



Helicopter Pilot Training

Type Rating (VFR)

EC145 (BK117 C-2, C2-e)

(FSTD/FFS/Helicopter)

Course objective

On completion of this course, the applicant is qualified to act as pilot in command on the Ec145 (BK117 C-2 or C-2e) helicopter in SP-operations under visual flight rules (VFR).

Course status

The course is an approved type rating training course in accordance with EASA Part-FCL Subpart H (incl. all applicable appendices).

Course structure

The course will be conducted in two parts:

1. Theoretical part to transfer comprehensive knowledge about the helicopter systems during normal operation, handling of malfunctions and documentation and preparing the practical training.
2. Practical part divided into briefings for preparing the training flights and the training flights themselves.



Course summary

1. Course prerequisites – theoretical part

The theoretical part of the course will be held in English. Language Proficiency is required on ICAO Level 4. In other cases, the support of an interpreter shall be arranged; please contact AIRBUS HELICOPTERS Training Academy for arrangements and further details.

2. Course prerequisites – practical part

The applicant has to fulfil the requirements of FCL.720.H c), or requirements otherwise determined in the Operational Suitability Data report.

A Medical is required being valid at least for duration of practical part.

The practical part of the course will be held in English. Language Proficiency is required on ICAO Level 4. In other cases, the support of an interpreter shall be arranged; please contact AIRBUS HELICOPTERS Training Academy for arrangements and further details.

3. Course schedule overview

Theoretical Part

8 days of not more than 6 hours instruction time. In case the course is supported by an interpreter, the duration of theoretical part is increased by two days.

Practical Part

The flight instruction shall comprise the following:

Initial MET rating	8:00h
Additional MET rating	6:00h
Initial MET rating FSTD/FFS/helicopter	4:00h Helicopter and 6:00h FSTD/FFS
Additional MET rating FSTD/FFS/helicopter	3:00h Helicopter and 5:00h FSTD/FFS

4. Skill test

This course requires a Skill test of at least 01:00h with a Type rating examiner TRE (H).

Remark:

If applicable national regulations require special requirements to be fulfilled, please contact AIRBUS HELICOPTERS Training Academy for customization.



Theoretical part

Theoretical training is performed over 8 days and comprises the following topics of knowledge transfer:

Topics – Day 1

- Introduction
- General
- Lifting
- Fuselage

Topics – Day 2

- Tail unit
- Flight control
- Landing gear
- Power plant

Topics – Day 3

- Avionics
- Electrical system
- Standard equipment
- Limitations

Topics – Day 4

- Limitations cont'd
- Normal and emergency procedures
- Performance

Topics – Day 5

- Performance cont'd
- Mass and balance
- FCDS

Topics – Day 6

- FCDS cont'd
- AFCS

Topics – Day 7

- AFCS cont'd
- GARMIN

Topics – Day 8

- GARMIN
- Theoretical examination

Instruction is based on Training Handbook and Flight Manual.



Practical Part – Briefings

The following topics contain all flight safety relevant information to conduct the training flights and to assist the understanding of normal and emergency procedures.

The instruction is given as pre-flight and post-flight briefing and partly during flight.

General Information

0:30h

Familiarization with the local area and operating procedures

Weather conditions

Emergency briefing

General familiarization with the training helicopter

1:00h

Helicopter forms and documents

Flight planning refresher

Weight and balance calculation

Fuel calculation

Performance data and calculation

Training helicopter layout

Cabin

Cockpit

Handling of doors and seats

Safety devices

Installed optional equipment – (only if its flight safety relevant)



Checks according to FLM and pilots flight check list

2:30h

(Abbreviated checklist may be used when cross checked with FLM)

Exterior check

- Refuelling, fuel tank draining and handling of ground wheels.

Interior check

Pre start check

Starting engines

- Engine start
- Start-up failures
- Engine ventilation
- Quick start procedure

System checks

- Hydraulic system check
- Stabilization system check
- Avionics settings and checks
- Optional equipment check – if required
- AFCS check
- Power check

Engine shut down



Emergency / malfunction procedures

3:00h

Warning lights

Caution indications

Engine emergency conditions

- Single engine failure (one engine inoperative)
- Inflight restart
- VARTOMS manual/fuel governing malfunctions
- Double engine failure
- Autorotation

Fire emergency conditions

- Cabin / cargo compartment fire
- Electrical fire
- Engine fire

Tail rotor failure conditions

- Tail rotor drive failure
- Tail rotor control failure

System emergency / malfunction conditions

- Electrical system
- Fuel system
- Hydraulic system
- Stick trim system
- Stabilisation system
- Pitot static / system



Practical part – Flight training

During the training flights the applicant is familiarized with all relevant normal and emergency procedures.

Normal Procedures

2:00h

Hover maneuvers

- Lift off and touch down
- Hover flight forward, backward, sideways
- Hover turns

Traffic circuit

- Normal take-off
- Normal landing
- Traffic circuit
- Take-off and landing with cross-and tail wind
- Acceleration / deceleration
- Vertical take-off (max power)
- Steep approach (CAT.A VTOL flight profile)

Traffic circuit

- Characteristics of hingeless rotor system
- Quick stop
- Steep turns up to 30° bank
- Max cruise speed (V_H)
- Never exceed speed (V_{NE})
- Hover out of ground effect
- Slope landing



Practical part – Flight training continued

Emergency Procedures

3:00h

One engine inoperative (OEI) (only with a functional training mode)

- In cruise flight, followed by OEI landing
- During approach
 - Before LDP (with go around)
 - After LDP (with OEI landing)
- During take off
 - Before TDP (rejected take off)
 - After TDP (with go around)
- During hover out of ground effect
 - with OEI landing
 - with fly away
- Inflight restart – **only in FSTD/FFS**

Autorotation

- Autorotation descent, demo of NRO characteristics and warnings
- Autorotation with power recovery
- Both engines OFF – **only in FSTD/FFS**

Tail rotor failure / tail rotor control failure

- Landing to the ground – **only in FSTD/FFS**

Flight with Max Gross Mass

0:30h

Hover, limited power take-off and landing, steep take-off and approach, OEI procedures

Repetition

0:30h

Normal and emergency procedures

Optional Equipment

3:00h

- FCDS, Inflight power check
- GARMIN or CMA
- AFCS
- Weather radar, EuroNav if applicable



Practical part – Flight training continued

Skill test with a type rating examiner TRE (H)

1:00h

Not part of this training program.

NOTE:

NOT included in this training program:

- Type Rating IFR
- MP ops
- Type Rating Instructor
- VFR night
- CAT.A
- Rescue hoist
- External load hook

AIRBUS HELICOPTERS DEUTSCHLAND GmbH offers special courses.

ABBREVIATIONS:

AFCS	Automatic Flight Control System
FLM	Flight Manual
ICAO	International Civil Aviation Organization
IP	Intermediate Point
LDP	Landing Decision Point
N_{RO}	Rotor speed
OEI	One engine inoperative
OSD	Operational suitability data
TDP	Take-Off Decision Point
VFR	Visual Flight Rules
VTOL	Vertical Take-Off and Landing