



Technical Data





### SINGLE ENGINE

### ECUREUIL (Civil Version)

### **TWIN ENGINE**



Ecureuil AS350 B2



Ecureuil AS350 B3



Ecureuil AS355 NP



Ecureuil EC130 B4

## FENNEC (Military Version)



Multi purpose military version = Utility or armed aircraft Fennec AS550 C3



Armed naval version torpedo Fennec AS555 SN



### **Contents**

1 - Foreword	3
2 - General characteristics	4
3 - Standard Aircraft Definition	11
4 - Optional equipment	13
5 – Table of Constraints	19
6 - Main performance	21
7 - Customer Service Overview	41

### Manufacturers notice

### Attention!

EUROCOPTER, its logo, AS350, EC130, ALOUETTE, ECUREUIL, FENESTRON, INDOC, STARFLEX, STYLENCE, VEMD, are trade marks of the Eurocopter group.

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.





Blank





### 1- Foreword



The light single-engine EC130 B4 is the last member of the successful ECUREUIL family.

The ultra-quiet EC130 B4 integrates the latest technological advances of EUROCOPTER's new generation helicopters: a new 7/8 seats enlarged cabin with enhanced comfort, a new tailboom with quiet FENESTRON shrouded tail rotor, a dual channel FADEC unit plus a third independent and automatic channel for engine control, an automatic variable rotor speed control for noise reduction, a dual hydraulic system. The main rotor head, main gearbox and engine (except FADEC) are those of the AS350 B3, ensuring the EC130 B4 an high level of performance.

It is fully equipped with VFR day-time radio navigation (standard "ready to fly" package) associated with an integrated instrument panel (double color screen VEMD, GPS with color map display) and has the capability of night-time VFR flight.

Component community with EUROCOPTER light helicopters' range results in a helicopter respectful of the environment, easy and affordable to maintain, offering the same world-beating performance parameters, as the AS350 B3.

The EC130 B4 plays in the passengers transport register and answers to the public transport, corporate and tourism market segments thanks to its enlarged cabin, its modern technology, its comfort, and its "ready-to-fly" concept. It is used as well, as a "light truck" for utility, EMS and parapublic missions thanks to its low external noise signature, large cabin volume and high performance level, and is considered by some military forces as replacement of former ALOUETTE III.





### 2- General Characteristics

### Lay-Out

### ■ Passenger-transport

- 1 pilot + 6 passengers in standard version 1
- 1 pilot + 7 passengers in "medium density" version

### ■ Casualty-evacuation

- 1 pilot + 1 or 2 stretcher patients + 2 medical attendants
- 2 pilots + 1 stretcher patient + 2 medical attendants

### ■ Cargo carrying

• 1 pilot + 3.7 m³ (130.7 ft³) load in cabin

### ■ Equipment

Complete 7 seats interior + trims + carpets included in standard Ready to operate radio package included in standard :

- 2 VHF
- 2 VOR / LOC / GLIDE
- 1 GPS
- 1 ELT
- 1 XPD mode A + C
- 1 ICS capable of 8 outlets
- 1 ADI
- 1 HSI

### Weights

Note : Empty weight accuracy : within $\pm$ 2 %	kg	lb
<ul><li>Empty weight, standard aircraft (including engine oil and unusable fuel)</li></ul>	1,379	3,040
■ Useful load	1,048	2,311
■ Maximum all-up weight	2,427	5,351
■ Maximum cargo-swing load	1,160	2,557
<ul> <li>Maximum all-up weight in external load configuration</li> </ul>	2,800	6,172

<sup>1</sup> If required by the local airworthiness authorities, the capacity can be limited to 1 pilot + 5 passengers.





### **Power plant**

### 1 TURBOMECA ARRIEL 2B1 turbine engine

### **Engine ratings**

Thermodynamic Power, in standard atmosphere, at sea level:	kW	ch	shp
■ Take-off power	632	860	847
■ Maximum continuous power	543	739	728

### **Usable Fuel capacities**

	litres	US gal.	kg	lb
<ul><li>Standard fuel tank</li></ul>	540	143	426	939

### **External noise**

In accordance with ICAO annex 16, chapter 8

<ul><li>Average value</li></ul>	86,8	EPNdB	(- 7.0 dB / average ICAO limit)
■ Overflight	84,3	EPNdB	(- 8.5 dB / ICAO limit) (- 0.5 dB / GCNP <sup>1</sup> noise rule 6 PAX) (- 1.2 dB / GCNP noise rule 7 PAX)

### Internal noise

The noise in the cabin is also improved in order to increase pilot and passengers comfort. Measures have been realised on a standard aircraft and give the following mean levels:

- 81.3 dB SIL4<sup>2</sup> in hover inside ground effect
- 86.1 dB SIL4 in cruise flight at 120 kts

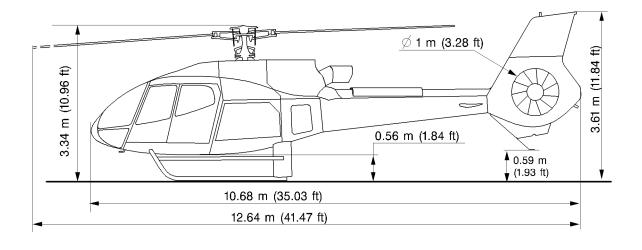
<sup>1</sup> GCNP = Grand Canyon National Park.

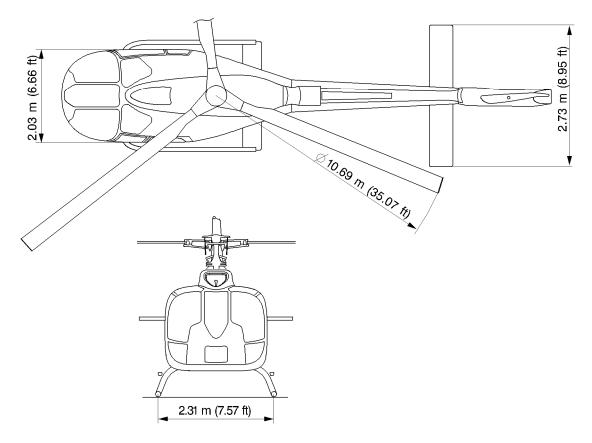
The method of sound level measurement used is Speech Interference Level (dB SIL4). This is the arithmetic average of 4 octave (0.5, 1.0, 2.0 and 4.0 kHz) levels specified in dBlin (linear decibels). This particular set of octaves corresponds to the human voice frequency range and thus allows to evaluate the interference with passenger communication.





