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### Manufacturers notice

#### Attention !

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## Foreword



*The AS 532 SC is a medium weight twin and autonomous multi-role naval helicopter with a large cabin, particularly suited for naval missions.*

*In order to achieve in the most efficient way maritime surveillance of wide areas. The AS 532 SC Cougar is equipped with a sophisticated electronic package, associating the latest generation sensors moreover is capable of a wide range of mission such as :*

- ***Anti-surface vessel warfare,***
- ***anti-submarine warfare,***
- ***Maritime survey,***
- ***Search and rescue,***
- ***Troop transport***
- ***Load carrying***
- ***Casualty evacuation***
- ***Ferry flying***

*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.*

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*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
- **Anti-submarine warfare**
  - 2 pilots
  - 1 radar operator
  - 1 sonar operator
- **Anti-surface unit warfare**
  - 2 pilots
  - 1 radar operator
- **Troop transport**  
(in addition to the crew)
  - 1 chief of stick + 20 troop seats
  - 1 chief of stick + 16 crashworthy troop seats
- **Casualty evacuation**  
(in addition to the crew)
  - 1 doctor + 6 stretcher-patients + 6 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>	4,625	10,190
■ <b>Useful load</b>	4,375	9,650
■ <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 :

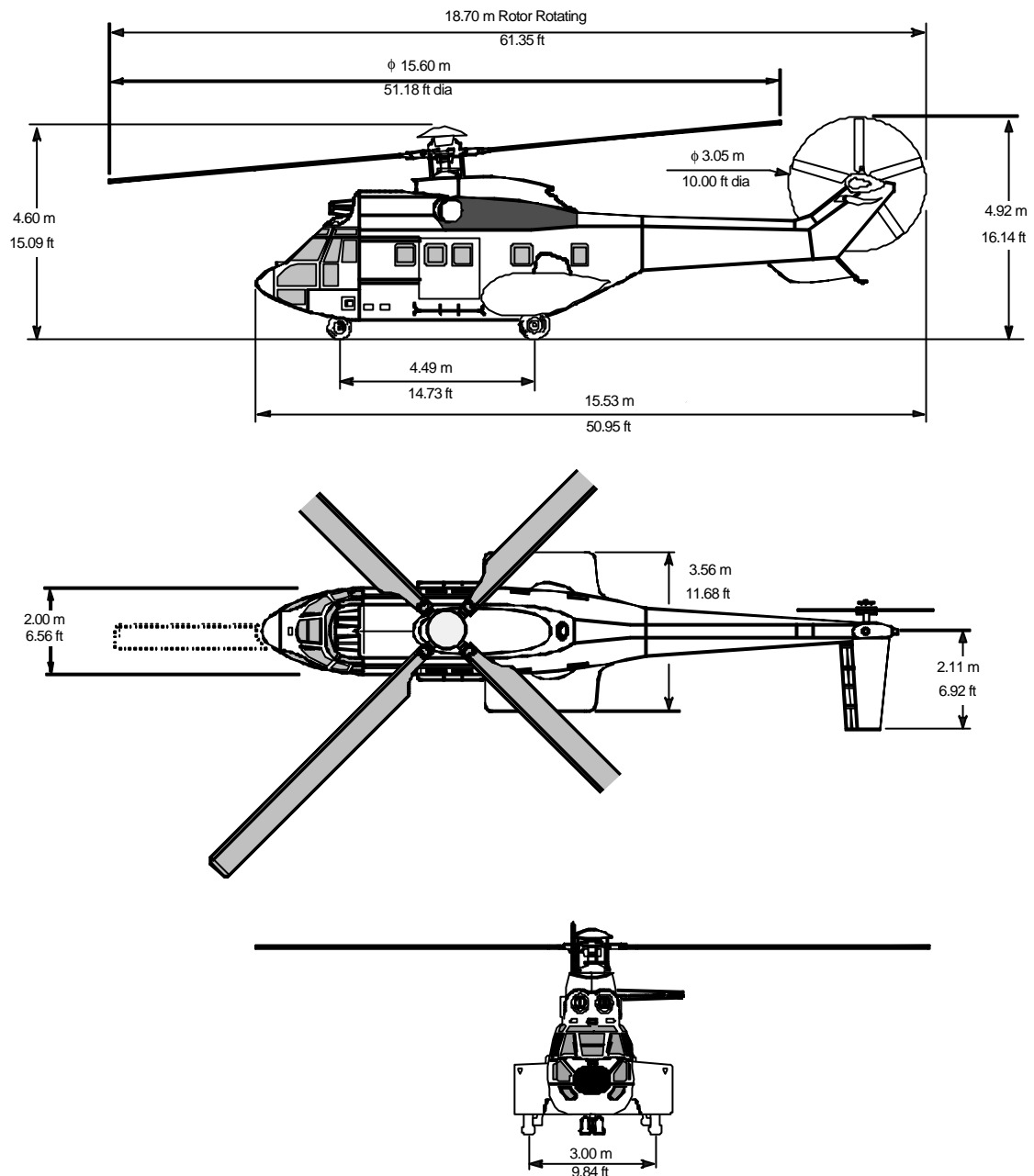
	kW	ch	shp
■ <b>Maximum emergency power</b>	1,400	1,902	1,877
■ <b>Intermediate emergency power</b>	1,330	1,807	1,783
■ <b>Take-off power</b>	1,357	1,845	1,819
■ <b>Maximum continuous power</b>	1,185	1,610	1,588

## Usable Fuel capacities

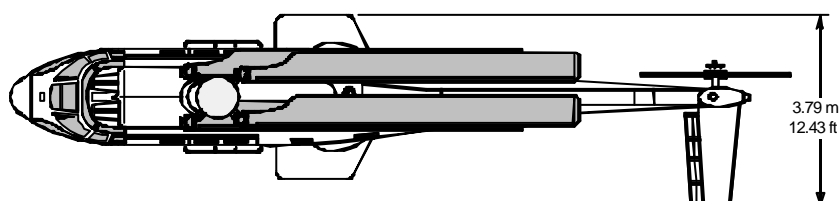
	litres	US gal.	kg	lb
■ <b>Standard crashworthy fuel tanks</b>	1,960	520	1,548	3,410
■ <b>Auxiliary crashworthy fuel tanks (option)</b>				
● Central crashworthy fuel tank	318	83	251	553
● External crashworthy fuel tanks	2 x 318	2 x 83	2 x 251	2 x 553
● 1 to 5 ferrying fuel tanks	5 x 475	5 x 126	5 x 375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

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## Main dimensions



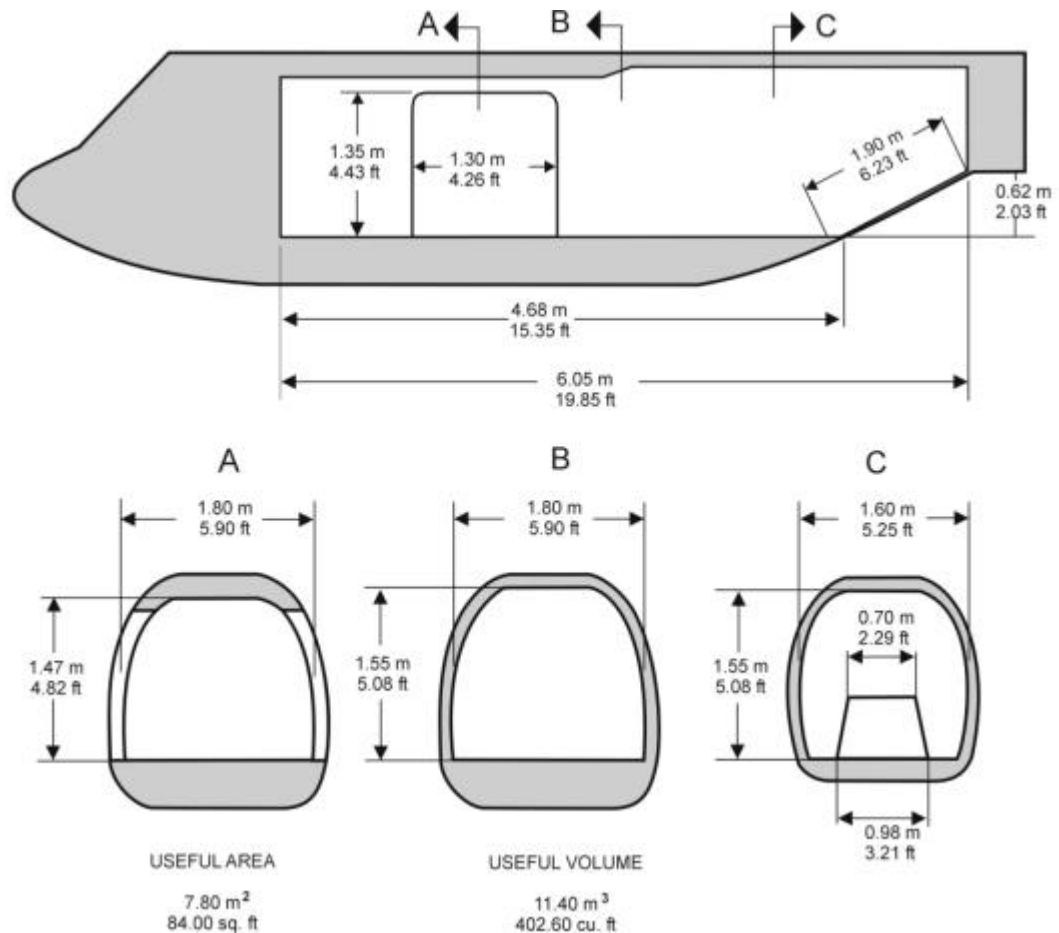
## Dimensions with blades folded



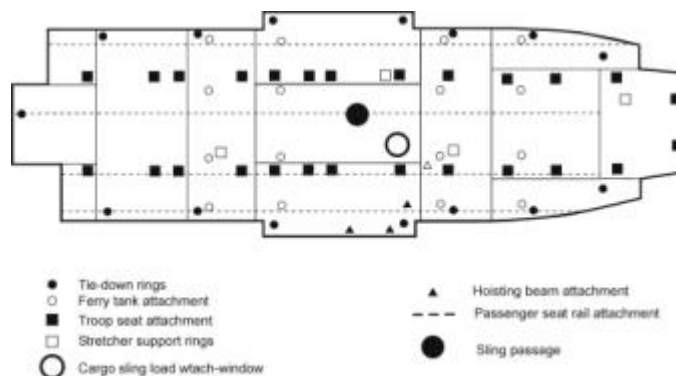
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## Dimensions of compartments and accesses

### Cabin main dimensions

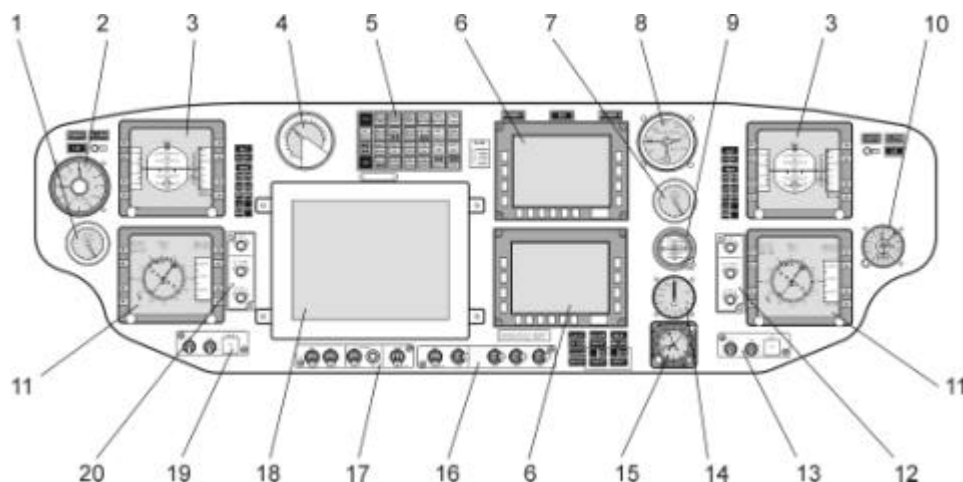


### Cabin floor



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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 FLI R, 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 SC - 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 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 omnidirectional radar
- Gripping points
- Structural provisions for naval armament, torpedoes, depth charges and Exocet
- Fixed parts for armour plating for pilots
- 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, sonar provisions and fitted with 13 cargo tie-down rings, capable of accommodating various types of seat available on option
- 10 jettisonable sliding plug doors
- 2 jettisonable windows (including 4 in the sliding doors)
- 1 built-in step door
- 1 hand fire extinguisher
- Soundproofing 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 2,120 litres (560 US gal.) usable capacity with fuel jettison and ground pressure refuelling comprising 7 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 and central auxiliary tanks
- 2 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 30/40 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 (4 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)
- 2 600-W landing lights
- 3 position lights
- 1 anti-collision light
- 2 formation lights

### HYDRAULIC 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 and
  - 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
- 1 double gripping ring
- 4 mooring rings
- 2 gripping rings
- 4 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

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

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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
<b>05-0041</b>	ROSEMOUNT Icing severity indicator	3.1	6.8
<b>05-0051</b>	Air conditioning system, with hold mounted unit	123.0	271.2
<b>05-0071</b>	Fuel anti icing installation (- 45 °C)	-	-
<b>05-0091</b>	Cockpit green tinted panes plus sun vizors with standard colourless pane in front of the pilot and copilot	3.4	7.5
<b>05-0092</b>	Cockpit green tinted upper panes plus sun vizors	3.4	7.5
<b>05-0110</b>	Windshield washers	1.5	3.3
<b>05-0140</b>	Kit for flight with third generation night vision goggles, with Centralized Radio Management System	16.3	35.9
<b>05-0141</b>	Kit for flight with third generation night vision goggles, with Radio COM/NAV dedicated control boxes	16.3	35.9
<b>05-0150</b>	Crashworthy central auxiliary fuel tank	27.5	60.6
<b>05-0153</b>	Crew crashworthy seats (3)	24.7	54.5
<b>05-0160</b>	2 observation bubble windows	1.0	2.2

