EUROCOPTER

EC120 B

Technical Data

eurocopter
an EADS Company

120 B 08.101.01 E

Contents

Manufacturers notice

Attention !

Eurocopter's policy is one of on-going product enhancement which means that alterations in definition, pictures, weights, dimensions or performance may be made at any time without notice being included in those documents that have already been issued.

This document cannot thus be taken as an offer or serve as an appendix to a contract without a prior check as to its validity and prior written agreement of EUROCOPTER.

The operational or certification regulations, as defined by the local authorities, can make compulsory the installation of some of the equipment and recommended solutions, listed in this document. This list does not claim to cover the whole of the worldwide operational requirements nor the equipment not specifically related to the helicopter (for example : life jacket) or necessary for particular missions (for example : supplemental oxygen). The operator is responsible for ascertaining with his local authorities that the planned configuration of the helicopter complies with regulatory requirements for the area(s) of operations and the type(s) of mission(s) considered.

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1- Foreword

The COLIBRI EC120 B *is the smartest and most versatile very light turbine helicopter on the market. It fulfils the European JAR 27 issue 1 regulation for VFR operation by day and night[1]. It is certified for a single pilot being either on the right or on the left side. The aircraft is delivered with right side controls as standard (removable dual controls are on option). The helicopter has a Maximum Gross Weight of 1,715 kg / 3,781 lb. With its unobstructed cabin, fitted with energy attenuating seats each offering excellent visibility makes it perfectly suited for the following missions:*

- *Corporate use,*
- *Passenger transport,*
- *Training,*
- *Police surveillance,*
- *Offshore,*

The EC120 B *has been designed to be environmental friendly, with an optimal external noise pattern which is 6.7 dB below the 85.4 dB required by the ICAO (chapter 11, appendix 4, Annex 16). It is one of the few helicopters meeting the very strict noise level requirements in the United States to fly over National Parks (GCNP). Furthermore the design has been focused on the reduction of operating costs and alleviated and simplified maintenance performed locally by the operator due to a modular design of main the mechanical components.*

Starting from 2007, the EC120 B *is fully equipped with VFR day-time radio navigation (standard "Ready to fly" package) associated with an integrated instrument panel (double colour screen Vehicle and Engine Multifunction Display (*VEMD*), GPS with colour map display) and has the capability of night-time VFR flight.*

The TURBOMECA ARRIUS 2F turbine-engine, modular in design and with a low fuel consumption, has maximum take-off power rating at sea level, in ISA conditions, is 376 kW (504 shp – 511 ch).

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1 *by night, in VFR, when the equipment required by operational regulations are installed and serviceable.*

2- General Characteristics

Remarks :

When equipped with appropriate optional equipment, the EC120 B is JAA certified for day and night VFR operations.

The operator shall check current operational regulations of the concerned country.

Layout

■ **Passenger transport**	■ **1 pilot + 3/4 passengers or 2 pilots + 2/3 passengers**
■ **Casualty transport**	■ **1 pilot + 1 paramedic and 1 stretcher-patient**
■ **Cargo carrying**	■ **1 pilot + 2.94 m^3 (103.82 cu.ft) total useful load volume (cabin and hold)**

Weights

Note : Empty weight accuracy : within ± 2 %	kg	lb
■ **Empty weight, baseline aircraft** *1*	991 *2*	2,185
■ **Useful load** *3*	724	1,596
■ **Maximum take-off weight**	1,715	3,781
■ **Maximum cargo sling load**	700	1,543
■ **Maximum operational weight in external load configuration**	1,800	3,968

Power plant:

1 **TURBOMECA ARRIUS 2 F** turbine engine

Engine ratings

Power in ISA at sea level :	kW	ch	shp
■ **Take-off power**	376	511	504
■ **Maximum continuous power**	335	455	449

Usable Fuel capacities

	litres	US gal.	kg	lb
■ **Standard fuel tank** *4*	406	107	321	707

1 *Baseline aircraft empty weight includes oil and unusable fuel. Ballast plates can be added at the rear of the* FENESTRON *, their mass is 19 kg (41,9 lb) maximum.*

2 *Empty weight according to baseline aircraft definition, as defined in pages 11 and 12, including in particular the avionics suite described in page 11.*

3 *The useful load does not include the ballast plates. Depending on the configuration, the ballast's weight will be deducted from the useful load.*

4 *The total fuel tank capacity is accurate to ± 5 l.*

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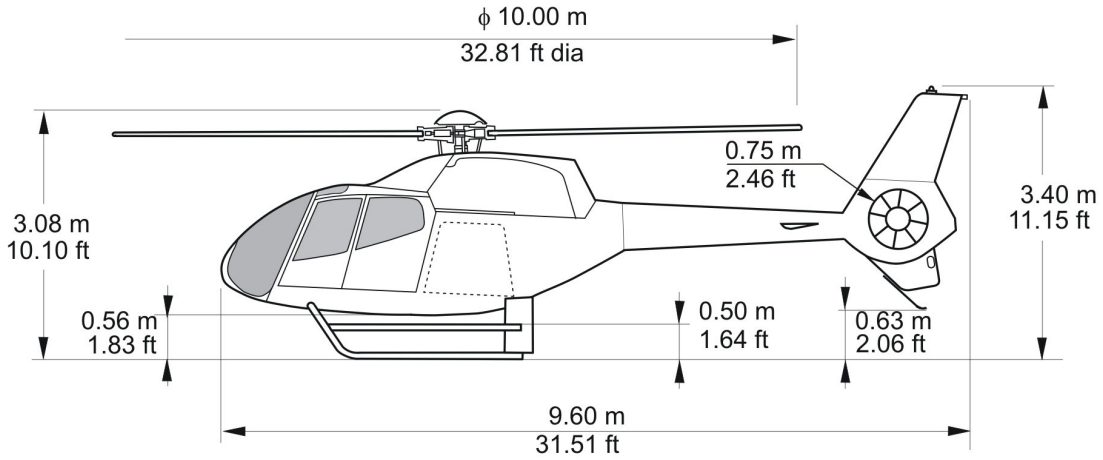
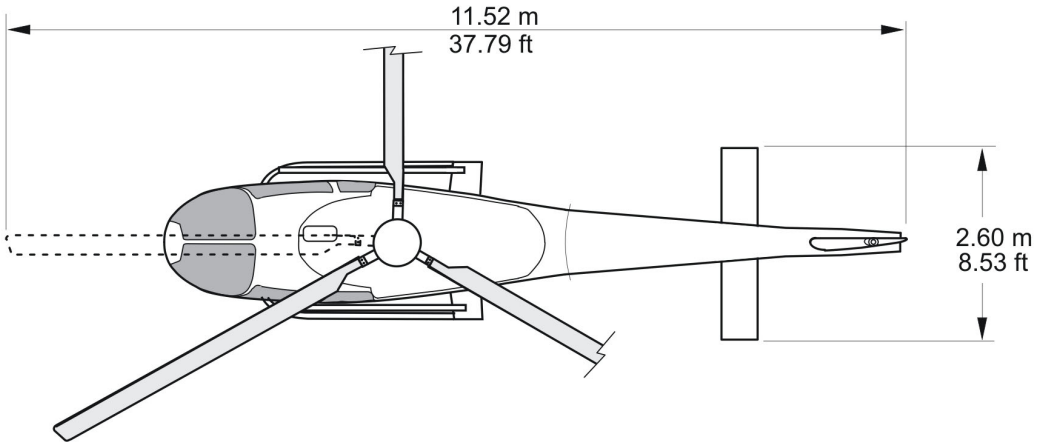
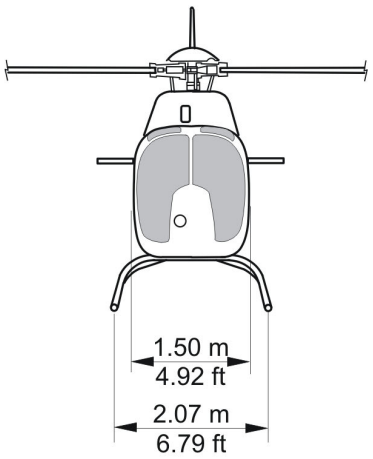
Main dimensions



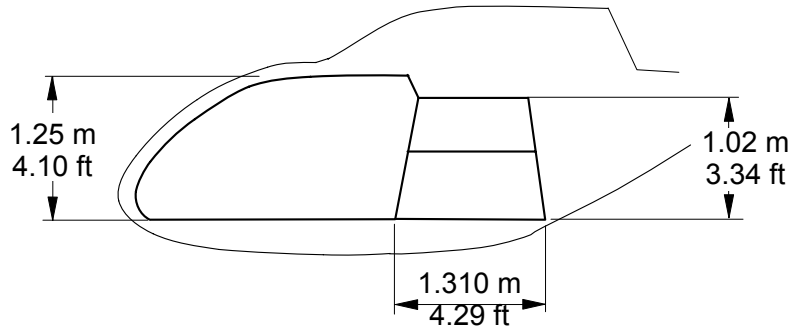




Dimensions given for information only

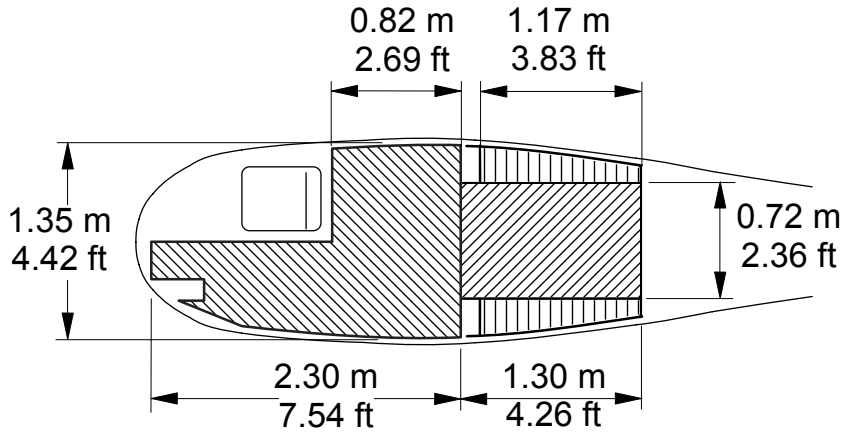
Dimensions of compartments and accesses

- Cabin main dimensions



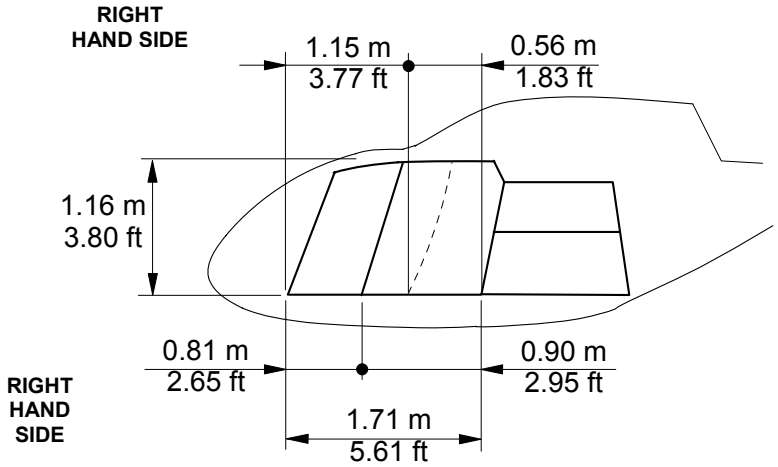
CABIN	
Surface	1.91 m² 20.56 ft²
Volume	2.14 m³ 75.57 ft³

- Cabin and cargo compartment areas



CARGO COMPARTMENT	
Surface	1.40 m² 15.07 ft²
Volume	0.80 m³ 28.25 ft³

- Doors dimensions



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Configurations

Standard Cabin Lay-out and upholstery

The *EC120 B* benefits from a roomy cabin and exceptional glazed surface providing the passengers an excellent comfort and a very good field of view.

STYLENCE Cabin Lay-out and upholstery (optional)

Note: EC120 B *in* STYLENCE *upholstery configuration.*

Luggage compartment

The luggage compartment is able to contain up to 5 large suitcases. When the helicopter is configured for internal freight transport, the cabin area plus luggage compartment make loading and unloading effortless thanks to an unobstructed cabin and a flat floor.

A new generation of light single engine helicopter

The *EC120 B* includes the latest technologies that will make piloting easier and safer.

The *VEMD* (Vehicle and Engine Multifunction Display) is a fully duplex equipment which displays on LCD screen 3 operating modes:

- the operational mode,
- the configuration mode,
- the maintenance mode.

The *VEMD* is easy to maintain thanks to its modular design.

The Main Rotor:

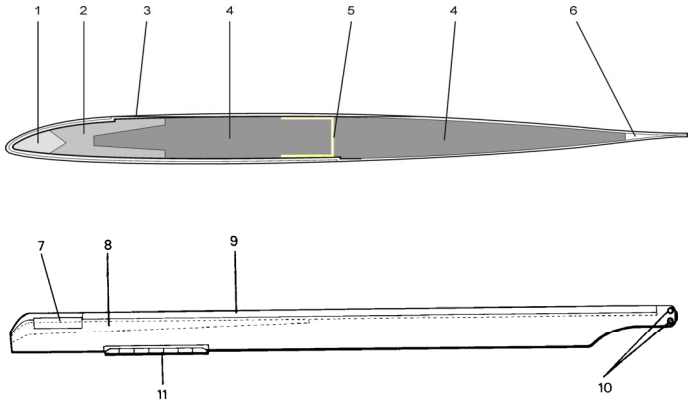
The main rotor generates the lift and the traction transferred to the helicopter. During flight, it allows the helicopter to be controlled in roll and pitch in conjunction with the tail rotor (yaw).

