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### Manufacturers notice

#### Attention !

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

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## Foreword



*The AS 532 AL is a medium weight twin engine helicopter with a large cabin, particularly suited for troop transport*

*Fitted with the appropriate equipment, the Cougar is capable of a wide range of missions such as :*

- ***Troop carrying***
- ***Load carrying***
- ***Search and rescue***
- ***Casualty evacuation***
- ***Ferry flight***
- ***Fire support***

*The twin engine concept, combined with an extensive power reserve, makes the Cougar an aircraft particularly suited to various missions, and means safety and retention of operational capabilities over a wide altitude and temperature envelope. It results in excellent performance on one engine.*

*The Cougar incorporates technological features introduced by **Eurocopter** in the field of maintenance and operational capabilities .*

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## 1- General Characteristics

### Lay-Out

- **Minimum crew**
  - **VFR :**
    - 1 pilot (with at least one lane of each autopilot channel engaged)
  - **IFR :**
    - 2 pilots
- **Troop Transport**  
(in addition to the crew)
  - 1 chief of stick + 24 troop seats
  - 1 chief of stick + 18 crashworthy troop seats
- **Casualty evacuation**  
(in addition to the crew)
  - 1 doctor + 6 stretcher-patients + 10 seated places

### Weights

Note : Empty weight accuracy : within  $\pm 2\%$

	kg	lb
■ <b>Empty weight, standard aircraft</b> <b>(including engine oil and unusable fuel)</b>	4,610	10,160
■ <b>Useful load</b>	4,390	9,680
■ <b>Maximum all-up weight</b>	9,000	19,840
■ <b>Maximum cargo-sling load</b>	4,500	9,920
■ <b>Maximum all-up weight in external load configuration</b>	9,350	20,615

### Power plant

2 TURBOMECA MAKILA 1A1 turboshaft engines

### Engine ratings

Power per engine, in standard atmosphere, at sea level :

	kW	ch	shp
■ <b>Maximum emergency power</b>	1,400	1,902	1,877
■ <b>Intermediate emergency power</b>	1,330	1,807	1,783
■ <b>Take-off power</b>	1,357	1,845	1,819
■ <b>Maximum continuous power</b>	1,185	1,610	1,588

### Usable Fuel capacities

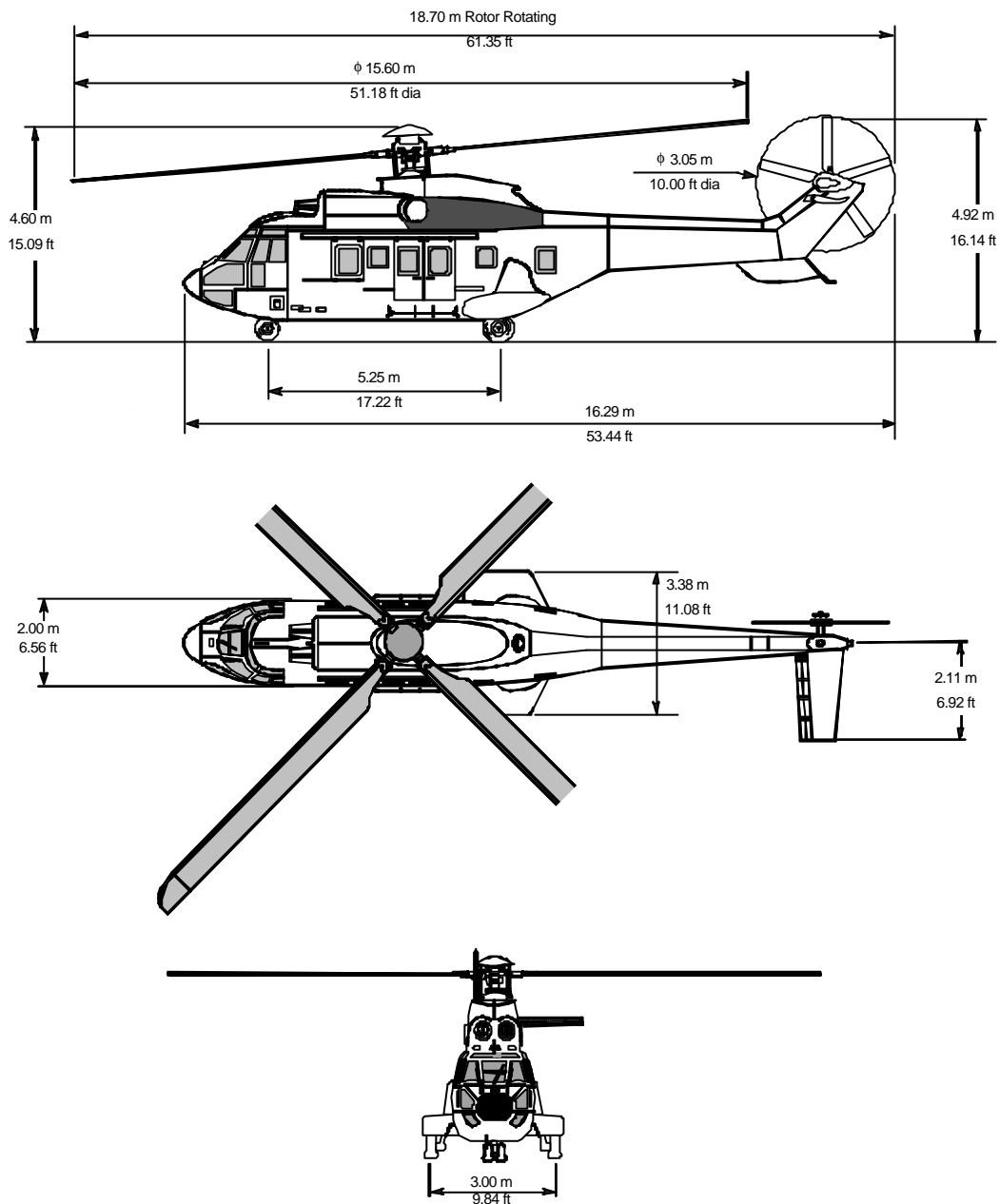
	litres	US gal.	kg	lb
■ <b>Standard crashworthy fuel tanks</b>	1,960	520	1,548	3,410
■ <b>Auxiliary crashworthy fuel tanks (option)</b>				
● Central crashworthy fuel tank	318	83	251	553
● External crashworthy fuel tanks	2 x 318	2 x 83	2 x 251	2 x 553
● 1 to 5 ferrying fuel tanks	5 x 475	5 x 126	5 x 375	5 x 826

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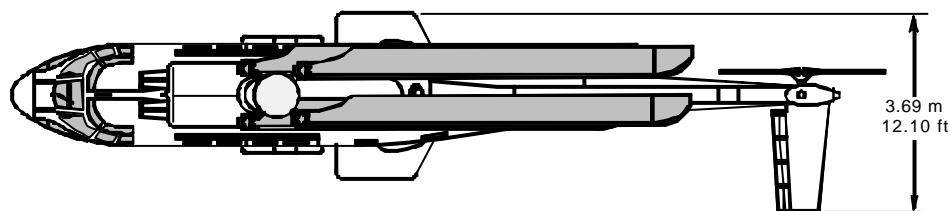
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### Main dimensions



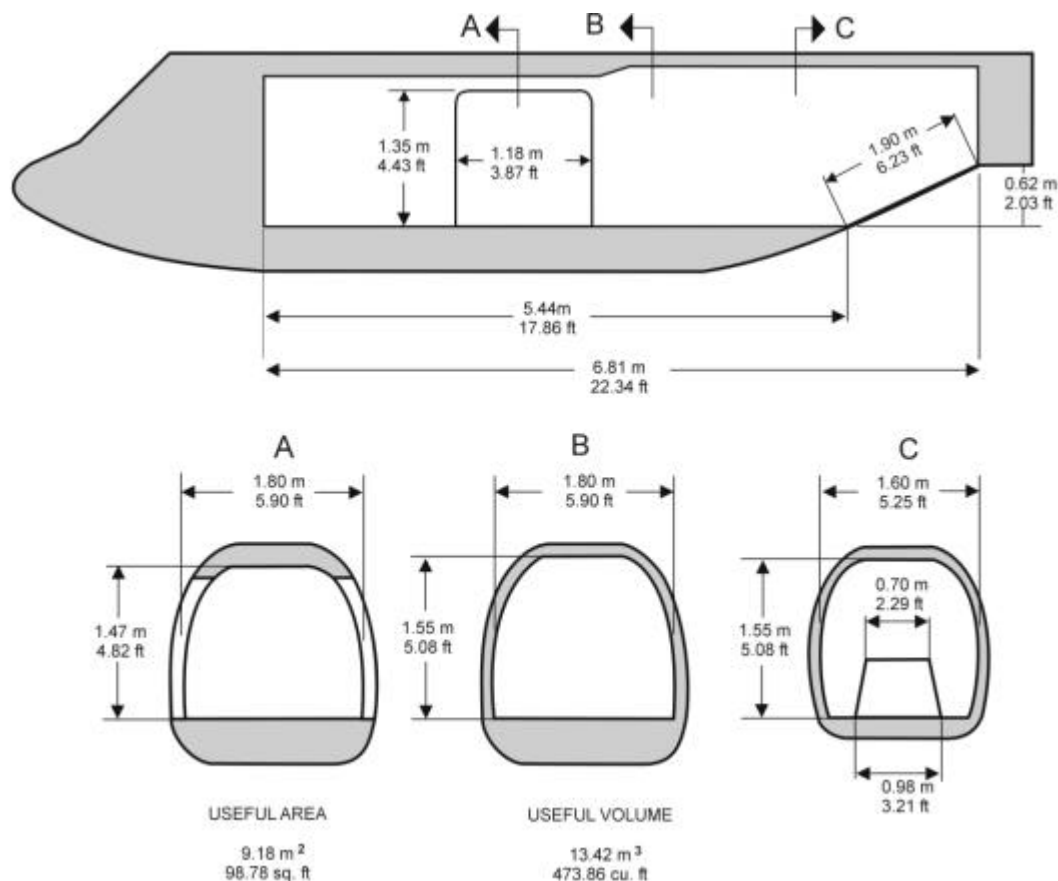
### Dimensions with blades folded



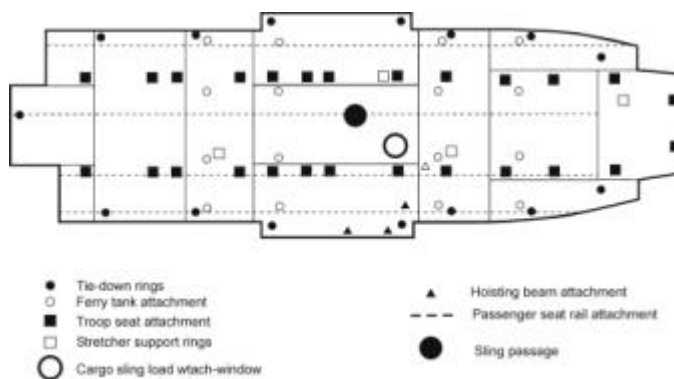
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## Dimensions of compartments and accesses

### Cabin main dimensions

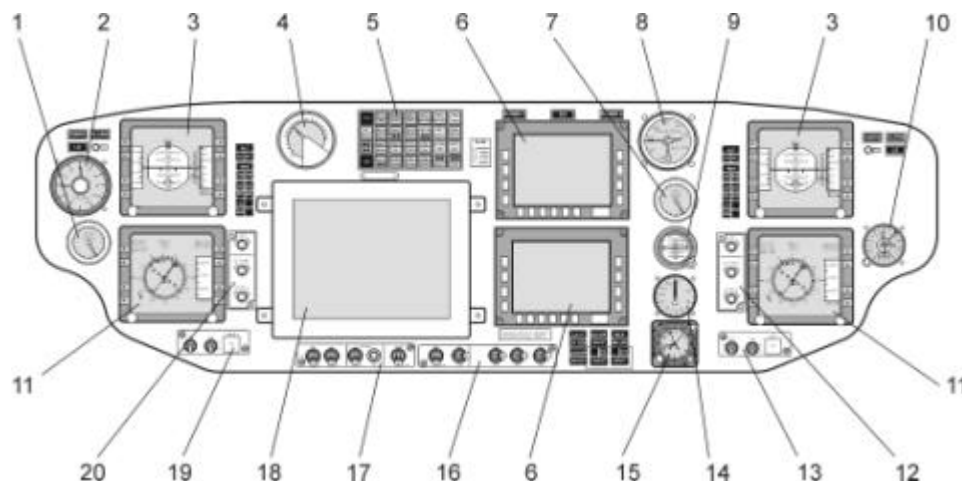


### Cabin floor



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## New Cougar MK1 2000 Standard Cockpit with state of art AMLCD's (Active Matrix Liquid Crystal Displays)



