



## *Product Description*

**PennGrade High Mileage Motor Oils** maximize engine performance with premium base oils and optimized additive system to meet the lubricating demands of today's high mileage gasoline engines. **PennGrade High Mileage Motor Oils** offer excellent anti-wear and shear stability properties, protection from engine sludge, varnish deposits and valve train component corrosion. **PennGrade High Mileage Motor Oils** also offer exceptional resistance to thermal degradation, good anti-foaming characteristics and lower phosphorus levels for improved emissions systems performance in vehicles prone to consumption / oil leakage.

## *Features and Benefits*

**PennGrade High Mileage Motor Oils** are premium quality synthetic blend gasoline engine oils specially formulated for older, high mileage engines (over 75,000 miles). As engines age and accumulate thousands of miles, issues such as oil consumption, oil leakage and spark plug fouling can occur. **PennGrade High Mileage Motor Oils** are tailored with specific additives to counter these higher mileage issues. Additionally, **PennGrade High Mileage Motor Oils** contain seal swell agents that help stop oil leaks by conditioning and restoring engine seals. They also offer increased oxidation stability to decrease oil consumption and prevent oxidative thickening of the oil. **PennGrade High Mileage Motor Oils** utilize an enhanced dispersant and detergent additive system that promotes engine cleanliness and protects against performance robbing sludge while minimizing engine varnish deposits. They also offer outstanding wear protection for worn (tired) engine components as well as exceptional oil burn-off defense to decrease oil consumption. Typical product attributes include:

- Possesses Seal Swell Agents for Engine Seal Conditioning
- Emissions System Protection (Lowered Phosphorous)
- Maximizes Engine Performance
- Exceptional Resistance to Thermal Breakdown
- Increased Fuel Economy (Field Evaluated)
- Enhanced Detergency Package
- Synthetic Blend
- 100% Made in the USA

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## Typical Applications

PennGrade High Mileage Motor Oil Typical Applications				
Meets Specifications:	5W-20	5W-30	10W-30	10W-40
API SN	X	X	X	X
ILSAC GF-5	X	X	X	

## Typical Properties

PennGrade High Mileage Motor Oil Typical Properties					
Test	Method	5W-20	5W-30	10W-30	10W-40
SAE Grade	J-300	5W-20	5W-30	10W-30	10W-40
Viscosity @ 100°C, cSt	ASTM D445	8.6	10.9	11.9	14.2
Viscosity @ 40°C, cSt	ASTM D445	49.1	66.2	72.9	92.9
Viscosity Index	ASTM D2270	154	157	160	158
Cold Cranking Viscosity, cP	ASTM D5293	6,200 @ -30°C	6,300 @ -30°C	5,900 @ -25°C	6,500 @ -25°C
MRV Viscosity, cP	ASTM D4684	23,000 @ -35°C	28,000 @ -35°C	16,000 @ -30°C	25,000 @ -30°C
Flash Point, °C	ASTM D92	218	225	228	230
Flash Point, °F	ASTM D92	424	437	442	446
Specific Gravity @ 60°F	ASTM D1298	0.8703	0.8751	0.8787	0.8859
Density, lbs/gal	ASTM D1298	7.25	7.29	7.32	7.38
Sulfated Ash, Wt%	ASTM D874	0.87	0.87	0.87	0.87

PennGrade Part Number:	Bulk	61911	61921	61931	61901
	6 Gal. Bag-in-a-Box	61915*	61925*	61935*	61905*
	12-1 Qt Case, net 3 Gal	61916	61926	61936	61906

\*Special Programs may use a different part number.

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