



**EUROCOPTER**  
**EC145**

## Technical Data

## Contents

<b>1</b>	<b>Foreword .....</b>	<b>3</b>
<b>2</b>	<b>General characteristics .....</b>	<b>5</b>
<b>3</b>	<b>Standard aircraft definition .....</b>	<b>8</b>
<b>4</b>	<b>Basic configuration choice .....</b>	<b>10</b>
<b>4.1</b>	<b>VFR packages, based on Avionics Solutions A1 and A2 .....</b>	<b>12</b>
<b>4.2</b>	<b>Dual Pilot or Single/Dual Pilot IFR, based on Avionics Sol. B1 and B2 .....</b>	<b>16</b>
<b>4.3</b>	<b>Dual Pilot or Single/Dual Pilot IFR with Dual NMS (Av. Sol. B3) .....</b>	<b>20</b>
<b>4.4</b>	<b>Single Pilot IFR, based on Avionics Solution C .....</b>	<b>24</b>
<b>4.5</b>	<b>Optional headsets .....</b>	<b>28</b>
<b>5</b>	<b>Optional equipment .....</b>	<b>29</b>
<b>6</b>	<b>Incompatibilities .....</b>	<b>35</b>
<b>7</b>	<b>Main performance .....</b>	<b>36</b>

## Purpose of document

This document gives a technical overview of the EC145 standard sales configuration and its possible additional equipment. For any more in-depth technical information, please refer to the EC145 Type Specification (145.04.102.01 E).

### Important notes

*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 or 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.*

*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.*

Blank

*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.*

145.05.101.01 E

2

## 1 Foreword



The EC145 is a twin-engine, multi-purpose helicopter of the 3-4 ton class with up to 10 seats for pilot/s and passengers. It combines Eurocopter's latest developments, like advanced cockpit design, avionics and sophisticated electrical system with the rugged and proven design elements of the BK117, as for example the rotor system. The EC145's hingeless rotor system with its monolithic titanium hub ('System Bölkow') is proven all over the world. Furthermore, the rotor blades have been improved over again with respect to higher performance and lower noise and vibrations levels. The use of the variable rotorspeed and torque matching system (VARTOMS), known from the predecessor model BK117 C-1 has been extended. Besides ameliorating flying comfort, this makes the EC145 the quietest helicopter in its class bringing it to 6.7 dBA below ICAO limits.

In addition to environmental and economical aspects, the rotor system together with high TBO gearbox and airframe components grant for low maintenance costs, and on the other hand high in-service-time of the helicopter due to low scheduled maintenance required.

The EC145 is equipped with two powerful and reliable Turbomeca Arriel 1E2 engines which, in combination with its lifting system, provide outstanding performance and vital power reserves even in one-engine-inoperative scenarios. Twin-engine reliability is complemented by a fully separated fuel system, a tandem hydraulic system, dual electrical system and redundant lubrication for the main transmission. Further positive safety aspects of the EC145 are design elements like energy absorbing fuselage and seats, as well as crash resistant fuel cells. The EC145 allows Cat. A operation up to the level of performance class 1.

A wide range of optional equipment, like emergency floats, rescue hoist, SX16 search light, load hook, plus many more is available for the EC145 and can be fitted simultaneously in most cases. Together with its most versatile cabin layout (utility, comfort, corporate, ...), the EC145 is ready to take up all sorts of missions, for example survey, transport, EMS, public service, to name a few.

*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.*



Compared to other helicopters in its class, the EC145 offers a significantly larger cabin, featuring:

- excellent outside vision for pilot/s, crew or passengers
- roomy cabin with no partitions or protrusions, no center post, no door post
- unrivalled side loading (no door posts) and rear loading capability
- flat floor all over the cabin area.



The EC145 comes with a modern state-of-the-art glass cockpit, which comprises primary flight displays (PFD) and NAV displays (ND) as well as a central panel display system (CPDS). All LCD screens are well arranged on the instrument panel, easy to read even if viewed from an angle and feature perfect readability in any light conditions. An NVG layout is available as an option. The unique color coding, warning and information concept helps the pilot/s to collect all relevant parameters while suppressing presentation of non-relevant information. Additionally, Eurocopter's unique first limit indicator (FLI) dramatically simplifies engine and torque monitoring. Being relieved from the instrument scan without missing vital information, the pilot/s can dedicate more of his/their attention to the mission.

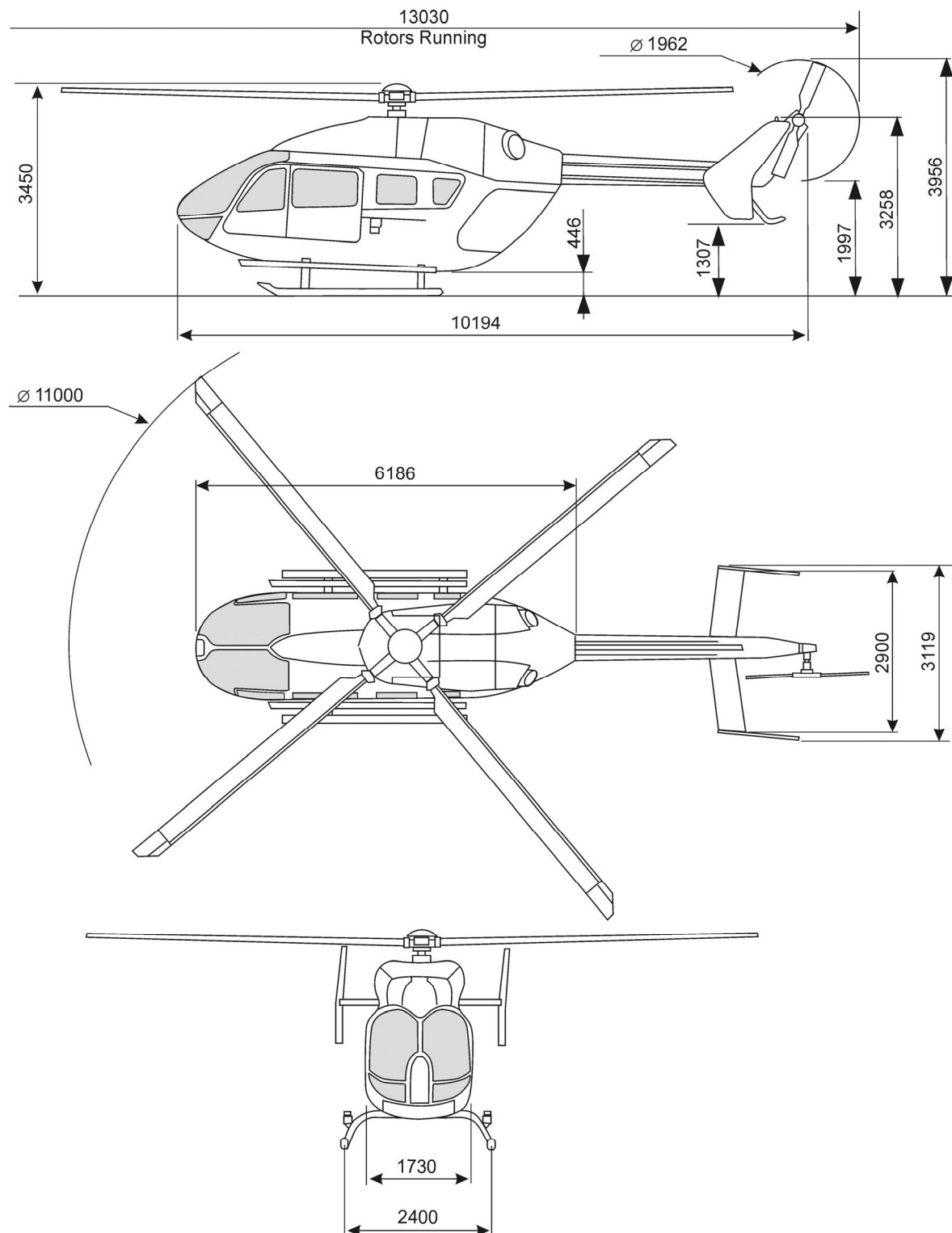


*The data set forth in this document are general in nature and for information purposes only.*

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

## 2 General characteristics

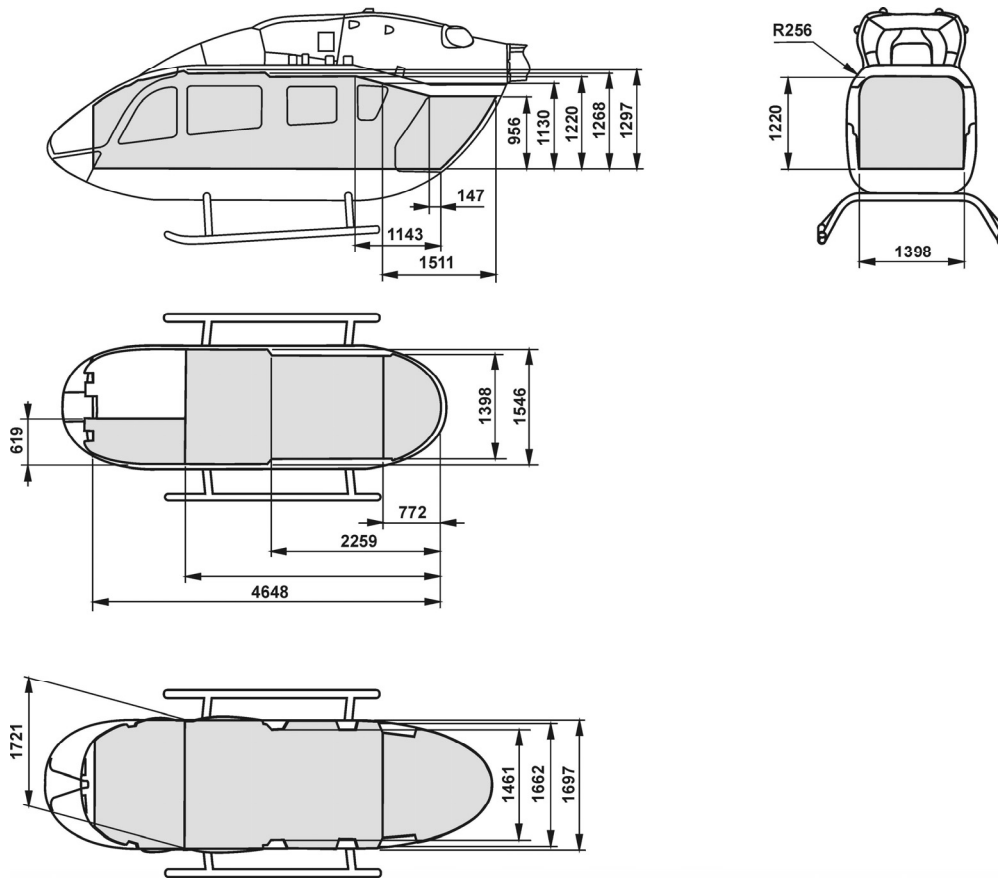
### External dimensions



*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.*

## Internal dimensions



	Floor area		Volume	
Cabin & baggage compartment (Baggage compartment with 8 seats installed)	4.72 m <sup>2</sup>	50.77 ft <sup>2</sup>	6.04 m <sup>3</sup>	213.15 ft <sup>3</sup>
	0.84 m <sup>2</sup>	9.07 ft <sup>2</sup>	1.32 m <sup>3</sup>	46.72 ft <sup>3</sup>
Copilot	0.72 m <sup>2</sup>	7.73 ft <sup>2</sup>	0.80 m <sup>3</sup>	28.25 ft <sup>3</sup>
Pilot (not shaded)	1.09 m <sup>2</sup>	11.80 ft <sup>2</sup>	1.24 m <sup>3</sup>	43.76 ft <sup>3</sup>
<b>Total (undivided)</b>	<b>5.43 m<sup>2</sup></b>	<b>58.50 ft<sup>2</sup></b>	<b>6.84 m<sup>3</sup></b>	<b>241.40 ft<sup>3</sup></b>
<b>Total (incl. pilot station)</b>	<b>6.52 m<sup>2</sup></b>	<b>70.30 ft<sup>2</sup></b>	<b>8.08 m<sup>3</sup></b>	<b>285.16 ft<sup>3</sup></b>

## Possible cabin arrangement (seats & equipment as option)

<b>Passenger transport</b>	1 or 2 pilots + up to 8 passengers in club seating configuration (energy absorbing individual seats) + 1.32 m <sup>3</sup> baggage / freight
<b>High-density seating</b>	1 or 2 pilots + up to 9 passengers in high-density seating configuration (energy absorbing individual seats)
<b>EMS / Casualty evacuation</b>	1 or 2 pilots + up to 2 stretcher patients + up to 3 HEMS crew

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.

## Weight

Note : margin  $\pm 1.5\%$

	kg	lb
■ Empty weight, wet (in standard aircraft configuration)	1,792	3,951
■ Useful load (for standard aircraft configuration)	1,793	3,953
■ Pilot	80	176
■ Payload and / or fuel	1,713	3,777
■ Maximum take-off weight	3,585	7,903
■ Maximum take-off weight with external load	3,585	7,903
■ Sling load (single hook)	1,500	3,307

## Fuel Capacities

Note: Tolerance of fuel figures:  $\pm 1\%$   
Fuel density used is 0.8 kg/liter.

	Usable Fuel			Unusable Fuel	
	lb	kg	l	lb	kg
■ Main Tank	1307.8	593.2	741.5	7.3	3.3
■ Supply Tank (left)	104.1	47.2	59.0	6.6	3.0
■ Supply Tank (right)	118.2	53.6	67.0	6.6	3.0
■ Total	1530.0	694.0	867.5	20.5	9.3

## Engines: 2 TURBOMECA turbine engines - ARRIEL 1E2

### Engine ratings

Thermodynamic limits per engine at SL, ISA

	kW	ch	shp
■ One Engine Inoperative (OEI), 2.5 min power	574	780	770
■ One Engine Inoperative (OEI), MCP	550	748	738
■ Take-Off Power (TOP)	550	748	738
■ Maximum Continuous Power (MCP)	516	701	692

## Main transmission

### Main transmission ratings

Single engine operation			
	kW	ch	shp
■ 2.5 min OEI-power	1 x 551	1 x 750	1 x 739
■ Maximum continuous OEI-power	1 x 404	1 x 550	1 x 542
Twin engine operation			
■ Take-Off Power (TOP)	2 x 388	2 x 528	2 x 520
■ Maximum Continuous Power (MCP)	2 x 316	2 x 430	2 x 424

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.



### 3 Standard aircraft definition

#### GENERAL

- Energy absorbing fuselage
- Tail boom with fixed horizontal stabilizer and two end-plates
- Upper deck with fittings for main gearbox, engines, hydraulic and cooling system
- Cowlings for main transmission and engines
- Skid-type landing gear with skid protectors, capable of taking ground-handling wheels
- Long boarding steps, LH and RH
- Cold weather kit
- Built-in maintenance steps and grips
- Exterior painting (single color)

#### COCKPIT, CABIN AND CARGO COMPARTMENT

- One-level cabin and cargo compartment floor with integrated rails
- Glazed canopy
- Two hinged cockpit doors with sliding window
- Map case in pilot's door
- Two wide passenger sliding doors
- Two rear hinged clam-shell doors
- Longitudinally adjustable energy absorbing pilot and copilot seats with head rest and 4-point safety belts with automatic locking system
- Cabin boarding grips (LH and RH)
- Interior paneling with integrated basic sound insulation
- Flight controls (pilot side)
- Engine twist grip controls at pilot's collective pitch lever
- Instrument panel with extension on pilot's side and glare shield
- Ram-air for cockpit
- Electrical ventilating system for cockpit
- Headset holder in the cockpit, rotatable
- Portable fire extinguisher
- Stowage net for first aid kit at the LH rear clam-shell door
- First aid kit
- Flash light (torch)
- 4 mobile tie-down rings
- Slant panel
- Center console
- Windscreen wiper for pilot and copilot
- Door open warning

#### BASIC INSTRUMENTATION

##### Central Panel

- Central Panel Display system (CPDS) consisting of two LCD displays
  - Caution Advisory Display (CAD) with digital indication of:
    - Caution and advisory information
    - Fuel quantity indication
  - Vehicle and Engine Management Display (VEMD) with digital indication of:
    - Engine parameters (engine oil pressure, engine oil temperature)
  - FLI (First Limit Indicator) for TQ, TOT,  $\Delta N1$  as analogue display
  - Main gear box parameters (oil pressure, oil temperature)
  - Dual amperemeter for generator; amperemeter for battery
  - Dual voltmeter
  - Outside air temperature (OAT)
  - Mast moment indication
- Back-up conventional instruments (2")
- Clock
- Stand-by-horizon
- Triple (rotor and engines) RPM-indicator

##### Warning unit:

- Engine fire warning with fuel emergency shut-off
- Warning lights
- Aural warning (for each warning, rotor RPM, fire warning)
- Fire extinguishing system warning
- Main switch panel:
  - DC power control
  - VARTOMS control
  - Start switches
- Magnetic compass (mounted on the lateral nose spare of the cockpit)

##### Air Data

- Dual pitot static system (electrically heated pitot tube and static port)
- 2 ADC MEGHAS sensors

##### Standard Instruments (single pilot) <sup>1)</sup>

- Air speed indicator (3")
- Vertical speed indicator (3")
- Encoding altimeter (3")
- Artificial horizon (4")
- Gyro magnetic heading with horizontal situation ind. (3")

<sup>1)</sup> If glass cockpit instrumentation is chosen as optional equipment, these standard instruments are deleted (function included in MEGHAS) and an altimeter (2") and an airspeed indicator (2") as back-up instruments are added.

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.