### Instrument-panel equipment :

- |    |  |    |   |
|----|--|----|---|
| 1  | Collective pitch indicator             | 12 | Vertical speed / Baro altitude / Decision Height Settings |
| 2  | Torque indicator                       | 13 | PFD / ND power on switches                                |
| 3  | 5 ATI COLLINS MFD 255 PFD LCD displays | 13 | Air speed indicator                                       |
| 4  | Autonomous NR indicator                | 15 | Stop watch  |
| 5  | Failure warning panel                  | 16 | Navigation and VMS reconfiguration panel                  |
| 6  | 4" x 5" BARCO VMS LCD displays         | 17 | Navigation control switches                               |
| 7  | Collective pitch indicator             | 18 | provision for mission display                             |
| 8  | NR/NF 1-2 indicator                    | 19 | PFD / ND power switches                                   |
| 9  | Stand-by horizon                       | 20 | Vertical speed / Baro altitude / Decision Height Settings |
| 10 | Altimeter                              |    |   |
| 11 | 5 ATI COLLINS MFD 255 LCD LCD displays |    |   |

## DISPLAYS

### Piloting and Navigation

- 4 Collins AMLCD's (Active Matrix Liquid Crystal Display) : 4 1/2 x 4 1/2 inches
  - 2 PFD's (Primary Flight Display)
  - 2 NMD's (Navigation Display)

### Vehicle Monitoring

- 2 Barco AMLCD's controlled by Smith computer : 4 x 5 inches

### Mission Management

- 1 Barco display for FLIR, DMAP, SONAR, RADAR : 6 x 8 inches (in option)
- 1 EWD AMLCD (Electronic Warfare Display) (in option)

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### Primary Flight Display and Navigation Display, with composite mode and weather radar mode including :

- 4 Smart Multi-mode Displays (SMD) 4.2 x 4.2 inches Collins MFD255
- 2 setting control boxes
- 2 Air Data Computers Sextant ADU3000
- The necessary reconfiguration switches (Vertical Gyro, Heading and Air Data Computer).



PFD symbology



HSI symbology

### Whatever the external environment....

### Power margin display at one glance



### BASIC VEHICLE MONITORING SYSTEM

- Engine and torque limitations (Start, Training, OEI, AEO)
- Exceedance of continuous rating limitations
- System status message
- Engine cycle counter
- Aircraft Management Computer reconfiguration

### KEY FEATURES

#### Designed for safety

- Redundancy with cross-cockpit viewing
- Automatic or manual reconfiguration : vital information always available
- Multi-environment compliant (sunlight, NVG)

#### Designed to perform from experience

- Mission oriented from complete functional analysis
- Information at a glance for reduced crew work load
- Cost saving in the aircraft operation

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## 2- Cougar AS 532 AL - Standard Aircraft Definition

### GENERAL

- Crashworthy design fuselage including cockpit and cabin
- monocoque tail boom with prop for tail rotor protection and stabilizer
- Front part of the tail boom arranged as a storage compartment
- Fuselage upper part used as transmission deck
- Fuselage lower part fittable with the floatation gear and the crashworthy installation (tanks, seats)
- Engine cowlings serving as a work platform when in the open position
- High energy absorption, retractable, tricycle landing gear with trailing-arm main landing gear and castering nose wheel unit
- Footsteps for climbing to the transmission deck, the cockpit and the cabin
- Built-in jacking and towing points
- Provisions for attaching gripping points
- 4 Built-in attachment points for lateral external loads
- Structural and electrical capabilities for axial armament
- Fixed parts for armour plating
- Fixed parts for cable cutter
- Fixed parts for 3 tons cargo sling
- Interior paint : night blue ; exterior, per customer paint scheme (glossy or dull polyurethane finish)

### COCKPIT

- 2 pilot and copilot seats adjustable in height and fore-and-aft, complete with safety belts and extensible shoulder harnesses
- 1 third crew man jump-seat with a 3-point extensible safety harness
- Dual flight control
- Steadying rods at pilot station
- Engine controls
- Master cut-off switches
- Rotor brake control
- Landing gear control
- Differential wheel brakes at pilot and copilot stations
- 2 map cases on pilot and copilot doors
- 1 Flight Manual
- 1 ash-tray
- 1 hand fire extinguisher
- De-iced pilot and copilot windshield panes
- Adjustable front ventilation system
- Heating and ventilation diffusers
- Windshield demisting diffusers
- 2 adjustable heating and ventilation outlets
- Manual cock for selective pane demisting
- Pilot and copilot windshield wipers
- De-iced cockpit center pane with wiper
- 2 jettisonable doors with door-stops
- Access to cabin with screen off curtain

### INSTRUMENTS

- 1 airspeed indicator
- 1 altimeter
- 2 stop watches
- 1 gyro-horizon
- 1 pitch indicator
- 2 SFIM CG 130 gyro compass
- 1 torquemeter indicator
- 1 rotor and free turbines 1 and 2 triple tachometer
- 1 warning panel
- 1 fuel circuit control and monitoring panel
- 1 dual DC indicator
- 1 dual AC indicator
- 1 engine starting panel
- 1 landing gear position control and monitoring panel
- heated pitot heads
- 4,2" x 4,2" PFD LCD displays
- 4,2" x 4,2" ND LCD displays
- 2 4" x 5" VMS LCD displays

### CABIN

- Re-inforced floor with crashworthy fixations fitted with 15 cargo tie-down rings, capable of accommodating various types of seat available on option
- 2 sliding double doors and front sliding windows
- 12 jettisonable panes (including 4 in the sliding doors)
- 1 removable rear panel with jettisonable window
- 1 hand fire extinguisher
- Sound proofing upholstery (dark padded cloth)
- Heating and ventilation (6 top outlets and 4 bottom diffusers)
- Fittings for ambulance equipment, fixed parts, 6 stretchers
- Fittings for 3 wall-mounted troop bench-seats
- Floor hatch for cargo sling pole
- Stowage space for airborne kit

### POWER PLANT

- 2 TURBOMECA MAKILA 1 A1 1,902 ch (1,877 shp) turbine engines in two separate groups with own starting, feeding, lubricating, cooling and governing systems
- 1 fuel system of 1,960 litres (520 US gal.) usable capacity comprising 6 crashworthy tanks 2 of which with self-sealing 12.7-mm projectile protection, arranged in 2 groups, 4 booster pumps, 1 transfer pump and a low/high fuel level warning system. The pipes are of the crashworthy type
- Provisions for ferrying, central auxiliary and external tanks
- 2 engine bay fire-detection systems
- 1 two-cylinder selective fire-extinguishing system
- 2 engine chip detectors
- Engine air intakes protected against icing, by grids and heating mats on the air intakes stub frames
- 1 engine flushing device without removal of cowlings
- N.G. limiter for training
- Fixed parts for infra-red suppressors

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### TRANSMISSION SYSTEM

- 1 main gearbox on flexible mountings with chip detector with fuse burner, oil sight gauge, oil temperature and pressure sensors and torque meter pick-ups
- 1 intermediate gearbox with magnetic plug, oil sight gauge and temperature sensor
- 1 tail gearbox with magnetic plug, oil sight gauge and temperature sensor
- 1 main gearbox oil cooling system
- 1 rotor brake
- 2 MGB bay fire detection circuits

### ROTORS AND FLYING CONTROLS

- 1 main rotor with 4 composite-material blades equipped with gust and droop stops
- 1 anti-torque rotor with 5 composite-material blades
- 1 flying control system, fitted with 4 dual-body servo-units (3 on the cyclic and collective pitch channels and 1 on the anti-torque pitch control channel) with a single chamber per body
- 1 duplex autopilot associated with two SFIM GV 76-1 vertical gyro units and one baroanemometric module

### ELECTRICAL INSTALLATION

- 2 20/30 kVA, 115/200 V, 400 Hz alternators
- 1 43 amp.-hr cadmium-nickel battery
- 2 150 amp. transformer-rectifiers
- 1 stand-by battery
- 2 26 V, 400 Hz transformers
- 1 cockpit lighting system including :
  - white/blue pedestal instrument and overhead panel lighting (normal/stand-by)
  - red or white general lighting
  - 1 white extension light
  - 2 white map lights
- 1 cabin lighting system (5 dome lights)
- 6 receptacles for ancillaries (28 V, 15 amp.)
- 1 receptacle for ancillaries (28 V, 25 amp.)
- 2 external power receptacles (AC and DC)
- 1 600-W landing light
- 3 position lights
- 1 anti-collision light
- 2 formation lights

### HYDRAULIQUE GENERATION

- 2 independent hydraulic systems :
  - the LH system feeds one of the servo-unit bodies, the autopilot, the landing gear control, the rotor brake and wheel brakes
  - the RH system feeds the other body of the servo-units
  - Hydraulic ground couplings
- 1 DC auxiliary electropump on stand-by for the LH system and for supplying sufficient hydraulic pressure for movement of the controls on the ground before starting in high winds
- 1 stand-by electropump for complete lowering of the landing gear

### AIRBORNE KIT (\*)

- 4 static vent blanks
- 3 pitot head covers
- 1 engine air-intake grid protection cover
- 2 engine tail-pipe blanks
- 4 mooring rings
- 2 rough-weather mooring fittings (included on the aircraft)
- 1 access ladder
- 1 data case
- 3 jacking ball-joints
- Main blade tie-down
- Tail rotor blade lock
- Fuel bleed line
- 1 stowing bag for the airborne kit

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### 3- Optional equipment

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

CI : Complete Installation FP : Fixed Parts		CI FP	CI FP
General items of equipment		kg	lb
05-0020	Second landing light	5.0	11.0
05-0041	ROSEMOUNT Icing severity indicator	3.1	6.8
05-0051	Air conditioning system, with hold mounted unit	123.0	271.2
05-0065	Self sealing fuel tanks, for stretched versions	40.0	88.18
05-0066	Central self sealing fuel tank	33.2	73.19
05-0071	Fuel anti icing installation (- 45 °C)	-	-
05-0091	Cockpit green tinted panes plus sun vizors with standard colourless pane in front of the pilot and copilot	3.4	7.5
05-0092	Cockpit green tinted upper panes plus sun vizors	3.4	7.5
05-0100	Cabin green tinted windows, for stretched versions	-	-
05-0102	Cabin metallized windows, for stretched versions	-	-
05-0110	Windshield washers	1.5	3.3
05-0140	Kit for flight with third generation night vision goggles, with Centralized Radio Management System	16.3	35.9
05-0141	Kit for flight with third generation night vision goggles, with Radio COM/NAV dedicated control boxes	16.3	35.9
05-0150	Crashworthy central auxiliary fuel tank	27.5	60.6
05-0151	Crashworthy external additional fuel tanks	134.5	296.5
05-0153	Crew crashworthy seats (3)	24.7	54.5
05-0160	2 observation bubble windows	1.0	2.2
05-0170	30/40 kVA alternators	22.0	48.5

#### Instruments and flying aids

06-0010	SFIM CDV 85 P3 flight director coupler	15.2	33.5
06-0030	SFIM CDV 155 flight director coupler	38.0	83.7
06-0060	Orange screens and goggles for instrument flying training	3.0	6.6
06-0260	Elbit Digital moving map, with 6" x 8" LCD display	23.0	50.7
06-0305	Inertial Navigation System with embedded code P-GPS LITTON LN 100 G	14.5	31.9
06-23010	GPS navigation system Trimble TNL 2101 approach +	3.5	7.7
06-23011	GPS Navigation System Trimble TNL 2101 3 <sup>rd</sup> GEN NVG compatible	3.5	7.7
06-0301	Canadian Marconi CMA 3000 Flight Management System	16.8	37.1
06-031100	Weather Radar Telephonics 1400 C	28.0	61.7
06-32100	Telephonics 1500 C search radar with 9 inches display and nav interface	57.4	126.5

