

型号认可证数据单
TYPE VALIDATION DATA SHEET

编号/No: **VTC0221A**

版次/Revision: **R4**

型号/Type:

AS 350 B1

AS 350 B2

AS 350 B3

EC 130 B4

批准人/Approved By:



日期/Date: **2014-02-27**

本数据单是型号认可证 (编号 : VTC0221A) 的组成部分 , 它规定了符合中国民用航空局的适航要求所颁发此型号认可证的产品状态和限制。

This data sheet, which is part of validation of Type Certificate (No.VTC0221A), prescribes condition and limitation under which the product for which the type certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号认可证持有人/validation of Type Certificate Holder:

Airbus Helicopters
Aéroport International Marseille-Provence
13725 MARIGNANE cedex - France

2014年2月27日前/Before February 27, 2014 :

Eurocopter
Aéroport International Marseille – Provence
13725 Marignane cedex
France

1997年6月1日以前/Before June 1, 1997:

EUROCOPTER FRANCE
Aéroport International Marseille Provence
13725 MARIGNANE Cedex

1992年1月1日以前/Before January 1, 1992:

AEROSPATIALE
37,Boulevard de Montmorency
75781 PARIS Cedex 16

效页清单/List of effective pages:

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第1部分 概述

SECTION 1 GENERAL

I. 概述/General

1. CAAC认可数据单和型号合格证数据单

CAAC Validation Data Sheet and Type Certificate Data Sheet

	中国民用航空局认可数据单号、版次和颁发日期 CAAC Validation Data Sheet Number, Revision and issuance date	型号合格证数据单号、版次和颁发日期 Type Certificate Data Sheet Number, Revision and issuance date
当前 Current	VTC0221A, R4, 2014-02-27	EASA R.008, R05, 2011-06-17
历史 History	VTC0221A, R3, 2012-03-05 VTC0221A, R2, 2010-03-26 VTC0221A, R1, 2009-03-03 VTC001A, R0, 1991-05-23	

2. 类别/Category:

正常类/Normal Category

3. 认可当局/Validation Authority:

中国民用航空局/CAAC

审定当局/Certifying Authority:

欧洲民用航空安全局/EASA

4. EASA EU合格证

型号合格证Type Certificate

Number: EASA R.008

型号合格证持有人/Type Certificate Holder:

Airbus Helicopters

Aéroport International Marseille-Provence
13725 MARIGNANE cedex - France

II. 认可审定基础/Validation Basis

CAAC的认可审定基础由EASA审定基础中的适用要求和CAAC的附加技术条件组成

The CAAC validation basis is consists of the EASA certification basis as applicable and the CAAC additional technical conditions.

1. EASA审定基础的适用要求/ EASA certification basis as applicable

参见第2, 3, 4, 5部分

Refer to SECTION 2,3,4,5

2. CAAC附加技术条件/CAAC additional technical conditions

2.1 必须满足 CAAC 的运行要求（例如标记标牌的中文要求）：

The operational requirements of CAAC must be met (e.g. Chinese language requirements for markings and placards).

2.2 燃油符合“中国国标 GB6537-2006”的三号喷气燃料 No.3 Jet Fuel;

The No.3 Jet Fuel of conforms to specification “PRC National Standard GB 6537-2006”

2.3 符合CCAR27 (a) 的要求;

Conforms to CCAR27 (a)

2.4 进口要求/Import Requirements

为具备在中国运行的资格，按本型号认可证制造的每架航空器必须具有一份出口适航证，其上签注有出口国适航当局的审定声明，即：本架航空器符合CAAC所批准的型号设计（VTC0221A）并处于可安全运行的状态。

To be considered eligible for operation in China, each aircraft manufactured under this Validation of Type Certificate must be accompanied by a certificate of airworthiness for export endorsed by EASA which states (in English language): This aircraft conforms to its CAAC type design (VTC0221A) and is in a condition for safe operation.

2.5 产品有效性/Series Nos. Eligible

对于申请CAAC审定的每一架飞机，其出口适航证都必须由EASA按上述“进口要求”予以签注。

A EASA Certificate of Airworthiness for export endorsed as noted below under “Import Requirements” must be submitted for each individual airplane for which application for the CAAC certification.

