



TECHNICAL DATA

102 Barton Street, St. Louis, Missouri 63104

In-State (314) 865-4100/Out of State 800-325-9962/Fax (314) 865-4107 <http://www.schaefferoil.com>

#704 SUPREME 7000 SAE 5W-20

API SM, ENERGY CONSERVING, ILSAC GF-4

Supreme 7000 SAE 5W-20 is a premium quality multi-grade synthetic blend engine oil that is specially formulated to reduce friction and wear, increase engine efficiency, provide fuel economy benefits and extend engine life in all gasoline engines including those that are turbocharged and supercharged. Supreme 7000 SAE 5W-20 exceeds the performance requirements for Ford, Honda, Mazda, and other automotive makes and models, where and SAE 5W-20 engine oil is specified or recommended.

Supreme 7000 SAE 5W-20 is blended from a unique combination of the finest quality solvent refined, severely raffinate hydroconverted Group II Plus and polyalphaolefin (PAO) synthetic base fluids available. This unique combination provides Supreme 7000 SAE 5W-20 with the following advantages:

1. **Superior Cold Weather Startability and Operating Characteristics.** This results in less friction and lubricant drag in the engine and instant lubrication during cold weather start up.
2. **Superior Oxidative Stability.** Any oil as it is increasingly exposed to high temperature operation undergoes the process of oxidation. This results in the oils thickening and the buildup of acidic components. Because of the PAO's and the Group II and Group III base oil's uniform molecular structure, the process of oxidation is greatly reduced.
3. **Excellent Resistance to Thermal Degradation.**
4. **Lower Volatility.** This results in reduced oil consumption and a reduction in emissions.
5. **Lower Engine Oil Pumpability at Low Temperatures.** This ensures the Supreme 7000 SAE 5W-20 will pump rapidly and be distributed rapidly at low temperatures, thus providing the optimum protection it needs at low temperature startup.
6. **A High Viscosity Index.** This results in minimum change in viscosity. The adequate viscosity for the proper lubrication of the engine is provided regardless of temperature..

Continued on Next Page

TD-704 (01/05)

- 7. Excellent Film Strength. This results in increased protection against wear.**
- 8. Compatibility with All Types of Seals.**
- 9. Extended Oil Drain Capability and Intervals.**

Blended into the synthetic blend base stocks is a highly advanced proprietary performance additive package and a highly shear stable viscosity index improver. This combination provides the Supreme 7000 SAE 5W-20 with the following performance benefits:

- 1. Outstanding protection against the formation of high temperature deposits.**
- 2. Exceptional protection against thermal breakdown during high engine oil operating temperatures.**
- 3. Rapid circulation and excellent pumpability.**
- 4. Excellent resistance to thinning at high temperatures.**
- 5. Excellent shear stability in order to help the Supreme 7000 SAE 5W-20 to stay in grade over the oil drain's interval.**
- 6. Substantially reduced oil consumption.**
- 7. Extra protection for hot running engines.**
- 8. Extra protection for cold running engines in stop-and-go service.**
- 9. Excellent high temperature/high shear performance to provide excellent oil film thickness and engine protection at high operating temperatures and shear rates, while minimizing lubricant frictional resistance.**
- 10. High detergency and dispersancy to suppress the formation of deposits, sludge and varnish.**
- 11. Reduced oil ageing allowing for increased drain intervals.**
- 12. A substantial reduction in ring and cylinder wear.**
- 13. Reduced bearing wear and increased bearing life.**
- 14. Excellent rust and bearing corrosion protection.**
- 15. Enhanced vehicle emissions control system compatibility.**
- 16. Extended vehicle emissions control system life.**
- 17. Increased engine cleanliness.**
- 18. Increased fuel economy benefits and retention for improved gas mileage during the oil's entire oil drain interval.**
- 19. Superior valve train-wear protection.**
- 20. Increased engine life.**
- 21. Excellent anti-foaming properties.**

Further blended into these synthetic blend base fluids, the highly advanced proprietary performance additive package and shear stability viscosity index improver are two proven frictional modifiers, Micron Moly®, a liquid soluble type TD-704

of Moly and Schaeffer Mfg's own proprietary additive Penetro® . These two proven frictional modifiers once plated, the Moly forms a long lasting slippery tenacious lubricant film, which prevents the metal surfaces from coming into contact with each other. By preventing metal-to-metal contact, damaging frictional wear is prevented from occurring. This prevention of metal-to-metal contact and reduction in wear results in:

- * **Increased fuel economy**
- * **A low coefficient of friction**
- * **Significantly less bearing, ring, piston , cylinder and valve-train wear.**
- * **Increased engine efficiency**
- * **Increased engine durability**
- * **Increased engine life**
- * **Less down-time**
- * **Reduced maintenance costs**

Supreme 7000 SAE 5W-20 meets and exceeds the following specifications and manufacturers' requirements: MIL-46152E, CID A-A-52039B, API Service Classification SM, Energy Conserving, ILSAC GF-4, Ford M2C153-H, Ford WSSM2C930-A, General Motors 6049M, General Motors 9986202, Daimler Chrysler MS-6395M, MS-6395L, ACEA A1-02, JASO VTW specifications.

TYPICAL PROPERTIES

SAE Grade	5W-20
API Gravity 60°F (ASTM D-1298)	35
Specific Gravity 60°F	0.85
Viscosity @ 40°C, cSt. (ASTM D-445)	43.00-45.00
Viscosity @ 100°C, cSt. (ASTM D-445)	7.5 – 8.5
High Temperature/High Shear Viscosity 302°F/150°C, cP (ASTM D-4683)	2.6
Cold Cranking Viscosity @-30°C, cP (ASTM D-5293)	3,587
Mini Rotary Viscosity TP1, cP @-35°C (ASTM D-4684)	16,400
Scanning Brookfield Gelation Index @ -22°F/-30°C	6.9
Viscosity Index (ASTM D-2270)	158
Sequence IIIF	
% Viscosity Increase @ 40°C	99.4%
Cam & Lifter Wear, um average	7.2
Sequence IIIG	
% Viscosity increase @ 40°C	67.1%
Cam & Lifter Wear, um average	25.60
Flash Point °F/°C (ASTM D-92)	439°/226°
Stable Pour Point °F/°C (FTM 7916 Method 203)	<-41°/<-42°
Volatility 700°F % Evaporation Loss (ASTM D-2887)	4.1
NOACK Volatility % Evaporation Loss (ASTM D-5800)	13.86
Orban Shear Stability (ASTM D-6278)	
% Loss 30 Passes	5%
% Loss 90 Passes	11%
Foam Test (ASTM D-892 Option A)	
Sequence I	0/0
Sequence II	0/0
Sequence III	0/0
Sequence IV	0/0
High Temperature Foam Test (ASTM D6082 Option A)	0/0
Sulfated Ash Content % wt (ASTM D-874)	0.83
Total Base Number (ASTM D2896)	7.5
Copper Strip Corrosion Test (ASTM D-130)	1a
MHT-4 TEOST (ASTM 6335)	
Deposit Weight, mg	23.8
Engine Rusting Ball and Rust Test (ASTM D-6557)	
Average Gray Value	133
% Phosphorous (ASTM D-4951)	0.076%

Packaging: #704 Supreme 7000 SAE 5W-20 is available in 55 gallon drums, 30 gallon drums and 12-1 quart/cases