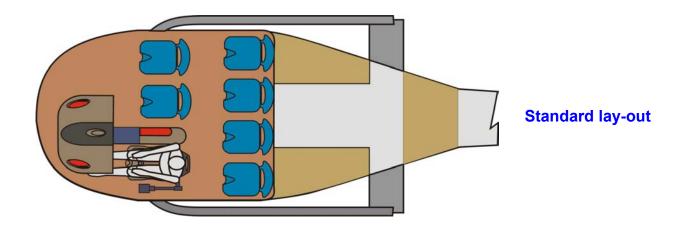
### **Main dimensions**

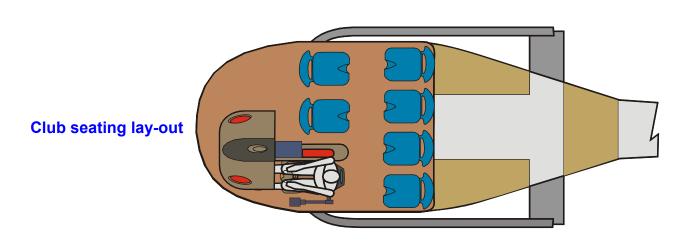


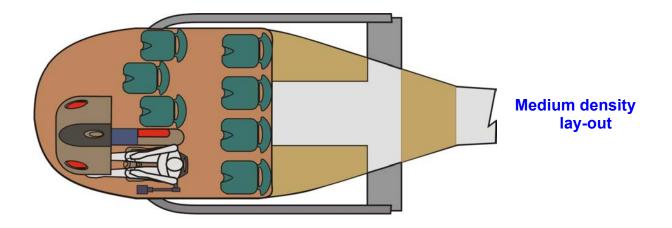




### **Configurations**





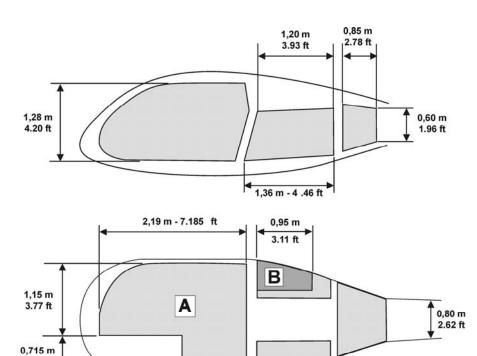






### **Dimensions of compartments and accesses**

### **Cabin main dimensions**

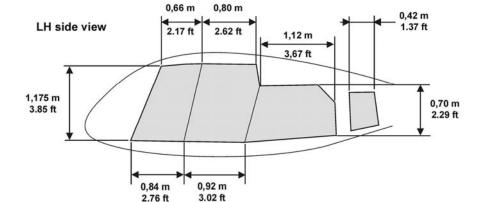


CABIN				
Surface	3,00 m²			
Α	32.3 ft <sup>2</sup>			
Volume	3.7 m³			
	130.7 ft³			

LH HOLD					
Surface	0.52 m² 5.60 ft²				
Volume	0.285 m³ 10.06 ft³				

RH HOLD				
Surface <b>B</b>	0.43 m² 4.63 ft²			
Volume	0.245 m³ 8.65 ft³			
	8.65 ft <sup>3</sup>			

REAR HOLD				
Surface	0.55 m²			
	5.92 ft²			
Volume	0.565 m³			
	19.95 ft³			



0,885 m

2.90 ft

1,35 m

4.42 ft

TOTAL	HOLDS
Surface	1.50 m² 16.15 ft²
Volume	1.095 m³ 38.66 ft³

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.

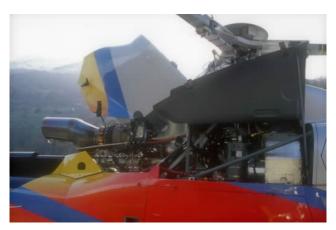
2.35 ft





### Other characteristics

### **TURBOMECA ARRIEL 2B1 turbine engine**



- 847 shp (632 kW) take-off power
- Triple engine control: one dual channel FADEC (Full Authority Digital Engine Control) unit plus a third independent and automatic back up channel
- Optimized engine ratings according to outside operations conditions thanks to electronic governing system (FADEC)
- Optimized engine monitoring through the VEMD
- Automatic starting sequence

### **VEMD** (Vehicle and Engine Multifunction Display)

- Full colour LCD display
- Fully duplex equipment
- Self monitoring at one glance
- First Limitation Indication (FLI) with aural warning
- Mission parameters calculation
- Engine cycle counting
- Engine health monitoring



### **Noise reduction**



The outstanding noise reduction is given by:

- Automatic variable rotor speed control
- quiet FENESTRON shrouded tail rotor





### A wide and comfortable cabin

The EC130 B4 offers an enlarged cabin floor, allowing comfortable accommodation for the pilot and 6 passengers on individual energy-absorbing seats. The rear seats are slightly elevated to offer a better visibility to the passengers.





The EC130 B4 offers also interior arrangements including fans, lighting and carpets



### **Enlarged cargo holds**

On the left side









### 3- EC130 B4 ECUREUIL - Standard Aircraft Definition

The helicopter in the definition, presented hereafter, meets the certification standards for day and night VFR operations, set by the following airworthiness authorities: EASA, FAA, TC. This list is not restrictive and the status of approval by other airworthiness authorities must be checked. Additional equipment item may be required by the relevant operational regulation (most of them are available in catalogue).

### **GENERAL**

- Fuselage comprising the cabin and 3 luggage holds, with floor, tie-down nets and access doors
- Tail boom with stabilizer, FENESTRON<sup>®</sup> type anti torque rotor, and tail skid
- Tubular skid landing gear, with replaceable skid shoes, with long footsteps, profiler on rear tube, capable of floats and handling wheels
- Lifting points

- Upper mooring fixtures
- External paint: fuselage according to standard paint schemes.
   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
- Interior signs and markings : available in either French or English, any other language on request

### **CABIN**

- Cabin floor in light-alloy sheet-metal with hard points
- 2 pilot and copilot high-back energy-absorbing seats, adjustable in reach, removable, complete with cushions, safety belts and dual-strap shoulder harnesses
- 1 passenger high-back energy-absorbing seat (front right), removable, complete with cushions, safety belt and dual shoulder strap harness
- 4 passenger high-back energy-absorbing seats (rear row), removable, complete with cushions, safety belts and dual shoulder strap harnesses) fitted on a removable frame bolted on the cabin floor
- 1 set of controls for pilot in command on left side

- 1 twist grip on pilot side (for engine reduction in case of tail rotor failure and autorotation training)
- 2 tinted upper panes
- 1 roof panel, housing cabin lighting, 7 air ventilation outlets, and controls (ventilation controls, rotor brake and fuel cut-off)
- Capabilities for mandatory optional item: air conditioning or ventilation systems
- 1 heating circuit (outlets in cabin floor)
- 1 demisting circuit
- Doors trim panels
- Floor carpet
- Rear bulkhead and lateral rear trims
- Interior harmony according to definition in force

### **DOORS**

- Cabin
  - 1 right large hinged / jettisonable door,
  - 1 left sliding door,
  - 1 left small hinged / jettisonable door,
- Locks on every access to cabin and luggage compartments
- Lock on fuel cap
- Luggage
  - 2 lateral luggage holds door, horizontal hinge and 2 gas struts)
  - 1 rear luggage door (vertical forward hinge)

### **WINDOWS**

- Tinted windows (but windscreen)
- 1 sliding door window on pilot side

### **POWER PLANT**

- 1 Turboméca ARRIEL 2B1 632 kW (850 ch 847 shp) turbine engine complete with starting, fuel supply and dual channel digital engine control system (FADEC), and fitted with a magnetic plug and chip detector
- 1 fuel system including 1 tank of 540 liters (143 US gal.) total capacity
- 1 back-up fuel control box that automatically controls the engine in case of a total failure of the 2 digital channels of the FADEC
- 1 engine lubrication and oil cooling system
- 1 fire detection system
- 1 air-intake screen
- 1 torque-measurement pick-up
- Capabilities for sand filter





### TRANSMISSION SYSTEM

- 1 main gearbox, anti-vibration mounted, with oil sight gauge, chip detector, oil temperature and pressure switches, port for endoscope and self sealing valve for oil sampling and draining
- 1 main gearbox oil cooling system
- 1 engine to main gearbox coupling shaft
- 1 rotor brake

- 1 main rotor r.p.m sensor and high and low r.p.m warning device
- 1 tail drive carried by five anti-friction bearings
- 1 tail gearbox with oil sight gauge, electric chip detector and port for endoscopic inspection

### **ROTORS AND FLYING CONTROLS**

- 1 main rotor with 3 composite-material blades around a STARFLEX<sup>®</sup> head fitted with spherical thrust bearings
- 1 FENESTRON® rotor

- 3 main rotor hydraulic servo units (duplex servos)
- 2 independent hydraulic generations