#### Instruments and flying aids

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

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### Specific mission equipment

		kg	lb
<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>07-0101</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>07-0140</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>07-0230</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>

### Interior cabin layout

<b>09-0152</b>	Enlarged luggage hold	<b>15.0</b>	<b>33.1</b>
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### 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>11-0055</b>	EWB 99 Radar Warning Receiver	<b>10.9</b> 6.6	<b>24.1</b> 14.5
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**Radio Communication and Radio Navigation equipment**

		kg	lb
<b>15-10010</b>	Collins HF9X00 HF/SSB	<b>24.3</b>	<b>53.5</b>
<b>15-11111</b>	Collins VHF422B co-pilot	<b>5.1</b>	<b>11.2</b>
<b>15-13100</b>	V/UHF AM/FM Collins ARC 210	<b>10.5</b>	<b>23.1</b>
<b>15-15116</b>	Collins 346D2B Passenger Address	<b>11.4</b>	<b>25.1</b>
<b>15-16350</b>	ICS Team TB31, with ref. 1976 ctl boxes in cabin	<b>14.3</b>	<b>31.5</b>
<b>15-16353</b>	ICS Team TB31, additional. 1976 ctl box in cabin	<b>3.1</b>	<b>6.8</b>
<b>15-16354</b>	ICS Team TB31, additional ref. 1976 ctl box in cockpit	<b>3.1</b>	<b>6.8</b>
<b>15-16355</b>	ICS Team TB31, with 3 ref. 1976 ctl boxes in cockpit	<b>14.3</b>	<b>31.5</b>
<b>15-17100</b>	Interphone Team BA1920	<b>1.6</b>	<b>3.5</b>
<b>15-17301</b>	Silec 4449-1 headset	<b>0.5</b>	<b>1.1</b>
<b>15-17304</b>	Silec 4452	<b>1.5</b>	<b>3.3</b>
<b>15-18100</b>	Collins - ETC4000F - Radio Management System	<b>12.3</b>	<b>27.1</b>
<b>15-21200</b>	Serpe - IESM ELT KANAD 406 AF	<b>2.1</b>	<b>4.6</b>
<b>15-23100</b>	UAB Dukane DK100	<b>0.5</b>	<b>1.1</b>
<b>15-31110</b>	Thales - AHV16 - Radio altimeter	<b>7.8</b>	<b>17.1</b>
<b>15-31110s</b>	Thales - AHV16 - Radio altimeter (2nd one)	<b>7.5</b>	<b>16.5</b>
<b>15-32010</b>	TDR Collins TDR90	<b>4.0</b>	<b>8.8</b>
<b>15-33012</b>	Honeywell - APX100 - IFF Transceiver	<b>6.5</b>	<b>14.3</b>
<b>15-33040</b>	Thales IFF TSC2050	<b>10.8</b>	<b>23.8</b>
<b>15-33041</b>	Thales IFF TSC2051	<b>11.8</b>	<b>26.1</b>
<b>15-33042</b>	Thales IFF TSC2055	<b>12.8</b>	<b>28.2</b>
<b>15-34020</b>	Collins - ADF 462 - ADF	<b>6.9</b>	<b>15.2</b>
<b>15-35020</b>	DME Collins DME442	<b>8.2</b>	<b>18.1</b>
<b>15-35100</b>	Collins - AN/ARN 153 V (TCN-500)	<b>11.0</b>	<b>24.2</b>
<b>15-36020</b>	Collins - VIR 432 - VOR/ILS pilot	<b>11.8</b>	<b>26.1</b>
<b>15-36021</b>	Collins - VIR 432 - VOR/ILS co-pilot	<b>8.6</b>	<b>18.9</b>
<b>15-37010</b>	Cubic AN/ARS 6 PLS	<b>14.8</b>	<b>32.6</b>
<b>15-37200</b>	Chelton DF931 V/UHF DF	<b>8.0</b>	<b>17.6</b>
<b>15-41100</b>	Racal V 694 AVAD	<b>1.3</b>	<b>2.8</b>

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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/ Naval 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 460
RADIO ALTIMETER	Thales AHV 16	Thales AHV 16
I.C.S (3 control boxes)	Team TB 31	Team TB 31
<b>Weight supplement</b>	<b>61.1 kg</b>	<b>56.0 kg</b>

### Headsets

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/ Naval uses (continued)

#### Additional equipment depending on operational needs

Designation	Solution 1, 2	kg	lb
VHF/AM	-	-	-
UHF/AM	-	-	-
VHF/FM Tactical homer	Chelton System 7	3.2	7.1
V/UHF Direction Finder	Chelton DF 931	8.0	17.6
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 <sup>1</sup>	Thales SC 10 <sup>2</sup>	6.5	14.3
or	or	6.5	14.3
Transponder	Allied APX 100	4.0	8.8
	or	4.0	8.8
	TDR 90 <sup>3</sup>	6.0	13.2
D.M.E.	Collins DME 442	11.0	24.2
or TACAN	or	2.1	4.6
Emergency Locator Transmitter	Collins ARN 153	3.1	6.8
I.C.S.	Kannad 406 AF	1.6	3.5
(4 <sup>th</sup> control box)	Team TB 31	3.5	7.7
I.C.S.	Trimble TNL 2101	15.2	33.5
Passenger interphone	Approach +	28.0	61.7
GPS <sup>4</sup>	SFIM CDV 85 P3	51.3	113.1
Flight director coupler	Telephonics 1400C		
Weather radar	Thales RDN 85 Doppler Radar <sup>5</sup>		
SELF-CONTAINED NAVIGATION SYSTEM	Canadian Marconi CMA 3000 (7)		
	+ 1 Air Data Loader		
	+ 1 Data Transfer Module <sup>6</sup>		
GPS = option of self contained nav. system	CMA 3012	4.6	10.1

<sup>1</sup> NVG incompatible. If mode S is necessary, use Collins TDR 94 instead of TDR 90

<sup>2</sup> Implies the Encoding Altimeter installation

<sup>3</sup> Incompatible with Night Vision Goggle use

<sup>4</sup> The customer must take out a subscription to the data base in order to use the GPS after having taken delivery of the helicopter

<sup>5</sup> In addition of the basic CG 130 gyro compass

<sup>6</sup> 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)

### Search and rescue missions

Designation	Solution 1,2
ICS 4 <sup>th</sup> control box	TEAM TB 31
Navigation and Automatic Transition and Hover Coupler	SFIM CDV 155
Self-Contained Navigation System	Thales RDN 85 Doppler Radar + Canadian Marconi CMA 3000 Flight Management System 1 2
Search Radar with 6" x 8" LCD display and Nav. interface	Telephonics RDR 1500 B – 29" Antenna 6" x 8" LCD color display 1507 interface
<b>Weight supplement</b>	<b>134.8 kg</b>

### Options

Designation	Solution 1,2	kg	lb
GPS	Canadian Marconi CMA 3012, coupled with CMA 3000 FMS	4.0	8.8
ICS 5 <sup>th</sup> control box or ICS Passenger interphone	TEAM TB 31  or  TEAM BA 1920	2.4  1.6	5.3  3.5

**1** Includes the sensor for fuel flowmeter function

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

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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	
	<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>			
07-0012	Emergency floatation gear usable WITH external fuel tanks	07-0010		07-0050
07-0050	Skis			07-0010 07-0012
07-0070	Multi purpose engine air intakes	07-0102		
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		

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Reference Optional	Installation	Nature of the incompatibility		
		■	▲	●
	<b>Specific Mission Equipment (continued)</b>			
07-0160	External mirrors			11-0042 11-0043 11-0044
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)		07-0145 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	07-015 07-0190
07-0240	Hailer installation		11-0043 11-0044	
	<b>Interior Arrangement</b>			
09-0070	20 troop seat installation	05-0051	07-0144 07-0150 07-0180 07-0200 07-0210 09-0090 09-0122	
09-0090	16 crashworthy troop seat installation	09-0171 09-0181	07-014 07-0150 07-0180 07-0200 07-0210 09-0070 09-0122	
09-0122	17 comfort seats installation	09-0171 09-0181	07-0144 07-0150 07-0180 07-0200 07-0210 09-0070 09-0090	
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 SC, 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, at MTOW of 9000 kg.

Equipment	Clean	SAR	ASV	ASW
Emergency floatation gear		X	X	X
Radar		X	X	X
Doppler antenna		X	X	X
Thomson-Marconi Flash Sonar				X
AM 39 weapon system			X	
2 Torpedoes				X

### Performance on 2 engines

		Clean	SAR	ASV	ASW
VNE	km/hr	278	278	278	278
	kts	150	150	150	150
Maximum cruise speed	km/hr	251	242	231	233
	kts	136	131	125	126
Recommended cruise speed	km/hr	240	231	219	222
	kts	130	125	118	120
Fuel consumption at recommended cruise speed	km/hr	510	510	510	510
	kts	1,124	1,124	1,124	1,124
Fuel consumption at 70 kts	kg/hr	407	410	415	413
	lb/hr	897	904	915	911
Rate of climb at 70 kts	m/sec.	6.95	6.80	6.40	6.55
	ft/min.	1,368	1,339	1,260	1,289
Maximum range* (without fuel reserve, at recommended cruise speed)	km	911	869	792	825
	n.m.	492	469	428	445
Maximum endurance* (without reserve at 130 km/hr (81 mph – 70 kts with standard fuel tanks)	hr	5.17	4.97	4.50	4.73

\* Maximum range and maximum endurance are calculated with maximum fuel in the tanks (1,161 kg)

and the following take-off-weight :

- Clean : 6,373 kg
- SAR : 6,932 kg
- ASV : 8,447 kg
- ASW : 7,642 kg

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## Performance on 2 engines (cont'd)

		All configurations
Hover ceiling IGE (10 ft) at take-off power		
• ISA	m ft	2,800 9,186
• ISA + 20°C	m ft	1,800 5,906
Hover ceiling OGE at take-off power		
• ISA	m ft	1,650 5,413
• ISA + 20°C	m ft	850 2,789
Hourly fuel consumption in hover OGE		
• ISA	kg/hr lb/hr	620 1,367
• ISA + 20°C	kg/hr lb/hr	655 1,444

## Operating limitations

The aircraft is cleared to operate within the following altitude and temperature limitations :

### ■ Maximum pressure altitude

- Flight : 6,095 m - 20,000 ft
- Take-off and landing : 4,572 m - 15,000 ft

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

### ■ Minimum temperature -30°C (basic) -45°C (with optional installation)

## Abbreviations

AEO :	All Engines Operative	SL :	Sea Level
IGE :	In Ground Effect	TOP :	Take-Off Power
ISA :	International Standard Atmosphere	VNE :	Never Exceed Speed
OEI :	One Engine Inoperative	Vtoss :	Take-off safety speed
OGE :	Out of Ground Effect	Vy :	Optimum climbing speed
PA :	Pressure Altitude	Vz :	Rate-of-climb

### 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 - <b>All configurations</b>	Page 24
■ Take-off weight in hover OGE on 2 engines at take-off power - <b>All configurations</b>	Page 25
■ 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 - <b>Clean configuration</b>	Page 26
■ 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 - <b>Clean configuration</b>	Page 27
■ Rate of climb in oblique flight on 2 engines at best climb speed ISA - <b>Clean configuration</b>	Page 28
■ Rate of climb in oblique flight on 2 engines at best climb speed ISA + 20°C - <b>Clean configuration</b>	Page 29
■ Rate of climb in oblique flight on 1 engine at intermediate emergency power ISA - <b>Clean configuration</b>	Page 30
■ Rate of climb in oblique flight on 1 engine at intermediate emergency power ISA + 20°C - <b>Clean configuration</b>	Page 31
■ Hourly fuel consumption in hover OGE ISA – <b>All configurations</b>	Page 32
■ Hourly fuel consumption in hover OGE ISA + 20°C – <b>All configurations</b>	Page 33
■ Hourly fuel consumption at maximum cruise speed (pitch 16°) ISA - <b>Clean configuration</b>	Page 34
■ Hourly fuel consumption at maximum cruise speed (pitch 16°) ISA + 20°C - <b>Clean configuration</b>	Page 35
■ Hourly fuel consumption at maximum cruise speed (pitch 16°5) ISA - <b>Clean configuration</b>	Page 36
■ Hourly fuel consumption at maximum cruise speed (pitch 16°5) ISA + 20°C- <b>Clean configuration</b>	Page 37
■ Hourly fuel consumption at recommended cruise speed (pitch 15°5) ISA - <b>Clean configuration</b>	Page 38