The main rotor assembly includes:

- The main rotor head and mast,
- The main rotor blades.

Rotor head *SPHERIFLEX* type: this highly reliable rotor head is very easy to maintain.

The Main Rotor Blades:



Main rotor blades are aerodynamically optimized. They are corrosion proof and highly tolerant to impacts.

1	Lead balancing weight
2	Roving spar
3	Fiberglass cloth skin
4	Foam filler
5	Carbon fabric rib
6	Roving edge
7	Balancing weight chamber
8	Polyurethane strip
9	Stainless steel plate
10	Stainless steel bushings
11	Tabs

Individually interchangeable, they are made of composite materials and secured to the hub with special bolts.

The Tail Rotor Blades:

Third generation of *FENESTRON* with airfoil and 8 asymmetrical blades spacing for low noise emission.

This *FENESTRON* is integrated into a composite structure.

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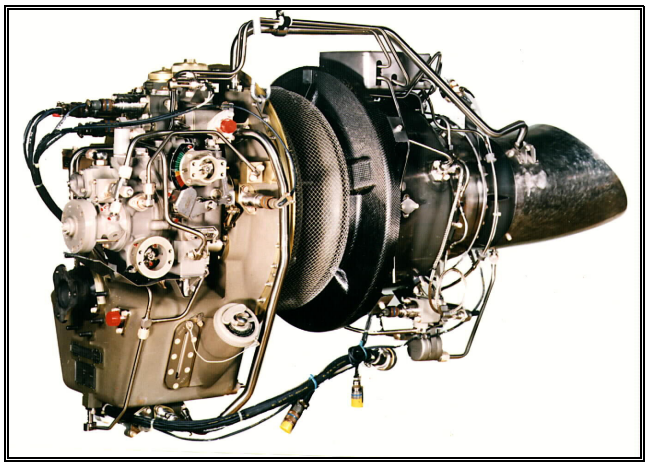
A modern and efficient Power Plant :



The ARRIUS 2F is the latest engine generation of Arrius family (from TURBOMECA) which combines power (504 shp), simplicity (2 modules), low fuel consumption and benefits from the wide experience of the Arrius engine family.

The turbine engine is mounted at the top of the rear structure, in a fireproof compartment. It is installed at the rear of the main gearbox, to which it is linked by a connecting shaft mounted between two blade-type flexible couplings.

The TURBOMECA ARRIUS 2F free turbine engine is composed of 2 modules as follows :

Module 1 (reduction gearbox): it consists of a reduction gear unit including an oil tank and accessory box assembly.

Module 2 (gas generator and power turbine): the Module 2 comprises an air intake casing, a centrifugal compressor, a combustion chamber, a high pressure turbine (HP turbine), a power turbine and a power transmission shaft and outlet diffuser.

3- *EC120 B* - Baseline Aircraft Definition

GENERAL

- The *EC120 B*® is certified with a pilot being on the right or left side
- The standard aircraft is delivered with right side controls and fixed parts of the removable dual controls (the removable parts of removable dual controls are optional)
- Fuselage comprising the cabin and the luggage hold with several accesses possibilities (one right rear lateral hinged cargo and one rear access cargo door) and floor tie-down net
- Tail boom with stabilizer, *FENESTRON*® type anti torque rotor, and tail skid
- Tubular skid landing gear, with replaceable skid shoes, with long footsteps (on right and on left side), profiler on rear tube, capable of taking handling wheels
- Lifting points
- Mooring fixtures
- External paint : fuselage in single colour paint. Unless modified by optional item, the main rotor head and tail rotor covers are painted in grey, the skid landing gear in dark grey and the *FENESTRON*® duct in light grey
- Internal paint :
  - light grey : (prevailing colour)
  - black : (flight controls, glare shield, central console, upper controls quadrant, ...)
- Interior signs and markings : available in French or English

CABIN

- Cabin floor in light-alloy sheet-metal
- 2 pilot and copilot high-back energy absorbing seats, adjustable in reach, removable, complete with cushions, safety belts and shoulder harnesses
- 1 two/three place energy absorbing rear bench seat quickly removable with cushions, safety belts with shoulder harnesses
- 2 pilot and copilot jettisonable doors fitted with a sliding window and a deflector
  - 1 RH large front door
  - 1 LH front door
- 1 RH rear fixed panel
- 1 LH rear sliding door
- Locks on every access to cabin and luggage compartments
- 1 communication panel quickly removable between cabin and cargo compartment
- Lateral and upper tinted windows (windscreen excluded)
- 1 ceiling housing the ventilation/demisting/heating ducts and controls (fuel shut-off valve, rotor brake controls and cabin lighting circuit)
- Capabilities for mandatory optional item : air conditioning or ventilation systems
- Cabin heating
- Demisting system for front windscreens
- 1 removable plug on cabin ceiling duct (ram air ventilation and heating in summer configuration)
- 2 pilot map cases
- 1 fire-extinguisher
- 1 Flight Manual
- Interior harmony according to definition in force

INSTRUMENTS

- Instruments units available in English units only (altimeter in feet and airspeed indicator in kts)
- 1 airspeed indicator
- 1 altimeter
- 1 vertical speed indicator
- 1 rotor and free turbine tachometer dual indicator
- 1 clock
- 1 warning panel
- 1 magnetic compass
- 1 heated pitot head
- 1 external side slip indicator
- 1 control box for light and electrical generation
- 1 cockpit breaker panel
- 1 cargo circuit breaker panel
- 1 ICS connection to audio warning issued from *VEMD*®
- 1 LCD Dual screen Vehicle and Engine Multifunction Display (*VEMD*®) providing the following information:
  - First limitation indicators (FLI)
    - torquemeter
    - exhaust gas temperature (T4)
    - gas generator tachometer (Ng, delta Ng)
  - Engine oil temperature/pressure
  - Fuel quantity
  - Fuel flow and estimated remaining time to fly (option fuel flow meter needed)
  - Ammeter, voltmeter and battery temperature
  - Outside Air Temperature (OAT)
  - Enhanced usage monitoring functions
    - IGE/OGE performance calculations
    - engine cycle counting
    - engine power check
    - overlimits display
  - *VEMD*® and peripheral maintenance information
  - Data downloading capability (software and connection wire as option)

AVIONICS

- 1 avionics master switch
- 1 gyro-horizon
- 1 gyro-compass with
- 1 horizontal Situation Indicator
- 1 turn and bank indicator
- 1 VHF/AM
- 1 VHF/VOR/LOC/GS/GPS
- 1 transponder (mode A+C)
- 1 altitude encoder
- 1 Emergency Locator Transmitter (2 frequencies)
- 1 ICS + passenger interphone

POWER PLANT

- 1 TURBOMECA ARRIUS 2F 376 kW (511 ch - 504 shp) turbine engine complete with starting, fuel supply and governing systems and fitted with chip detectors
- 1 fuel system including 2 tanks with a total fuel capacity of 416 liters (107 US Gal)
- 1 twist throttle with starter button incorporated in collective lever
- 1 engine lubrication and oil cooling system
- 1 fire detection system
- 1 torque-measurement pick-up

TRANSMISSION SYSTEM

- 1 main gearbox with oil sight gauge, electrical chip detector, oil temperature and pressure switches, ports for boroscope, self-sealing valve for oil sampling and draining
- 1 engine to main gearbox coupling shaft
- 1 rotor brake
- 1 main rotor high and low r.p.m. warning device
- 1 rear tail drive with low maintenance level
- 1 tail gearbox with oil sight gauge, chip detector and port for boroscopic inspection

ROTORS AND FLYING CONTROLS

- 1 main rotor with 3 composite-material around a *SPHERIFLEX*® titanium rotor head
- 1 anti-torque rotor (*FENESTRON*®) with 8 asymmetrical blades, integrated in vertical fin
- 3 main rotor hydraulic servo units

ELECTRICAL INSTALLATION

- One 150 A, 28 VDC starter-generator
- One 15 A.h cadmium-nickel battery
- 1 ground power receptacle
- 3 position lights (LED)
- 1 flashing anti-collision light (LED)
- 1 fixed landing light
- Instrument panel lighting system by fixed spot light on overhead panel (VFR night)
- Integrated lighting in central console
- 2 swivelling emergency and reading map lights for pilot and copilot
- 1 dome light for passengers

AIRBORNE KIT (*)

- 1 pitot head cover
- 2 static port stoppers
- 1 engine exhaust pipe cover
- 1 air intake plug (over cabin)
- 2 ground handling wheels
- 2 mooring rings
- 3 main-blade socks
- 1 document holder
- 1 airborne kit storage bag

(*) (weight not included in standard aircraft empty weight)

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4- Recommended mission configurations

EUROCOPTER proposes different mission configurations for its helicopters. This pre-selected list of optional equipment should be regarded as a recommended equipment list and can be complemented by additional equipment from the optional equipment list in chapter 5. Please take note that there can be incompatibilities between optional equipments. Any modification and/or complement of the proposed mission configuration should be validated by a *EUROCOPTER* sales representative.

The proposed mission configurations are done by *EUROCOPTER* using its years of experience in making helicopter and in coordination with different operators of the *EC120 B* around the world. For the *EC120 B* the recommended mission configurations are:

- Passenger transport mission
- Corporate transport mission (*STYLENCE*)
- Training mission
- Utility mission.

4-1 Passenger transport configuration

The new generation *EC120 B* is perfectly suited for transporting passengers. With its unparalleled visibility, spacious cabin, a large compartment for baggage and cargo, the *EC120 B* is not only versatile and efficient, but also comfortable for passengers making the trip.

Passenger transport from helipads

Luggage compartment rear access door

Due to the high cruise speed of the *EC120 B,* it enables its operators to make rapid return flights and carry more people in less time. The simple design of the helicopter allows fast, easy and rapid maintenance, ensuring the helicopter has optimal dispatch availability.

Excellent external visibility

Weights

Note : Empty weight accuracy : within ± 2 %	kg	Lb
■ **Empty weight, Passenger transport configuration** *1*	1,019	2,246
■ **Useful load** *2*	696	1,535
■ **Maximum take-off weight**	1,715	3,781
■ **Maximum operational weight in external load configuration**	1,800	3,968

1 *Baseline aircraft empty weight includes oil and unusable fuel. Ballast plates can be added at the rear of the* FENESTRON*, their mass is 19 kg (41,9 lb) maximum.*

2 *The useful load does not include the ballast plates. Depending on the configuration, the ballast's weight will be deducted from the useful load.*

Mission configuration

Document reference	**Commercial reference**	Name	**kg**	**Lb**
		***EC120 B* Baseline Aircraft as per 120 B 07.100.01 E**	**991.0**	**2,185.0**
General Equipment				
05-37001-A	**05-37001-00-RP**	Removable dual controls - Removable Parts ***1***	**3.0**	**6.6**
05-44001-A	**05-44001-00-CI**	Cabin fan	**2.5**	**5.5**
05-85001-A	**05-85001-00-CI**	Fuel flowmeter ***2***	**0.7**	**1.5**
Interior cabin layout				
07-30001-A	**07-30001-00-CI**	Comfortable cabin upholstery ***3***	**14.0**	**30.9**
07-40001-A	**07-40001-00-CI**	Cabin carpet	**6.3**	**13.9**
Avionics				
		Standard VFR day and night package (included in Baseline Aircraft)		
		Thales H321EGM - Gyro-horizon ***4***		
		Honeywell KCS55A - Gyro Compass with Honeywell KI525A - Horizontal Situation Indicator ***5***		
		UI 9560 - Turn and Bank indicator		
		Honeywell KY196ASC+ - VHF/AM		
		Garmin GNS430 - VHF/VOR/LOC/GS/GPS ***6***		
		Garmin GTX327 - Transponder (mode A+C) with altitude encoder Shadin 8800T		
		Kannad 121AF-H - Emergency Locator Transmitter ***7***		
		Garmin GMA340H – ICS ***8***		
06-67035-B	**06-67035-01-CI**	Emergency Locator Transmitter Kannad 406AF-H instead of standard Kannad 121AF-H ***9*** - ***10***	**0.1**	**0.2**
08-18016-A	**08-18016-00-CI**	David Clark H10-13H – Headset (Qty 2)	**1.0**	**2.2**

1 *The* EC120 B *Baseline Aircraft has the capability (FP included) of the dual controls.*
2 *This option provides the fuel flow and estimated remaining time to fly on the* VEMD.
3 *Cabin carpet, cabin washable cover and reinforced soundproofing are not included in the optional "Comfortable cabin upholstery".*
4 *With slip indicator included when the Turn and Bank indicator is replaced by the stand-by gyro-horizon.*
5 *With a selector switch for NAV1/NAV2 selection.*
6 *Delivered with EUROPE map. Subscription to be made by the customer.*
7 *2 frequencies: 121.5 MHz, 243 MHz. Compliant with ED 62 and TSO C91A.*
8 *Includes the passenger interphone function.*
9 *3 frequencies : 121.5 MHz, 243 MHz, 406 MHz. Compliant with ED 62 and TSO C91A.*
The Programming Data Sheet must be filled and communicated by the customer two months at the latest before the helicopter's delivery.
10 *May be a mandatory equipment, required by local airworthiness authorities or operational regulations.*

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4-2 Corporate transport configuration (*STYLENCE*)

In the corporate configuration, the *EC120 B* can transport up to four passengers in roominess and comfort that is usually not found in a light helicopter. In addition to the exceptional low vibration level, travellers will appreciate the ample leg room.

