

TRENDS



LEAP ENTRY INTO SERVICE: PROACTIVE APPROACH IS KEY TO SUCCESS

With the first production LEAP[®] engines scheduled to take to the sky in twelve months' time, CFM is gearing up to deliver a sophisticated MRO offering that is custom-tailored to the challenges of placing a new powerplant into service.

The innovation-packed LEAP engine has already garnered more than 8,900 orders and commitments from almost 50 airlines. Such has been its commercial success that a total of almost 5,000 engines will enter service within five years on a phased basis: the LEAP-1A (which will power the Airbus A320neo) starting in June 2016; the LEAP-1B (for the Boeing 737 MAX) from 2017; and the LEAP-1C (on the Comac C919) from 2018.

Meeting operators' expectations

Snecma's MRO teams will be called on to support this unparalleled rate of commissioning. "Our customers are expecting the engine to offer the excellent reliability that is associated with the CFM brand," says Pierre Bry, Snecma's Vice-President - CFM Services. "To help meet this expectation, we have taken a series of steps designed to ensure that the entry-into-service phase is a resounding success." The first challenge was to provide regular, proactive information. "We have held four customer conferences to communicate how we are preparing for the engine's entry into service," explains Stéphane Le Vourc'h, head of the LEAP support department at Snecma. "Two more customer information sessions are slated for 2016." Maintenance publications for the engine will be prepared and distributed on a phased basis to allow operating experience from flight tests to be taken into account.

Custom-tailored preparation

The second challenge is to ensure that CFM and its customers

50 airlines

have chosen the LEAP engine

More than 8,900

orders and commitments to date*

3 entry into service phases

LEAP-1A from June 2016, LEAP-1B from 2017,
LEAP-1C from 2018

*May 31, 2015

are ready – and this requires teamwork. "At least 12 months in advance of entry into service, Customer Support Managers will work with each operator to draw up a customized roadmap that sets out key milestones, including spare parts procurement, access to documentation, etc.," says Pascal Piveteau, Snecma's Director of Customer Support. CFM's test pilots, meanwhile, are already talking to airline pilots about how the LEAP engine affects flight procedures. Once the powerplant has entered service, expert LEAP Field Service Engineers will join our teams of representatives already based with the airlines.

Simpler, more responsive support

The third challenge is to simplify our support and services offering, for example by allowing airlines to have their tools made by CFM-approved suppliers, and by providing a single online point of entry for parts orders, warranty issues, etc., in the shape of the new CFM Customer Web Center. The final area of focus concerns training and repairs: programs and facilities at CFM's three training centers in India, France and the U.S. have been standardized, and on-wing support capabilities have been bolstered to supplement the global network of MRO workshops.

SFCO₂[®]: FLY SMART, FLY DIFFERENT

SFCO₂[®] is a new service that combines Snecma's OEM expertise and Sagem's know-how in flight data analysis to help airlines reduce fuel consumption through more sophisticated management of their operations.

Fuel consumption accounts for 30 to 40% of operating costs, making it a key concern for airlines. Although technological innovations such as the LEAP engine¹ and the EGTS² electric taxiing system, have delivered savings, Safran's new SFCO₂[®] service, developed by Snecma and Sagem, takes a different approach by addressing airlines' operational practices.

Custom-tailored recommendations

SFCO₂[®] is a comprehensive service package designed to identify every single opportunity for savings. "We perform a diagnosis based on an initial assessment of the airline's operations," explains Jean-Thomas Rey, Snecma's Marketing Manager, Services. "This allows us to offer custom-tailored recommendations that don't increase maintenance costs." Other Safran companies, including Messier-Bugatti-Dowty and Aircelle, have also contributed their expertise to help deliver a comprehensive vision. SFCO₂[®] also includes training and coaching for pilots. "Any new technology, no matter how sophisticated, has to be looked at in terms of how it

affects behaviors," says Max Moutoussamy, a former military pilot, and now an expert pilot as well as SFCO₂[®] project manager at Snecma. "SFCO₂[®] delivers a 1-5% reduction in annual fuel bills – a significant figure that clearly underlines the benefits of the service, given that an airline operating medium-haul routes spends about \$7.2 million on fuel every year."

SFCO₂[®] is already in use by one customer, offering the ability to track project progress as well as savings made via a dedicated Web application. A number of other contracts are under negotiation.