2.6 资料批准/Service Information

CAAC接受的服务通告、结构修理手册、航空器飞行手册、供应商手册和航空器维护手册等使用维护资料应经EASA批准，EASA的这些批准代表了CAAC的批准，且仅限于本型号设计。

Service bulletins, structural repair manuals, aircraft flight manuals, vender manuals, and aircraft maintenance manuals which contain a statement that the document is DGAC-F or EASA approved, are accepted by the CAAC and are considered CAAC-approved. These approvals pertain to the type design only.

第2部分 AS 350 B1

SECTION 2 AS 350 B1

I. 概述/General

1. 数据单号/Data sheet No: EASA R.008 , 替代DGAC-F n° 157, 第16版
(2005年3月颁布)
EASA R.008
Superseding DGAC-F n° 157, issue 16 dated
March 2005
2. 型号Type / 型别Variant or Model
 - (a) 型号/Type: AS 350
 - (b) 型别/Variant or Model AS350 B1 (商业指定: ECUREUIL)
AS350 B1
(commercial designation: ECUREUIL)
3. 适航类别/Airworthiness Category: 正常类
Normal Category
4. 制造商/Manufacturer: Airbus Helicopters
Aéroport International Marseille-Provence
13725 MARIGNANE cedex - France
5. 法国DGAC审查时间/DGAC Certification Date: 1986年1月9日
January 9, 1986
6. 向法国DGAC申请时间/DGAC Application Date: 1984年12月13日
December 13, 1984

II. 审定基础/Certification Basis

1. 适航要求/Airworthiness Requirements:

FAR 27, 包括1至10号修正案
FAR Part 27, Amendments 1 to 10 included

2. 专用条件/Special Conditions:

补充的以及专用技术条件在DGAC 6518号文(1976年8月17日颁布)、6437号文(1977年7月28日颁布)中说明

Complementary and special conditions defined in DGAC letters 6518 dated August 17, 1976, 6437 dated July 28, 1977 and 53639 dated June 25, 1985

III. 技术特征和使用限制/Technical Characteristics and Operational Limitations

1. 型号设计定义/ Type Design Definition 文件号 350A.04.4455

Documents 350A.04.4455

2. 描述/Description

小型单发直升机，为早期型号AS 350 B的衍生型设计

Small single-engine helicopter designed as a derivative product of the former type certified model AS 350 B

3. 设备/Equipment:

经批准的设备清单列在Airbus Helicopters DOCUMENT No.350A04.4320中。

The approved items of equipment are listed in Airbus Helicopters DOCUMENT No.350A04.4320.

适用的适航规章中所要求的基本设备（见审定基础）必须被安装在审定时飞机及审定后的每一架飞机上。

The basic required equipment specified in the applicable airworthiness regulations (see certification bases) must be installed on the aircraft at certification time and at every time after certification.

4. 几何尺寸/Dimensions

机身/Fuselage:	长度/Length	10.93米 10.93 m	(35.86 英尺) (35.86 ft)
	宽度/Width	1.87米 1.87 m	(6.14 英尺) (6.14 ft)
	高度/Height	3.14米 3.14 m	(10.30 英尺) (10.30 ft)
主旋/Main Rotor:	3叶桨-直径10.69米（35.07英尺） 3 blades - Diameter 10.69m(35.07 ft)		
尾旋/Tail Rotor:	2叶桨-直径1.86米（6.10英尺） 2 blades – Diameter 1.86 m (6.10 ft)		

5. 发动机/ Engine

TURBOMECA ARRIEL 1D
DGAC-F Engine TCDS No M 5

5.1. 发动机限制/Installed Engine Limits:

功率 Power rating	轴的扭矩限制 Limit torque on shaft	最低保障动力* Minimum Guaranteed power*	电机速度 (NG) ** Generator speed (NG)**	T4温度 T4 temperature
最大瞬态值 (5秒) Maximum transient (5 sec.)			105.5%	
起飞最大值 (5分钟) Maximum at takeoff (5 min.)	83 m.daN	510 Kw	100.8 +0.4 % +0	845°C
持续最大值 Maximum continuous	83 m.daN	450 Kw	98%	795°C

* 工业标准结构，海平面标准 ISA, ground level

** 100%=51800 rpm

5.2. 传送扭矩限制/Transmission Torque Limits: 参见飞行手册
Refer to Flight Manual.

6. 液体（燃油/滑油/添加剂）/Fluids (Fuel/Oil/additives):

6.1. 燃油/Fuel: 参见飞行手册（包括中国RP-3号燃油）
Refer to Flight Manual (include Chinese RP-3) .