### **ELECTRICAL INSTALLATION**

- One 150 A, 28 VDC starter-generator APC
- One 15 A/h cadmium-nickel battery
- 1 ground power receptacle
- 3 position lights
- 1 flashing anti-collision light
- 2 fixed landing lights

- 2 cabin light sets, each with 2 reading lights for 2 rear passengers and 1 dome light
- 1 instrumentation lighting system (with integrated emergency
- 1 control panel with circuit-breakers panel
- 1 reading map light on upper canopy strut for pilot
- One 28 V DC cabin power outlet

### **INSTRUMENTS**

- Instruments units: available in either metric or English units
- 1 airspeed indicator with heated pitot head
- 1 altimeter
- 1 rate-of-climb indicator
- 1 LCD dual RPM tachometer (rotor tachometer and Nf tachometer)
- 1 clock
- 1 warning panel
- 1 magnetic compass
- 1 overlay on the left side of the instrument panel for instruments lighting and additional warnings
  Capabilities for *VEMD*® data download (including maintenance
- pluq)

- 1 LCD dual screen Vehicle and Engine Multifunction display (VEMD®) providing the following information:
  - First limitation indicator FLI, torquemeter, exhaust gas temperature, gas generator tachometer
  - Engine oil temperature, pressure,
  - Fuel quantity and fuelflow and estimated remaining time to
  - Ammeter and voltmeter
  - Outside air temperature
  - Enhanced usage monitoring functions, IGE / OGE performance calculations, engine cycles counting, engine power check, overlimits display

    VEMD® and peripheral maintenance information

### **AVIONICS**

- 1 avionics master switch
- 1 gyro-horizon
- 1 gyro-compass with
- 1 horizontal Situation Indicator
- 1 turn and bank indicator
- 1 VHF/VOR/LOC/GS

- 1 VHF/VOR/LOC/GS/GPS
- 1 transponder (mode A+C)
- 1 altitude encoder
- 1 emergency Locator Transmitter (2 frequencies)
- 1 ICS + passenger interphone

### **AIRBORNE KIT (\*)**

- 1 pitot head cover
- 2 static port stoppers
- 1 engine air-intake blanking cover
- 1 tail-pipe plug
- 2 ground handling bogies c/w hydraulic jacking system
- 1 lifting ring

- 2 upper mooring rings
- 3 main-blade socks
- 1 document holder
- 1 airborne kit stowage bag
- Manuals (CD ROM)

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





1,484 kg - 3,272 lb

### 4- Optional equipment

### 4-1 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.

All the optional items listed in chapter 4-2 can be installed as equipment complementary to this package, in accordance with the table of constraints presented in chapter 5.

Document reference	Commercial reference	Name					
00-50015-B	00-50015-01-CI	STYLENCE p	ackage		105 kg - 231 lb		
		Extra charge t	or customized ext	ernal paint	- level 2 <sup>1</sup>		
		Sun protected	upper windows				
		Air conditionin	ig system with reir	nforced from	nt air distribution		
		Layout <b>STYLI</b>	E <b>NCE</b> , including m	nainly			
		■ Light grey	internal paint				
		<ul><li>Front seat storage po</li></ul>		eather, with	casing made of carbon fiber and leather		
		Rear seats	s upholstered in le	ather with	fairing of the lower part		
		Integrated	door case covere	d with light	grey leather		
		<ul><li>Cabin carp</li></ul>	■ Cabin carpet with additional foam				
		<ul> <li>Carpet edge protection</li> </ul>					
		<ul> <li>Carpet protective mat</li> </ul>					
		<ul> <li>Upholstery panels on the front structure</li> </ul>					
		<ul> <li>New demisting ramp</li> </ul>					
		<ul><li>Console u</li></ul>	•				
			holstery panels on	_			
		•	ion covered with I	ight grey le	eather		
			oulkhead ledge				
		•	ggage bay floor co	vering			
			covers for seats				
			cover for carpet				
		The STYLEN		ailable in	6 colour schemes :		
			Brick		Aubergine		
			Graphite		Chocolate		
			Camel		Marine		

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

EC130 B4 STYLENCE configuration empty weight:

Sophisticated paint scheme with finishing of superior quality, possibility of varnished finishing.



### 4-2 List of optional equipment

Symbol A shown beside an item denotes some constraint (see table on page 19).

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
A	05-02007-A	05-02007-00-CI	Extra charge for customized external paint - level 1 1 - 2	5.0	11.0
A	05-02008-A	05-02008-00-CI	Extra charge for customized external paint - level 2 1 - 3	5.0	11.0
Δ	05-02009-A	05-02009-00-CI	Extra charge for highly customized external paint 1 - 4	On re	quest
	05-02010-A	05-02010-00-CI	Extra charge for varnished external paint	On re	quest
	05-21002-A	05-21002-00-CI	Wire strike protection system 5	On re	quest
	05-23005-A	05-23005-00-CI	Engine wash	0.8	1.8
	05-24005-A	05-24005-00-CI	High visibility blades paint scheme	0.1	0.2
	05-25002-B	05-25002-01-CI	Sand prevention filter 6	7.5	16.5
	05-27001-A	05-27001-00-CI	Cabin fire-extinguisher 7	1.7	3.7
	05-30001-A	05-30001-00-CI	Copilot's map-reading light	0.3	0.7
	05-31002-A	05-31002-00-CI	Sliding window on RH front door	0.1	0.2
	05-31033-A	05-31033-00-CI	Sun protected upper windows	2.0	4.4
Â	05-37015-A	05-37015-00-CI	Dual controls	2.6	5.7
	05-37020-A	05-37020-00-CI	Full option pilot cyclic control stick	1.0	2.2
Λ	05-37021-A	05-37021-00-CI	Full option copilot cyclic control stick	1.0	2.2
A	05-42025-A	05-42025-01-CI	Air conditioning system with reinforced front air distribution 8	40.0	88.2
A	05-44004-A	05-44004-00-CI	Cabin ventilation system 8	5.8	12.8
	05-61008-A	05-61008-00-CI	2nd battery kit 5	On re	quest
	05-63002-A	05-63002-01-CI	APC 200 A starter-generator	1.6	3.5
	05-63002-A	05-63002-02-CI	Thales Avionics 200 A starter-generator	1.1	2.4
	05-63005-A	05-63005-00-CI	Thales Avionics starter-generator instead of APC standard one	-0.6	-1.3
	05-92016-A	05-92016-00-CI	Folding of main rotor blades 5	On re	quest

The paint scheme must be approved at the latest 3 months before the delivery of the helicopter.

Paint scheme comprising a basic shade and 2 or 3 additional shades, with straight separation lines, apart from standard paint schemes.

<sup>3</sup> Paint scheme comprising a basic shade and up to 3 additional shades, with separation lines not straight or tangled up, with graduated shades or complicated emblem or logo to be hand-painted.

Sophisticated paint scheme with numerous shades, complex graduated shades, or complicated emblem or logo.

<sup>5</sup> Availability: to be checked.

<sup>6</sup> Capabilities included in standard aircraft. The sand filter authorises the flight under falling snow.

<sup>7</sup> If type is accepted by local regulations.

<sup>8</sup> It is mandatory to select one of the two optional items 05-42025-01-CI or 05-44004-00-CI.





