Purple premium oil filters are compatible with both types of motor oils.

### Do Royal Purple Extended Life Oil Filters meet all original equipment requirements and vehicle warranty?

Royal Purple filters meet or exceed original equipment manufacturers' requirements. All new car warranties remain in effect when using Royal Purple Filters.

### How does the quality of Royal Purple Extended Life Oil Filters compare with other manufacturers'?

Royal Purple premium filters use 100% synthetic micro-glass media for superior particle removal with 99% filtration efficiency at 25 microns and larger, and 80% of particles 10 microns and larger.

### What is the recommended change interval?

Vehicles under warranty should follow the vehicle manufacturer's recommended change intervals. For non-warranty applications, the useful life of Royal Purple premium oil filters is the life of the engine oil. Vehicles driven in severe conditions should follow the change intervals recommended in their owner's manual; severe conditions are defined as racing or commercial applications, frequent towing or hauling, extremely dusty or dirty conditions, or excessive idling.

### What is the efficiency rating and at what micron size?

The efficiency of a filter is described in terms of a percentage of particles caught at a certain particle size(and larger). Using the ISO 4548-12 multi-pass filtration efficiency test, Royal Purple filters are:

-99% at 25 micron and larger

-98.7% at 20 micron and larger

-80% at 10 micron and larger

### What function does the wire-backed media provide?

The wire backing is to support the filtration media. This further reduces the chance that the filter media could collapse. The use of stainless steel wire provides a strong, durable, AND low restriction way to provide the support.

### Are all Royal Purple Extended Life Oil Filters constructed with a silicone anti-drain back valve? Why silicone?

Yes, the silicone anti-drain back valve prevents dry starts by preventing oil drain-back during shutdown. Silicone outperforms and outlasts standard rubber in both extreme cold and hot oil temperatures.



FAQS

## OIL FILTERS

### What are the beta ratios?

Average beta rating based on ISO 4548-12 multi-pass test methods:

$ß_{25}$ = 100 (at 25 or greater micron, media is 99% efficient.)

$ß_{20}$ = 75 (at 20 or greater micron, media is 98.7% efficient. Also considered absolute rating.)

$ß_{10}$ = 5 (at 10 micron or greater, media is 80% efficient.)

## MOTORCYCLE OILS

### What viscosity is recommend for motorcycles?

Follow the manufacturer's recommendations regarding viscosity. Most manufacturers recommend a 10W-40 for 4-cycle, liquid-cooled motorcycles. Air / oil cooled motorcycles typically specify a 20W-50. Check your owner's manual for verification or contact Royal Purple's Automotive Technical Department at 888-382-6300 for assistance.

### How many miles can I go between oil changes?

Royal Purple® suggests adhering to manufacturer's recommended oil change intervals for vehicles under warranty. Vehicles that are no longer under warranty can frequently double or triple the number of miles between oil changes depending on the vehicle, its condition, the way it's used (excessive idling), and the oil filter that is used. For guidelines specific to your vehicle, we recommend contacting our technical department at rpautotech@www.royalpurple.com.

### What product do you recommend for 2-cycle gearboxes?

For 2-cycle motorcycles with a separate transmission fluid reservoir, we recommend Royal Purple Synchromax® or an engine oil from our Max-Cycle® or HPS series. Please contact Royal Purple Automotive Technical department at 888-382-6300 for assistance

### What do you recommend for the primary case and transmission?

Royal Purple Max-Cycle® 10W-40 or 20W-50 motor oil may be used in the primary tank. For transmissions, Royal Purple recommends Max-Cycle 20W-50 or Max Gear® 75W-90. NOTE: DO NOT use Max Gear lubricants in the primary or in any other component containing a wet clutch.

### What oil do you recommend for Harley Davidson® motorcycles?

For all Harley Davidson and other air-cooled V-twin motorcycles, we recommend Royal Purple Max-Cycle 20W-50. If the owner's manual recommends a 10W-40 or 15W-40, Max-Cycle 10W-40 is the best option.

### Will Royal Purple Max-Cycle cause my clutch to slip?

No. Royal Purple Max-Cycle engine oils are rated JASO MA2 in the JASO T903:2011 Clutch Friction Test. MA2 is the highest wet clutch compatibility rating.

### I notice a strange odor when running Max-Cycle in my Harley. Is this normal?

Yes. Royal Purple uses a different additive chemistry than most manufacturers, which is the very foundation of the benefits RP offers. This technology has a distinctive odor, different from the common odor of exhaust gases to which most have become immune.

## 2-CYCLE OILS

### Can I use Royal Purple to pre-mix with alcohol, methanol or nitro-methane?

No. Royal Purple's 2-cycle oils are formulated for use in gasoline applications only.

### What product do you recommend for oil injected engines?

HP 2-C® is recommended for most stock oil-injection applications. For cold weather oil-injection applications, Snow 2-C® is recommended.

### What product do you recommend for pre-mix in my 2-cycle engine?

HP 2-C may be used in pre-mix applications.

### What product should I use in my oil-injected snow machine?

For low temperature, oil-injected applications, Royal Purple Snow 2-C is recommended.

### Does Royal Purple 2-Cycle oil void new engine warranties?

Royal Purple HP 2-C meets the performance requirements of any 2-stroke gasoline engine; however it does not carry any OEM oil licenses.

## RACING OILS

### Can I use racing oils in my street car?

Yes. Royal Purple XPR® racing oils are fully formulated engine oils with complete additive packages needed for long-term use. The XPR ultra-light viscosity 0W-8 is considered suitable only for dedicated competition engines that are built specifically to use very low viscosity engine oils. Non-ultra light viscosities, XPR 0W-20, 0W-30, 5W-20, 5W-30, 5W-40, 10W-40, 5W-50, 20W-50 and 10W-60 may be used in street driven and daily driver applications, street and track duty vehicles and dedicated competition applications with gasoline or exotic fuels. Pleas note: Royal Purple XPR racing oils do not conform to API and/or ILSAC licensing requirements and should not be used when manufacturer's warranties are an issue.

## RACING OILS

### Can I run your oils with exotic fuels (alcohol, methanol, etc.)?

Yes. Royal Purple's lubricants can be used with exotic fuels. For the best protection, Royal Purple® has formulated its XPR® specifically with this in mind. The XPR oils are formulated to combat fuel emulsification to hold up even better than Royal Purple's other engine oils in alcohol and methanol applications. Royal Purple's other synthetic engine oils will still perform better than conventional racing oils; however, significant fuel dilution will reduce the effectiveness of these oils much more than the XPR oils.