## POWER PLANT

- Two TURBOMECA ARRIEL 1E2 turbine engines, complete with starting, fuel supply and control systems
- Crash resistant fuel system
- Two independent oil cooling and lubrication systems of the engines
- Fire detection and extinguishing system
- VARTOMS (VARIABLE Rotor speed and TORque Matching System)
- Overspeed control
- Cycle counter

## TRANSMISSION SYSTEM

- Main transmission including an independent redundant lubrication system and monitoring sensors
- Rotor brake system
- Tail rotor transmission system with splash lubrication, magnetic plug and oil level sight gauge

## ROTOR AND FLIGHT CONTROLS

- Hingeless main rotor (System Bölkow) with 4 glass and carbon fiber reinforced blades with erosion protection strip
- Semi-rigid tail rotor with 2 twisted glass fiber reinforced blades of new technology with erosion protection strip
- Dual hydraulic boost system for cyclic and collective blade control of the main rotor
- Single hydraulic boost system for yaw control
- Stability augmentation system (SAS) for tail rotor
- Main and tail rotors tip painting (yellow)

## ELECTRICAL INSTALLATION

- Power generation system:
  - Two starter/generators (2 x 200 A, 28 VDC)
  - Nickel-Cadmium battery, (24 V, 27 Ah)
  - External power connector (STANAG 3302)
- Power distribution system:
  - Two primary busbars
  - Two essential busbars
  - Two shedding busbars
  - Two non-essential busbars (50 A) for optional equipment only
  - Battery bus
  - One utility receptacle in cargo compartment (28VDC, 15A)
- Lighting:
  - Anti-collision warning light (red flashing)
  - Fixed landing light (250 W)
  - Three position lights (red, green, white)
  - Adjustable instrument lighting
  - One utility light in the cockpit
  - Lights in the cabin and cargo compartment
  - Boarding illumination
  - Emergency lights
- Radio:
  - Two radio master switch

## GROUND HANDLING KIT *Weight not included in the standard helicopter empty weight*

- Two ground-handling wheels
- Basic aircraft covers (short time)
- Oil drain hoses
- Keys for cockpit doors, cabin doors, baggage compartment doors and tank flap (one-key system)
- Battery key
- Lifting points
- Compass compensation key
- Fuel drain device

## DOCUMENTATION

### STANDARD DOCUMENTATION:

- Flight Manual <sup>2)</sup>
- Pilots-Checklist <sup>2)</sup>
- Logbook
- Historical Record
- CD-ROM including AMM, SDS, MSM, WDM, IPC <sup>1) 2) 3)</sup>
- Master Servicing Manual (MSM) <sup>1) 2)</sup>
- Service Bulletin Catalogue (SB) <sup>1) 2)</sup>
- List of Applicable Publications (LOAP) <sup>1) 2)</sup>
- Avionics Manual (for avionics installed by Eurocopter) <sup>1) 3)</sup>

### STANDARD DOCUMENTATION (contd.):

- Engine Documentation <sup>1) 2)</sup> including:
  - Maintenance Manual
  - Illustrated Parts Catalogue (IPC)
  - Service Bulletins

### OPTIONAL DOCUMENTATION (hard copy format):

- Aircraft Maintenance Manual (AMM) <sup>1) 2) 3)</sup>
- System Description Section (SDS) <sup>1) 2) 3)</sup>
- Wiring Diagram Manual (WDM) <sup>1) 2) 3)</sup>
- Illustrated Parts Catalogue (IPC) <sup>1) 2)</sup>

- 1) *weight not included in the standard helicopter empty weight*  
 2) *documents revision service is available*  
 3) *customized documentation*

*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 Basic configuration choice

### Selection of a PINAO package

Please select your PINAO code according to your operational needs by using the following table:

Pilot	<b>P</b>	Single	Dual	Single/Dual
		1	2	3
VFR/IFR	<b>I</b>	VFR	IFR	
		0	1	
Day/night	<b>N</b>	day	night	
		0	1	
Cat. A	<b>A</b>	no	yes	
		0	1	
JAR-OPS 3 equipment *	<b>O</b>	no	yes	
		0	1	

\* This offered equipment package is derived from JAR-OPS 3 Amendment 2. It does not cover oxygen equipment and equipment required for over water operations. As the national operating rule may differ from the JAR-OPS 3 Amendment 2, the operator has then to contact its national authority to assure that the planned equipment configuration is acceptable for the intended kind of operation.



<b>P</b>	<b>I</b>	<b>N</b>	<b>A</b>	<b>O</b>

Use this code to find your required “PINAO” packages on the following pages.

- As a general guidance, use the diagram on the next page
- One PINAO code may lead to different PINAO packages

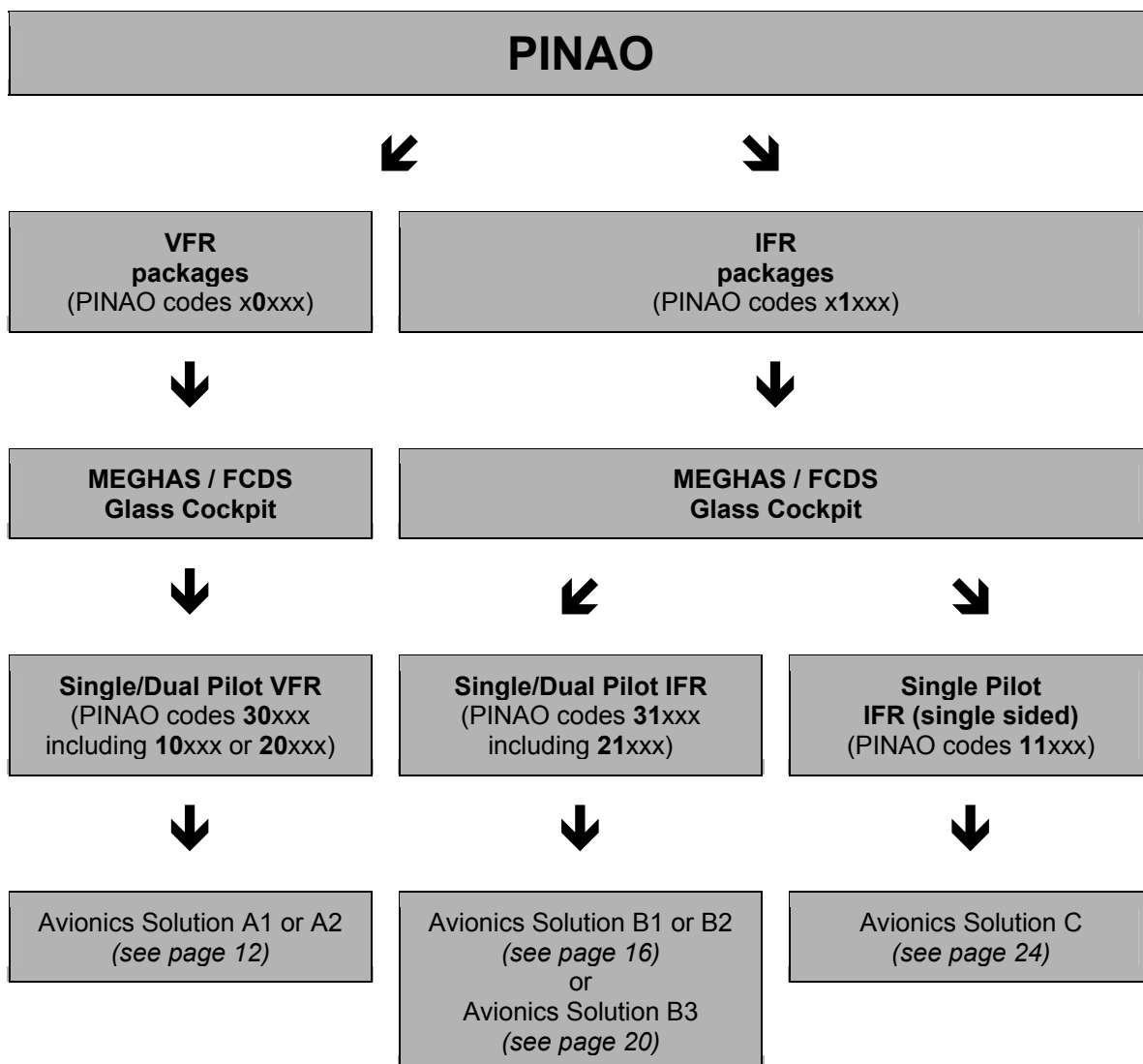
#### IMPORTANT NOTES:

- For IFR, there is no difference between “day” and “night”. Therefore only IFR **night** PINAO packages are listed.
- Weight margin in this chapter  $\pm 3 \%$

*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.*

Use this diagram to find the appropriate Avionics Solution based on your individual PINAO selection.

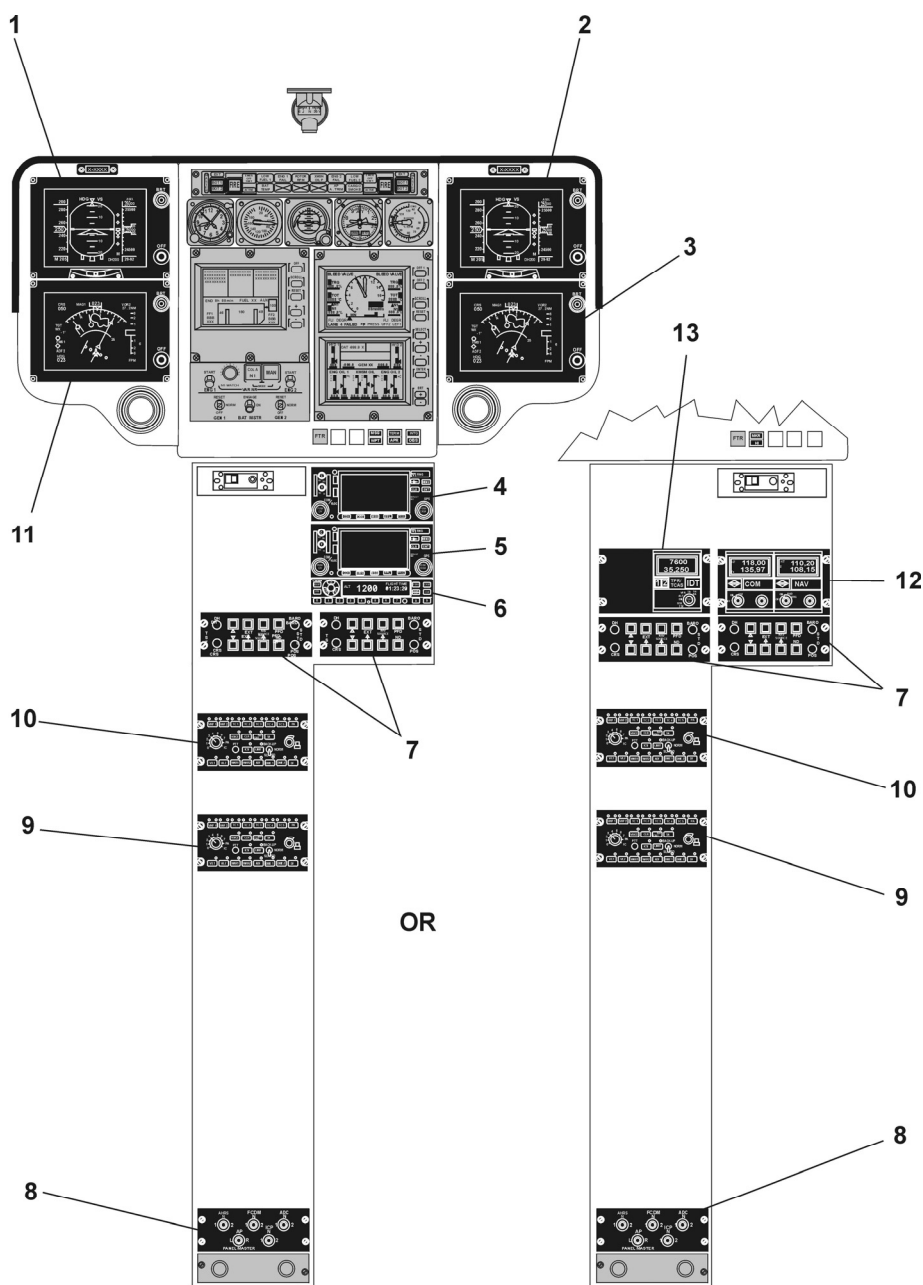


*The data set forth in this document are general in nature and for information purposes only.*

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

## 4.1 VFR packages, based on Avionics Solutions A1 and A2

### 4.1.1 Instrument panel overviews



**Solution A1 OR Solution A2**

- |  |  |
|--|--|
| 1 SMD 45 (copilot) PFD: Primary Flight Display | 2 SMD 45 (pilot) PFD: Primary Flight Display   |
| 3 SMD 45 (pilot) ND: Navigation Display        | 4 GPS / NAV / COM (pilot) GNS 430 (GARMIN)     |
| 5 GPS / NAV / COM (copilot) GNS 430 (GARMIN)   | 6 Transponder GTX 330 (GARMIN)                 |
| 7 ICP's: MEGHAS Instrument Control Panels      | 8 RCU: MEGHAS Reconfiguration Control Unit     |
| 9 Audio / Comm. control unit ACU5100 (copilot) | 10 Audio / Comm. control unit ACU 5100 (pilot) |
| 11 SMD 45 (copilot) ND: Navigation Display     | 12 NAV / COM system                            |
| 13 Transponder control unit                    |  |

*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.*



#### 4.1.2 Contents of Avionics Solution A1

Document reference	Commercial reference	Title
<b>08-00011-A</b>	<b>B2300-004-00</b>	<b>Avionics Solution A1, consisting of:</b>
08-65005-A	B3161-090-09	MEGHAS - Flight Control Display System (FCDS) Dual (4xSMD45)
08-43026-A	B3442-092-00	GPS / NAV / COM system GNS 430, pilot (interfaced with MEGHAS / FCDS)
08-43026-A	B3442-091-00	GPS / NAV / COM system GNS 430, copilot/2 <sup>nd</sup> system (VOR/ILS interfaced to MEGHAS / FCDS, GPS stand alone)
08-16054-A	B2341-190-01	Audio/Comm. control system (pilot and copilot) 2x ACU 5100 and Remote Electronic Unit REU 5100 (BECKER)
08-16054-A	B2341-293-01	IC amplifier IC 3100-4-01 (BECKER) low impedance (standard), high impedance on request
08-22031-A	B2325-092-00	Transponder (Mode S) GTX 330 (GARMIN)
05-61005-A	B2577-001-00	Battery relocation to the rear
-	B0000-150-04	Avionics Solution A1 interconnection / wiring

#### 4.1.3 Contents of Avionics Solution A2

Document reference	Commercial reference	Title
<b>08-00008-A</b>	<b>B2300-001-00</b>	<b>Avionics Solution A2, consisting of:</b>
08-65005-A	B3161-090-09	MEGHAS - Flight Control Display System (FCDS) <b>Dual</b> (4xSMD45)
08-11026-A	B2313-092-01	VHF-AM / COM system, pilot VCS-40A (CHELTON/WULFSBERG)
	B2313-092-34	Control unit CD-402B, pilot for VCS-40A (CHELTON/WULFSBERG)
08-26012-A	B3432-092-01	VOR/ILS/MKR Navigation system, pilot VNS-41A (CHELTON / WULFSBERG)
	B3432-092-34	Control unit CD 412 B, pilot for VNS-41A (CHELTON / WULFSBERG)
08-16054-A	B2341-190-01	Audio/Comm. control system (pilot and copilot) 2x ACU 5100 and Remote Electronic Unit REU 5100 (BECKER)
08-16054-A	B2341-293-01	IC amplifier IC 3100-4-01 (BECKER) low impedance (standard), high impedance on request
08-22014-A	B2325-092-06	Transponder (Mode S) MST 67A (HONEYWELL)
	B2325-092-36	Transponder control unit PS 578A (HONEYWELL)
05-61005-A	B2577-001-00	Battery relocation to the rear
-	B0000-150-01	Avionics Solution A2 interconnection / wiring

#### ECD STANDARD HEADSET IMPEDANCE:

LOW IMPEDANCE → Microphone: 5  $\Omega$  (dynamic) / Headset: 8  $\Omega$  (military - ECD typical)

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.

#### 4.1.4 Minimum required equipment for Avionics Solutions A

Minimum required equipment for Avionics Solutions A					PINAO			
Document reference	Commercial reference	Title	Weight (margin $\pm 3\%$ )		30000	30010	30100	30110
			kg	lb				
05-37018-A	B6701-001-00	Copilot flight controls	6.5	14.3	X	X	X	X
05-38011-A	B3111-001-03	7" copilot instrument panel with glare shield	1.9	4.2	X	X	X	X
05-43008-A	B2576-003-00	Ventilation for avionics compartment	0.8	1.8	X	X	X	X
05-61005-A	B2433-002-00	Battery, type Saft, ULM, 40 Ah instead of standard battery 27 Ah	4.2	9.3	X	X	X	X
05-68002-A	B3343-003-00	Additional electrical unit for Landing & search light, 400 / 200 W, SX16 or mirrors	1.6	3.5			X	X
06-45026-A	B3343-006-00	Landing & search light, 400 / 200 W	4.5	9.9			X	X
08-00011-A	B2300-004-00	Avionics Solution A1	74.8	164.9				
		or			X	X	X	X
08-00008-A	B2300-001-00	Avionics Solution A2	76.8	169.3				
08-21016-A	B3441-090-04	Radar altimeter KRA 405B (HONEYWELL)	3.0	6.6		X	X	X
08-53003-A	B2212-300-00	MEGHAS sensor kit	21.0	46.3	X	X	X	X
		Total weight of PINAO packages using Avionics Solution A1	(kg)		109.2	112.2	118.3	118.3
		Total weight of PINAO packages using Avionics Solution A2	(kg)		111.2	114.2	120.3	120.3

Note: For operation at or below 10° OAT, a bleed air heating system is required!

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.

