Flight Navigation and Procedure Trainer

- EASA FNPT II compliant
- Ab-initio and procedure training
- High fidelity cockpit replica
- In service around the world

EC120 FNPT II
Product description
Thales EC120 FNPT (Flight Navigation and Procedure Trainer) has been designed for ab-initio training as well as to improve pilot skills, awareness and decision-making of experimented pilots.

Thales FNPT is the answer to cost driven requirements. The specific cost effective technological approach maximizes the use of COTS (commercial off the shelf) equipment and guarantees a high rate of availability and maintainability of the product in the long term.

The realistic flight simulation, a replica of the actual helicopter, the high performance of the visual system and the specifically designed database support all types of exercises:
- cockpit procedures: standard checklists and reaction to emergency conditions
- on ground and in-flight manoeuvres
- daylight or night operations, in all weather conditions
- IFR procedures

With these innovative technologies, the Thales EC120 FNPT provides a completely immersive training environment that mimics real operational conditions to support helicopter operators’ key priorities of safety and mission success.

The EC120 FNPT can be certified FNPT II according to EASA standard (equivalent to FTD 4 FAA).
THALES EC120 FNPT

VISUAL SYSTEM

210° x 50° cylindrical Field of View
Much larger than EASA FNPT requirements

High Definition projectors
HD projection for image projection (1920 x 1200 pixels)

Visual Database
World Wide visual Database with high resolution areas

COCKPIT REPLICA

High fidelity cockpit
EC120 cockpit structure replica (no windscreen in the front)

Active flight controls
Realistic feeling

Instruments and flight controls
Simulated and actual instruments (Garmin GTN750)

INSTRUCTOR OPERATION STATION

Forward facing instructor station
Large view on cockpit and pilots

2 large screens
To control all the simulation parameters
EC120 AIRCRAFT MODULE

EC120 FNPT has been designed for:

- Instrument Rating (IR)
- Professional Pilot License (CPL)
- Familiarization with cockpit and instruments
- Initial pilot training: procedures before take-off, cockpit check, engine start, ...
- Standard flight procedures
- Navigation procedures
- Initial evaluation of the pilot
- Awareness of aviation safety: bad weather, reduced visibility, reactions malfunctions (engine failure, vortex ...), decision-making, ...
- Training for specific missions (takeoff and landing in confined area, oil rig, different type of helipad, elevated area ...)

EC120 cockpit replica is equipped with:

- Dashboard: Dual ASPEN PFD, Altimeter, VSI, Warning Panel, Artificial Horizon, Emergency Stop, Airspeed, NF / NR Indicator, Chronometer, VEMD, GNS430 (simulated), ELT Switch
- Pedestal: real Garmin GTN750, and LACU
- Overhead panel: Rotor and fuel flow brake levers, pilot and co-pilot lighting, emergency compass

The cockpit includes dual flight controls, including replicas of the EC120 collective and cyclic grips. Active control of the 4-axis controls provides realistic effort feedback.

The software and all models are representative of the flight and avionic behavior and based on actual flight tests. Models are tuned from actual data and are compliant with FNPT requirements.

Several malfunctions are also available to cover all main emergency procedures.
VISUAL ENVIRONMENT

Realistic visual environment (customized version of Xplane Software), reproducing:

- Night and Day conditions
- Lighting conditions and visibility
- Weather conditions
- Visual effects
- Light points

**Lighting conditions**: calendar date, time of day, dawn, dusk,

**Weather conditions** like cloud layers (3 layers and 6 types of covering), visibility, fog, wind, turbulences

Very immersive visual effects like shadows, reflections on water, smokes, the effect of blast rotor (dust, water, snow), clouds, lightning.

The visual database offers a worldwide coverage (23269 Generic Airports / Airfields and 130 helipads). Standard resolution is 90m outside the US and 30m in the US. In enriched zones a 2.5m resolution satellite images are used and even typically 60cm in some limited zones when aerial photos are available.

A large number of 3D objects is also available such as oil platforms, yachts, confined areas, wind turbines, gas pipelines, oil pipelines, ...
POINTS OF CONTACT

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