### How will running your product affect my oil temperature?

In most cases, vehicles with properly functioning cooling systems can reduce oil temperatures by 5-20°F by using Royal Purple.

### What is the difference between your High Performance motor oils and your racing oils?

Royal Purple High Performance motor oils are formulated to provide unparalleled performance and protection while complying with API and ILSAC specifications. XPR racing oils vary in viscosity and formulation from the High Performance motor oils to provide the greatest performance and protection possible, without regard to API, ILSAC, or OEM specifications.

### My retailer doesn't carry XPR – why can't they order it?

We do not restrict any automotive product from any retailers that carry Royal Purple consumer products. Any lack of availability of Royal Purple products at local retail stores is due to the choices made by the store owners/buyers. Retailers choose the products they stock and order for a myriad of reasons. Many times, a local retailer will special order Royal Purple products if you can provide the part number. Another option is to shop online. Several online retailers, including Amazon.com, JEGS.com, Lucky7Trucks.com, PacePerformance.com, and SummitRacing.com carry just about all Royal Purple automotive and consumer products, and they will ship directly to you.

### Is it true that your oils lose their performance edge after six or eight passes? (Drag Racing)

No. Royal Purple has not found any evidence that it shows deterioration in performance after being subjected to race conditions. Excessive fuel dilution may effect the performance of any engine oil; however, XPR offers greater protection than other oils even with excessive fuel contamination.

## TRANSMISSION & GEAR OILS

### Can I use your Max ATF® in my transmission?

Check your owner's manual for verification. A complete list of warranty applications can be found on page 24.

### My vehicle has a limited-slip differential. Do I need to add additional friction modifiers when using your Max Gear®?

No. All viscosity grades of Max Gear are formulated with limited-slip friction modifier necessary for some limited-slip differentials. No additional additives should be necessary.

### My vehicle's transmission specifies an API GL-4 gear oil. Can I use Max Gear?

Yes. Max Gear is completely non-corrosive to soft yellow metals (brass, bronze, copper) so it is synchronizer-safe like a GL-4 gear oil. However, because of Royal Purple's proprietary Synerlec® additive technology, Max Gear oils retain the load carrying and shock protection capability of a GL-5 gear oil.

## FUEL ADDITIVES

### What happens when fuel breaks down?

It forms non-combustible gums that form deposits in fuel systems / combustion chambers, which decreases engine performance / fuel economy and increases emissions.

### Will Max-Clean® rejuvenate old fuel?

No, but it will prevent it from degrading any further, and allow it to be safely used without forming engine deposits.

### How long does Max-Clean stabilize fuel?

When used at our recommended dosages, Max-Clean will stabilize fuels with less than 10% ethanol for up to 2 years. For fuels containing 10% or great ethanol content, Max-Clean will stabilize for up to 1 year.

### With what fuels does Max-Clean work?

Max-Clean is suitable for use in all liquid automotive-type fuels, including gasoline, ethanol, diesel, and biodiesel.

### Can Max-Clean be used in modern, fuel injected engines?

Yes, it will not harm catalytic converters or oxygen sensors, and will clean/remove deposits in port injected, direct injected, and carbureted engines.

### How does Max-Clean remove deposits?

It contains polyetheramine (PEA), a proprietary detergent that solubilizes deposits so they can be burned during the combustion cycle in an engine.

### Does Max-Clean increase octane?

No, but a cleaner burning engine has a reduced octane requirement, which allows less expensive, lower octane gasoline to be used without the risk of detonation.





## FUEL ADDITIVES

### What is the recommended treat rate for Max-Clean®?

Pour entire contents of can into a nearly empty tank and refuel. One (1) can treats up to 20 gallons. For tank sizes outside of this range, use one (1) ounce per gallon. In 2-cycle engines, to ensure best mixing with the 2-cycle fuel/oil mixture, we recommend adding Max-Clean to the gas tank prior to putting the 2-cycle fuel/oil mixture into it.

### What makes Max-Boost® any better than other octane boosters?

Royal Purple Max-Boost provides up to 30 points (3 octane numbers) increase in fuel octane, which meets or exceeds the boost of any other non-lead consumer octane boosting product available, and it carries the added benefits of stabilizing fuel, cleaning deposits, and providing protection for non-hardened exhaust valve seats (lead substitute). It effectively replaces 2 to 4 products, depending on your needs.

### How do I use Max-Boost?

Each 16oz bottle of Max-Boost treats up to 25 gallons of gasoline with a recommended dosage of 1 ounce of Max-Boost per gallon of fuel. To ensure best mixing with fuel, it is best to add Max-Boost to your fuel tank at fill-up, prior to putting the fuel into the tank.

### Is Max-Boost a good product for any vehicle?

Max-Boost is safe for use in any gasoline and gasoline/ethanol blend of fuel, but many non-performance cars do not benefit from high octane fuel. If the fuel stabilization and cleaning benefits of Max-Boost are what you want, rather than the increase in octane, we recommend Royal Purple Max-Clean Fuel System Cleaner & Stabilizer.

### I have a [carbureted/throttle body injected /port injected/direct injected] performance engine. Will Max-Boost work for me?

Yes, Max-Boost works in any gasoline or gasoline/ethanol blend fuel delivery system and will work great for any engine that runs best with high octane fuel.

### What makes Max-Tane® any better than other diesel fuel treatments?

Royal Purple Max-Tane is better than any other consumer diesel additive because it does the job of every other consumer diesel fuel additive. Max-Tane is a cetane booster, a fuel lubricity enhancer, a fuel anti-gel, fuel system and injector cleaner and improves fuel economy up to 10%. Royal Purple Max-Tane effectively replaces up to 4 other diesel fuel additive products.

### What types of fuels is Max-Tane intended for?

Royal Purple Max-Tane is formulated for use in any diesel-type vehicular fuel including #1 and #2 diesel, biodiesel, and ultra-low sulfur diesel fuels.

## FUEL ADDITIVES

### How do I use Max-Tane?

Royal Purple Max-Tane is available in a 20 ounce can. Each 20 ounce can treats up to 100 gallons of fuel. To ensure best mixing with fuel, it is best to add Max-Tane to your fuel tank at fill-up, prior to putting the fuel into the tank.

### I have a high performance diesel engine. What is the best treat-rate (dose) of Max-Tane?

The minimum recommended dosage for the Royal Purple Max-Tane is one (1) ounce per five (5) gallons of diesel fuel. High performance applications can safely use one (1) ounce per two (2) gallons of diesel fuel for maximum benefit.

