

1.3 GENERAL DESCRIPTION OF THE HELICOPTER

The EC 135 is a light twin-engined multi-purpose helicopter with five seats in the basic version and optional seat arrangements for up to eight persons.

The pilot's seat is on the RH side.

Engines:

The EC 135 P2 is powered by two Pratt & Whitney **PW 206 B2** or **PW 206 B2 VR** (Vane Re-match modification) engines, both with digital engine control (FADEC) system.

In the FLM the term "PW 206 B2 VR" engine is not mentioned.

NOTE All information, limitations, procedures and performance data mentioned for the Pratt & Whitney PW 206 B2 engine, remain valid for the PW 206 B2 VR. It is also possible to operate one PW 206 B2 and PW 206 B2 VR engine at the same time on a EC 135 P2 without any restriction.

The twin-engine reliability is enhanced by a fully-separated fuel system, a dual hydraulic system, a dual electrical system and a redundant lubrication system for the main transmission.

Transmission:

The main transmission is a two-stage flat design gearbox, with anti-resonance rotor isolation system (ARIS).

Main rotor:

The helicopter is equipped with a four-bladed bearingless main rotor (BMR). The inboard flexbeam enables movement of the blades in all axes. Blade pitch angles are controlled through integrated glass/carbon fibre control cuffs.

The main rotor control linkage system is of conventional design. The hydraulic system for the main rotor controls is designed as a duplex system with tandem piston (both systems are active). In case of a failure of one system, the remaining system has sufficient power to ensure safe flight operation and a safe landing.

Antitorque system:

The helicopter is equipped with a "Fenestron-type" antitorque system, having a tail rotor with 10 blades. The Fenestron is controlled via a "Flexball" type cable, routed from the pedals to the input control lever of the Fenestron.

Fuselage:

The primary structure consists mainly of sheet metal design. Cabin frame, bottom shell, doors, engine cowling and nose access panel are made of composite material.

The cabin is accessible through six doors: two hinged doors for the front occupants, two sliding doors for the rear passengers, and two aft clamshell doors for the rear compartment.

Tail boom:

The tail boom can be separated from the fuselage, and consists of the horizontal tail plane with end-plates, vertical fin with integrated tail rotor, tail rotor gearbox and fairing.

Fuel tanks:

The fuel system comprises two fuel tanks, a fuel supply system, a refueling and grounding equipment and a monitoring system. The main tank and supply tank with overflow to the main tank and sufficient separated quantity for 20 minutes flight in OEI condition are installed under the cabin floor. (Optional equipment: Auxiliary fuel tank refer to FMS 9.2–79 and self sealing fuel tanks refer to FMS 9.2–66.)

Electrical system:

The fully redundant electrical 28 V DC system is supplied by two generators and the battery.

Landing gear:

The EC 135 has two cross tubes and two skids.

3 different types of landing gear are provided:

Type:	Normal/Standard	Intermediate	High
Track*:	2000 mm	2115 mm	2300 mm
Height*: (ground clearance)	401 mm	501 mm	711 mm

* landing gear system data

NOTE Unless otherwise stated all information in the FLM is applicable to the Normal/Standard landing gear.
 For the High landing gear the FMS 9.2–22 is applicable.
 For the Intermediate landing gear the FMS 9.2–94 is applicable.

For the Normal/Standard landing gear a reinforced rear crosstube is provided. (Observe FMS 9.2–25)

1.4 HELICOPTER DIMENSIONS

Fig. 1-1 shows a three-view drawing of the helicopter with its principal dimensions and with Standard landing gear installed.

For cabin dimensions see Fig. 1-2.

Locations on and within the helicopter can be determined in relation to fuselage stations (F.S. or STA.), waterlines (W.L.), and buttock lines (B.L.), measured in millimeters from known reference points (see Section 6 "Mass and Balance").

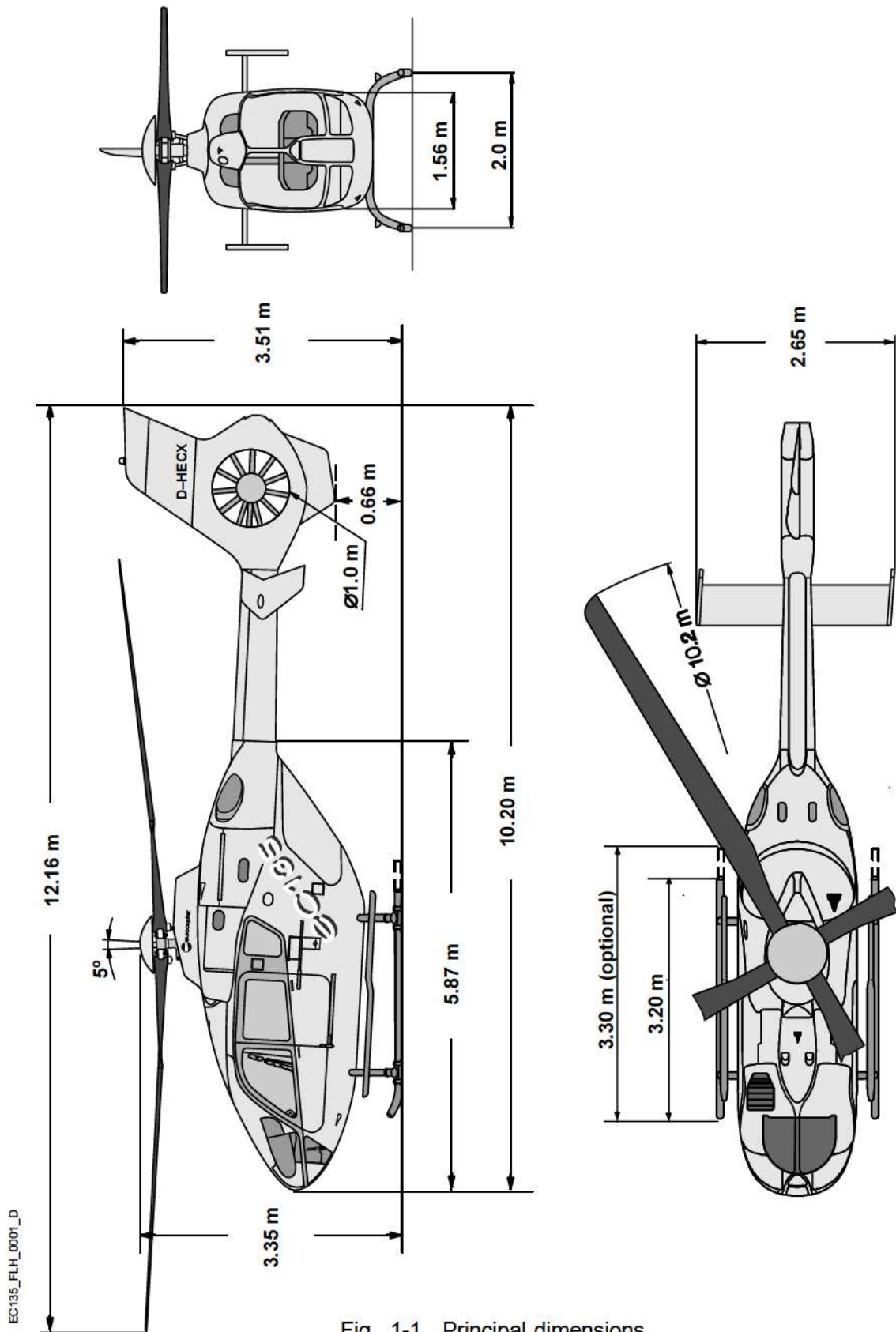


Fig. 1-1 Principal dimensions