#### 4.1.5 Possible add-ons for Avionics Solution A

Possible add-ons for Avionics Solutions A						PINAO			
Document reference	Commercial reference	Title	Weight (margin $\pm 3\%$ )			3000	3010	30100	30110
			kg	lb					
08-21016-A	B3441-090-04	Radar altimeter KRA 405B (HONEYWELL)	3.0	6.6		X			
08-72002-A	B2212-001-00	Automatic Flight Control System - AFCS (Radar altimeter required)	31.5	69.4		X	X	X	X
08-81025-A	B3132-001-10 B3132-001-20	M'ARMS Cockpit Voice and Flight Data Recorder (CVFDR), ground station not included => autopilot (AFCS) required	16.0	35.3		X	X	X	X
08-10011-A	B2311-090-01	HF communication system KHF 990/KFS 594 (HONEYWELL) <sup>16)</sup>	13.7	30.2		X	X	X	X
08-19012-A	B4322-090-04	Fixed provisions for Tactical Radio VHF-low / 4m (antenna, power supply, interfacing to ICS) <sup>12)</sup>	1.8	4.0		X	X	X	X
08-19012-A	B4322-090-05	Fixed provisions for Tactical Radio VHF-high / 2m (antenna, power supply, interfacing to ICS) <sup>12)</sup>	1.5	3.3		X	X	X	X
08-12028-A	B4321-092-01	Tactical radio NPX 138N (NAT) <sup>14)</sup>	3.0	6.6		X	X	X	X
08-15028-A	B2319-001-10	Fixed provisions for GSM phone (antenna, 28VDC, interfacing to ICS) <sup>12)</sup>	2.4	5.3		X	X	X	X
08-15511-A	B2315-092-00	IRIDIUM satellite phone AEROPHONE (AERODATA) <sup>14)</sup>	5.0	11.0		X	X	X	X
08-16054-A	B2341-193-01	Audio/Comm. control system (PAX/3rd station) ACU 5100 (BECKER) in passenger cabin ceiling (RH, standard installation)	1.5	3.3		X	X	X	X
08-24016-A	B3452-002-00 B3452-092-34	ADF system DFS-43A (CHELTON / WULFSBERG) <sup>15)</sup> ADF control unit CD-432B (CHELTON / WULFSBERG)	9.1	20.1		X	X	X	X
08-43012-A	B3442-092-13	GPS NAV system 2101 I/O Approach plus – NVG (FREE FLIGHT) <sup>17)</sup>	3.8	8.4		X	X	X	X
08-31022-A	B3443-003-10 B3343-003-20 B2571-001-00	Weather radar RDR 1400C (TELEPHONICS) <sup>6)</sup>	20.0	44.1		X	X	X	X
05-62011-A	B2420-004-00	+ Radar radome	6.7	14.7		X	X	X	X
		+ AC system	1.5	3.3					
08-46021-A	B3168-092-04	Moving Map EURONAV IV - RN6 (EURO AVIONICS) interfaced with FCDS / MEGHAS, basic version without options <sup>5) 6) 14)</sup>	6.7	14.8		X	X	X	X
08-46013-A	B3168-090-01	Moving Map DKG 3 (DORNIER), basic version without options <sup>5) 14)</sup>	3.0	6.6		X	X	X	X
08-65006-A	B3443-010-00	Video Radar Unit (VRU) for Weather Radar or Moving Map indication on FCDS (SMD45)	4.9	10.8		X	X	X	X
06-67045-A	B2563-801-06	ELT C406-N HM (ARTEX) incl. NAV. Option (if Avionics Solution A2 is selected, a GPS system is required)	3.8	8.4		X	X	X	X

5) enhanced options (e.g. software features) ON REQUEST

6) Video Radar Unit (VRU) B3443-010-00 required

12) Only fixed provisions for panel mount system  
=> integration by customer.

14) Tactical mission equipment can not be certified by  
German Civil Aviation Authorities. Eurocopter will ensure  
that the equipment is compatible with the basic helicopter  
and will assist the customer in obtaining certification or  
acceptance approval in his country.

15) Should be checked with customer airport landing  
requirements

16) Availability has to be checked with supplier,  
incompatibility of antenna and transceiver with other  
equipment has to be checked

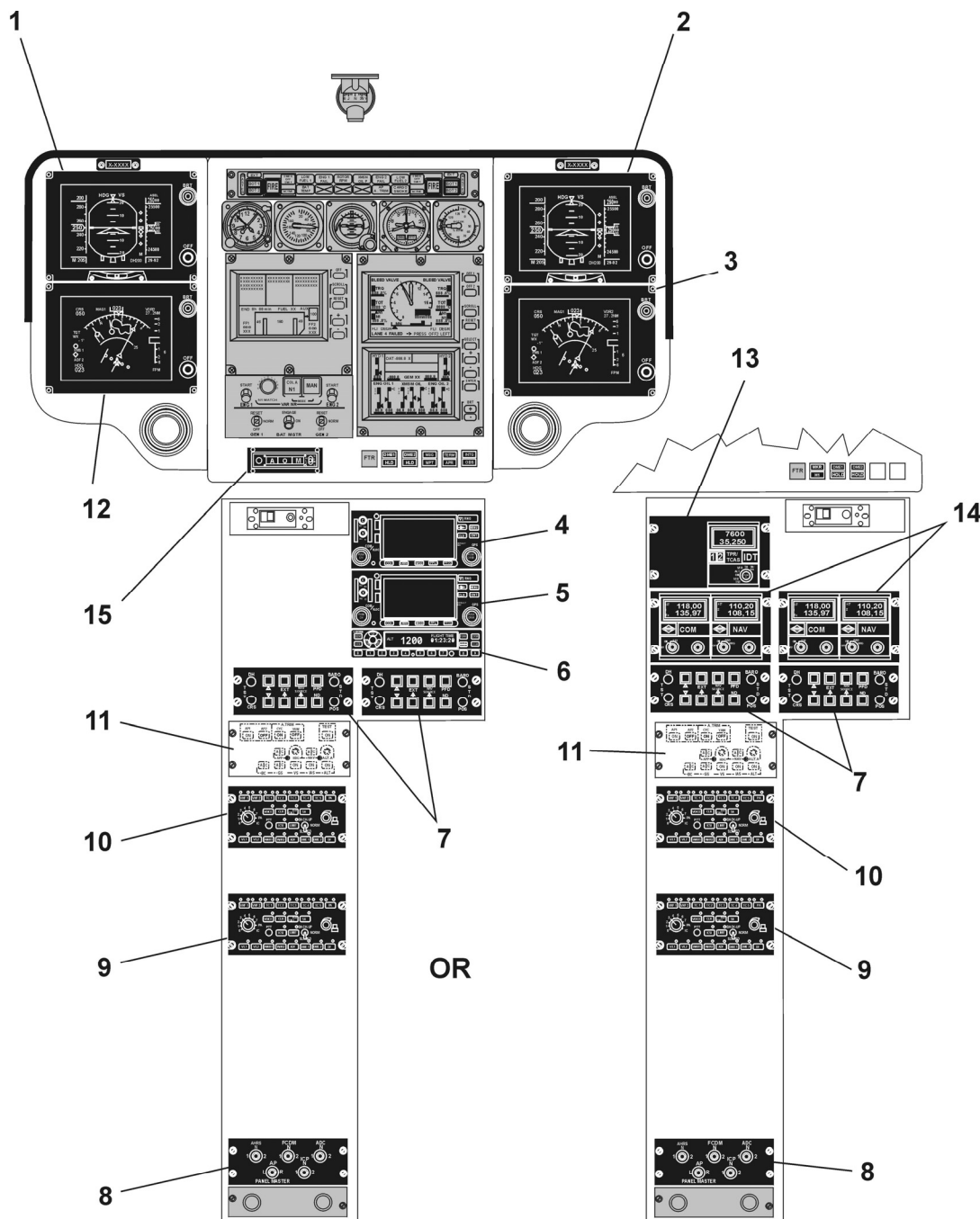
17) only possible for Avionics Solution A2

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.

## 4.2 Dual pilot or Single/Dual Pilot IFR, based on Avionics Sol. B1 and B2

### 4.2.1 Instrument panel overviews



**Solution B1 OR Solution B2**

- |   |  |
|---|--|
| 1 SMD 45 (copilot) PFD: Primary Flight Display      | 2 SMD 45 (pilot) PFD: Primary Flight Display   |
| 3 SMD 45 (pilot) ND: Navigation Display             | 4 GPS / NAV / COM (pilot) GNS 430 (GARMIN)     |
| 5 GPS / NAV / COM (copilot) GNS 430 (GARMIN)        | 6 Transponder GTX 330 (GARMIN)                 |
| 7 ICP's: MEGHAS Instrument Control Panels           | 8 RCU: MEGHAS Reconfiguration Control Unit     |
| 9 Audio / Comm. control unit ACU5100 (copilot)      | 10 Audio / Comm. control unit ACU 5100 (pilot) |
| 11 Autopilot control unit (min. required equipment) | 12 SMD 45 (copilot) ND: Navigation Display     |
| 13 Transponder control unit                         | 14 NAV / COM systems                           |
| 15 Marker beacon receiver / lights                  |  |

*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.*

#### 4.2.2 Contents of Avionics Solution B1

Document reference	Commercial reference	Title
<b>08-00012-A</b>	<b>B2300-005-00</b>	<b>Avionics Solution B1, consisting of</b>
08-65005-A	B3161-090-09	MEGHAS - Flight Control Display System (FCDS) <b>Dual</b> (4xSMD45)
08-43026-A	B3442-092-00	GPS / NAV / COM system GNS 430, pilot (interfaced with MEGHAS / FCDS)
08-43026-A	B3442-091-00	GPS / NAV / COM system GNS 430, copilot/2 <sup>nd</sup> system (VOR/ILS interfaced to MEGHAS / FCDS, GPS stand alone)
08-16054-A	B2341-190-01	Audio/Comm. control system (pilot and copilot) 2x ACU 5100 and Remote Electronic Unit REU 5100 (BECKER)
08-16054-A	B2341-293-01	IC amplifier IC 3100-4-01 (BECKER) low impedance (standard), high impedance on request
08-26027-A	B3431-090-01	Marker Beacon receiver / lights KR 21 (HONEYWELL)
08-25016-A	B3455-002-00	Distance Measuring Equipment DMS-44A (CHELTON / WULFSBERG)
08-22031-A	B2325-092-00	Transponder (Mode S) GTX 330 (GARMIN)
05-61005-A	B2577-001-00	Battery relocation to the rear
-	B0000-150-05	Avionics Solution B1 interconnection / wiring

#### 4.2.3 Contents of Avionics Solution B2

Document reference	Commercial reference	Title
<b>08-00009-A</b>	<b>B2300-002-00</b>	<b>Avionics Solution B2, consisting of:</b>
08-65005-A	B3161-090-09	MEGHAS - Flight Control Display System (FCDS) <b>Dual</b> (4xSMD45)
08-11026-A	B2313-092-01 B2313-092-34	VHF-AM / COM system, pilot VCS-40A (CHELTON/WULFSBERG) Control unit CD-402B, pilot for VCS-40A (CHELTON/WULFSBERG)
08-11026-A	B2313-091-01 B2313-091-34	VHF-AM / COM system, copilot VCS-40A (CHELTON/WULFSBERG) Control unit CD-402B, copilot for VCS-40A (CHELTON/WULFSBERG)
08-26012-A	B3432-092-01 B3432-092-34	VOR/ILS/MKR Navigation system, pilot VNS-41A (CHELTON / WULFSBERG) Control unit CD 412 B, pilot for VNS-41A (CHELTON / WULFSBERG)
08-26012-A	B3432-091-01 B3432-091-34	VOR/ILS/MKR Navigation system, copilot VNS-41A (CHELTON / WULFSBERG) Control unit CD 412 B, copilot for VNS-41A (CHELTON / WULFSB.)
08-16054-A	B2341-190-01	Audio/Comm. control system (pilot and copilot) 2x ACU 5100 and Remote Electronic Unit REU 5100 (BECKER)
08-16054-A	B2341-293-01	IC amplifier IC 3100-4-01 (BECKER) low impedance (standard), high impedance on request
08-25016-A	B3455-002-00	Distance Measuring Equipment DMS-44A (CHELTON / WULFSBERG)
08-22014-A	B2325-092-06 B2325-092-36	Transponder (Mode S) MST 67A (HONEYWELL) Transponder control unit PS 578A (HONEYWELL)
05-61005-A	B2577-001-00	Battery relocation to the rear
-	B0000-150-02	Avionics Solution B2 interconnection / wiring

#### ECD STANDARD HEADSET IMPEDANCE:

LOW IMPEDANCE ➔ Microphone: 5  $\Omega$  (dynamic) / Headset: 8  $\Omega$  (military - ECD typical)

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.



#### 4.2.4 Minimum required equipment for Avionics Solutions B1 and B2

Minimum required equipment for Avionics Solutions B1 and B2						PINAO			
Document reference	Commercial reference	Title	Weight (margin $\pm 3\%$ )			31100	31101	31110	31111
			kg	lb					
05-27004-A	B2625-003-00	2nd portable fire extinguisher	2.6	5.7		X			X
05-37018-A	B6701-001-00	Copilot flight controls	6.5	14.3		X	X	X	X
05-38011-A	B3111-001-03	7" copilot instrument panel with glare shield	1.9	4.2		X	X	X	X
05-39009-A	B2514-003-01	Map case in copilot door	0.5	1.1		X	X	X	X
05-39011-A	B3113-004-20	Illuminated chart holder, pilot side	1.2	2.6			X		X
05-41005-A	B2104-100-00	Bleed air heating system	14.2	31.3		X	X	X	X
05-43008-A	B2576-003-00	Ventilation for avionics compartment	0.8	1.8		X	X	X	X
05-61005-A	B2433-002-00	Battery, type Saft, ULM, 40 Ah instead of standard battery 27 Ah	4.2	9.3		X	X	X	X
05-68002-A	B3343-003-00	Additional electrical unit for Landing & search light, 400 / 200 W, SX16 or mirrors	1.6	3.5		X	X	X	X
06-45026-A	B3343-006-00	Landing & search light, 400 / 200 W	4.5	9.9		X	X	X	X
06-67045-A	B2563-801-06	ELT C406-N HM (ARTEX) incl. NAV. option (if Avionics Solution B2 is selected, a GPS system is required)	3.8	8.4			X		X
08-00012-A	B2300-005-00	Avionics Solution B1	80.5	177.4					
		or				X	X	X	X
08-00009-A	B2300-002-00	Avionics Solution B2	92.8	204.6					
08-21016-A	B3441-090-04	Radar altimeter KRA 405B (HONEYWELL)	3.0	6.6		X	X	X	X
08-53003-A	B2212-300-00	MEGHAS sensor kit	21.0	46.3		X	X	X	X
08-72002-A	B2212-001-00	Automatic Flight Control System - AFCS	31.5	69.4		X	X	X	X
08-81025-A	B3132-001-10 B3132-001-20	M'ARMS Cockpit Voice and Flight Data Recorder (CVFDR), ground station not included	16.0	35.3			X		X
		<b>Total weight of PINAO packages using Avionics Solution B1</b>	<b>(kg)</b>			170.2	193.8	170.2	193.8
		<b>Total weight of PINAO packages using Avionics Solution B2</b>	<b>(kg)</b>			182.5	206.1	182.5	206.1

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.

#### 4.2.5 Possible add-ons for Avionics Solution B1 and B2

Possible add-ons for Avionics Solutions B1 and B2					PINA0			
Document reference	Commercial reference	Title	Weight (margin $\pm 3\%$ )		31100	31101	31110	31111
			kg	lb				
08-83008-A	<b>B3171-001-10</b> <b>B3171-001-20</b>	M'ARMS Usage Monitoring System (UMS), incl. SSQAR option, ground station not included (in combination with CVFDR: 1.8 kg / 4.0 lb)	4.0	8.8	X	X	X	X
08-81025-A	<b>B3132-001-10</b> <b>B3132-001-20</b>	M'ARMS Cockpit Voice and Flight Data Recorder (CVFDR), ground station not included	16.0	35.3	X		X	
08-10011-A	<b>B2311-090-01</b>	HF communication system KHF 990/KFS 594 (HONEYWELL) <sup>16)</sup>	13.7	30.2	X	X	X	X
08-19012-A	<b>B4322-090-04</b>	Fixed provisions for Tactical Radio VHF-low / 4m (antenna, power supply, interfacing to ICS) <sup>12)</sup>	1.8	4.0	X	X	X	X
08-19012-A	<b>B4322-090-05</b>	Fixed provisions for Tactical Radio VHF-high / 2m (antenna, power supply, interfacing to ICS) <sup>12)</sup>	1.5	3.3	X	X	X	X
08-12028-A	<b>B4321-092-01</b>	Tactical radio NPX 138N (NAT) <sup>14)</sup>	3.0	6.6	X	X	X	X
08-15028-A	<b>B2319-001-10</b>	Fixed provisions for GSM phone (antenna, 28VDC, interfacing to ICS) <sup>12)</sup>	2.4	5.3	X	X	X	X
08-15511-A	<b>B2315-092-00</b>	IRIDIUM satellite phone AEROPHONE (AERODATA) <sup>14)</sup>	5.0	11.0	X	X	X	X
08-16054-A	<b>B2341-193-01</b>	Audio/Comm. control system (PAX/3rd station) ACU 5100 (BECKER) in passenger cabin ceiling (RH, standard installation)	1.5	3.3	X	X	X	X
08-24016-A	<b>B3452-002-00</b> <b>B3452-092-34</b>	ADF system DFS-43A (CHELTON / WULFSBERG) <sup>15)</sup> ADF control unit CD-432B (CHELTON / WULFSBERG)	9.1	20.1	X	X	X	X
08-43012-A	<b>B3442-092-13</b>	GPS NAV system 2101 I/O Approach plus – NVG (FREE FLIGHT) <sup>17)</sup>	3.8	8.4	X	X	X	X
08-31022-A	<b>B3443-003-10</b> <b>B3343-003-20</b> <b>B2571-001-00</b> <b>B2420-004-00</b>	Weather radar RDR 1400C (TELEPHONICS) <sup>6)</sup> + Radar radome + AC system	20.0 6.7 1.5	44.1 14.7 3.3	X	X	X	X
05-62011-A	<b>B2420-004-00</b>							
08-46021-A	<b>B3168-092-04</b>	Moving Map EURONAV IV - RN6 (EURO AVIONICS) interfaced with FCDS / MEGHAS, basic version without options <sup>5) 6) 14)</sup>	6.7	14.8	X	X	X	X
08-46013-A	<b>B3168-090-01</b>	Moving Map DKG 3 (DORNIER), basic version without options <sup>5) 14)</sup>	3.0	6.6	X	X	X	X
08-65006-A	<b>B3443-010-00</b>	Video Radar Unit (VRU) for Weather Radar or Moving Map indication on FCDS (SMD45)	4.9	10.8	X	X	X	X
06-67045-A	<b>B2563-801-06</b>	ELT C406-N HM (ARTEX) incl. NAV. Option (if Avionics Solution B2 is selected, a GPS system is required)	3.8	8.4	X		X	

5) enhanced options (e.g. software features) ON REQUEST

6) Video Radar Unit (VRU) B3443-010-00 required

12) Only fixed provisions for panel mount system  
=> integration by customer.

14) Tactical mission equipment can not be certified by German Civil Aviation Authorities. Eurocopter will ensure that the equipment is compatible with the basic helicopter and will assist the customer in obtaining certification or acceptance approval in his country.