### What makes Max-Atomizer™ different than other fuel injector cleaners?

It is the only additive formulated specifically for direct injection gasoline (DIG) engines, and is the most concentrated PEA fuel injector cleaner available on the market today.

### What is PEA?

It is polyether amine, a powerful detergent proven most effective at removing coked deposits found on injectors in DIG engines.

### Should Max-Atomizer be used only in DIG engines?

No, it can be used with any type of injectors, including port injectors, and diesel injectors.

### How does Max-Atomizer improve engine performance?

It cleans injectors and restores proper flow, which optimizes injector spray patterns and better atomizes fuel as it enters the combustion chamber.

### Can Max-Atomizer be used in fuel with ethanol?

Yes, it can be used in any gasoline and ethanol blend (E5, E10, E15, E85, etc.), and it provides the additional benefit of ethanol stabilization.

### How often should Max-Atomizer be used?

For best results, use at every fill-up. Use every 3,000 miles, or as necessary, to maintain adequate engine operation.

### How is Max-Atomizer different than Max-Clean?

Max-Atomizer is a stand-alone fuel injector cleaner. Max-Clean offers the injector cleaning of Max-Atomizer and also provides cleaning of piston crowns and combustion chambers, fuel stabilization, and demulsification of water from ethanol-containing fuels.

## COOLING SYSTEM ADDITIVES

### Is Purple Ice® compatible with other cooling system additives?

Purple Ice should not be used with other heat-transfer or cooling enhancing products or “water wetters”. If such a product has been used in the cooling system, the system should be drained and flushed before using Purple Ice.

Purple Ice is compatible with cooling system additives intended to stop or slow leaks. Please note that such stop-leak products often typically put a coating on the interior surfaces of the cooling system, so the effects of Purple Ice may be diminished.

### Is Purple Ice compatible with anti-freeze in my car?

Purple Ice is compatible with all current OEM/factory and major brand automotive anti-freeze. This includes traditional green ethylene glycols, as well as OAT/HOAT antifreezes (e.g. DexCool; Ford and Chrysler orange, gold, pink; European and Japanese OEM red, pink, etc.).

### What water / antifreeze concentration is recommended when using Purple Ice?

Purple Ice may be added to any antifreeze / water mix; however, testing has shown higher water concentrations yield greater cooling benefits. While Purple Ice does contain corrosion inhibitors as well as lubricants to compensate for a lower antifreeze / water concentration, Royal Purple recommends using a concentration of antifreeze appropriate for the cold winter temperatures in your area because Purple Ice offers no freeze or boiling protection. The preferred coolant mix would contain a minimum of 20% antifreeze (offers 12°F protection) to provide a higher boiling point, and greater corrosion and deposit protection for the coolant, along with 1 to 2 ounces of Purple Ice per quart of coolant.

### How much Purple Ice do I need to add to my cooling system?

When using Purple Ice with a 50/50 antifreeze/water mix, we recommend adding 1 ounce of Purple Ice per quart of cooling system capacity. For straight water (racing) or higher water ratio applications, we recommend adding 2 ounces of Purple Ice per quart of cooling system capacity.

### How often should I add Purple Ice to my radiator?

When used with antifreeze, Purple Ice should be added once a year or every 30,000 miles (48,280 km), whichever comes first, in order to maintain proper performance. When using Purple Ice in a cooling system running straight water, Purple Ice should be added once a year or every 15,000 miles (24,140 km), whichever comes first.

### Will adding too much Purple Ice harm my cooling system?

No, a higher concentration of Purple Ice than recommended will not harm the cooling system or engine. However, going well beyond 2 ounces of Purple Ice per quart of coolant won’t offer any additional cooling benefit, but may result in some foam generation in the system.

### Can Purple Ice be used in diesel engines?

Yes. Purple Ice may be used in diesel engines for improved heat transfer as well as reduced cavitation.





| MOBIL 1 | FRAM | WIX | K&N | PUREONE | ROYAL PURPLE |
|---|---|---|---|---|---|
| M1-107 | PH3506 | 51042 | HP-1007 | PL14006 | 10-44 |
| M1-101 | PH3387A | 51040 | HP-1001 | PL10111 | 10-47 |
| M1-113 | PH10060 | 57060 | HP-1017 | | 10-48 |
| M1-111 | PH30, PH8873 | 51069, 57099 | HP-1011, HP-2002 | PL15313 | 10-454 |
| M1-104 | PH3593A, PH9688 | 51334 | HP-1004 | PL14459 | 10-2808 |
| M1-102 | PH3614 | 51348 | HP-1002 | PL10241 | 10-2835 |
| M1-103 | PH4967 | 51394 | HP-1003 | PL14476 | 10-2840 |
| M1-110 | PH7317 | 51356, 51357 | HP-1010 | PL14610, PL14620 | 10-2867 |
| M1-108 | PH6607, PH9715 | 51365 | HP-1008 | PL14622 | 10-2876 |
| M1C-151 | CH9018 | 57082 | HP-7000 | PL15436 | 10-3244 |
| M1C-254 | CH8765 | 57090 | HP-7003 | PL25274 | 20-2129 |
| M1-213 | PH9010 | 57302 | HP-1014 | PL15317 | 20-2009 |
| M1-204 | PH16 | 51085 | HP-2004 | PL14670 | 20-253 |
| M1-209 | HP10, PH3600 | 51516 | HP-2009 | PL20195 | 20-400 |
| M1-212 | PH10575, PH10590 | 57045, 57502 | HP-2011, HP-7019 | PL22500 | 20-500 |
| M1-201 | HP11, PH3980 | 51036 | HP-2001 | PL24011 | 20-51A |
| M1-205 | PH2870A | 51088,51342 | HP-2005 | PL20252 | 20-561 |
| M1-206 | PH3675, PH9837 | 51522 | HP-2006 | PL25288 | 20-59 |
| M1-210 | PH2 | 57063, 51372, 57899 | HP-2010 | PL24651 | 20-820 |
| M1C-251 | CH9972 | 57047 | PS - 7020 | PL25608 | 20-967 |
| M1-302 | HP4, PH5 | 51060, 51061 | HP-3002 | PL34631 | 30-1218 |
| M1-303 | PH9100 | 57202 | HP-3003 | PL35399 | 30-2999 |
| M1-301 | HP1, PH8A, PH2815, PH3569 | 51333, 51452, 51515 | HP-3001 | PL30001 | 30-8A |
| M1-405 | PH10890 | 57151 | | | 40-2051 |
| M1-403 | PH3976A | 51607, 57620, 57620XE | HP-4003 | PL45335 | 40-780 |
| M1C-651 | CH9549 | 57311, 57314 | HP-7009 | PL45515, PL45526 | 50-2017 |
| M1-601 | PH3786 | 51734 | HP-6001 | PL44872 | 50-2286 |

## GENERAL APPLICATIONS

This is a general outline. Always follow manufacturer's recommendations for oil viscosities or contact Royal Purple's Automotive Technical Support Department at 888-382-6300.

