

Mobil® Jet Oil 254

Aircraft-Type Gas Turbine Lubricant

Description

Mobil Jet Oil 254 is a third-generation synthetic lubricant made from a specially prepared hindered-ester base stock fortified with a special chemical additive package. The result is a product having superior thermal and oxidation stability that resists deterioration and deposit formation, while maintaining the physical characteristics required by builder and military specifications. Because of this, the physical properties of Mobil Jet Oil 254 are similar to currently available, earlier-generation turbine lubricants.

Advantages

Mobil Jet Oil 254 offers the following advantages and benefits:

- Reduces bulk oil oxidation by 50 percent
- Deposit control increased by 50 Fahrenheit degrees
- Reduces sludge and carbon deposit formation
- Reduces engine maintenance
- Longer seal and bearing life
- Lower oil consumption

The closely controlled viscosity at -40°C (-40°F), along with a pour point below -54°C (-65°F), ensure good low-temperature fluidity to permit starting and lubrication at -40°C. In extensive laboratory testing and in-flight experience, Mobil Jet Oil 254 exhibits excellent bulk oil stability at temperatures up to 232°C (450°F) for extended periods. The evaporation rate at these temperatures is low enough to prevent excessive loss of volume. The load-carrying ability of Mobil Jet Oil 254 comes from its synthetic base stock viscosity and, therefore, is not subject to loss from viscosity index additive shear. The lubricant has excellent resistance to foaming.

Typical Characteristics*

Viscosity	
cSt at 40°C	26.4
cSt at 100°C	5.3
cSt at -40°C	11,500
% change at -40°C after 72 hr.	2.2
Flash Point, °C (°F), min	254 (489)
Fire Point, °C (°F)	288 (550)
Autogenous Ignition Temp, °C (°F)	399 (750)
Pour Point, °C(°F)	-62 (-80)
Specific Gravity	1.0044
TAN (mg koh/g sample)	0.08
Evaporation Loss, %	
6.5 hr at 204°C (400°F), 29.5" Hg	2.1
6.5 hr at 232°C (450°F), 29.5" Hg	7.4
6.5 hr at 232°C (450°F), 5.5" Hg (Equals pressure at 40,000 ft altitude)	25.2
Foam, ml	
Sequence 1, 24°C (75°F)	0
Sequence 2, 93°C (200°F)	10
Sequence 3, 24°C (after 200°F test)	0
Foam Stability, after 1 min settling, ml	0
Rubber Swell	
F Rubber, 72 hr at 204°C (400°F), %	20.8
H Rubber, 72 hr at 70°C (158°F), %	20.0
Sonic Shear Stability	
kv at 38°C (100°F), change, %	0.7
Ryder Gear, average lb/in	2,715
% Hercolube A	114

* Physical properties are listed in the table. Values not identified as maximum or minimum are typical and may vary within modest ranges.

When compared to a typical Type II lubricant, Mobil Jet Oil 254 reduces bulk oil oxidation by up to 50 percent and shows deposit control capability 50°F degrees higher. These properties have been confirmed in various laboratory tests, including the Corrosion-Oxidation Stability Test, Alcor Deposit Test, Erdco High-Temperature Bearing Test, and the Thin Film Oxidation Test. Mobil Jet Oil 254 is compatible with other synthetic gas turbine lubricants meeting MIL-PRF-23699. Mixing with other products, however, could result in some loss of the superior performance features of Mobil Jet Oil 254. The lubricant is completely compatible with all metals used in gas turbine construction, as well as with F Rubber (Viton A), H Rubber (Buna N), and other commonly used seal materials.

Applications

Mobil Jet Oil 254 is recommended for aircraft gas turbine engines of the turbo-jet, turbo-fan, turbo-prop, and turbo-shaft (helicopter) types in commercial and military service. It also is suitable for aircraft-type gas turbine engines in industrial or marine service.

Mobil Jet Oil 254 is approved against the High Thermal Stability (HTS) classification of U.S. Military Specification MIL-PRF-23699, as well as by the following engine and accessory manufacturers:

Engine Approvals

- Honeywell/Lycoming-Turbines
- Rolls Royce/Allison Engine Co.
- CFM International
- General Electric Company
- International Aero Engines
- Pratt & Whitney Group
- Pratt & Whitney, Canada
- Rolls-Royce Limited
- SNECMA
- Honeywell/Garrett Turbine Engine Co.

Accessory Approvals

- Honeywell – Auxiliary power units and air cycle machines
- Hamilton Standard – Starters
- Hamilton Sundstrand Corp. – APUs, Constant-speed drives and integrated-drive generators

Health and Safety

Based on available toxicological information, it has been determined that this product poses no significant health risk when used and handled properly. Information on use and handling, as well as health and safety information, can be found in the Material Safety Data Sheet which can be obtained from your local distributor; via the Internet on <http://www.exxonmobil.com>; or by calling 1-800-662-4525 and selecting prompt 2.

For additional technical information or to identify the nearest U.S. ExxonMobil supply source, call 1-800-662-4525