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### Specific mission equipment

<b>07-0010</b>	Emergency floatation gear, without external fuel tanks	<b>196.6</b> 25.9	<b>433.4</b> 57.1
<b>07-0012</b>	Emergency floatation gear usable with external fuel tanks	<b>177.4</b> 25.9	<b>391.1</b> 57.1
<b>07-0050</b>	Skis	<b>165.0</b> 7.8	<b>363.7</b> 17.1
<b>07-0070</b>	Multipurpose engine air intakes : stretched version	<b>62.0</b>	<b>136.6</b>
<b>07-0080</b>	Main rotor blades reinforced sand erosion protection strips	<b>0.3</b>	<b>0.6</b>
<b>07-0081</b>	Tail rotor blades reinforced sand erosion protection strips	<b>0.1</b>	<b>0.2</b>
<b>07-0100</b>	Installation for flight in icing conditions	<b>145.0</b>	<b>319.6</b>
<b>07-0101</b>	Installation for flight in extreme cold weather	<b>56.1</b> 22.6	<b>123.6</b> 49.8
<b>07-0103</b>	Kit for flight in limited icing conditions	<b>17.7</b>	<b>39.1</b>
<b>07-0120</b>	Pressure refuelling on the ground usable with standard sponsons	<b>15.6</b>	<b>34.3</b>
<b>07-0122</b>	Pressure refuelling on the ground usable with maritime sponsons and floatation gear	<b>12.4</b>	<b>27.3</b>
<b>07-0123</b>	Hover in flight refuelling with internal cabin fuel plug	<b>10.0</b>	<b>22.0</b>
<b>07-0124</b>	Pressure refuelling on the ground usable with external tanks and cabin double sliding doors	<b>18.1</b>	<b>39.9</b>
<b>07-0130</b>	Fuel jettison system	<b>9.0</b>	<b>19.8</b>
<b>07-0140</b>	Central auxiliary fuel tank 1 x 324 liters	<b>21.9</b>	<b>48.28</b>
<b>07-0146</b>	Ferrying fuel tanks 1 to 5 x 475 liters (1 to 5 x 126 US gal.), for military use	<b>21.7</b>	<b>47.8</b>
<b>07-0150</b>	Cargo sling with dynamometer (4.5 tons)	<b>28.0</b>	<b>61.7</b>
<b>07-0160</b>	External mirrors	<b>6.5</b> 0.5	<b>14.3</b> 1.1
<b>07-0180</b>	Casualty carrying installation (without stretchers and seats)	<b>6.9</b>	<b>15.2</b>
<b>07-0181</b>	Stretcher NATO	<b>8.3</b>	<b>18.2</b>
<b>07-0182</b>	Self contained medical unit	<b>210.4</b> 2.0	<b>463.8</b> 4.4
<b>07-0190</b>	Fixed hoist with variable speed 75 meter cable, 272 kg (246 ft, 600 lb)	<b>54.7</b> 6.9	<b>120.5</b> 15.2
<b>07-0194</b>	Electrical back-up hoist	<b>23.2</b> 8.2	<b>51.1</b> 18.1
<b>07-0200</b>	Drip tub	<b>7.0</b>	<b>15.4</b>
<b>07-0210</b>	Automatic paratrooper installation	<b>31.0</b> 5.0	<b>68.3</b> 11.1
<b>07-0230</b>	Flare installation (without flares)	<b>5.4</b>	<b>11.9</b>
<b>07-0240</b>	Hailer installation	<b>41.0</b> 15.1	<b>90.3</b> 33.2
<b>07-0280</b>	Spectrolab SX 16 search light	<b>28.9</b> 4.9	<b>63.7</b> 10.8
<b>07-1300</b>	Polyurethane white paint-reinforced anti-corrosive treatment	<b>12.6</b>	<b>27.7</b>
<b>07-1301</b>	Polyurethane white paint-and Dinol AV30 reinforced anti-corrosive treatment	<b>25.0</b>	<b>55.1</b>

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### Interior cabin layout

<b>09-0060</b>	24 troop seat installation	<b>81.5</b> 7.0	<b>179.6</b> 15.4
<b>09-0080</b>	18 crashworthy troop seat installation	<b>146.5</b> 9.6	<b>322.9</b> 21.1
<b>09-0121</b>	20 comfort seat installation	<b>209.2</b>	<b>461.2</b>
<b>09-0152</b>	Enlarged luggage hold	<b>15.0</b>	<b>33.1</b>
<b>09-0200</b>	Rear built-in step door	<b>8.3</b>	<b>18.2</b>

### Ground handling and picketing

<b>10-0010</b>	Main rotor blade folding system	<b>57.3</b> 6.4	<b>126.3</b> 14.1
<b>10-0040</b>	Main landing gear kneeling system	<b>4.5</b>	<b>9.9</b>

### Military installation

<b>11-0015</b>	7.62 mm MAG FN machine gun in forward right and left windows (Machine guns to be contracted separately)	<b>74.0</b> 4.2	<b>163.1</b> 9.2
<b>11-0020</b>	20 mm AME 621 side firing installation	<b>62.0</b> 1.8	<b>136.6</b> 3.9
<b>11-0040</b>	Axial armament common components	<b>173.9</b> 39.4	<b>383.3</b> 86.8
<b>11-0043</b>	2 x 20 mm pod mounted cannons	<b>236.0</b> 4.0	<b>520.2</b> 8.8
<b>11-0044</b>	2 x 19 – 2.75" rocket launchers	<b>152.0</b> 3.2	<b>335.1</b> 7.1
<b>11-0055</b>	EWR 99 Radar Warning Receiver	<b>10.9</b> 6.6	<b>24.1</b> 14.5
<b>11-0066</b>	ALKAN ELIPS NG chaff/flare dispensers	<b>29.5</b> 26.1	<b>65.1</b> 57.7

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Radio Communication and Radio Navigation equipment		kg	lb
<b>15-10010</b>	Collins HF9X00 HF/SSB	24.3	53.5
<b>15-11111</b>	Collins VHF422B co-pilot	5.1	11.2
<b>15-13100</b>	V/UHF AM/FM Collins ARC 210	10.5	23.1
<b>15-15116</b>	Collins 346D2B Passenger Address	11.4	25.1
<b>15-16350</b>	ICS Team TB 31, with 3 ref. 1976 ctl boxes in cabin	14.3	31.5
<b>15-16353</b>	ICS Team TB 31, additional ref 1976 ctl box in cabin	3.1	6.8
<b>15-16354</b>	ICS Team TB 31, additional ref. 1976 ctl boxes in cockpit	3.1	6.8
<b>15-16355</b>	ICS Team TB 31, with 3 ref. 1976 ctl boxes in cockpit	14.3	31.5
<b>15-17100</b>	Interphone Team BA 1920	1.6	3.5
<b>15-17301</b>	Silec 4449-1 headset	0.5	1.1
<b>15-17304</b>	Silec 4452	1.5	3.3
<b>15-18100</b>	Collins – ETC 4000F - Radio Management System	12.3	27.1
<b>15-21200</b>	Serpe - IESM ELT Kannad 406 AF	2.1	4.6
<b>15-23100</b>	UAB Dukane DK100	0.5	1.1
<b>15-31110</b>	Thales – AHV 16 - Radio altimeter	7.8	17.1
<b>15-31110s</b>	Thales – AHV 16 - Radio altimeter (2nd one)	7.5	16.5
<b>15-32010</b>	TDR Collins TDR90	4.0	8.8
<b>15-33012</b>	Honeywell - APX100 - IFF Transceiver	6.5	14.3
<b>15-33040</b>	Thales IFF TSC2050	10.8	23.8
<b>15-34020</b>	Collins - ADF 462 - ADF	6.9	15.2
<b>15-35020</b>	DME Collins DME442	8.2	18.1
<b>15-35100</b>	Collins - AN/ARN 153 V (TCN-500)	11.0	24.2
<b>15-36020</b>	Collins - VIR 432 - VOR/ILS pilot	11.8	26.1
<b>15-36021</b>	Collins - VIR 432 - VOR/ILS co-pilot	8.6	18.9
<b>15-37010</b>	Cubic AN/ARS 6 PLS	14.8	32.6
<b>15-37200</b>	Chelton DF931 V/UHF DF	8.0	17.6
<b>15-41100</b>	Racal V 694 AVAD	1.3	2.8

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## 4- Radio-communication and radio-navigation equipment

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.

### A/ Military uses

#### Recommended minimum items of equipment

Designation	Solution 1	Solution 2
VHF/AM	-	Collins VHF 422 B
V-UHF/AM-FM TACTICAL FM maritime No 1	Collins ARC 210	Collins ARC 210
V-UHF/AM-FM TACTICAL FM maritime No 2	Collins ARC 210	-
VOR/ILS	Collins VIR 432	Collins VIR 432
A.D.F.	Collins ADF 460	Collins ADF 460
RADIO ALTIMETER	Thales AHV16	Thales AHV16
I.C.S (3 control boxes)	Team TB 31	Team TB 31
<b>Weight supplement</b>	<b>54.7 kg</b>	<b>49.6 kg</b>

### Headsets and helmets

Designation	Solution 1, 2	kg	lb
Headsets	Silec 4449-1	0.5	1.1
Helmets	Gueneau-Silec 459	1.3	2.8

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## Radio-communication and radio-navigation equipment (cont'd)

### A/ Military uses (continued)

#### Additional equipment depending on operational needs

Designation	Solution 1, 2	kg	lb
V/UHF Direction Finder	Chelton DF 931	8.0	17.6
VHF/AM Homer	Chelton system 7	9.4	4.6
Personal locator system	Cubic AN/ARS 6	23.0	5.1
VOR/ILS	Collins VIR 432	10.4	2.3
HF/SSB	Collins HF 9100	23.0	50.7
IFF <b>1</b>	Thales TSC 2050	10.8	23.8
	or		
	Allied APX 100	6.5	14.3
or	or		
Transponder	TDR 90 <b>2</b>	4.0	8.8
	Collins DME 442	6.0	13.2
D.M.E.	or		
or TACAN	Collins ARN 153	11.0	24.2
Emergency locator transmitter	Kanad 406 AF	2.1	4.6
I.C.S.	Team TB 31	3.1	6.8
(4 <sup>th</sup> control box)			
I.C.S.	Team BA 1920	1.6	3.5
Passenger interphone			
GPS <b>3</b>	Trimble TNL 2101	3.5	7.7
	Approach +		
Flight director coupler	SFIM CDV 85 P3	15.2	33.5
Weather radar	Telephonics 1400C	28.0	61.7
	Thales RDN 85 Doppler Radar		
Self-contained navigation system	Canadian Marconi CMA 3000	51.3	113.1
	+ 1 Air Data Loader		
	+ 1 Data Transfer Module <b>4</b>		
GPS = option of self contained nav. system	CMA 3012	4.6	10.1

**1** NVG incompatible. If mode S is necessary, use Collins TDR 94 instead of TDR 90

**2** Incompatible with Night Vision Goggle use

**3** The customer must take out a subscription to the data base in order to use the GPS after having taken delivery of the helicopter

**4** In order to load the data in the FMS, a Mission Planning System (MPS) is recommended. This system can be shared between several helicopters operated from the same base

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## Radio-communication and radio-navigation equipment (cont'd)

### B/ Navy uses

#### Recommended minimum items of equipment

Designation	Solution 1	Solution 2
VHF/AM	-	Collins VHF 422 B
V-UHF/AM-FM TACTICAL-FM maritime No 1	Collins ARC 210	Collins ARC 210
V-UHF/AM-FM TACTICAL-FM maritime No 2	Collins ARC 210	-
VOR/ILS	Collins VIR 432	Collins VIR 432
A.D.F.	Collins ADF 462	Collins ADF 462
Radio Altimeter	Thales AHV16	Thales AHV16
I.C.S. (3 control boxes)	Team TB 31	Team TB 31
<b>Weight supplement</b>	<b>62.0 kg</b>	<b>56.9 kg</b>