*The data set forth in this document are general in nature and for information purposes only. They may vary with conditions.  
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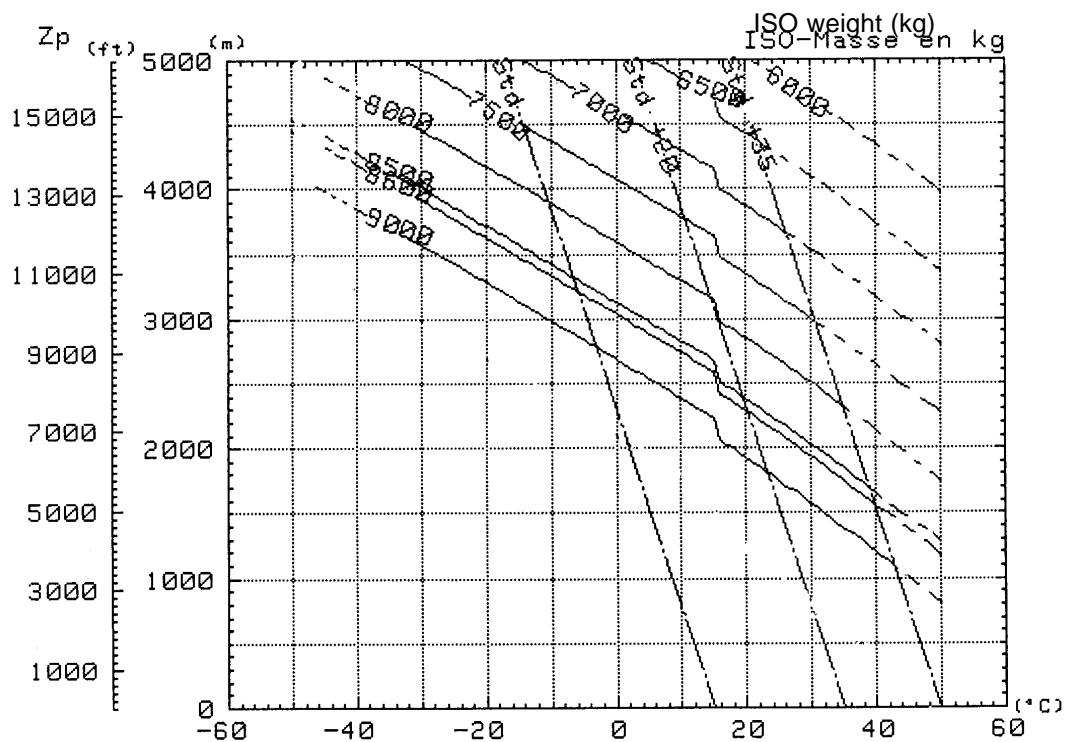
■ Hourly fuel consumption at recommended cruise speed (pitch 15°5) ISA + 20°C - <b>Clean configuration</b>	Page 39
■ Hourly fuel consumption at recommended cruise speed (pitch 15°5) ISA – <b>SAR configuration</b>	Page 40
■ Hourly fuel consumption at recommended cruise speed (pitch 15°5) ISA + 20°C – <b>SAR configuration</b>	Page 41
■ Hourly fuel consumption at recommended cruise speed (pitch 15°5) ISA – <b>A.S.V configuration</b>	Page 42
■ Hourly fuel consumption at recommended cruise speed (pitch 15°5) ISA + 20°C– <b>A.S.V configuration</b>	Page 43
■ Hourly fuel consumption at recommended cruise speed (pitch 15°5) ISA – <b>A.S.W configuration</b>	Page 44
■ Hourly fuel consumption at recommended cruise speed (pitch 15°5) ISA + 20°C – <b>A.S.W configuration</b>	Page 45
■ Recommended cruise speed, (pitch 15°5) ISA - <b>SAR configuration</b>	Page 46
■ Recommended cruise speed, (pitch 15°5) ISA + 20°C - <b>SAR configuration</b>	Page 47
■ Recommended cruise speed, (pitch 15°5) ISA – <b>A.S.V. configuration</b>	Page 48
■ Recommended cruise speed, (pitch 15°5) ISA + 20°C – <b>A.S.V. configuration</b>	Page 49
■ Recommended cruise speed, (pitch 15°5) ISA – <b>A.S.W. configuration</b>	Page 50
■ Recommended cruise speed, (pitch 15°5) ISA + 20°C – <b>A.S.W. configuration</b>	Page 51

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

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

**All configurations**



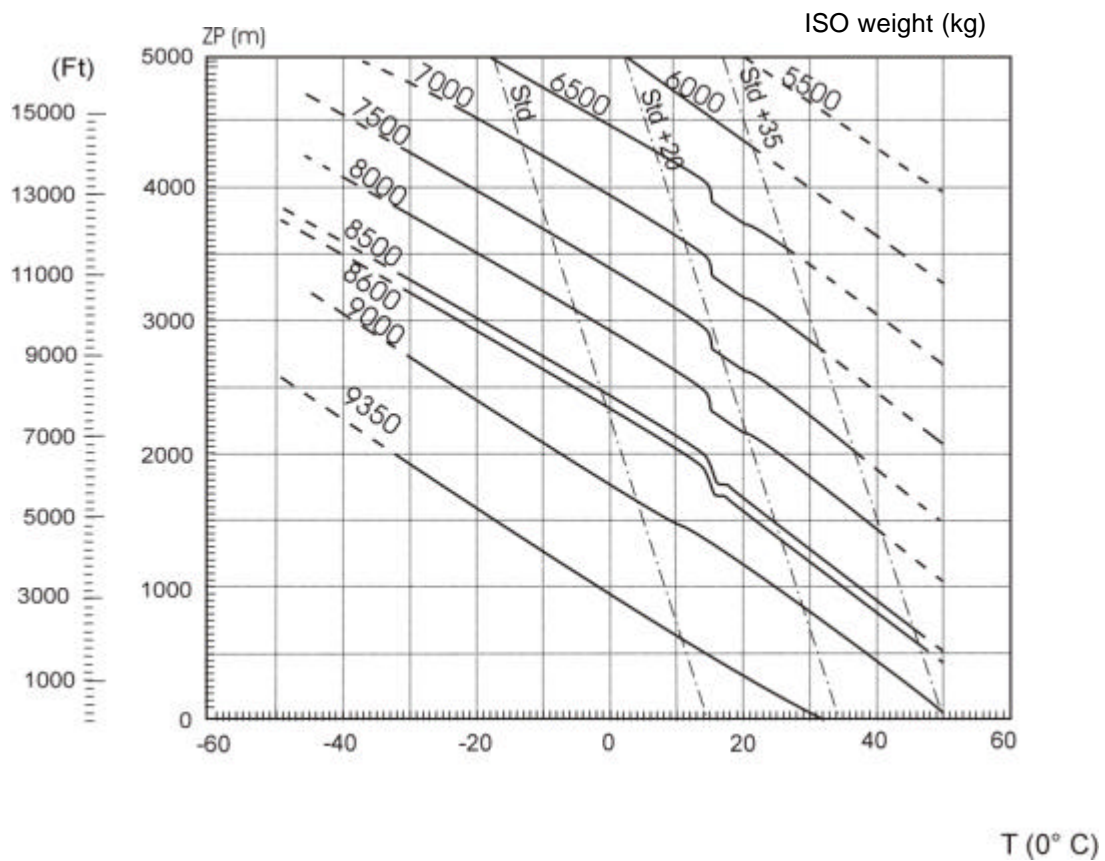
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## TAKE-OFF WEIGHT IN HOVER OGE

on 2 engines at take-off power

All configurations



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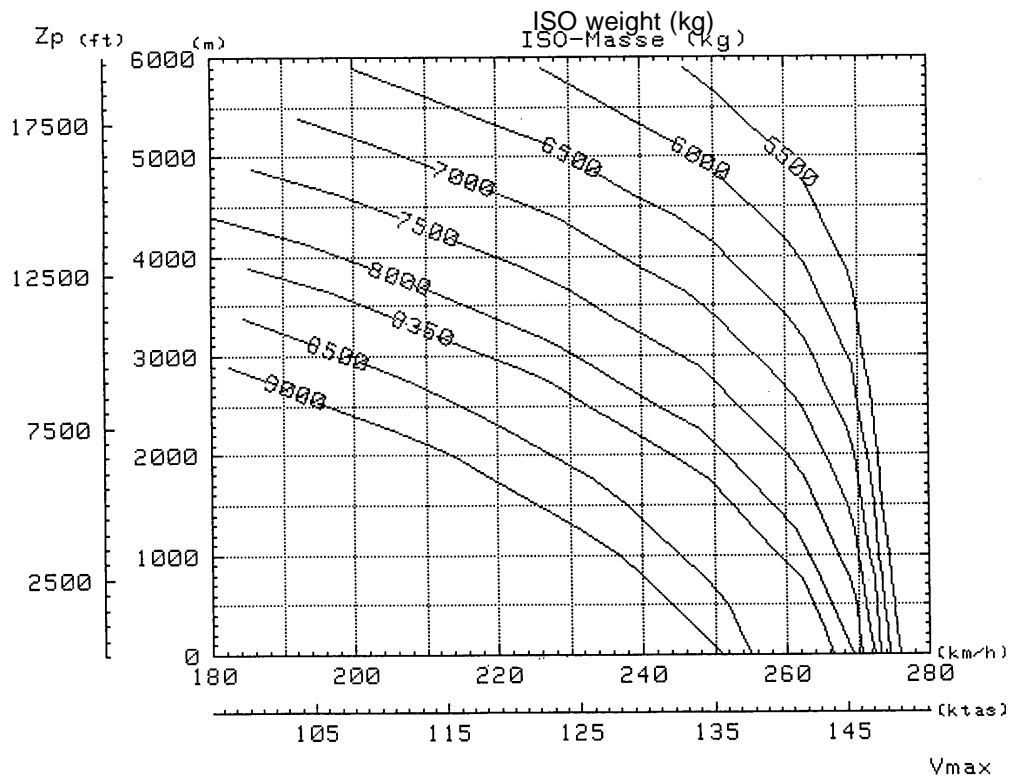
## MAXIMUM CRUISE SPEED

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

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

ISA

Clean configuration



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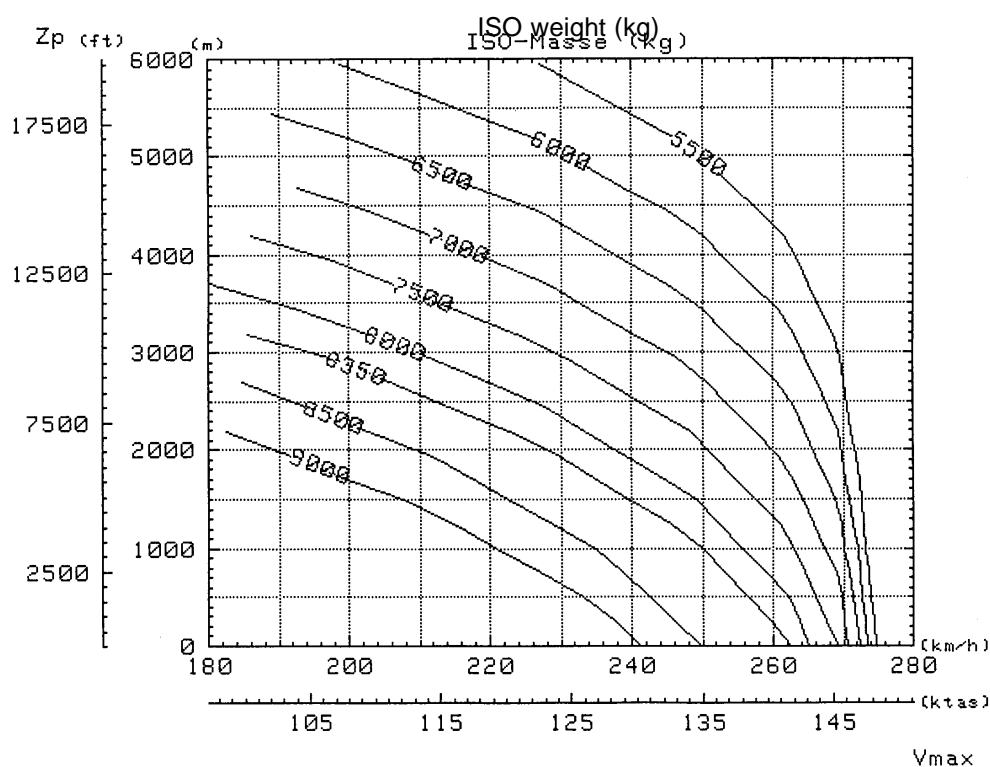
## MAXIMUM CRUISE SPEED