The additional *STYLENCE* package offers a high level of finishing to the interior of the helicopter. It is available in four different colours (brick, came, graphite and silver).

Carbon fibre casing on front seats

Upholstery three place rear-bench seat

Weights

Note : Empty weight accuracy : within ± 2 %	kg	Lb
■ **Empty weight, Corporate transport configuration** *1*	1,067	2,350
■ **Useful load** *2*	648	1,431
■ **Maximum take-off weight**	1,715	3,781
■ **Maximum operational weight in external load configuration**	1,800	3,968

1 *Baseline Aircraft empty weight includes oil and unusable fuel. Ballast plates can be added at the rear of the* FENESTRON*, their mass is 19 kg (41,9 lb) maximum.*

2 *The useful load does not include the ballast plates. Depending on the configuration, the ballast's weight will be deducted from the useful load.*

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Mission configuration

Document reference	**Commercial reference**	Name	**kg**	**lb**
		***EC120 B* Baseline Aircraft as per 120 B 07.100.01 E**	**991.0**	**2,185.0**
Mission Package				
00-50018-B	**00-50018-01-CI**	*STYLENCE* package ***1***	**69.0**	**152.1**
General Equipment				
05-37001-A	**05-37001-00-RP**	Removable dual controls - Removable Parts ***2***	**3.0**	**6.6**
Avionics				
		Standard VFR day and night package (included in Baseline Aircraft)		
		Thales H321EGM - Gyro-horizon ***3***		
		Honeywell KCS55A - Gyro Compass with Honeywell KI525A - Horizontal Situation Indicator ***4***		
		UI 9560 - Turn and Bank indicator		
		Honeywell KY196ASC+ - VHF/AM		
		Garmin GNS430 - VHF/VOR/LOC/GS/GPS ***5***		
		Garmin GTX327 - Transponder (mode A+C) with altitude encoder Shadin 8800T		
		Kannad 121AF-H - Emergency Locator Transmitter ***6***		
		Garmin GMA340H – ICS ***7***		
06-67035-B	**06-67035-01-CI**	Emergency Locator Transmitter Kannad 406AF-H instead of standard Kannad 121AF-H ***8*** - ***9***	**0.1**	**0.2**
08-18016-A	**08-18016-00-CI**	David Clark H10-13H – Headset (Qty 2)	**1.0**	**2.2**
08-18045-A	**08-18045-00-CI**	Bose aviation X headset (Qty 3)	**1.5**	**3.3**

1 *For the content of the* STYLENCE *package, please refer to page 23 of this Technical Data.*
2 *The* EC120 B *Baseline aircraft has the capability (FP included) of the dual controls.*
3 *With slip indicator included when the Turn and Bank indicator is replaced by the stand-by gyro-horizon.*
4 *With a selector switch for NAV1/NAV2 selection.*
5 *Delivered with EUROPE map. Subscription to be made by the customer.*
6 *2 frequencies: 121.5 MHz, 243 MHz. Compliant with ED 62 and TSO C91A.*
7 *Includes the passenger interphone function.*
8 *3 frequencies : 121.5 MHz, 243 MHz, 406 MHz. Compliant with ED 62 and TSO C91A.*
The Programming Data Sheet must be filled and communicated by the customer two months at the latest before the helicopter's delivery.
9 *May be a mandatory equipment, required by local airworthiness authorities or operational regulations.*

4-3 Training configuration

The *EC120 B* is the perfect helicopter to perform both initial and recurrent pilot training thanks to its manoeuvrability, high visibility and high availability. The *EC120 B* is simple to fly and easy to maintain. It is equipped with the most advanced technologies available to help instructors to perform training missions in optimal safety conditions.

The *EC120 B* is certified for both left and right seat piloting. The pilot and co-pilot stations have exactly the same controls, enabling the instructor to take the control of the helicopter whenever necessary.

Weights

Note : Empty weight accuracy : within ± 2 %	kg	lb
■ **Empty weight, Training configuration** *1*	1,016	2,239
■ **Useful load** *2*	699	1,542
■ **Maximum take-off weight**	1,715	3,781
■ **Maximum operational weight in external load configuration**	1,800	3,968

1 *Baseline Aircraft empty weight includes oil and unusable fuel. Ballast plates can be added at the rear of the* FENESTRON*, their mass is 19 kg (41,9 lb) maximum.*

2 *The useful load does not include the ballast plates. Depending on the configuration, the ballast's weight will be deducted from the useful load.*

Mission configuration

Document reference	**Commercial reference**	Name	**kg**	**lb**
		***EC120 B* Baseline Aircraft as per 120 B 07.100.01 E**	**991.0**	**2,185.0**
General Equipment				
05-21001-A	**05-21001-00-CI**	Wire strike protection system	**5.0**	**11.0**
05-37001-A	**05-37001-00-RP**	Removable dual controls - Removable Parts ***1***	**3.0**	**6.6**
05-44001-A	**05-44001-00-CI**	Cabin fan	**2.5**	**5.5**
05-85001-A	**05-85001-00-CI**	Fuel flowmeter ***2***	**0.7**	**1.5**
Specific mission equipment				
06-11003-A	**06-11003-00-CI**	Long protective skid shoes ***3***	**6.4**	**14.1**
06-26001-A	**06-26001-00-CI**	External electric rear view mirror ***4***	**2.4**	**5.3**
06-27001-A	**06-27001-00-FP**	Cargo sling – Fixed Parts	**3.4**	**7.5**
Avionics				
		Standard VFR day and night package (included in Baseline Aircraft)		
		Thales H321EGM - Gyro-horizon ***5***		
		Honeywell KCS55A - Gyro Compass with Honeywell KI525A - Horizontal Situation Indicator ***6***		
		UI 9560 - Turn and Bank indicator		
		Honeywell KY196ASC+ - VHF/AM		
		Garmin GNS430 - VHF/VOR/LOC/GS/GPS ***7***		
		Garmin GTX327 - Transponder (mode A+C) with altitude encoder Shadin 8800T		
		Kannad 121AF-H - Emergency Locator Transmitter ***8***		
		Garmin GMA340H – ICS ***9***		
06-67035-B	**06-67035-01-CI**	Emergency Locator Transmitter Kannad 406AF-H instead of standard Kannad 121AF-H ***10*** - ***11***	**0.1**	**0.2**
08-18016-A	**08-18016-00-CI**	David Clark H10-13H – Headset (Qty 2)	**1.0**	**2.2**

1 *The* EC120 B *Baseline Aircraft has the capability (FP included) of the dual controls.*
2 *This option provides the fuel flow and estimated remaining time to fly on the* VEMD.
3 *Recommended for training missions on non-prepared airfield.*
4 *Recommended for sling work.*
5 *With slip indicator included when the Turn and Bank indicator is replaced by the stand-by gyro-horizon.*
6 *With a selector switch for NAV1/NAV2 selection.*
7 *Delivered with EUROPE map. Subscription to be made by the customer.*
8 *2 frequencies : 121.5 MHz, 243 MHz. Compliant with ED 62 and TSO C91A.*
9 *Includes the passenger interphone function.*
10 *3 frequencies : 121.5 MHz, 243 MHz, 406 MHz. Compliant with ED 62 and TSO C91A.*
The Programming Data Sheet must be filled and communicated by the customer two months at the latest before the helicopter's delivery.
11 *May be a mandatory equipment, required by local airworthiness authorities or operational regulations.*

The data set forth in this document are general in nature and for information purposes only.
For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..

4-4 Utility configuration

The versatility of the *EC120 B* allows for unparalleled mission adaptability. The helicopter can perform a wide range of operations from sling load to power line inspection. The rapid configuration capability and vast amount of optional equipment allows the *EC120 B* to provide operators with maximum mission flexibility.

Sling work mission

Internal load transport

The helicopter offers integrated technologies which help the pilot to focus only on the mission at hand. The wide cabin along with the large baggage compartment can accommodate a wide variety of cargo and bulky loads. The flat floor, unobstructed cabin and wide access doors make loading and unloading easy.

Power line inspection

Weights

Note : Empty weight accuracy : within ± 2 %	kg	lb
■ **Empty weight, Utility configuration** *1*	1,012	2,231
■ **Useful load** *2*	703	1,550
■ **Maximum take-off weight**	1,715	3,781
■ **Maximum operational weight in external load configuration**	1,800	3,968

1 *Baseline Aircraft empty weight includes oil and unusable fuel. Ballast plates can be added at the rear of the* FENESTRON*, their mass is 19 kg (41,9 lb) maximum.*

2 *The useful load does not include the ballast plates. Depending on the configuration, the ballast's weight will be deducted from the useful load.*

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For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..

Mission configuration

Document reference	Commercial reference	Name	kg	lb
		***EC120 B* Baseline Aircraft as per 120 B 07.100.01 E**	**991.0**	**2,185.0**
General Equipment				
05-37001-A	**05-37001-00-RP**	Removable dual controls - Removable Parts ***1***	**3.0**	**6.6**
05-44001-A	**05-44001-00-CI**	Cabin fan	**2.5**	**5.5**
Specific mission equipment				
06-26001-A	**06-26001-00-CI**	External electric rear view mirror ***2***	**2.4**	**5.3**
06-27001-A	**06-27001-00-FP**	Cargo sling – Fixed Parts	**3.4**	**7.5**
	06-27001-00-RP	Cargo sling – Removable Parts	**8.4**	**18.5**
Avionics				
		Standard VFR day and night package (included in Baseline Aircraft)		
		Thales H321EGM - Gyro-horizon ***3***		
		Honeywell KCS55A - Gyro Compass with Honeywell KI525A - Horizontal Situation Indicator ***4***		
		UI 9560 - Turn and Bank indicator		
		Honeywell KY196ASC+ - VHF/AM		
		Garmin GNS430 - VHF/VOR/LOC/GS/GPS ***5***		
		Garmin GTX327 - Transponder (mode A+C) with altitude encoder Shadin 8800T		
		Kannad 121AF-H - Emergency Locator Transmitter ***6***		
		Garmin GMA340H – ICS ***7***		
06-67035-B	**06-67035-01-CI**	Emergency Locator Transmitter Kannad 406AF-H instead of standard Kannad 121AF-H ***8*** - ***9***	**0.1**	**0.2**
08-18016-A	**08-18016-00-CI**	David Clark H10-13H – Headset (Qty 2)	**1.0**	**2.2**

1 *The* EC120 B *standard aircraft has the capability (FP included) of the dual controls.*
2 *Recommended for sling work.*
3 *With slip indicator included when the Turn and Bank indicator is replaced by the stand-by gyro-horizon.*
4 *With a selector switch for NAV1/NAV2 selection.*
5 *Delivered with EUROPE map. Subscription to be made by the customer.*
6 *2 frequencies: 121.5 MHz, 243 MHz. Compliant with ED 62 and TSO C91A.*
7 *Includes the passenger interphone function.*
8 *3 frequencies : 121.5 MHz, 243 MHz, 406 MHz. Compliant with ED 62 and TSO C91A.*
The Programming Data Sheet must be filled and communicated by the customer two months at the latest before the helicopter's delivery.
9 *May be a mandatory equipment, required by local airworthiness authorities or operational regulations.*

The data set forth in this document are general in nature and for information purposes only.
For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..

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5- Optional equipment

5-1 Mission package

EUROCOPTER proposes one mission package, specially designed for passenger transport, offering an high level of finishing.

This package must be regarded as a whole and its content cannot be modified nor sold separately.

Document reference	**Commercial reference**	Name
00-50018-B	**00-50018-01-CI**	***STYLENCE* package**

Extra charge for multicolor external painting (4 to 6 instead of single color paint) ***1***

Air conditioning system

Fuel flowmeter **2**

Cargo compartment upholstery

ICS installation compatible with Bose Aviation X headset

STYLENCE cabin layout including mainly ***3***

- Front seats upholstered in leather, with modified seat and back cushions, carbon fiber casing and leather storage pouch
- Three-place bench seat, leather upholstered
- Leather inserts on the armrests of same colour as the seats
- Leather inserts in the ceiling and partition, light grey in colour
- Built-in door cases, leather-upholstered, light grey in colour
- Cabin carpet grey in colour, leather finish
- Console upholstery
- Protection covers for seats
- Protection covers for carpet

The optional equipment “comfortable cabin upholstery” is included in the *STYLENCE* layout

The *STYLENCE* layout is available in 4 colour schemes :

❒ Brick ❒ Camel ❒ Graphite ❒ Silver

***EC120 B STYLENCE* configuration empty weight :** **1,060 kg - 2,336 lb**

The aircraft equipped empty weight is correct to ± 2 %. According to aircraft equipment, ballast may be required to accommodate various mission configurations.

1 *Registration number, simple national emblem and/or simple logo included, colors to be selected among* EUROCOPTER *referenced and qualified paints. Can be replaced by other external paint option.*

2 *This option provides the fuel flow and estimated remaining time to fly on the* VEMD.

3 *This layout includes already the optional Comfortable cabin upholstery.*

5-2 List of optional equipment

This chapter includes all the optional equipment that can be selected to customize the *EC120 B* helicopter. Please take note that there can be incompatibilities between optional equipments. Any configuration made by using this list of optional equipment should be made with the assistance of the latest issue of the Table of Constraints, or validated by a *EUROCOPTER* sales representative.