15) Should be checked with customer airport landing requirements

16) Availability has to be checked with supplier, incompatibility of antenna and transceiver with other equipment has to be checked

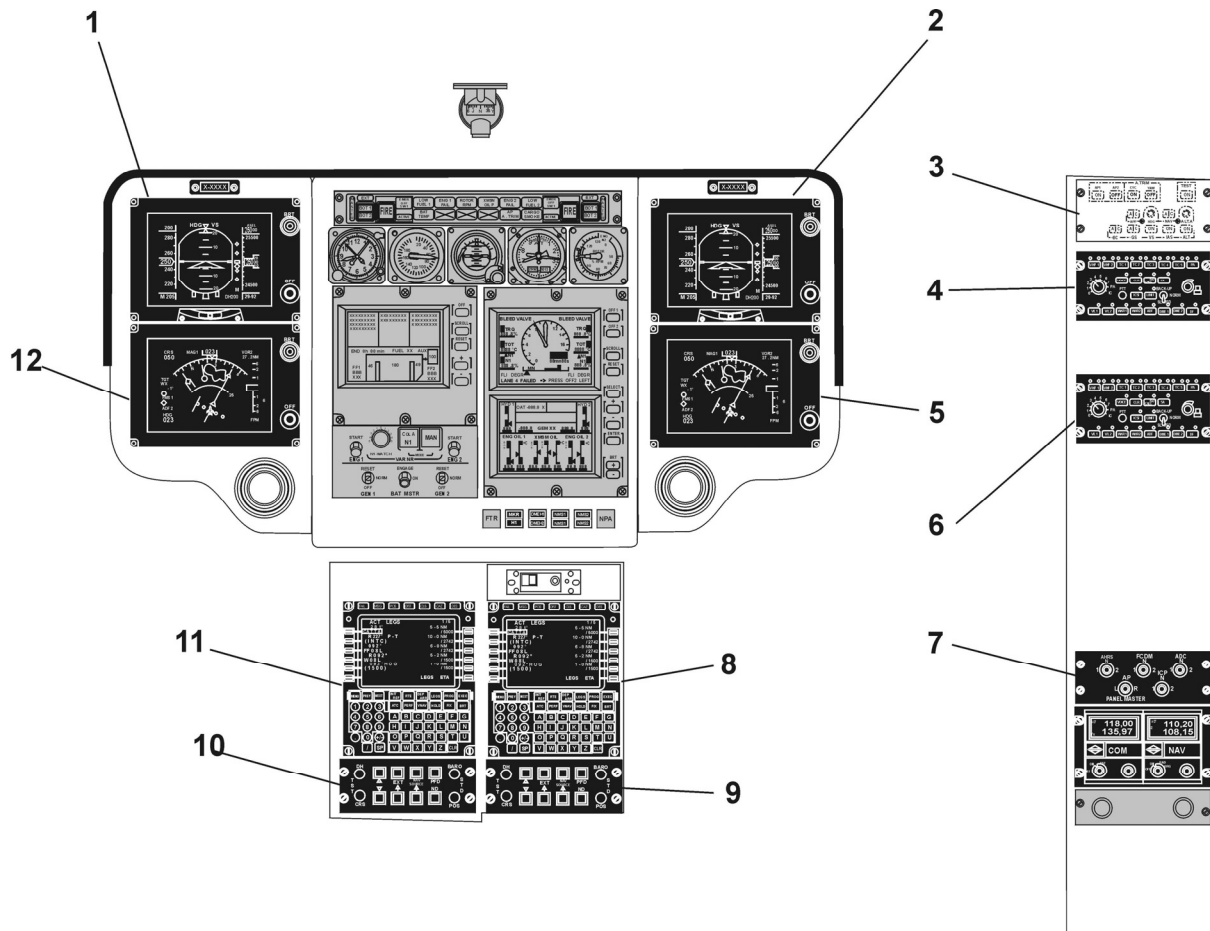
17) only possible for Avionics Solution B2

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.

## 4.3 Dual pilot or Single/Dual Pilot IFR with Dual FMS/NMS (Av. Sol. B3)

### 4.3.1 Instrument panel overview



- 1 SMD 45 (copilot) PFD: Primary Flight Display
- 2 SMD 45 (pilot) PFD: Primary Flight Display
- 3 Autopilot (AFCS) control unit (minimum required equipment)
- 4 Audio / Comm. control unit ACU 5100 (pilot)
- 5 SMD 45 (pilot) ND: Navigation Display
- 6 Audio / Comm. control unit ACU 5100 (copilot)
- 7 RCU : MEGHAS Reconfiguration Control Unit
- 8 Navigation Management System CMA-3000 (pilot)
- 9/10 ICP's: MEGHAS Instrument Control Panels
- 11 Navigation Management System CMA-3000 (copilot)
- 12 SMD 45 (copilot) ND: Navigation Display

*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.*

### 4.3.2 Contents of Avionics Solution B3

Document reference	Commercial reference	Title
<b>08-00013-A</b>	<b>B2300-006-00</b>	<b>Avionics Solution B3, consisting of:</b>
08-65005-A	B3161-090-09	MEGHAS - Flight Control Display System (FCDS) <b>Dual</b> (4xSMD45)
08-44026-A	B2312-026-40	Flight-/ Navigation- / Radio management system (CMA 3000)* - <b>Dual</b> (CANADIAN MARCONI)
	B3442-004-04	GPS sensor module CMA-3012 for CMA-3000 (CAN. MARC.)
08-11026-A	B2313-092-01 incl. in Dual CMA-3000 package	VHF-AM / COM system, pilot VCS-40A (CHELTON/WULFSBERG) Control unit CD-402B, pilot for VCS-40A (CHELTON/WULFSBERG)
08-11026-A	B2313-091-01	VHF-AM / COM system, copilot VCS-40A (CHELTON/WULFSBERG)
08-26012-A	B3432-092-01 incl. in Dual CMA-3000 package	VOR/ILS/MKR Navigation system, pilot VNS-41A (CHELTON / WULFSBERG) Control unit CD 412 B, pilot for VNS-41A (CHELTON / WULFSBERG)
08-26012-A	B3432-091-01	VOR/ILS/MKR Navigation system, copilot VNS-41A (CHELTON / WULFSBERG)
08-16054-A	B2341-190-01	Audio/Comm. control system (pilot and copilot) 2x ACU 5100 and Remote Electronic Unit REU 5100 (BECKER)
08-16054-A	B2341-293-01	IC amplifier IC 3100-4-01 (BECKER) low impedance (standard), high impedance on request
08-25016-A	B3455-002-00	Distance Measuring Equipment DMS-44A (CHELTON / WULFSBERG)
08-22014-A	B2325-092-06	Transponder (Mode S) MST 67A (HONEYWELL)
05-61005-A	B2577-001-00	Battery relocation to the rear
-	B0000-150-06	Avionics Solution B3 interconnection / wiring

\*) VHF-AM COM, VHF-NAV and ATC transponder are controlled via CMA-3000 (availability to be checked)

#### ECD STANDARD HEADSET IMPEDANCE:

LOW IMPEDANCE → Microphone: 5  $\Omega$  (dynamic) / Headset: 8  $\Omega$  (military - ECD typical)

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.

### 4.3.3 Minimum required equipment for Avionics Solution B3

Minimum required equipment for Avionics Solutions B3						PINAO			
Document reference	Commercial reference	Title	Weight (margin $\pm 3\%$ )			31100	31101	31110	31111
			kg	lb					
05-27004-A	B2625-003-00	2nd portable fire extinguisher	2.6	5.7		X			X
05-37018-A	B6701-001-00	Copilot flight controls	6.5	14.3		X	X	X	X
05-38011-A	B3111-001-03	7" copilot instrument panel with glare shield	1.9	4.2		X	X	X	X
05-39009-A	B2514-003-01	Map case in copilot door	0.5	1.1		X	X	X	X
05-39011-A	B3113-004-20	Illuminated chart holder, pilot side	1.2	2.6			X		X
05-41005-A	B2104-100-00	Bleed air heating system	14.2	31.3		X	X	X	X
05-43008-A	B2576-003-00	Ventilation for avionics compartment	0.8	1.8		X	X	X	X
05-61005-A	B2433-002-00	Battery, type Saft, ULM, 40 Ah instead of standard battery 27 Ah	4.2	9.3		X	X	X	X
05-68002-A	B3343-003-00	Additional electrical unit for Landing & search light, 400 / 200 W, SX16 or mirrors	1.6	3.5		X	X	X	X
06-45026-A	B3343-006-00	Landing & search light, 400 / 200 W	4.5	9.9		X	X	X	X
06-67045-A	B2563-801-06	ELT C406-N HM (ARTEX) incl. NAV. option	3.8	8.4			X		X
08-00013-A	B2300-006-00	<b>Avionics Solution B3</b>	<b>100.6</b>	<b>221.8</b>		X	X	X	X
08-21016-A	B3441-090-04	Radar altimeter KRA 405B (HONEYWELL)	3.0	6.6		X	X	X	X
08-53003-A	B2212-300-00	MEGHAS sensor kit	21.0	46.3		X	X	X	X
08-72002-A	B2212-001-00	Automatic Flight Control System - AFCS	31.5	69.4		X	X	X	X
08-81025-A	B3132-001-10 B3132-001-20	M'ARMS Cockpit Voice and Flight Data Recorder (CVFDR), ground station not included	16.0	35.3			X		X
		<b>Total weight of PINAO packages using Avionics Solution B3</b>	<b>(kg)</b>			<b>190.3</b>	<b>213.9</b>	<b>190.3</b>	<b>213.9</b>

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.



#### 4.3.4 Possible add-ons for Avionics Solution B3

Possible add-ons for Avionics Solutions B3					PINA0			
Document reference	Commercial reference	Title	Weight (margin $\pm 3\%$ )		31100	31101	31110	31111
			kg	lb				
08-83008-A	<b>B3171-001-10</b> <b>B3171-001-20</b>	M'ARMS Usage Monitoring System (UMS), incl. SSQAR option, ground station not included (in combination with CVFDR: 1.8 kg / 4.0 lb)	4.0	8.8	X	X	X	X
08-81025-A	<b>B3132-001-10</b> <b>B3132-001-20</b>	M'ARMS Cockpit Voice and Flight Data Recorder (CVFDR), ground station not included	16.0	35.3	X		X	
08-10011-A	<b>B2311-090-01</b>	HF communication system KHF 990/KFS 594 (HONEYWELL) <sup>16)</sup>	13.7	30.2	X	X	X	X
08-19012-A	<b>B4322-090-04</b>	Fixed provisions for Tactical Radio VHF-low / 4m (antenna, power supply, interfacing to ICS) <sup>12)</sup>	1.8	4.0	X	X	X	X
08-19012-A	<b>B4322-090-05</b>	Fixed provisions for Tactical Radio VHF-high / 2m (antenna, power supply, interfacing to ICS) <sup>12)</sup>	1.5	3.3	X	X	X	X
08-12028-A	<b>B4321-092-01</b>	Tactical radio NPX 138N (NAT) <sup>14)</sup>	3.0	6.6	X	X	X	X
08-15028-A	<b>B2319-001-10</b>	Fixed provisions for GSM phone (antenna, 28VDC, interfacing to ICS) <sup>12)</sup>	2.4	5.3	X	X	X	X
08-15511-A	<b>B2315-092-00</b>	IRIDIUM satellite phone AEROPHONE (AERODATA) <sup>14)</sup>	5.0	11.0	X	X	X	X
08-16054-A	<b>B2341-193-01</b>	Audio/Comm. control system (PAX/3rd station) ACU 5100 (BECKER) in passenger cabin ceiling (RH, standard installation)	1.5	3.3	X	X	X	X
08-24016-A	<b>B3452-002-00</b>	ADF system DFS-43A (CHELTON / WULFSBERG) <sup>7) 15)</sup>	7.6	16.8	X	X	X	X
08-31022-A	<b>B3443-003-10</b> <b>B3343-003-20</b> <b>B2571-001-00</b> <b>B2420-004-00</b>	Weather radar RDR 1400C (TELEPHONICS) <sup>6)</sup> + Radar radome + AC system	20.0 6.7 1.5	44.1 14.7 3.3	X	X	X	X
05-62011-A								
08-46021-A	<b>B3168-092-04</b>	Moving Map EURONAV IV - RN6 (EURO AVIONICS) interfaced with FCDS / MEGHAS, basic version without options <sup>5) 6) 14)</sup>	6.7	14.8	X	X	X	X
08-46013-A	<b>B3168-090-01</b>	Moving Map DKG 3 (DORNIER), basic version without options <sup>5) 14)</sup>	3.0	6.6	X	X	X	X
08-65006-A	<b>B3443-010-00</b>	Video Radar Unit (VRU) for Weather Radar or Moving Map indication on FCDS (SMD45)	4.9	10.8	X	X	X	X
06-67045-A	<b>B2563-801-06</b>	ELT C406-N HM (ARTEX) incl. NAV. Option	3.8	8.4	X	X		

5) enhanced options (e.g. software features) ON REQUEST

6) Video Radar Unit (VRU) B3443-010-00 required

7) controlled via CMA-3000

12) Only fixed provisions for panel mount system  
=> integration by customer.

14) Tactical mission equipment can not be certified by German Civil Aviation Authorities. Eurocopter will ensure that the equipment is compatible with the basic helicopter and will assist the customer in obtaining certification or acceptance approval in his country.

15) Should be checked with customer airport landing requirements

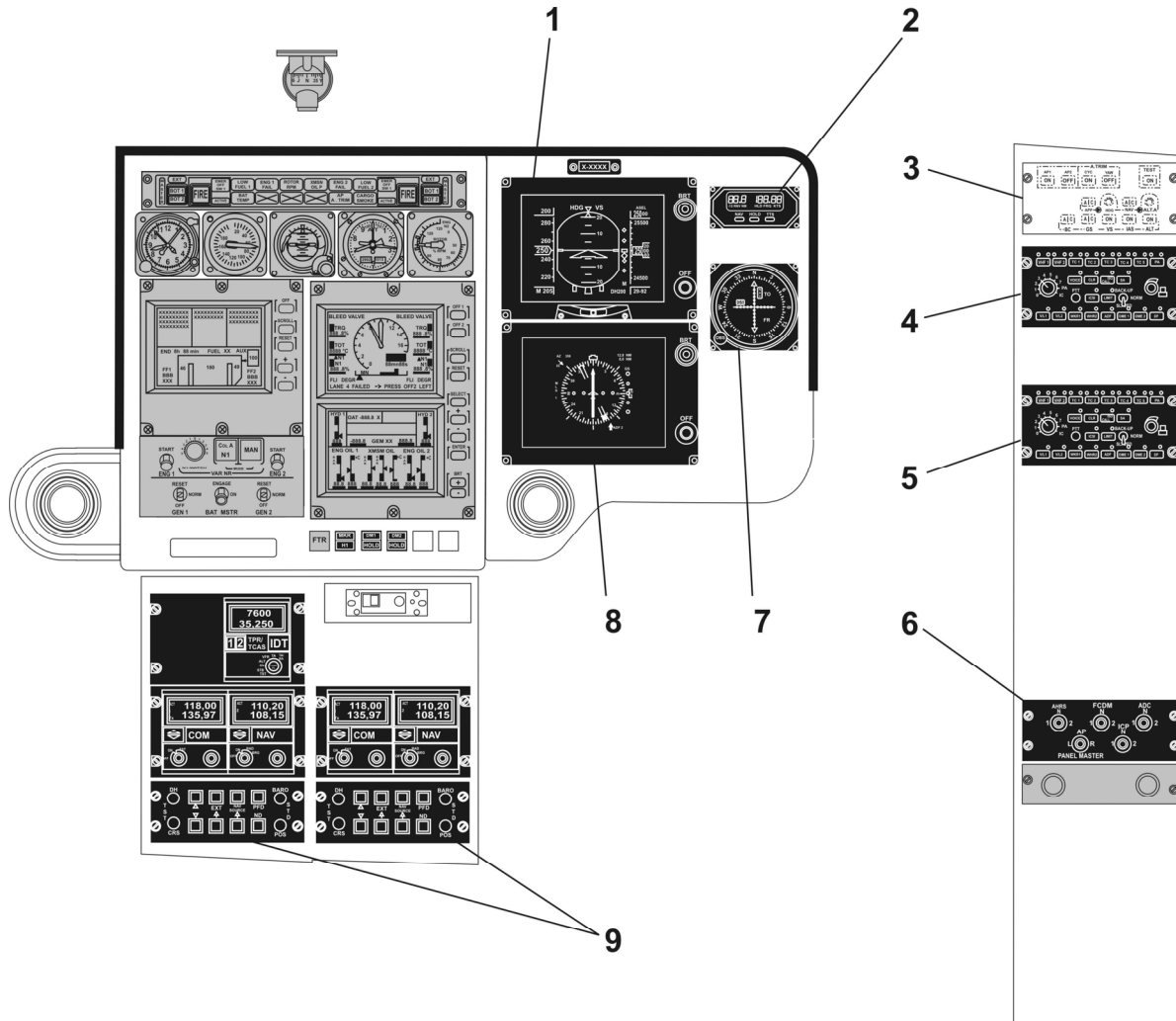
16) Availability has to be checked with supplier, incompatibility of antenna and transceiver with other equipment has to be checked

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 Single Pilot IFR, based on Avionics Solution C

### 4.4.1 Instrument panel overview



- 1 SMD 45 (pilot) PFD: Primary Flight Display
- 2 Back-up DME indicator SD 442 B
- 3 Autopilot control unit (minimum required equipment)
- 4 Audio / Comm. control unit ACU 5100 (1<sup>st</sup> system)
- 5 Audio / Comm. control unit ACU 5100 (2<sup>nd</sup> system)
- 6 RCU: MEGHAS Reconfiguration Control Unit
- 7 Back-up indicator (CDI) KI 204
- 8 SMD 45 (pilot) ND: Navigation Display
- 9 ICP's: MEGHAS Instrument Control Panels

*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.*

#### 4.4.2 Contents of Avionics Solution C

Document reference	Commercial reference	Title
<b>08-00010-A</b>	<b>B2300-003-00</b>	<b>Avionics Solution C, consisting of:</b>
08-65005-A	B3161-092-02	MEGHAS - Flight Control Display System (FCDS) - <b>Single</b> (2xSMD45)
08-11026-A	B2313-092-01 B2313-092-34	VHF-AM / COM system, pilot VCS-40A (CHELTON/WULFSBERG) Control unit CD-402B, pilot for VCS-40A (CHELTON/WULFSBERG)
08-11026-A	B2313-091-01 B2313-091-34	VHF-AM / COM system, 2 <sup>nd</sup> system VCS-40A (CHELTON/WULFSB.) Control unit CD-402B, copilot for VCS-40A (CHELTON/WULFSBERG)
08-26012-A	B3432-092-01 B3432-092-34	VOR/ILS/MKR Navigation system, pilot VNS-41A (CHELTON / WULFSBERG) Control unit CD 412 B, pilot for VNS-41A (CHELTON / WULFSBERG)
08-26012-A	B3432-091-01 B3432-091-34	VOR/ILS/MKR Navigation system, 2 <sup>nd</sup> system VNS-41A (CHELTON / WULFSBERG) Control unit CD 412 B, copilot for VNS-41A (CHELTON / WULFSB.)
08-26012-A	B0000-200-12	Back-up CDI KI 204 (HONEYWELL) and Back-up DME indicator SD 442 B (CHELTON / WULFSBERG)
08-16054-A	B2341-190-01	Audio/Comm. control system (pilot and copilot) 2x ACU 5100 and Remote Electronic Unit REU 5100 (BECKER)
08-16054-A	B2341-293-01	IC amplifier IC 3100-4-01 (BECKER) low impedance (standard), high impedance on request
08-25016-A	B3455-002-00	Distance Measuring Equipment DMS-44A (CHELTON / WULFSBERG)
08-22014-A	B2325-092-06 B2325-092-36	Transponder (Mode S) MST 67A (HONEYWELL) Transponder control unit PS 578A (HONEYWELL)
05-61005-A	B2577-001-00	Battery relocation to the rear
-	B0000-150-03	Avionics Solution C interconnection / wiring

#### ECD STANDARD HEADSET IMPEDANCE:

LOW IMPEDANCE → Microphone: 5  $\Omega$  (dynamic) / Headset: 8  $\Omega$  (military - ECD typical)

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.