### Headsets and helmets

Designation	Solution 1, 2	kg	lb
Headsets	Silec 4449-1	0.5	1.1
Helmets	Gueneau-Silec 459	1.3	2.8

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## Radio-communication and radio-navigation equipment (cont'd)

### B/ Navy uses (cnt'd)

#### Additional equipment depending on operational needs

Designation	Solution 1, 2	kg	lb
Direction Finder	Chelton DF 931	8.0	17.6
Personal Locator System	Aselsan ARS 700	23.0	50.7
IFF	Thales TSC 2050 <sup>1</sup> or Allied APX 100	10.8	23.8
HF/SSB	Collins HF 9100	6.5	14.3
Emergency Locator Transmitter	Kanad 406 AF	23.0	50.7
ADELT		2.1	4.6
VOR/ILS	Caledonian CPT 609	10.0	22.0
D.M.E.	Collins VIR 432	10.4	22.9
or	Collins DME 442	6.0	13.2
TACAN	or Collins ARN 153	11.0	24.2
I.C.S. 4th control box	Team TB 31	3.1	6.8
Passenger Interphone	Team BA 1920	1.6	3.5
GPS <sup>2</sup>	Trimble TNL 2101 Approach +	3.5	7.7

- <sup>1</sup> The reference of this equipment vary depending on customer's country and its enabling to have access to the mode 4
- <sup>2</sup> The helicopter must take out a subscription to the data base in order to use the GPS after having taken delivery of the helicopter

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## Radio-communication and radio-navigation equipment (cont'd)

### Search and Rescue Missions

Designation	Solution 1	Solution 2
I.C.S. 4th control box	Team TB 31	
Navigation and Automatic Transmission and Hover Coupler	SFIM CDV 155	
<b>Self Contained Navigation System</b>		
Navigation Computer	Canadian Marconi CMA 3000 <sup>1</sup>	
	+	
Navigation Sensors	Thales RDN 85 doppler radar	
	+	
	2 Hover Indicators	
	Telephonics RDR 1500 B 29 inches antenna	
	Telephonics 1502 A color display	
	Telephonics 1507 interface	
<b>Weight supplement</b>	<b>120 kg</b>	

### Options

Designation	Solution 1, 2	kg	lb
GPS	CMA 3012	4.0	8.8
Option of navigation system			
I.C.S. 5th control box	Team TB 31	2.4	5.3
or	or		
I.C.S. passenger interphone	Team BA 1920	1.6	3.5

<sup>1</sup> Includes fuel flowmeter function

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## 5- Equipment compatibility

- Impossibility of simultaneous fitment of the fixed parts of 2 items of equipment
- ? Total or partial incompatibility of simultaneous fitment of the removal parts of two items of equipment
- Possibility of simultaneous fitment on the same aircraft, but impossible to use simultaneously

**Note:** This table indicates the compatibility restrictions existing between the installations. The consultation of EUROCOPTER is necessary for the definitive Equipment Compatibility clearance of a configuration.

Reference Optional	Installation	Nature of the incompatibility		
		■	▲	●
	<b>General items of equipment</b>			
05-0051	Air conditioning system with hold mounted unit	07-0210 09-0060 09-0200		07-0190
05-0091	Cockpit green-tinted panes plus sun vizors (incompatible with NVG use) with standard colourless panes in front of the pilot and copilot	05-0140		
05-0140	Kit for flight with third generation night vision goggles	05-0091		
05-0150	Crashworthy central auxiliary fuel tank (84 US gal.)		07-0150	
05-0151	Crashworthy external additional fuel tanks (2 x 86 US gal.)	07-0010 07-0120		
	<b>Instruments and Flying Aids</b>			
06-0010	SFIM CDV 85 P3 Flight Director Coupler	06-0030		
06-0030	SFIM CDV 155 Navigation approach hover hold and automatic transition coupler	06-0010		
06-0060	Orange screens and goggles for instrument flying training	05-0091		
	<b>Specific Mission Equipment</b>			
07-0010	Emergency floatation gear usable WITHOUT external fuel tanks	05-0151 07-0012		07-0050
07-0012	Emergency floatation gear usable WITH external fuel tanks	07-0010		07-0050
07-0050	Skis			07-0010 07-0012
07-0080	Re-inforced sand-erosion protection main rotor blades	07-0100		
07-0081	Re-inforced sand-erosion protection tail rotor blades	07-0100		
07-0100	Installation for flight in icing conditions	07-0080 07-0081		
07-0120	Pressure refuelling on the ground with standard sponsons	05-0151		
07-0144	Ferrying fuel tank		07-0180	

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Reference Optional	Installation	Nature of the incompatibility		
		■	▲	●
	<b>Specific Mission Equipment (continued)</b>			
07-0150	Cargo sling with dynamometer 4.5 tons		05-0150	
07-0180	Casualty-carrying installation (without stretchers and seats)		07-0144 07-0150 07-0200 07-0210 09-0060 09-0080 09-0121	
07-0190	Fixed hoist (600 lb), 246 ft cable with variable speed			05-0051 07-0144 07-0150 07-0210
07-0200	Drip tub (sea rescue)		07-0144 07-0150 07-0180 07-0210 09-0060 09-0080 09-0121	
07-0210	Automatic paratrooper installation	05-0051 09-0200	07-0144 07-0180 07-0200 09-0060 09-0080 09-0121	07-0150 07-0190
	<b>Interior Arrangement</b>			
09-0060	24 troop seat installation	05-0051	07-0144 07-0150 07-0180 07-0200 07-0210 09-0080 09-0121	
09-0080	18 crashworthy troop seat installation	09-0171 09-0181	07-0144 07-0150 07-0180 07-0200 07-0210 09-0060 09-0121	
09-0121	20 comfort seats installation	09-0171 09-0181	07-0144 07-0150 07-0180 07-0200 07-0210 09-0060 09-0080	
09-0200	Rear built-in steps door	05-0051 07-0210		

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## 6- Main performance

The following performance values and figures refer to an AS 532 AL, equipped with new 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

Gross Weight	kg lb	6,000 13,230	7,000 15,430	8,000 17,630	9,000 19,840
■ Max. speed, VNE	km/hr kts	304 164	303 164	298 161	278 150
■ Fast cruise speed	km/hr kts	283 153	281 152	278 150	258 139
■ Recommended cruise speed	km/hr kts	265 143	262 141	258 139	248 134
■ Fuel consumption at recommended cruise speed	kg/hr lb/h	481 1,060	486 1,071	497 1,096	510 1,124
■ Fuel consumption at 70 kts	kg/hr lb/h	335 739	353 778	374 825	402 886
■ Rate-of-climb at 70 kts	m/sec. ft/min.	14.7 2,894	12.1 2,382	9.8 1,920	7.2 1,417
■ Hover ceiling IGE (10ft) at take-off power					
● ISA	m ft	6,500 21,325	5,100 16,700	3,950 12,959	2,800 9,196
● ISA + 20°C	m ft	5,850 19,193	4,450 14,560	3,200 10,499	1,800 5,906
■ Hover ceiling OGE at take-off power					
● ISA	m ft	5,750 18,865	4,300 14,108	3,050 10,007	1,650 5,413
● ISA + 20°C	m ft	5,200 17,060	3,550 11,647	2,100 6,890	850 2,789
■ Service ceiling Vz = 150 ft/min					
● ISA	m ft	7,200 23,622	5,900 19,357	4,650 15,255	3,450 11,319
● ISA + 20°C	m ft	6,500 21,325	5,100 16,732	3,800 12,467	2,700 8,858
■ Maximum range (without fuel reserve, at recommended cruise speed)					
● with standard crashworthy fuel tanks	km n.m	754 407	827 447	809 437	776 419
● with external crashworthy fuel tanks	km n.m	680 367	1,089 588	1,064 575	1,022 552
● with central crashworthy auxiliary fuel tank	km n.m	742 401	763 412	947 511	911 492
● with external and central crashworthy auxiliary fuel tanks	km n.m.	668 361	1,173 633	1,198 647	1,165 629
■ Maximum endurance [without fuel reserve, at 130 km/hr (70 kts)]					
● with standard crashworthy fuel tanks	hr	4.24	4.49	4.25	4.01
● with external crashworthy fuel tanks	hr	3.89	6.04	5.73	5.34
● with central crashworthy auxiliary fuel tank	hr	4.17	5.25	4.97	4.70
● with external and central crashworthy auxiliary fuel tanks	hr	3.83	6.52	6.45	6.10

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## Performance in external load carrying mission

■ Rate of climb at 9,350 kg	6.4 m/sec 1,260ft/min
■ Hover ceiling OGE at take-off power	
• ISA	650 m 2,133 ft
• ISA + 10°C	300 m 984 ft
• ISA + 17°C	Sea level

## Performance on 1 engine

Gross Weight	kg lb	6,000 13,230	7,000 15,430	8,000 17,630	9,000 19,840
■ Rate-of-climb at intermediate emergency power S.L.	m/s ft/min	9.0 1,772	6.8 1,339	4.7 925	2.5 492
■ Service ceiling at intermediate emergency power (Vz = 0) ISA	m ft	5,200 17,060	3,700 12,139	2,500 8,202	1,350 4,429
■ Service ceiling at intermediate emergency power (Vz = 0) ISA + 20°C	m ft	4,500 14,764	3,050 10,007	1,750 5,741	550 1,804

## Maximum take-off weight at max. emergency power

		ISA	ISA + 20°C
■ In hover IGE (10 ft)	kg lb	7,500 16,534	6,900 15,211
■ In hover OGE	kg lb	6,910 15,233	6,320 13,933

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## 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
  - Flight 7,620 m – 25,000 ft
  - Take-off and landing 5,100 m – 16,700 ft (DA)
- Maximum temperature ISA + 35°C limited to 50°C
- Minimum temperature
  - 30°C (basic)
  - 45°C (with optional installation for flight in extreme cold weather)

## Abbreviations

AEO :	All Engines Operative	SL :	Sea Level
AGL :	Above Ground Level	TAS :	True Air Speed
DA :	Density Altitude	TOP :	Take-Off Power
IGE :	In Ground Effect	VNE :	Never Exceed Speed
ISA :	International Standard Atmosphere	VTOL :	Vertical Take-Off and Landing
MCP :	Maximum Continuous Power	Vtoss :	Take-off safety speed
OEI :	One Engine Inoperative	Vy :	Optimum climbing speed
OGE :	Out of Ground Effect	Vz :	Rate-of-climb
PA :	Pressure Altitude		

