



Backgrounder

Boeing Integrated Defense Systems
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Boeing T-45 Training System

The T-45 Training System, or T45TS, is the first totally integrated training system developed for and used by the U.S. Department of the Navy. It includes the Boeing-built T-45 Goshawk aircraft, advanced flight simulators, computer-assisted instructional programs, a computerized training integration system, and a contractor logistics support package. The integration of all five system elements produces a superior pilot in less time and at lower cost than previous training systems. The T45TS replaced two training aircraft and added advanced simulators to improve the process for training U.S. Navy and Marine Corps pilots for conversion into the F/A-18A-D Hornet, the F/A-18E/F Super Hornet, the AV-8B Harrier and the EA-6B Prowler.

The Goshawk

The two-seat, single-engine T-45 Goshawk is the heart of the training system. The aircraft has a wingspan of 30.1 feet, a length of 39.3 feet, a tail height of 13.5 feet and a takeoff gross weight of 13,636 pounds. The U.S. Navy's T-45 Goshawk is powered by a Rolls-Royce Adour F405-RR-401 engine producing 5,845 pounds of thrust. The aircraft is designed to excel in the rigorous environment of naval aviation training. It has been fatigue tested successfully to demonstrate a service life of considerably more than the 14, 400 required flight hours.

The T-45A (with an analog cockpit) is fully operational at Naval Air Station Kingsville, Texas, where it replaced the T-2C intermediate and TA-4J advanced jet trainers. The latest significant upgrade, the T-45C (with a digital cockpit) has already replaced the older TA-4J advanced trainer at Naval Air Station Meridian, Miss., and completed replacement of the primary trainer, the T-2C Buckeye, in 2004. T-45s have made approximately 32,000 arrested landings aboard aircraft carriers since entering service in 1992, and more than 2,100 new aviators have earned their wings in the T-45.

The Totally Integrated System

The T45 Training System is a totally integrated ground and air training system. For example, student pilots gain basic aviation knowledge and skills in electronic classrooms with state-of-the-art projection systems. They learn about difficult, three-dimensional maneuvering concepts such as strike tactics, weapons delivery and air combat maneuvering, through computer-aided instruction that features sophisticated animation. They then refine their skills in improved high-fidelity simulators. The instrument flight trainer simulator familiarizes student pilots with the T-45 cockpit, flight instrumentation and aircraft flying qualities. The operational flight trainer simulator has a visual system that presents the student with a computer-generated view of the world outside the cockpit.

The T45TS also includes a computerized management system that coordinates activities such as scheduling, student tracking, record keeping and generating reports at the command level. This training integration system networks all elements of the T45TS to make planning and decision-making easier, more flexible and more efficient. The T45TS program prime contractor, Boeing, is responsible for the development and integration of the total T45TS. In addition, the company produces the forward fuselage and horizontal stabilators of the aircraft, performs final assembly and production flight test operations, and provides maintenance for all training system elements and integrated logistic support plans. BAE Systems produces the center and aft fuselage and wings, and Raytheon is the principal subcontractor for the simulators. Rolls Royce provides the engine.

The Boeing Company has delivered more than 170 T-45 Goshawks to the U.S. Navy. The U.S. Navy's long-term plan calls for production of 234 Goshawks to support U.S. Navy and U.S. Marine Corps training beyond 2030.

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