The 'Dragon' received a darker, single-tone grey paint scheme in January 2006 in preparation for a test plan called F-117 Advanced Threat Defeat – Tactics Development & Evaluation (TD&E), in which follow-on testing was scheduled to further explore the grey paint scheme and to continue to develop the related tactics and employment of the F-117 in conjunction with the F-22 Raptor.

Programs (OFP), with Force Development Evaluation of the F-117 OFP-86 running from 19 July 2004 until 13 July 2005. When that version was completed and fielded, the Dragon Test Team immediately started testing of the new software release under the F-117 OFP-87 Combined DT/OT/FDE effort.

Almost certain to be the last software upgrade for the F-117, OFP-87 mainly integrates the Joint Direct Attack Munitions (JDAM) and Wind Corrected Munitions Dispenser (WCMD) weapons capability on the F-117. With OFP-86 and earlier, only specially produced laser-guided bombs like the GBU-27 or hybrid EGBU-27s could be dropped from the Nighthawk.

As a good number of these specialist bombs were expended during the various conflicts, and as these laser-guided bombs have a significantly higher price tag than the off-the-shelf GPS and INS-guided bombs, the Stealth community was sure to follow others in using smart bombs like JDAM and WCMD. Also, during Operation Allied Force the need for the new weapons on the F-117 was highlighted as over 50 percent of the F-117 sorties had to be cancelled due to unfavorable weather (for laser-guided bombs), impacting the ability to deliver ordnance. Integrating the JDAM in the F-117 was to resolve all this, as JDAM would expand the F-117's adverse weather accurate weapons employment capability and permit attacks against certain target sets without visual target acquisition.

Although the integration of smart weapons was already part of OFP-86, it was not certified until OFP-87. When the initial release of OFP-87 in combination with JDAM on the F-117A was issued by Lockheed Martin in Palmdale, a significant amount of operational testing had to be done before it could be released to the front-line units. These tests were not about testing the weapon itself, but testing the aircraft as a platform, employing the new weapon to make sure any software, aerodynamic or configuration problems were ironed out before finally releasing its use.

The first OFP-87 upgrade tests were done dropping legacy weapons (e.g. GBU-27) to make sure no conflicts arose with the standard weaponry and to compare the results with already-known parameters. Then tests continued with asymmetrical (mixed) weapon loads of a single inert JDAM and a legacy weapon, followed by full-up trials with a load of two inert JDAMs. As with the F-22 Raptor, the bombs are in the closed bomb bay, and for these GPS-guided bombs the precise navigational coordinates are fed into the weapons up to the moment of opening the doors and their release. Then, within a few seconds, the antenna on the bomb needs to find the satellites for orientation and guidance to the target.

Different types of tests were performed, from putting the aircraft and its weapons to their limits in terms of speed and altitude, to flying missions that tested the upgrade under similar conditions that would be experienced by the warfighter. During these tests, no instrumented or live JDAMs were dropped as the test team at Palmdale had already performed this task. The bombs Det 1 used were so-called separation test vehicles (STV), and they were used purely to test the separation characteristics of the weapon. Once the weapon had cleared the aircraft in accordance with the test specifications, it was considered a successful test.

JDAM employment

Obviously, the use of JDAM opened new possibilities for the Stealth Fighter. When using LGBs pilots would only squeeze the trigger at the optimal release point, and had to maintain the laser fix until impact. With JDAM, the pilot can release the weapon the moment the aircraft reaches the release point within the Launch Acceptable Region (LAR), with the GPS then guiding the bomb to the target.

During Fiscal Year '05, testing continued on the F-117 Time Sensitive Targeting TD&E test plan as it was carried over from the previous year. Also tested and fielded was the F-117 Video Tracker/System Controller version 1.4, which is an improvement to the Infrared Acquisition & Designation System (IRADS). Tests started on 19 July 2004 and were finalised on 13 July 2005. Other Force Development and Evaluation plans