(1) The LEAP engine is a product of CFM International, a 50/50 joint company between Snecma (Safran) and GE.

(2) Developed by EGTS International, a 50/50 joint venture between Safran and Honeywell.

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TECHNOLOGIES

SNECMA SERVICES BRUSSELS BOLSTERS REPAIR CAPABILITIES

Snecma Services Brussels (SSB), a wholly-owned subsidiary of Snecma that provides CFM56 engine repair and maintenance, has invested in a new technology allowing it to service latest-generation Tech Insertion combustors.

The Tech Insertion standard was introduced in 2007 on CFM56-5B and -7B engines, providing lower fuel consumption and NOx emissions, along with greater durability. These improvements are largely based on improved combustor cooling, using the "multihole" technology. But repairing these new-generation combustors is a complex operation, offered by few workshops today. SSB has therefore invested in the new equipment needed to carry out these repairs, expanding its range of in-house services without having to call on outside contractors.

Faster turnaround

The main technology to be applied is electrical discharge machining (EDM), used to meticulously reform the holes in the combustor if needed. No matter what operations are carried out in the repair process, all multihole combustors will then be checked out on a special flow test rig to ensure that airflow through the holes is up to spec. This is an extremely precise



Repairing the new-generation combustors is a complex operation, offered by few workshops today.

operation, vital to finalize the repair. The test bench will be up and running this autumn, and initial repairs could be performed by the end of 2015.

For SSB customers, these investments mean faster turnaround times. They also give SSB an edge in the fiercely competitive maintenance, repair and overhaul (MRO) market, and bolster its position as Safran's center of excellence in combustor repair.

"Production ramp-up is going as planned. Snecma is increasing its repair capacity, and I know that our brand is a real guarantee of service quality for all customers."

IT'S ALL ABOUT SERVICE

Snecma offers airlines a wide array of service contract options, aimed at maximizing fleet reliability and optimizing operating costs. Customer Program Managers (CPMs) are responsible for managing service contracts on behalf of Snecma. Michel Rousset-Rouvière, the CPM assigned to the contract with Delta Air Lines Inc., explains the principal challenges that he faces in his job.

"CPMs act as the point of contact for airlines who have chosen Snecma's EngineLife® service offering," explains Michel Rousset-Rouvière. "The EngineLife® brand includes a range of contract types adapted to our customers' needs, encompassing "time and materials", by-the-hour maintenance, material solutions, etc. For Delta Air Lines, we guarantee the availability of spare engines at their operating hubs, allowing them to focus on their core business, which is carrying passengers. We also provide technical support and maintenance services to ensure optimum engine dispatch reliability."

The primary role of CPMs is to ensure that customers are satisfied. "We achieve this by making sure that we deliver on our contract commitments, and by proactively proposing tailored service offerings, such as our StandByJ™ engine transport stand leasing solution," adds Rousset-Rouvière. The fact that airlines are increasingly choosing service packs when they buy engines means that CPMs are also involved in the pre-sale phase, helping to prepare contracts for signing.

Highly skilled bandleaders

With a fleet of 126 Airbus A319 and A320 aircraft, and a total of 270 engines, Delta Air Lines is a major service customer for Snecma. "They are also our oldest customer," notes

Michel Rousset-Rouvière. "The contract was originally signed in 1997 with Northwest Airlines, which was subsequently bought by Delta. A dozen persons are permanently assigned to the contract: CPMs based in France and Mexico, representatives based with Delta, fleet managers, shop visit managers, and so on. Additional support is provided by Snecma's quality and logistics functions."

CPMs require a mix of technical, legal, financial and management skills, as well as customer relations expertise, to perform this "bandleader" role. Open-mindedness and diplomacy are also essential prerequisites. "What I love about this job is working with customers to find win-win situations, and uniting a team around a shared vision," concludes Rousset-Rouvière.

“What I love about this job is working with customers to find win-win situations”



Michel Rousset-Rouvière



Bruce Ketola, Director, Supplier Operations at Delta Air Lines



Snecma has provided MRO services for Delta's A319/A320 fleet since 1997. What's the secret to this long-standing collaboration?