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

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

ISA + 20°C

Clean configuration



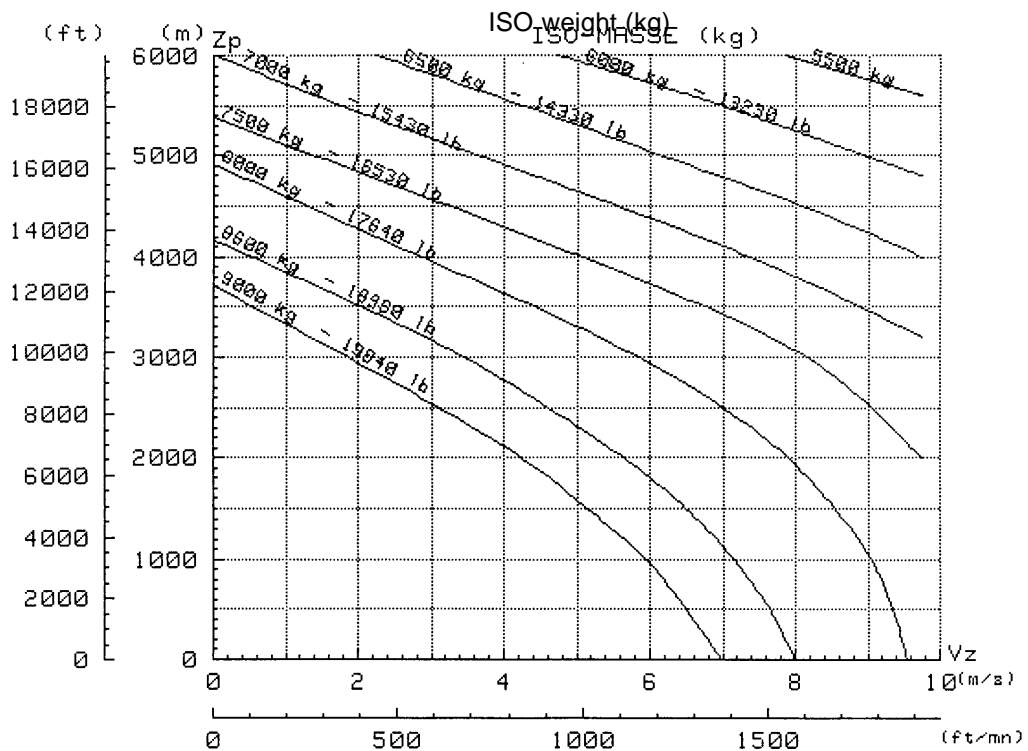
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## RATE-OF-CLIMB IN OBLIQUE FLIGHT

on 2 engines at best climb speed

ISA

Clean configuration



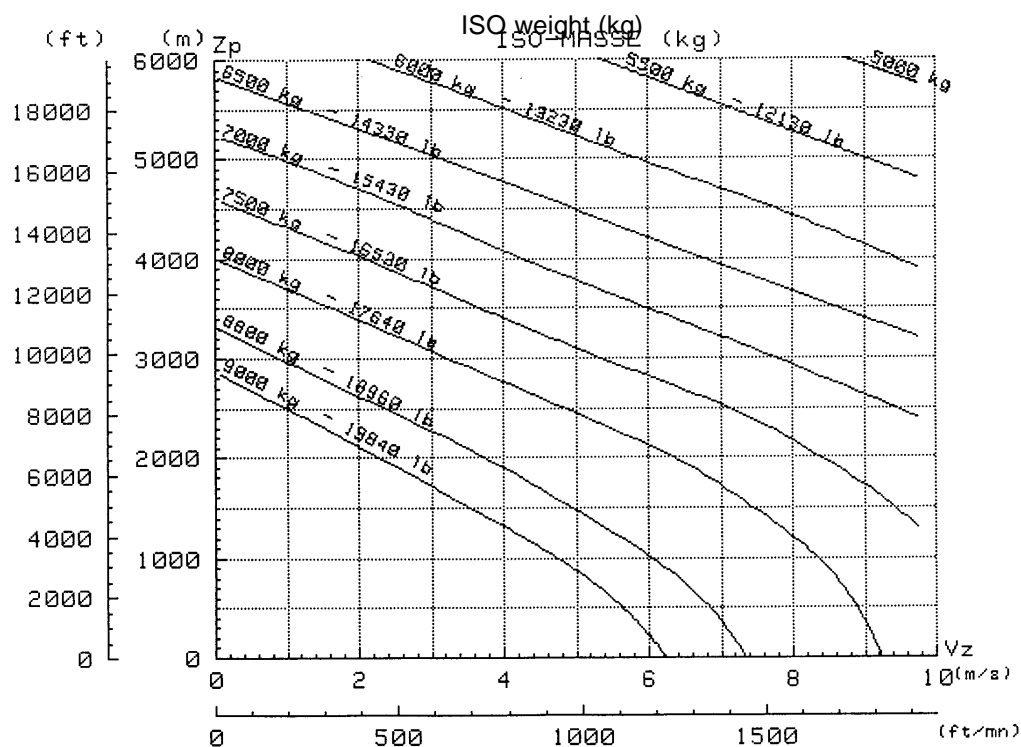
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## RATE-OF-CLIMB IN OBLIQUE FLIGHT

on 2 engines at best climb speed

ISA + 20°C

Clean configuration



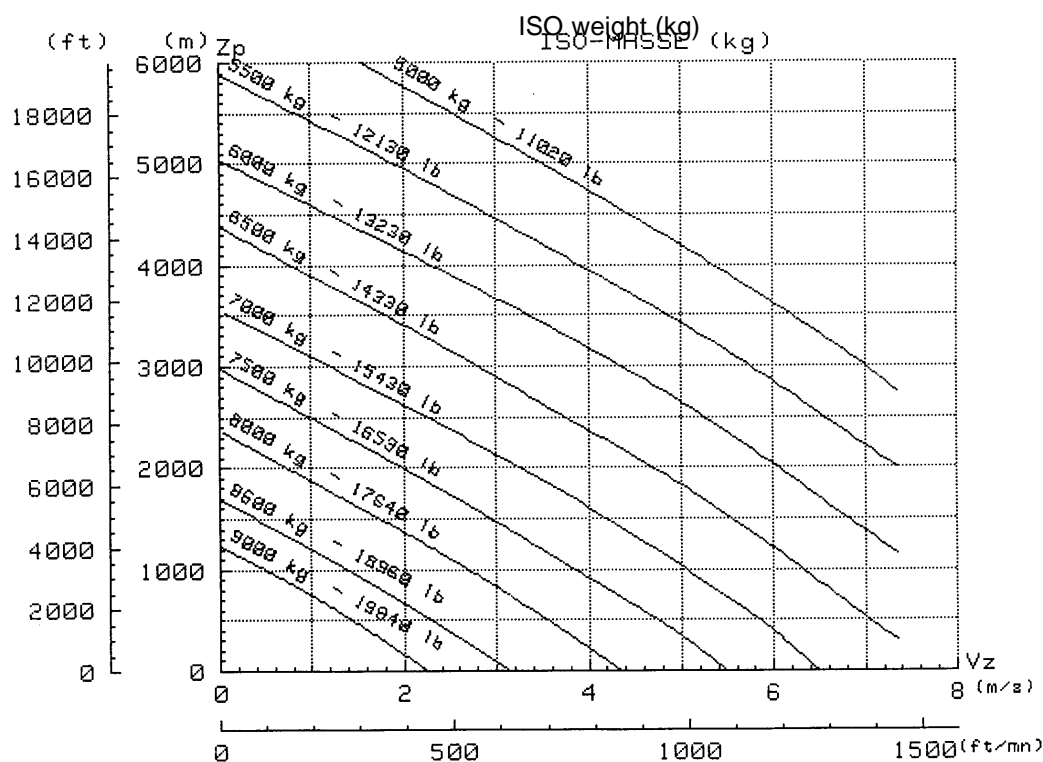
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## RATE-OF-CLIMB IN OBLIQUE FLIGHT

on 1 engine at intermediate emergency power

ISA

Clean configuration



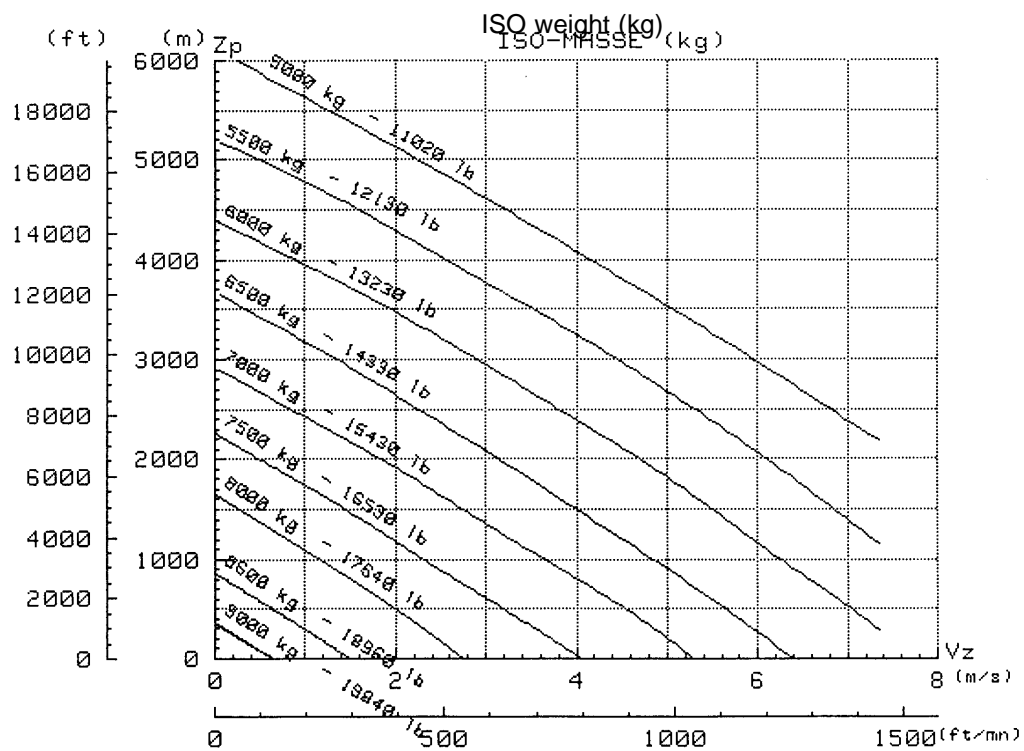
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## RATE-OF-CLIMB IN OBLIQUE FLIGHT

on 1 engine at intermediate emergency power

ISA + 20°C

Clean configuration

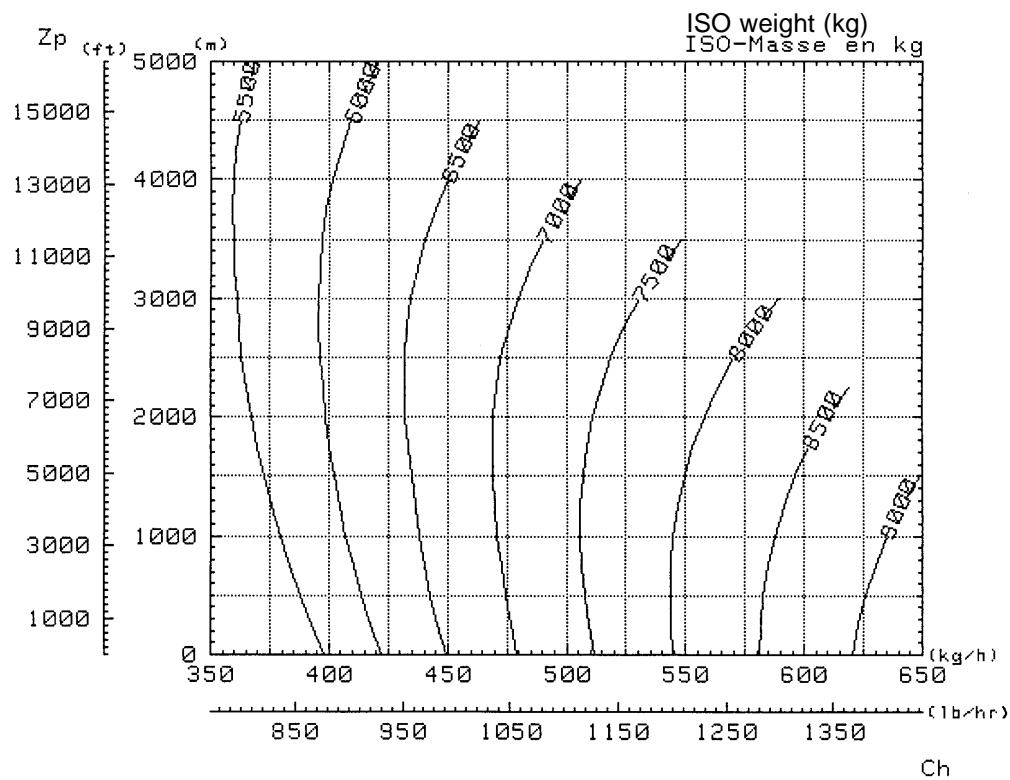


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## HOURLY FUEL CONSUMPTION IN HOVER OGE

ISA

All configurations



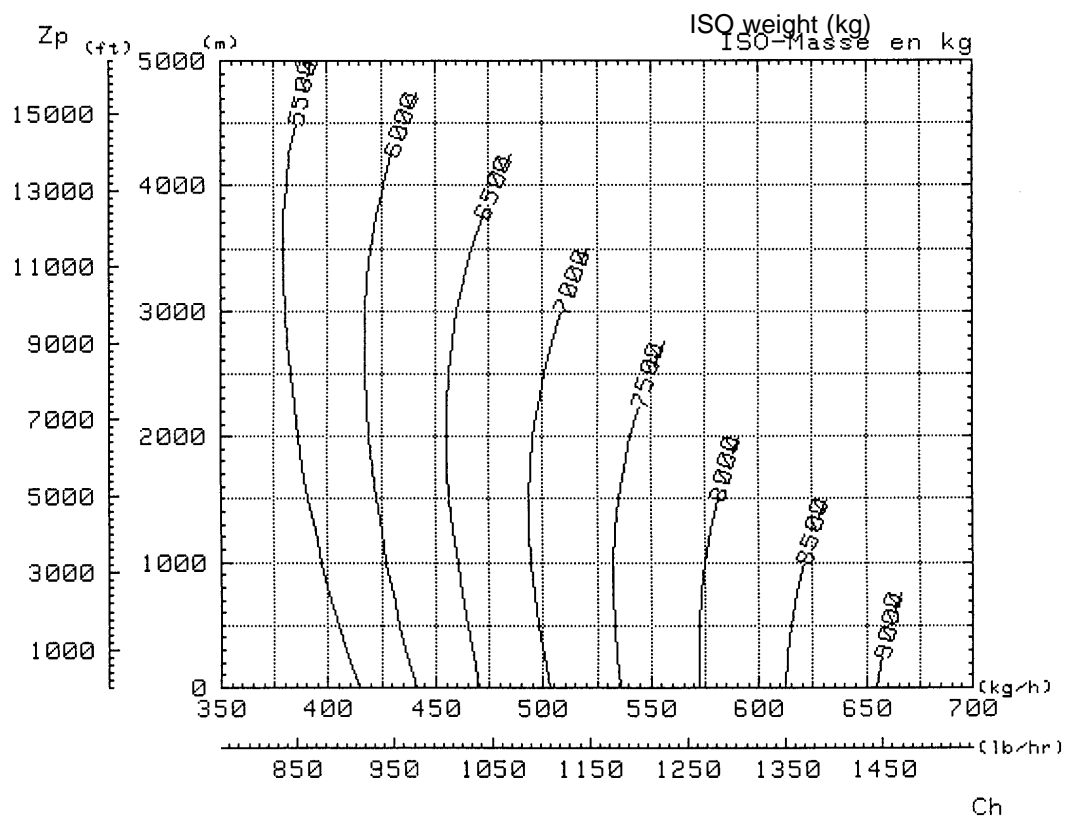
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## HOURLY FUEL CONSUMPTION IN HOVER OGE

