

Special Report



The Dragon Test Team was one of the first organisations in the Air Force to be part of a Combined Developmental Test and Operational Test effort undertaking end-to-end testing. It was therefore directly involved in the entire test cycle of the various developments, modifications and upgrades, and was responsible for expediting new concepts. This combined effort resulted in modifications being fielded quicker to the operational units and money being saved. In the meantime, many other test organisations followed this example.

of command and control forces on the ground during Phase II flight-testing in September 2003. The ability to send images of an attack sequence to a command and control element within minutes of the attack allowed commanders to assess the effectiveness of the attack and rapidly redirect another strike against the target if necessary.

The IRRCA programme developed an onboard mission manager (OMM) that facilitated the transfer of real-time information into the cockpit (RTIC)/real-time information out of the cockpit (RTOC). The OMM also contained a modified version of the common low-observable autorouter (CLOAR) that allowed a dynamic, signature-managed re-plan of the F-117's flight path in response to target re-tasking messages and pop-up threats.



In Fiscal Year '04 the unit also looked at F-117A Composite Force Integration TD&E. This development and evaluation plan looked at ways to integrate the F-117 in the coalition force, and how to utilise some of the aircraft-specific features alongside the features of other platforms to better defeat or destroy a threat. Tests were also conducted to continue improving the mission planning tools and related ground systems, resulting in upgraded releases like the F-117 Mission Planning Environment (FMPE) version 7.2 and F-117 Target Area Planner (TAP) versions 14 and 15 FDE. The latter is used for pre-mission threat and jamming analysis and is connected to a huge database.

Combat capability sustainment

Initiated as a Concept & Technology Development (CTD) in Fiscal Year 2000, testing continued during Fiscal Year 2005 and 2006 of the numerous avionics upgrades and modifications to applied to the F-117 as part of the F-117 Combat Capability Sustainment Program (CCSP) – Combined DT/OT/FDE. The programme was aimed at replacing obsolete avionics systems, establishing new vendors, and improving reliability and maintainability to keep the F-117 operational.

It also provided the aircraft with future capabilities for new releases of Operational Flight Program (OFP) software and weapons capability. Under CCSP, one particular part that needed to be replaced was the Expanded Data Transfer System (EDTS) as it was approaching non-supportability and the end of its service life. System Development & Demonstration (SDD) of the EDTS started in Fiscal Year '04 and, in order to integrate new smart weapons, its existing memory capacity required to be expanded. Affectionately known as the 'Lunch box', this 10-lb (4.5-kg) 8 x 4.5-in (20 x 11-cm) boxlike device is still hand-carried by the Nighthawk pilots, allowing data to be transferred from the mission-planning environment to the aircraft for operations. The new system developed and tested by Det 1 works with a PCMCIA type of card, and is basically similar to a modem card. These cards are pocket-sized, highly reliable and come with sufficient memory. Pilots can always carry a spare, thereby minimising mission delays or aborts in case of data transfer problems.

This particular programme was a clear example of the Combined Developmental Test and Operational Test effort where the unit has been part of the entire development and test cycle, joining up with the contractors and the development test team, and concluding the programme with a fielding recommendation to the operational fleet. However, as the 'Dragon' has been retired in the meantime, it remains the only aircraft in the operational fleet that had this new EDTS built in. Although Det 1 released its recommendation to field it in August 2006, only a handful of 49th Fighter Wing aircraft will receive the same upgrade as they go through the depot at Palmdale, as funding is limited.

Over the past three years, Detachment 1 also tested and released two Operational Flight

In December 2003, the 'Dragon' changed its appearance when it received a unique two-tone light-grey paint scheme as part of the F-117 Mission Effectiveness – Force Development Evaluation (FDE). This umbrella programme covered different areas but mainly focused on tactics and survivability during daytime operations. This expanded on a previous test plan that was run in the mid-1990s called Evening Shade, to expand the employment of the Nighthawk into dusk and dawn.