There is no real secret in the long term relationship between Delta Air Lines and Snecma regarding the maintenance of the CFM56-5As other than to say it is similar to a marriage. Both parties desire to have a constructive working relationship. The contractual agreement provides the terms and boundaries of this relationship, but beyond that – the working together simply takes time for each side to understand the challenges/desires faced by the other party. Simply put – honest, clear and concise communication.

What are Delta's MRO requirements?

Delta's MRO requirements are very simple and are the same for all our MRO providers. These requirements are the classic 3 legs of the stool: 1) Quality, 2) TAT and 3) Cost. All 3 legs of the stool must be strong and the same length as they are all equally critical to our operation.

How do you see the MRO sector developing in the next five years?

Looking out over the next 5 years, we expect to see all the MROs improve their respective services on all 3 of their legs: 1) Quality – Continue to make reliability improvements, 2) TAT – Achieve World Class Turn times to reduce the quantity of required assets to support the operation and 3) Cost – hold and/or reduce the cost of maintenance to hold CASM (Cost per Available Seat Mile) in check.

Serenity for your operations

Snecma is launching a new service dubbed "Ops Serenity", providing engine health monitoring and engineering recommendations, along with financial guarantees in case of the unexpected failure of key engine parts. According to Jean-Philippe Gaulard, Business Developer at Snecma, "We created this new service because many of our small airline customers told us that they need engineering services. We had noticed that

when they faced an unexpected and expensive engine event, they often didn't have the cash flow to deal with it effectively." In other words, Snecma is offering more than just OEM support in monitoring engine readings and providing recommendations for preventive maintenance. We also guarantee that airlines having signed up for this service will receive significant financial aid from Snecma in case of a failure of a predefined key engine part.

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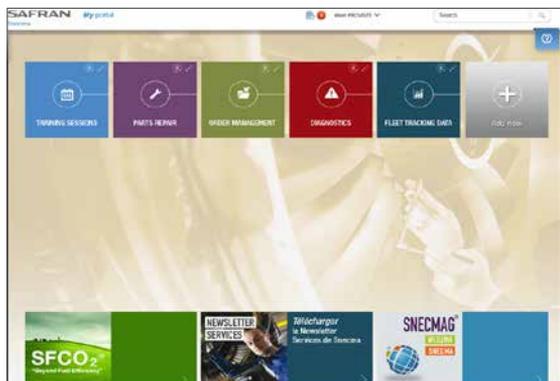
Addressing needs expressed by customers, Snecma has developed a new training course in balancing CFM56-5B and 7B engines following fan blade replacement. Technicians are provided with simulator-based training in the use of the BLAMAP software and associated trim balance procedures. The course – delivered for the first time to Aeroflot staff in April – will give customers a better understanding of vibration phenomena and how to correct them.

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MyCFM & MySnecma : 2 new customer web portals on the launchpad!

The new customer web portals 'MyCFM' and 'MySnecma' will be customer-dedicated sites providing a user-friendly customer interface for our clients as they operate and maintain their fleet and engines. In addition to increased performance and accessibility, our customer users will be able to organize and configure their workspace to suit their individual working needs. Advanced Search functionality enables users to find what they are looking for instantly without having to navigate a hierarchy of options. Example applications in the first releases include New Parts Ordering, Diagnostics, Technical Publications, and Shop Visit to name a few.

It all began in 2013 when we interviewed over 60 client personnel, since then, Snecma has been working in close collaboration with GE on the modernization of the CFM Web Center 'MyCFM'. In parallel, Snecma is developing the 'MySnecma' portal for our Snecma Services and future Silvercrest clients. See you soon on our new web portals...



More than MRO: EngineLife® by Snecma

Snecma has launched a new advertising campaign to promote its EngineLife® MRO brand. The campaign will highlight our comprehensive expertise. As OEM of the best-selling CFM56, Snecma knows its customers' engines better than anyone, ensuring that airlines can rest easy when it comes to the quality of shop visits. Look out for these visuals on the Internet and in the international trade press soon.

DIARY

Meet Snecma's teams at these upcoming events

IATA Airlines Cost Conference,
August 26-27, 2015 ■

IATA World Maintenance Symposium,
Miami
October 14-15, 2015 ■

MRO OPS IT Conference, Bangkok
October 28-29, 2015 ■

MRO Asia, Singapore
November 3-5, 2015 ■