



HAVOLINE[®] SYNTHETIC MOTOR OILS

SAE 0W-20 Maximum Fuel Economy, 5W-20, 5W-30, 5W-40, 10W-30

PRODUCT DESCRIPTION

A fully synthetic motor oil formulated for hot or cold operating temperatures, extended drain protection, heavy loads and for vehicles requiring a synthetic motor oil.

CUSTOMER BENEFITS

Havoline[®] Synthetic Motor Oils deliver value through:

- **Easy cold weather starting** due to excellent low temperature properties of the synthetic base oils.
- **Clean engines and emission systems** resulting from minimal deposits under heavy duty and stop-and-go driving conditions.
- **Promotes long engine life** due to extremely fast lubrication during starting, and outstanding wear protection during all other engine operating conditions.

FEATURES

Havoline Synthetic Motor Oils are designed for those drivers who demand the ultimate in engine protection. They exhibit outstanding thermal and shear stability to control viscosity, and continue to provide top performance and protection even during extended drain intervals. They provide an extra measure of protection for your investment in a sport utility vehicle (SUV), high performance, or luxury cars. Havoline Synthetic Motor Oils give advanced protection to high output, supercharged and turbocharged performance vehicles.

Havoline Synthetic Motor Oils are formulated using 100% synthetic base stocks for top performance. The exceptional volatility and stability of synthetic base stocks promotes low oil consumption, fast engine starting (especially in cold weather), and extremely

fast lubrication of all moving parts. In addition, a special blend of additives protects the engine against harmful deposits and wear.

SAE 0W-20 Maximum Fuel Economy meets API SM/CF and ILSAC GF-4 requirements and is recommended for use in Honda, Toyota, Ford, Nissan, Mazda, Mitsubishi and Chrysler engines for either SAE 0W-20 or SAE 5W-20 applications. It can increase engine efficiency and improve fuel economy up to 2% compared with other common lubricant grades and provides excellent engine protection in applications recommending SAE 0W-20 or 5W-20 motor oils.¹

SAE 5W-20 is recommended by Ford Motor Company. It meets the requirements of API SM/CF and ILSAC GF-4. It provides exceptional performance in extreme cold temperatures.

SAE 5W-30 meets the requirements of API SM/CF and ILSAC GF-4. It provides exceptional performance in extreme cold temperatures.

SAE 5W-40 provides the broadest range of protection of the five Havoline Synthetic Motor Oils. It is specifically formulated to meet European requirements and is an officially approved product by BMW, Mercedes-Benz, and Volkswagen. It meets the requirements of API SM/CF.

SAE 10W-30 provides good performance in a wide variety of weather conditions in the most popular viscosity grade. It meets the requirements of API SM/CF and ILSAC GF-4.

¹ Actual savings are dependent upon vehicle/engine type, outside temperature, driving conditions, and your current engine oil viscosity.

Product(s) manufactured in the USA.

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

A **Chevron** company product

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FUNCTIONS

Havoline® Synthetic Motor Oils provide excellent wear protection in two ways:

First, due to the unique properties of synthetic base oils, the oil flows faster to critical lubrication points at startup and begins protecting the engine sooner, compared to conventional mineral oils.

Second, Havoline Synthetic Motor Oils are formulated with advanced antiwear additives that provide a protective layer on metal surfaces. This combination of synthetic base stocks and advanced antiwear chemistry protects against wear and promotes long engine life.

Havoline Synthetic Motor Oils effectively control sludge that can restrict oil passages and intake screens and cause piston rings to stick. The superior stability of synthetic base oils allows them to resist degradation during high temperature operation and the high level of detergent additives keep sludge and varnish deposits from forming in the engine.

Havoline Synthetic Motor Oils provide excellent performance in both extreme cold and hot conditions. In cold temperatures, Havoline Synthetic Motor Oils flow easily, allowing for fast starts and quick lubrication. In today's hotter running engines, Havoline Synthetic Motor Oils maintain their viscosity and resist oxidation better than conventional mineral oils.

APPLICATIONS

Havoline Synthetic Motor Oils are recommended for four-stroke gasoline engines in passenger cars, sport utility vehicles, and light trucks.

Havoline Synthetic Motor Oils **SAE 0W-20 Maximum Fuel Economy, 5W-20, 5W-30 and 10W-30** meet:

- **API Service Categories**
 - SM/CF, SL/CF, SJ/CF
 - Energy Conserving for API SM
- **ILSAC GF-4**
- **manufacturer's specifications**
 - **General Motors**
GM 4718M (Corvette) (SAE 5W-30, 10W-30)
GM 6094M
 - **Daimler Chrysler MS 6395N**
 - **Ford**
WSS M2C929-A (SAE 5W-30)
WSS M2C930-A (SAE 0W-20, 5W-20)

Havoline Synthetic Motor Oil **SAE 0W-20 Maximum Fuel Economy** meets:

- **Ford WSS M2C930-A**
- **Chrysler MS 6395N**

Havoline Synthetic Motor Oil **SAE 5W-40** meets:

- **API Service Categories** SM/CF, SL/CF, SJ/CF
- **ACEA European Oil Sequence** A3/B4-04

Havoline Synthetic Motor Oil **SAE 5W-40** is approved by:

- **BMW** Longlife-01 oil
- **Mercedes Benz** MB-Approval 229.50
- **Volkswagen** 505.00, 502.00

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

TYPICAL TEST DATA

SAE Grade	0W-20	5W-20	5W-30	5W-40	10W-30
<i>Product Number</i>	223389	223401	223402	223403	223404
<i>MSDS Number</i>	8602	8602	8602	8602	8602
API Gravity	35.7	34.7	34.7	34	34.1
Viscosity, Kinematic cSt at 40-C cSt at 100-C	41 8.0	47 8.9	59.9 10.6	87 13.9	61.1 10.0
Viscosity, Cold Crank, °C/Poise	-35/44	-30/42	-30/37	-30/50	-25/41
Viscosity Index	172	165	167	170	149
Pour Point, °C(°F)	-36(-33)	-36(-33)	-36(-33)	-42(-43.6)	-39(-38)
Volatility, NOACK, 250-C, 1 h Evaporation Loss, %	14	11.5	13	10	7
Phosphorus, wt %	0.078	0.075	0.078	0.100	0.078
Zinc, wt %	0.088	0.080	0.088	0.110	0.088

Minor variations in product typical test data are to be expected in normal manufacturing.

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