### AUTOMOTIVE

| | |
|---|---|
| **ENGINES** | |
| Gasoline | Royal Purple Motor Oils* |
| Diesel | 15W-40 |
| European Passenger Car & Small Diesel | 0W-40<br>5W-40 |
| **TRANSMISSIONS** | |
| Automatic | Max ATF |
| Manual | Synchromax* |
| Heavy Duty Manual | Max Gear 75W-90<br>HPS 10W-30 |
| **POWER STEERING** | |
| Power Steering | Max EZ |
| **REAR ENDS** | |
| Heavy Duty | Max Gear 75W-90<br>Max Gear 75W-140 |
| Light Truck & Passenger Car | Max Gear 75W-90<br>Max Gear 75W-140 |

### 4-CYCLE MOTORCYCLE

| | |
|---|---|
| **LIQUID-COOLED JAPANESE** | |
| Engine | Max-Cycle 10W-40 |
| Shaft Drive | Max Gear 75W-90 |
| **LIQUID COOLED - EUROPEAN** | |
| Engine | Max-Cycle 10W-40 |
| Shaft Drive | Max Gear 75W-90 |

### 4-CYCLE MOTORCYCLE, CONT.

| | |
|---|---|
| **AIR / OIL COOLED METRIC** | |
| Engine | Max-Cycle 20W-50<br>Max-Cycle 10W-40 |
| Shaft Drive | Max Gear 75W-90 |
| **AIR / OIL COOLED DOMESTIC** | |
| Buell Engine | Max-Cycle 20W-50 |
| Transmission | Max-Cycle 10W-40 |
| H/D Sportster | |
| Engine | Max-Cycle 20W-50 |
| H/D Evo / TwinCam | |
| Engine | Max-Cycle 20W-50 |
| Transmission | Max Gear 75W-90<br>Max-Cycle 20W-50 |
| Primary | Max-Cycle 10W-40<br>Max-Cycle 20W-50 |

### OFF-ROAD / DUAL SPORT: 2-C, 4-C

| | |
|---|---|
| **4-CYCLE** | |
| Engine | Max-Cycle 10W-40<br>Max-Cycle 20W-50 |
| Transmission | |
| - Separate Tank | Synchromax<br>Max-Cycle 10W-40 |
| Final Drive - Shaft | Max Gear 75W-90 |
| **2-CYCLE** | |
| Engine | |
| Pre-mix | HP 2-C |
| Racing | |
| Oil Injection | HP 2-C |
| Transmission | Synchromax |

### OFF-ROAD / DUAL SPORT: 2-C, 4-C, CONT.

| | |
|---|---|
| **AIR / OIL COOLED METRIC** | |
| Engine | Max-Cycle 10W-40<br>Max-Cycle 20W-50 |
| Final Drive - Shaft | Max Gear 75W-90 |

### MX MOTORCYCLE & ATV: 2-CYCLE, 4-CYCLE

| | |
|---|---|
| **4-CYCLE** | |
| Engine | Max-Cycle 10W-40 |
| Transmission | |
| - Separate Tank | Synchromax<br>Max-Cycle 10W-40 |
| Final Drive - Chain | Max-Chain |
| Final Drive - Shaft | Max Gear 75W-90 |
| 2-Cycle | |
| Engine | |
| Pre-mix and Oil-injection | HP 2-C |
| Transmission | Synchromax |
| Final Drive - Chain | Max-Chain |
| Shaft Drive | Max Gear 75W-90 |

### PERSONAL WATER CRAFT

| | |
|---|---|
| **4-CYCLE** | |
| Engine | HPS 10W-30<br>HPS 10W-40 |
| Outdrive/Lower Unit | Max Gear 75W-90 |
| **2-CYCLE** | |
| Engine | |
| Pre-mix and Oil-injection | HP 2-C |
| Outdrive/Lower Unit | Max Gear 75W-90 |

### MARINE APPLICATIONS

| | |
|---|---|
| **BOATS** | |
| Inboard | |
| 4-Cycle Gasoline Engine | HPS 10W-30<br>HPS 10W-40 |
| 4-Cycle Diesel Engine | Duralec Super 15W-40<br>Duralec Ultra 15W-40<br>HPS 10W-40 |
| Outdrive/Lower Unit | Max Gear 75W-90 |
| Outboard | |
| 4-Cycle Engine | HPS 10W-30<br>HPS 10W-40 |
| 2-Cycle Engine | |
| Pre-mix | HP 2-C |
| Oil Injection | HP 2-C |
| Lower Unit | Max Gear 75W-90 |

### SNOWMOBILE & SNOW MACHINE

| | |
|---|---|
| **4-CYCLE** | |
| Engine | Max-Cycle 10W-40 |
| Transmission/Chain Case | Synchromax*<br>HPS 5W-30<br>Max-Cycle 10W-40 |
| **2-CYCLE** | |
| Engine | |
| Pre-mix | HP 2-C |
| Oil Injection | Snow 2-C |
| Transmission/Chain Case | Synchromax* |

### GENERAL MAINTENANCE

| | |
|---|---|
| Pivots, Cables, Oiled Bearings | Maxfilm |
| Trailer (wheel bearings) | Ultra Performance Grease |

*CONSULT ROYAL PURPLE'S TECHNICAL SUPPORT DEPARTMENT FOR RECOMMENDATIONS.



PRODUCT RECOMMENDATIONS

GENERAL APPLICATIONS

This is a general outline. Always follow manufacturer's recommendations for oil viscosities or contact Royal Purple's Automotive Technical Support Department at 888-382-6300.

*CONSULT ROYAL PURPLE'S TECHNICAL SUPPORT DEPARTMENT FOR RECOMMENDATIONS.

## HIGH PERFORMANCE & RACING APPLICATIONS

This is a general outline. Always follow manufacturer's recommendations for oil viscosities or contact Royal Purple's Automotive Technical Support Department at 888-382-6300.

