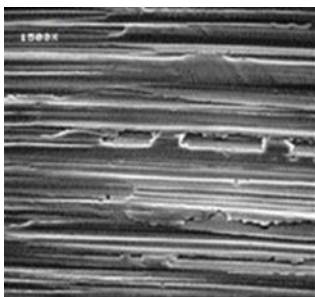


# HP Straight Grade Motor Oil

## HIGH PERFORMANCE MOTOR OIL

Royal Purple® HP Straight Grade Motor Oil is specifically formulated for vintage automotive, off-highway agricultural and recreational, and older non-turbo diesel engines. Many older gasoline and diesel engine recommend the use of a straight (mono-viscosity) grade engine oil, and these engines also benefit from elevated wear-protecting chemistry, beyond what is allowed in current engine oil specifications intended for late-model, emissions-controlled vehicles. Royal Purple HP Straight Grade engine oils provide enhanced protection against wear and friction with a zinc/phosphorus enhanced formulation, and Royal Purple's proprietary additive technology, Synerlec®.

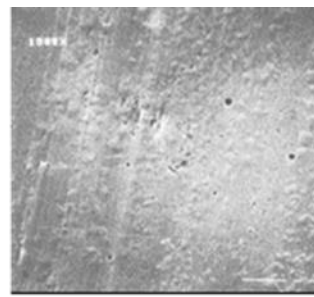
Synerlec® is Royal Purple's proprietary additive chemistry that greatly increases the protective film strength of the oil, reducing metal to metal contact, friction and wear. Synerlec® also increases the oil's resistance to thermal degradation, reducing deposit formation and lengthening the oil's useful life.



New Bearing\*



After Leading Synthetic\*



After Royal Purple  
w/ Synerlec\*

HP Straight Grade motor oils are recommended for use in gasoline and diesel applications that need enhanced protection against wear and deposits to ensure long-life and optimized operation. Royal Purple HP Straight Grade Motor Oils are recommended only for engines, transmissions and gear boxes that specify the use of mono-grade SAE 30, SAE 40, SAE 50 engine oil.

## PERFORMANCE ADVANTAGES

- **UNSURPASSED WEAR PROTECTION** – Elevated anti-wear additive and Synerlec® additive technology prevents wear of piston rings, valve train, and other components beyond licensed HD diesel engine oils
- **OUTSTANDING OXIDATION RESISTANCE** – Less thermal breakdown allows longer oil drain intervals
- **INCREASED EFFICIENCY** – Synthetic base oils and Synerlec® additive technology reduce parasitic loss, increasing fuel economy
- **OUTSTANDING DEPOSIT CONTROL** – Keeps engines cleaner, ensuring maximum performance
- **SUPERIOR CORROSION PROTECTION** - No rust observed in standard industry testing



## TECHNICAL DATA SHEET

### OEM SPECIFICATIONS

SAE 30:	Meets performance requirements for API CK-4 and SN
SAE 40:	Meets performance requirements for API CK-4 and SN
SAE 50:	Meets performance requirements for API CK-4 and SN

Recommended for gasoline and diesel engines that specify the use of a mono-viscosity grade engine oil. May also be used in transmissions and gear boxes that specify the use of SAE 30, SAE40, or SAE 50 motor oil.

Typical Physical Properties				
Property	Test Method	30	40	50
API Service		CK-4/SN*	CK-4/SN*	CK-4/SN*
Viscosity @ 40°C, cSt	ASTM D445	75.3	124	185
Viscosity @ 100°C, cSt	ASTM D445	10.1	13.8	18.6
Viscosity Index	ASTM D2270	116	109	112
Flash Point, °C (°F)	ASTM D92	226 (440)	232 (450)	234 (454)
Pour Point, °C (°F)	ASTM D97	-42 (-45)	-36 (-33)	-36 (-33)
TBN, mg KOH	ASTM D2896	9.5	9.8	9.4
HTHS, @150°C, cP	ASTM D5481	3.1	4.1	5.1
Sulfated Ash, wt%	ASTM D874	1.05	1.03	1.03

\* Claimed performance; Royal Purple High Performance Straight Grade oils are not API licensed lubricants.