### **Specific mission equipment**

	Document reference			kg	lb
	06-11006-A	06-11006-00-CI	Heavy duty skid shoes	2.5	5.5
	06-11007-A	06-11007-00-CI	Skis 1	On re	equest
	06-26002-A 06-26002-00-CI		External electric mirror	2.6	5.7
	06-27002-A	06-27002-00-CI	Cargo sling 750 kg - 1,654 lb	4.4	9.7
⚠	06-27003-A	06-27003-00-FP 06-27003-00-RP	Cargo swing 1,160 kg – 2,557 lb - Fixed Parts Cargo swing 1,160 kg – 2,557 lb - Removable Parts <b>2</b>	5.1 11.5	11.2 25.4
A	06-27016-A	06-27016-00-FP 06-27016-00-RP	Cargo swing 1,350 kg – 2,976 lb - Fixed Parts 1 Cargo swing 1,350 kg – 2,976 lb - Removable Parts 1	On request On request	
	06-42017-A	06-42017-00-CI	Landing light adjustable in site and azimuth 3	4.3	9.5
⚠	06-61006-A	06-61006-00-FP 06-61006-00-RP	Emergency floatation gear - Fixed Parts <b>3</b> - <b>4</b> Emergency floatation gear - Removable Parts <b>3</b>	3.6 57.4	7.9 126.5
	06-74007-A	06-74007-00-CI	Adaptation for night time mission with NVG 1	On re	equest
	Interior ca	abin layout			
Δ	07-24005-A	07-24005-00-CI	8 Energy-absorbing seats layout 5 - 6	23.4	51.6
A	07-40012-A	07-40012-00-CI	Velvet carpeting	On request	
Δ	07-40013-A	07-40013-00-CI	Carpet edge protection	0.6	1.3

<sup>1</sup> Availability: to be checked.

<sup>2</sup> With Onboard Systems TALON hook.

<sup>3</sup> May be a mandatory equipment, required by local airworthiness authorities or operational regulations.

When the removable parts are not fitted on the aircraft, a part of the fixed parts representing 2 kg - 4.4 lb can be easily dismounted (less than one working day).

<sup>5</sup> When the aircraft is delivered with 8 seats, the rails for installing 7 seats are provided as loose equipment.

According to the aircraft configuration, ballast may be required to accommodate both pilot alone and one pilot + 7 passengers. The weight figure includes a ballast's average value of 4.8 kg - 10.6 lb (maximum value 12.8 kg -28.2 lb).





#### **Avionics**

### Single pilot VFR day and night Package included in standard definition

Thales H 321 EGM - Gyro-horizon 1

Honeywell KCS 55 A - Gyro Compass with

Honeywell KI 525 A - Horizontal Situation Indicator 2

UI 9560 - Turn and Bank indicator

Honeywell KX165A - VHF/VOR/LOC/GS

Garmin GNS 430 - VHF/VOR/LOC/GS/GPS 3

Garmin GTX 327 - Transponder (mode A+C)

Shadin 8800 T - Altitude Encoder

Kannad 121 AF-H - Emergency Locator Transmitter 4

Garmin GMA 340 - ICS 5 - 6

The standard aircraft definition includes an avionics package as defined hereabove. 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
06-67031-A	06-67031-01-CI	KANNAD 406 AF-H - Emergency Locator Transmitter <b>7</b> - <b>8</b> instead of KANNAD 121 AF-H - Emergency Locator Transmitter	0.1	0.2
08-22019-A	08-22019-01-CI	Garmin GTX 330 - Transponder (mode S) 8 - 9 instead of Garmin GTX 327 - Transponder (mode A+C)	0.6	1.3
08-51019-A	08-51019-01-CI	Thales H 321 EGM - Stand-by gyro-horizon 8 - 10 instead of UI 9560 - Turn and Bank indicator	3.0	6.6

<sup>1</sup> With slip indicator included when the Turn and Bank indicator is replaced by the stand-by gyro-horizon.

With a selector switch for NAV1/NAV2 selection.

<sup>3</sup> Delivered with EUROPE map. Subscription to be made by the customer.

<sup>4 2</sup> frequencies: 121.5 MHz, 243 MHz. Compliant with ED 62 and TSO C91A.

<sup>5</sup> Includes the passenger interphone function.

<sup>6</sup> I.C.S. compatible only with High level / High impedance headsets.

The headsets of the passengers should be of the same mark and the same model.

<sup>7 3</sup> 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.

<sup>8</sup> May be a mandatory equipment, required by local airworthiness authorities or operational regulations.

<sup>9</sup> The mode S identification must be communicated by the customer two months at the latest before the delivery.

<sup>10</sup> Fitted with independent battery.





# Additional equipment that <u>can be added</u> 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		lb
	08-10018-A 08-10018-01-CI		HF/SSB 1	On request	
	08-18035-A	18035-A 08-18035-00-CI David Clark - H10-13H - Headset 2		0.5	1.1
	08-18024-A	08-18024-00-CI	Headset extension cord	0.1	0.2
	08-18037-A	08-18037-00-CI	Additional ICS jacks and power connectors for Bose X headsets	1.0	2.2
⚠	08-21008-A	08-21008-01-CI	Thales AHV 16 - Radio altimeter 3	5.6	12.3
	08-24011-B	08-24011-06-CI	Honeywell KR 87 + KI 229 - ADF + RMI	On request	
	08-25001-A	08-25001-00-CI	Honeywell KN 62A - DME	On request	
	08-51015-A	<b>08-51015-01-CI</b> Thales H 321 EGM - Stand-by gyro-horizon <b>4</b> - <b>5</b>		3.8	8.4
	08-83017-A	08-83017-00-CI	VEMD data download kit 6 - 7	_	_

The radio/com/nav. equipment weight figures included in this chapter are average values. As the installation of those equipment may vary from one a/c to an other, the weight of a complete configuration with multiple items may not be the simple sum of all individual weights.

Model to be defined.

<sup>2</sup> High level / High impedance headset.3 May be a mandatory equipment, requ

May be a mandatory equipment, required by local airworthiness authorities or operational regulations.

<sup>4</sup> Fitted with independent battery.

<sup>5</sup> In addition to the standard Turn and bank indicator.

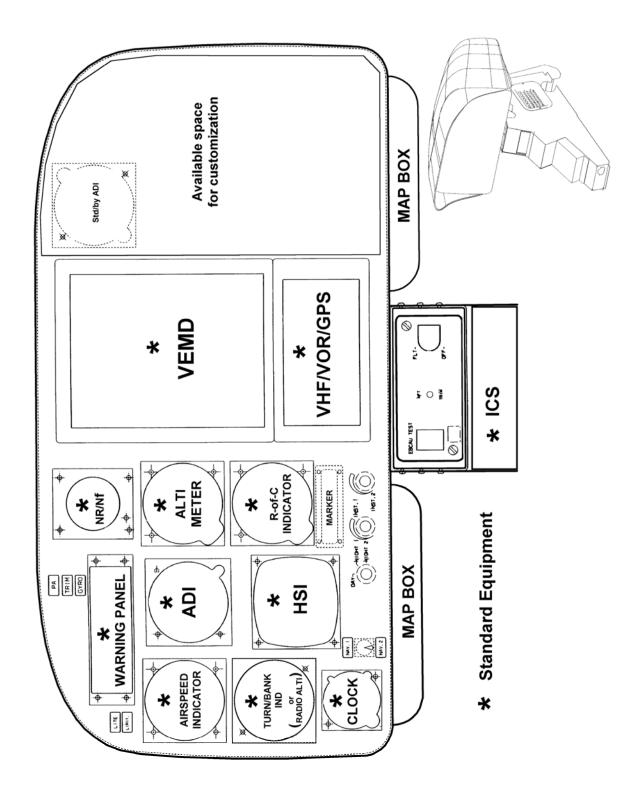
<sup>6</sup> Allows compliance to JAR OPS 3 Amendment 3 requirement, as defined in Appendix 1 to JAR OPS 3.517 (a) and (b)(5)(i).

<sup>7</sup> Delivered in addition to the airborne kit, the kit includes two softwares and a connection wire.