## Units

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

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## Performance charts

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

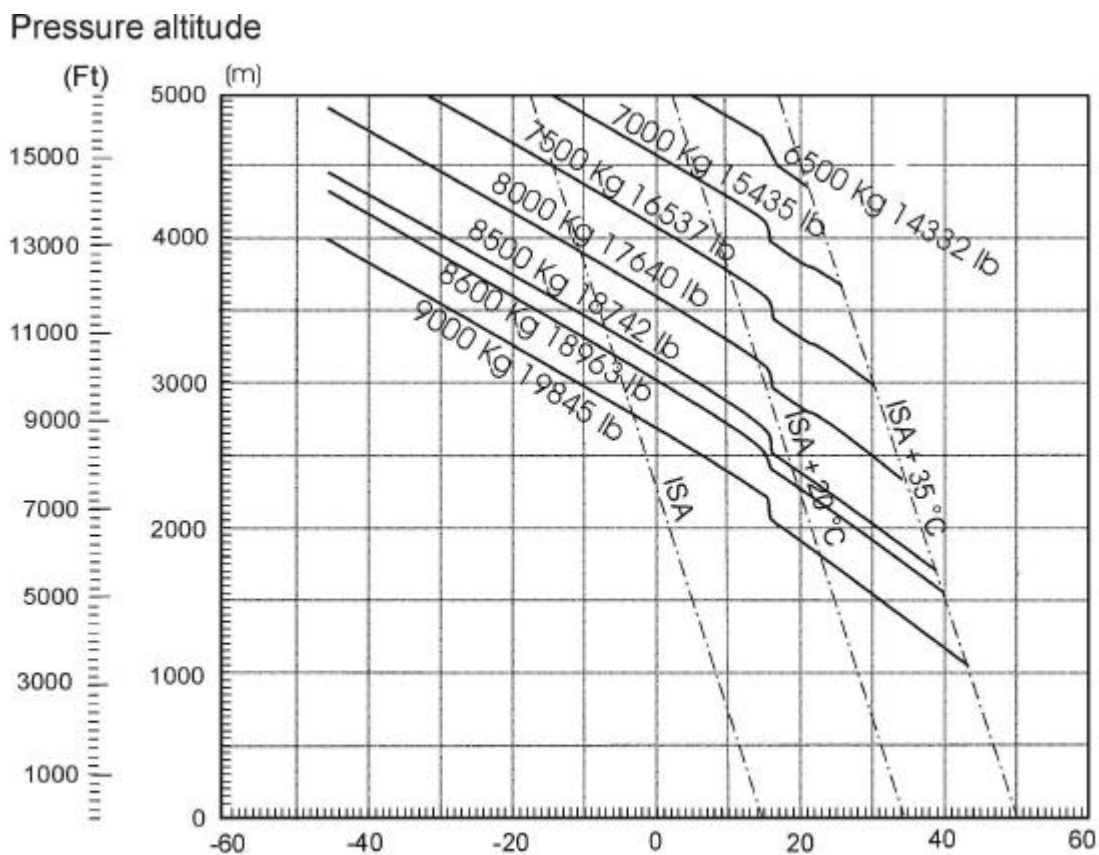
■ Take-off weight in hover IGE, height (10 ft), on 2 engines at take-off power	Page 27
■ Take-off weight in hover OGE, on 2 engines at take-off power	Page 28
■ Maximum cruise speed Pitch : 16.5 for weight $\leq$ 8,350 kg – 18,410 lb Pitch : 16° for weight $>$ 8,350 kg – 18,410 lb ISA	Page 29
■ Maximum cruise speed Pitch : 16.5 for weight $\leq$ 8,350 kg – 18,410 lb Pitch : 16° for weight $>$ 8,350 kg – 18,410 lb ISA + 20°C	Page 30
■ Rate of climb in oblique flight on 2 engines at best climb speed ISA	Page 31
■ Rate of climb in oblique flight on 2 engines at best climb speed ISA + 20°C	Page 32
■ Rate of climb in oblique flight on 1 engine at intermediate emergency power ISA	Page 33
■ Rate of climb in oblique flight on 1 engine at intermediate emergency power ISA + 20°C	Page 34
■ Hourly fuel consumption at maximum cruise speed (pitch 16°5, M $\leq$ 8,350 kg) ISA	Page 35
■ Hourly fuel consumption at maximum cruise speed (pitch 16°, M $>$ 8,350 kg) ISA	Page 36
■ Hourly fuel consumption at maximum cruise speed (pitch 16°5, M $\leq$ 8,350 kg) ISA + 20°C	Page 37
■ Hourly fuel consumption at maximum cruise speed (pitch 16°, M $>$ 8,350 kg) ISA + 20°C	Page 38
■ Recommended cruise speed (pitch 15°5) ISA	Page 39
■ Recommended cruise speed (pitch 15°5) ISA + 20°C	Page 40
■ Hourly fuel consumption at recommended cruise speed ISA	Page 41
■ Hourly fuel consumption at recommended cruise speed ISA + 20°C	Page 42

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**TAKE-OFF WEIGHT IN HOVER IGE (HEIGHT = 10 FT)**

**on 2 engines at take-off power**

**(or maximal torque)**

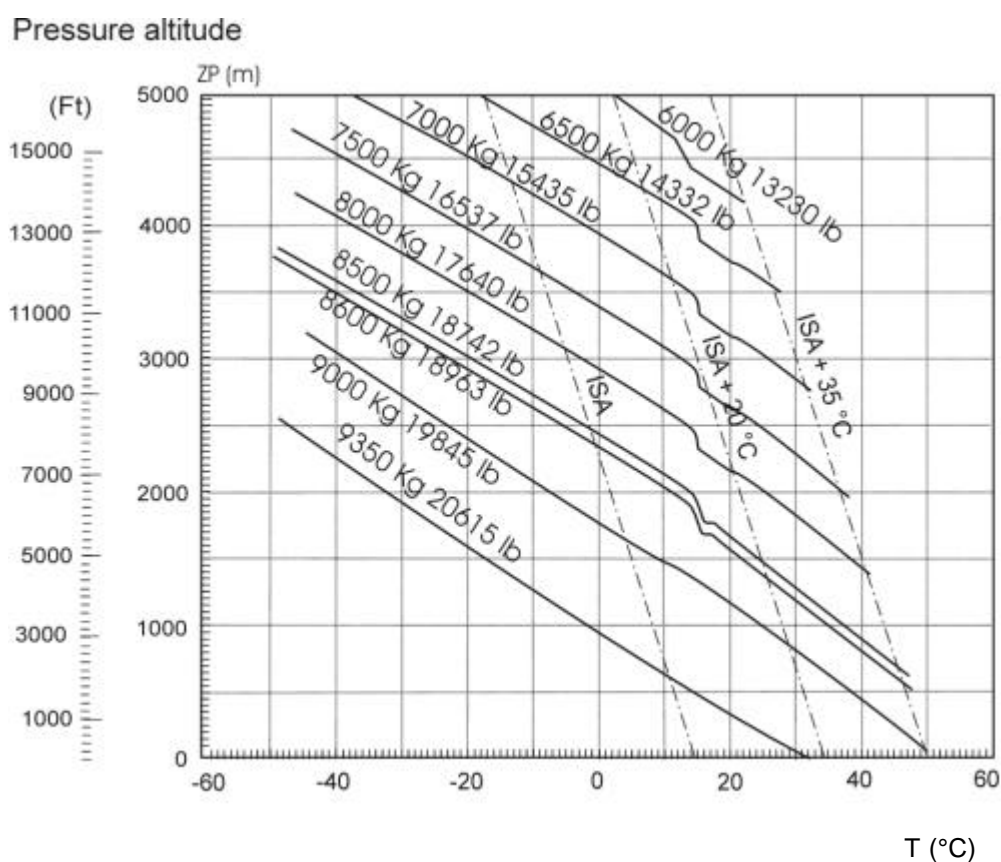


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## TAKE-OFF WEIGHT IN HOVER OGE

on 2 engines at take-off power

(or maximal torque)



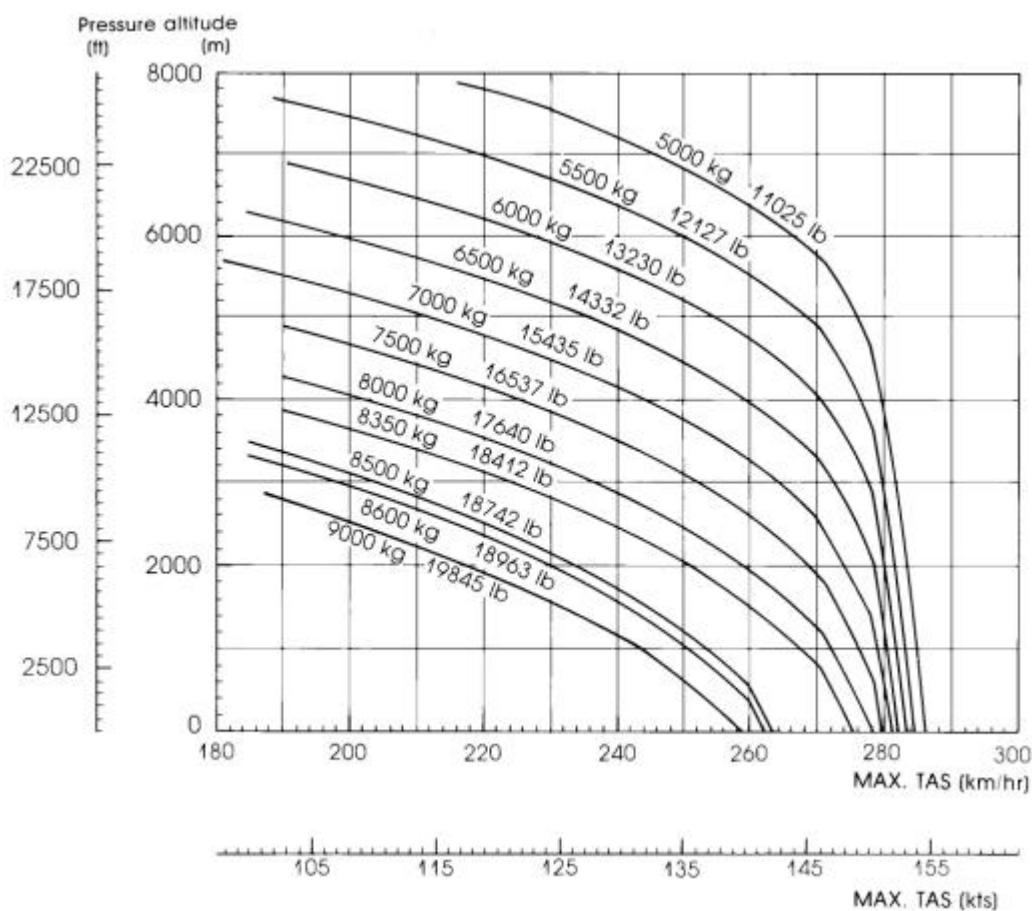
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## MAXIMUM CRUISE SPEED

Pitch : 16°5 for weight ≤ 8,350 kg - 18,410 lb

Pitch : 16° for weight > 8,350 kg - 18,410 lb

ISA



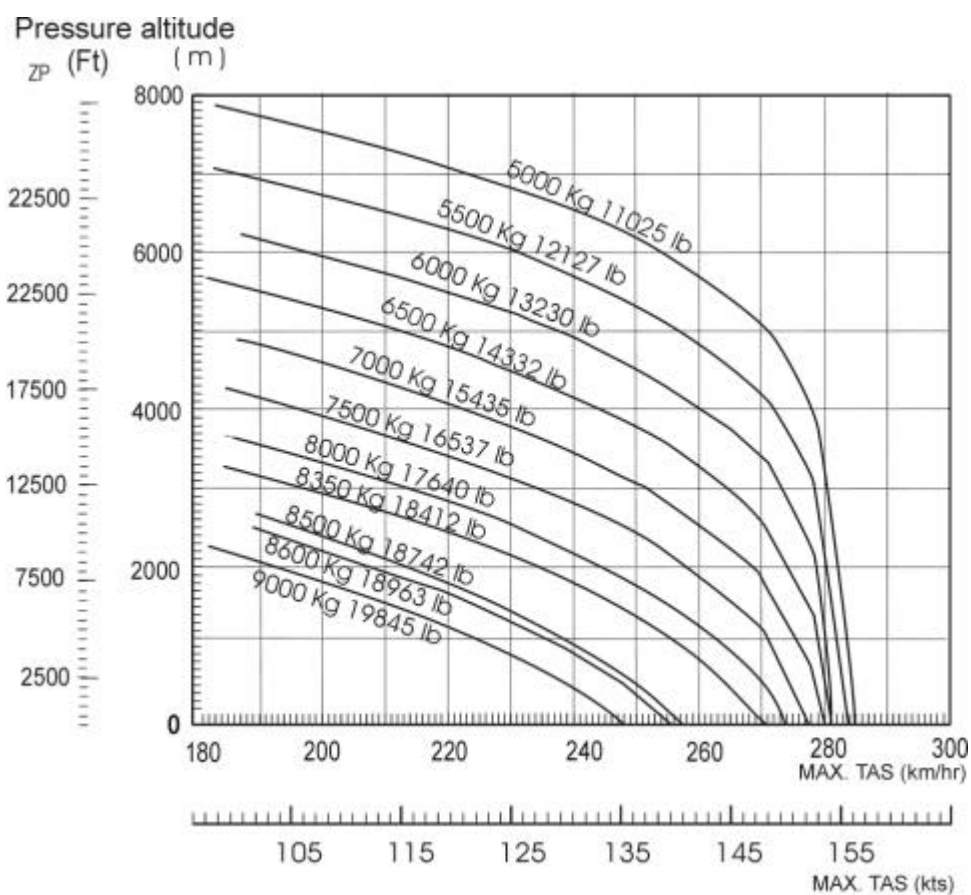
*The data set forth in this document are general in nature and for information purposes only. They may vary with conditions. For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..*

