ExxonMobil

# Mobil™ Aviation Grease SHC™ 100

ExxonMobil Aviation , Finland

Synthetic Aviation Grease

## Product Description

Mobil Aviation Grease SHC 100 is a supreme performance synthetic grease which combines the unique features of a polyalphaolefin (PAO) synthetic base fluid with those of a high quality lithium complex soap thickener. The thickener system provides a high dropping point, excellent resistance to water wash, and a tenacious structural stability. The unique physical properties of the synthetic base oil, combined with selected additives, provide outstanding protection against wear, rust, corrosion, and high temperature degradation. The wax-free feature of the synthetic base oil allows for low-temperature mobility/pumpability and low starting and running torque values. Mobil Aviation Grease SHC 100 is the product of choice for aircraft wheel bearing applications.

## Features and Benefits

A key factor in the development of Mobil Aviation Grease SHC 100 was the close contact between ExxonMobil product engineers and key OEMs to ensure that the lubricant would provide exceptional performance in aircraft wheel bearings. This work has helped to confirm the results from ExxonMobil laboratory tests showing the exceptional performance of Mobil Aviation Grease SHC 100 including long grease life, enhanced bearing protection and bearing life in aircraft wheels, and wide temperature range of application.

To combat high thermal exposure of the oil, ExxonMobil product formulators chose synthetic hydrocarbon base oils for Mobil Aviation Grease SHC 100 because of their exceptional thermal/oxidative resistance potential. A state-of-the-art lithium complex thickener technology was developed and used specific additives to enhance performance.

Mobil Aviation Grease SHC 100 offers the following features and benefits:

| Features | Advantages and Potential Benefits |
|---|---|
| High viscosity index (VI) base stock with no wax content | Wide application temperature ranges, with excellent protection at high temperatures and low torque, easy start-up at low temperatures. |
| Outstanding high temperature and low temperature performance | Thicker fluid films protecting against wear of equipment parts operating at high temperature |
| Excellent protection against wear, rust, and corrosion | Reduced downtime and maintenance costs because of reduced replacement of equipment parts |
| Excellent structural stability and oxidation resistance | Long intervals between re-lubrication and improved bearing life |
| Outstanding structural stability in the presence of water | Excellent grease retention on parts in hostile wet environments |
| Low volatility | Little loss of lubricating oil |

## Applications

Mobil Aviation Grease SHC 100 is recommended for aviation applications which need a lubricant that can perform normal functions, yet go far beyond in terms of high and low temperatures and long-life performance. It is a NLGI Grade 2/ISO VG 100 grease having the cold-temperature pumping resistance of most mineral-oil NLGI Grade 0 greases. It provides outstanding protection at operating temperatures from –54 ºC (-65 ºF) to 177 ºC (350 ºF).

Mobil Aviation grease SHC 100 is recommended for high speed, heavy load applications such as wheel bearings, as well as for slower speed, high load applications such as landing gear bearings, slides, and joints.

Mobil Aviation Grease SHC 100 is approved as a wheel bearing grease by all major aircraft wheel manufacturers.

## Specifications and Approvals

| This product has the following approvals: |
|---|
| ABSC |
| DUNLOP |
| GOODRICH |
| HONEYWELL |
| SAFRAN LANDING SYSTEMS (MESSIER - BUGATTI) |
| PARKER - CLEVELAND |

## Properties and Specifications

| Property | |
|---|---|
| Grade | NLGI 2 |
| Bomb Oxidation, Pressure Drop, 100 h, kPa, ASTM D942 | 3 |
| Bomb Oxidation, Pressure Drop, 500 h, kPa, ASTM D942 | 5 |
| Color, Visual | Red |
| Copper Strip Corrosion, 24 h, 100 C, Rating, ASTM D4048 | PASS |
| Dirt, # particles 125u or larger, FTM 3005 | PASS |
| Dirt, # Particles 25 - 124u, FTM 3005 | PASS |
| Dropping Point, °C, ASTM D2265 | 278 (532) |
| Four-Ball Extreme Pressure Test, Weld Load, kgf, ASTM D2596 | 250 |
| Four-Ball Wear Test, Scar Diameter, mm, ASTM D2266 | 0.5 |
| Four-Ball Wear Test, Scar Diameter, 40 kg, 1200 rpm, 1 h, 75 C, mm, ASTM D2266 | 40 |
| Low Temperature Torque, Starting @ -54 C, Nm, ASTM D1478 | 0.1 (1020) |
| Oil Separation, 30 h @ 177 C, mass%, ASTM D6184 | 5 |
| Pen Worked X 100,000, 1/16" holes, 0.1 mm, FTM 313 | 313 |
| Penetration, 60X, 0.1 mm, ASTM D217 | 280 |
| Rust Protection, 48 h @ 125 F, Rating, ASTM D1743 | PASS |

| Property | |
|---|---|
| Soap Free Alkali, as Lithium Hydroxide, wt%, M 219 | Lithium complex |
| Texture, VISUAL | Smooth; Slight Tack |
| Water Washout, 1 h @ 79 C, wt%, ASTM D1264 | 7 |
| Water Washout, Loss @ 41 C, wt%, ASTM D1264(mod) | 3 |
| Viscosity @ 40°C, Base Oil, cSt, CALCULATED | 100 |
| Four-Ball Extreme Pressure Test, Load Wear Index, kgf, ASTM D2596 | 40 |

## 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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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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