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

General equipment

Document reference	**Commercial reference**	Name	**kg**	**lb**
05-01026-A	**05-01026-00-CI**	Russian certification kit	**6.5**	**14.3**
05-02002-A	**05-02002-00-CI**	Aircraft without external paint ***1*** - ***2***	**-6.5**	**-14.3**
05-02028-A	**05-02028-00-CI**	Landing gear customized paint ***3***	**TBD**	**TBD**
05-02033-A	**05-02033-00-CI**	Extra charge for two or three-color external painting instead of single color paint ***4***	**TBD**	**TBD**
05-02034-A	**05-02034-00-CI**	Extra charge for multicolor external painting (4 to 6 instead of single color paint) ***4***	**TBD**	**TBD**
05-02035-A	**05-02035-00-CI**	Extra charge for highly customized paint ***5***	**TBD**	**TBD**
05-03011-A	**05-03011-00-CI**	First-aid kit ***6***	**2.7**	**5.9**
05-21001-A	**05-21001-00-CI**	Wire strike protection system	**5.0**	**11.0**
05-23001-A	**05-23001-00-CI**	Engine washing device	**0.2**	**0.4**
05-24001-A	**05-24001-00-CI**	Concentric high visibility on main rotor blades (red, white or yellow strips) ***3***	**0.1**	**0.2**
05-25001-A	**05-25001-00-CI**	Sand filter	**5.7**	**12.6**
05-32004-B	**05-32004-01-CI**	Windshield wipers - wire strike protection system compatible ***7*** - ***8***	**4.4**	**9.7**
	05-32004-02-CI	Windshield wipers ***7***	**3.7**	**8.2**
05-37001-A	**05-37001-00-RP**	Removable dual controls - Removable Parts ***9***	**3.0**	**6.6**
05-37004-A	**05-37004-00-CI**	Full-option pilot cyclic control stick (right side)	**1.0**	**2.2**
05-37005-A	**05-37005-00-CI**	Full-option co-pilot cyclic control stick (left side)	**0.7**	**1.5**
05-41006-A	**05-41006-00-CI**	Extreme cold weather cabin heating	**8.5**	**18.7**
05-42001-B	**05-42001-01-CI**	Air conditioning system ***10***	**27.4**	**60.4**
05-44001-A	**05-44001-00-CI**	Cabin fan ***10***	**2.5**	**5.5**
05-61011-A	**05-61011-00-CI**	2nd battery kit (15 A.h.) ***11***	**17.0**	**37.5**
05-71000-A	**05-71000-00-CI**	Hydraulic ground power receptacle	**0.2**	**0.4**
05-85001-A	**05-85001-00-CI**	Fuel flowmeter ***12***	**0.7**	**1.5**
05-91001-A	**05-91001-00-CI**	Handling twin-wheel units with hydraulic jacking system ***13***	**40.6**	**89.5**

1 *Subject to prior authorization of local airworthiness authorities.*
2 *Dropping value applicable to the baseline aircraft.*
3 *Choice of the color to be specified on order.*
4 *Registration number, simple national emblem and/or simple logo included, colors to be selected among* EUROCOPTER *referenced and qualified paints.*
5 *7 colors and more selected among* EUROCOPTER *referenced and qualified paints.*
Sophisticated emblem/logo/armorials bearings.
Selected paint(s) not referenced nor qualified by EUROCOPTER *subject to acceptation*
6 *Its content is the buyer's responsability as it may vary according to geographical region or applicable regulation.*
7 *The optional consists of : one pilot's windshield wiper and one copilot's windshield wiper.*
8 *Includes two deflectors.*
9 *The* EC120 B *standard aircraft has the capability (FP included) of the dual controls.*
10 *It is mandatory to select one of the two optional items 05-42001-01-CI or 05-44001-00-CI.*
11 *Recommended for start-up in cold weather.*
12 *This option provides the fuel flow and estimated remaining time to fly on the* VEMD.
13 *Replaces the handling wheels delivered with the airborne kit.*

Specific mission equipment

Document reference	**Commercial reference**	Name	**kg**	**lb**
06-11001-A	**06-11001-00-FP**	Skis – Fixed Parts	**1.1**	**2.4**
	06-11001-00-RP	Skis – Removable Parts	**10.7**	**23.6**
06-11002-A	**06-11002-00-CI**	Short protective skid shoes ***1***	**2.5**	**5.5**
Or	Or	Or	**or**	**or**
06-11003-A	**06-11003-00-CI**	Long protective skid shoes ***2***	**6.4**	**14.1**
06-26001-A	**06-26001-00-CI**	External electric rear view mirror ***3***	**2.4**	**5.3**
06-27001-A	**06-27001-00-FP**	Cargo sling – Fixed Parts	**3.4**	**7.5**
	06-27001-00-RP	Cargo sling – Removable Parts	**8.4**	**18.5**
06-42014-A	**06-42014-00-CI**	Swivelling landing light ***4***	**3.2**	**7.1**
06-61001-A	**06-61001-00-FP**	Emergency floatation gear – Fixed Parts	**3.2**	**7.1**
	06-61001-00-RP	Emergency floatation gear – Removable Parts	**39.5**	**87.1**

Interior cabin layout

Document reference	**Commercial reference**	Name	**kg**	**lb**
07-30001-A	**07-30001-00-CI**	Comfortable cabin upholstery ***5***	**14.0**	**30.9**
07-30002-A	**07-30002-00-CI**	Reinforced soundproofing ***6***	**5.2**	**11.5**
07-40001-A	**07-40001-00-CI**	Cabin carpet	**6.3**	**13.9**
07-60001-A	**07-60001-00-CI**	Cargo compartment upholstery	**6.0**	**13.3**
07-74001-A	**07-74001-00-FP**	Foldable stretcher ***7*** – Fixed Parts	**8.8**	**19.4**
	07-74001-00-RP	Foldable stretcher – Removable Parts	**13.6**	**30.0**

1 *Recommended for training missions.*
2 *Recommended for training missions on non-prepared airfield.*
3 *Recommended for sling work.*
4 *May be required for night VFR flight in some countries (operational regulations).*
5 *Cabin carpet, cabin washable cover and reinforced soundproofing are not included in the optional "Comfortable cabin upholstery".*
6 *"Reinforced soundproofing" needs the installation of the option "Comfortable cabin upholstery" or the "*STYLENCE *package".*
7 *For casualty transport, when the foldable stretcher is completely installed and the rear-bench and the communication panel are removed and left on ground, the overall weight of the helicopter is lighter by 8.4 kg (18.6 lb).*

The data set forth in this document are general in nature and for information purposes only.
For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..

Avionics

Single pilot VFR day and night Package included in baseline definition

Standard VFR day and night package

Thales H321EGM - Gyro-horizon ***1***

Honeywell KCS55A - Gyro Compass with
Honeywell KI525A - Horizontal Situation Indicator ***2***

UI 9560 - Turn and Bank indicator

Honeywell KY196ASC+ - VHF/AM

Garmin GNS430 - VHF/VOR/LOC/GS/GPS ***3***

Garmin GTX327 - Transponder (mode A+C)
with altitude encoder Shadin 8800T

Kannad 121AF-H - Emergency Locator Transmitter ***4***

Garmin GMA340H – ICS ***5***

The baseline aircraft definition includes an avionics package as defined here above. Brands and models are given for information exclusively. EUROCOPTER *reserves the rights to modify any brand or model constantly according to its policy in force.*

Equipment that can replace a standard equipment

Document reference	**Commercial reference**	Name	**kg**	**lb**
06-67035-B	**06-67035-01-CI**	Emergency Locator Transmitter Kannad 406AF-H instead of standard Kannad 121AF-H ***6*** - ***7***	**0.1**	**0.2**
08-22015-B	**08-22015-01-CI**	Transponder Garmin GTX330 (Mode S) ***7*** instead of standard Garmin GTX327	**1.0**	**2.2**
08-51003-A	**08-51003-01-CI**	Thales H321EGM - Stand-by gyro-horizon ***7*** - ***8*** instead of UI 9560 - Turn and Bank indicator	**3.3**	**7.3**

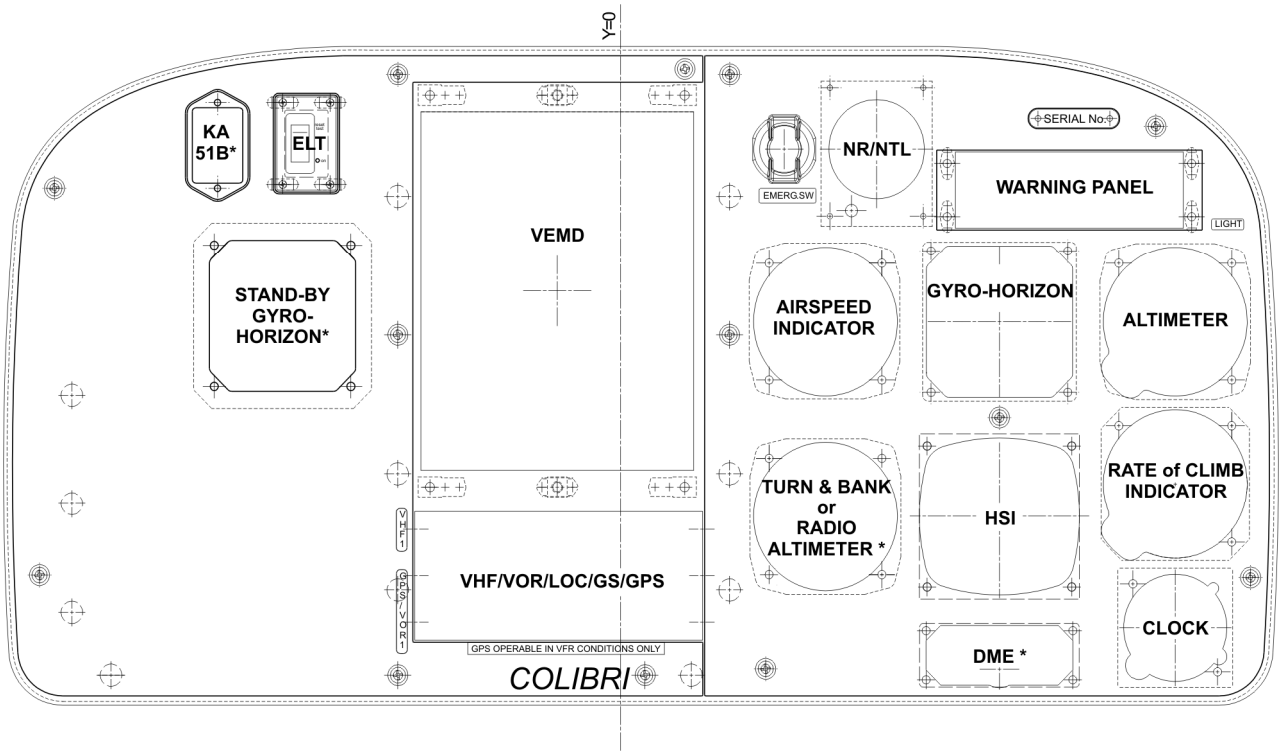
1 *With slip indicator included when the Turn and Bank indicator is replaced by the stand-by gyro-horizon.*
2 *With a selector switch for NAV1/NAV2 selection.*
3 *Delivered with EUROPE map. Subscription to be made by the customer.*
4 *2 frequencies : 121.5 MHz, 243 MHz. Compliant with ED 62 and TSO C91A.*
5 *Includes the passenger interphone function.*
6 *3 frequencies : 121.5 MHz, 243 MHz, 406 MHz. Compliant with ED 62 and TSO C91A.*
The Programming Data Sheet must be filled and communicated by the customer two months at the latest before the helicopter's delivery.
7 *May be a mandatory equipment, required by local airworthiness authorities or operational regulations.*
8 *Fitted with independent battery.*

Additional Avionic equipment that can be added depending on operational needs or the requirements of the authorities in certain countries if not included in the standard package

Document reference	**Commercial reference**	Name	**kg**	**lb**
08-18016-A	**08-18016-00-CI**	David Clark H10-13H - Headset ***1***	**0.5**	**1.1**
08-18044-A	**08-18044-00-CI**	ICS installation compatible with Bose Aviation X headset	**1.0**	**2.2**
08-18045-A	**08-18045-00-CI**	Bose aviation X headset	**0.5**	**1.1**
08-21018-A	**08-21018-00-CI**	Thales AHV16 with indicator IND201 - Radio-altimeter	**5.6**	**12.3**
08-21018-A	**08-21018-02-CI**	Thales AHV16 with indicator IND201 - Radio-altimeter compatible with Russian certification kit ***2***	**5.6**	**12.3**
08-25002-A	**08-25002-00-CI**	DME Honeywell KN63	**2.0**	**4.4**
08-51003-A	**08-51003-00-CI**	Thales H321EGM - Stand-by gyro-horizon ***3***	**5.0**	**11.0**
08-83016-A	**08-83016-00-CI**	*VEMD* data download kit ***4*** - ***5***	**—**	**—**

1 *Quantity recommended = 2.*
2 *Radio Altimeter with unit in meters.*
3 *Fitted with independent battery.*
4 *This kit includes, two softwares and a connection wire.*
5 *Allows compliance to JAR OPS 3 Amendment 3 requirement, as defined in Appendix 1 to JAR OPS 3.517 (a) and (b)(5)(i). Requires absolute time data, given through a compatible connection with serviceable GPS equipment (Compliance achieved with the baseline aircraft as defined on pages 11 and 12).*

Standard Instrument panel:



* Optional equipment.

Note: Layout given for information only and that can be modified later.

