Joint Direct Attack Munition (JDAM)

Executive Summary

- The Joint Direct Attack Munition (JDAM) 500-pound variant was successfully integrated on the Air Force F-15E and Navy F/A-18C/D and F-14D aircraft. Performance was consistent with historic JDAM 2,000-pound and 1,000-pound variants.
- Air Force integration testing of JDAM 1,000-pound variant on the F/A-22 began in FY05. Additional FY06 testing is required to complete JDAM Multi-Service Operational Test and Evaluation (MOT&E).
- Testing confirmed that JDAM is operationally effective and suitable when used in combination with the FMU-152 Joint Programmable Fuze.

System

- The JDAM provides a low cost, autonomously controlled, adverse weather, accurate guidance kit tailored for Air Force/Navy general purpose bombs to include:
  - 2,000-pound Mk 84 and BLU-109 bombs
  - 1,000-pound Mk 83 and BLU-110 bombs
  - 500-pound Mk 82 bomb
- An inertial navigation system provides primary guidance to the weapon. Enhanced accuracy of the weapon is provided by augmentation of the inertial navigation system by signals received from the Global Positioning System (GPS).
- Guidance and control is designed to enable accuracy of less than 13 meters when GPS is available and less than 30 meters when GPS is absent or jammed after release.

Mission

- Combatant commanders use JDAMs employed by fighter, attack, and bomber aircraft to engage targets day or night, in all weather at the strategic, operational, and tactical level of warfare.
- JDAM is employed against fixed and relocatable, soft and hard targets to include command and control facilities, airfields, industrial complexes, logistical and air defense systems, lines of communication, and all manner of battlefield forces and equipment.

Activity

- Test and evaluation was conducted in accordance with the August 2004 DOT&E-approved JDAM Test and Evaluation Master Plan.
- The Air Force conducted integration testing of the 1,000-pound variant on the F/A-22 as part of the JDAM MOT&E and Air Force Test and Evaluation Center's (AFOTEC) F/A-22 follow-on test and evaluation. Analysis of results is ongoing and will continue into FY06.
- The Air Force integrated the 500-pound variant on the F-15E.
- The Navy integrated JDAM on the F/A-18E/F.
- The Navy integrated the 500-pound variant on the F-14D.
- The Navy conducted initial operational testing of the 500-pound variant on the F/A-18C/D. This variant was found to be effective and suitable when released from F/A-18C/D parent pylons. Testing of carriage and release from the BRU-55 smart weapons rack will continue into FY06.
- Testing confirmed that the JDAM is operationally effective and suitable when used in combination with the FMU-152 Joint Programmable Fuze.

Assessment

- Testing and integration of the 500-pound JDAM across both Air Force and Navy aircraft demonstrated performance consistent with historic JDAM 2,000-pound and 1,000-pound accuracy and reliability. This JDAM variant has subsequently seen widespread operational use by multiple aircraft in support of Operation Iraqi Freedom.
- Navy testing of 500-pound JDAMs released from the BRU-55 smart weapons rack has not yet demonstrated carriage and ripple release of eight weapons. This remains to be accomplished to complete initial operational testing of this variant on the F/A-18C/D.
- Completion of Air Force testing of the 1,000-pound JDAM released from the F/A-22 is required to satisfy JDAM MOT&E requirements.

Recommendations

None.