### AUTOMOTIVE

#### ENGINES

| | |
|---|---|
| Drag Racing* | HPS 10W-30<br>HPS 10W-40<br>HPS 20W-50<br>XPR 0W-8<br>XPR 0W-20<br>XPR 0W-30<br>XPR 5W-40<br>XPR 5W-50 |
| Midgets | XPR 0W-30<br>XPR 5W-40<br>XPR 5W-50 |
| Sprint Cars | XPR 0W-30<br>XPR 5W-40<br>XPR 5W-50 |
| Late Models* | HPS 10W-30<br>HPS 10W-40<br>HPS 20W-50<br>XPR 0W-30<br>XPR 5W-40<br>XPR 5W-50 |
| Road Racing* | HPS 10W-30<br>HPS 10W-40<br>HPS 20W-50<br>XPR 0W-30<br>XPR 5W-40<br>XPR 5W-50<br>XPR 10W-60 |
| Super Speedway | XPR 0W-20<br>XPR 5W-40 |

### AUTOMOTIVE

#### AUTO TRANSMISSIONS

| | |
|---|---|
| | Max ATF |

#### MANUAL TRANSMISSIONS

| | |
|---|---|
| | Max Gear 75W-90<br>Synchromax |

#### DIFFERENTIALS

| | |
|---|---|
| | Max Gear 75W-90<br>Max Gear 75W-140 |

### KARTS

#### ENGINES

| | |
|---|---|
| 2-Cycle | HP 2-C |
| 4-Cycle | XPR 0W-20<br>XPR 0W-30 |

#### CHAINS

| | |
|---|---|
| | Max-Chain |

### MARINE

#### ENGINES

| | |
|---|---|
| 2-Cycle | HP 2-C |
| 4-Cycle | HPS 10W-30<br>HPS 10W-40<br>XPR 0W-30<br>XPR 5W-40<br>Max-Cycle 20W-50 |

***CONSULT ROYAL PURPLE'S TECHNICAL SUPPORT DEPARTMENT FOR RECOMMENDATIONS.**



PRODUCT RECOMMENDATIONS

## HIGH PERFORMANCE & RACING APPLICATIONS

This is a general outline. Always follow manufacturer's recommendations for oil viscosities or contact Royal Purple's Automotive Technical Support Department at 888-382-6300.

### MOTORCYCLE & ATV

#### ENGINES

| | |
|---|---|
| 2-Cycle | |
| Pre-mix and Oil-injection | HP 2-C |
| 4-Cycle* | |
| - Gas | XPR 0W-20<br>XPR 0W-30<br>XPR 5W-40<br>XPR 5W-50 |
| - Liquid-Cooled | XPR 0W-8<br>XPR 0W-20<br>XPR 0W-30<br>XPR 5W-40<br>Max-Cycle 10W-40 |
| - Air- / Oil-Cooled | XPR 5W-50<br>Max-Cycle 20W-50 |
| - N2O & Exotic Fuel | XPR 0W-20<br>XPR 5W-40 |

#### TRANSMISSION

| | |
|---|---|
| Separate Tank | Synchromax<br>Max-Cycle 10W-40<br>Max-Cycle 20W-50<br>XPR 0W-30<br>XPR 5W-30<br>XPR 5W-40<br>XPR 5W-50 |

#### FINAL DRIVE

| | |
|---|---|
| Shaft | Max Gear 75W-90 |

### SNOW MACHINE

#### ENGINES

| | |
|---|---|
| 2-Cycle Pre-mix or Mod. Oil Injection | HP 2-C<br>Snow 2-C |
| 2-Cycle Stock Oil Injection | XPR 0W-20<br>XPR 0W-30<br>XPR 5W-40 |
| 4-Cycle | |

#### TRANSMISSIONS / CHAIN CASES

| | |
|---|---|
| | Synchromax |

***FOLLOW MANUFACTURER'S VISCOSITY RECOMMENDATIONS**

This is a general outline. Always follow manufacturer's recommendations or contact Royal Purple's Automotive Technical Support Dept. at 888-382-6300.

| TRANSMISSION | LUBRICANT SPEC / PART NUMBER | ROYAL PURPLE'S RECOMMENDATION |
|---|---|---|
| **AUTOMATIC TRANSMISSION** | | |
| See Max ATF Specs Page 24 | | |
| **MANUAL TRANSMISSION** | | |
| Manual Transmission/ Transaxle | Spec ATF's | Synchromax |
| Manual Transmission/ Transaxle | 75W-90, 80W-90, 80W, 90W GL-4 or GL-5 | Max Gear 75W-90 |
| Manual Transmission/ Transaxle | 75W-90, 80W-90 GL-3 | HPS 10W-40 or XPR 5W-40 |
| Bert & Brinn | | Synchromax |
| Liberty & G-Force | | Synchromax |
| **APPLICATION** | **OEM SPEC # / PART #** | **ROYAL PURPLE RECOMMENDED** |
| AUDI / VW | G-052-145 | Max Gear 75W-90 |
| BMW / MINI<br>1983 – 1992: Inspect for color-coded label - typically affixed to passenger side of transmission | Green Label (Mobil SHC 630)<br>Red Label (Dexron III)<br>No Label (80W GL-4)<br>1993 – 1997 (Dexron III)<br>1998 & up (Mobil SHC 630)<br>Esso MTF-LT-1, MTF-LT-2<br>MTF LT-3,<br>MTF-LT-4,<br>MTF-94<br>Castrol SAF-XJ (limited-slip)<br>Castrol SAF-XO | Max Gear 75W-90<br>Synchromax<br>HPS 5W-30<br>Synchromax<br>Max Gear 75W-90<br>Synchromax<br>Synchromax<br>Max Gear 75W-90<br>XPR 5W-20<br>Max Gear 75W-140<br>Max Gear 75W-90 |

TRANSMISSION LUBRICANT CROSS REFERENCE

This is a general outline. Always follow manufacturer's recommendations or contact Royal Purple's Automotive Technical Support Dept. at 888-382-6300.

