

# Helicopter Academy to Train By Simulation of Flying (HATSOFF)

## Overview

The Helicopter Academy to Train by Simulation of Flying (HATSOFF) is a joint venture of Hindustan Aeronautics Limited (HAL) of India and CAE. In 2010, HATSOFF began operations at a new helicopter training centre in Bengaluru, India. The HATSOFF training centre includes a CAE-built full-mission helicopter simulator that features CAE's revolutionary roll-on/roll-off (RO/RO) cockpit design, which enables cockpits representing various helicopter types to be used in the simulator. The first training program offered at HATSOFF was for operators of the Bell 412 helicopter. This was followed in 2011 by the civil/conventional variant of the HAL-built Dhruv helicopter. In 2012, training was added for the Airbus Helicopters Dauphin. The Bell 412, the Airbus Helicopters Dauphin and civil/conventional variant of the Dhruv have all been certified to Level D, the highest qualification for flight simulators, by India's Directorate General Civil Aviation (DGCA).

## Types of training

HATSOFF offers type conversion and recurrent training that provides aircraft system knowledge, situational awareness of the terrain, effective crew resource interaction in a high-stress environment, and enhanced confidence – all leading to safer flight. In addition, HATSOFF specializes in providing mission-specific training for civil and military operators, including

search and rescue, medical airlift, disaster response, homeland security, offshore operations, geological survey, VIP transport, law enforcement, high-altitude operations, and various military tactical scenarios.

## Basic training

- Procedural instrument flying
- Cockpit resource management (CRM)
- Basic tactics
- Formation flying
- Low-level flying
- Desert operation
- Night vision goggles (NVG) introduction

## Advanced training

- Advanced CRM
- Advanced emergency procedures
- Formation lead
- Advanced tactics
- Advanced NVG (When Military Dhruv Inducted)
- Nap-of-earth (NOE) flying
- Weapons training (When Military Dhruv Inducted)
- Electronic warfare (EW) (When Military Dhruv Inducted)
- Mountain operation



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## Training technologies at HATSOFF

HATSOFF incorporates the most advanced technologies available for rotary wing aircraft training. The primary components include a full-mission simulator, flight training devices, multimedia classrooms, computer-based training, brief/debrief rooms, courseware, curricula, and training management information system. Our expert instructors are qualified for the aircraft types and missions they teach, and undergo regular training to keep their knowledge current.

- Comprehensive curricula and courseware for each aircraft type and mission;
- Instructor-led simulation-based classroom (SBC);
- Training management information system;
- Multimedia classrooms;
- Computer-based training (CBT);
- Level 5-equivalent flight training device (FTD);
- Full-mission simulator (FMS), Level D qualified;
- On-board instructor operator station (IOS);
- Off-board tactical operation station (TOS);
- Briefing rooms;
- Debriefing room.

## Training device specifications

The HATSOFF simulator complex consists of a “mothership” with a roll-on/roll-off (RO/RO) platform and three cockpit modules:

- HAL Dhruv (Civil variant) cockpit module;
- Bell 412 cockpit module;
- Airbus Helicopters Dauphin cockpit module.

The mothership full-mission simulator encompasses a common platform comprised of:

- Motion system, six degrees-of-freedom;
- Vibration platform;
- Visual display system, five-channel, 220-degree horizontal by 60-degree vertical field of view, Liquid Crystal on Silicon (LCoS) projectors;
- CAE Medallion™-6000 image generator.

The flight training device (FTD) has a “docking station” to which any of the RO/RO cockpit modules can be attached, effectively converting the module into a Level 5-equivalent FTD. The docking station has its own three-channel 150 x 40-degree visual system. This enables training on a second helicopter type while the FMS is in use.



### CAE Flight Training (India) Private Limited

Survey Nos. 3&4  
Opp. ARDC Main Gate HAL  
Vibhuthipura, Marathahalli Post  
Bangalore - 560037  
India

Phone: +91 80 25226481  
Fax: +91 80 25231580  
E-mail: hatsoffhtpl@gmail.com

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milsim@cae.com    @CAE\_Defence    CAE    cae.com