#### 4.4.3 Minimum required equipment for Avionics Solution C

Minimum required equipment for Avionics Solutions C						PINAO			
Document reference	Commercial reference	Title	Weight (margin $\pm 3\%$ )			11100	11101	11110	11111
			kg	lb					
05-27004-A	B2625-003-00	2nd portable fire extinguisher	2.6	5.7		X			X
05-39011-A	B3113-004-20	Illuminated chart holder, pilot side	1.2	2.6		X			X
05-41005-A	B2104-100-00	Bleed air heating system	14.2	31.3	X	X	X	X	X
05-43008-A	B2576-003-00	Ventilation for avionics compartment	0.8	1.8	X	X	X	X	X
05-61005-A	B2433-002-00	Battery, type Saft, ULM, 40 Ah instead of standard battery 27 Ah	4.2	9.3	X	X	X	X	X
05-68002-A	B3343-003-00	Additional electrical unit for Landing & search light, 400 / 200 W, SX16 or mirrors	1.6	3.5	X	X	X	X	X
06-45026-A	B3343-006-00	Landing & search light, 400 / 200 W	4.5	9.9	X	X	X	X	X
06-67045-A	B2563-801-06	ELT C406-N HM (ARTEX) incl. NAV. option (GPS system required)	3.8	8.4		X			X
08-00010-A	B2300-003-00	<b>Avionics Solution C</b>	<b>92.5</b>	<b>203.9</b>	X	X	X	X	X
08-21016-A	B3441-090-04	Radar altimeter KRA 405B (HONEYWELL)	3.0	6.6	X	X	X	X	X
08-53003-A	B2212-300-00	MEGHAS sensor kit	21.0	46.3	X	X	X	X	X
08-72002-A	B2212-001-00	Automatic Flight Control System - AFCS	31.5	69.4	X	X	X	X	X
08-81025-A	B3132-001-10 B3132-001-20	M'ARMS Cockpit Voice and Flight Data Recorder (CVFDR), ground station not included	16.0	35.3		X			X
		<b>Total weight of PINAO packages using Avionics Solution C</b>	<b>(kg)</b>			<b>173.3</b>	<b>196.9</b>	<b>173.3</b>	<b>196.9</b>

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.

#### 4.4.4 Possible add-ons for Avionics Solution C

Possible add-ons for Avionics Solutions C					PINA0			
Document reference	Commercial reference	Title	Weight (margin $\pm 3\%$ )		11100	11101	11110	11111
			kg	lb				
08-83008-A	<b>B3171-001-10</b> <b>B3171-001-20</b>	M'ARMS Usage Monitoring System (UMS), incl. SSQAR option, ground station not included (in combination with CVFDR: 1.8 kg / 4.0 lb)	4.0	8.8	X	X	X	X
08-81025-A	<b>B3132-001-10</b> <b>B3132-001-20</b>	M'ARMS Cockpit Voice and Flight Data Recorder (CVFDR), ground station not included	16.0	35.3	X		X	
08-10011-A	<b>B2311-090-01</b>	HF communication system KHF 990/KFS 594 (HONEYWELL) <sup>16)</sup>	13.7	30.2	X	X	X	X
08-19012-A	<b>B4322-090-04</b>	Fixed provisions for Tactical Radio VHF-low / 4m (antenna, power supply, interfacing to ICS) <sup>12)</sup>	1.8	4.0	X	X	X	X
08-19012-A	<b>B4322-090-05</b>	Fixed provisions for Tactical Radio VHF-high / 2m (antenna, power supply, interfacing to ICS) <sup>12)</sup>	1.5	3.3	X	X	X	X
08-12028-A	<b>B4321-092-01</b>	Tactical radio NPX 138N (NAT) <sup>14)</sup>	3.0	6.6	X	X	X	X
08-15028-A	<b>B2319-001-10</b>	Fixed provisions for GSM phone <sup>12)</sup> (antenna, 28VDC, interfacing to ICS)	2.4	5.3	X	X	X	X
08-15511-A	<b>B2315-092-00</b>	IRIDIUM satellite phone AEROPHONE (AERODATA) <sup>14)</sup>	5.0	11.0	X	X	X	X
08-16054-A	<b>B2341-193-01</b>	Audio/Comm. control system (PAX/3rd station) ACU 5100 (BECKER) in passenger cabin ceiling (RH, standard installation)	1.5	3.3	X	X	X	X
08-24016-A	<b>B3452-002-00</b> <b>B3452-092-34</b>	ADF system DFS-43A (CHELTON / WULFSBERG) <sup>15)</sup> ADF control unit CD-432B (CHELTON / WULFSBERG)	9.1	20.1	X	X	X	X
08-43012-A	<b>B3442-092-13</b>	GPS NAV system 2101 I/O Approach plus – NVG (FREE FLIGHT)	3.8	8.4				
08-31022-A	<b>B3443-003-10</b> <b>B3343-003-20</b> <b>B2571-001-00</b>	Weather radar RDR 1400C (TELEPHONICS) <sup>6)</sup> + Radar radome + AC system	20.0 6.7 1.5	44.1 14.7 3.3	X	X	X	X
05-62011-A	<b>B2420-004-00</b>							
08-46021-A	<b>B3168-092-04</b>	Moving Map EURONAV IV - RN6 (EURO AVIONICS) interfaced with FCDS / MEGHAS, basic version without options <sup>5) 6) 14)</sup>	6.7	14.8	X	X	X	X
08-46013-A	<b>B3168-090-01</b>	Moving Map DKG 3 (DORNIER) <sup>5) 14)</sup> , basic version without options	3.0	6.6	X	X	X	X
08-65006-A	<b>B3443-010-00</b>	Video Radar Unit (VRU) for Weather Radar or Moving Map indication on FCDS (SMD45)	4.9	10.8	X	X	X	X
06-67045-A	<b>B2563-801-06</b>	ELT C406-N HM (ARTEX) incl. NAV. Option (GPS system required)	3.8	8.4	X		X	

5) enhanced options (e.g. software features) ON REQUEST

6) Video Radar Unit (VRU) B3443-010-00 required

12) Only fixed provisions for panel mount system  
=> integration by customer.

14) Tactical mission equipment can not be certified by German Civil Aviation Authorities. Eurocopter will ensure that the equipment is compatible with the basic helicopter and will assist the customer in obtaining certification or acceptance approval in his country.

15) Should be checked with customer airport landing requirements

16) Availability has to be checked with supplier, incompatibility of antenna and transceiver with other equipment has to be checked

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.



## 4.5 Optional headsets

The headsets listed below apply to any package/solution

<i>Documentation reference</i>	<i>Commercial reference</i>	<i>Title</i>	Spiral Wire	ANR	Weight kg	Weight lb.
08-18023-A	<b>B2315-001-10</b>	Headset H 10-76 (DAVID CLARK), Low Impedance	<b>X</b>		0.5	1.1
	<b>B2315-001-14</b>	Headset H 10-76 ANR/ENC (DAVID CLARK), Low Impedance	<b>X</b>	<b>X</b>	0.9	2.0

*ANR/ENC = Active Noise Reduction / Electronic Noise Canceling (type of battery box has to be checked)*

### **ECD HEADSET STANDARDS:**

LOW IMPEDANCE → Microphone: 5  $\Omega$  (dynamic) / Headset: 8  $\Omega$  (military - ECD typical)

HIGH IMPEDANCE → Microphone: 150  $\Omega$  (amplified) / Headset: 600  $\Omega$  (civil)

*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.*

## 5 Optional equipment

*Note: detachable parts require the related fixed provisions.*

### General Equipment

**Weight**  
(margin  $\pm 3\%$ )

Document reference	Commercial reference	Title	kg	lb
05-02020-A	B1111-002-00	Two-color external painting instead of single color painting	2.0	4.4
05-02020-A	B1111-003-00	Multicolor external painting instead of single color painting	3.0	6.6
05-02029-A	B1112-001-00	High visibility paint scheme for main rotor blades (3 concentric rings on top of blades)	0.0	0.0
05-21016-A	B8541-001-10	Wire strike protection system, fixed provisions	3.5	7.7
05-21016-A	B8541-001-20	Wire strike protection system, detachable parts	7.7	17.0
05-22004-A	B7924-001-00	Fuzz burner for engines	1.2	2.6
05-22005-A	B7924-002-00	Fuzz burner for tail rotor and intermediate gearbox	1.1	2.4
05-22006-A	B7924-003-00	Chip detectors tail rotor and intermediate gearbox	0.7	1.5
05-22015-A	B6343-001-00	Fuzz burner for main transmission	1.2	2.6
05-22016-A	B7922-001-00	Scavenge oil filter	1.8	4.0
05-23007-A	B7165-002-00	Engine compressor washing device	1.7	3.7
05-25017-A	B7161-001-10	Sand filter system, fixed provisions	5.2	11.5
05-25017-A	B7161-001-20	Sand filter system, detachable parts	32.7	72.1
05-31029-A	B2514-002-00	Tinted sun shades for cockpit windshield roof section	2.1	4.6
05-31030-A	B2524-030-10	IFR - training screen, fixed provisions	0.1	0.2
05-31030-A	B2524-030-20	IFR - training screen, detachable parts	2.1	4.6
05-31032-A	B5213-001-11	Sliding door fastener, intermediate and max. position, LH (required for flight with open doors)	1.0	2.2
05-31032-A	B5213-001-21	Sliding door fastener, intermediate and max. position, RH (required for flight with open doors)	1.0	2.2
05-31034-A	B5633-001-10	Window in clam-shell door, LH	0.3	0.7
05-31034-A	B5633-001-20	Window in clam-shell door, RH	0.3	0.7
05-36008-A	B8532-002-30	Multifunction step LH for standard landing gear (instead of standard boarding step)	3.4	7.5
05-36008-A	B8532-002-40	Multifunction step RH for standard landing gear (instead of standard boarding step)	3.4	7.5
05-37018-A	B6701-001-00	Copilot flight controls	6.5	14.3
05-37019-A	B6721-001-00	Pedal cover for copilot flight controls	0.3	0.7
05-39009-A	B2514-003-01	Map case in copilot door	0.5	1.1
05-39010-A	B3111-001-10	Map case on instrument panel glare shield	0.6	1.3

*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.*

### General Equipment (contd.)

**Weight**  
(margin  $\pm 3\%$ )

Document reference	Commercial reference	Title	kg	lb
05-39011-A	B3113-004-10	Illuminated chart holder, copilot side	1.2	2.6
05-39011-A	B3113-004-20	Illuminated chart holder, pilot side	1.2	2.6
05-41005-A	B2104-100-00	Bleed air heating system	14.2	31.3
05-42022-A	B2105-001-00	Air conditioning/cooling system	56.0	123.5
05-61005-A	B2433-002-00	Battery, type "Saft", ULM, 40 Ah, 24 V instead of standard battery	4.2	9.3
05-61005-A	B2433-003-00	Battery, type "Saft", ULM, 44 Ah, 24 V instead of standard battery	7.7	17.0
05-68001-A	B3113-011-00	Additional circuit breaker panel	4.8	10.6
05-68002-A	B3343-003-00	Additional electrical unit for Landing & search light, 400 / 200 W, SX16 or mirrors	1.6	3.5
05-81034-A	B2818-100-10	Internal long range fuel tank system, fixed provisions	2.3	5.1
05-81034-A	B2818-100-20	Internal long range fuel tank system, detachable parts	38.3	84.4
05-85007-A	B7321-001-00	Fuel management system (Fuel flow meters)	1.0	2.2
05-92015-A	B6611-001-10	Main rotor blade folding, basic kit	0.3	0.7
05-92015-A	B6611-001-20	Main rotor blade folding, fixed provisions for ground handling kit	0.5	1.1
05-92015-A	B6611-001-30	Main rotor blade folding, ground handling kit	15.0	33.1
05-93009-A	B8544-001-10	Lashing points (wind speeds up to 60 kts)	1.2	2.6
05-93010-A	B8544-002-00	Lashing points (wind speeds up to 100 kts), incl. 0.9 kg of GSE	4.4	9.7

### Specific Mission Equipment

**Weight**  
(margin  $\pm 3\%$ )

Document reference	Commercial reference	Title	kg	lb
06-11023-A	B3272-001-20	Snow skids	22.8	50.3
06-11024-A	B3274-001-10	Settling protectors, fixed provisions	0.1	0.2
06-11024-A	B3274-001-20	Settling protectors, detachable parts	8.1	17.9
06-21019-A	B8512-001-10	External hoist, LH, fixed provisions (in combination with emergency floats 13.0 kg / 28.6 lb, if fixed prov. on both LH and RH side, weight has to be checked)	10.3	22.7
06-21019-A	B8512-001-11	External hoist, RH, fixed provisions (in combination with emergency floats 12.8 kg / 28.2 lb, if fixed prov. on both LH and RH side, weight has to be checked)	11.0	24.3
06-21019-A	B8512-001-20	External hoist, detachable parts (incl. 1 week winch operator training)	68.8	151.7
06-21020-A	B8512-002-11	External hoist observation light, LH, fixed provisions	0.7	1.5
06-21020-A	B8512-002-12	External hoist observation light, RH, fixed provisions	0.7	1.5
06-21020-A	B8512-002-20	External hoist observation light, detachable parts	0.7	1.5

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.

**Specific Mission Equipment (contd.)**
**Weight**  
(margin  $\pm 3\%$ )

<i>Document reference</i>	<i>Commercial reference</i>	<i>Title</i>	<i>kg</i>	<i>lb</i>
06-24011-A	<b>B8534-003-11</b>	Rope-down device for 2 persons, LH, fixed provisions (in combination with emergency floats 4.9 kg / 10.8 lb)	<b>2.1</b>	<b>4.6</b>
06-24011-A	<b>B8534-003-12</b>	Rope-down device for 2 persons, RH, fixed provisions (in combination with emergency floats 4.9 kg / 10.8 lb)	<b>2.1</b>	<b>4.6</b>
06-24011-A	<b>B8534-003-21</b>	Rope-down device for 2 persons, LH, detachable parts (operation cannot be civil certified)	<b>15.4</b>	<b>34.0</b>
06-24011-A	<b>B8534-003-22</b>	Rope-down device for 2 persons, RH, detachable parts (operation cannot be civil certified)	<b>15.4</b>	<b>34.0</b>
06-25006-A	<b>B8521-300-10</b>	Drip tray for cabin, fixed provisions	<b>0.2</b>	<b>0.4</b>
06-25006-A	<b>B8521-300-20</b>	Drip tray for cabin, detachable parts	<b>7.3</b>	<b>16.1</b>
06-26012-A	<b>B8511-002-10</b>	Cargo hook mirrors, fixed provisions (additional electrical unit required)	<b>0.5</b>	<b>1.1</b>
06-26012-A	<b>B8511-002-20</b>	Cargo hook mirrors, detachable parts	<b>3,8</b>	<b>8,4</b>
06-26012-A	<b>B8511-002-21</b>	Cover for cargo hook mirrors (required for operation at night with search or landing lights in use)	<b>0.4</b>	<b>0.9</b>
06-26014-A	<b>B8511-003-10</b>	Cargo hook weighing system (sling type), fixed provisions	<b>0.4</b>	<b>0.9</b>
06-26014-A	<b>B8511-003-20</b>	Cargo hook weighing system (sling type), detachable parts	<b>1.8</b>	<b>4.0</b>
06-26016-A	<b>B8511-005-10</b>	Cargo hook system (sling type), fixed provisions	<b>9.4</b>	<b>20.7</b>
06-26016-A	<b>B8511-005-20</b>	Cargo hook system (sling type), detachable parts	<b>8.9</b>	<b>19.6</b>
06-26017-A	<b>B8511-008-10</b>	Double cargo hook (fixed beam), fixed provisions (additional circuit breaker panel required)	<b>6.9</b>	<b>15.2</b>
06-26017-A	<b>B8511-008-20</b>	Double cargo hook system (fixed beam), detachable parts	<b>21.2</b>	<b>46.7</b>
06-31014-A	<b>B8531-001-00</b>	External loudspeaker system with siren	<b>10.1</b>	<b>22.3</b>
06-40001-A	<b>B3349-001-00</b>	Tail flood lights for tail rotor and clam-shell doors (additional circuit breaker panel required)	<b>1.3</b>	<b>2.9</b>
06-42018-A	<b>B3343-001-50</b>	Additional landing light, cross tube mounted LH, 250 W (additional circuit breaker panel required)	<b>1.2</b>	<b>2.6</b>
06-45026-A	<b>B3343-006-00</b>	Landing & search light 400/200 W, NVG compatible (additional electrical unit required)	<b>4.5</b>	<b>9.9</b>
06-45027-A	<b>B3346-004-10</b>	Search light SX16, LH multi function step mounted, fixed provisions (additional electrical unit required)	<b>5.3</b>	<b>11.7</b>
06-45027-A	<b>B3346-004-20</b>	Search light SX16, LH multi function step mounted, detachable parts (w/o vendor parts)	<b>10.2</b>	<b>22.5</b>
06-45027-A	<b>B3346-500-20</b>	Search light SX16, with infrared filter, vendor parts	<b>29.8</b>	<b>65.7</b>
06-46004-A	<b>B3344-001-10</b>	Strobe lights, white	<b>2.0</b>	<b>4.4</b>
06-61017-A	<b>B3215-001-10</b>	Emergency floats, fixed provisions	<b>1.9</b>	<b>4.2</b>
06-61017-A	<b>B3215-001-20</b>	Emergency floats, detachable parts	<b>64.6</b>	<b>142.4</b>

*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.*

**Specific Mission Equipment (contd.)**
**Weight**  
(margin  $\pm 3\%$ )

Document reference	Commercial reference	Title	kg	lb
06-65003-A	B2566-001-00	Emergency hammer	0.3	0.7
06-65005-A	B2625-003-00	2nd portable fire extinguisher (cabin floor mounted)	2.6	5.7
06-66011-A	B3353-006-00	Illuminated signs "NO SMOKING/FASTEN SEAT BELT"	0.2	0.4
06-71007-A	B2524-003-10	Separation curtain for cockpit / cabin (NVG compatible), fixed provisions	0.1	0.2
06-71007-A	B2524-003-20	Separation curtain for cockpit / cabin (NVG compatible), detachable parts	1.1	2.4
06-81010-A	B8503-001-10	Fire extinguishing bucket attachment (Bambi Bucket), fixed prov. (cargo hook system and add. circuit breaker panel required)	0.6	1.3

**Interior Layout**
**Weight**  
(margin  $\pm 3\%$ )

Document reference	Commercial reference	Title	kg	lb
07-00017-A	B2581-002-20	Comfort improvement kit	24.1	53.1
07-15014-A	B2512-003-10	Height adjustable pilot seat instead of standard pilot seat	3.9	8.6
07-15014-A	B2512-003-20	Height adjustable copilot seat instead of standard copilot seat	3.9	8.6
07-25029-A	B2522-004-10	Utility seats (6 pax), fixed provisions	7.0	15.4
07-25029-A	B2522-004-20	Utility seats (6 pax), detachable parts	27.6	60.8
07-27003-A	B2523-002-00	Club seating (8 pax), energy absorbing individual seats (2 <sup>nd</sup> portable fire extinguisher required) Other seating arrangement on request	90.4	199.3
07-30019-A	B2581-001-00	Basic sound proofing kit	6.0	13.2
07-40010-A	B2513-220-00	Washable floor covering for cockpit, cabin and cargo compartment	14.0	30.9
07-50032-A	B5212-001-30	Jettisonable sliding doors	0.0	0.0
07-50033-A	B5212-001-00	Jettisonable cockpit doors	0.6	1.3
07-50037-A	B5205-008-00	Spoiler position for cockpit doors	1.0	2.2
07-70012-A	B2514-300-00	Airline-style attachment rails (LH and RH cabin ceiling)	3.4	7.5
07-81021-A	B2512-100-00	Modification of cockpit seats with leather, restraint system in matching color	0.0	0.0
07-81021-A	B2523-100-00	Modification of passenger seats (8 club seats) with leather, restraint system in matching color	0.0	0.0
07-83008-A	B2525-001-00	Carpet for cockpit, cabin and cargo compartment	15.0	33.1

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.

