## U.S. Army Puts Interactive Electronic Technical Manual to Work in Support of AH-64D Apache Longbow Helicopters

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Army ground crews tasked to maintain the AH-64D Apache Longbow multi-mission combat helicopter are heading into the field armed with the latest in computerized maintenance support -- the interactive electronic technical manual (IETM).

The IETM, which replaces some 30,000 pages of printed technical information, is the only Class IV system in service. A Class IV system stores data in a hierarchical manner, making it easier for users to obtain the correct information. Class I through III systems provide data in a linear manner, a format that is more prone to cause errors.

The first IETMs are entering service with members of the 1st Battalion, 227th Aviation Regiment, who completed their individual pilot and maintenance Apache Longbow training at the Boeing facility in Mesa. They now face three months of intensive company-level and battalion-level training and evaluation at Fort Hood, Texas.

The men and women of the 1-227th will complete a series of comprehensive classroom, flight and field exercises through mid-October to qualify them as the U.S. Army's first combat-ready Apache Longbow unit.

The IETM played an important role in delivering the first Apache Longbow aircraft from Arizona to Texas earlier this year.

Maintainers used the computerized system to help verify and confirm loading procedures to load six Apache Longbow aircraft into a C-5A Galaxy transport aircraft for delivery to Fort Hood.

The IETM, which also has commercial applications, recently earned high praise from the American Helicopter Society. Boeing was awarded a meritorious achievement award for fielding the world's first Class IV IETM to incorporate "100 percent of the on- and at-aircraft maintenance requirements for a major weapon system."

The information in the IETM provides rapid access on one CD-ROM to 105 maintenance operational checks, 2,500 fault isolation procedures, 10,000 maintenance tasks, 110,000 spare parts, 10,000 illustrations/schematics and all of the applicable descriptive information.

"Maintainers no longer need to carry bulky manuals into the field or work from memory or tribal knowledge," said Robert Worsham, new programs manager for instructional systems and technical publications at Boeing in St. Louis. "Everything is neatly packaged into the IETM and, unlike earlier electronic technical manuals for other aircraft or equipment, the Apache Longbow IETM is fully interactive." Worsham said the IETM's benefits would be evident quickly.

"Once they see and use the IETM, maintainers will want to use it full time," he said. "And maintenance will be performed correctly the first time, increasing the availability of the equipment to do its assigned mission, while decreasing operation and support costs."

Boeing began work on the Apache Longbow in 1994, when the U.S. Army established a requirement for Boeing to provide a Class IV-rated IETM for the Apache Longbow.

Boeing engineers studied the requirements, and, in the process, learned that another IETM was being developed for the F/A-18 Hornet. A collaboration by Boeing teammates in Mesa and St. Louis led to

development of both IETMs.

In April 1998, the preliminary copy of the IETM was delivered to Ft. Hood, and the production IETM was approved by the customer and delivered on compact discs in July. The F/A-18E/F Super Hornet IETM will be delivered later this year by the St. Louis team, with the F/A-18C/D Hornet IETM in 2001.

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