| TRANSMISSION | LUBRICANT SPEC / PART NUMBER | ROYAL PURPLE'S RECOMMENDATION |
|---|---|---|
| **APPLICATION** | **OEM SPEC # / PART #** | **ROYAL PURPLE RECOMMENDED** |
| CHRYSLER / JEEP | 75W-90 GL-3<br>04873167<br>04874459<br>04874464<br>04874465<br>04874469<br>05179014AA<br>Mopar C635 DDCT Trans Fluid, 75W<br>MS-9224<br>MS-9417<br>NV4500 5-spd (75W-85)<br>Viper Trans, 1993 (DEX III)<br>Viper Trans, 1994 –2006 (75W-85)<br>Viper Trans, 2008 & up (ATF+4) | HPS 10W-40<br>Synchromax<br>Max Gear 75W-90<br>Synchromax<br>Synchromax<br>Max Gear 75W-140<br>Synchromax<br>Synchromax<br>Synchromax<br>Synchromax<br>Max Gear 75W-90<br>Synchromax<br>Max Gear 75W-90<br>Synchromax |
| FORD MOTOR CO. | ESP-M2C166-H Mercon<br>F32Z 19C547<br>XL-12<br>XT-2-QSM<br>XT-5-QM<br>XT-M5-QS<br>XT-11-QDC | Synchromax<br>Max Gear 75W-90<br>Synchromax<br>Synchromax<br>Synchromax<br>HPS 10W-40<br>Synchromax |
| GENERAL MOTORS | SAE 80W-90<br>GM 1052931<br>GM 12345349 (Synchromesh)<br>GM 12345577<br>GM 12346190 (SynTorque LT)<br>GM 1235977<br>GM 12377916 (Synchromesh)<br>GM 12378261<br>GM 12378396 | Max Gear 75W-90<br>HPS or XPR 5W-30<br>Synchromax<br>Synchromax<br>Max Gear 75W-90<br>Max Gear 75W-90<br>Synchromax<br>Max Gear 75W-90<br>Synchromax |

ALL THIRD PARTY TRADEMARKS REFERENCED BY ROYAL PURPLE REMAIN THE PROPERTY OF THEIR RESPECTIVE OWNERS.

This is a general outline. Always follow manufacturer's recommendations or contact Royal Purple's Automotive Technical Support Dept. at 888-382-6300.

| TRANSMISSION | LUBRICANT SPEC / PART NUMBER | ROYAL PURPLE'S RECOMMENDATION |
|---|---|---|
| APPLICATION | OEM SPEC # / PART # | ROYAL PURPLE RECOMMENDED |
| GENERAL MOTORS | GM 12378505 | Synchromax |
| | GM 12378508 | Synchromax |
| | GM 12378514 | Synchromax |
| | GM 12378515 | Synchromax |
| | GM 12378557 (QuadraSteer) | Max Gear 75W-90 |
| | GM 19256084 | Synchromax |
| | GM 19259104 | HPS or XPR 5W-30 |
| | GM 21018899 | HPS or XPR 5W-30 |
| | GM 88861800 | Synchromax |
| | GM 88862472 or 88862473 | HPS or XPR 5W-30 |
| | GM 88900402 | Synchromax |
| | GM 89021677 | Max Gear 75W-90 |
| | GM 89021806 | HPS or XPR 5W-40 |
| | GM 92184900 (Castrol SAF Carbon Mod) | Max Gear 75W-90 |
| | AutoTrak II | Synchromax |
| | BOT 0063 | HPS or XPR 5W-30 |
| | MTF 0063 | HPS or XPR 5W-30 |
| | Saab 12799117 | HPS or XPR 5W-30 |
| | Saturn 21005966 | Synchromax |
| | Saturn MTF | HPS or XPR 5W-30 |
| | VersaTrak fluid | Synchromax |
| HONDA / ACURA | Honda MTF # 08798-9031 | HPS or XPR 5W-20<br>Synchromax |
| | Acura MTF # 08798-9031A | HPS or XPR 5W-20<br>Synchromax |
| | Honda MTF # 08798-9016 | HPS or XPR 5W-30 |
| | Acura MTF # 08798-9016A | HPS or XPR 5W-30 |
| HYUNDAI | SAE 75W-85 (6-spd manual) | HPS or XPR 10W-40, XPR 5W-40 |



TRANSMISSION LUBRICANT CROSS REFERENCE

This is a general outline. Always follow manufacturer's recommendations or contact Royal Purple's Automotive Technical Support Dept. at 888-382-6300.

| TRANSMISSION | LUBRICANT SPEC / PART NUMBER | ROYAL PURPLE'S RECOMMENDATION |
|---|---|---|
| APPLICATION | OEM SPEC # / PART # | ROYAL PURPLE RECOMMENDED |
| JAGUAR / LAND ROVER | Shell TF 0753 | Synchromax |
| | Shell Spirax TS 90 | Max Gear 75W-90 |
| | Castrol SAF XO | Max Gear 75W-90 |
| | Castrol SAF Carbon Mod | Max Gear 75W-90 |
| MERCEDES BENZ / SMART CAR | MB 000 989 2603 | Synchromax |
| | MB 001 989 2603 | Synchromax |
| | MB 001 989 1703 (Hypoid Gear Oil) | Max Gear 75W-90 |
| | Shell ATF 3403 M115, MB 236.10, NAG1 | Max ATF |
| | Fuchs ATF 3353, MB 236.12 | Max ATF |
| | Castrol Manual BOT 328 | Max Gear 75W-90 |
| MITSUBISHI | Texaco MTX Fluid FM | XPR 5W-20 |
| NISSAN | Castrol SAF-XJ | Max Gear 75W-140 |
| | Nissan Trans Oil R35 Special | Synchromax |
| PORSCHE | 000 043 300 38 | Synchromax |
| | 000 043 304 71 | HPS or XPR 10W-40, XPR 5W-40 |
| | 000 043 300 37 | Max Gear 75W-90 |
| | Castrol BOT 338 (75W-80) | Synchromax |
| | Shell Spirax S5 ATF (75W-90) | HPS or XPR 10W-40, XPR 5W-40 |
| | Burmah Carbon Mod (75W-90) | Max Gear 75W-90 |
| TOYOTA | V-160, 08885-01306 | Synchromax |
| | ('93 & up Turbo Supra) | |
| | Toyota Genuine LF Gear Oil | Synchromax |

## MOTOR OIL

### HEAVY-DUTY

| | | |
|---|---|---|
| SAE 30 | 6 x 1-Qt. Case | 06030 |
| | 1-Qt. Bottle | 01030 |
| SAE 40 | 6 x 1-Qt. Case | 06040 |
| | 1-Qt. Bottle | 01040 |
| SAE 50 | 55-Gal. Drum | 55050 |
| | 5-Gal. Pail | 05050 |
| | 6 x 1-Qt. Case | 06050 |
| | 1-Qt. Bottle | 01050 |

