

JOINT PRIMARY AIRCRAFT TRAINING SYSTEM (JPATS)



The Joint Primary Aircraft Training System (JPATS) is a set of primary flight training devices tailored to meet U.S. Air Force (USAF) and U.S. Navy (USN) aircrew requirements. The principal JPATS mission is to train entry-level USAF/USN student pilots in primary flying skills to a level of proficiency at which they can transition into an advanced pilot training track leading to qualification as military pilots, navigators, and Naval Flight Officers. JPATS is designed to replace the USAF T-37B and USN T-34C aircraft and their associated Ground-Based Training Systems (GBTS).

The JPATS consists of the T-6A Texan II air vehicles, simulators and associated ground-based training devices, a training integration management system, instructional courseware, and contractor logistics support. The Services will acquire common aircraft and the remaining components will be as common as possible. Logistics support will be tailored to each Service's maintenance concept.

BACKGROUND INFORMATION

In December 1990, the Joint Requirements Oversight Council validated the JPATS Mission Need Statement. Operational requirements were subsequently codified in the JPATS Operational Requirements Document (ORD). JPATS was designated a Defense Acquisition Pilot Program in the 1994 Federal Acquisition Streamlining Act, becoming the first aircraft program to be selected.

An early operational assessment was conducted during the Source Selection Flight Evaluation from July-October 1994 at Wright Patterson AFB. Seven candidate aircraft were evaluated, each completing 13 flights. Milestone II was held in August 1995, and the Raytheon Corporation was awarded a contract for engineering and manufacturing development. Following a source selection process conducted by Raytheon, the GBTS subcontract was awarded to the Flight Safety Services Corporation in April 1997.

MOT&E(I), an in-plant operational assessment (OA) of the GBTS, was performed in September 2000. Eighty-three deficiencies were identified and one safety issue was highlighted which has been subsequently corrected.

The AFOTEC test team has been on-site at Randolph AFB conducting MOT&E(A) for the T-6A and in the Flight Safety plant conducting MOT&E(I) for the aircrew training devices. MOT&E(A) consisted of approximately 300 flight hours flown by experienced instructor pilots from the USAF and

USN using commands (Air Education and Training Command (AETC) and CNATRA) and operational test pilots from AFOTEC and COMOPTEVFOR. The Joint Primary Pilot Training (JPPT) course syllabus was the basis for mission profiles. Common student errors, those mistakes made by inexperienced students, were employed to determine the viability of the T-6A as a primary student trainer. In addition, deficiencies identified in previous tests were re-evaluated. MOT&E (A) commenced in June 2000. Testing was completed in November 2000. The MOT&E(A) report concluded the aircraft to be effective, not suitable and had safety issues to include the environmental control system and the UHF radio.

The last approved TEMP was in January 1999. The TEMP was revised to reflect changes in the ORD, delays in the development and production schedules, and updated GBTS information following selection of a GBTS contractor Flight Safety Systems. That revision contained a more detailed plan for testing the requirements of all GBTS components and the full range of air vehicle missions described in the ORD. The January 1999 TEMP requires an update to support the Milestone III production decision.

TEST & EVALUATION ACTIVITY

DOT&E supported numerous IPTs and TEMP meetings in preparation for the November 2001 Milestone III production decision. The MOT&E(S) test plan is in work and will be submitted prior to the scheduled test in June 2002.

Testing of a new design for the environmental control system was completed. Initial tests on one modified aircraft in a non-representative environment suggest adequate cooling could be available for student training at bases with high heat and humidity. During previous testing, adequate cooling of the cockpit had not been demonstrated using a production-representative system in typical operational environments nor did it meet system specifications. Cockpit temperatures near 100 degrees fahrenheit have been recorded. Four problems are being examined: (1) rapid system cycling; (2) distribution of air in the cockpit areas; (3) reducing the temperature of cooled air; and (4) improving control of louvers for directing airflow. Production cut-in is expected in the spring 2002.

Testing for the UHF radio is not completed, however, a potential solution has been partially tested. Operational testing will be conducted when the system is ready.

The System Level Formulative Evaluation for the integrated GBTS components started in January 2001. It evaluated, for the first time, whether the suite of JPATS GBTS components has the capability to operate as an integrated system. This represents the first opportunity to evaluate, in part, the integrated JPATS, including the aircraft and GBTS, from an operational perspective minus actual students. A number of discrepancies were documented and still need to be resolved.

The Training Information Management System is not ready for operational testing. However, the OT team has supported developmental testing.

TEST & EVALUATION ASSESSMENT

The JPATS Beyond Low Rate Initial Production report was published in November 2001. As tested and currently configured, the aircraft was operationally effective with numerous limitations, deficiencies, and workarounds and not operationally suitable. In addition, several safety issues were identified to be addressed and sufficiently rectified. Problem areas included the engine, ECS, UHF and

VHF radio performance, flight manuals and checklists, the emergency oxygen system, ground egress, the trim systems, the power control lever, the wheel brakes, cockpit storage, and rear view mirrors.

In addition, the aircraft breaks more often and takes longer to repair than predicted. That impacts the sortie generation rate, which affects cost, manpower and student training.

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