ISA + 20°C

All configurations



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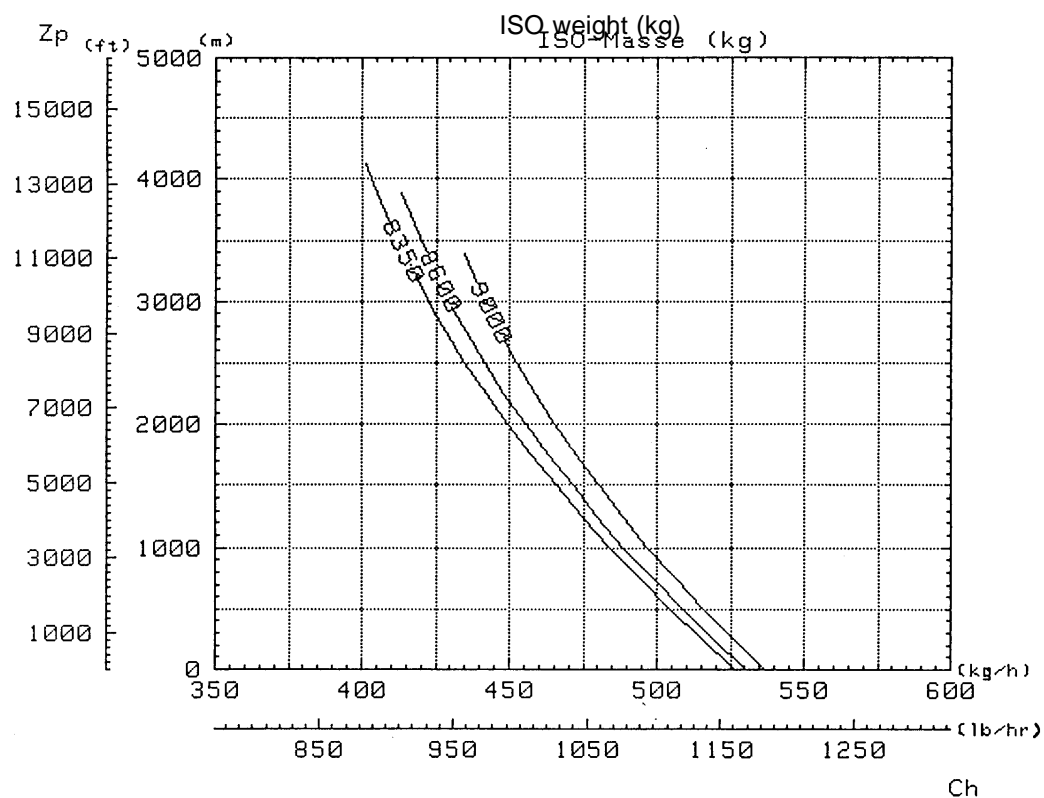
## HOURLY FUEL CONSUMPTION

### AT MAXIMUM CRUISE SPEED

(pitch 16°)

ISA

Clean configuration



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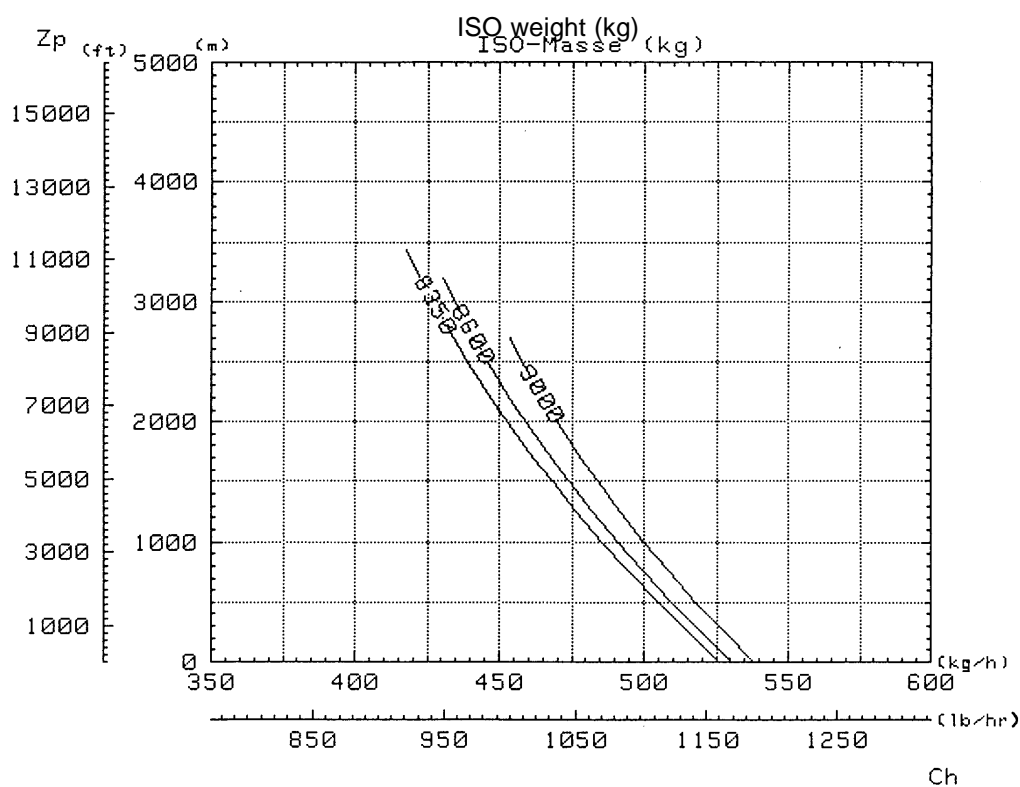
## HOURLY FUEL CONSUMPTION

### AT MAXIMUM CRUISE SPEED

(pitch 16°)

ISA + 20°C

Clean configuration



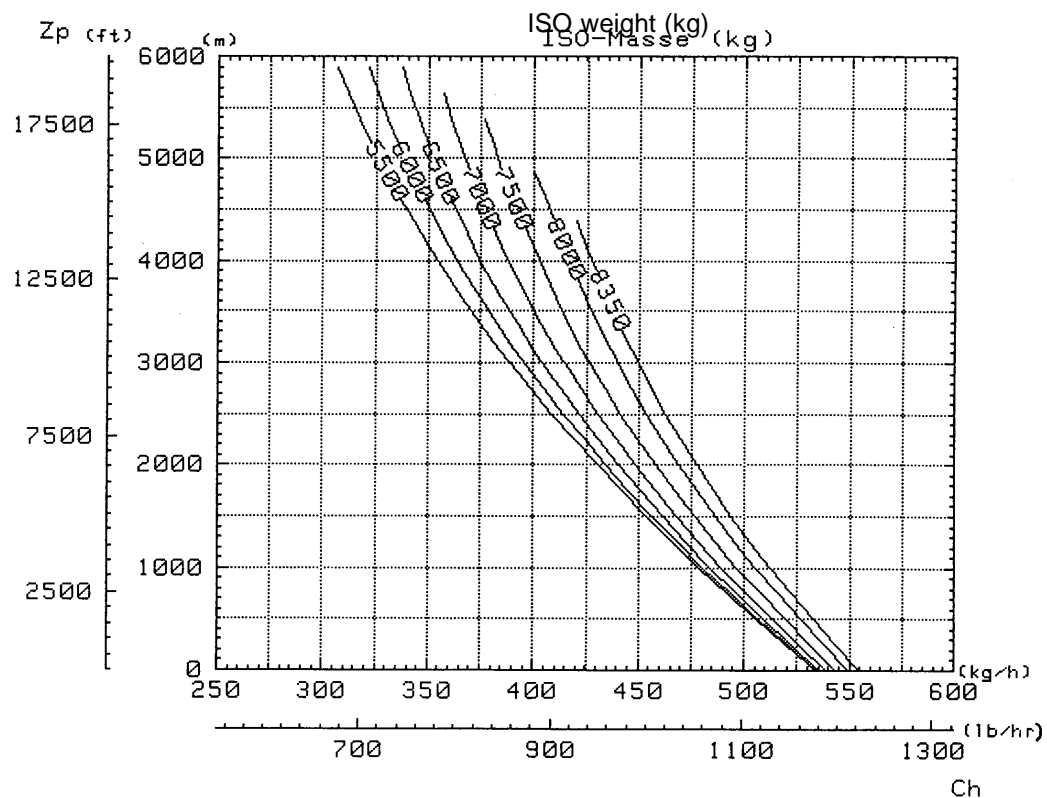
## HOURLY FUEL CONSUMPTION

### AT MAXIMUM CRUISE SPEED

(pitch 16°5)

ISA

Clean configuration



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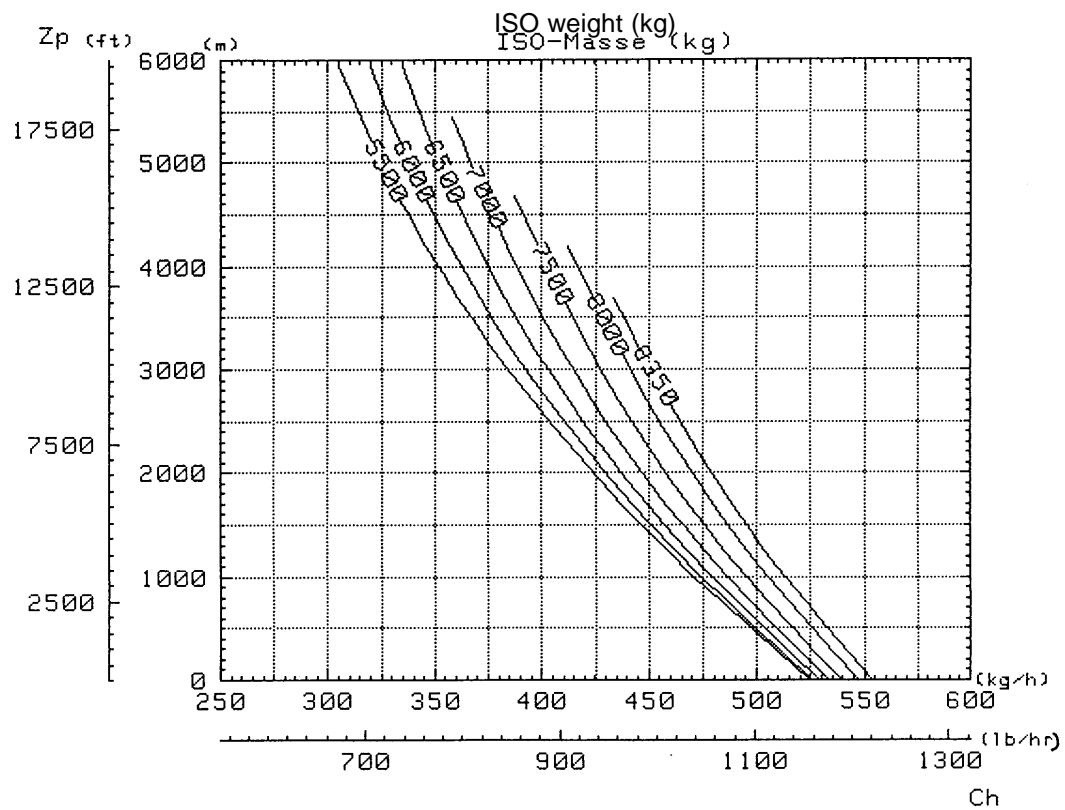
## HOURLY FUEL CONSUMPTION

### AT MAXIMUM CRUISE SPEED

(pitch 16°5)

ISA + 20°C

Clean configuration



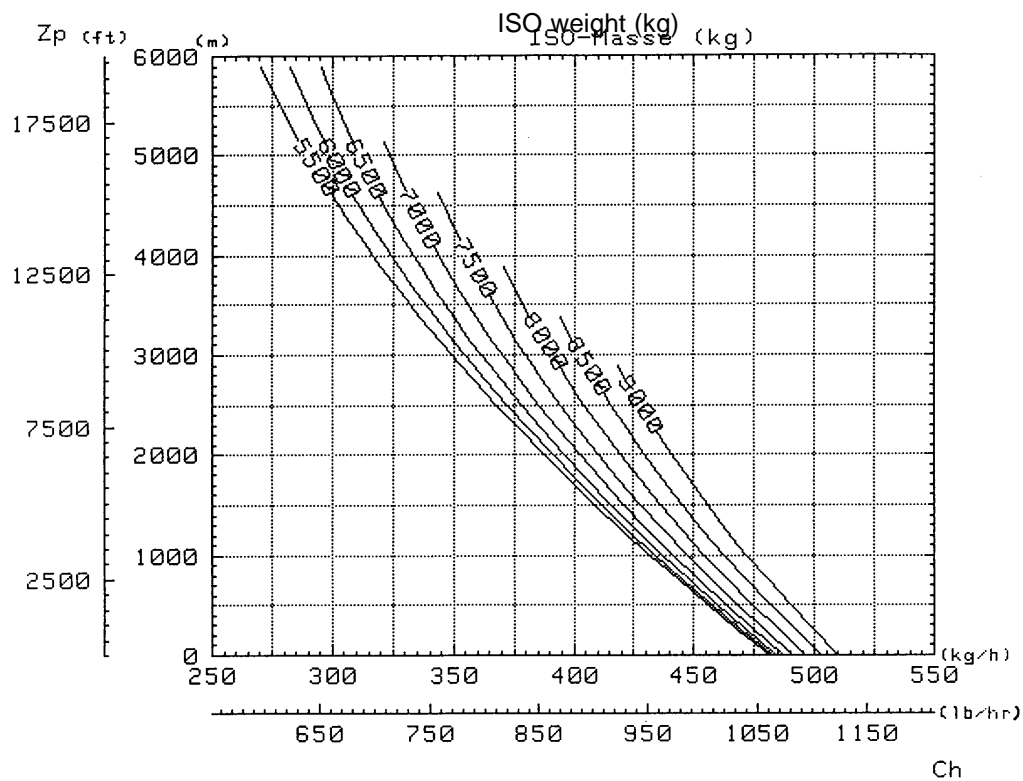
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## HOURLY FUEL CONSUMPTION AT RECOMMENDED CRUISE SPEED