---

**Offshore Equipment**

---

Equipment can be offered on request

---

**Broadcast, Thermal Imaging and Video Surveillance Equipment**

---

"Ultraforce II (FLIR Systems) on request

---

**NVG Equipment**

---

Different solutions can be offered on request

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

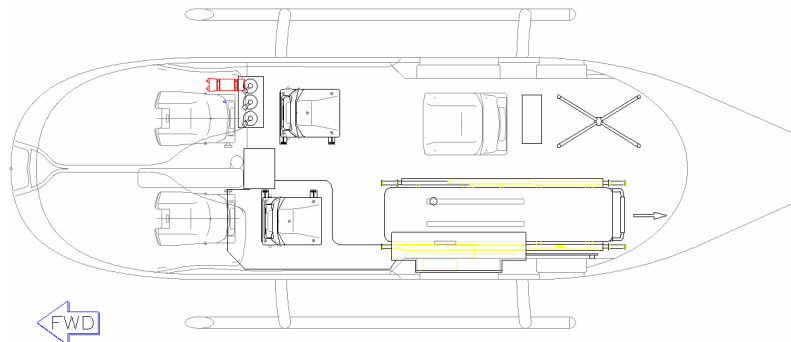
*For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents.*



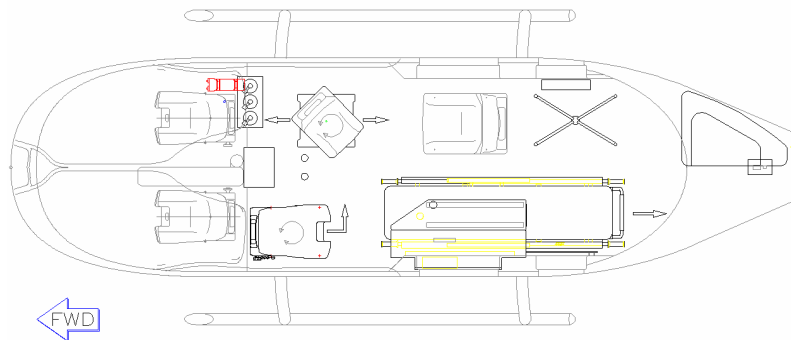
### EMS Equipment

**Weight**  
(margin  $\pm 3\%$ )

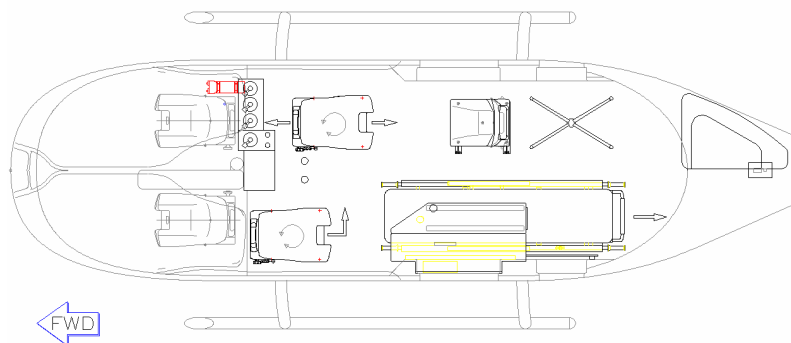
Document reference	Commercial reference	Title	kg	lb
--------------------	----------------------	-------	----	----



07-70010-A	<b>AG-X982-4c</b>	Basic EMS kit from aerolite (EMS installation kit required)	<b>140.5</b>	<b>309.1</b>
------------	-------------------	---	--------------	--------------



07-70011-A	<b>AG-X982-5c</b>	Mid range EMS kit from aerolite (EMS installation kit required)	<b>182.0</b>	<b>400.4</b>
------------	-------------------	---	--------------	--------------



07-70014-A	<b>AG-X982-6c</b>	High sophisticated EMS kit from aerolite (EMS inst. kit req.)	<b>222.6</b>	<b>489.7</b>
------------	-------------------	---	--------------	--------------

### EMS installation kit

**Weight**  
(margin  $\pm 3\%$ )

Document reference	Commercial reference	Title	kg	lb
--------------------	----------------------	-------	----	----

05-67003-A	<b>B2341-845-00</b>	Electrical EMS interface	<b>1.2</b>	<b>2.6</b>
07-25029-A	<b>B2522-004-10</b>	Utility seats, fixed provisions	<b>7.0</b>	<b>15.4</b>
07-27003-A	<b>B2523-002-22</b>	1 passenger club seat, middle row, RH (except for AG-X982-6c)	<b>11.7</b>	<b>25.7</b>
07-70012-A	<b>B2514-300-00</b>	Airline style attachment rails (LH and RH cabin ceiling)	<b>3.4</b>	<b>7.5</b>

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.

## 6 Incompatibilities

### General

Only one to be selected:

- External painting
- Battery
- Cargo hook system
- EMS equipment to be checked individually

### Incompatibility matrix

- **Exclude** – Impossible to sell the 2 items on the same helicopter
- ▲ **No Simultaneous Fitment** – Impossibility of simultaneous fitment but possible to sell on the same helicopter
- **No Simultaneous Use** - Possibility of simultaneous fitment on the same helicopter, but impossible to use simultaneously

Optional A		Incompatibility	Optional B	
Commercial reference	Title		Commercial reference	Title
B3272-001-20	Snow skids	▲	B3274-001-20	Settling protectors, DP
B3274-001-20	Settling protectors, DP	▲	B3272-001-20	Snow skids
B8521-300-20	Drip tray for cabin, DP	▲	B2523-002-00	Club seating (8 pax)
B8512-001-1?	External hoist, FP on respective side	▲	B8534-003-1?	Rope-down device for 2 persons, FP on respective side
B8512-001-20	External hoist, DP on respective side	▲	B8534-003-2?	Rope-down device for 2 persons, DP on respective side
B8534-003-1?	Rope-down device for 2 persons, FP on respective side	■	B8512-001-1?	External hoist, FP on respective side
B8534-003-2?	Rope-down device for 2 persons, DP on respective side	▲	B8512-001-20	External hoist, DP on respective side
B2522-004-20	Utility seats (6 pax), DP	▲	B2523-002-00	Club seating (8 pax)
B2523-002-00	Club seating (8 pax)	▲	B8521-300-20	Drip tray for cabin, DP
B2523-002-00	Club seating (8 pax)	▲	B2522-004-20	Utility seats (6 pax), DP

#### Note:

The protective capability of the wire strike protection system, detachable parts (WSPS) B8541-001-20 is significantly degraded in combination with SX16 LH multi function step mounted, detachable parts (B3346-004-20) or cargo hook mirrors, detachable parts (B8511-002-20) or radar radome (B2571-001-00)

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.

## 7 Main performance

The following performance values and figures refer to an EC145, equipped with average production engines.

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.

### Performance on 2 engines (AEO)

<b>Gross Weight</b>	<b>kg lb</b>	<b>2,400 5,290</b>	<b>2,700 5,950</b>	<b>3,000 6,615</b>	<b>3,300 7,275</b>	<b>3,585 7,905</b>
■ Maximum speed ( $V_{NE}$ )	<b>km/h kts</b>	278 150	278 150	268 145	268 145	268 145
■ Maximum cruising speed ( $V_H$ )	<b>km/h kts</b>	256 138	254 137	252 136	250 135	246 133
■ Recommended cruising speed	<b>km/h kts</b>	237 128	239 129	241 130	243 131	243 131
■ Fuel consumption at recommended cruising speed	<b>kg/h lb/h</b>	234 516	238 525	244 538	251 554	254 560
■ Maximum rate of climb, TOP	<b>m/s ft/min</b>	14.9 2940	13.0 2560	11.2 2210	9.3 1840	8.1 1600
■ Hover ceiling IGE (3 ft AGL), TOP	<b>m ft</b>	5,485 18,000	5,485 18,000	4,695 15,400	3,840 12,600	2,925 9,600
■ Hover ceiling OGE, TOP, ISA	<b>m ft</b>	5,485 18,000	5,120 16,800	4,345 14,260	3,445 11,300	770 2,530
■ Service ceiling, MCP, (climb reserve 200 ft/min), ISA	<b>m ft</b>	5,485 18,000	5,485 18,000	5,485 18,000	5,485 18,000	5,240 17,200
■ Range (SL, ISA) with max. fuel capacity at recommended cruise speed (no reserve)						
• Std fuel tank configuration (694 kg)	<b>km nm</b>	--- ---	705 380	700 377	685 370	680 370
• Long range fuel tank inst. (869 kg)	<b>km nm</b>	--- ---	--- ---	875 472	865 467	855 461
■ Endurance (SL, ISA) with maximum fuel capacity at 65 KIAS (no reserve)						
• Std fuel tank configuration (694 kg)	<b>h:min</b>	---	3:55	3:50	3:40	3:35
• Long range fuel tank inst. (869 kg)	<b>h:min</b>	---	---	4:50	4:40	4:30

*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.*

## Performance on 1 engine (OEI)

<b>Gross Weight</b>	<b>kg lb</b>	<b>2,400 5,290</b>	<b>2,700 5,950</b>	<b>3,000 6,615</b>	<b>3,300 7,275</b>	<b>3,585 7,905</b>
■ Single engine service ceiling, OEI, MCP, 100 ft/min climb reserve, ISA	<b>m ft</b>	5,456 17,900	4,590 15,060	3,755 12,320	2,966 9,730	1,996 6,550
■ Single engine service ceiling, OEI, MCP, 100 ft/min climb reserve, ISA + 20°C	<b>m ft</b>	4,968 16,300	4,029 13,220	3,097 10,160	2,185 7,170	1,338 4,390
■ Maximum rate of climb, OEI, MCP, SL, ISA	<b>m/s ft/min</b>	5.7 1,120	4.4 860	3.2 630	2.1 420	1.2 230
■ Max. temperature for CAT A, take-off from clear heliport at SL	<b>°C</b>	+ 50	+ 50	+ 50	+ 49	+ 42
■ Max. weight, HOGE, SL, ISA, (OEI 2.5 min-power)	<b>kg lb</b>			2,785 6,140		
■ Max. weight, HOGE, SL, ISA + 20°C, (OEI 2.5 min-power)	<b>kg lb</b>			2,520 5,555		
■ Max. weight, CAT A, VTOL, SL, ISA	<b>kg lb</b>			3,415 7,530		
■ Max. weight, CAT A, VTOL, SL, ISA + 10°C	<b>kg lb</b>			3,320 7,320		

## Operating Limitations

The helicopter can be operated within the following altitude and temperature limitations (according to the Flight Manual):

■ Maximum operating altitude	5,485 m PA 18,000 ft PA
■ Maximum operating altitude for hover in ground effect, takeoff and landing	5,485 m PA or DA 18,000 ft PA or DA whichever is less
■ Minimum temperature	- 45 °C
■ Maximum temperature	ISA + 35 °C (max. + 50°C)

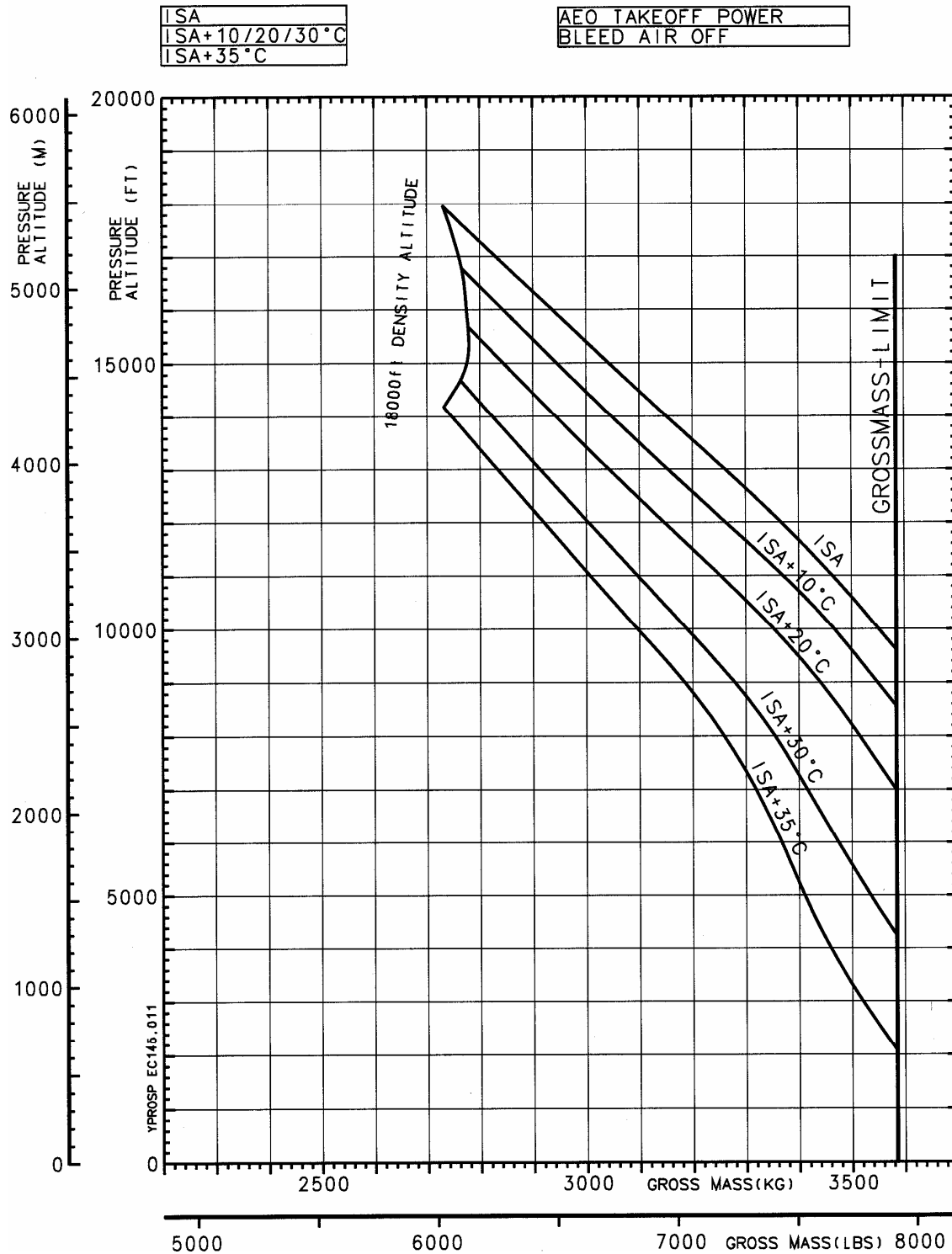
## Abbreviations

AGL	Above Ground Level	OGE	Out Of Ground Effect
DA	Density Altitude	PA	Pressure Altitude
IGE	In Ground Effect	SL	Sea Level
ISA	International Standard Atmosphere	TOP	Take-Off Power
MCP	Maximum Continuous Power	VNE	Never-Exceed Speed
OEI	One Engine Inoperative	VTOL	Vertical Take-Off and Landing

*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.*

## Hover In Ground Effect (HIGE, TOP)



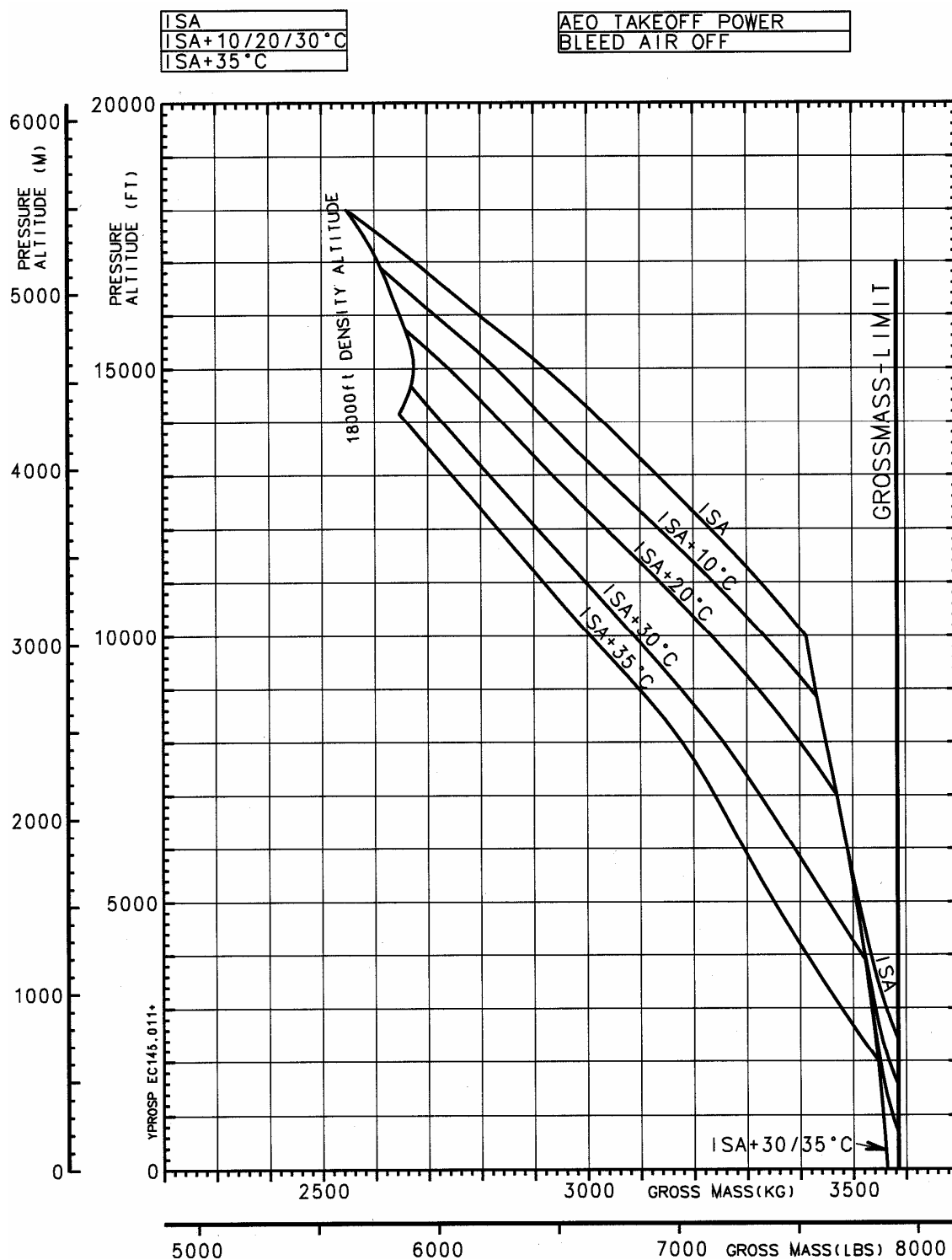
The data set forth in this document are general in nature and for information purposes only.

