



Left and right: Being a tenant unit of the 49th Fighter Wing, Detachment 1, 53d Test and Evaluation Group was the sole Operational Test and Evaluation (OT&E) unit supporting the F-117 Stealth Fighter programme. The Dragon Test Team was responsible for testing all modifications and upgrades made to the F-117 at an operational flying level to ensure that new equipment, weapons, and software were compatible with operational constraints.

recommended for fielding in August 2006, together with the final release of the F-117 Mission Planning Environment – Life Cycle Upgrade, version 8.1.4. Follow-on testing continued for the F-117 Cockpit NVIS, running from 15 to 22 September 2005 with the night portion of the tests being completed at Palmdale between 10 and 13 July. This resulted in an even better cockpit lighting system with the latest version (NVIS-spiral 1) fielded in August 2006. The 'Dragon' was the only aircraft in the inventory with production NVIS cockpit lights installed.

Trials also continued with F-117 Time Sensitive Targeting TD&E, which was carried over from Fiscal Year '05. An upgraded communications suite was proposed for the F-117 with a dual-radio capability that has better frequency agility and different frequency ranges, including FM, VHF, UHF. It was to be combined with SATCOM, with all related antennas being low observable (LO).

The LO Dual Radio was (and still is) required, as employment and tactics have changed over the years. The F-117 is often required to integrate with conventional strike packages, support aircraft, and special operations forces – both in the air and on the ground. This requires the ability to communi-

cate on, and monitor, multiple frequencies simultaneously. Using the Dual Radios, the pilot would be able to receive and transmit target, threat and other critical mission data on two UHF channels at the same time. The dual-radio capability would also allow the development of advanced tactics to support time-sensitive targeting.

The LO SATCOM antenna project would extend the F-117's ability to receive and transmit dynamic targeting data from beyond-line-of-sight locations to a point much closer to the target area. The ground mission-planning phase of the Fiscal Year '06 TST test programme was complete and flight-testing with the Dual-Radio had already started when the next phase was cancelled as a result of the decision to retire the fleet. This next phase would have included flight tests with live weapons to be employed against moving targets at the nearby McGregor range. Real-Time-Targeting by Special Forces and Unmanned Air Vehicles was to have supported laser operations and a datalink with over-the-horizon communications.

As the unit was unable to conclude these important tests, it is unlikely that this modification package will be integrated into the operational fleet, which will remain equipped with a single

UHF radio. Thanks to Det 1's efforts, however, one Developmental Test F-117 at Palmdale was modified with the LO Dual Radio and SATCOM modifications to evaluate the package, so future projects may benefit from this work.

Other test plans that were cancelled included the integration of the Wind Corrected Munitions Dispenser (WCMD), an off-the-shelf weapon that would have allowed Nighthawk pilots to independently target weapons and strike multiple targets on a single release/pass. Originally, WCMD was scheduled to be fielded in August 2006, a standard F-117 load being two dispensers. Det 1 also pushed to integrate the Small Diameter Bomb (SDB) in the F-117 and this would have increased the weapon load-out capability significantly, enabling the Nighthawk to defeat eight and possibly 16 targets. A load-out of four SDBs per weapon bay had already been demonstrated. Test plans also drew up to integrate the 500-lb GBU-38 JDAM in the F-117, and this would have increased the number of GPS bombs to be carried to four per aircraft. This programme was also halted.

Using the F-117 for recon

A new mission tactics development that was scheduled in Fiscal Year '06 was a test plan called F-117 Non-Traditional Intelligence, Surveillance & Reconnaissance (NTISR) TD&E. This tactics set would have tied in the new communications suite and datalink with all the results already obtained in projects like TST, NTISR, Advanced Threat Defeat, NVIS, Global Strike with the Raptors, OFP-87 with the smart weapons integration (JDAM and WCMD), plus the improvements made to the IRADS system and some other classified projects.

53d Wing activities and constituent units

Located at Eglin Air Force Base, Florida, the 53d Wing serves as the focal point for the Combat Air Forces in electronic warfare, armament and avionics, chemical defence, reconnaissance and aircrew training devices. The wing reports to the US Air Force Warfare Center at Nellis Air Force Base, Nevada, itself a Direct Reporting Unit to Headquarters Air Combat Command. The wing is also responsible for operational testing and evaluation of new equipment and systems proposed for use by these forces. Current wing initiatives include advanced self-protection systems for combat aircraft, aircrew life support systems, aerial reconnaissance improvements, new armament and weapons delivery systems, and improved maintenance equipment and logistics support. The 53d Wing is comprised of four groups, namely 53d Electronic Warfare Group, 53d Weapons Evaluation Group, 53d Test Management Group and the 53d Test and Evaluation Group.

The 53d Test and Evaluation Group (TEG) is responsible for the overall management of the wing's flying activities at Eglin and Nellis. Members of the 53d TEG execute operational test and evaluation, tactics development and evaluation projects assigned by Headquarters Air Combat Command (ACC). Aircraft assigned to the group include test-configured F-15C/D, F-15E Strike Eagle, F-16, B-1, B-2, B-52, A-10, HH-60, MQ-1, RQ-4, F-22 and, until recently, a single F-117A.

The 53d TEG is made up of numerous squadrons, direct-reporting detachments and squadron detachments at 17 stateside bases. They are the 85th Test and Evaluation Squadron at Eglin AFB, 31st Test and Evaluation Squadron at Edwards AFB, 422nd Test and Evaluation Squadron at Nellis AFB, 72nd Test and Evaluation Squadron

at Whiteman AFB, 337th Test and Evaluation Squadron at Dyess AFB, 53d TEG Operation Location Air National Guard Air Force Reserve Test Center at Tucson IAF, and the 49th Test Squadron at Barksdale AFB. Providing support to this group and its numerous squadrons, detachments are at Kirtland AFB, Cannon AFB, Luke AFB, Tinker AFB, Hill AFB, Dyess AFB and, until recently, Detachment 1 at Holloman AFB.

The single F-117 operated by Det 1 wore the 57th Wing's 'WA' tailcode until April 1997, when it adopted the 'OT' of the 79th (later 53d) TEG.

