

CAE3000MR^{SERIES}

Military helicopter flight and mission simulators



Overview

CAE 3000MR 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 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 3000MR Series is the result of CAE's decades of simulator experience and helicopter flight training expertise, the requirement for militaries to extend the use of simulation-based training, extensive input from CAE's Helicopter Advisory Board (which includes pilots, operators, manufacturers, and insurers), and assessment of current and emerging regulatory requirements.

Simulation improves safety and efficiency

Simulation is cost-effective and improves safety by enhancing pilot proficiency, and can help reduce the need for live training. The simulation environment enables risk-free exposure to events not suitable or possible for training on the actual aircraft. Training in a CAE 3000MR Series helicopter flight simulator costs less than training in a turbine-powered helicopter, extends the service availability of aircraft fleets, and frees up aircraft for operational use.

Maximum training value to enhance helicopter mission readiness

The CAE 3000MR Series enables:

- › Unlimited aircrew training schedules – not influenced by weather or training aircraft availability
- › More effective training, including tasks not feasible for training on actual aircraft
- › Realistic visual fidelity for near-the-surface maneuvering
- › Designed for fast cockpit interchanges for maximum utilization and training flexibility
- › Significantly reduced lifecycle training costs
- › Ease of operation and maintenance
- › World-renowned CAE customer support service



CAE leads helicopter flight simulation and training

CAE has delivered the largest number of high-end helicopter synthetic training devices than any other company, with more than 120 devices fielded representing nine different manufacturers – Leonardo Helicopters, Bell, Boeing, Airbus Helicopters, Hindustan Aeronautics Limited (HAL), Kaman, MD Helicopters, NH Industries, and Sikorsky.

CAE-owned and joint-venture helicopter flight training operations (civil and military) are located in five global regions:

Asia

- India: Bell 212/412, AS365 Dauphin N3 and Dhruv in Bengaluru at the Helicopter Academy to Train by Simulation of Flying (HATSOFF)
- Brunei: S-70i Black Hawk; S-92 at CAE Brunei Multi-Purpose Training Centre

Europe

- Italy: AW109 (multiple variants), AW139, AW169, AW189, and NH90 in Sesto Calende at Rotorsim
- Norway: S-92 in Stavanger
- Sweden: Bell 212/412 and Airbus AS332L1/L2
- Germany: NH90 training in Bückeburg, Fassberg and Holzdorf
- UK: AW189 (Rotorsim) in Aberdeen, Scotland; CH-47 Chinook, AW101 Merlin, and SA330 Puma at RAF Benson in Oxfordshire, England

Latin America

- Brazil: S-76C++, Eurocopter H225 and S-92 in Sao Paulo, AW139 in Sao Paulo
- Mexico: Bell 212/412 in Mexico City / Toluca

Middle East

- UAE: Bell 212/412 at Emirates-CAE Flight Training

North America

- Canada: S-76C++ in Vancouver and S-92 in St-Johns, NFLD
- USA: AW139 and AW169 in Philadelphia, S-76B and S-76C+ in Morristown, New Jersey, near New York City



The CAE 3000MR Series addresses regulatory requirements

The CAE 3000MR Series is designed to address global standards for helicopter flight simulation training devices (FSTD), developed by an international working group sponsored by the International Civil Aviation Organization (ICAO). The CAE 3000MR Series is qualified to U.S. Federal Aviation Administration (FAA) Level-D standards, and also meets European Aviation Safety Agency (EASA) Level D fidelity.

Unprecedented visual realism

CAE 3000MR Series military helicopter flight and mission simulators include Prodigy image generators. CAE's Prodigy gaming-engine-based image generator combined with synthetic environment solutions deliver stunningly realistic graphics via extraordinarily true-to life visual images. The simulators have a direct-projection visual display system that comes in two sizes: a 10-ft dome, with a 210° H x 70° V field of view, or a 12-ft dome, with a 230° H x 88° V field of view. They support chin window coverage and high-density 3D databases based on the Open Geospatial Consortium Common Database (OGC-CDB) format tailored to helicopter training operations.

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Advanced Computer Generated Forces

The CAE 3000MR Series for military helicopters includes computer generated forces to support complex mission training as well as joint and coalition operations through HLA (high-level architecture) connectivity. Enemy threats behave with realistic doctrines, and can be tailored with interactive scenario creation tools. Weapon systems and counter-measures are accurately simulated, including proper ballistics and scoring.

Industry-leading vibration, motion cues

All models of the CAE 3000MR Series feature CAE's industry-leading three degrees-of-freedom vibration platform. CAE 3000MR Series full-flight and mission simulators include CAE's six-degrees-of-freedom electric motion system and high-fidelity digital control loading.

Highly realistic mission training scenarios

- › Offshore maritime environments, including wind and 3D wave effects up to Sea State 6
- › Realistic ship deck landings in high seas, including wind turbulence caused by ship
- › Confined area landing procedures
- › Helipad, oil platform, rooftop and pinnacle landings
- › Dynamic scenes in highly detailed urban areas in support of emergency response mission training
- › Night flying and day/night transition
- › Inadvertent entry into instrument meteorological conditions (IMC)
- › Night vision goggles (NVG) and forward-looking infrared (FLIR)
- › Open-format Common Database (CDB) synthetic environment, facilitating content reuse, correlated interoperability and fast mission rehearsal
- › HLA and DIS connectivity to enable distributed mission training
- › Terrain and scenario editors enable customization to specific end-user training needs.



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