



LUBRICANTS

Shield® Defense

Phillips 66® Shield Defense Synthetic Blend Motor Oil is a premium quality, part-synthetic automotive engine oil specially designed to provide excellent engine protection for both turbocharged gasoline direct-injection, conventional gasoline-fueled and flex-fueled passenger cars and light trucks under all operating conditions with more than 75,000 miles. It also is recommended for use in lower-mileage vehicles, including new cars under warranty.

Shield Defense Motor Oil is formulated with a blend of synthetic and conventional base stocks and a proprietary seal conditioner. The part-synthetic formulation provides enhanced protection against viscosity breakdown and the formation of sludge and varnish compared with conventional engine oils. Our proprietary SealMax seal conditioner helps recondition and revitalize engine seals, thereby helping to reduce oil consumption, minimize driveway leaks and reduce exhaust smoke. These performance benefits help to maximize engine performance and extend engine life in high-mileage vehicles, while also providing excellent engine protection in newer vehicles.

Shield Defense Motor Oil meets new car warranty requirements as defined by ILSAC GF-5. It is uniquely formulated to help combat low speed pre-ignition (LSPI) in turbocharged gasoline direct injection engines. It meets or exceeds "Resource Conserving" requirements for fuel economy improvement, emission system and turbocharger protection, and protection of engines operating on ethanol-containing fuels up to E85. It is backward serviceable for use where API SN or earlier "S" category engine oils are recommended.

Applications

- Turbocharged gasoline direct-injection, conventional gasoline-fueled and flex-fuel passenger cars, light trucks and sport utility vehicles, including gasoline-electric hybrids, especially when operating under severe conditions, especially those with more than 75,000 miles

Shield Defense Motor Oil is licensed for:

- ILSAC GF-5 (SAE 5W-20, 5W-30, 10W-30)
- API Service SN Plus with Resource Conserving (SAE 5W-20, 5W-30, 10W-30)
- API Service SN Plus (SAE 10W-40)

Shield Defense Motor Oil meets or exceeds the requirements of:

- Chrysler MS-6395 (Rev. T)
- Ford WSS-M2C945-A (SAE 5W-20)
- Ford WSS-M2C945-B1 (SAE 5W-20)
- Ford WSS-M2C946-A (SAE 5W-30)
- Ford WSS-M2C946-B1 (SAE 5W-30)
- GM6094M (obsolete specification)

**Synthetic Blend
Passenger Car
Engine Oil for
High Mileage
Vehicles;
Formulated with
SealMax®**

KEEPING THE
WORLD
RUNNING
SMOOTHLY. 



Features/Benefits

- Helps protect against low speed pre-ignition (LSPI) in turbocharged gasoline direct-injection engines (TGDI)
- Meets ILSAC GF-5 requirements for new cars under warranty
- Part-synthetic formulation provides enhanced protection against deposit formation and oil thickening, compared with conventional engine oils
- Proprietary SealMax® seal conditioner helps recondition and revitalize engine seals to reduce oil consumption and leaks
- Protects against rust and bearing corrosion
- Low volatility for reduced oil consumption
- Excellent low-temperature pumpability for protection during cold starts
- Highly resistant to foaming
- Helps maximize engine performance and minimize exhaust smoke
- Formulated to protect turbochargers and emissions control system catalysts
- Formulated for use in vehicles operating on ethanol-containing fuels up to E85

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Typical Properties				
SAE Grade	5W-20	5W-30	10W-30	10W-40
Specific Gravity @ 60°F	0.863	0.861	0.867	0.870
Density, lbs/gal @ 60°F	7.18	7.17	7.22	7.24
Color, ASTM D1500	3.0	3.0	3.0	3.0
Flash Point (COC), °C (°F)	218 (424)	216 (421)	229 (444)	227 (441)
Pour Point, °C (°F)	-39 (-38)	-39 (-38)	-39 (-38)	-36 (-33)
Viscosity, Kinematic				
cSt @ 40°C	49.9	67.0	65.7	111
cSt @ 100°C	8.6	10.8	10.5	15.8
Viscosity Index	150	152	148	151
Cold Cranking Viscosity, cP	6,150	6,150	4,550	6,900
@ (°C)	(-30)	(-30)	(-25)	(-25)
High-Temp/High-Shear Viscosity, cP @ 150°C	2.6	3.1	3.0	3.9
Sulfated Ash, ASTM D874, wt %	0.96	0.96	0.96	0.96
Total Base Number (TBN), ASTM D2896	8.0	8.0	8.0	8.0
Phosphorus, wt %	0.077	0.077	0.077	0.077
Zinc, wt %	0.085	0.085	0.085	0.085

Health Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via <http://www.phillips66.com/SDS>