LUBRICANTS

Shield® Choice

Premium Synthetic Blend Passenger Car Engine Oil

Phillips 66® Shield Choice Synthetic Blend Motor Oil is a premium quality, part-synthetic automotive engine oil 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.

Shield Choice Synthetic Blend Motor Oil is formulated to provide excellent wear protection, to minimize sludge and varnish formation, and to resist viscosity and thermal breakdown, even in severe service. It also protects against rust and bearing corrosion, and is resistant to foaming.

Shield Choice Synthetic Blend Motor Oil (except SAE 10W-40 & 20W-50) exceeds 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. Shield Choice (except SAE 10W-40 & 20W-50) meets "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
- Four-stroke cycle gasoline engines in other mobile or stationary equipment

Shield Choice Synthetic Blend Motor Oil is licensed for:

- ILSAC GF-5 (except SAE 10W-40 and 20W-50)
- API Service SN Plus with Resource Conserving (except SAE 10W-40 and 20W-50 which is API SN Plus only)

Shield Choice Synthetic Blend Motor Oil meets or exceeds the requirements of:

- Chrysler MS-6395
- 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)
- Ford WSS-M2C947-B1 (SAE 0W-20)
- Ford WSS-M2C947-A (SAE 0W-20)
- GM6094M (obsolete specification)

KEEPING THE WORLD RUNNING SMOOTHLY.

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PHILLIPS 66 LUBRICANTS

Features/Benefits

- Helps protect against low speed pre-ignition (LSPI) in turbocharged gasoline direct-injection engines (TGDI)
- Exceeds ILSAC GF-5 requirements for new cars under warranty
- Friction-modified for improved fuel economy
- Excellent resistance to viscosity and thermal breakdown at high temperatures
- Protects against sludge and varnish formation
- Protects against wear and bearing corrosion
- Low volatility for reduced oil consumption
- Highly resistant to foaming
- Formulated to protect turbochargers and emission control system catalysts
- Formulated for use in vehicles operating on ethanol-containing fuels up to E85

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Typical Properties						
SAE Grade	**0W-20**	**5W-20**	**5W-30**	**10W-30**	**10W-40**	**20W-50**
Specific Gravity @ 60°F	0.848	0.862	0.862	0.866	0.869	0.881
Density, lbs/gal @ 60°F	7.06	7.18	7.17	7.21	7.24	7.33
Color, ASTM D1500	3.0	3.0	3.0	3.0	3.0	3.5
Flash Point (COC), °C (°F)	218 (424)	218 (424)	216 (421)	229 (444)	227 (440)	230 (446)
Pour Point, °C (°F)	-34 (-29)	-30 (-22)	-30 (-22)	-30 (-22)	-30 (-22)	-30 (-22)
Viscosity, Kinematic						
cSt @ 40°C	46.0	49.8	65.4	65.1	106	176
cSt @ 100°C	8.8	8.5	10.9	10.4	15.8	19.6
Viscosity Index	174	147	158	148	150	128
Cold Cranking Viscosity, cP	5,400	6,150	6,150	4,550	6200	7200
@ (°C)	(-35)	(-30)	(-30)	(-25)	(-25)	(-15)
High-Temp/High-Shear Viscosity, cP @ 150°C	2.6	2.6	3.1	3.0	3.8	4.9
Sulfated Ash, ASTM D874, wt %	0.96	0.96	0.96	0.96	0.96	0.96
Total Base Number (TBN), ASTM D2896	8.0	8.0	8.0	8.0	8.0	8.0
Phosphorus, wt %	0.077	0.077	0.077	0.077	0.077	0.077
Zinc, wt %	0.085	0.085	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

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Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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