Pitch : 15°5

ISA

Clean configuration



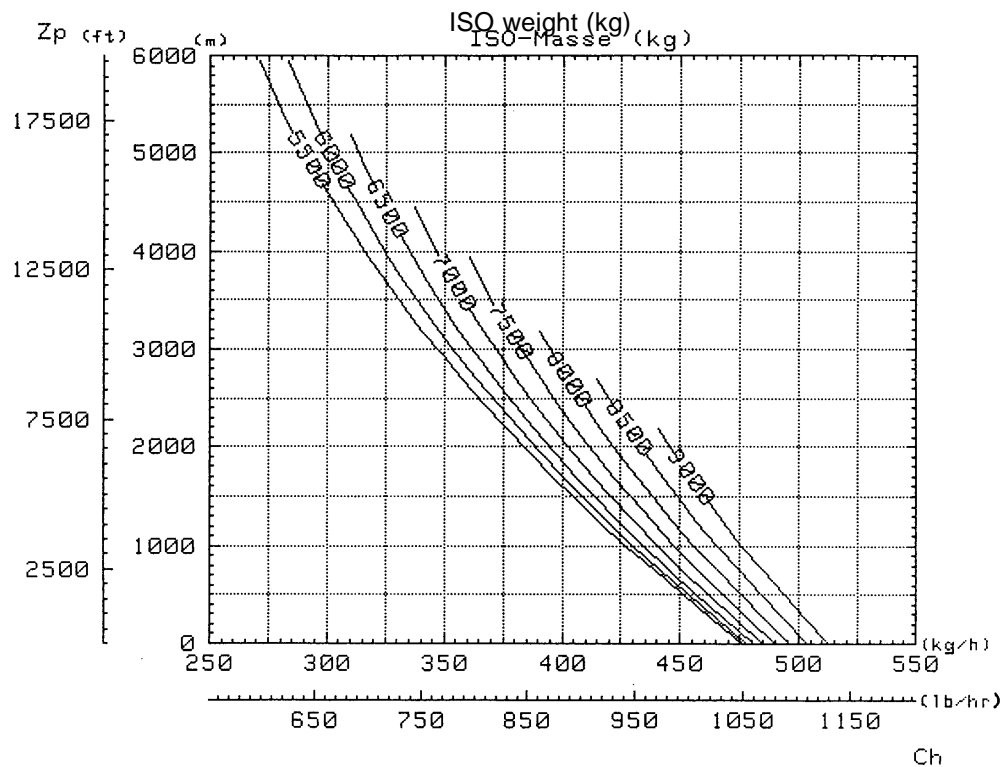
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## HOURLY FUEL CONSUMPTION AT RECOMMENDED CRUISE SPEED

Pitch : 15°5

ISA + 20°C

Clean configuration



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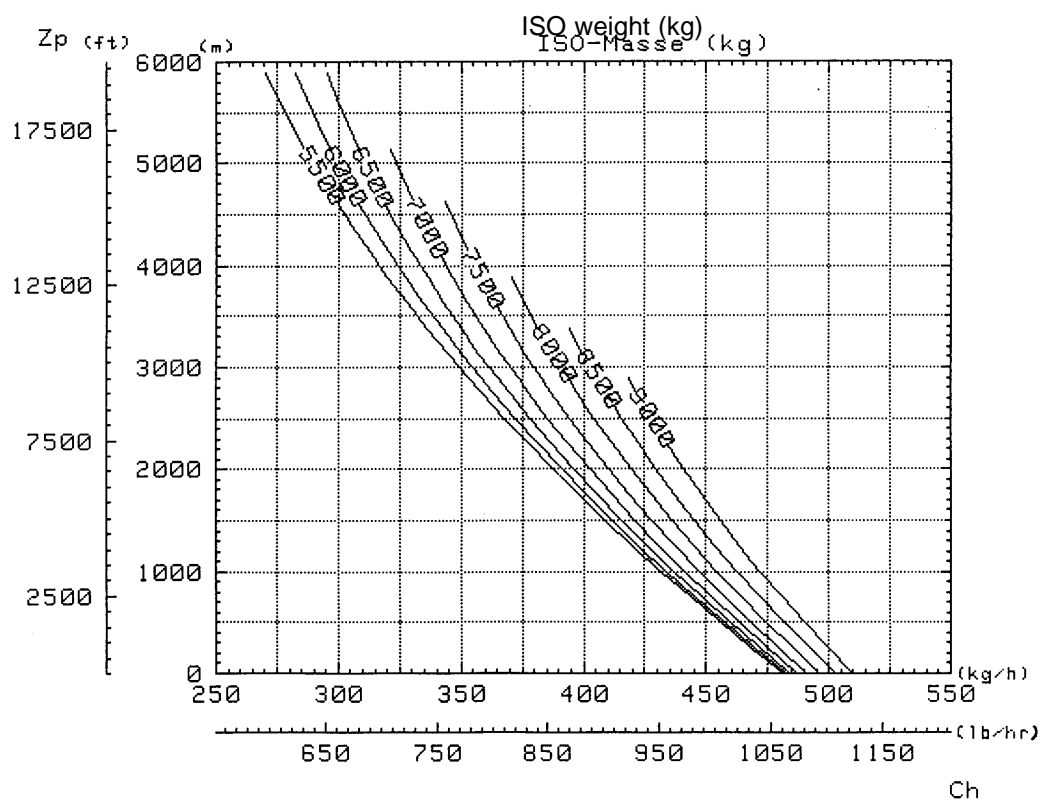
## HOURLY FUEL CONSUMPTION

### AT RECOMMENDED CRUISE SPEED

Pitch : 15°5

ISA

SAR configuration



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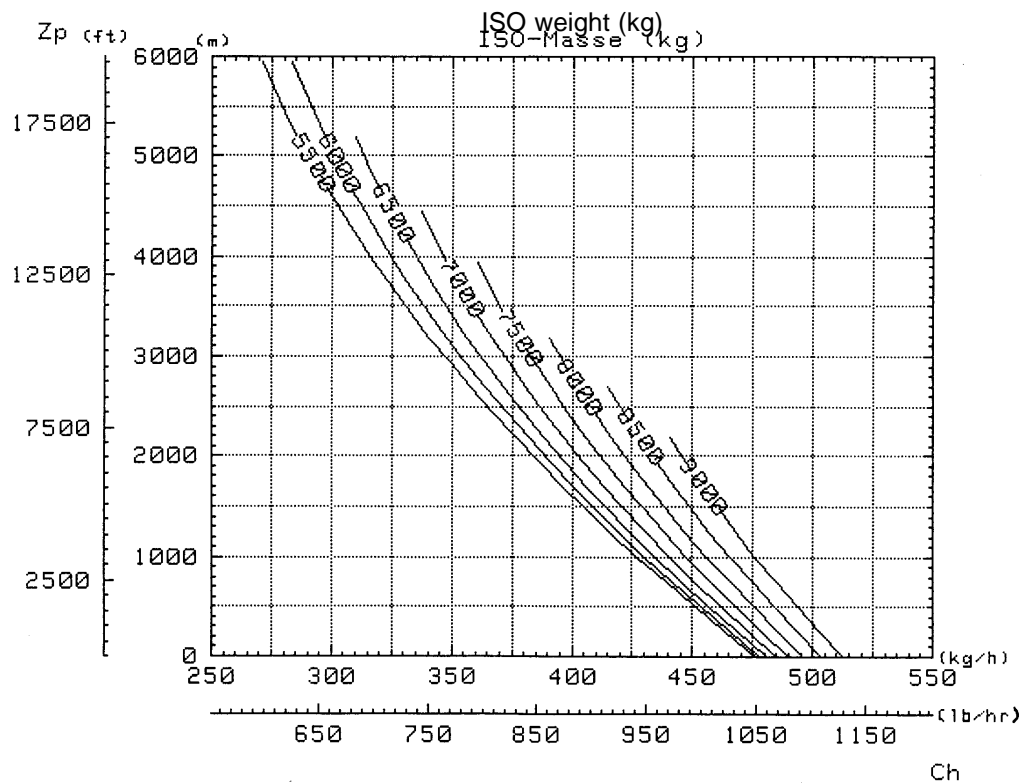


**HOURLY FUEL CONSUMPTION**  
**AT RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA + 20°C**

**SAR configuration**



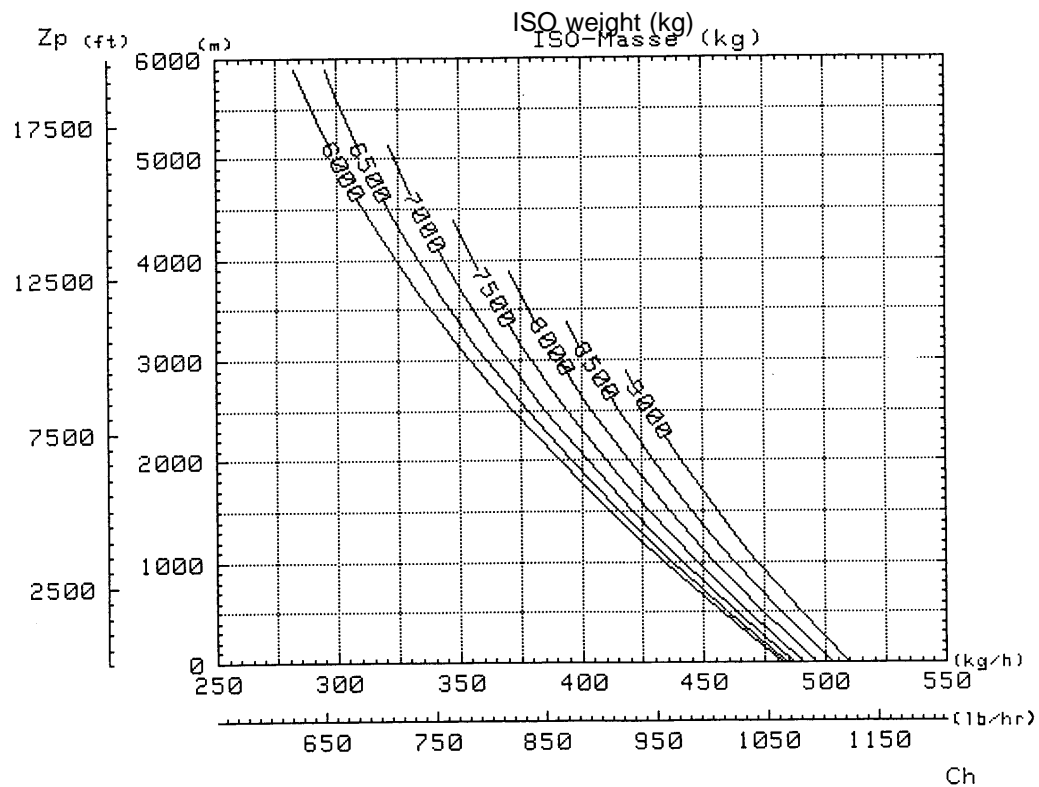
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**HOURLY FUEL CONSUMPTION**  
**AT RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA**

**A.S.V. configuration**



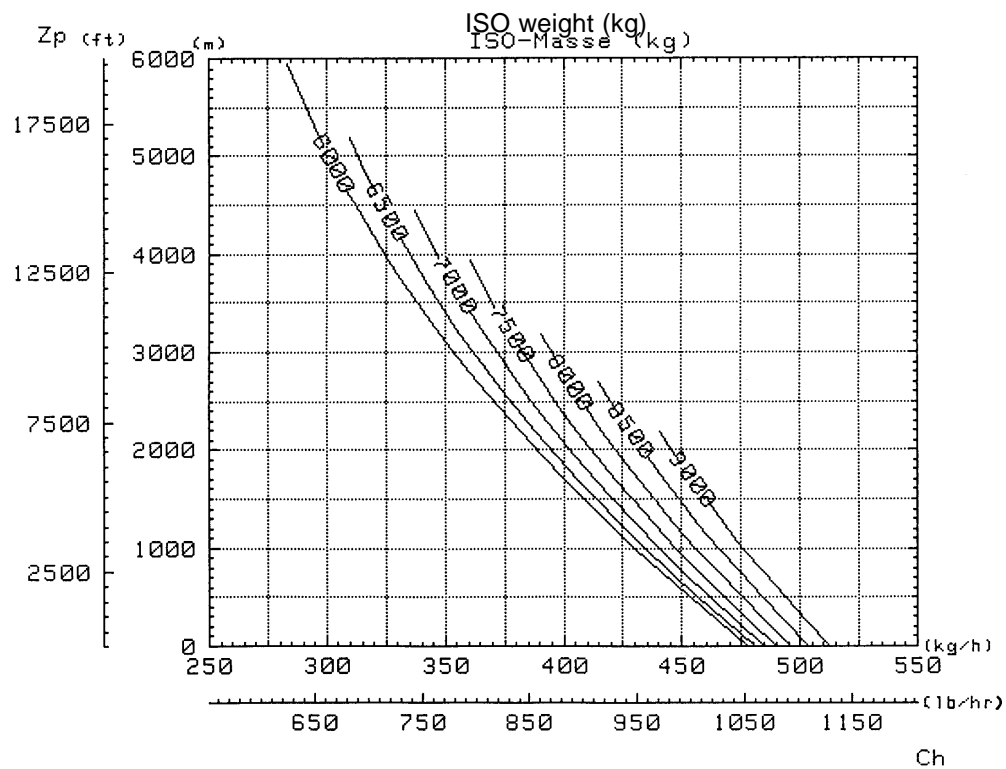
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**HOURLY FUEL CONSUMPTION**  
**AT RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA + 20°C**