### STANDARD INSTRUMENT PANEL LAY-OUT







### 5- Table of Constraints

**EXL** Impossibility of simultaneous fitment of the fixed parts of 2 items of equipment

NSF Total or partial incompatibility of simultaneous fitment of the removal parts of two items of equipment

NSU Possibility of simultaneous fitment on the same aircraft, but impossible to use simultaneously

**REQ** Requires the fitting of

Document	Commercial	landell-disc.	Nature of the Constraint				Commercial	locate Heating	Document Reference
Reference	Reference	Installation		NSF NSU NSU REQ		REQ	Reference	Installation	
00-50015-B	00-50015-01-CI	STYLENCE package 1	X				05-02007-00-CI	Extra charge for customized external paint - level 1	05-02007-A
			X				05-42025-01-CI	Air conditioning system with reinforced front air distribution	05-42025-A
			X				05-44004-00-CI	Cabin ventilation system	05-44004-A
			X				07-40012-00-CI	Velvet carpeting	07-40012-A
			X				07-40013-00-CI	Carpet edge protection	07-40013-A
05-02007-A	05-02007-00-CI	Extra charge for customized external paint - level 1	X				00-50015-01-CI	STYLENCE package	00-50015-B
			X				05-02008-00-CI	Extra charge for customized external paint - level 2	05-02008-A
			X				05-02009-00-CI	Extra charge for highly customized external paint	05-02009-A
05-02008-A	05-02008-00-CI	Extra charge for customized external paint – level 2	X				05-02007-00-CI	Extra charge for customized external paint – level 1	05-02007-A
			X				05-02009-00-CI	Extra charge for highly customized external paint	05-02009-A
05-02009-A	05-02009-00-CI	Extra charge for highly customized external paint	X				05-02007-00-CI	Extra charge for customized external paint – level 1	05-02007-A
			X				05-02008-00-CI	Extra charge for customized external paint – level 2	05-02008-A
05-37015-A	05-37015-00-CI	Dual controls		X			07-24005-00-CI	8 Energy-absorbing seats layout	07-24005-A
05-37021-A	05-37021-00-CI	Full option copilot cyclic control stick		X			07-24005-00-CI	8 Energy-absorbing seats layout	07-24005-A
						X	05-37015-00-CI	Dual controls	05-37015-A
05-42025-A	05-42025-01-CI	Air conditioning system with reinforced front air distribution	X				00-50015-01-CI	STYLENCE package	00-50015-B
			X				05-44004-00-CI	Cabin ventilation system	05-44001-A
05-44004-A	05-44004-00-CI	Cabin ventilation system	X				00-50015-01-CI	STYLENCE package	00-50015-B
			X				05-42025-01-CI	Air conditioning system with reinforced front air distribution	05-42025-A
06-27003-A	06-27003-00-RP	Cargo swing 1,160 kg – 2,557 lb - Removable Parts				X	06-27003-00-FP	Cargo swing 1,160 kg – 2,557 lb - Fixed Parts	06-27003-A
06-27016-A	06-27016-00-RP	Cargo swing 1,350 kg – 2,976 lb - Removable Parts				X	06-27016-00-FP	Cargo swing 1,350 kg – 2,976 lb - Fixed Parts	06-27016-A
06-61006-A	06-61006-00-RP	Emergency floatation gear - Removable Parts				X	06-61006-00-FP	Emergency floatation gear - Fixed Parts	06-61006-A
07-24005-A	07-24005-00-CI	8 Energy-absorbing seats layout 1		X		Ī	05-37015-00-CI	Dual controls	05-37015-A
				X			05-37021-00-CI	Full option copilot cyclic control stick	05-37021-A
07-40012-A	07-40012-00-CI	Velvet carpeting	X	l	T	t	00-50015-01-CI	STYLENCE package	00-50015-B
07-40013-A	07-40013-00-CI	Carpet edge protection	X	l	T	t	00-50015-01-CI	STYLENCE package	00-50015-B
08-21008-A	08-21008-01-CI	Thales AHV 16 - Radio altimeter				X	08-51019-01-CI	Thales H 321 EGM - Stand-by gyro-horizon instead of UI 9560 - Turn and Bank indicator	08-51019-A

<sup>1</sup> Although technically feasible, the optional item 8 energy-absorbing seats layout is not recommended with the STYLENCE package.





Blank





### 6- Main performance

The following performance values and figures refer to an *EC130 B4*.

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

Note: The following data are extracted from the approved flight manual which is the reference for performance computation.

### **Performance**

Gross Weight	kg	1,800	2,000	2,200	2,300	2,400	2,427	
	lb	3,968	4,409	4,850	5,071	5,291	5,351	
■ Maximum Speed, VNE	km/hr	287	287	287	287	287	287	
	kts	155	155	155	155	155	155	
■ Fast cruise speed (at MCP)	km/hr	250	248	244	242	240	240	
	kts	135	134	132	131	130	130	
■ Recommended cruise speed	km/hr	222	222	222	222	222	222	
	kts	120	120	120	120	120	120	
<ul><li>Fuel consumption</li></ul>	kg/hr	175	175	175	175	175	175	
at fast cruise speed	lb/h	386	386	386	386	386	386	
■ Fuel consumption at recommended cruise speed	kg/hr	149	151.5	154	155.5	157	157.5	
	lb/h	328	334	340	343	346	347	
■ Rate-of-climb	m/sec	11.6	10.9	10.1	9.6	9.1	9.0	
	ft/min	2,290	2,155	1,995	1,905	1,805	1,770	
<ul><li>Hover ceiling IGE at Take-off power</li><li>ISA</li></ul>	m	5,865	4,920	4,035	3,615	3,210	3,100	
	ft	19,255	16,140	13,240	11,865	10,530	10,165	
• ISA + 20°C	m	5,145	4,175	3,275	2,840	2,420	2,305	
	ft	16,880	13,710	10,750	9,320	7,940	7,575	
■ Hover ceiling OGE at Take-off power		10,000	10,110		0,0_0	1,010	.,	
• ISA	m	5,360	4,400	3,505	3,075	2,650	2,535	
	ft	17,590	14,435	11,505	10,090	8,695	8,325	
• ISA + 20°C	m	4,610	3,630	2,705	2,260	1,830	1,715	
	ft	15,130	11,915	8,875	7,415	6,000	5,630	
■ Service ceiling (0.5 m/sec., 100 ft/min.)		·	,	,	,	·	•	
• ISA	m	>7,010	6,505	5,665	5,265	4,870	4,770	
	ft	>23,000	21,345	18,585	17,275	15,980	15,655	
• ISA + 20°C	m	6,645	5,675	4,755	4,300	3,855	3,735	
	ft	21,805	18,625	15,605	14,120	12,655	12,260	
<ul> <li>Range (without reserve, at recommended cruise speed)</li> </ul>	km nm	644 347	635 343	625 337	620 334	615 332	610 329	
■ Endurance (without reserve)	hr : min	04:07	04:01	03:54	03:51	03:48	03:47	





### **Operating limitations**

The helicopter is cleared to be operated within the following altitude and temperature limitations (according to Flight Manual). For complementary information, refer to Flight Manual.

