# C-130J Aircraft

**Executive Summary**

- There are no milestone decision reviews planned for the C-130J. The current 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, in the current configuration, 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.
- C-130J operational testing will likely continue past 2010 because the program has shifted to spiral development.

**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**

- Four C-130Js were deployed to Southwest Asia and are being used for tactical airlift missions.
- The Air Force completed Phase II OT&E in January 2006 with emphasis on evaluating the airdrop mission area. Using long- and short-body aircraft, testing included an assessment of the crew workload, formation airdrop training flights, a simulated deployment to support a joint training exercise, cold weather operations in Alaska, and maintenance activities.
- Operational testing included mission planning, pre- and post-flight operations, en route operations, tactical airland and airdrop, multi-ship formations, sustainment, sortie generation, and self-deployment to representative operational environments.
- Preparation for Block 6.0 developmental and operational testing is ongoing. Developmental testing is scheduled to begin spring 2007.
- C-130J Engine Nacelle Fire Suppression System Testing is currently scheduled for December 2006 at Wright Patterson AFB, Ohio. This will complete the C-130J Live Fire test program.

**Assessment**

- The C-130J is effective in performing single ship airland and airdrop missions in a permissive threat environment. Both capabilities were successfully demonstrated in Phase II OT&E.
- The C-130J is not effective in performing formation airdrop missions using Station Keeping Equipment in Instrument Meteorological Conditions. Frequent Station Keeping Equipment anomalies were observed during OT&E.
- 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.
- The C-130J has 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.

**Recommendations**

- Status of Previous Recommendations. The Air Force has taken action on both FY05 recommendations.
- FY06 Recommendation.
  1. The Air Force should submit an updated Test and Evaluation Master Plan to include follow-on testing of the ALR-56M, formation flight capabilities, and correction of maintenance deficiencies.