Note: Instrument panel includes integrated lighting.

Equipment that may be required by operational regulations

The purpose of the following table is to summarise a list of available optional items of equipment — which may supplement the sales standard aircraft definition — in order to comply with the relevant operational regulations depending on the type of operations. This list must be considered as a reminder and does not claim to cover all operational requirements.

Document reference	**Commercial reference**	Name	**kg**	**lb**
05-03011-A	**05-03011-00-CI**	First-aid kit - JAR OPS 3 Compatible ***1***	**2.7**	**5.9**
06-42014-A	**06-42014-00-CI**	Swivelling landing light	**3.2**	**7.1**
06-61001-A	**06-61001-00-FP** **06-61001-00-RP**	Emergency floatation gear – Fixed Parts Emergency floatation gear – Removable Parts	**3.2** **39.5**	**7.1** **87.1**
06-67035-B	**06-67035-01-CI**	Emergency Locator Transmitter Kannad 406 AF-H instead of standard Kannad 121 AF-H ***2***	**0.0**	**0.0**
08-18016-A	**08-18016-00-CI**	Headset David Clark H10-13H ***3***	**0.5**	**1.1**
08-21018-A	**08-21018-00-CI**	Thales AHV 16 with indicator IND 201 – Radio Altimeter	**5.6**	**12.3**
08-21018-A	**08-21018-02-CI**	Thales AHV16 with indicator IND 201 - Radio-altimeter compatible with Russian certification kit ***4***	**5.6**	**12.3**
08-22015-B	**08-22015-01-CI**	Transponder Garmin GTX 330 (Mode S) instead of standard Garmin GTX 327	**1.0**	**2.2**
08-25002-A	**08-25002-00-CI**	D.M.E Honeywell KN 63	**2.0**	**4.4**
08-51003-A	**08-51003-00-CI**	Thales H321EGM - Stand by gyro-horizon ***5***	**5.0**	**11.0**
08-51003-A	**08-51003-01-CI**	Thales H321EGM - Stand-by gyro-horizon instead of UI 9560 - Turn and Bank indicator	**3.3**	**7.3**
08-83016-A	**08-83016-00-CI**	*VEMD* data download kit ***6*** - ***7***	**0.0**	**0.0**

1 *Its content is the buyer's responsability as it may vary according to geographical region or applicable regulation.*
2 *3 frequencies : 121.5 MHz, 243 MHz, 406 MHz. Compliant with ED 62 and TSO C91A.*
The Programming Data Sheet must be filled and communicated by the customer two months at the latest before the helicopter's delivery.
3 *Quantity recommended = 2.*
4 *Radio Altimeter with unit in meters.*
5 *Fitted with independent battery.*
6 *This kit includes, two softwares and a connection wire.*
7 *Allows compliance to JAR OPS 3 Amendment 3 requirement, as defined in Appendix 1 to JAR OPS 3.517 (a) and (b)(5)(i). Requires absolute time data, given through a compatible connection with serviceable GPS equipment (Compliance achieved with the baseline aircraft as defined on pages 11 and 12).*

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6- Main performance

The following performance values and figures refer to an *EC120 B* equipped with new engine. Unless otherwise specified, the values and figures refer to a clean helicopter at Sea Level (SL), in International Standard Atmosphere (ISA) and zero wind condition.

Gross Weight	**kg** **lb**	**1,350** **2,976**	**1,450** **3,197**	**1,550** **3,417**	**1,715** **3,780**	**1,800** ***1*** **3,968**
■ Max. speed, VNE ***2***	**km/hr** **kts**	278 150	278 150	278 150	278 150	- -
■ Fast cruise speed	**km/hr** **kts**	236 127	233 126	230 124	223 120	- -
■ Recommended cruise speed	**km/hr** **kts**	216 117	213 115	210 113	204 110	- -
■ Fuel consumption at recommended cruise speed	**kg/hr** **lb/h**	97 213	97 213	97 213	97 213	- -
■ Rate-of-climb	**m/sec.** **ft/min.**	7.12 1,400	6.86 1,350	6.60 1,300	5.84 1,150	5.33 1,050
■ Hover ceiling I.G.E. at Take-Off Power						
● Standard atmosphere	**m** **ft**	5,151 16,900	4,542 14,900	3,932 12,900	2,819 9,250	- -
● standard atmosphere + 20°C	**m** **ft**	3,840 12,600	3,078 10,100	2,316 7,600	1,112 3,650	- -
■ Hover ceiling O.G.E. at Take-Off Power						
● Standard atmosphere	**m** **ft**	4,785 15,700	4,115 13,500	3,444 11,300	2,316 7,600	899 2,950
● Standard atmosphere + 20°C	**m** **ft**	3,353 11,000	2,530 8,300	1,737 5,700	518 1,700	- -
■ Service ceiling (Vz = 1 m / sec. – 200 ft/min.)						
● ISA	**m** **ft**	> 6,096 > 20,000	> 6,096 > 20,000	6,035 19,800	5,182 17,000	- -
■ Maximum range (without fuel reserve, at recommended cruise speed)	**km** **n.m**	680 ***3*** 367 ***3***	735 397	725 391	710 383	- -
■ Endurance without reserve at the best endurance speed 65 knots	**Hr : min**	4h15 ***3***	4h30	4h27	4h19	-

1 *In external load configuration.*
2 *The VNE is to be reduced by 5 knots if Outside Air Temperature is ≤ - 35°C.*
3 *Takes into account 305 kg of fuel.*

The data set forth in this document are general in nature and for information purposes only.
For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..

Operating limitations

The aircraft can be operated normally within the following altitude and temperature limitations :

- Maximum pressure altitude : 6,096 m – 20,000 ft
- Maximum temperature : ISA + 35° C, limited to + 50°C
- Minimum temperature : - 40° C

Remarks :

When equipped with appropriate optional equipment, the *EC120 B* is JAA certified for day and night VFR operations.

The operator shall check current operational regulations of the concerned country.

Abbreviations

IGE :	In Ground Effect
ISA :	International Standard Atmosphere
Vz :	Rate-of-Climb
OGE :	Out of Ground Effect
Zp :	Pressure Altitude

Units

n.m. :	nautical miles	hr:min :	hours:minutes
Kts :	knots	kg :	kilograms
ft/min :	feet/minute	lb :	pounds
m/sec :	meters per seconds	km :	kilometers
° C :	degrees Celsius		

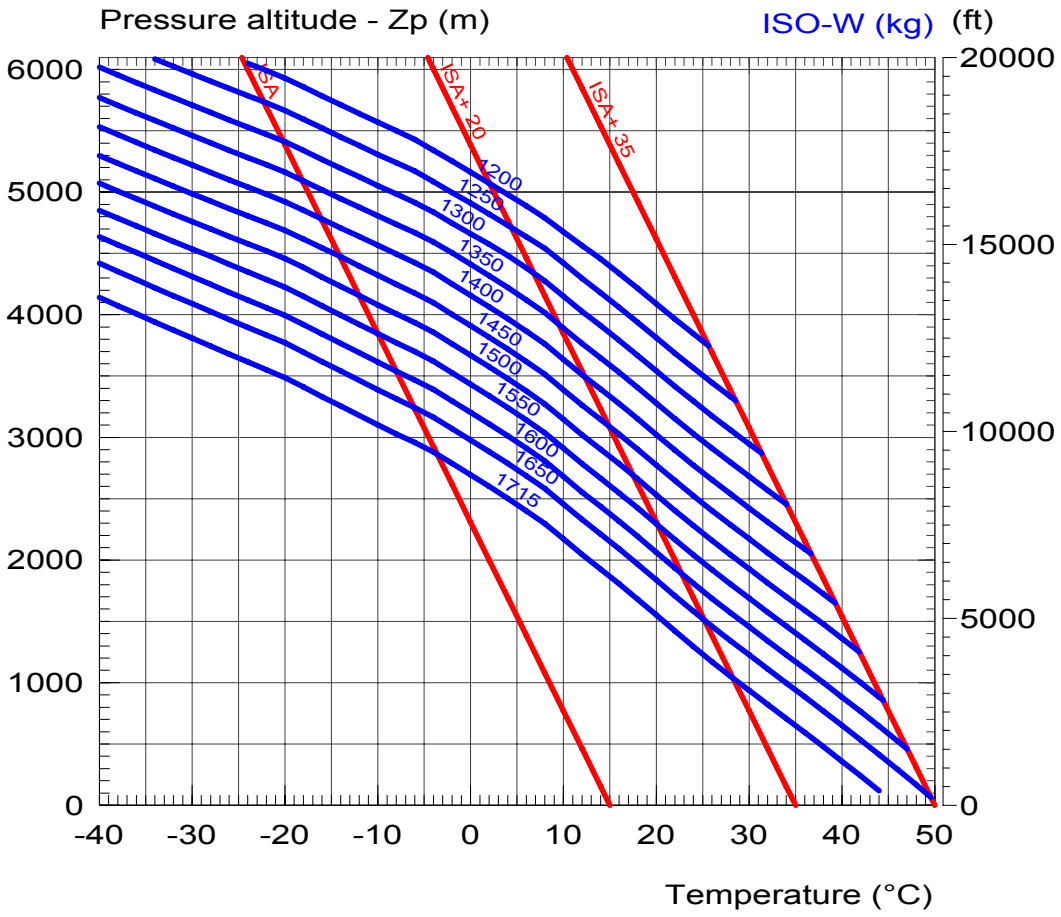
Performance charts

The performance charts presented hereafter apply to an aircraft as per the baseline definition.

HOVER CEILING I.G.E.

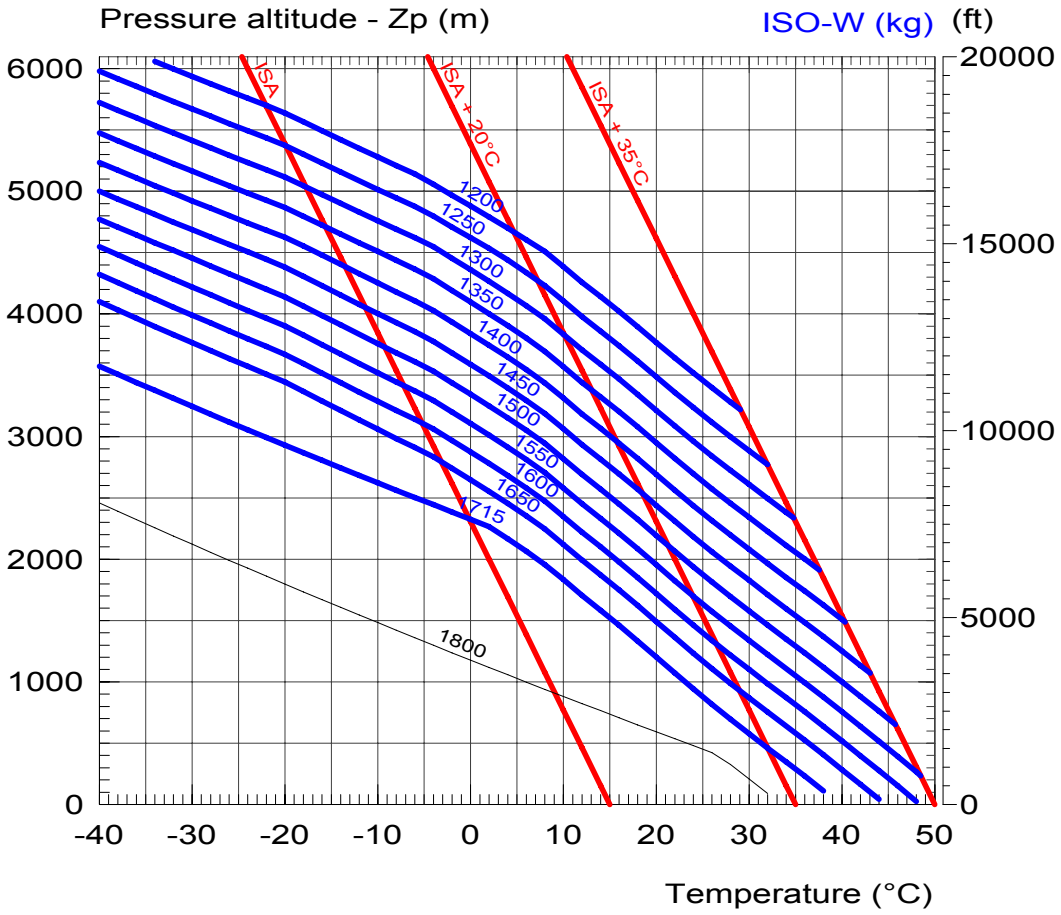
(Height 5 ft)

Maximum take-off power



HOVER CEILING O.G.E.