■ Maximum altitude 7,010 m - 23,000 ft (PA)

■ Maximum temperature ISA + 35 °C limited to + 50 °C

■ Minimum temperature – 40 °C

### **Abbreviations**

IGE: In Ground Effect SL: Sea Level ISA: International Standard Atmosphere TAS: True Air Speed MCP: Maximum Continuous Power TOP: Take-Off Power OGE: Out of Ground Effect VNE: Never Exceed Speed

PA: Pressure Altitude Vz: Rate-of-climb

**Units** 

nm: nautical miles hr:min: hours: minutes kts: knots kg: kilograms

ft/min: feet per minute lb: pounds m/sec: meters per second km: kilometers

° C: degrees Celsius





### **Performance charts**

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

•	Take-off weight in hover IGE, (height 5 ft, Maximum TOP, no wind)	Page 24
•	Take-off weight in hover OGE, (Maximum TOP, no wind)	Page 25
•	Fast cruise speed (ISA)	Page 26
-	Fast cruise speed (ISA + 20°C)	Page 27
-	Fast cruise speed (ISA + 35°C)	Page 28
-	Recommended cruise speed (ISA)	Page 29
-	Recommended cruise speed (ISA + 20°C)	Page 30
-	Recommended cruise speed (ISA + 35°C)	Page 31
•	Rate of climb in oblique flight (ISA)	Page 32
•	Rate of climb in oblique flight (ISA + 20°C)	Page 33
-	Rate of climb in oblique flight (ISA + 35°C)	Page 34
-	Hourly fuel consumption at fast cruise speed (ISA, ISA + 20°C, ISA + 35°C)	Page 35
-	Hourly fuel consumption at recommended cruise speed (ISA)	Page 36
-	Hourly fuel consumption at recommended cruise speed (ISA + 20°C)	Page 37
-	Hourly fuel consumption at recommended cruise speed (ISA + 35°C)	Page 38
-	Payload / Range (ISA, recommended cruise speed, without reserve)	Page 39
•	Payload / Range	Page 40

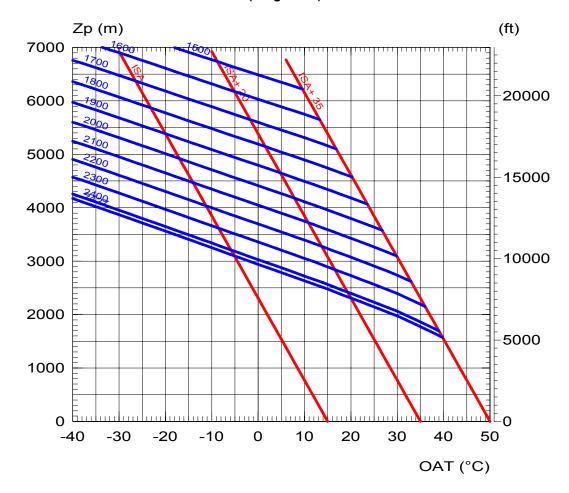




### **HOVER CEILING I.G.E.**

### at maximum TOP

### (Height 5 ft)

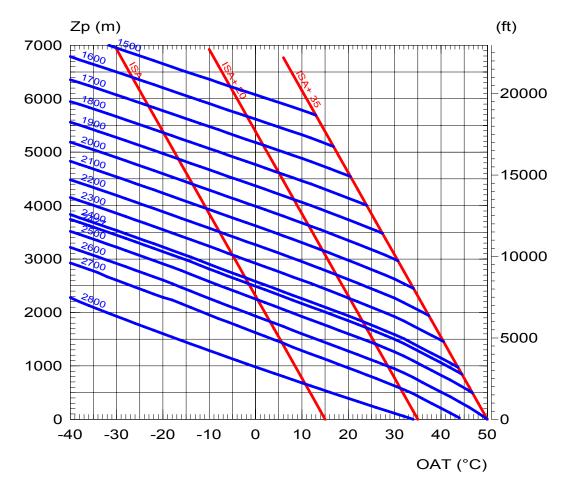






### **HOVER CEILING O.G.E.**

### at maximum TOP



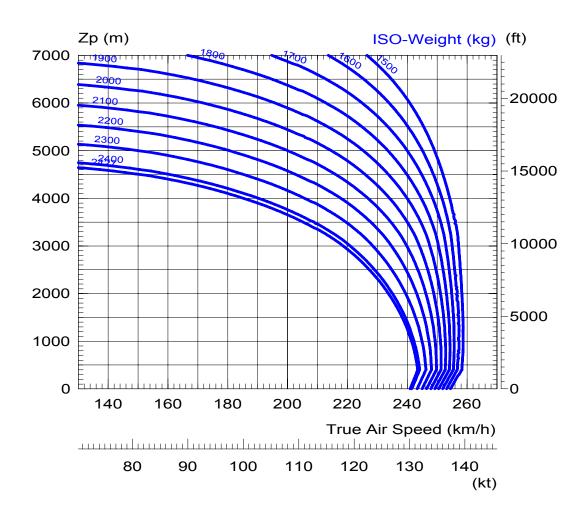
Note: ISO weight curves from 2,427 to 2,800 kg are curves with external load.





