ExxonMobil

Mobil Jet Oil 387

ExxonMobil Aviation , Ireland

Aircraft Type Gas Turbine Lubricant

Product Description

Mobil Jet Oil 387 has been developed to meet the performance requirements of both current and future, advanced gas turbine engines used in commercial and military service. Made from a specially prepared, ester base stock, Mobil Jet Oil 387 is fortified with a unique chemical additive package. The resulting lubricant has superior thermal and oxidation stability that resists deterioration and deposit formation. The physical properties of Mobil Jet Oil 387conform to required builder and military specifications.

Features and Benefits

Mobil Jet Oil 387 shows excellent performance controlling deposits typically experienced in both the liquid and vapor phases in bearing compartments, oil supply lines, and breather/scavenger lines. These properties have been confirmed in various laboratory tests, including the Corrosion-Oxidation Stability Test, Alcor Deposition Test, Vapor Phase Coker, Erdco High-Temperature Bearing Test, Ryder Gear, and the Mobil Thin Film Oxidation Test.

The closely controlled viscosity of Mobil Jet Oil 387 at -40°C (-40°F), and a pour point below -54°C (-65°F), ensure the good low-temperature fluidity which permits starting and lubrication at temperatures as low as -40°C. In extensive laboratory testing, Mobil Jet Oil 387 exhibits excellent bulk oil stability at temperatures greater than 225°C (437°F).

Features	Advantages and Potential Benefits
Long-duration fluorocarbon compatibility	Helps avoid premature or unscheduled engine repairs. Helps prevent leaks that can lead to air craft delays and cancellations.
Outstanding oil life characteristics, such as bulk oil stability, viscosity and TAN control	Helps minimize formation of sludge and carbon deposits which allows better engine efficiency and reduced engine repair costs as well potentially achieving longer oil drain intervals (in certain applications such as marine and land based turbines), effective lubrication at high operating temperatures
Very low vapor/mist and thin film deposition resistance	Helps control deposits in air vent tubes, bearingcompartments, and scavenge oil lines which will all result in reduced engine maintenance costs
Good low temperature fluidity	Permits start-up and ensures effective lubrication of critical components (such as APUs in ETOPS applications) at temperatures as low as -40 °F

Applications

Mobil Jet Oil 387 is approved against the new SAE AS5780 High Performance Capability (HPC) standard. This civil specification was developed to meet the growing performance and quality needs that commercial airlines seek, especially with the entrance of new, higher-output and lower consumption engines.

OEM in-house evaluation/approval programs are also underway. Once complete, Mobil Jet Oil 387 will be commercialized for use in aircraft gas turbine engines, including turbo-jet, turbo-fan, turbo-prop, and turbo-shaft (helicopter), in commercial and military service. In addition, it will be suitable for aircraft-type gas turbine engines in industrial and marine applications.

Mobil Jet Oil 387 is compatible with other synthetic gas turbine lubricants meeting U.S. Military Specification MIL-PRF-23699. Mixing with other products, however, could result in some loss of its superior performance features. 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. Engine/OEM Evaluations

Mobil Jet Oil 387 has the following builder approvals: *

- General Electric Aviation
- Rolls Royce
- Pratt & Whitney
- Honeywell APUs
- UTC Aerospace Systems APUs, Generators and Starters

Mobil Jet Oil 387 has the following builder approvals in progress : *

- CFM International
- Engine Alliance
- International Aero Engines
- Honeywell turbine engines

* Specific engine or equipment approval must be verified with the builder

Specifications and Approvals

SAE AS 5780 HPC
MIL (US) MIL-PRF-23699 HTS

Properties and Specifications

Property	
Autogenous-ignition temperature test, deg.C, 30 CFR 35.20	405
Change in Kinematic Viscosity, 72 h @ -40 C, %, ASTM D2532	0.1
Elastomer Compatibility, AMS-3217/4 (72hrs @204C), % swell, FTMS 791-3604	15
Elastomer Compatibility,AMS-3217/1(72hr @70C), % swell, FTMS 791-3604	15
Evaporation Loss, 6.5 h, 204 C, mass%, ASTM D972(mod)	4
Fire Point, °C, ASTM D92	292
Flash Point, Cleveland Open Cup, °C, ASTM D92	278
Foam, Sequence I, Tendency, ml, ASTM D892	10
Foam, Sequence II, Tendency, ml, ASTM D892	10
Foam, Sequence III, Tendency, ml, ASTM D892	10
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	5.2
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	25.9

Property	
Kinematic Viscosity @ -40 C, mm2/s, ASTM D445	10140
Pour Point, °C, ASTM D5950	-57
Ryder Gear Load Carrying, % vs ref., FTMS 791-6508	2806
Specific Gravity, 15 C/15 C, ASTM D4052	0.999
Total Acid Number, mgKOH/g, ARP 5088	0.03

Health and safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com/psims/psims.aspx

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12-2022
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Due to continual product research and development, the information contained herein is subject to change without notification. Typical Properties may vary slightly.

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