



UH-72A LAKOTA: 644 ARRIEL 1E2 ENGINES



**PROPULSION.** The U.S. Army chose the Eurocopter UH-72A "Lakota" as its new Light Utility Helicopter (LUH), with power by Turbomeca's Arriel 1E2 turboshaft engine.

## U.S. ARMY, POWERED BY TURBOMECA

**O**n June 30, 2006, the U.S. Army announced its choice in the LUH program: the Eurocopter UH-145 (military version of the EC145). This new-generation light utility helicopter will eventually replace the older OH-58A/C Kiowa and UH-1H Huey, and free the UH-60 Blackhawk for missions more adapted to its heavier-lift capability. The Army's new helicopter will carry out a range of missions, including logistic support, light transport, rescue and medical evacuation.

The U.S. Army's selection of Eurocopter, part of the European group EADS, against American and Italo-British competitors marks a major milestone. First of all, the order is

huge: the U.S. Army has an initial requirement for 322 helicopters, to be delivered over the next ten years. And for the European helicopter company, it's a critical breakthrough in the American military market, previously considered the exclusive reserve of domestic suppliers.

To limit its technical risks, the U.S. Army had announced that it wanted a fully mature commercial model, available "off the shelf". The winning manufacturer would have to be able to handle the fast-paced production of hundreds of units, with proven facilities. All of these factors contributed to the success of the twin-engine UH-145, which the U.S. Army has now renamed the UH-72A Lakota (the name of a Native American tribe).

### Ramping up production

For Arriel 1E2 engine manufacturer Turbomeca, part of the Safran Group, the contract requirements were similar. "Eurocopter and Turbomeca kicked off the manufacturing process prior to the U.S. Army's official choice," recalls Hervé Pasbecq, Arriel 1E2/UH-72A program manager at Turbomeca. "Eurocopter quickly ordered a first series of engines from us, and the program got off to a running start." Turbomeca delivered 28 Arriel 1E2 engines in 2006 and will deliver 60 more in 2007, then 130 in 2008 and 150 in 2009. The UH-72A engines will be strictly identical to those powering the EC145 range of civil helicopters.

"This ramp up in production is a challenge of course," acknowledges Pasbecq. "But our production facilities in France and the United States are up to the job. In fact, the U.S. Army ordered an audit to make sure that this big a contract wouldn't entail any industrial risks. We clearly demonstrated that we could meet demand using our current production organization."

This very successful audit was just one of the keys to Turbomeca's selection, which is exceptional from a number of standpoints, starting with

the "Americanization" of the Europe-based partners. To win the contract, Eurocopter emphasized its installation of an assembly line in Columbus, Mississippi, under the management of its subsidiary American Eurocopter. Turbomeca could make the same argument, since its subsidiary Turbomeca USA in Grand Prairie, Texas offered facilities already capable of assembling and testing the engines

### Assembled in Texas

"Initially, Grand Prairie will handle part of the module assembly tasks, using parts from France," says Hervé Pasbecq. "But Turbomeca USA will quickly transition to complete assembly and testing of the engines prior to delivery."

Furthermore, Turbomeca just officially announced a new parts production facility in the United States, in Monroe, North Carolina. This facility, a subsidiary of Safran USA Inc., will employ about 180 people. It is being set up to expand Turbomeca's overall production capacity, while also making parts specifically for the Arriel 1E2.

While the sale of the first group of engines has now been completed, negotiations are continuing for in-service support. The partners tend to favor a support by the hour

### FOCUS

#### SAGEM DÉFENSE SÉCURITÉ'S ROLE

The U.S. Army's latest helicopter features a 3-axis autopilot by Sagem Défense Sécurité, including heading and vertical reference units, electronic control units, flight control actuators and fiber-optic gyros for backup functions. In fact, this is the standard EC145 autopilot, adapted to handle all missions assigned to this twin-engine military machine, especially in terms of outstanding hovering performance (necessary for winching operations). With the LUH program, the production of actuators will be partially transferred to the United States, at Sagem Avionics, Inc.'s workshops in Grand Prairie, Texas\*. While this original equipment is sold to American Eurocopter, the by-the-hour support contract is a separate one with Helicopter Support Inc. (HIS), a subsidiary of Sikorsky.

\*These actuators are also fitted on the Bell 429 and ARH helicopters made by Bell Helicopter of the U.S.





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Assembly of an Arriel turboshaft engine.

(SBH®) type contract, but the exact terms are still to be defined. According to Hervé Pasbecq, “The UH-72A helicopters will be operating all over the United States, which will require special arrangements to ensure spare parts availability and operational support.”

## Complex organization

“The support contract involves a fairly complex organization,” continues Pasbecq, “because several entities are involved: EADS (responsible for the contract), Sikorsky (in charge of logistic support at U.S. bases), and American

Eurocopter (in charge of the supply chain). Turbomeca is in charge of operational support for the engines, and we will also call on our two partners, which will influence the exact type of support services we deliver, in terms of both human and technical resources.”

Reflecting the importance of this program, Hervé Pasbecq is now based in Grand Prairie, at Turbomeca USA. His five-person program team is dedicated to the UH-72A, and may be expanded in 2008. He will be able to call on the resources from other company divisions as well. In addition, Pasbecq’s team will have a technical representative in Columbus, at the UH-72A assembly line, and a network of tech reps at U.S. Army bases. “This contract is a logical phase in the internationalization of Turbomeca,” adds Pasbecq. “We just finished the re-engining program for the U.S. Coast Guard’s HH-65 Dolphin helicopters and the Department of State congratulated us on how smoothly it went. Turbomeca USA was also recently recognized by Lockheed Martin as its top supplier, because of the quality of our products and 100% on-time delivery performance. The UH-72A contract is a very natural next step in Turbomeca’s successful development in the United States.” ■

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