### **FAST CRUISE SPEED**

**ISA** 

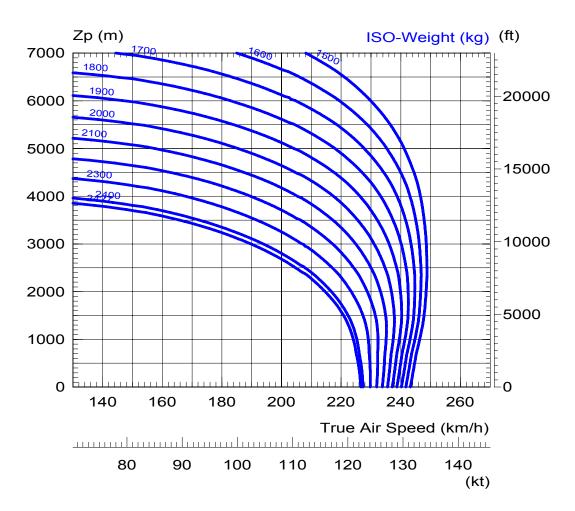






### **FAST CRUISE SPEED**

### ISA+20°C

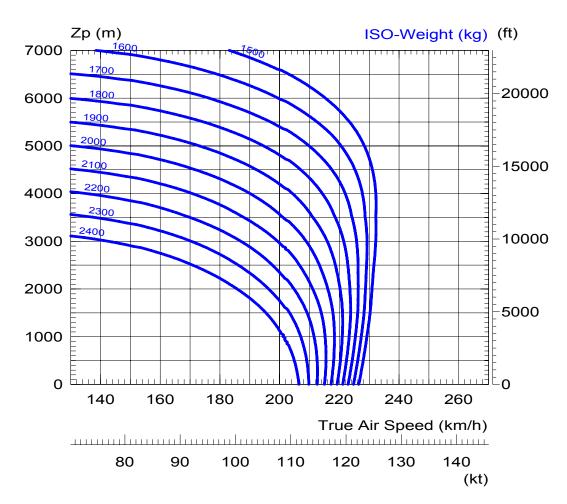






### **FAST CRUISE SPEED**

### ISA+35°C

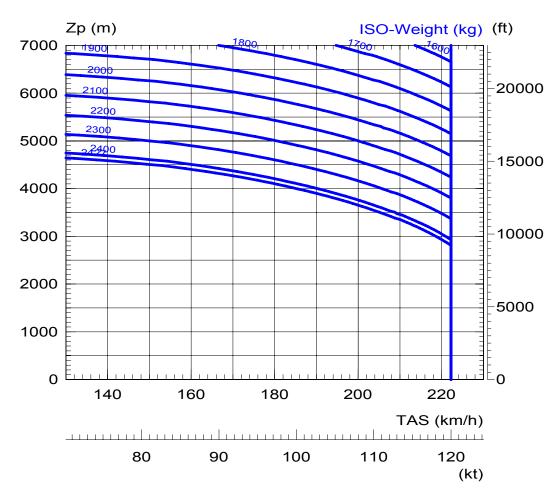






### **RECOMMENDED CRUISE SPEED**

### **ISA**

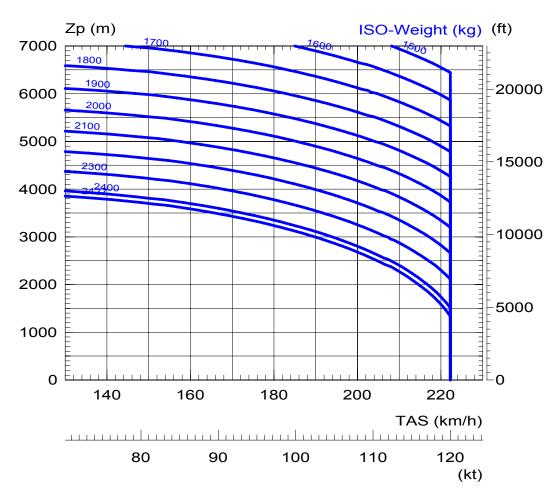






### **RECOMMENDED CRUISE SPEED**

### ISA+20°C

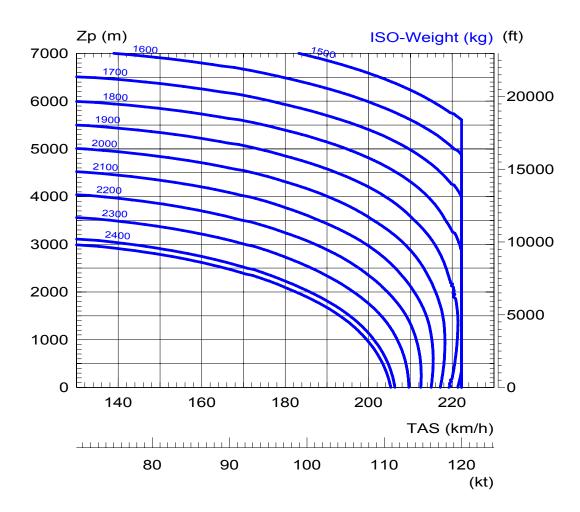






### **RECOMMENDED CRUISE SPEED**

### ISA+35°C

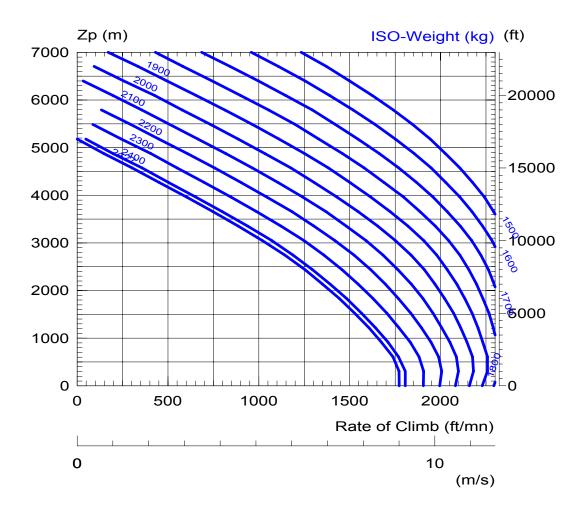






### RATE OF CLIMB IN OBLIQUE FLIGHT

### **ISA**

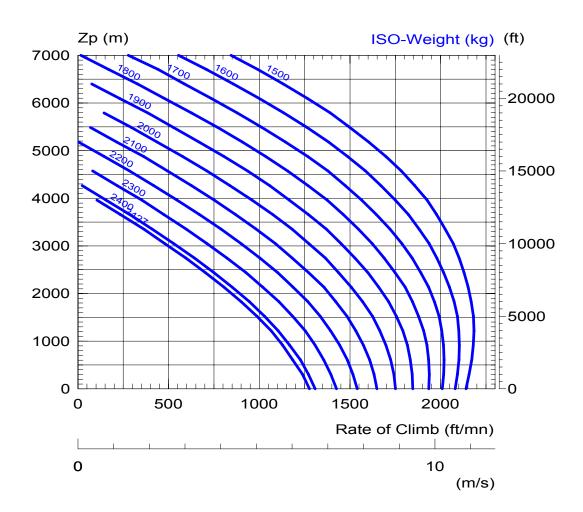






### RATE OF CLIMB IN OBLIQUE FLIGHT

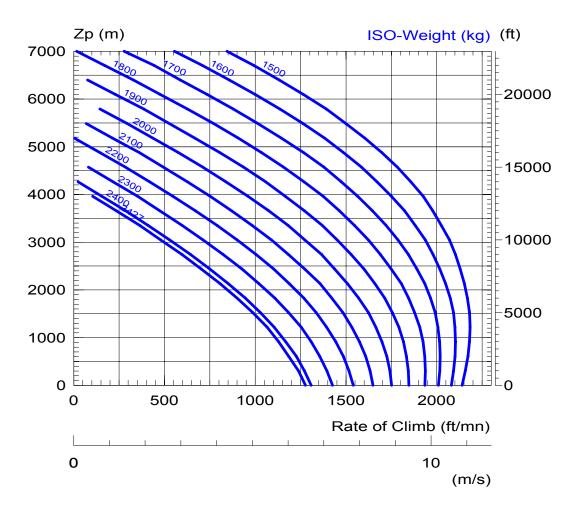
ISA + 20°C





### RATE OF CLIMB IN OBLIQUE FLIGHT

ISA + 35°C

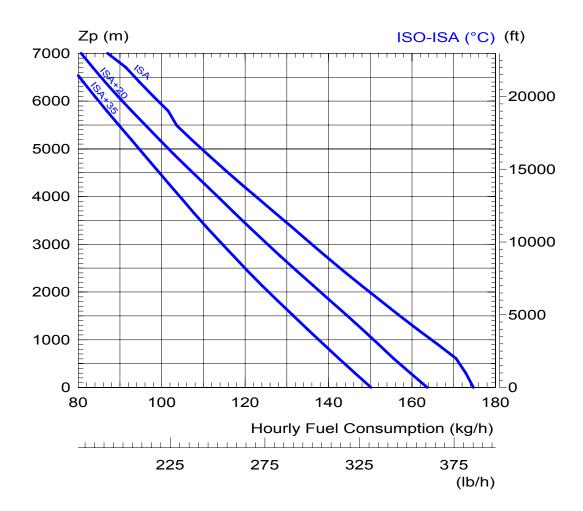






## at fast cruise speed

ISA, ISA + 20°C, ISA + 35°C

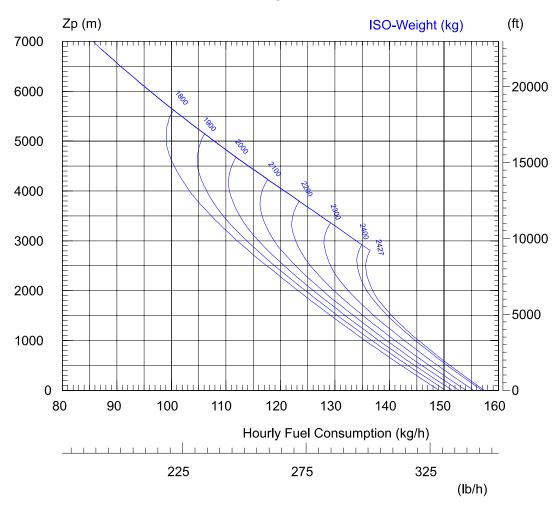






## at recommended cruise speed

## ISA

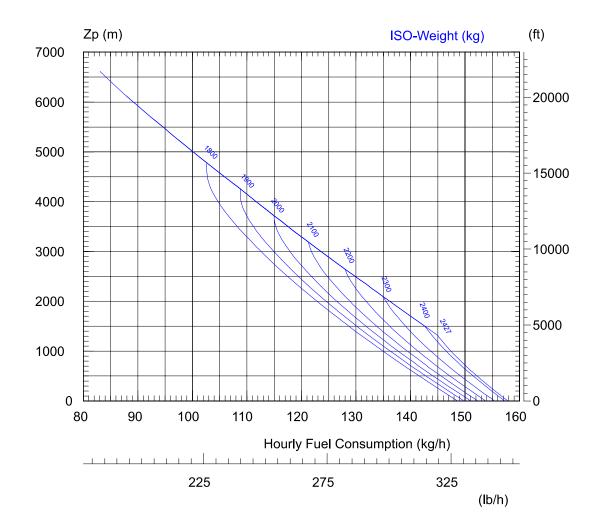






## at recommended cruise speed

#### ISA + 20°C

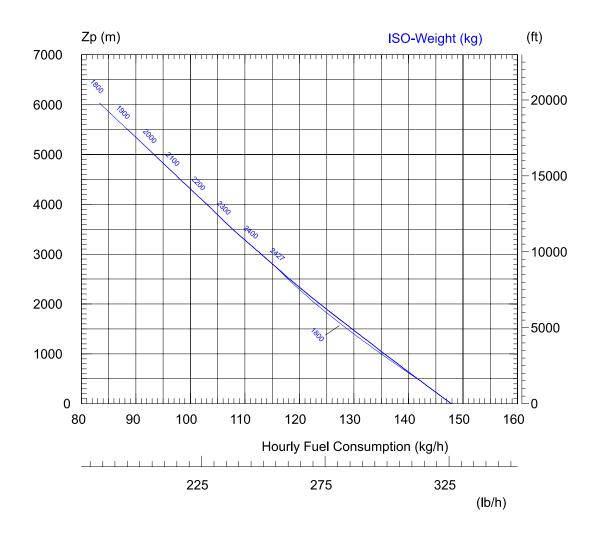






## at recommended cruise speed

## ISA + 35°C



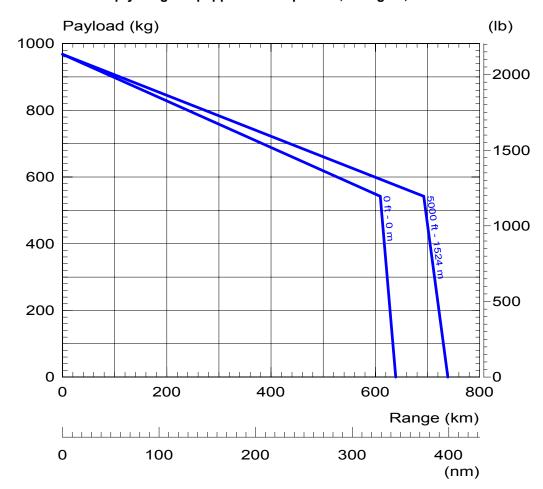


#### **PAYLOD RANGE**

## ISA

#### Recommended cruise speed

## Empty weight equipped a/c + 1 pilot: 1,459 kg - 3,217 lb 1



Note: Typical mission without reserve, with clean standard aircraft and new engine.

<sup>1</sup> Aircraft equipped and approved for VFR day and night operations (avionics included in empty weight).



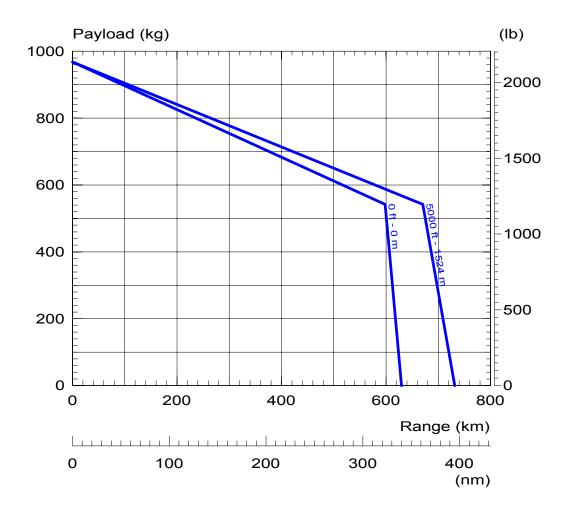


#### **PAYLOD RANGE**

ISA + 35°C

#### Recommended cruise speed

Empty weight equipped a/c + 1 pilot: 1,459 kg - 3,217 lb 1



Note: Typical mission without reserve, with clean standard aircraft and new engine.

<sup>1</sup> Aircraft equipped and approved for VFR day and night operations (avionics included in empty weight).





# 7- Customer Service Overview

# **Assets**

- Possibility to perform maximum of maintenance tasks by operators through modular exchange,
- Low required manhours on the scheduled maintenance,
- Maintenance simple and easy to perform thanks to optimized accessibility to dynamic components and equipment,
- Among innovative equipment providing flight information, the "Vehicle and Engine Multifunction Display" (*VEMD*) also offers maintenance information (failure data recording and troubleshooting information). Usage data may be downloaded on a laptop for fleet data management, in compliance with some operational requirements,
- Limited number of tools,
- No test bench,