**A.S.V. configuration**



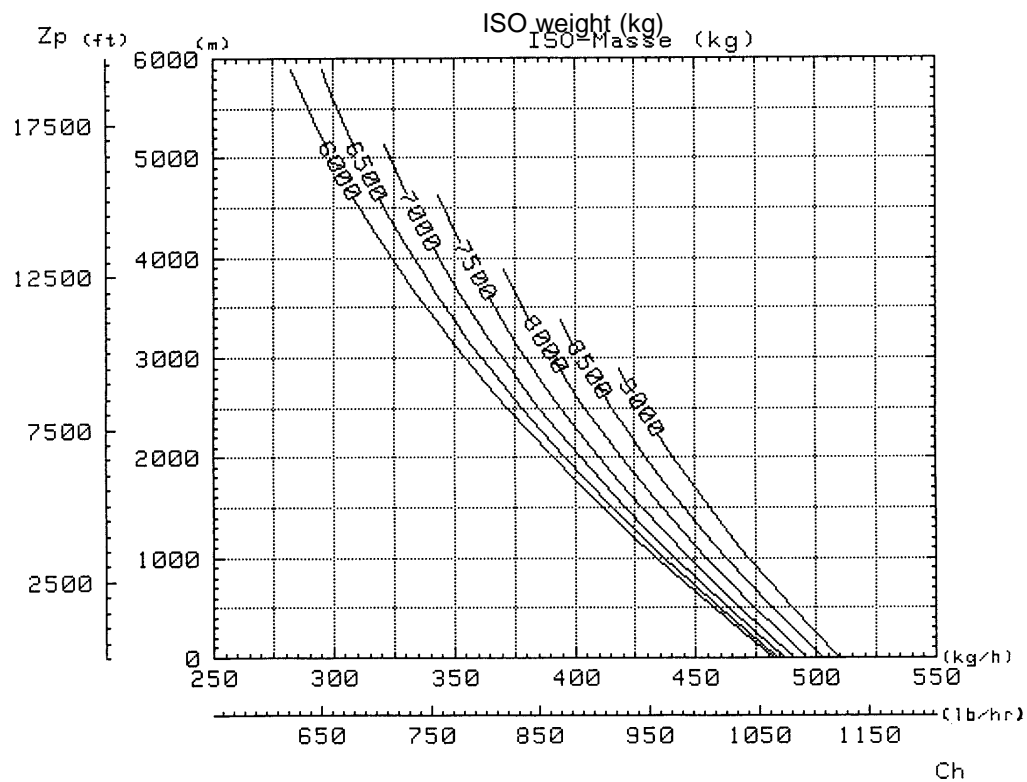
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**HOURLY FUEL CONSUMPTION**  
**AT RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA**

**A.S.W. configuration**



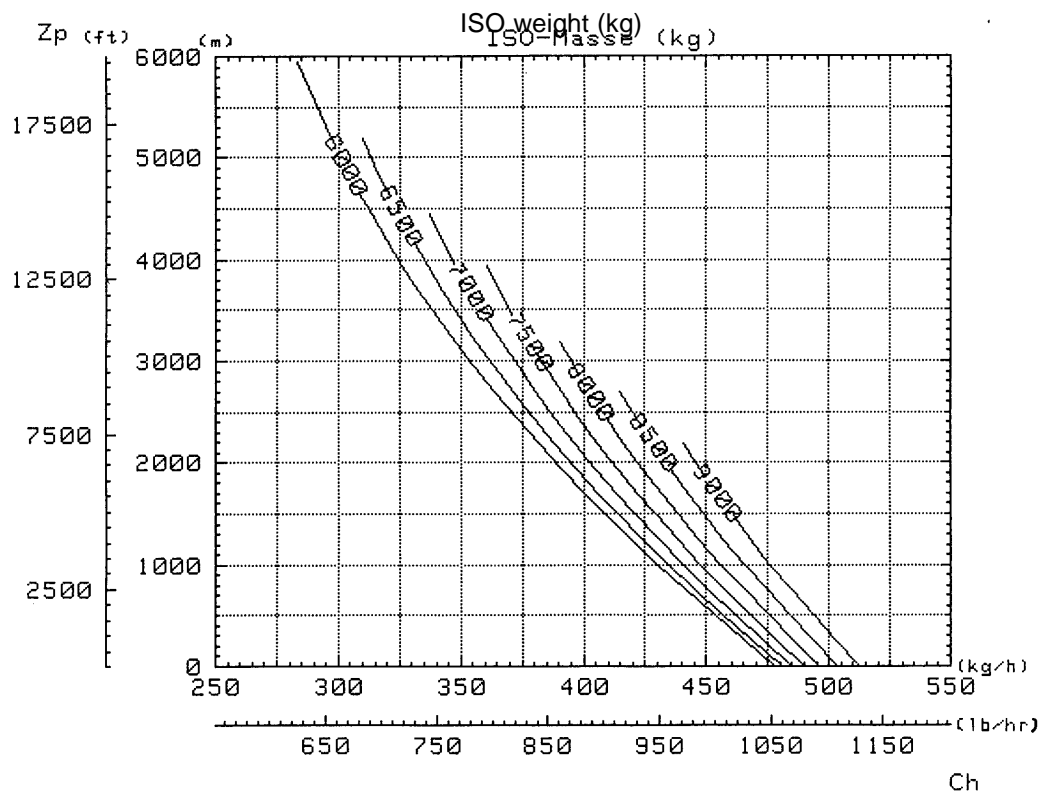
The data set forth in this document are general in nature and for information purposes only. They may vary with conditions.  
For performance data and operating limitations, reference must be made to the approved flight manual and all appropriate documents..

**HOURLY FUEL CONSUMPTION**  
**AT RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA + 20°C**

**A.S.W. configuration**



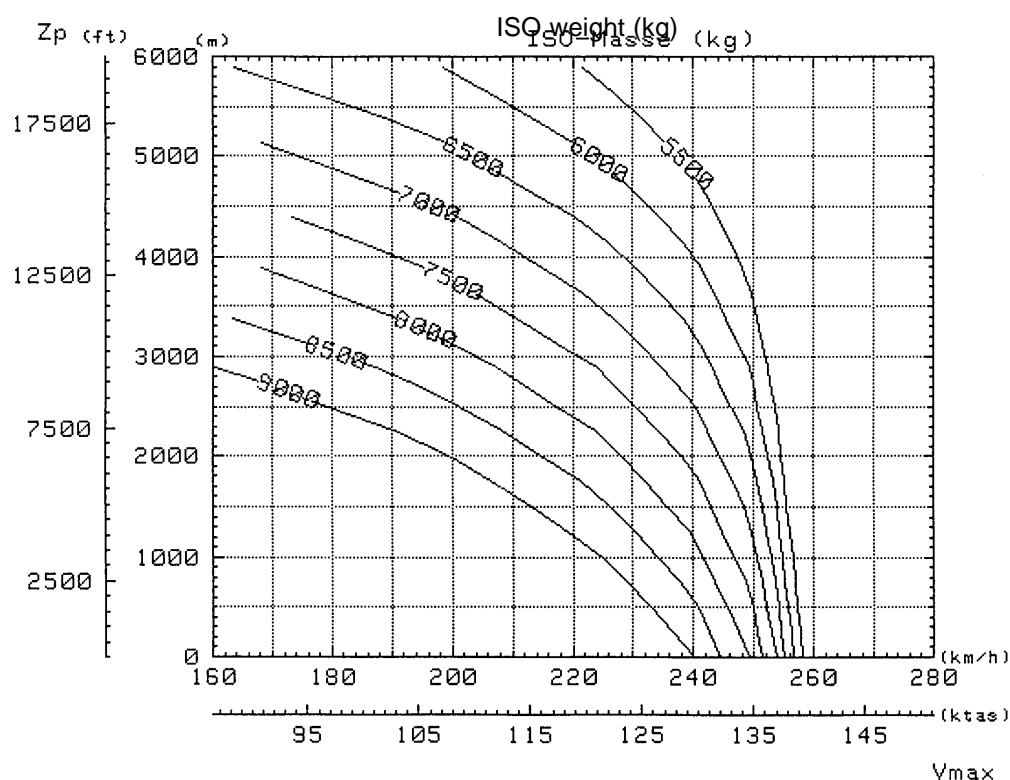
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## RECOMMENDED CRUISE SPEED

Pitch : 15°5

ISA

Clean configuration



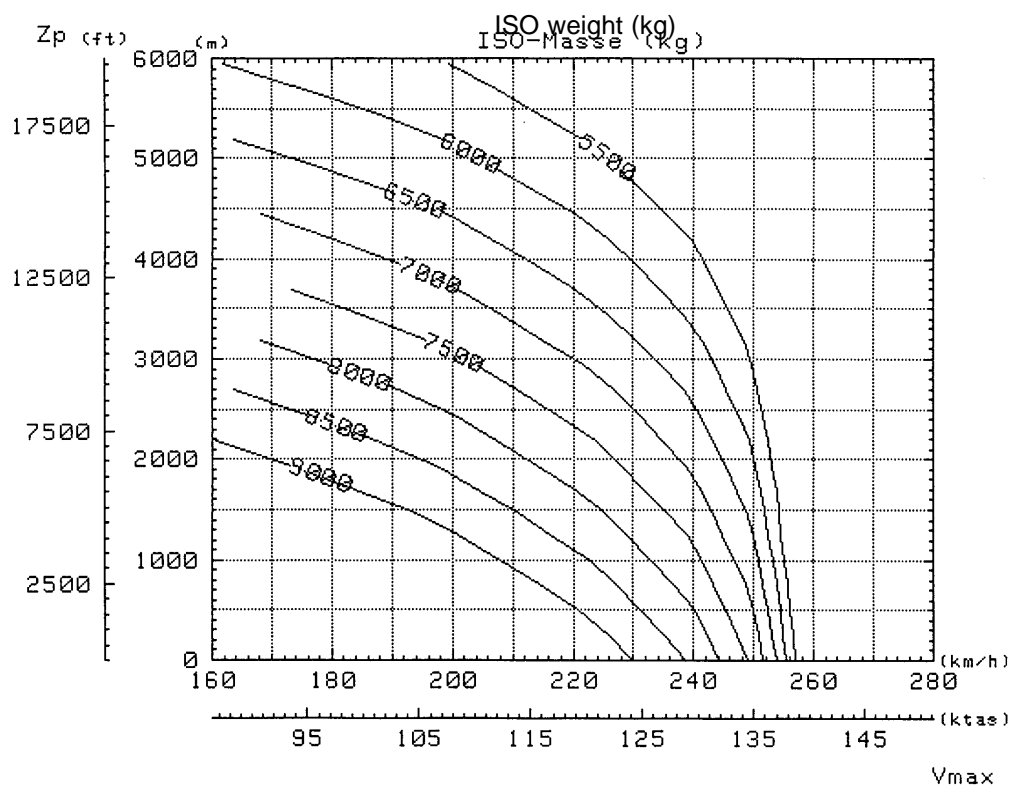
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## RECOMMENDED CRUISE SPEED

Pitch : 15°5

ISA + 20°C

Clean configuration



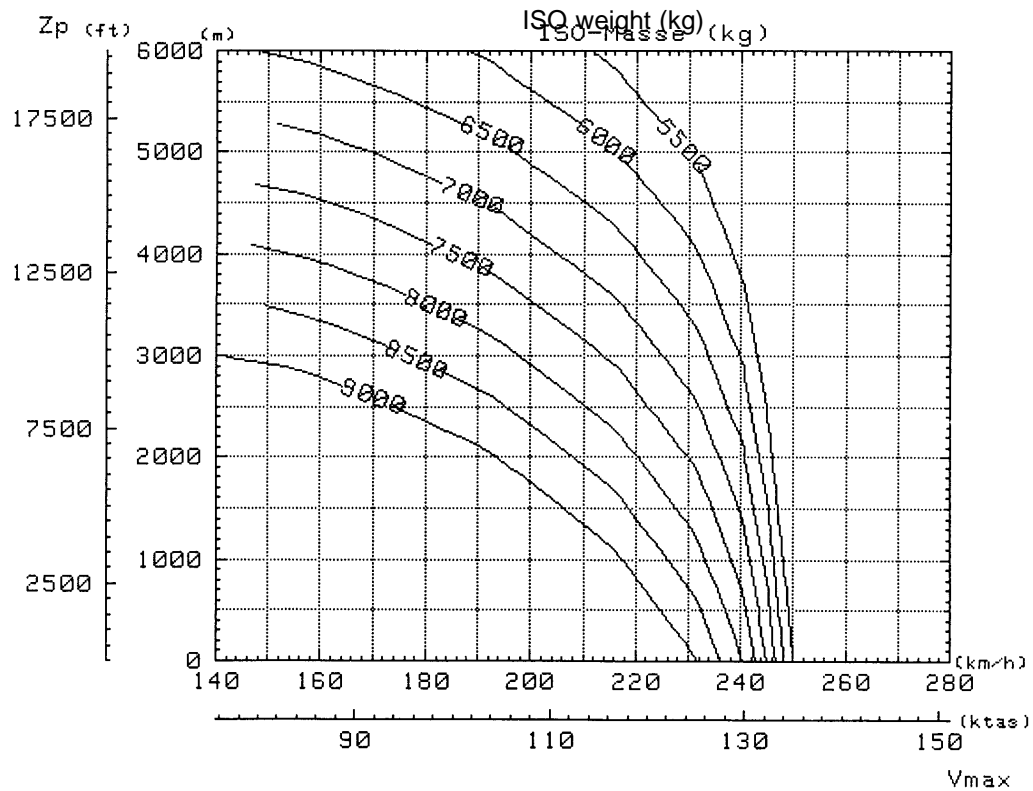
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**RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA**

