

# C-130J Maintenance and Aircrew Training System



## Overview

The United States Air Force C-130J Maintenance and Aircrew Training System (C-130J MATS) program delivers turnkey training systems and support for all USAF C-130J aircrew and maintenance personnel. USAF personnel from Air Mobility Command (AMC), Air Combat Command (ACC), Air Force Special Operations Command (AFSOC), Air Force Reserve Command (AFRC), and Air National Guard (ANG) all receive comprehensive training under the C-130J MATS program. Lockheed Martin is the prime contractor on the C-130J MATS program with CAE serving as Lockheed Martin's teammate and major supplier. Lockheed Martin provides overall program management and operations as well as engineering services. CAE is responsible for the design and manufacture of the majority of C-130J training devices, including high-fidelity weapon systems trainers.

## Program background and history

The C-130J MATS program began in 2000 when the Lockheed Martin/ CAE team was awarded a contract to design and manufacture a C-130J weapon systems trainer (WST) to be delivered to Keesler Air Force Base in Mississippi. In 2003, following a multi-year aircraft acquisition by the USAF and U.S. Marine Corps (USMC), the C-130J MATS program was expanded to include additional training systems for the USAF as well as KC-130J WSTs for the USMC.

This led to C-130J training systems being developed for the USAF's primary C-130 training location at Little Rock Air Force Base (AFB), which is the C-130 Center of Excellence and USAF's formal training unit and schoolhouse for all C-130 aircrew and maintenance crews. In recent years, the program has expanded further as AFSOC and ACC have begun to recapitalize their HC-130, MC-130 and AC-130 fleets with the latest HC-130J, MC-130J and AC-130J variants.

## C-130J Weapon Systems Trainers (WSTs)

CAE is responsible for the design and manufacture of all C-130J WSTs for the USAF and USMC under the C-130J MATS program. To date, CAE has delivered or is under contract to deliver a total of 16 C-130J WSTs for the USAF and four KC-130J WSTs for the USMC. The C-130J WSTs accurately simulate the aircraft and the mission space it operates in while accurately recreating the sounds, motion, visual scenes, instruments and all other systems to provide a high-fidelity, realistic flight training environment. Aircrews are able to train for landing, takeoff, night and formation flights, airdrop, emergency situations, and a range of other missions in a safe and cost-effective synthetic environment. The C-130J WSTs developed by CAE meet Federal Aviation Administration Level D equivalent certification, which is the highest qualification level for flight simulators.

In addition, the newly delivered CAE-built C-130J WSTs support distributed mission operations training, meaning they can network with other synthetic training devices so the USAF can "train as they fight."



## C-130J Weapon Systems Trainers (WSTs)

WST	QTY	LOCATION	CUSTOMER
C-130J WST	1	Keesler AFB	AMC
C-130J WST	4	Little Rock AFB	AMC
KC-130J WST	1	MCAS Cherry Point	USMC
KC-130J WST	1	MCAS Miramar	USMC
KC-130J WST	1	MCAS Futenma, Okinawa, Japan	USMC
KC-130J WST	1	NAS Ft. Worth JRB	USMC
HC/MC-130J	3	Kirtland AFB	ACC
HC/MC-130J	1	Hurlburt Field	AFSOC
HC/MC-130J	1	Davis-Monthan AFB	ACC
HC/MC-130J	1	Cannon AFB	AFSOC
HC/MC-130J	1	Moody AFB	ACC
C-130J	1	Dyess AFB	AMC
C-130J	1	Ramstein AB, Germany	AMC
C-130J	1	Little Rock AFB	AMC
C-130J	1	Yokota AB, Japan	AMC

### Other C-130J training devices

CAE has developed a comprehensive suite of C-130J training devices as part of the C-130J MATS program, including the following:

- Cockpit Procedures Trainer (CPT)
- Fuselage Trainer (FuT)
- Loadmaster Fuselage Trainer (LFT)
- Engine Propeller Trainer (EPT)
- Flight Controls Trainer (FCT)
- Integrated Crew Systems Management Trainer (ICST)
- Enhanced Integrated Cockpit Systems Trainer (E-ICST)
- Avionics Systems Management Trainer (ASMT)
- Loadmaster Part-Task Trainer (LMPTT)

CAE also completed a C-130J systems integration lab (SIL), which has been used extensively for the development and testing of C-130J operational flight program (OFF) block upgrades and modifications. The C-130J SIL is located at CAE USA in Tampa, Florida and continues to serve as an engineering development tool to test and validate aircraft and simulator upgrades.

In addition, CAE is currently designing and manufacturing an LM-100J full-flight simulator to simulate the commercial variant of the C-130J aircraft. This simulator will be delivered to Lockheed Martin's new training center in Marietta, Georgia in 2018.

### Training support services

Under subcontract to Lockheed Martin, CAE has provided a range of training support services as part of the C-130J MATS program. CAE personnel are currently responsible for providing Training System Support Center (TSSC) support services at Little Rock AFB, Keesler AFB, Kirtland AFB, and USMC KC-130J sites. The training support services provided by CAE has included simulator upgrades, training device maintenance, software engineering, configuration management, data management, and program management support. Most recently, CAE has conducted multiple fleet upgrades to include obsolescence and technology refresh updates in order to increase device supportability and availability.

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