Aviation Oil Elite Arrives:

Piston-Engine Oil outperforms older formulations in battling rust, wear and corrosion

Owners and pilots of piston-engine aircraft in Europe are now in a position to choose a proven technology from ExxonMobil to combat wear, rust and corrosion. Aviation Oil Elite 20W-50 - the first new aviation oil formulation for piston-engine aircraft to appear on the market in more than a decade – became readily available on the European market at the start of May.

Engineering tests have shown that the product - which is a blend of synthetic and mineral-based oils with a proprietary additive package - is uniquely effective in reducing wear by combating rust and corrosion.

ExxonMobil began developing Aviation Oil Elite in the mid-1990s, and the company's engineers refined the formulation and additive package under rigorous testing prior to successfully introducing the product to the North American market in 2000.

Fewer Nasty Surprises:

The lubricant is especially suitable for recreational aircraft in Europe, which typically sit on the ground for days between uses and are thus susceptible to build-up of rust and corrosion.

"Piston-engine aircraft are typically used intermittently, and when they sit idle for even short periods – particularly in changeable European weather conditions, rust and corrosion can build-up," observed Bill Dennis, general aviation lubricants manager–Europe, ExxonMobil Aviation Lubricants. "Because the oil's advanced formulation is proven to offer outstanding protection against wear, rust and corrosion, it can reduce maintenance costs, making it less likely that an aircraft owner will need unexpected repairs or replacement parts."

Proven Double Protection:

The effectiveness of Aviation Oil Elite has been demonstrated in various laboratory tests. In a humidity cabinet test (the industry standard ASTM D 1748 test), sand blasted steel panels previously soaked in various oils are exposed to 100 percent humidity at 49 degrees C.

The time lapse until the first appearance of rust is then measured. Panels soaked in mono-grade oils show the first signs of rust and often completely rust very rapidly. Multi-grade oils fare better, and the most effective by a substantial margin was Aviation Oil Elite 20W-50. It offered more than twice the rust protection of a competitive semi-synthetic 15W-50 multi-grade oil.

Similarly, in a test to evaluate wear protection, ExxonMobil engineers used the European Motor Industry Research Association (CEC L-30-T-81 Pitting Test*), which closely simulates the conditions of an aviation piston engine. They evaluated camshaft lobes and followers from Lycoming to compare wear protection of Aviation Oil Elite 20W-50 with two current commercial multi-grade oils.

The test (see photos) showed severe wear at 180 hours using a competitive mineral 20W-50 multi-grade, and pitting and surface deterioration after 240 hours using a competitive semi-synthetic 15W-50 multi-grade. However, even after 300 hours, followers protected by Aviation Oil Elite 20W-50 showed virtually no surface damage.

In addition to Aviation Oil Elite, ExxonMobil now offers a complete line of other premium lubricants for the general aviation industry across Europe. The line includes three grades of Aviation Oil EE, an ashless-dispersant mineral mono-grade piston-engine oil; two grades of "breaking-in" Aviation Oil, a non-dispersant mineral oil for aircraft piston-engines; and Mobilgrease 28, a synthetic lubricating grease.

Purchase & Delivery:

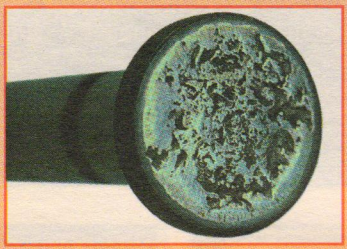
In bringing these products to the European market, ExxonMobil has pioneered a simplified method of sale and delivery. To purchase Aviation Oil Elite and the other products, a customer can call a European Freephone line during business hours. A multi-lingual ExxonMobil customer service representative will answer the caller's queries and take the order.

Lubricants will be delivered directly to the customer within three-to-five business days, with overnight delivery possible

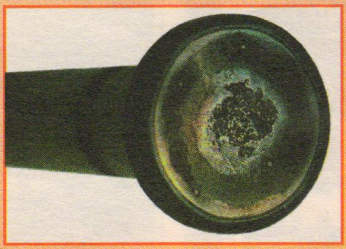
upon request. The European Freephone line is 00 800 100 39966 (EXXON). Purchasers can also order the products online at www.exxonelite.com.

**All results based on Test CEC L-30-T-81, using followers and lobes from a Lycoming TIO-540-J2BD engine on a MIRA test rig. Camshafts operated at 1,250 rpm, oil temperature 115°C, valve spring load set at normal (88.5 kg) for the first 80 hours of test, increased to 50 percent overload (132.6 kg) to raise test severity. Test continued until 300 hours unless stopped due to severe surface damage.*

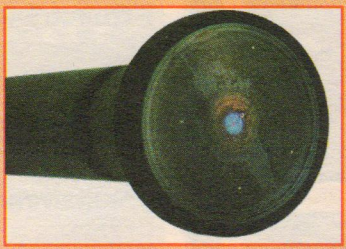
■ To determine wear in engine parts, ExxonMobil engineers, using a test rig design from the European Motor Industry Research Association, subjected identical followers and camshaft lobes from a Lycoming TIO-540-J2BD engine to identical stresses using competing commercial multi-grade oils. The photos of followers below show the wear results.