**SAR configuration**



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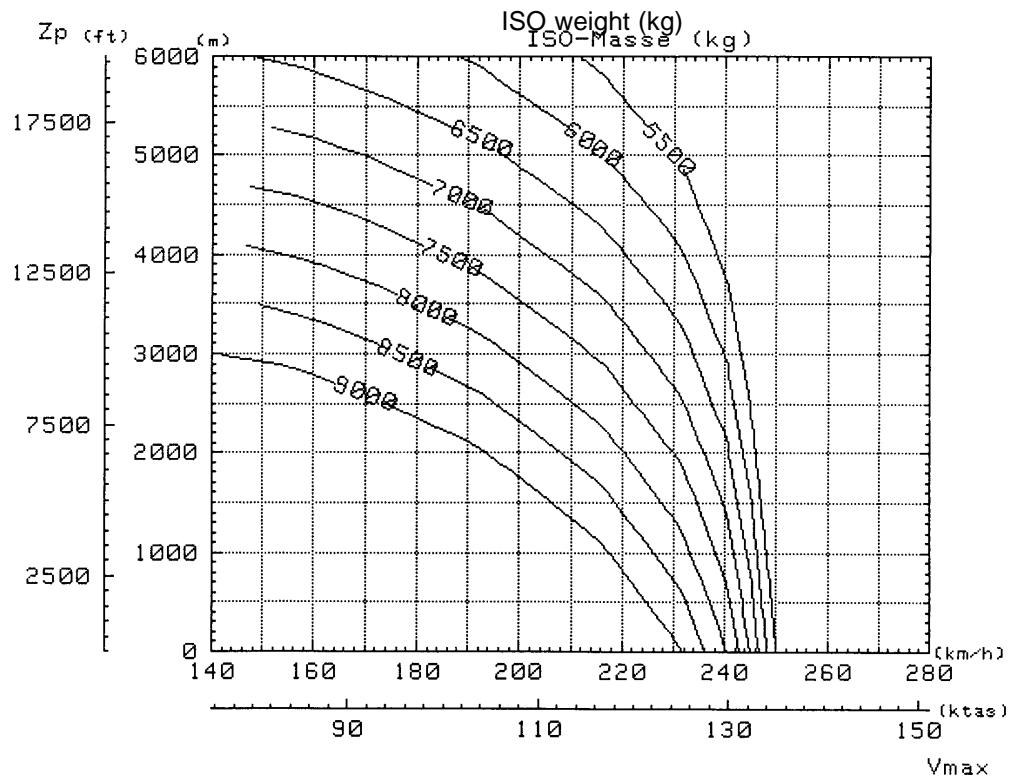


**RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA + 20°C**

**SAR configuration**



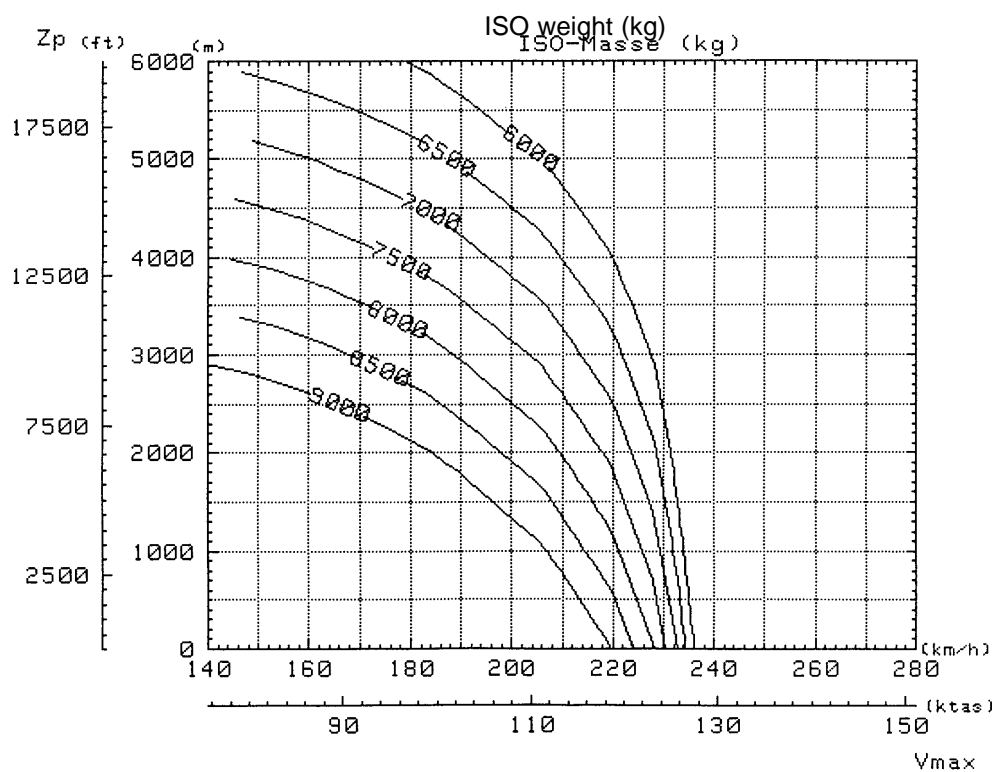
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## RECOMMENDED CRUISE SPEED

Pitch : 15°5

ISA

A.S.V. configuration



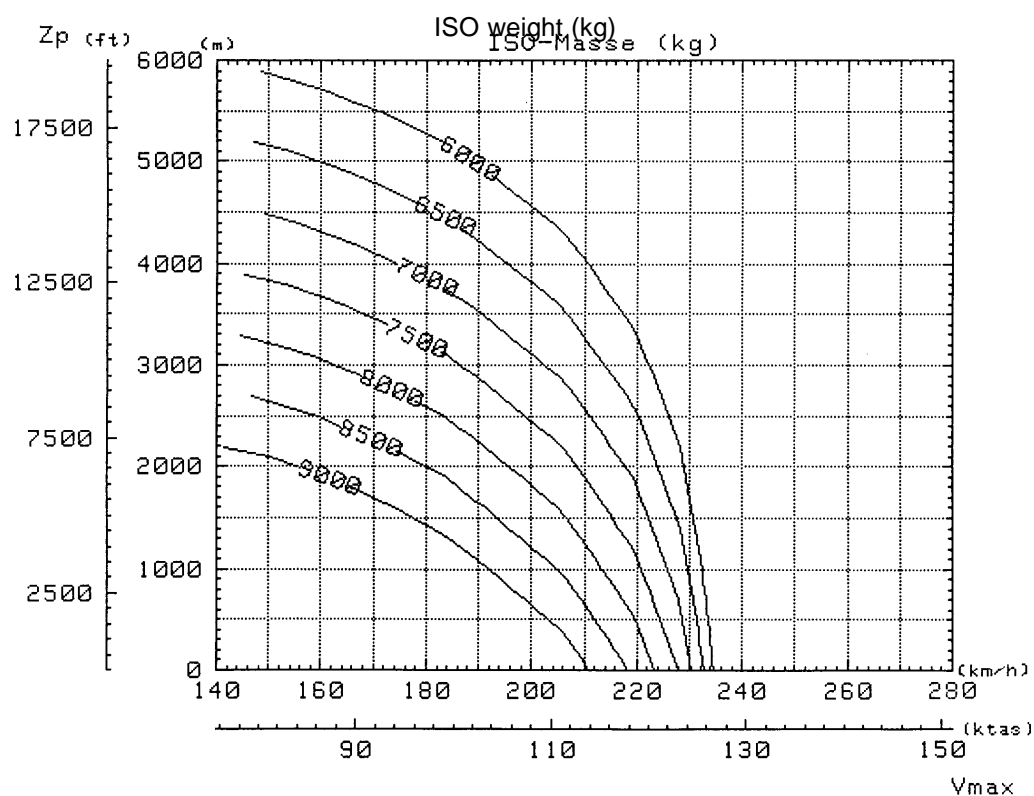
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**RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA + 20°C**

**A.S.V. configuration**



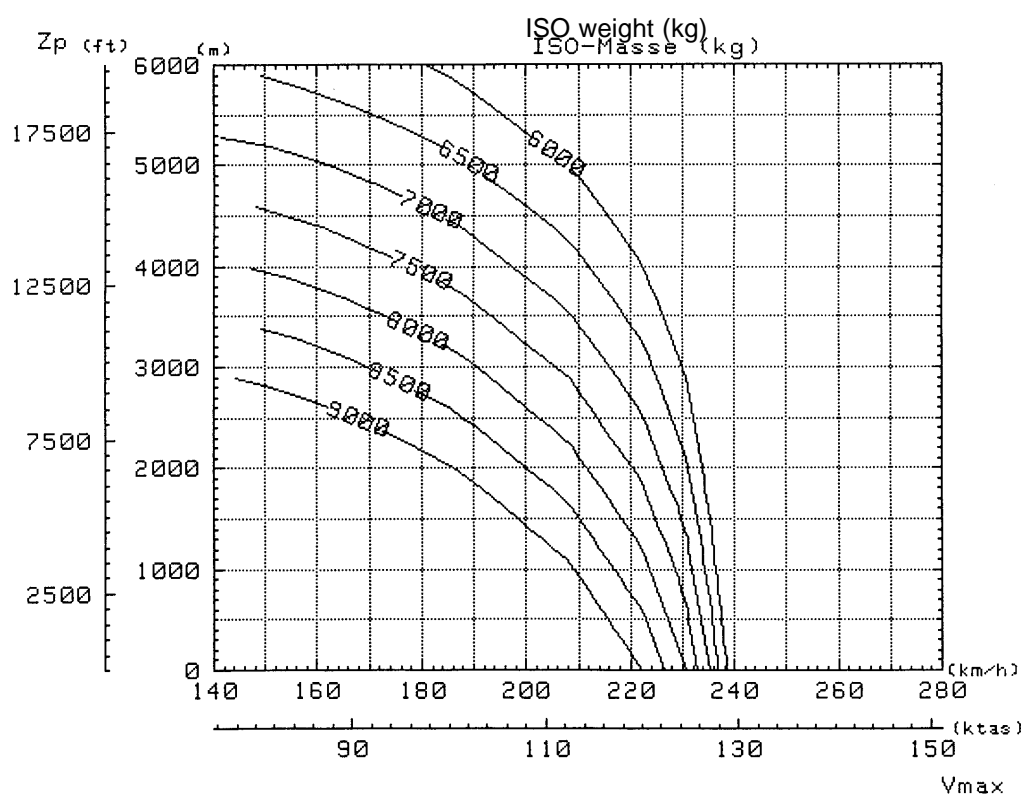
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**RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA**

**A.S.W. configuration**



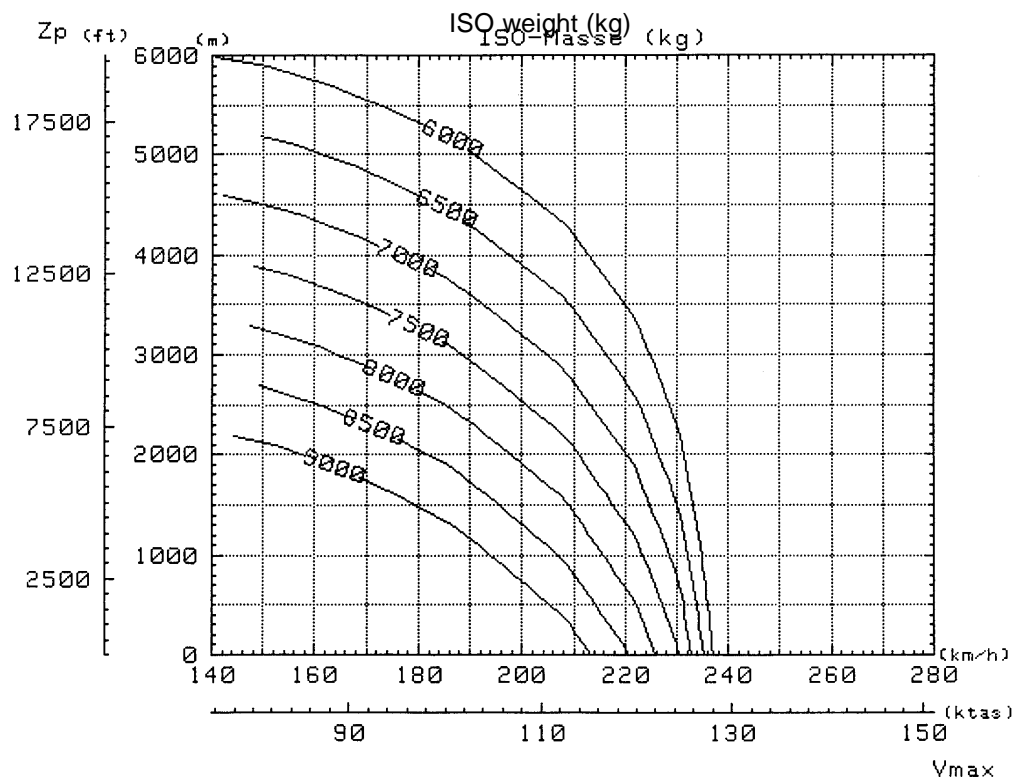
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**RECOMMENDED CRUISE SPEED**

**Pitch : 15°5**

**ISA + 20°C**

**A.S.W. configuration**



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