



## PETROTM OIL

### LUBENZ MOTOBAK GF-6A

#### DESCRIPTION

**LUBENZ MOTOBAK GF-6A** is a premium quality, full-synthetic automotive engine oil designed to provide maximum 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. **LUBENZ MOTOBAK GF-6A** 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. 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
- Four-stroke cycle gasoline engines in other mobile or stationary equipment

#### PROPERTIES

**LUBENZ MOTOBAK GF-6A** is formulated with synthetic base stocks. The full synthetic formulation 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 when compared with conventional engine oils.

#### PERFORMANCE FEATURES AND BENEFITS

- Helps protect against low speed pre-ignition (LSPI) in turbocharged gasoline direct injection engines (TGDI)
- 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

#### RECOMMENDATIONS / SPECIFICATIONS

##### INTERNATIONAL LICENSES;

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

##### MEETS OR EXCEEDS THE REQUIREMENTS OF:

- GM dexos1® 0W-20 and 5W-30
- 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 TECHNICAL PROPERTIES

LUBENZ MOTOBAK GF-6A					
Viscosity Grade, SAE J300	0W-16	0W-20	5W-20	5W-30	10W-30
PRODUCT CODE	11458HT-1	11458HT-2	11458HT-3	11458HT-4	11458HT-5
Density at 15.6°C, g/ml, ASTM D4052	0.846	0.846	0.848	0.852	0.853
Color, ASTM 6045	3.0	0.848	0.852	0.853	0.846
Cold Cranking Viscosity (CCS), mPa s, ASTM D5293	5000 @-35°C	5900 @-35°C	3650 @-30°C	4900 @-30°C	4000 @-25°C
Kinematic Viscosity at 40°C, mm <sup>2</sup> /s, ASTM D445	37.3	45.2	45.4	63	69.7
Kinematic Viscosity at 100°C, mm <sup>2</sup> /s, ASTM D445	7.3	8.5	8.7	11.1	11.8
Viscosity Index, ASTM D2270	163	168	165	167	166
Flash Point(COC), °C, ASTM D92	228	230	228	234	232
Pour Point, °C, ASTM D97	-42	-45	-42	-42	-39
Total Base Number, mg KOH/g, ASTM D2896	7.0	7.9	7.0	8.6	7.0
Sulfated Ash, wt%, ASTM D 874	0.9	0.9	0.9	0.9	0.9
High-Temperature/High-Shear Viscosity @ 150°C, cP, ASTM D4683	2.3	2.6	2.6	3.0	3.4
Phosphorus, wt %, ASTM D5185	0.077	0.077	0.077	0.077	0.077
Zinc, wt %, ASTM D5185	0.085	0.085	0.085	0.085	0.085

**Note:** These characteristics are typical of current production. While future production will conform to LUBENZ specification, variations in these characteristics may occur.