Enhancing the front line

Since its creation, Detachment 1 has taken what was developed at the Lockheed Martin facility in Palmdale, CA, and tested it at the operational flying level to ensure that new equipment, weapons, and software are compatible with operational constraints.

The Dragon Test Team was one of the first organizations in the USAF to be part of a Combined Developmental Test and Operational Test effort doing end-to-end testing, being directly involved in the entire test cycle of the different developments, modifications and upgrades, and in that sense responsible for actually expediting new concepts to the warfighters themselves. By working hand-in-hand with DT organizations (the F-117 Combined Test Force and the 410th FLTS) and contractors, this combined effort resulted in modifications being fielded more quickly to operational units as all relevant parties were involved directly in every stage of the process, starting from the early design phase, all the way through to fielding the modification or upgrade and sometimes even post-implementation analysis. This way, the Air Force was able to save valuable time and money, and many other test organizations have followed this example.

Until December 2003, the 'Dragon' F-117 had always been in the same black color scheme as any other operational Nighthawk, but that changed when it was rolled out in an experimental two-tone light gray livery. The job was completed by November 26, 2003, resulting in an F-22 Raptor-style look. The primary reason was that the unit was working on several test plans collectively called F-117 Mission Effectiveness — Force Development Evaluation (FDE), with flight testing starting on May 25, 2004. FDE is the last stage of testing where the operational capabilities of the modification or upgrade are tested on the aircraft and the information gathered used to develop tactics. While this umbrella program covered different areas, it mainly focused on tactics and survivability during daytime operations, expanding on a previous test plan that was run in the mid-1990s called 'Evening Shade' in which the Dragon Test Team investigated using gray instead of black on the F-117 to extend the employment of the Nighthawk into dusk and dawn.

At the same time, the unit looked at some other advanced (classified) programs with the F-117 as well as supporting the F-22's daytime Force Protection Evaluation — IOT&E (Initial Operational Test and Evaluation). and the Low-Observable (LO) Strike Force. The 'Dragon' aircraft was requested to be painted gray and flown during daytime to evaluate the survivability and tactics required to operate stealth aircraft on a 24-hour basis. The gray scheme produced no degradation of the aircraft's ability to evade radar detection, and while the experiment showed that using gray instead of black had its advantages in evading optical tracking systems, the use of two different shades of gray made no difference at range as they merge.

The FY2004 test schedule also included F-117 Advanced Employment Tactics Development & Evaluation (TD&E). This was a classified tactics development program to improve the survivability of the F-117 in a strike force. Other tactics-related development and evaluation plans executed during that year were F-117A Attack on Moving Targets TD&E, F-117 Off-Ship Lasing TD&E (buddy lasing) and F-117 Time Sensitive Targeting (TST) TD&E.

Initial TST testing was completed in October 1998. It allowed a pilot to receive live threat information and manually re-plan a mission from the cockpit. Known as the Integrated Real-time Information into the Cockpit/Real-time Information Out of the Cockpit for Combat Aircraft (IRCCA) demonstration project, it made F-117 history when a test aircraft sent its first ever attack sequence images via satellite datalink from the cockpit and into the hands of command and control forces on the ground during IRRCA 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 its effectiveness and rapidly re-direct another strike against the target if necessary.