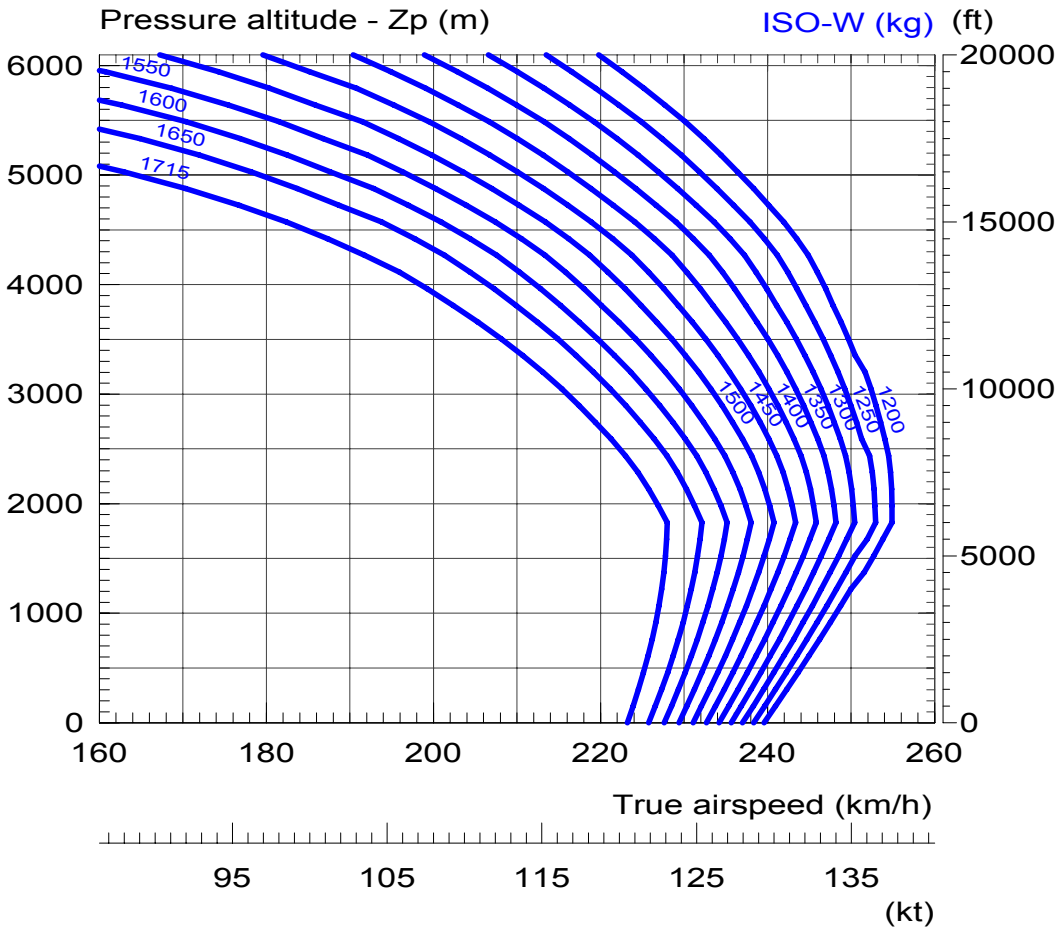
Maximum take-off power



Note : ISO weight curve, at 1,800 kg is the curve with external load

FAST CRUISE SPEED

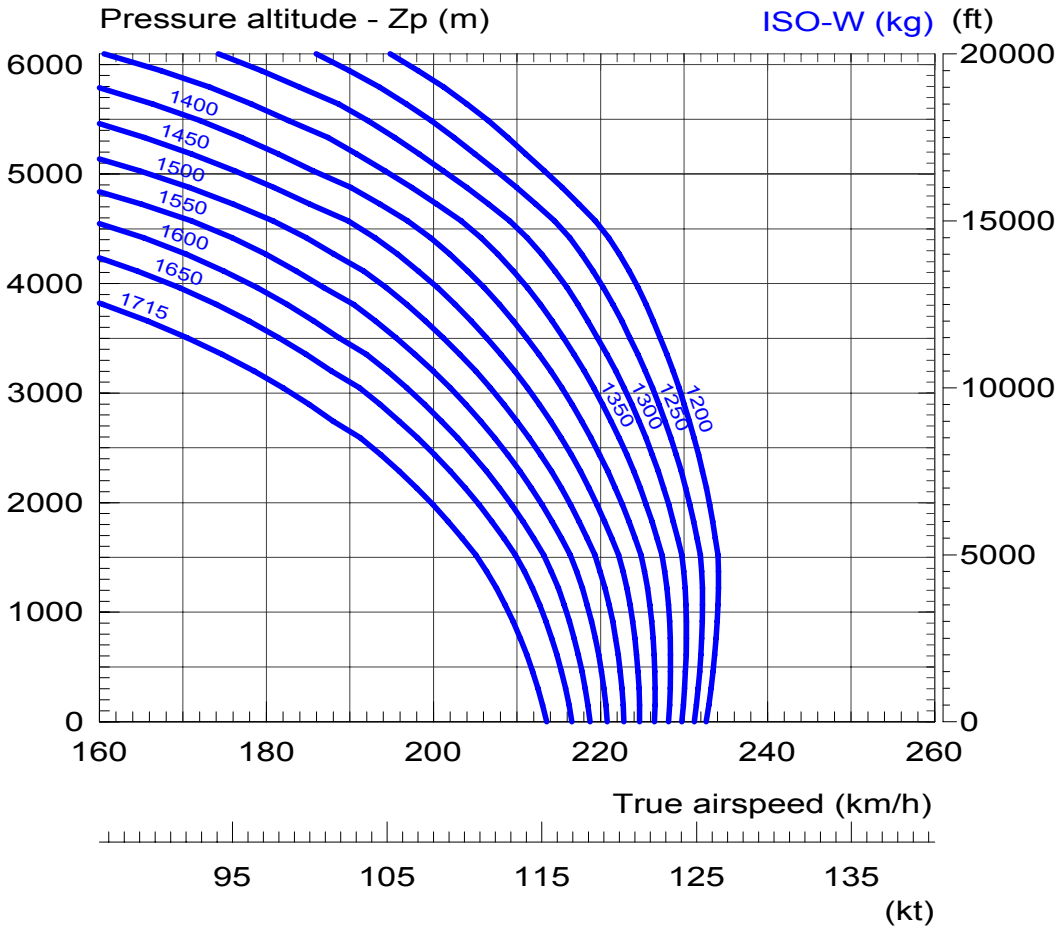
ISA



The data set forth in this document are general in nature and for information purposes only.
For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..

FAST CRUISE SPEED

ISA + 20°C



The data set forth in this document are general in nature and for information purposes only.
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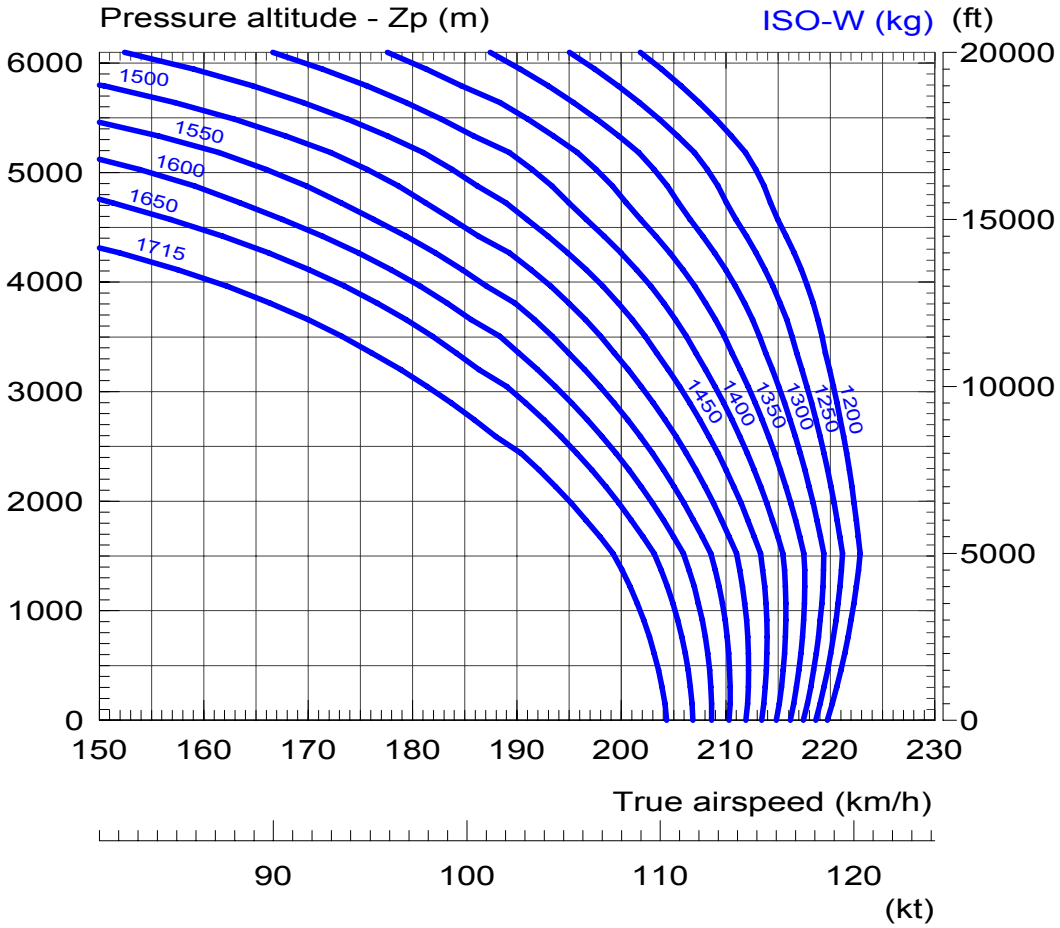
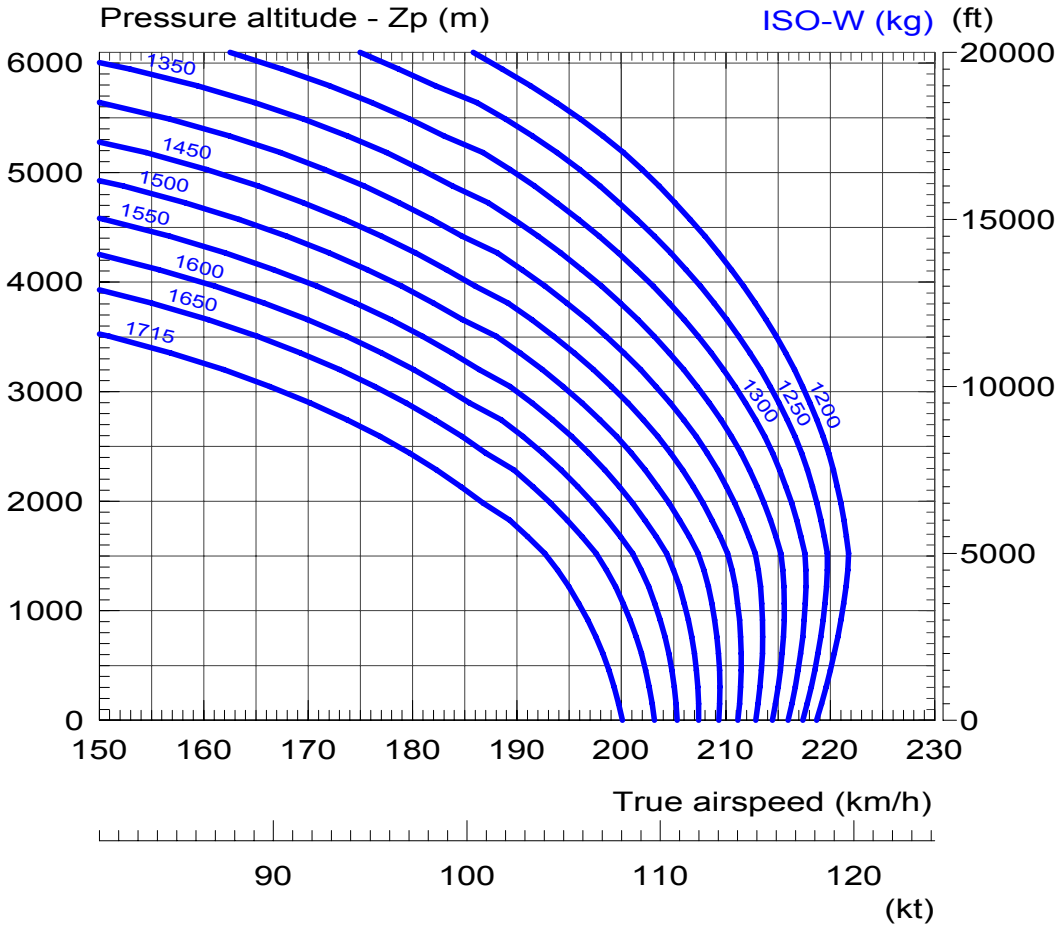
RECOMMENDED CRUISE SPEED