### HIGH PERFORMANCE

| | | |
|---|---|---|
| 0W-20 | 55-Gal. Drum | 55020 |
| | 6-Gal. BIB | 60020 |
| | 5-Gal. Pail | 05020 |
| | 3 x 5-Qt. Case | 53020 |
| | 5-Qt. Bottle | 51020 |
| | 6 x 1-Qt. Case | 06020 |
| | 1-Qt. Bottle | 01020 |
| 5W-20 | 55-Gal. Drum | 55520 |
| | 6-Gal. BIB | 60520 |
| | 5-Gal. Pail | 05520 |
| | 3 x 5-Qt. Case | 53520 |
| | 5-Qt. Bottle | 51520 |
| | 6 x 1-Qt. Case | 06520 |
| | 1-Qt. Bottle | 01520 |
| 5W-30 | 55-Gal. Drum | 55530 |
| | 6-Gal. BIB | 60530 |
| | 5-Gal. Pail | 05530 |
| | 3 x 5-Qt. Case | 53530 |
| | 5-Qt. Bottle | 51530 |
| | 6 x 1-Qt. Case | 06530 |
| | 1-Qt. Bottle | 01530 |
| 10W-30 | 5-Gal. Pail | 05130 |
| | 3 x 5-Qt. Case | 53130 |
| | 5-Qt. Bottle | 51130 |
| | 6 x 1-Qt. Case | 06130 |
| | 1-Qt. Bottle | 01130 |
| 0W-40 | 6 x 1-Qt. Case | 06484 |
| | 1-Qt. Bottle | 11484 |
| 5W-40 | 5-Gal. Pail | 05540 |
| | 6 x 1-Qt. Case | 06540 |
| | 1-Qt. Bottle | 01540 |

## MOTOR OIL

### HPS® – HIGH PERFORMANCE STREET OIL

| | | |
|---|---|---|
| HPS 5W-20 | 55-Gal. Drum | 37520 |
| | 6 x 1-Qt. Case | 36520 |
| | 1-Qt. Bottle | 31520 |
| HPS 5W-30 | 55-Gal. Drum | 37530 |
| | 5-Gal. Pail | 35530 |
| | 6 x 1-Qt. Case | 36530 |
| | 1-Qt. Bottle | 31530 |
| HPS 10W-30 | 5-Gal. Pail | 35130 |
| | 6 x 1-Qt. Case | 36130 |
| | 1-Qt. Bottle | 31130 |
| HPS 10W-40 | 55-Gal. Drum | 37140 |
| | 5-Gal. Pail | 35140 |
| | 6 x 1-Qt. Case | 36140 |
| | 1-Qt. Bottle | 31140 |
| HPS 20W-50 | 55-Gal. Drum | 37250 |
| | 6 x 1-Qt. Case | 36250 |
| | 1-Qt. Bottle | 31250 |

### HMX® – HIGH MILEAGE MOTOR OIL

| | | |
|---|---|---|
| HMX 5W-20 | 3 x 5-Qt. Case | 37518 |
| | 5-Qt. Bottle | 17518 |
| | 6 x 1-Qt. Case | 67511 |
| | 1-Qt. Bottle | 17511 |
| HMX 5W-30 | 3 x 5-Qt. Case | 11749 |
| | 5-Qt. Bottle | 11748 |
| | 6 x 1-Qt. Case | 11745 |
| | 1-Qt. Bottle | 11744 |
| HMX 10W-30 | 3 x 5-Qt. Case | 11751 |
| | 5-Qt. Bottle | 11750 |
| | 6 x 1-Qt. Case | 11747 |
| | 1-Qt. Bottle | 11746 |



PART NUMBERS

## RACING OIL

### XPR® - EXTREME PERFORMANCE RACING

| | | |
|---|---|---|
| XPR 0W-8 | 6 x 1-Qt. Case | 06009 |
| | 1-Qt. Bottle | 01009 |
| XPR 0W-20 | 6 x 1-Qt. Case | 06008 |
| | 1-Qt. Bottle | 01008 |
| XPR 5W-20 | 6 x 1-Qt. Case | 06011 |
| | 1-Qt. Bottle | 01011 |
| XPR 0W-30 | 5-Gal. Pail | 05010 |
| | 6 x 1-Qt. Case | 06010 |
| | 1-Qt. Bottle | 01010 |
| XPR 5W-30 | 5-Gal. Pail | 05021 |
| | 6 x 1-Qt. Case | 06021 |
| | 1-Qt. Bottle | 01021 |
| XPR 5W-40 | 6 x 1-Qt. Case | 01042 |
| | 1-Qt. Bottle | 01042 |
| XPR 10W-40 | 55-Gal. Drum | 55041 |
| | 5-Gal. Pail | 05041 |
| | 6 x 1-Qt. Case | 06041 |
| | 1-Qt. Bottle | 01041 |
| XPR 5W-50 | 6 x 1-Qt. Case | 01052 |
| | 1-Qt. Bottle | 01052 |
| XPR 20W-50 | 5-Gal. Pail | 05051 |
| | 6 x 1-Qt. Case | 06051 |
| | 1-Qt. Bottle | 01051 |
| XPR 10W-60 | 6 x 1-Qt. Case | 06061 |
| | 1-Qt. Bottle | 01061 |

## 2-CYCLE OIL

| | | |
|---|---|---|
| HP 2-C® | 3 x 1-Gal. Case | 43311 |
| | 1-Gal. Bottle | 04311 |
| | 6 x 1-Qt. Case | 06311 |
| | 1-Qt. Bottle | 01311 |
| Snow 2-C™ | 3 x 1-Gal. Case | 43511 |
| | 1-Gal. Bottle | 04511 |

## MOTORCYCLE OIL

### MAX-CYCLE®

| | | |
|---|---|---|
| 10W-40 | 6 x 1-Qt. Case | 06315 |
| | 1-Qt. Bottle | 01315 |
| 20W-50 | 6 x 1-Qt. Case | 06316 |
| | 1-Qt. Bottle | 01316 |

## DURALEC®

### MOTOR OIL

| | | |
|---|---|---|
| Duralec Super 15W-40 | 320-Gal. Tote | 88154 |
| | 275-Gal. Tote | 68154 |
| | 55-Gal. Drum | 55154 |
| | 5-Gal. Pail | 05154 |
| | 3 x 1-Gal. Case | 43154 |
| | 1-Gal. Bottle | 04154 |
| | 6 x 1-Qt. Case | 06154 |
| | 1-Qt. Bottle | 01154 |
| Duralec Ultra 10W-30 | 55-Gal. Drum | 87456 |
| | 3 x 1-Gal. Case | 80456 |
| | 1-Gal. Bottle | 83456 |
| Duralec Ultra 15W-40 | 3 x 1-Gal. Case | 80561 |
| | 1-Gal. Bottle | 83561 |

## GEAR OILS

### MAX GEAR®

| | | |
|---|---|---|
| 75W-90 | 5-Gal. Pail | 05300 |
| | 6 x 1-Qt. Case | 06300 |
| | 1-Qt. Bottle | 01300 |
| 80W-90 | 5-Gal. Pail | 05302 |
| 75W-140 | 5-Gal. Pail | 05301 |
| | 6 x 1-Qt. Case | 06301 |
| | 1-Qt. Bottle | 01301 |
| 85W-140 | 6 x 1-Qt. Case | 06303 |
| | 1-Qt. Bottle | 01303 |

