

“We’ve relied on the world’s best talent to design and build the (747 Large Cargo Freighter), and we can all be proud today to see it standing on the tarmac,” said Scott Strode, 787 vice president of Airplane Development and Production, at the Aug. 16 rollout of the LCF. Employees of Boeing Fabrication are part of the global team who worked on this unique airplane.



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787 hinges on Fab's success

Unit fulfills strategic mission for 747 LCF

By DEBORAH BANTA DUSTMAN

It was a challenging mission that an emergent parts manufacturing business thrives on.

So said Jeff Krueger, Boeing Auburn Tooling Services manager, based in Au-

burn, Wash. A primary provider of tooling to the company, ATS was asked to manufacture production parts. Not just any production parts, but main swing-zone hinges for the 747 Large Cargo Freighter (LCF). The main swing-zone hinge is a highly complex machined component designed to enable the entire tail section of the airplane to open for loading and unloading of major composite fuselage and wing structures built by program suppliers across the globe for transport to 787 final assembly in Everett, Wash.

Excited about the opportunity to support new product development, ATS invested countless hours planning and coordinating with Engineering, Manufacturing and suppliers. Once the large stainless steel forgings were received, each was probed on a five-axis machine to create a digital model so the tough material could be optimized for setup, programming and machining approaches. The result was a 90 percent reduction in hinge weight after nearly 1,000 machining hours.

Once complete, the main swing-zone



Boeing Auburn Tooling Services produced the main hinges (above) for the 747 Large Cargo Freighter's tail section. The facility thrives on complex work such as this, said Jeff Krueger, Auburn Tooling Services manager.

hinges were sent—on schedule—to the modification and maintenance hangar at Chiang Kai-Shek International Airport in Taipei, Taiwan, for installation on the LCF by Evergreen Aviation Technologies Corporation, a joint venture of EVA Air and General Electric.

Completion of LCF work by ATS typifies how Commercial Airplanes relies upon its largest supplier, Boeing Fabrication, for critical, complex, short-flow specialty parts production to enable new-product development. This work requires innovation and technical excellence to meet myriad challenges inherent in Commercial Airplanes' global manufacturing business model.

Beyond Auburn Tooling, the LCF Program turned to multiple Boeing Fabrication manufacturing business units to provide specialty parts within a tight schedule.

For example, Integrated AeroStructures, also located in Auburn, features unique stretch-forming capabilities that were used to manufacture the extended “brow” section of the LCF. The brow is the part of the airplane just behind the flight deck that joins to the enlarged upper fuselage and makes the freighter ideal for shipping big 787 Dreamliner sections.

The first 747 Large Cargo Freighter is

expected to arrive in the Puget Sound region of Washington state this summer to begin certification flight testing prior to re-entry into service in 2007.

Surely, the brows on Fab folks and others who built this unique airplane will show expressions of sheer delight, pride and amazement as they watch it land for the first time. ■

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They're doing a Fab job

Employees of Boeing Fabrication, Commercial Airplanes' largest supplier, continue to fulfill their strategic mission to enable new product development for programs such as the 747 Large Cargo Freighter by focusing on critical, complex, short-flow specialty parts production. Manufacturing business units that are building components and assemblies for the 747 LCF include

Boeing Auburn, Auburn, Wash.

- Auburn Machining. Frames, intermediate hinges, door ramp, latches and pull hooks
- Auburn Tooling Services. Swing-zone main hinges
- Emergent Manufacturing Facility. Emergent work
- Integrated AeroStructures. Brow skins, splices, doublers, and transition-zone stringers
- Tube, Duct & Reservoir Center. Tubes, ducts and reservoirs

Boeing Everett, Everett, Wash.

- Interiors Responsibility Center. Stowage bins, ceilings, sidewalls and liners
- Electrical Systems Responsibility Center. Electrical panels and wire bundles

Boeing Kent, Kent, Wash.

- Community Manufacturing Partnership. Miscellaneous small assemblies



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The 747 Large Cargo Freighter represents Boeing's commitment to new production-system methods on the 787 program. The LCF will transport large sections of the 787 airplane from partners around the world to 787 final assembly in Everett, Wash. It's the first time Boeing jetliner production will rely primarily on airplanes for delivery of components.