ISA



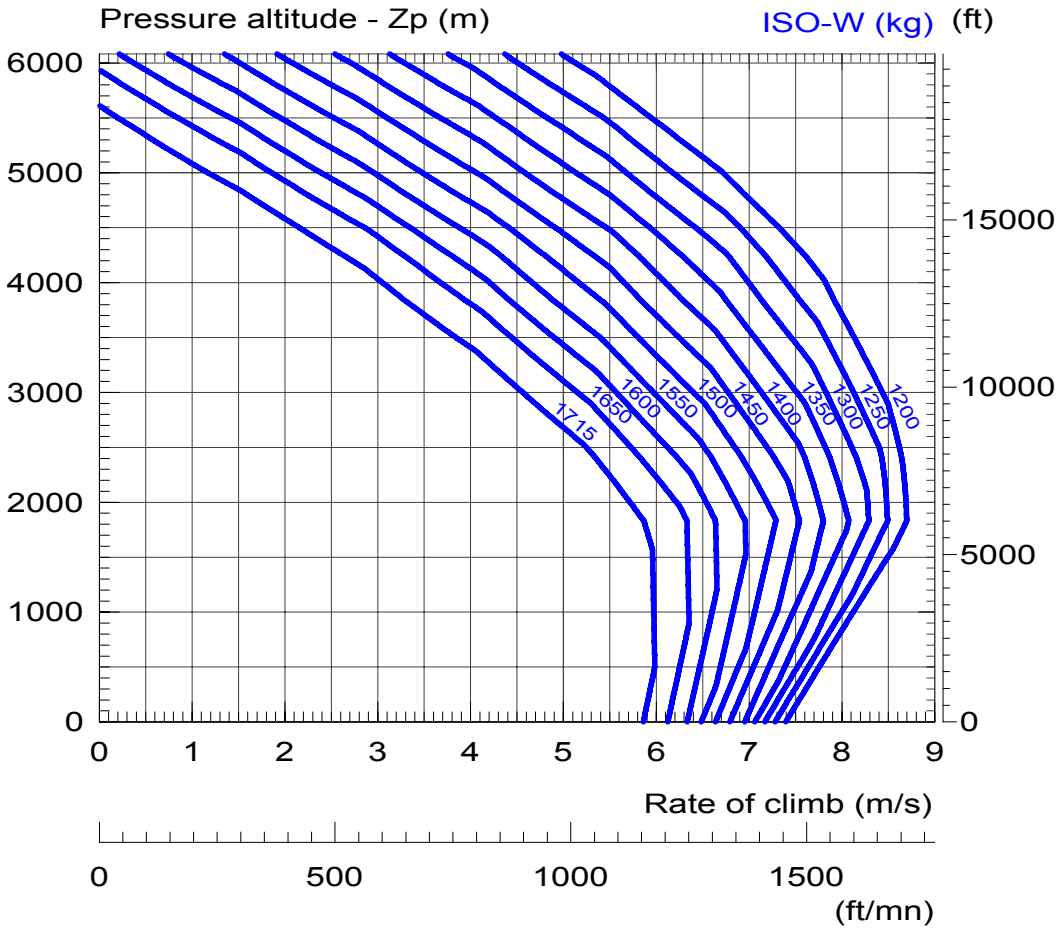
RECOMMENDED CRUISE SPEED

ISA + 20°C



RATE OF CLIMB

ISA



The data set forth in this document are general in nature and for information purposes only.
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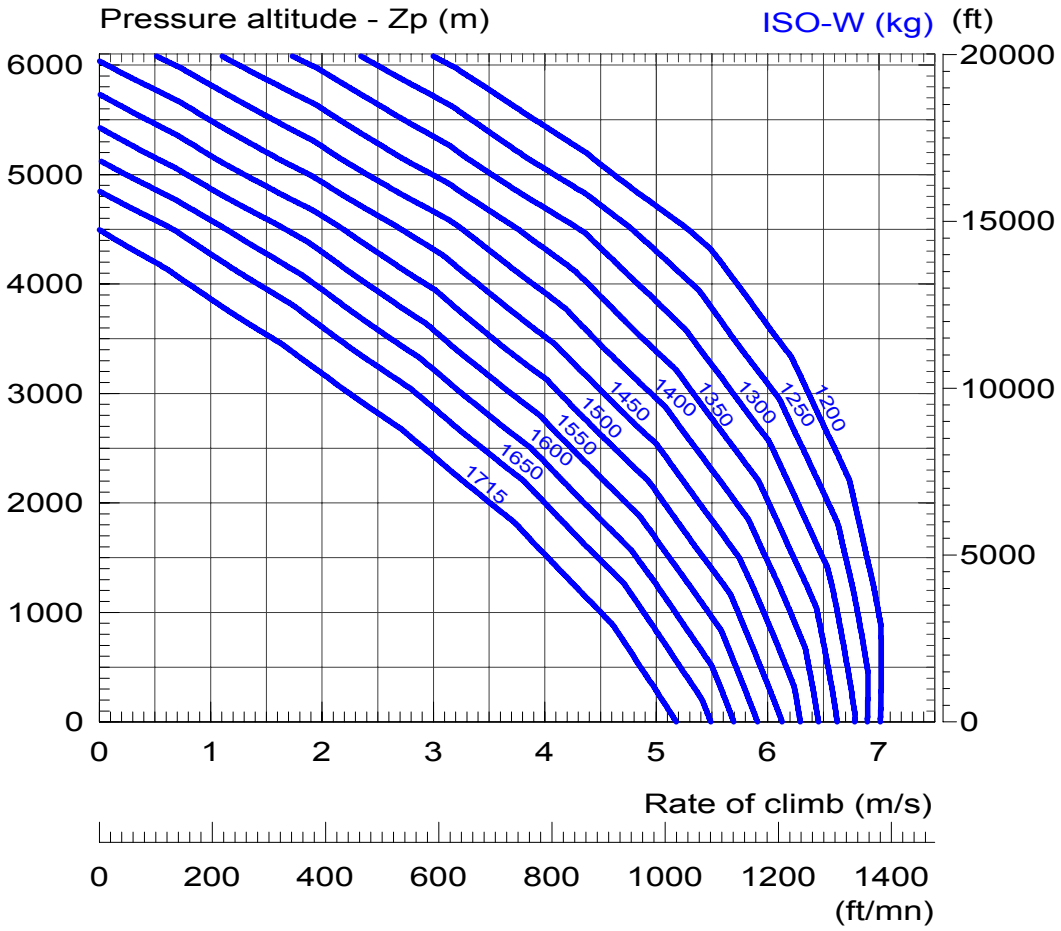
RATE OF CLIMB

ISA + 20°C

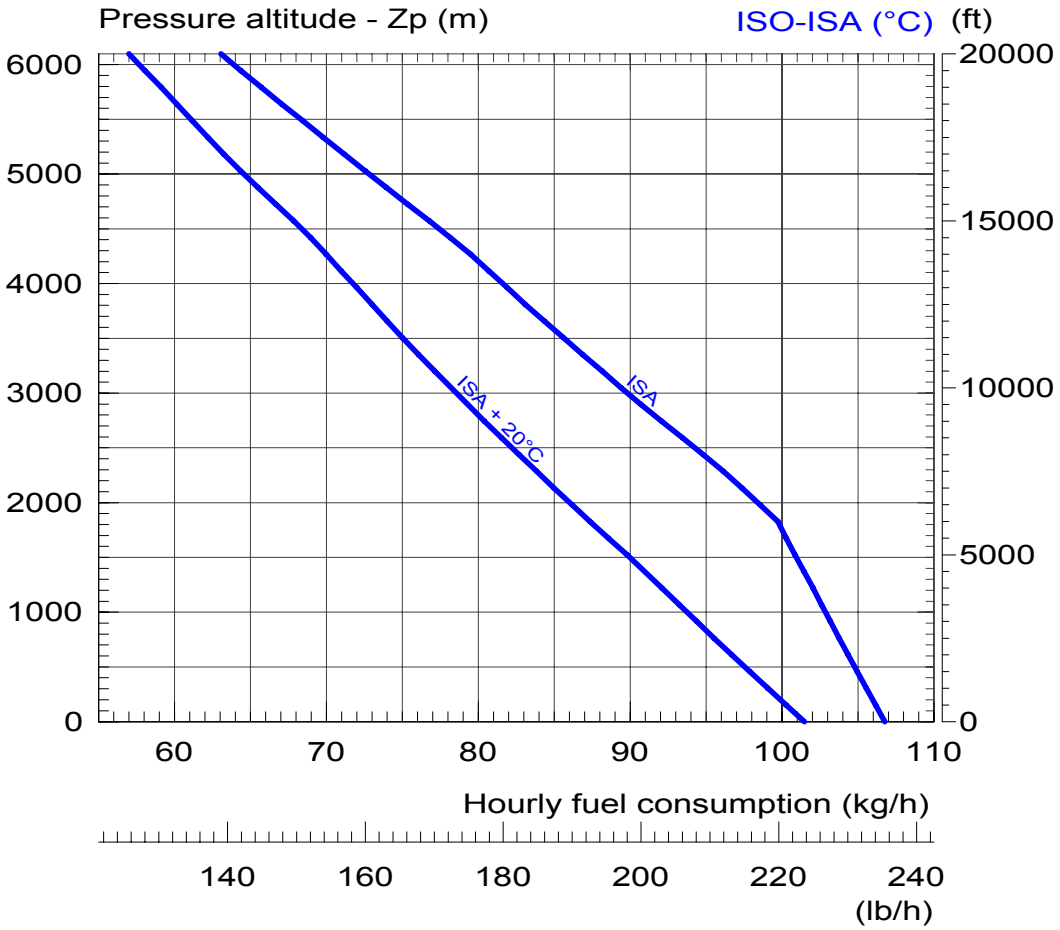


The data set forth in this document are general in nature and for information purposes only.
For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..

HOURLY FUEL CONSUMPTION

At fast cruise speed

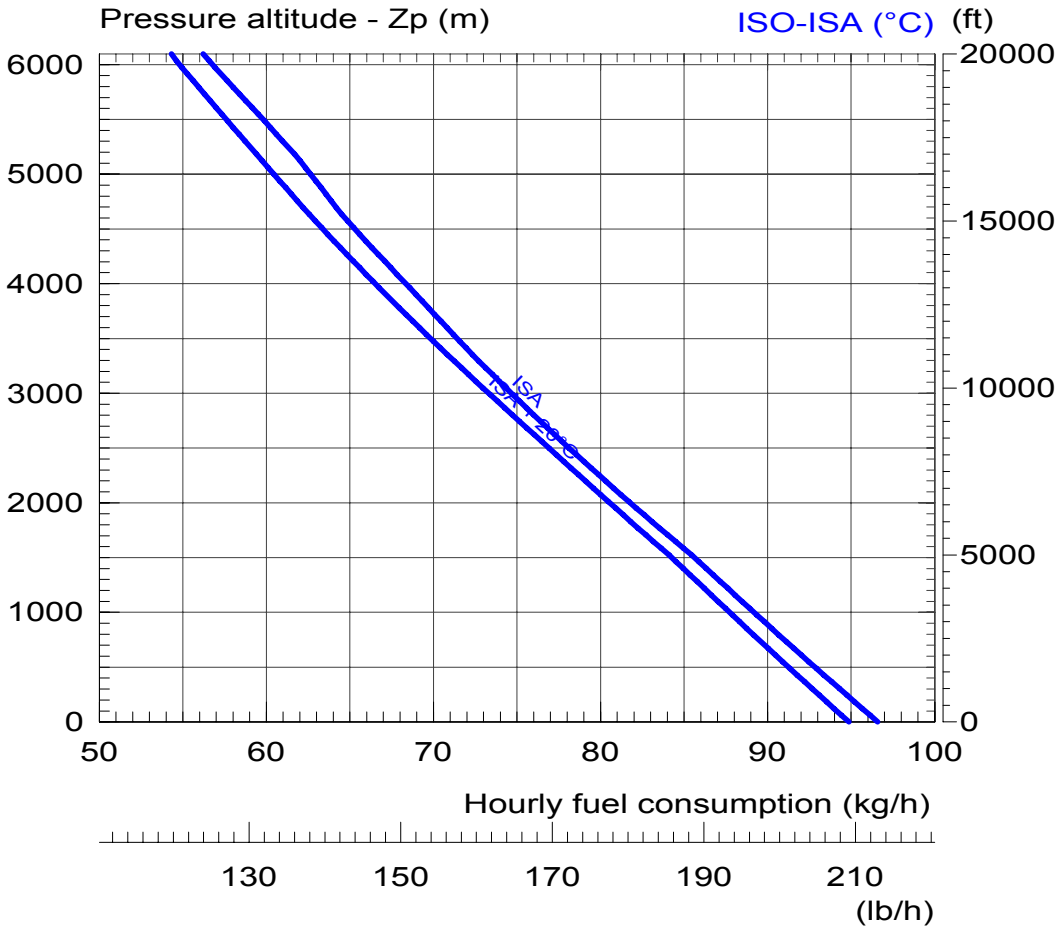
ISA, ISA + 20°C



HOURLY FUEL CONSUMPTION

At recommended cruise speed

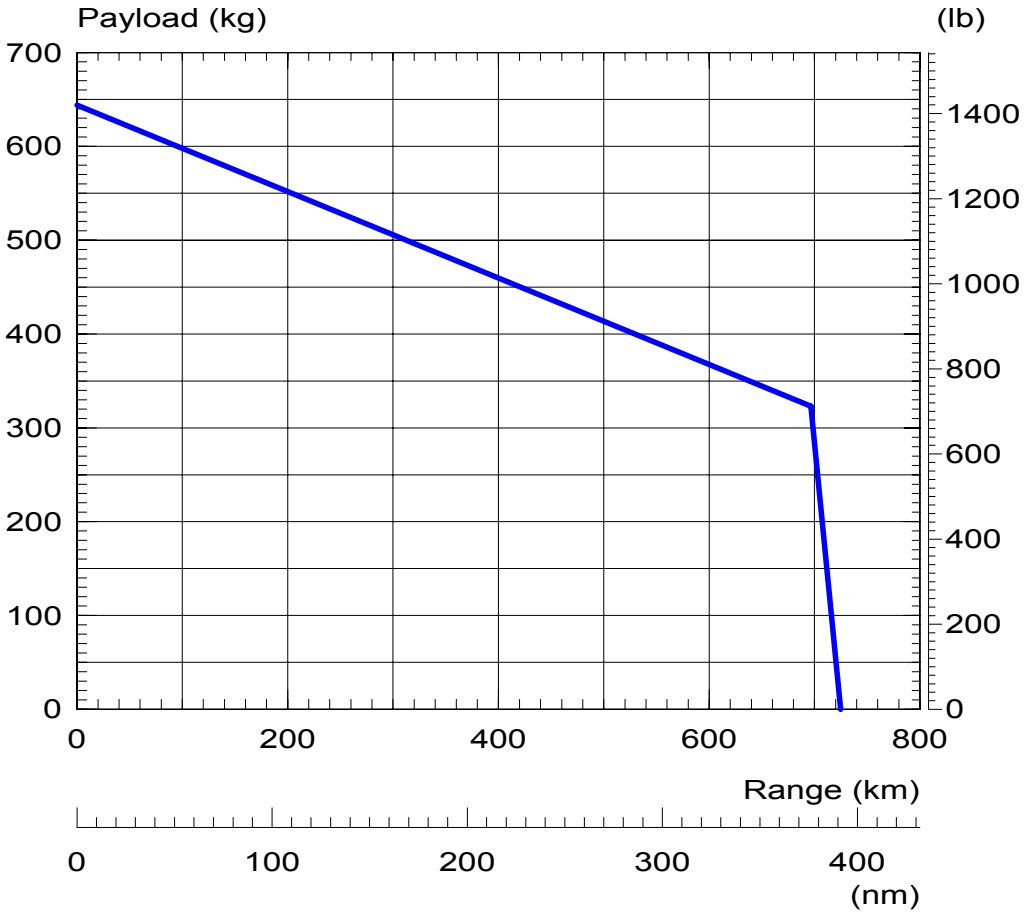
ISA, ISA + 20°C



INTERNAL PAYLOAD VERSUS RANGE

Zp=0 - ISA

Recommended cruise speed



Note :
This curve is given for a maximum payload and fuel of 644 kg.
This value is the standard aircraft useful load (724 kg) less the pilot's mass (80 kg)