## MAXIMUM CRUISE SPEED

Pitch : 16°5 for weight ≤ 8,350 kg - 18,410 lb

Pitch : 16° for weight > 8,350 kg - 18,410 lb

ISA + 20°C

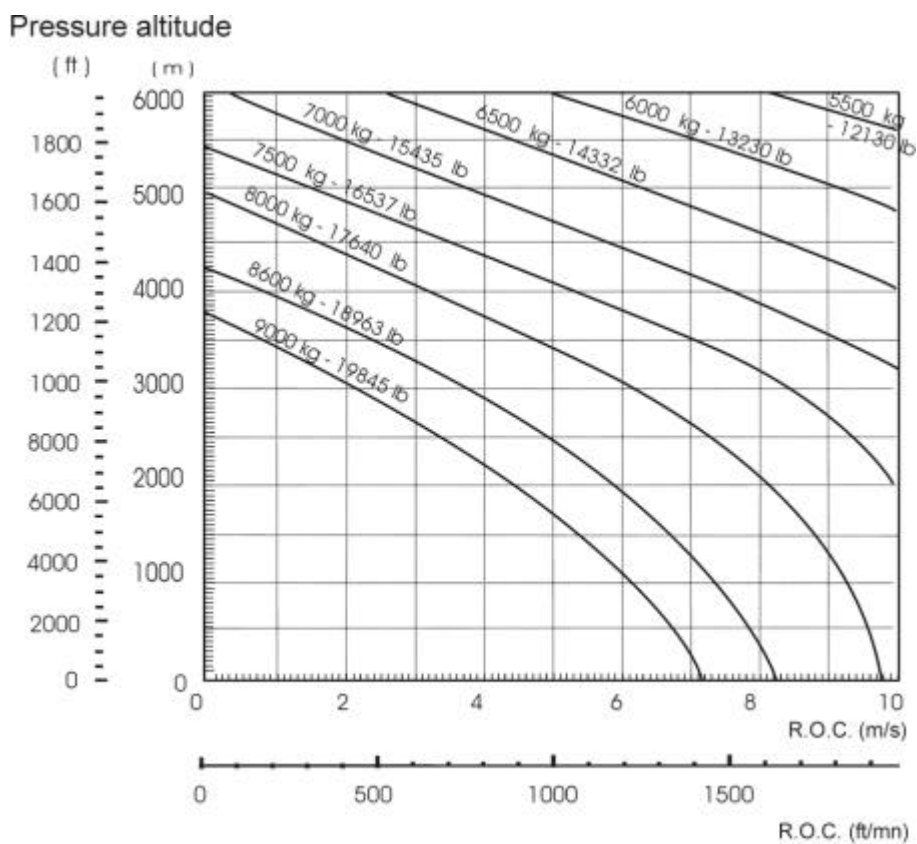


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## RATE-OF-CLIMB IN OBLIQUE FLIGHT

on 2 engines at best climb speed

ISA



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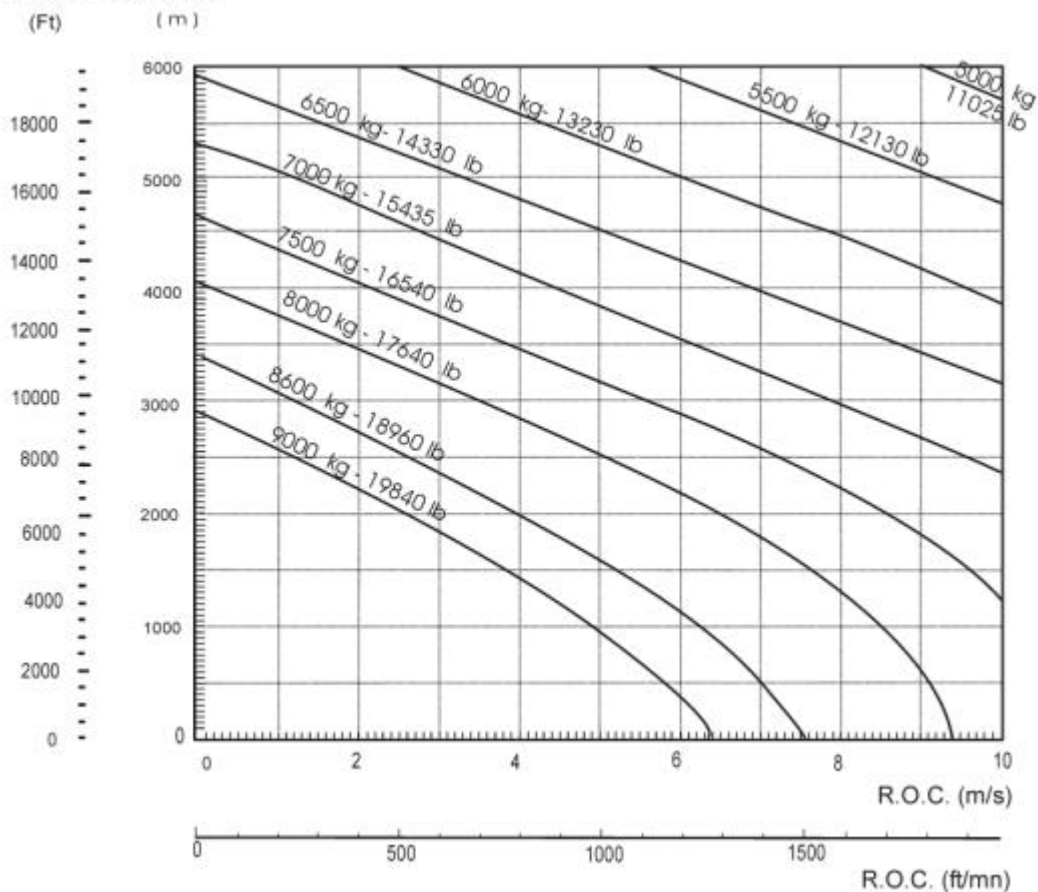


## RATE-OF-CLIMB IN OBLIQUE FLIGHT

on 2 engines at best climb speed

ISA + 20°C

Pressure altitude



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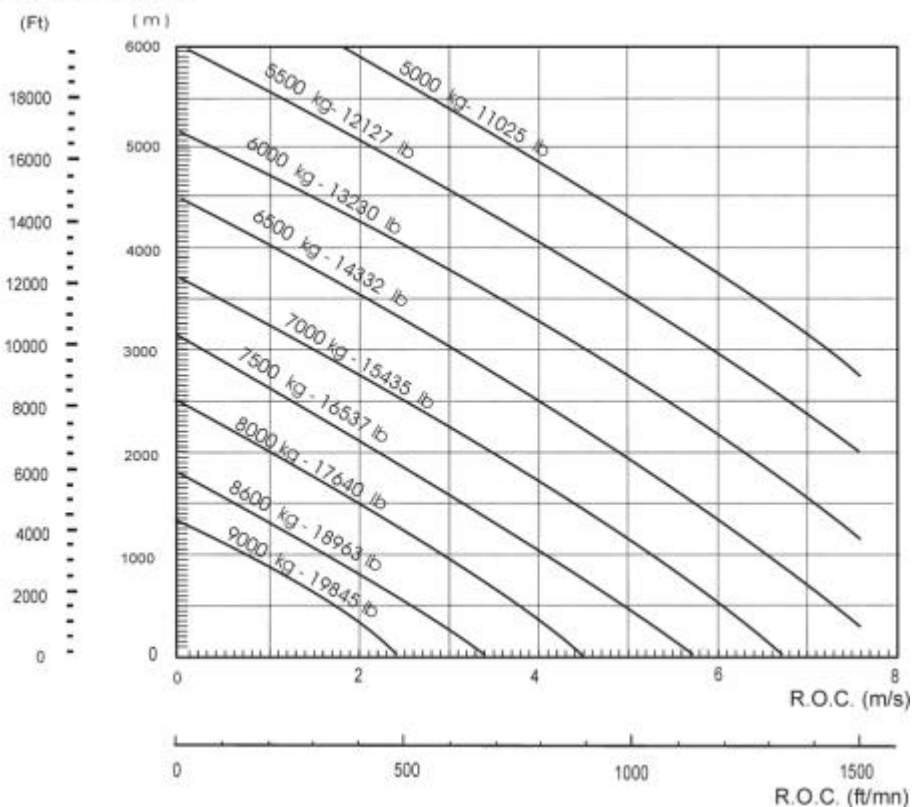