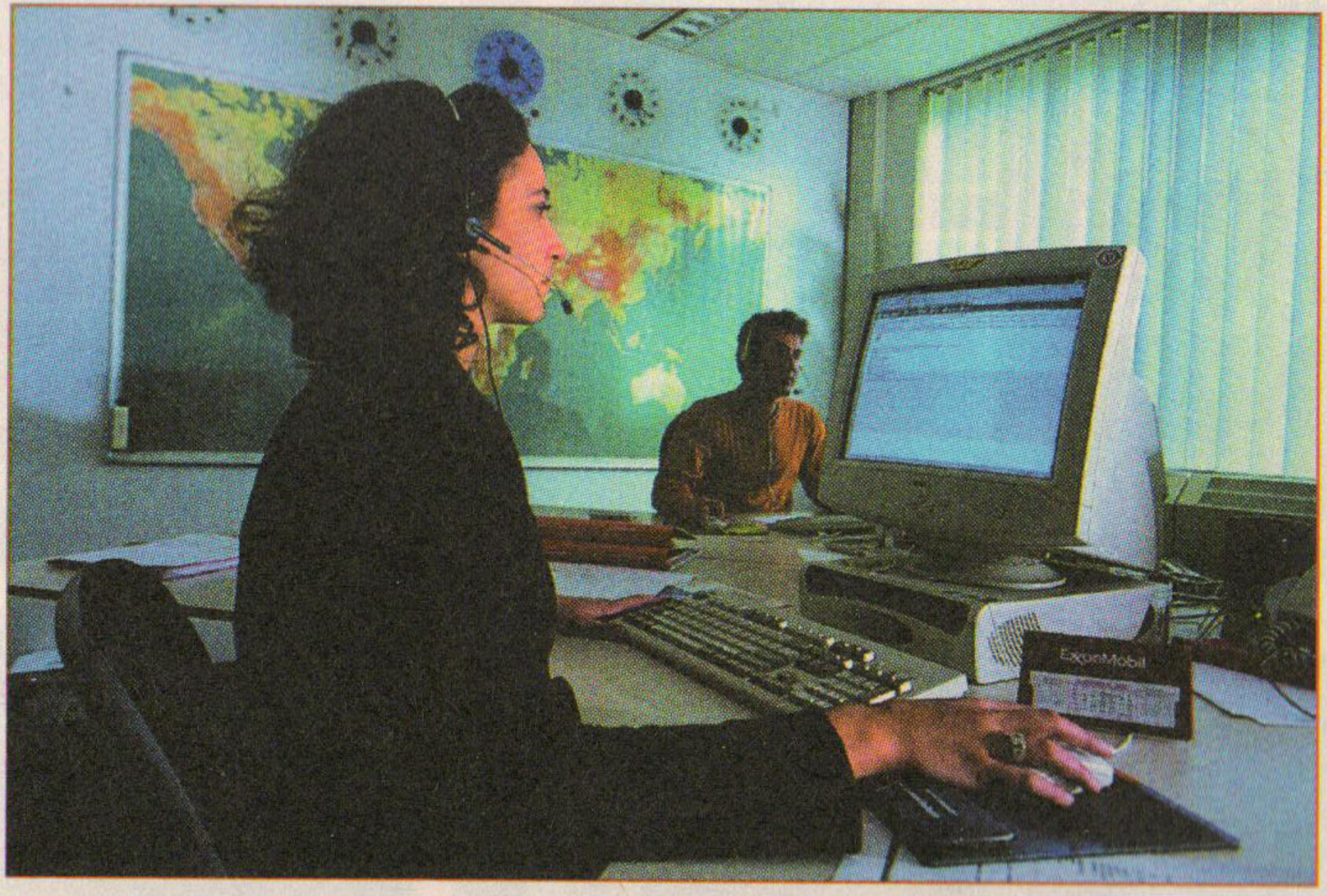
■ Competitive mineral 20W-50 multi-grade (after 180 hours);



■ Competitive semi-synthetic 15W-50 multi-grade (after 240 hours)



■ Aviation Oil Elite 20W-50 (after 300 hours). In contrast to the other two, the follower lubricated with Aviation Oil Elite 20W-50 showed virtually no surface damage.



A team of multi-lingual professionals staff the ExxonMobil Customer Service Centre in Europe. Besides taking orders, they can answer technical queries and provide advice and recommendations on the most appropriate products for a customer's piston-engine aircraft.