- Among technical publications, Master Servicing Manual has been written in such a manner that it can be directly used as a maintenance tasks repertory in the workshop.

# Maintenance and maintainability data

"Scheduled" and "unscheduled" maintenance are considered in manhour figures given hereafter.

## Scheduled maintenance

- Possibility to perform maintenance tasks according to each operator needs :
  - blocked whole inspection (helicopter unavailable during all the inspection duration),

or

• "splitted" inspection (helicopter available for flight since the inspection is performed in several batches of maintenance operations, in respect with the limitations and periodicities defined in the Master Servicing Manual).





# Estimated Mean Man Hour per Flying Hour (mmh/fh) (standard aircraft – 300 Flying hour/year – 2 flights per day)

**0.7 MMH/FH 1** (Scheduled + unscheduled + SB implementation)

# **Detail**

#### ■ Basic

■ Daily checks	Pilot's task
■ 100 flight hrs periodicity tasks Including average "corrective" works	3.6 MMH <b>2</b>
■ 500 flight hrs or 24 months periodicity tasks Including average "corrective" works	111 MMH

■ Unscheduled (reliability cause)

0.30 MMH/FH

■ SB implementation

0.05 MMH/FH

■ 12 years inspections requiring 330 MMH

MMH/FH: Mean Man Hour per Flight Hour.

<sup>2</sup> MMH: Mean Man Hour.





# Time Between Overhaul (TBO)/Service Life Limit (SLL)

Major assemblies		TBO (h)	SLL (h)
Main Blade			20 000
Rear Blade			10 000
MGB	Epicyclic reduction gear box	3000*	
	Reduction gear tapered	3000*	
	Oil pump	3500	
Complete engine		3000	
TGB		3000	
Main servo-unit		3000*	

<sup>\*</sup> Target values

# **Documentation**

Eurocopter EC130 B4 technical documentation, pleasant and easy to consult, is basically supplied:

■ On an Interactive Electronic Support (CD-ROM INDOC-EC130) provided free of charge, with twice a year update, that includes the whole documentation: Operating (except Flight Manual), Maintenance, Identification and Specific documents.

The CD-ROM product presents great advantages such as:

- ♦ More efficiency in maintenance thanks to :
  - Direct and instantaneous access to manuals and data by "hypertext" navigation
  - Easy search by keywords and multiple criteria
  - Highly portable technical publications in an extremely compact format
- Quick updating without insertion mistake risk.

#### and

- On paper
  - Flight Manual
  - Other documents: Master Servicing Manual, Service Bulletins

Note: 1. As an option, the whole documentation is available on paper.

2. Turbomeca Arriel 2B1 engine documentation is available on paper and shall become also available on CD-ROM.





Blank







www.eurocopter.com