

# UH-72A Lakota Flight Simulation Training Devices



## Overview

CAE is responsible for the design and manufacture of training devices to support pilot transition and proficiency training for the UH-72A Lakota. As part of an initial contract from Airbus Helicopters in 2007, CAE designed and manufactured two UH-72A cockpit procedures trainers (CPTs), both of which were delivered to the Eastern Army National Guard (ARNG) Aviation Training Site (EAATS) at Ft. Indiantown Gap in Pennsylvania.

## The UH-72A Lakota Helicopter

Developed by Airbus Defense and Space, formerly EADS North America, the UH-72A Lakota is the U.S. Army's multi-role light utility helicopter. The UH-72A Lakota entered service for the U.S. Army and National Guard beginning in 2007, and more than 300 helicopters have been delivered through 2014. The Army and National Guard use the UH-72A Lakota for a range of domestic missions, including homeland security, medical evacuation, drug interdiction, disaster relief and general utility support. Recently, the Army made the decision to replace the TH-67 Creek training helicopter with the UH-72A, which will make the Lakota the Army's primary training helicopter at Ft. Rucker, Alabama.

## Current UH-72A Training Device Program

Since delivering the first two UH-72A CPTs to EAATS, CAE developed an additional UH-72A synthetic flight training simulator (SFTS), which is a Level 6 accredited flight training device and was delivered to the Western ARNG Aviation Training Site (WAATS) at Marana, Arizona.

CAE also upgraded the two original CPTs to the SFTS Level 6 accredited training device, and moved one from EAATS to WAATS.

CAE has delivered five Level 6 accredited UH-72A SFTSs to Ft Rucker to support the transition and training on the new UH-72A training helicopter. The first UH-72A Lakota SFTS was delivered and accredited by the Army in late 2014, with the fifth and final UH-72A SFTS delivered to Ft. Rucker in the spring of 2016. CAE also delivered a Ft. Rucker enhancement to the Common Database (CDB) in early 2017.

## UH-72A Synthetic Flight Training Simulator (SFTS)

CAE's UH-72A SFTS is a Federal Aviation Administration (FAA) Level 6-capable flight training device that features an aircraft-specific cockpit with the fidelity and performance of a full-flight simulator without the motion. The UH-72A SFTS is a fixed-based simulator that includes a wide 200-degree by 70-degree field-of-view display system to immerse the pilots in the synthetic training environment. CAE has completed significant testing and tuning, including close collaboration with U.S. Army and National Guard UH-72A pilots,

to ensure the flight characteristics of the UH-72A SFTS match the performance of the actual UH-72A Lakota aircraft. The UH-72A SFTS also includes a vibration system located within the simulator base frame to provide pilots with the realistic vibrations associated with rotary-wing aircraft. Included with the UH-72A SFTS is a highly-flexible, user-friendly instructor operator station which optimizes instructional performance. The instructor operator station can be controlled from the left seat or from behind the cockpit to provide maximum flexibility during training missions.

The CAE-built UH-72A training devices have been formally accredited by the U.S. Army's Center of Excellence (USAACE) to certify that the devices can be used to train UH-72A rated crew members in the performance of critical training tasks. The accreditation determines the accuracy and realism of the simulation, and CAE's UH-72A SFTSs have surpassed the performance metrics established for this level of training device, thus allowing the Army to accomplish more training tasks in the UH-72A training devices than originally anticipated.

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## CAE Medallion-6000

The UH-72A SFTS is equipped with CAE's Medallion-6000 image generator, the latest member in CAE's powerful Medallion image generator family. The CAE Medallion-6000 provides a highly modular, scalable and portable visual solution designed to satisfy a full range of helicopter simulation training needs. The state-of-the-art out-the-window visual solution is closely targeted to rotary-wing simulation training and ensures the required field-of-view (FOV), image resolution, and scene content is delivered to support training needs. It is expected the UH-72A SFTS visual databases will be upgraded with the CAE-developed Common Database (CDB) architecture, which significantly enhances the ability to correlate and rapidly update databases to support helicopter training and mission rehearsal requirements.



## CAE 3000 Series

CAE 3000 Series helicopter flight and mission simulators provide an immersive training experience for the full range of military helicopter pilot training requirements. This CAE simulation capability offers unprecedented realism and fidelity for helicopter-specific mission training, including ship landing, search and rescue, hoisting operations, combat scenarios, confined area and rooftop landing, night-vision goggle missions and other operations. The CAE 3000 Series features CAE's industry-leading three degrees-of-freedom vibration platform along with a six degrees-of-freedom CAE True™ electric motion system. The same full-fidelity simulation software used for the UH-72A SFTS would be used in a CAE 3000 Series UH-72A full-mission simulator, thus simplifying concurrency and software updates across the range of UH-72A training devices.



UH-72A Lakota cockpit procedures trainer



UH-72A flight training device



UH-72A Synthetic Flight Training Simulator (SFTS)

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