

Aviation expert discusses

# Key industry trends and the need for advanced lubricants



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## Q&A with Ed Barnes, Field Engineer, ExxonMobil Aviation

As a field engineer for ExxonMobil, Ed Barnes frequently travels the world, working with regional and international airlines.

Barnes says that most of his time is spent discussing best maintenance practices and important industry trends, but that ExxonMobil's high performance capability (HPC) turbine oil, Mobil Jet™ Oil 387, is now becoming a more frequent topic of conversation. According to Barnes, Mobil Jet Oil 387 is the most advanced turbine engine oil that ExxonMobil has produced in its more than 120-year history of serving the aviation industry.

"Mobil Jet Oil 387, which was created entirely by ExxonMobil lubricant formulators, has custom-made esters and unique additives that help deliver a combination of benefits never before achieved with an HTS/HPC turbine oil, including exceptional elastomer compatibility, outstanding thermal and

oxidation stability, and advanced deposit control," Barnes said.

Recently, Lube magazine caught up with Barnes about numerous industry topics such as the projected growth of future air traffic, demand for aviation fuels and lubricants, the enduring popularity of Mobil Jet turbine oils and the recent run of approvals that Mobil Jet Oil 387 has secured. Below is a synopsis of our discussion.

**ExxonMobil's Annual Outlook for Energy projects that by 2040, global demand for aviation fuels and lubricants will increase by about 55 percent. Where do you see that growth coming from most?**

Today, our Mobil Jet family of turbine oils protect more than half of the aircraft in operation, with a wide range of commercial, general and military applications.

Over the next 20-plus years, we expect the global fleet of aircraft to nearly double and modernise, with a trend toward larger, more efficient aeroplanes replacing smaller regional jets. We anticipate these aircraft to also be lighter, more efficient and equipped with more powerful engine technologies.

The Asia Pacific region will likely see the biggest jump and by 2040, account for almost 40 percent of all global aviation traffic. ExxonMobil is well positioned to capitalise on these trends and extend its position as a leading global supplier of high quality aviation fuels and lubricants.

We have been serving the aviation industry for more than a century and have exceptional industry expertise and partnerships with leading manufacturers. We also have had a long-term presence in key Asia Pacific markets, like China and Singapore. And, our new 90,000 square-foot aviation lubricants plant in Port Allen, Louisiana will enable ExxonMobil to produce a reliable supply of Mobil Jet oils to meet the increasing demand for high-performance synthetic aviation lubricants.

**Newer jet engines, like Pratt & Whitney's PurePower® geared turbofan engines and Rolls Royce Trent XWB series, are far more complex than preceding models. Is that a challenge for ExxonMobil and how do you see the evolution of engine technologies impacting the industry?**

Over the past decade, we've seen the emergence of more advanced, hotter-running engines, and you need an oil to excel in all of these conditions in order to prevent coking or oil degradation, which leaves behind solid residues in the engine. In the next decade, we see similar changes ahead as manufacturers continue to push the bar for innovation and technological development.

Recognising that the engines of today and tomorrow will require more advanced oils was the key reason we developed our Mobil Jet Oil 387, HPC oil, and conducted more than 10 years of research and testing before bringing it to market in late 2012.

Today, carriers that are using Mobil Jet Oil 387 have noted its ability to deliver key performance benefits, like outstanding deposit control, low-temperature fluidity and seal compatibility.

**Speaking of Mobil Jet Oil 387, it has been mentioned in the news quite a bit recently with multiple new approvals. Can you tell us about those?**

To date, Mobil Jet Oil 387 has accrued more than three million hours of on-wing performance and is used to protect more than 300 aircraft operated by carriers around the world.

We've secured several new engine and component approvals for Mobil Jet Oil 387 recently, including Pratt & Whitney's PW1900G, PW1500G, PW1400G, PW1100G and PW4000 models, Engine Alliance's GP7200 model, Rolls Royce's Trent 700 and 800 models and UTC Aerospace Systems' Integrated Drive Generators (IDG).

Having the ability to apply Mobil Jet Oil 387 in both the engine and accessories can help airlines use fewer types of oil and reduce operational complexity. Along with these recent approvals, we have seen multiple carriers start to increase their use of Mobil Jet Oil 387. In fact, Singapore Airlines recently converted its entire fleet to Mobil Jet Oil 387.

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