10 YEARS OF SUPPORT FOR THE CF34-10E ENGINE - LUFTHANSA TECHNIK AERO ALZEY

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Lufthansa Technik AERO Alzey (LTAA) marks 10 years of experience with the maintenance, repair and overhaul of the CF 34-10E engine – a type used in the Embraer 190 and 195 regional jets and the Embraer Lineage 1000 business jet. LTAA, a wholly owned subsidiary of Lufthansa Technik, added the CF34-1 and CF34-3 to its portfolio as early as 1991, and they were joined by the CF34-8 in 2002. Since then, LTAA's employees have supported over 550 CF34-10E shop visits and more than 270 on-site visits for customers.

In 2014, the 100th shop visit of a CF34-10E took place. Even if the engine manufacturer General Electric (GE) decided in early 2020 to discontinue new production of the 10E, its future prospects continue to be good, as Raimund Schnell, Vice President Marketing & Sales, explains: "More than 1500 CF34-10 engines are currently in operation around the world, and the 10E is currently experiencing a revival. We have up to 120 maintenance events per year, and we are assuming further growth in the coming years."

Prior to the introduction of the CF34 family's largest engine, which produces up to 20,000 pounds of thrust, the existing test bay had to be enlarged. What is more, preparations were needed for those engine modules that were likely the most maintenance-intensive parts for operators. Experience quickly revealed that the low-pressure turbine (LPT) in particular was showing signs of

wear. Thus LTAA developed an LPT Module Modification Program. At the heart of the program is the on-site removal of the LPT followed by a workshop repair – cost-effectively and with very short turnaround times: up to four days for the removal and reinstallation of the LPT module, plus up to nine days for the required changes to the module in the workshop. The entire process thus lasted just 14 days – as opposed to the more than 35 days required for a regular workshop visit. In addition, it was possible to dispense with the test run that otherwise would have been necessary. LTAA itself largely developed the tool sets needed to replace the module and procured the fixtures for removing and transporting the engine as well as the transport containers for the LPT module. The program was not limited to the facility in Alzey; LPT modules were removed and reinstalled at sites such as Beijing or Tulsa, Oklahoma, USA. During the last expansion stage of the program, the LPT modules were even completely modified in Tulsa and no longer had to be transported to Alzey.

"In addition to the benefits for customers, the LPT Module Modification Program also enabled us to eliminate the backlog created by the delayed introduction of the CF34-10 at LTAA, and maintain our standing with respect to the competition," recalls Thomas Breit, Entry into Service Manager CF34-10 at LTAA.

In parallel, a "top and lower case procedure" for the compressor was developed with GE and introduced to deal with more sizable compressor damage. It considerably reduced the work needed for these repairs. The procedure was first carried out on-site for a customer in Australia, avoiding the transport of the engine all the way from Australia to Alzey.

LTAA's long years of experience are valued by the engine's manufacturer, GE, as well as by customers: "Lufthansa Technik AERO Alzey and Finnair have been collaborating on CF34 engine shop visits for several years successfully. As a customer, we especially appreciate the clear and transparent shop visit process and that there is good communication and seamless co-operation," notes Marko Anttila, Head of Continuing Airworthiness and Powerplant Management at Finnair. We require reliability, cost-effectiveness, and innovative thinking from our MRO suppliers, which we think Lufthansa Technik AERO Alzey has provided very well. This has been essential during the challenging times of the Covid-19 pandemic as well."

In addition, LTAA collaborates on the optimization of manuals and pursues an ongoing exchange with GE. The company also supports the OEM in short-term projects.

20 DECEMBER 2021

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