
MTU Aero Engines: World-class repair techniques

Paris, June 18, 2007 – While other repair people, when faced with a defective part, may be quick to reach for replacement parts, MTU's maintenance experts hesitate; they'd rather repair. Owing to its innovative processes and decades of experience, the world's largest independent provider of commercial engine maintenance services succeeds in repairing also heavily worn parts, components and accessories. MTU's high-tech repair approaches are globally unique, mostly patented and known under the trademark MTU^{Plus} Repairs. "They go easy on our customers' pocketbooks and spare natural resources. Customer benefit and cost-effectiveness remain our top priorities," explains Bernd Kessler, MTU Aero Engines President and CEO Commercial Maintenance.

The MTU specialists are using OEM-licensed repair practices specified by the respective manufacturer, as well as highly specialized EASA/DER (Designated Engineering Representative) techniques. The latter are not under manufacturer's control but are developed by MTU Maintenance itself and approved and certified by FAA and EASA agencies. The techniques run the gamut from automated selective stripping of coatings to specialty high-temperature brazing and high-precision welding and joining using automated laser machines that were developed in-house.

Parts repair

In parts repair, offerings range from individual services to meet specific needs to full packages that may include also engineering and logistics assistance. As a sole-source provider, MTU Maintenance covers the entire spectrum, worldwide. All repair techniques are continuously being improved and optimized. Key to success here is capable engineering that implements intelligent solutions in conformance with the company's motto that "Repair beats Replacement". In their work, the development teams at the Hannover and Munich locations benefit from the decades of expertise MTU has accumulated in engine manufacturing and from its extensive collaboration with research institutions and universities across the globe.

Novel high-tech processes open up new repair opportunities. For instance, special compressor components called blisks initially resisted repair and



inevitably required replacement when damaged. But innovative technologies later helped MTU optimally repair these integrally bladed disks through patching, giving them a new lease on life. In its military EJ200 program, the company has since developed comprehensive blisk repair capabilities from which now also civil customers benefit, such as the operators of PW300, PW500, CF34, PW6000, GE90 and GP7000 engines.

Center of excellence in Malaysia

MTU's center of excellence for blade repair is Airfoil Services Sdn. Bhd. (ASSB) close to Kuala Lumpur, Malaysia. ASSB is a 50-50 joint venture of MTU Aero Engines and Lufthansa Technik and focuses on the repair of rotor blades in the low-pressure turbines of CF6-50, -80, V2500, CFM56-3 and -5 engines, as well as high-pressure compressor blades of V2500, CF6-50 and CF6-80C2 engines. The Malaysian location boasts a modern machine pool and holds all necessary licenses from regulatory agencies and manufacturers.

ASSB is currently under expansion: its new production shop in Kota Damansara is scheduled to be up and running by the middle of the year at four times the present capacity. As part of the expansion, the shop will be transitioned to flowline operations, a method borrowed from MTU Maintenance where it has successfully been practiced for years to accelerate parts processing. A new addition to the company's engine portfolio will be the CF34.

Accessories

In addition to engine overhaul and individual engine component repairs, MTU Maintenance provides repair services also for engine accessories. These include components that although not directly forming part of the core engine are definitely necessary to sustain its operation, such as starters, fuel and hydraulic pumps, actuators, sensors, valves and pipes. MTU Maintenance offers prompt and reliable repair services for defective accessories at its center of excellence for accessories in Vancouver, Canada.

Taken across its affiliates, MTU Aero Engines has a workforce of about 7,100 people. Having carved out a global leadership position in engine technologies, the company excels in low-pressure turbines, high-pressure



compressors, engine control units, as well as manufacturing and repair techniques. In fiscal 2006, it had 2.4 billion euros in sales.

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