7- Customer Service Overview

Assets

Proven reliability and availability based on experience

EUROCOPTER's helicopter production programs have developed a strong reputation world-wide for being fully committed to providing customers with operational, capable aircraft that achieve high availability combined with cost-effective support systems. To achieve this record of performance, *EUROCOPTER* has stressed the importance of working together with its customers to ensure constant feedback on their demonstrated in-service Reliability, Availability and Maintainability/Testability (RAM) data. The main objective is to reach the most optimized operational cost ensuring the highest flight safety.

EUROCOPTER has built and delivered *EC120* since 1998. There are 450 helicopters in service world-wide. The total flight hours accumulated at this date are about 55,000 hours. The "lead the fleet" aircraft has accumulated 6,400 flight hours.

Inspection Program

The Maintenance Program specifies the intervals between maintenance operations that are recommended by *EUROCOPTER*, irrespective of whether they are mandatory or not.

The program can:
– either be used as is,
– or be adapted by each operator to suit his own specific organization, provided he complies with the maximum intervals.

The following table provides an overview of all inspections. Scheduled inspections with shorter time intervals have to be added to those with longer time intervals.

Scheduled Airframe Inspection	**Estimated Man Hour**
Daily checks :	Pilot's task
100 flight hrs or 12 months periodicity tasks	1,45 MMH
500 flight hrs or 24 months periodicity tasks	73 MMH
1500 flight hrs or 72 months periodicity tasks	37 MMH
Airframe Major Inspection	**Estimated Man Hour**
12 years periodicity tasks	200 MMH

Scheduled Engine Inspection ARRIUS 2F	**Estimated Man Hour**
100 flight hrs periodicity tasks	0,033 MMH per FH
500 flight hrs periodicity tasks	

MMH: Mean Man Hour

FH : Flight Hour

Note : All the "hands-on" aircraft values mentioned here above are given on the basis of a 20 000 flight hours life cycle. They refer only to the scheduled inspections for the standard helicopter without optional equipment in accordance with the Master Servicing Manual (MSM).
The announced Man Hours are without incoming flight, work preparation, reworking, servicing, Service Bulletin implementation and unscheduled maintenance.

Main components
Time Between Overhaul (TBO) / Service Life Limit (SLL) [1]

Main Components	TBO (h) as per MSM rev R016	TBO (h) Target Value *	SLL (h) as per MSM rev R016
MAIN ROTOR BLADE			20000
SLEEVE			11000
MAIN ROTOR SHAFT UNIT			78000 cycles
MAIN HUB			6400
SPHERICAL THRUST BEARING			7500
MAIN GEARBOX	2750	5000	
TAIL GEARBOX	3750	5000	
TAIL ROTOR HUB			9500
EQUIPPED BLADE, TAIL ROTOR			8500
REAR SHAFT ASSY			20000
FORWARD SHAFT ASSY			20000
SERVO CONTROL, MAIN ROTOR	4000		20000

"*": Target value within the Maturity Plan under progress.

Engine	TBO (h)	TBO (h) Target Value	SLL (h)	SLL (h) Target Value
ARRIUS 2F	2800	3000		

Time Between Overhauls (TBO):
The component in question must be removed at each interval that corresponds to the value indicated, in order to undergo the operations in a specialized workshop that will enable it to be put back into service for the next interval. A TBO is granted with a 10 % operational margin, limited at +300 hours. Some subcomponents may have a Service Life limit, rated above the TBO limit.

Service Life Limited (SLL):
The service life limit is an airworthiness limit. The component in question must be removed from service when it reaches the limit indicated.

1 *Main component values are given for information purposes only. The reference document is the aircraft Maintenance Servicing Manual.*

EUROCOPTER Maintenance Support Programs

EUROCOPTER offers its clients a comprehensive array of repair and overhaul services to ensure availability and costs control. This array of services ranges from basic OEM repair and overhaul services up to comprehensive Parts By the Hour (PBH) maintenance programs.

The different services are each tailored for one different user profiles and demands, such as customers:

- with a high number of flight hours,
- with a low number of flight hours,
- looking for immediate component availability,
- that wish budget control,
- …

To respond to the different customers' demands *EUROCOPTER* offers the following flexible and modular services:

- Classical Support
- Standard exchange
- Repair with guaranteed Turn Around Times (TAT)
- Guaranteed Direct Maintenance Costs (DMC)
- Unscheduled Maintenance Insurance Plan
- Parts by the Hour service

Classical Support

The classical support consists of a comprehensive Initial Provisioning package to sustain aircraft operation. This package includes Spare Parts, Tools, Test Equipment, etc…

The required level of operational availability determines the quantity and therefore the investment required. With this support package the Customer bears the responsibility to monitor their repair; manage obsolescence and to procure the right mix and quantity of components and spare parts.

Standard Exchange

The Standard Exchange consists in replacing a defective part with a serviceable and interchangeable part within 48 hours subject to availability. This service is available for equipment, blades and dynamic components.

Repair with Guaranteed TAT

EUROCOPTER offers for some components a repair with commitment on guaranteed TAT. When this lead time is exceeded for the repair, *EUROCOPTER* provides the customer with a standard part exchange delivery at the same price as agreed for the repair.

Guaranteed DMC

The Guaranteed DMC services offers guaranteed repair and overhaul TATs as well as guaranteed prices. This addition to the classical repair and overhaul enables the customer to best size its inventory. Price for this service is calculated per flight hour, thus enabling the customer to spread and predict predict both his scheduled as unscheduled maintenance expenses. The guaranteed DMC service is available for dynamic components, blades and basic equipment.

Unscheduled Maintenance Insurance Plan (UMIP)

With the UMIP, *EUROCOPTER* gives the customer the option to secure unscheduled maintenance costs while remaining responsible for the scheduled events (overhaul, life limited part replacement). Price for this service is calculated per flight hour.

The UMIP service includes component unscheduled repairs and guaranteed parts replacement within 24H through Standard Exchange based on a dedicated inventory. This service is available for dynamic components, blades and basic equipment

Parts By the Hour (PBH)

The Parts by the Hour (PBH) service is a comprehensive program that offers and balances at the same time guaranteed maintenance costs, reduced inventory and minimized helicopter downtime. This service is intended for Customers looking for total cost control and high level of aircraft readiness. Price for this service is calculated per flight hour.

The PBH service includes component unscheduled repairs component overhauls as well as Life Limited part replacement. Parts replacement is guaranteed within 24H through Standard Exchange based on a dedicated inventory. This service is available for dynamic components, blades and basic equipment.

Engine Maintenance program

Always looking to maximize your efficiency and reduce your costs, Turbomeca, the engine manufacturer has developed an improved service offering.

Turbomeca has 32 Repair Centers across the globe, supplemented by several new factory-authorized service facilities strategically located near to you

Turbomeca range of services covers :

- Classical Repair and Overhaul
- Standard Exchange
- AOG services
- Support By the Hour (SBH) services

Within the Support By the Hour® coverage Turbomeca developed specific maintenance packages, as summarized hereafter.

Standard Coverage : “Classic” SBH®

The “classic” Support by the Hour (SBH®) is a global support service offered to operators to enable them to maintain the best availability of their engines fleet through a contract arrangement paid by running hours.
The Support by the Hour (SBH®) is operated mainly through Standard Exchange supported by Turbomeca dedicated Corporate Pool.

Customized Coverage : SBH® “ Mission”

The new service, Support By the Hour® Mission, offers a modular series of comprehensive service and engine management packages whereby Turbomeca undertakes to guarantee its operator's engine availability and care.

From basic engine support requirement to fully comprehensive range of additional services, three different types of packages are offered to operators : Pro, Prime and Privilege.

Turbomeca Internet Web Site - TOOLS

Turbomeca Operator On-Line Support (TOOLS site) is entirely dedicated to helping customers. With 24/7 availability, operators can access important information when they want to from where they want to, winning precious time and staying head. TOOLS at www.turbomeca-support.com

Training

With more than 50 years of experience, the *EUROCOPTER* training centers provide the most comprehensive, coherent and highest standard helicopter training in the world for pilots and technicians, whether civilian or military.

Qualification training, allowing operators to comply with regulatory requirements, and services training, more mission oriented and tailored to the customers' operational needs, are addressed.

All training courses are established according to the relevant civil aviation authorities' requirements. The centers are approved by the relevant airworthiness authorities (EASA, FAA, DGAC, LBA, CAA…). We are certified ISO 9001: V2000 and regularly audited by independent organisms such as Véritas, AFAQ…

EUROCOPTER training centers provide a wide range of courses and services, from basic training up to preparation for the most sophisticated civil and military missions.
As part of the full range of services on offer, *EUROCOPTER* also plays an active role in helicopter pilot development through its Ab Initio programs.

Centers are equipped with multimedia classrooms. This includes computers overhead projectors and state-of-the-art means such as Computer Aided Instruction (CAI), Computer Based Training (CBT). Some centers also have self-learning laboratories.

EUROCOPTER has set up a network of 14 training centers. For detailed information refer to *EUROCOPTER* specific publication.

EC120 - Example of basic training course

COURSE TYPE	COURSE REFERENCE	THEORETICAL INSTRUCTION	FLIGHT INSTRUCTION	
			TR1	TR2
Pilot	Type rating	4 days	5 hours	3 hours
	Instructor pilot conversion *1*	-	5 hours	
	Refresher	1 day	1,5 hours	
COURSE TYPE	**COURSE REFERENCE**	**THEORETICAL INSTRUCTION**		
Mechanics	Type rating (Airframe + Engine)	3 weeks		
	Refresher	1 week		
Blades	Maintenance and repair	Up to 2 weeks		

TR1: For pilot non already qualified on single engine turbine
TR2: For pilot already qualified on single engine turbine.

Note: Length is given as information and depends on pilot or technician qualification or experience. Complementary courses may be required.

1 *Pilot already qualified on EC120 (15 hours mini, within last 12 months, not included in type rating).*

Engine Training Courses

Training courses dedicated to Engine Maintenance is also organized by Turbomeca training schools and approved centers the world over

Up-to-date course calendars, on-line tests and e-learning modules are also available on the Turbomeca Operator On-Line Support (TOOLS site)

Technical publications

EUROCOPTER provides all the technical publications necessary for safely operating and maintaining its aircraft cost effectively.

EUROCOPTER technical publications are available on an interactive electronic medium as a standard or in hard copies as an option.

The INDOC DVD-ROM includes the Aircraft Maintenance Manual (AMM), System Description Section (SDS), Master Servicing Manual (MSM), Illustrated Parts Catalogue (IPC) and the Wiring Diagram Manual (WDM).

The component maintenance manual (CMM) is available on DVD-ROM or hard copy, depending on the Vendor.

Along with the INDOC DVD-ROM, *EUROCOPTER* provides a hard copy of the Airworthiness Technical Publication (Flight Manual, Pilots Check List, Master Servicing Manual …) as well as the Service Bulletin Catalogue.

The DVD ROM is available in English or French; it includes the latest information and is updated every 6 - 9 months.

T.I.P.I. (Technical Information Publication on Internet)

Description

T.I.P.I. website is entirely dedicated to provide a real-time issuing service for the following publications:

- Télex Alert, Télex Information, Service Bulletin, Service Letter, Service Information, Technical Information Letter
- List of Applicable Publications (LOAP)
- List of Master Minimum Equipment List (MMEL)

Main features

- Each time a publication is issued, the customer is automatically informed by an e-mail.
- The download of the publication in pdf format is possible either directly from the e-mail or after logging on the T.I.P.I. website.
- A keywords search tool is provided (aircraft family, type of publication, date of edition...).
  Address: www.eurocopter.com/services/technical publications/T.I.P.I.
  The publications are available in English, French or German depending on the case.
- A small summary, already included in the e-mail, helps the customer to understand quickly the subject.
- Small icons allow the customer to identify immediately the type of information received.

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