## RATE-OF-CLIMB IN OBLIQUE FLIGHT

on 1 engine at intermediate emergency power

ISA

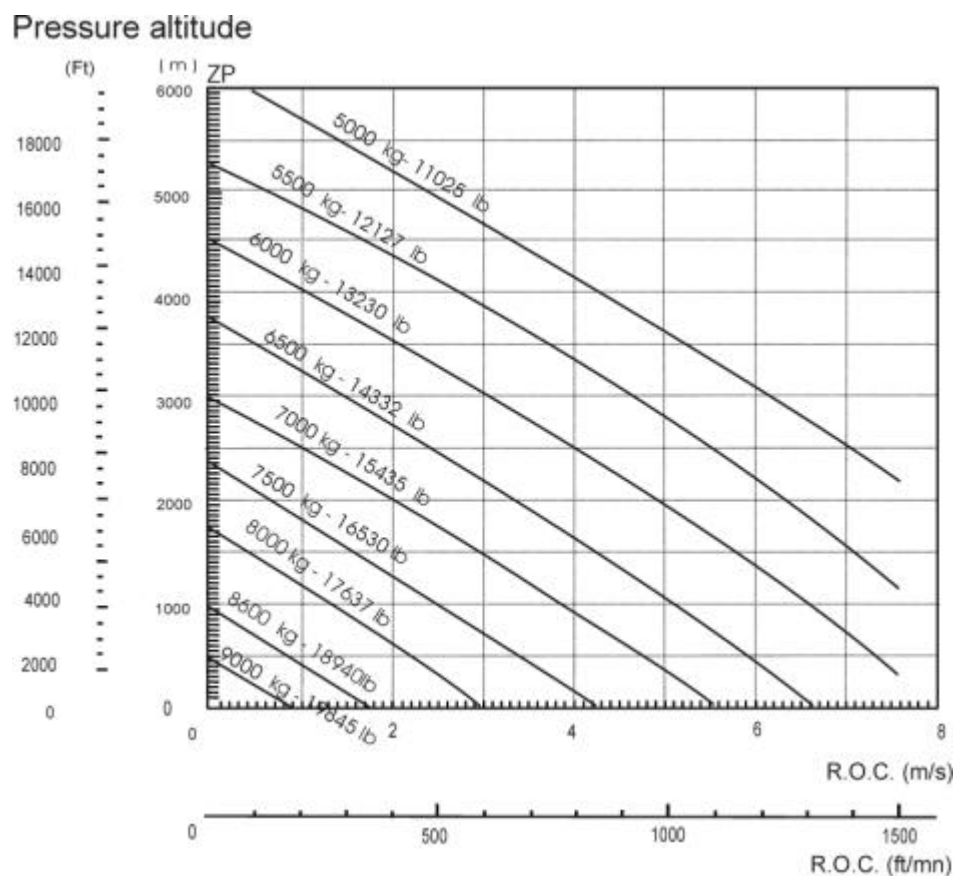
Pressure altitude



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

## RATE-OF-CLIMB IN OBLIQUE FLIGHT

**on 1 engine at intermediate emergency power**

**ISA + 20°C**

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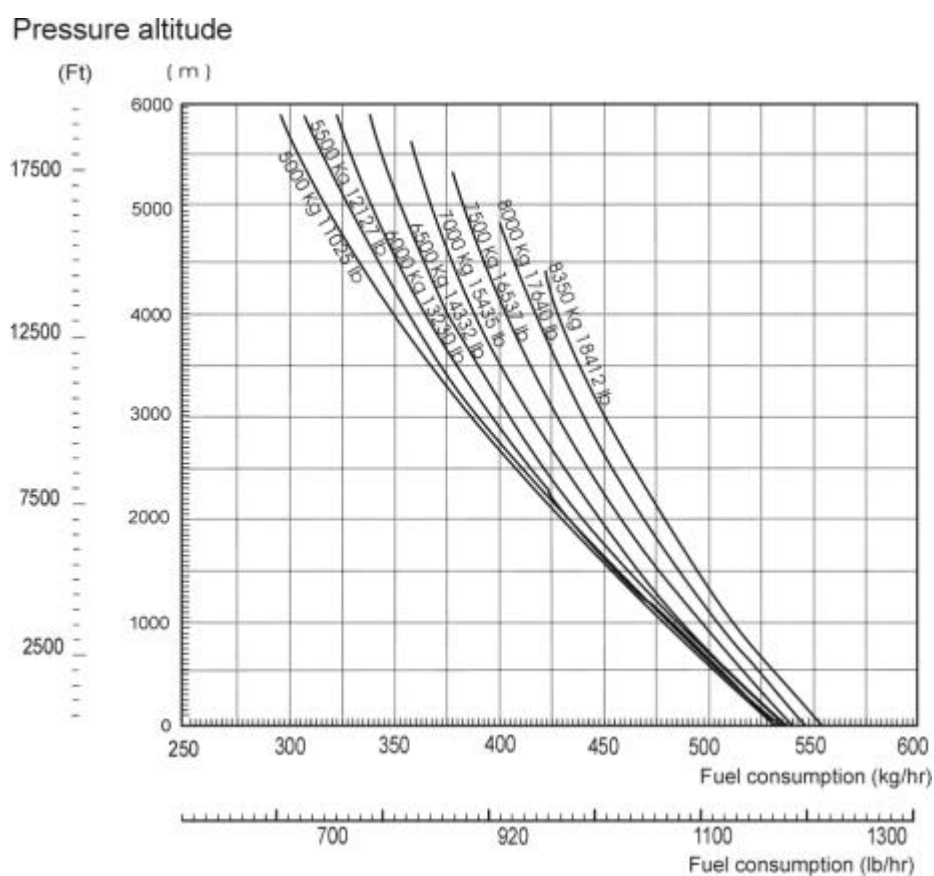
## HOURLY FUEL CONSUMPTION

### AT MAXIMUM CRUISE SPEED

(pitch 16°5)

M  $\pm$  8350 kg

ISA



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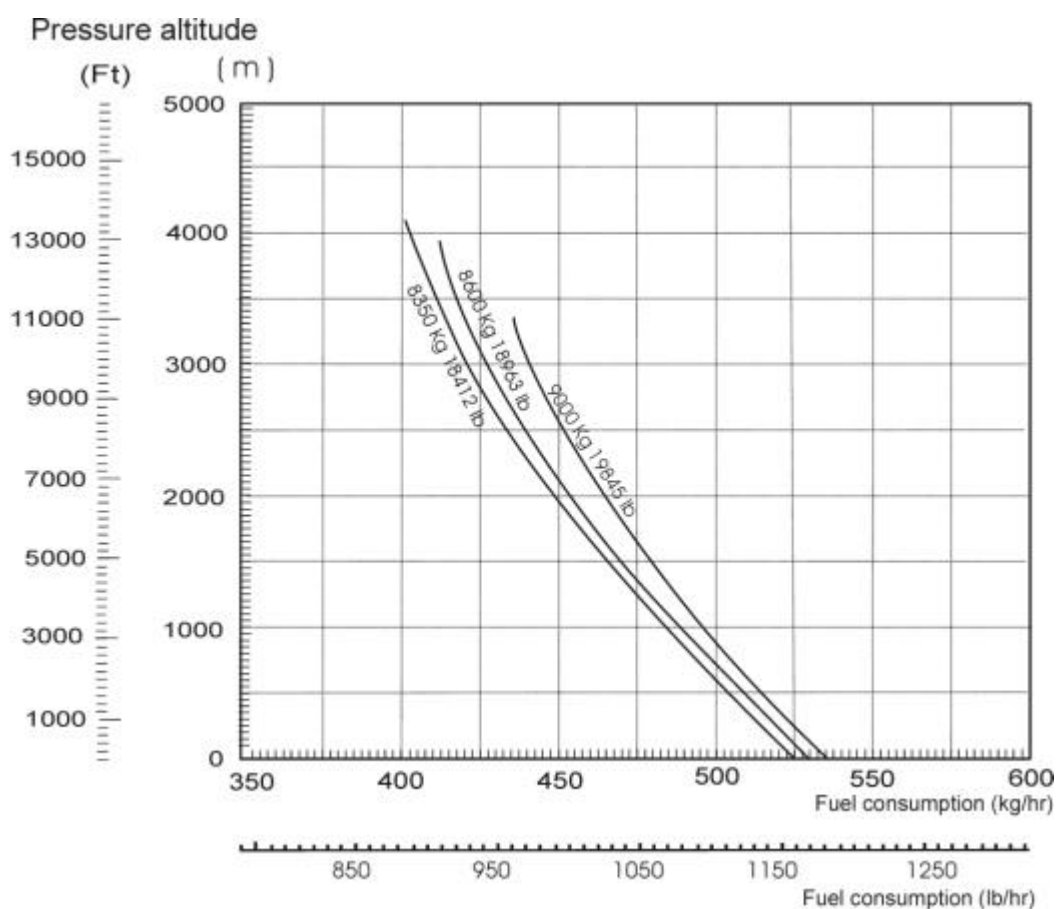
## HOURLY FUEL CONSUMPTION

### AT MAXIMUM CRUISE SPEED

(pitch 16°)

**M > 8350 kg**

**ISA**



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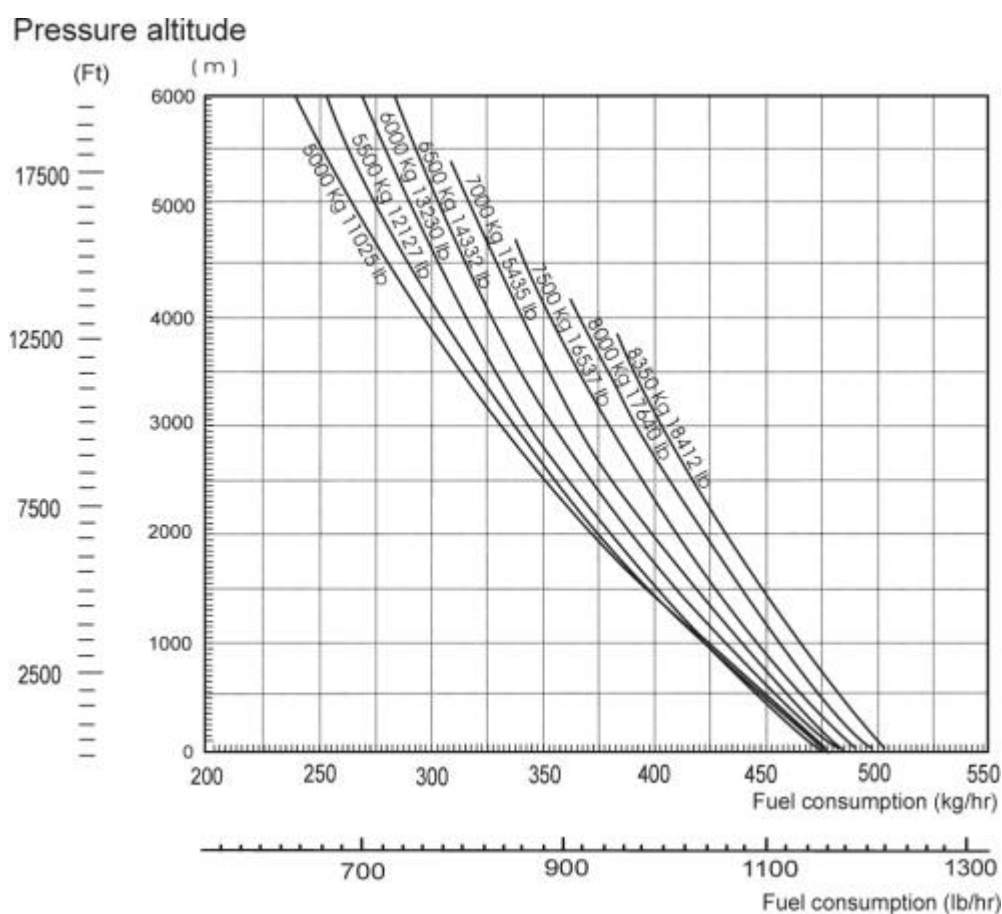
## HOURLY FUEL CONSUMPTION

### AT MAXIMUM CRUISE SPEED

(pitch 16°5)

**M £ 8350 kg**

**ISA + 20°C**



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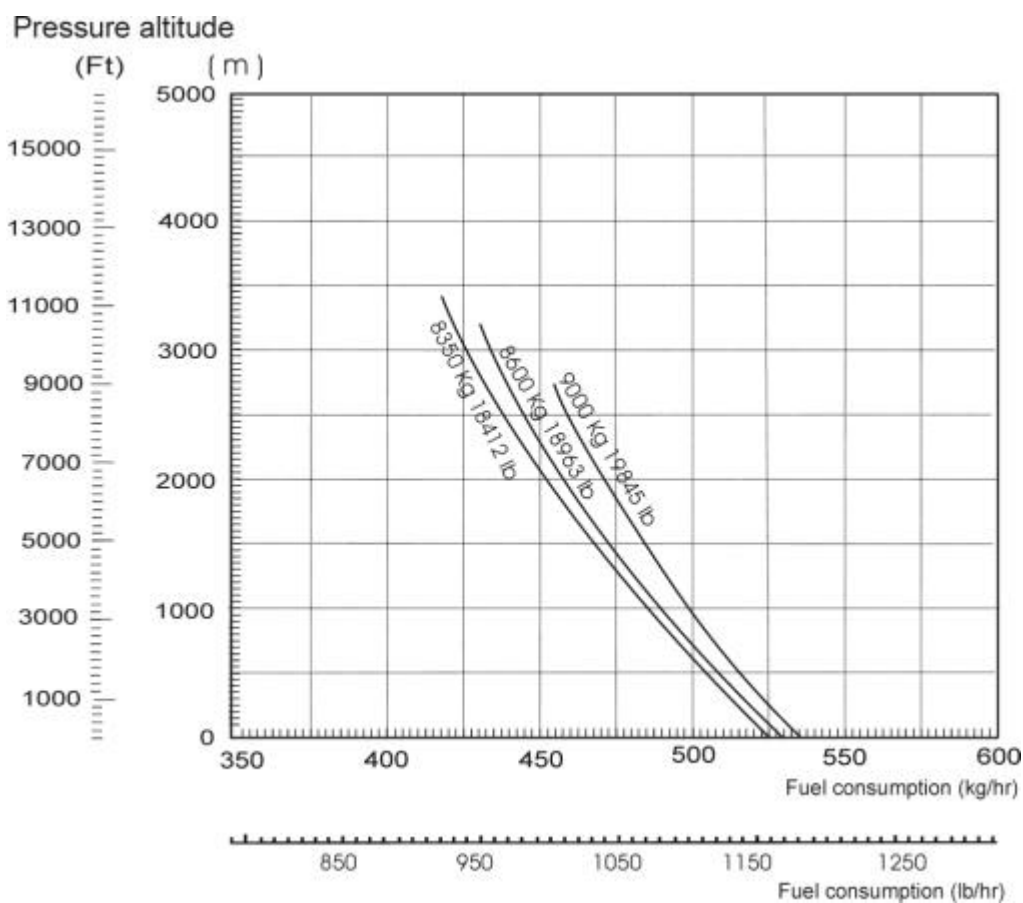
## HOURLY FUEL CONSUMPTION

### AT MAXIMUM CRUISE SPEED

(pitch 16°)