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

145.05.101.01 E

38

## Hover Out Of Ground Effect (HOGE, TOP)

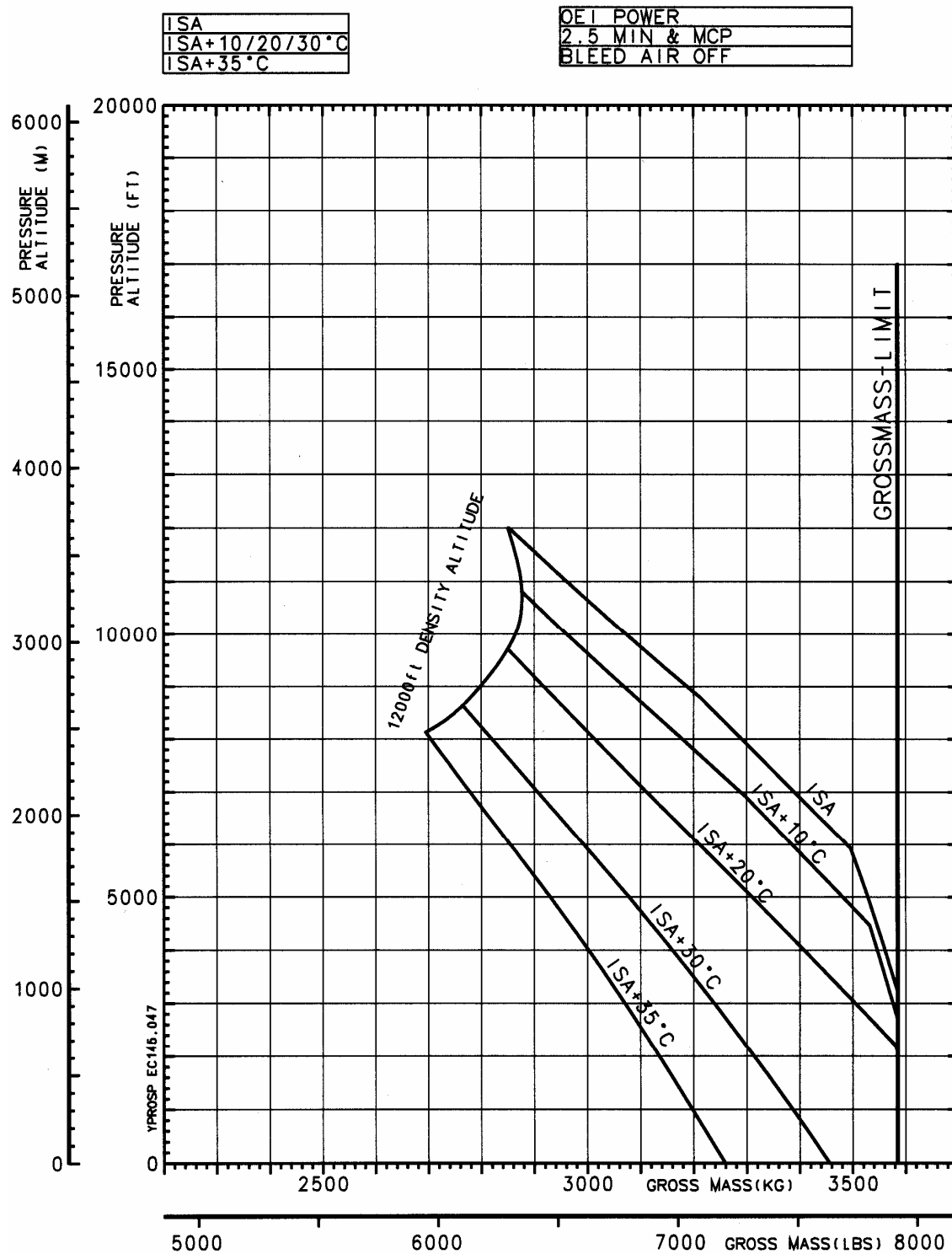


The data set forth in this document are general in nature and for information purposes only.

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



## Take-Off Weight, Cat. A, Clear Heliport



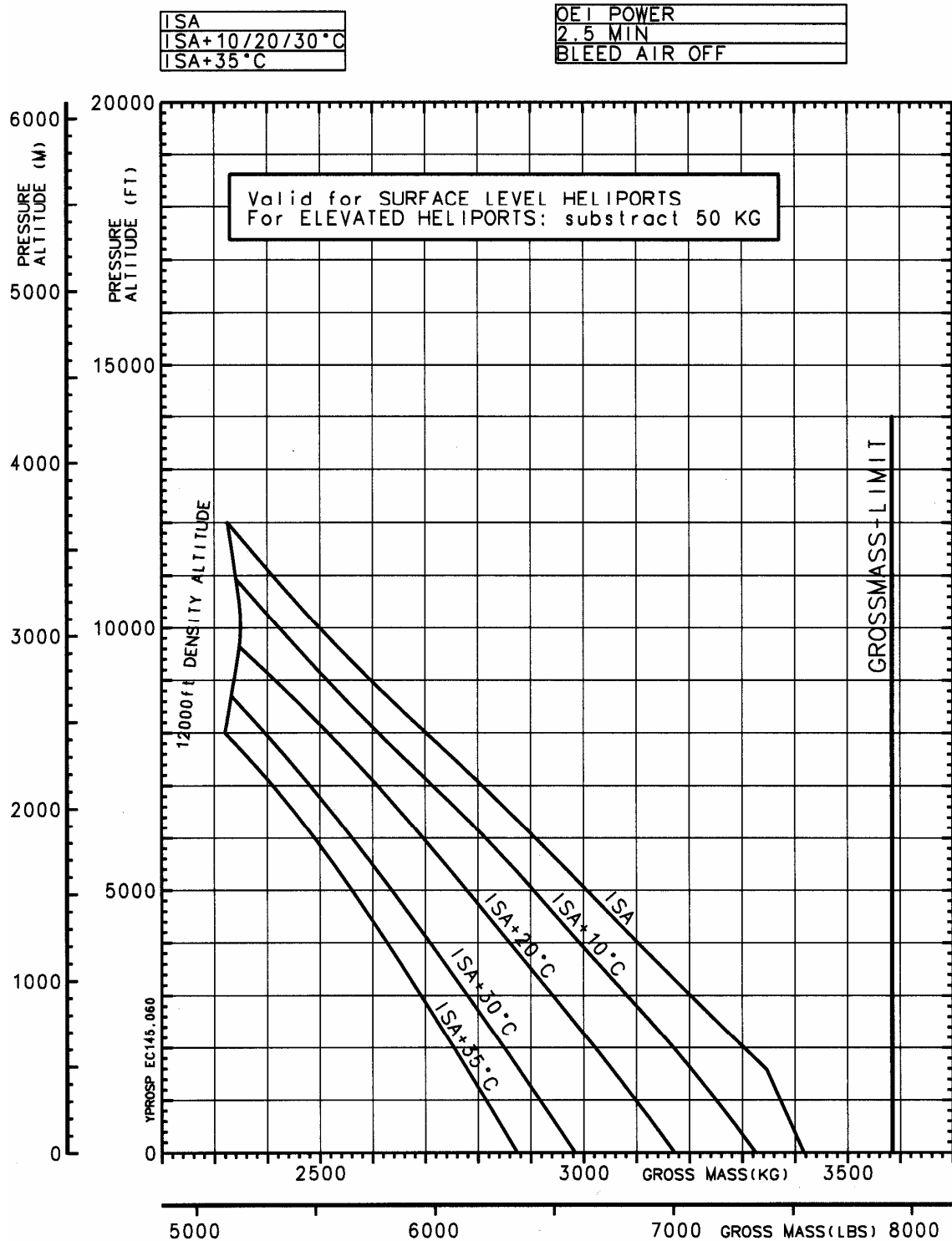
The data set forth in this document are general in nature and for information purposes only.

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

145.05.101.01 E

40

## Take-Off Weight, Cat. A, VTOL

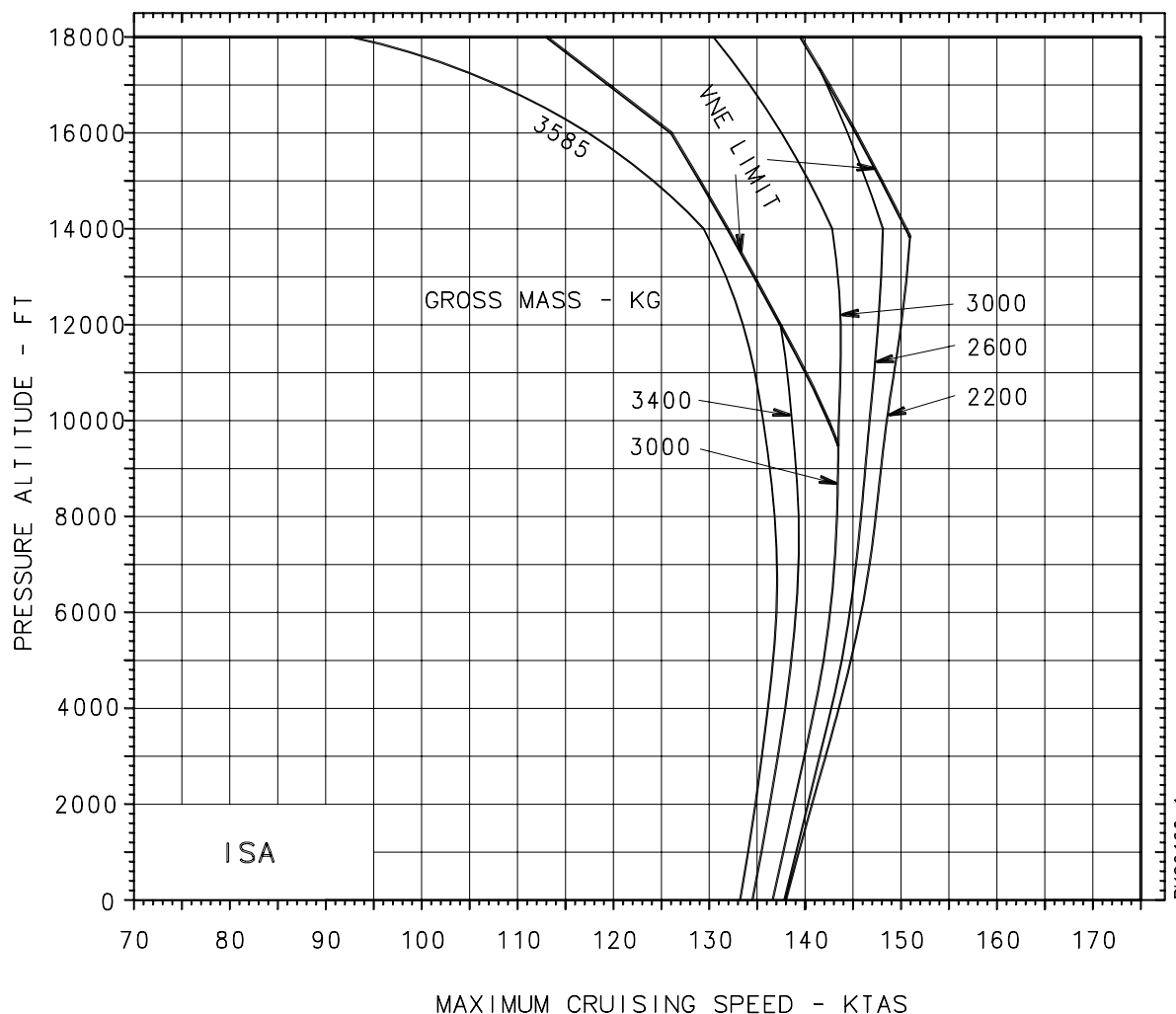


The data set forth in this document are general in nature and for information purposes only.

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

## Maximum Cruising Speed

2X TURBOMECA ARRIEL 1E2  
MAX. CONTINUOUS POWER  $\Delta N1 = -1,7\%$   
TRANSMISSION LIMIT 71 % TORQUE  
BLEED AIR ON AND OFF



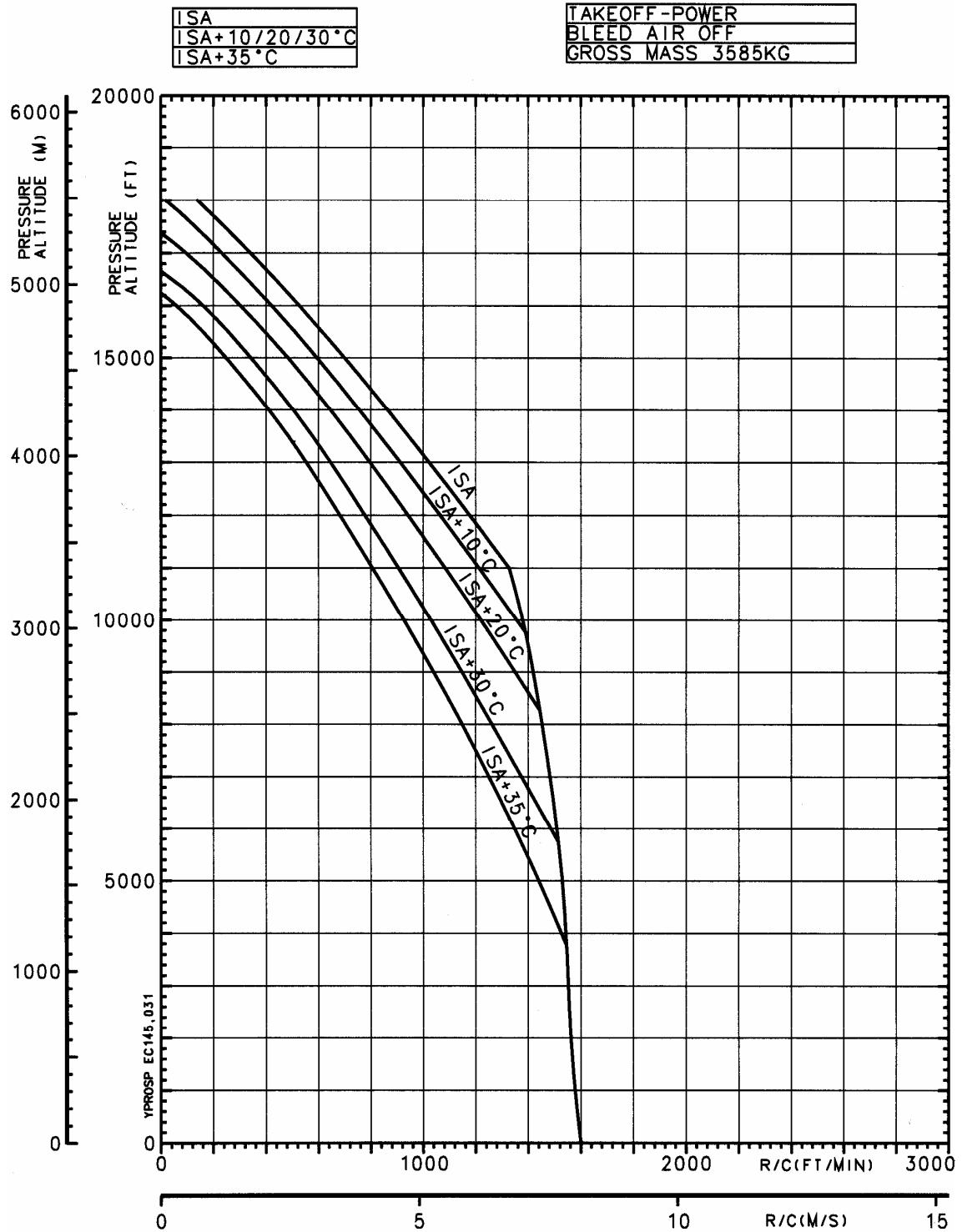
*The data set forth in this document are general in nature and for information purposes only.*

