



MAGNA™ SYNERGY F-1

MAGNA™ SYNERGY F-1 - is a premium 100% PAO & ESTER based full 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. It is particularly recommended for vehicles operating at extreme temperatures or under severe driving conditions, such as towing heavy loads.

Applications

MAGNA SYNERGY F-1 is formulated with 100% PAO synthetic based stocks and an exclusive performance additive package. The full-synthetic formulation, compared with conventional engine oils, provides improved protection against viscosity breakdown and deposit formation at high temperatures; lower volatility for reduced oil consumption; and faster oil circulation at low temperatures for easier starting and better protection during cold starts. Our additive package provides increased engine protection by providing increased engine cleanliness and reduced wear. Reduced friction also helps improve fuel economy performance beyond ILSAC GF-6 requirements.

MAGNA SYNERGY F-1 exceeds new car warranty requirements as defined by ILSAC GF-6. It is uniquely formulated to help combat low speed pre-ignition (LSPI) in turbocharged gasoline direct injection engines. MAGNA SYNERGY F-1 Motor Oil 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.

Features & Benefits

- Helps protect against low-speed pre-ignition (LSPI) in turbocharged gasoline direct injections (TGDI) engines.
- Exceeds ILSAC GF-6 requirements for new cars under warranty
- Enhanced performance benefits at extreme temperatures compared with conventional engine oils
- Outstanding resistance to viscosity and thermal breakdown at high temperatures
- Protects against sludge and varnish formation
- 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
- Formulated to protect turbochargers and emission control system catalysts
- Formulated for use in vehicles operating on ethanol-containing fuels up to E85
- Innovative Shear Free Formulation and exceptional Anti-wear additives makes it an ideal product Equally for Auto car racing enthusiasts and fuel conserving owners.



Specifications: Meets

API SP, SN PLUS, SN

- 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
- ILSAC GF-6A, 0W-20, 5W-20, 5W-30, 10W-30
- ILSAC GF-6B, 0W-16
- API Service SP, SN PLUS with Resource Conserving

MAGNA SYNERGY F-1 meets or exceeds the requirements of:

- Chrysler MS-6395 (except 0W-16)
- Ford WSS-M2C960-A1 (SAE 5W-20)
- Ford WSS-M2C961-A1 (SAE 5W-30)
- Ford WSS-M2C962-A1 (SAE 0W-20)
- GM6094M (obsolete specification) (does not include 0W-16)

Typical Characteristics

SAE Grade	0W-16	0W-20	5W-20	5W-30	10W-30
Specific Gravity @ 60°F	0.846	0.845	0.848	0.85	0.853
Density, lbs/gal @ 60°F	7.05	7.05	7.06	7.1	7.11
Color, ASTM D1500	3	3	3	3	3
Flash Point (COC), °C (°F)	229 (444)	226 (439)	229 (444)	226 (439)	232 (450)
Pour Point, °C (°F)	-43 (-45)	-45 (-49)	-41 (-42)	-40 (-40)	-39 (-38)
Viscosity, Kinematic					
cSt @ 40°C	37.3	42	45.4	61	69.7
cSt @ 100°C	7.3	8	8.7	10.3	11.8
Viscosity Index	163	169	165	169	166
Cold Cranking Viscosity, cP	5000	5700	3650	5900	4000
@ (°C)	(-35)	(-35)	(-30)	(-30)	(-25)
High Temp/High Shear Viscosity, cP @ 150°C	2.3	2.6	2.6	3	3.4
Sulfated Ash, ASTM D874, wt %	0.8	0.8	0.8	0.8	0.8
Total Base Number (TBN), ASTM D2896	7	7.9	7	8.6	7
Phosphorus, wt %	0.077	0.068	0.077	0.068	0.077
Zinc, wt %	0.085	0.074	0.085	0.074	0.085

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.