

C-130J Aircraft

Executive Summary

- The C-130J continues in production with periodic Block upgrades to correct deficiencies and to provide capability enhancements. No milestone decision reviews are planned for the C-130J. The initial multi-year contract expires in February 2008.
- The C-130J is effective in performing single ship airland and airdrop missions in a permissive threat environment.
- The C-130J is not effective in performing formation airdrop missions in Instrument Meteorological Conditions where the use of Station Keeping Equipment is required.
- The C-130J is not effective for worldwide operations in a non-permissive threat environment.
- The C-130J has shortfalls in meeting user suitability requirements due to maintainability issues.
- Operational tests of Block Upgrade 6.0 are scheduled for 1QFY08 and the ALR-56M improvements are scheduled for 3QFY08.
- C-130J operational testing will likely continue past 2010 because some initial OT&E deficiencies have not been corrected and new capabilities will be added in Block Upgrade 7.0, with OT&E scheduled for 2011.
- The engine nacelle fire suppression system successfully suppressed fires generated by the threats tested. The C-130J Live Fire test program is complete.

System

- The C-130J is a medium-sized four-engine turboprop tactical transport aircraft.
- Compared to previous models, the cockpit crew requirement is reduced from four to two on the J model; loadmaster requirements vary (one or two), depending on mission need.
- Compared to legacy models, the C-130J has approximately 70 percent new development. Enhancements unique to the C-130J include a glass cockpit and digital avionics, advanced



integrated diagnostics, a new propulsion system, improved defensive systems, and an enhanced cargo handling system.

- The C-130J has two different lengths denoted as a long and a short body. The long body carries eight standard pallets; the short carries six.

Mission

- Combatant commanders use the C-130J within a theater of operations for combat delivery missions which include:
 - Airdrop of paratroopers and cargo (palletized, containerized, bulk, and heavy equipment)
 - Airland delivery of passengers, troops, and cargo
- Combat Delivery units operate in all weather conditions, use night-vision lighting systems, and may be required to operate globally in civil-controlled airspace.
- Combat Delivery aircraft can perform emergency aeromedical evacuations.

Activity

- Developmental Test and Evaluation of Block Upgrade 6.0 started in the 3QFY07 and concluded in the fourth quarter.
- A combined operational and developmental test crew flew a successful Integrated Systems Evaluation mission at the end of Block Upgrade 6.0 development.
- Air Mobility Command completed and DOT&E approved a Test Plan for the Force Development Evaluation of Block Upgrade 6.0 in the first quarter of FY08.
- Live Fire ballistic tests, conducted by the 780th test squadron at Wright-Patterson AFB, Ohio, in March to April

2007, evaluated engine nacelle fire suppression system effectiveness. The C-130J Live Fire test program is complete.

Assessment

- The C-130J with Block Upgrade 6.0 modifications appears ready for an operational evaluation covering four flight missions in October 2007.
- The C-130J with Block Upgrade 6.0 should continue to be effective in performing single ship airland and airdrop

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missions in a permissive threat environment. Both capabilities were successfully demonstrated in Phase II OT&E.

- The C-130J with Block Upgrade 6.0 will not be effective in performing formation airdrop missions using Station Keeping Equipment in Instrument Meteorological Conditions. Station Keeping Equipment anomalies observed during Phase II OT&E were not planned to be corrected by Block Upgrade 6.0.
- The C-130J is not effective for worldwide operations in a non-permissive threat environment.
 - The AAR-47 infrared missile/laser warning system is operationally effective as installed on the C-130J, but has one significant classified limitation.
 - The ALR-56M radar warning receiver has not been fully characterized because it was not ready for operational testing. Operational testing is planned for 3QFY08.
- The C-130J with Block Upgrade 6.0 will still have shortfalls in meeting user suitability requirements due to maintainability issues. The integrated diagnostics false alarm rate is high and the poor performance of the portable maintenance aid impacted the ability to generate sorties. The Air Force reported more than 90 open deficiencies at the end of Phase II OT&E, three of which are addressed by Block Upgrade 6.0. Some maintainability issues are planned to be addressed in Block Upgrade 7.0.
- The engine nacelle fire suppression system successfully suppressed fires generated by all threats tested.

Recommendations

- Status of Previous Recommendations. The Air Force has taken adequate action on the previous recommendations.
- FY07 Recommendation. None.