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

145.05.101.01 E

42

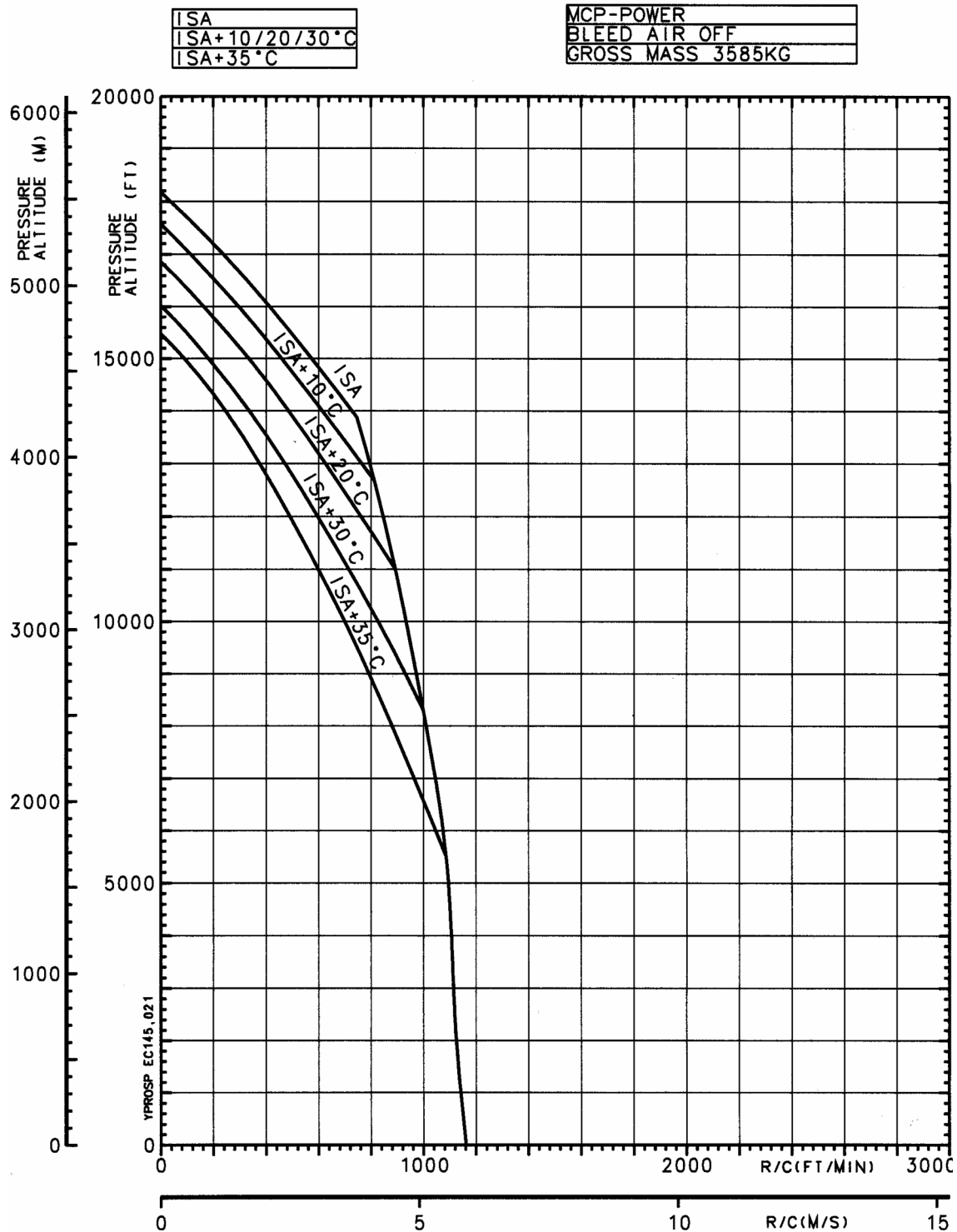
**Maximum Rate Of Climb, TOP, 3585 kg (MTOW)**



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.

**Maximum Rate Of Climb, MCP, 3585 kg (MTOW)**



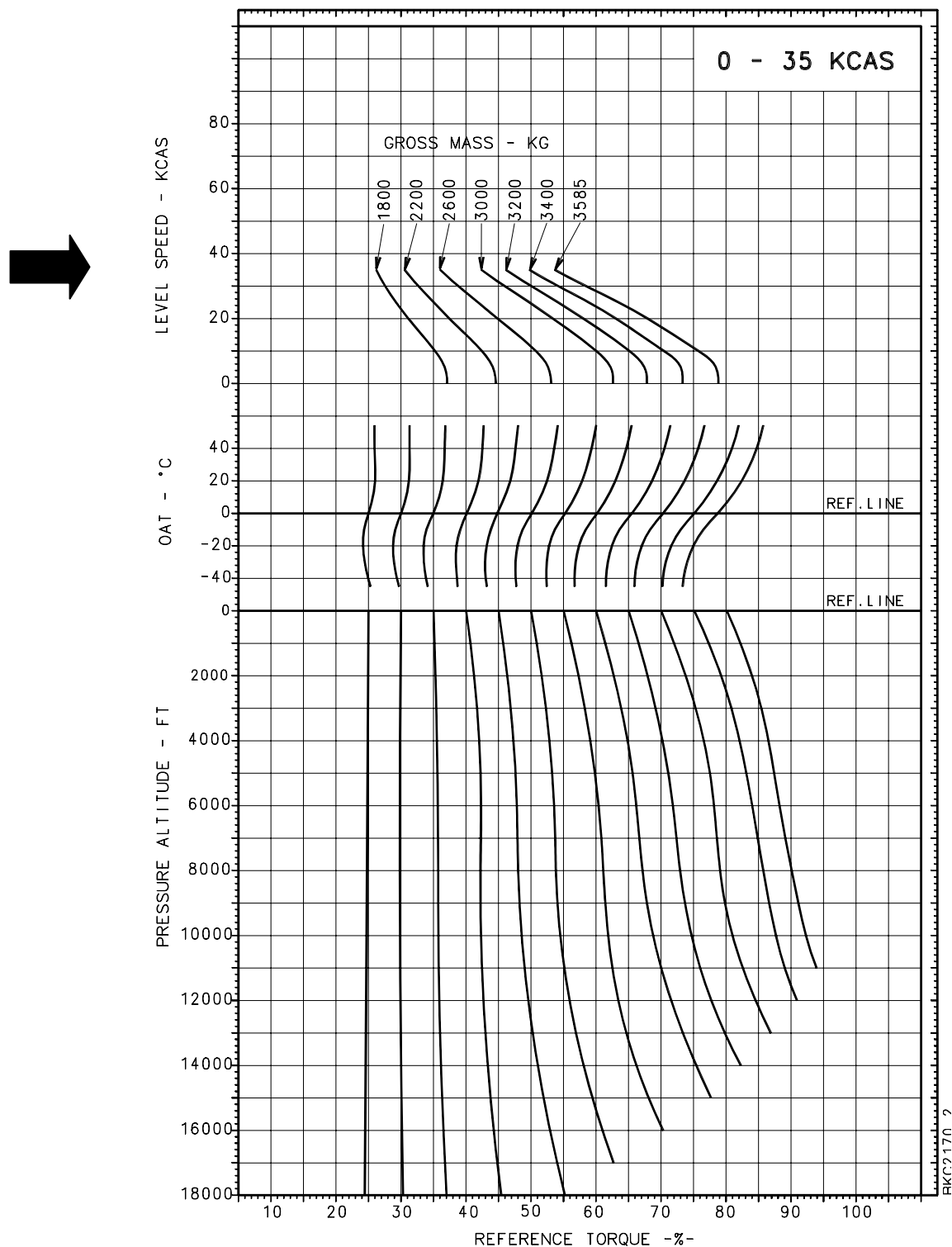
The data set forth in this document are general in nature and for information purposes only.

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

145.05.101.01 E

44

## Fuel consumption (AEO)



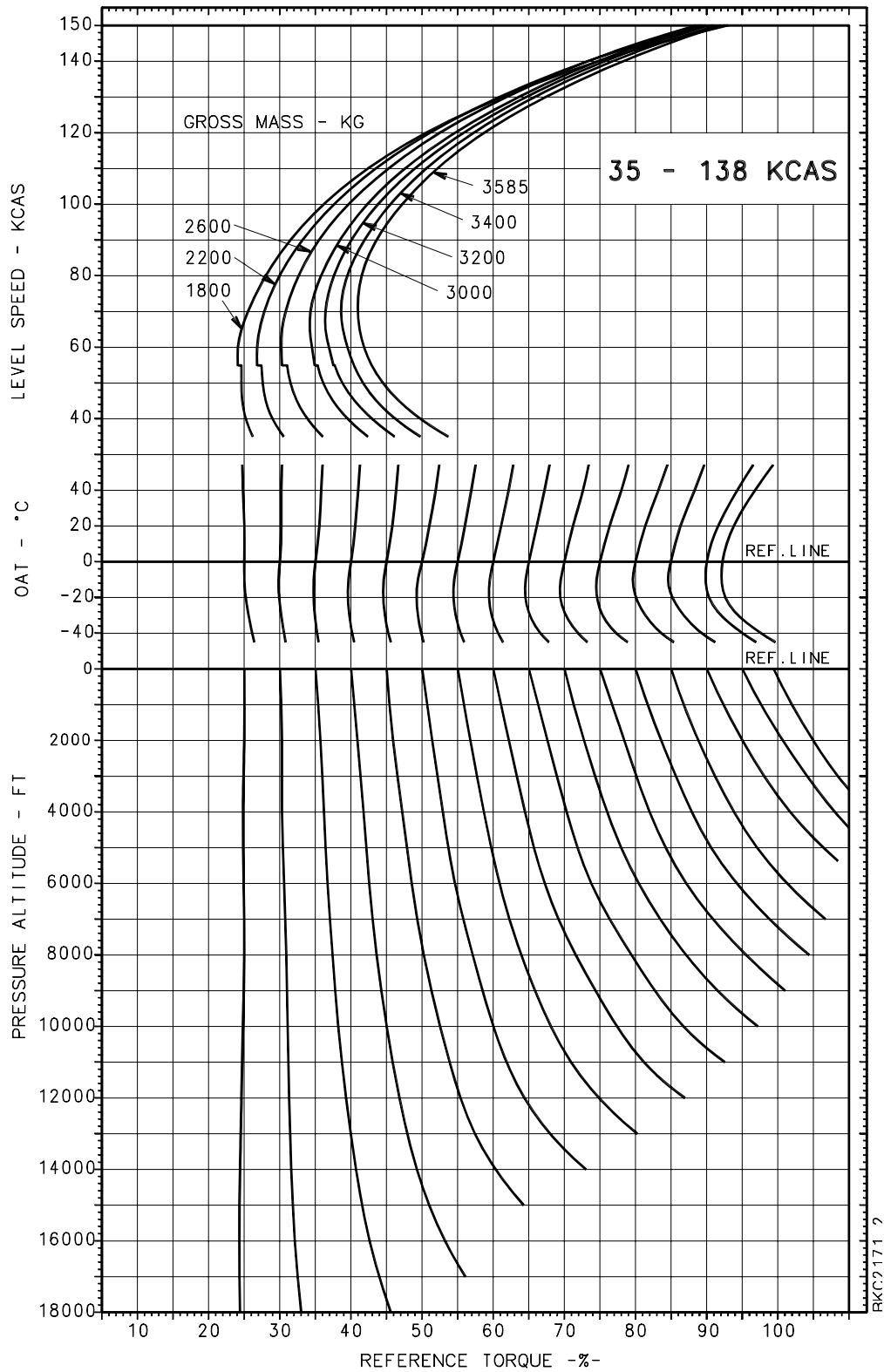
see page 47

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.

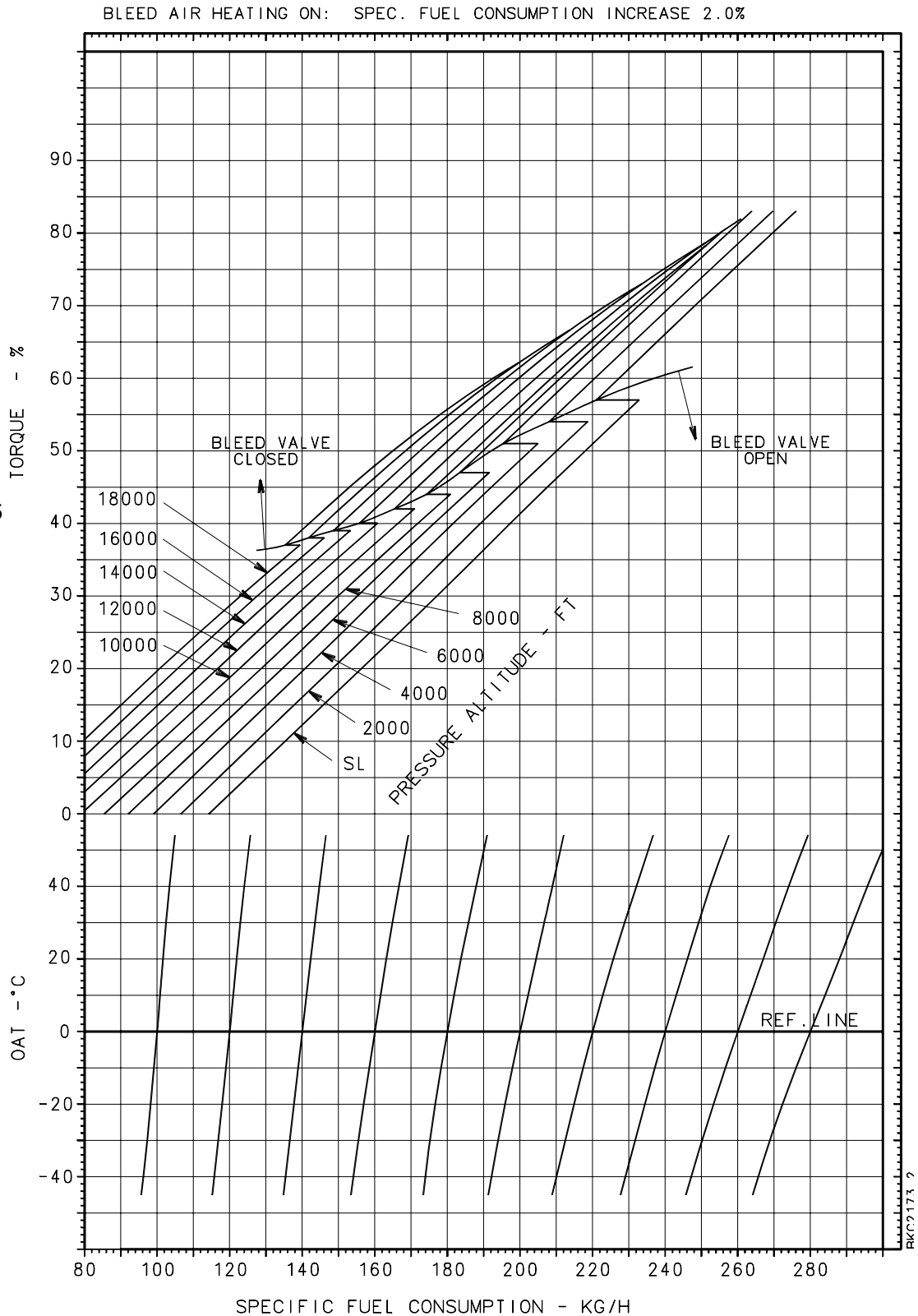


**Fuel consumption (AEO)**



**Fuel consumption (AEO)**

see pages 45  
and 46



*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.*

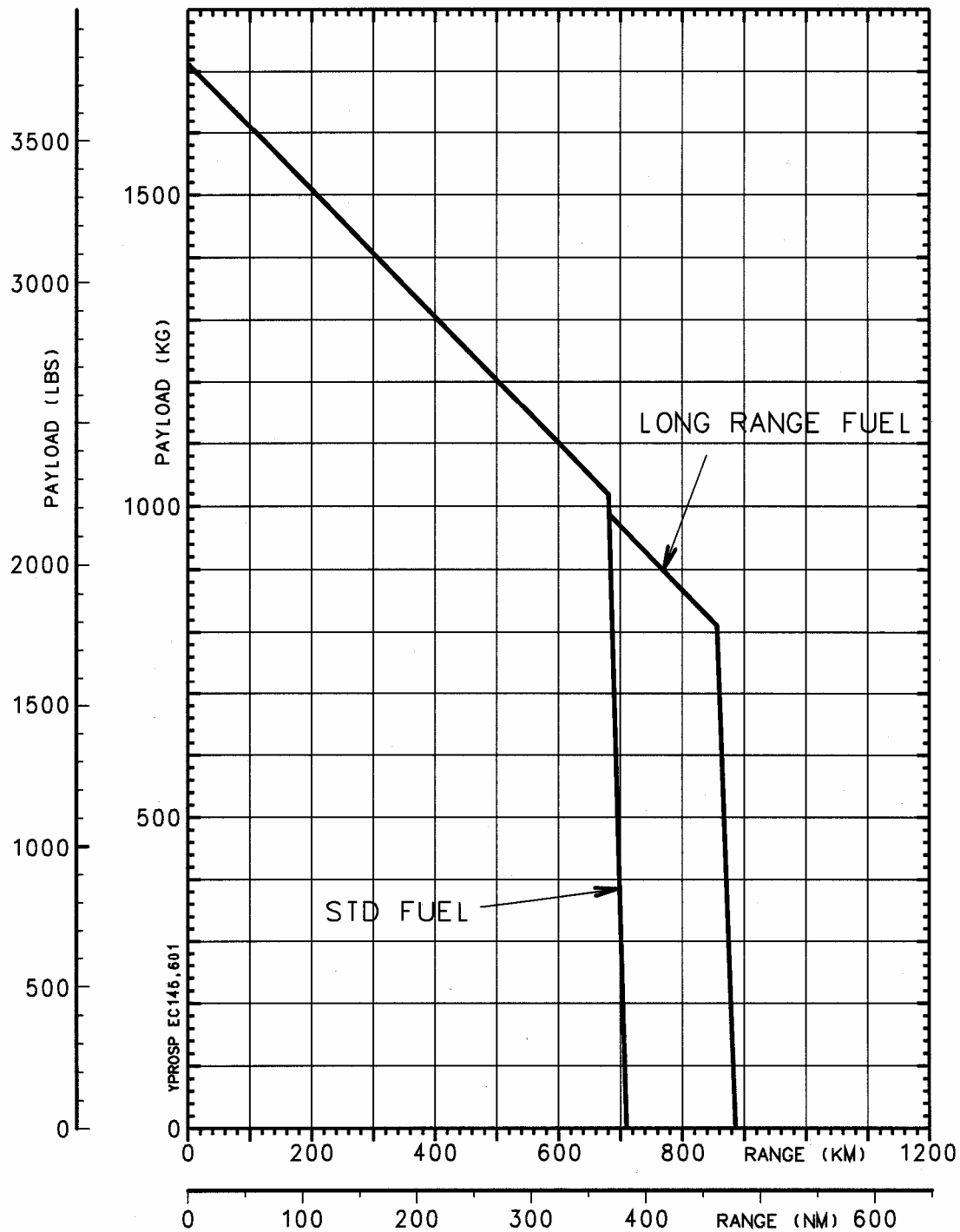
145.05.101.01 E

47

**Payload vs. Range (AEO)**

TOW 3585KG
NO RESERVE
SL / ISA

EMPTY WEIGHT 1792KG/1825KG
USABLE STD FUEL 694KG
LONG RANGE FUEL TANK 175KG
PILOT 80KG



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.