## TRANSMISSION FLUIDS

### AUTOMATIC

| | | |
|---|---|---|
| Max ATF® | 5-Gal. Pail | 05320 |
| | 6 x 1-Qt. Case | 06320 |
| | 1-Qt. Bottle | 01320 |

## TRANSMISSION FLUIDS

### MANUAL

| | | |
|---|---|---|
| Synchromax® | 6 x 1-Qt. Case | 06512 |
| | 1-Qt. Bottle | 01512 |

## SPECIALTY LUBRICANTS

### FUEL SYSTEM CLEANER AND STABILIZER

| | | |
|---|---|---|
| Max-Clean® | 6 x 20-Oz. Case | 11723 |
| | 20-Oz. Bottle | 11722 |

### FUEL INJECTOR CLEANER

| | | |
|---|---|---|
| Max-Atomizer™ | 12 x 6-Oz. Case | 18000 |
| | 6-Oz. Bottle | 18000 |

### OCTANE BOOST & STABILIZER

| | | |
|---|---|---|
| Max-Boost™ | 6 x 16-Oz. Case | 06757 |
| | 16-Oz. Bottle | 11757 |

## SPECIALTY LUBRICANTS

### DIESEL CETANE BOOSTER

| | | |
|---|---|---|
| Max-Tane® | 6 x 20-Oz. Case | 06755 |
| | 20-Oz. Bottle | 11755 |

### POWER STEERING FLUID

| | | |
|---|---|---|
| Max EZ® | 12 x 12-Oz. Case | 12326 |
| | 12-Oz. Bottle | 01326 |

### RADIATOR COOLANT ADDITIVE

| | | |
|---|---|---|
| Purple Ice® | 12 x 12-Oz. Case | 12600 |
| | 12-Oz. Bottle | 01600 |

### PENETRATING FLUID

| | | |
|---|---|---|
| Maxfilm® | 12 x 11-Oz. Case | 15000 |
| | 11-Oz. Can | 05000 |

### COMPRESSOR LUBRICANT

| | | |
|---|---|---|
| Synfilm® Recip. 100 | 6 x 1-Qt. Case | 06513 |
| | 1-Qt. Bottle | 01513 |

### ASSEMBLY LUBRICANT

| | | |
|---|---|---|
| Max-Tuff® | 12 x 8-Oz. Case | 01335 |
| | 8-Oz. Bottle | 01335 |

### CHAIN LUBRICANT

| | | |
|---|---|---|
| Max-Chain® | 12 x 11-Oz. Case | 12330 |
| | 11-Oz. Can | 05330 |

### ENGINE BREAK-IN OIL

| | | |
|---|---|---|
| Break-In Oil | 6 x 1-Qt. Case | 06487 |
| | 1-Qt. Bottle | 11487 |

### MULTI-PURPOSE GREASE

| | | |
|---|---|---|
| Ultra-Performance Grease® | 30 x 14.1-Oz. Case | 10069 |
| | 14. 1-Oz. Tube | 01312 |





## MOTOR OILS

### HIGH PERFORMANCE

| | | |
|---|---|---|
| 0W-20 | 3 x 5-Qt. Case | 23020 |
| | 5-Qt. Bottle | 20020 |
| | 6 x 1-Qt. Case | 26020 |
| | 1-Qt. Bottle | 21020 |
| 5W-20 | 3 x 5-Qt. Case | 23520 |
| | 5-Qt. Bottle | 20520 |
| | 6 x 1-Qt. Case | 26520 |
| | 1-Qt. Bottle | 21520 |
| 5W-30 | 3 x 5-Qt. Case | 23530 |
| | 5-Qt. Bottle | 20530 |
| | 6 x 1-Qt. Case | 26530 |
| | 1-Qt. Bottle | 21530 |
| 10W-30 | 3 x 5-Qt. Case | 23130 |
| | 5-Qt. Bottle | 20130 |
| | 6 x 1-Qt. Case | 26130 |
| | 1-Qt. Bottle | 21130 |
| 15W-40 | 3 x 5-Qt. Case | 23154 |
| | 5-Qt. Bottle | 20154 |

### HMX® – HIGH MILEAGE MOTOR OIL

| | | |
|---|---|---|
| HMX 5W-30 | 3 x 5-Qt. Case | 23748 |
| | 5-Qt. Bottle | 21748 |

## MOTORCYCLE OIL

### MAX-CYCLE®

| | | |
|---|---|---|
| 10W-40 | 6 x 1-Qt. Case | 26315 |
| | 1-Qt. Bottle | 21315 |
| 20W-50 | 6 x 1-Qt. Case | 26316 |
| | 1-Qt. Bottle | 21316 |

## TRANSMISSION FLUID

### MANUAL

| | | |
|---|---|---|
| Synchromax® | 6 x 1-Qt. Case | 26512 |
| | 1-Qt. Bottle | 21512 |

## GEAR OIL

### MAX GEAR®

| | | |
|---|---|---|
| 75W-90 | 6 x 1-Qt. Case | 26300 |
| | 1-Qt. Bottle | 21300 |
| 75W-140 | 6 x 1-Qt. Case | 26301 |
| | 1-Qt. Bottle | 21301 |

## SPECIALTY LUBRICANTS

### FUEL SYSTEM CLEANER AND STABILIZER

| | | |
|---|---|---|
| Max-Clean® | 6 x 20 -Oz. Case | 26722 |
| | 20-Oz. Bottle | 21722 |

### FUEL INJECTOR CLEANER

| | | |
|---|---|---|
| Max-Atomizer™ | 12 x 6-Oz. Case | — |
| | 6-Oz. Bottle | 26000 |

# GET YOUR ROYAL PURPLE GEAR

WWW.CAL-CONNECT.COM

- Banners
- Racks
- Hats
- Shirts
- Brochures
- Pamphlets
- Counter Mats
- Decals










Visit our company store for a complete list of Point-of-Purchase materials.

ROYAL PURPLE®
SYNTHETIC OIL

PART NO.
**830034**

**CALUMET BRANDED PRODUCTS, LLC**
2780 Waterfront Parkway East Drive | Suite 200 | Indianapolis, IN 46214
PH 281.354.8600 | TF 888.382.6300 | FX 281.354.7335 | www.royalpurple.com
Copyright © 2019, Calumet Branded Products, LLC. All rights reserved