M > 8350 kg

ISA + 20°C

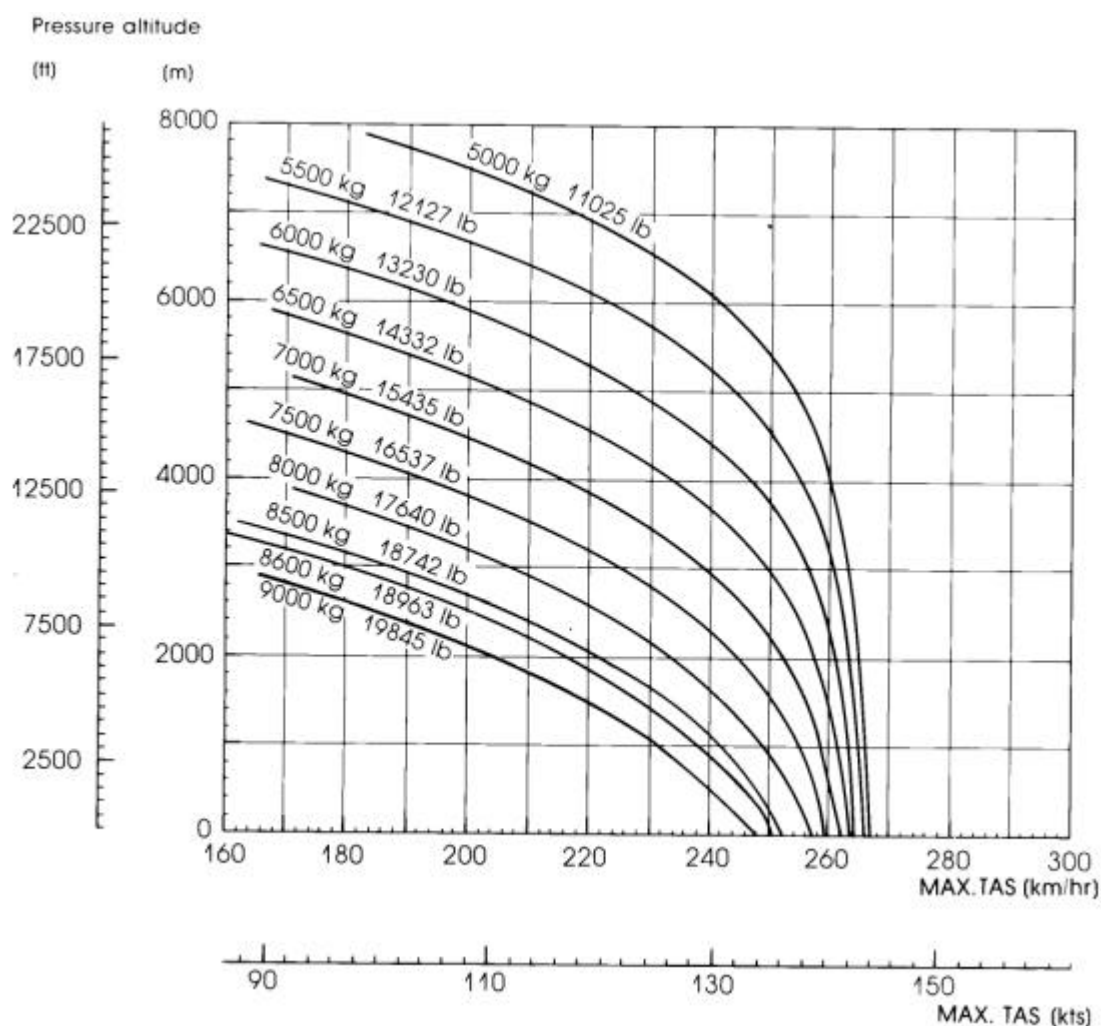


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For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..*

**RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA**



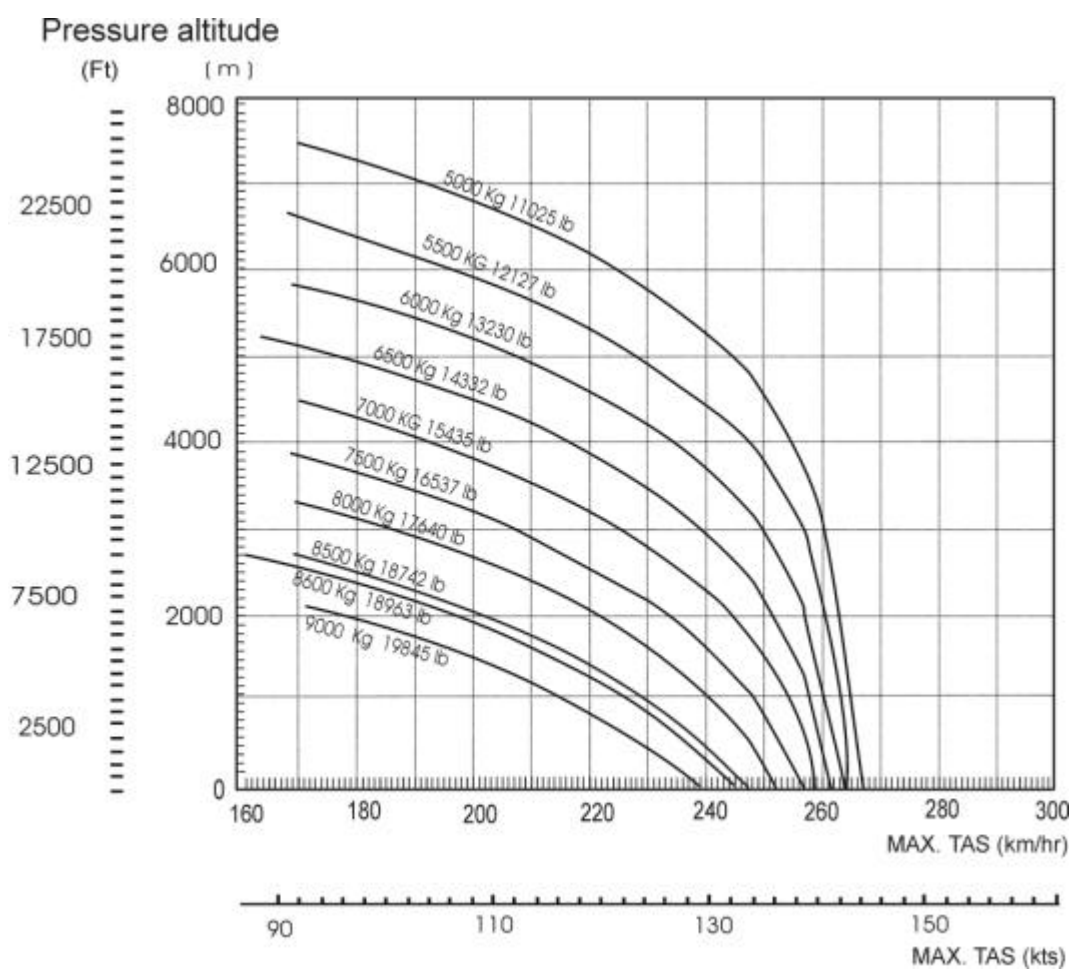
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## RECOMMENDED CRUISE SPEED

Pitch : 15°5

ISA + 20°C



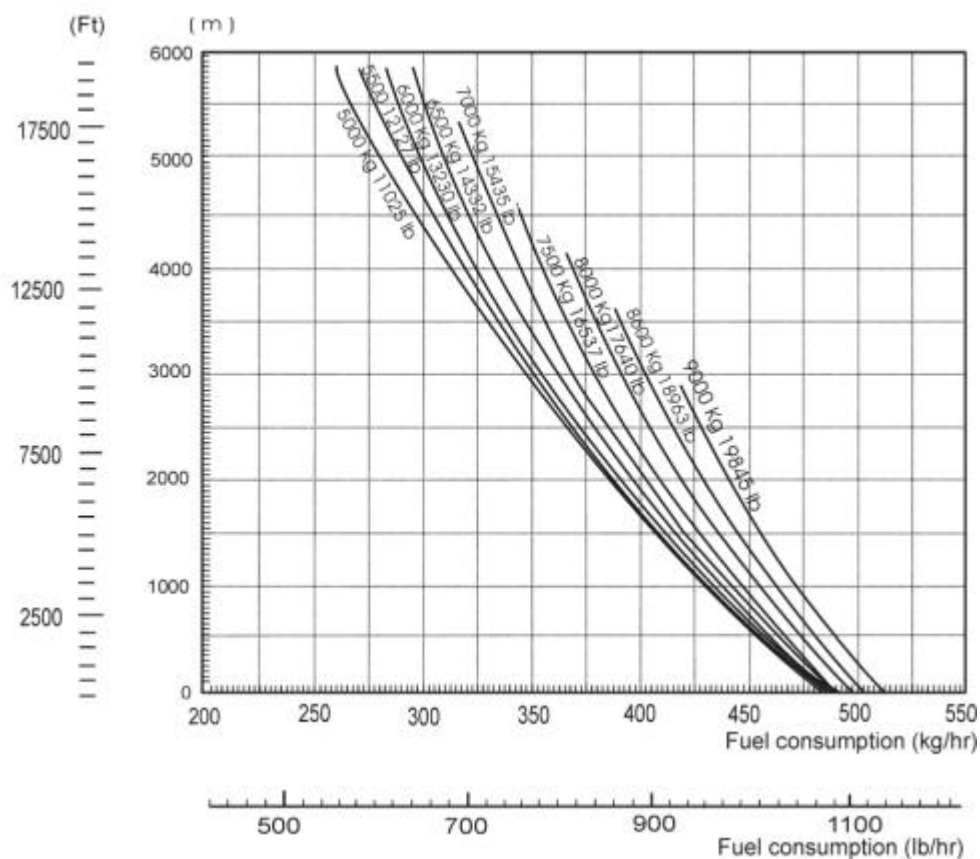
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For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..*

## HOURLY FUEL CONSUMPTION

### AT RECOMMENDED CRUISE SPEED

ISA

Pressure altitude

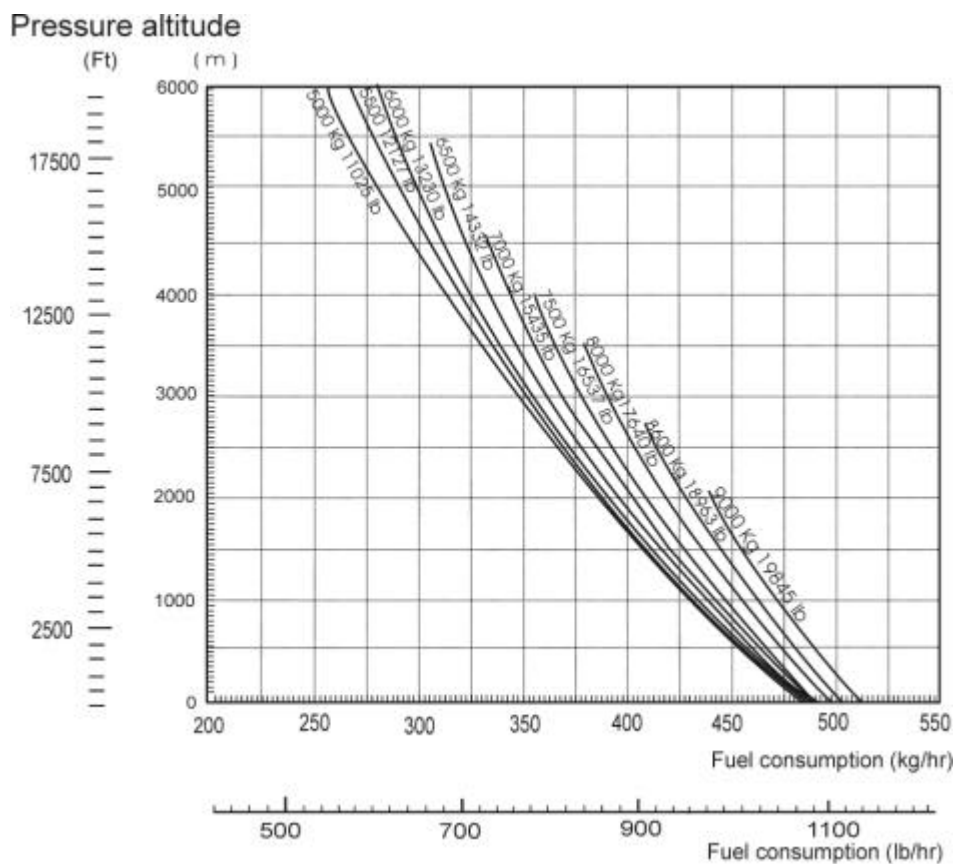


*The data set forth in this document are general in nature and for information purposes only. They may vary with conditions. For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..*

## HOURLY FUEL CONSUMPTION

### AT RECOMMENDED CRUISE SPEED

ISA + 20°C



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