6.2. 滑油/Oil: 参见飞行手册
Refer to Flight Manual.

7. 液体容量/Fluid capacities:

7.1. 燃油/Fuel:	总容量/Total:	540升（142.7加仑） 540 l (142.7 US gal)
	可用燃油/Usable fuel:	538.75升 (142.34加仑l) – post AMS 07 o289 538.75 l (142.34 US gal) – post AMS 07 o289
	不可用燃油/Unusable fuel:	1.25 升 (0.33 加仑) – post AMS 07 0289 1.25 l (0.33 US gal) – post AMS 07 0289
7.2. 滑油/Oil:	发动机滑油容量/ Engine reservoir:	5.2 升（1.37 加仑） 5.2 l (1.37 US gal)
	BTP:	6.51 升（1.72加仑）– 包括滑油管路 6.51 l (1.72 US gal) – circuit included
	BTA:	0.33 升（0.09 加仑） 0.33 l (0.09 US gal)

8. 空速限制/Airspeed limits:

开车时VNE/Power-on VNE

- 绝对VNE: HP=0时, 287 公里/小时 (155 节)
Absolute VNE:287 km/h (155 kt) for HP=0
- 按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft)
- 在寒冷天气下, 当OAT低于-30℃, 从上述VNE中减去19公里/小时 (10节)
In cold weather, when OAT is below -30℃, subtract 19 km/h (10 kt) from the above VNE.

停车时VNE /Power-off VNE

- 绝对VNE: HP=0时, 231 公里/小时 (125 节)
Absolute VNE:231 km/h (125 kt) for HP=0

- 按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft).
- 在寒冷天气下, 从上述VNE中减去下述数值:
In cold weather, subtract the following values from the above VNE:
 - 19公里/小时 (10节), OAT在-20℃ 至 -30℃之间
19 km/h (10 kt), when OAT is between -20℃ and -30℃
 - 37公里/小时 (20节), 当OAT低于-30℃, 没有VNE时将低于120公里/小时 (65节)
37 km/h (20 kt), when OAT is below -30℃, without VNE being less than 120 km/h (65 kt).

9. 转速限制/Rotor Speed Limits:

开车飞行时/Power-on flight:

390 +4 rpm
 -5

自转时/In autorotation:

- 最大: 430 rpm
Maximum: 430 rpm
- 最小: 320 rpm (低于365 rpm时声音警告)
Minimum: 320 rpm (audio warning below 365 rpm)

10. 最大运行高度及温度/Maximum Operating Altitude and Temperature:

10.1. 高度/Altitude HP:	起飞及着陆/Take-off and landing:	4267米 (14000英尺) 4267 m (14 000 ft)
	在运行中/En route:	6096米 (2000英尺) 6096 m (20 000 ft)

10.2 温度/Temperature:	参见飞行手册 Refer to Flight Manual
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11. 使用限制/Operating Limitations:

- 白天目视飞行
Day VFR flight
- 在按运行规章要求安装了附加设备且可用时, 可夜间目视飞行
Night VFR flight, when the additional equipment required by operational regulations is installed and serviceable.

(更多信息参见飞行手册 For more information refer to Flight Manual)

12. 最大审定重量/Maximum Certified Weights:	2200公斤 (4850磅) 2200 kg (4850 lb)
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13. 重心范围/Centre of Gravity Range:

纵向/Longitudinal:

前部限制/Forward limit:

3.17 米 (124.8 英寸) 达到 2000 公斤 (4409 磅)

3.17 m (124.8 in) up to 2000 kg (4409 lb)

线性变化, 从3.17 米 (124.8 英寸) 到 3.20米 (126 英寸), 在2000 公斤 (4409 磅) 到 2200公斤(4850磅)之间

Linear Variation from 3.17 m (124.8 in) to 3.20 m (126 in) between 2000 kg (4409 lb) and 2200 kg (4850 lb)

3.20 米 (126 英寸), 在2200 公斤 (4850 磅)

3.20 m (126 in) at 2200 kg (4850 lb)

后部限制/Aft limit:

3.50 米 (137.8 英寸), 达到 1200 公斤 (2645 磅)

3.50 m (137.8 in) up to 1200 kg (2645 lb)

线性变量, 从3.50 米 (137.8 英寸) 到 3.43 米 (135 英寸), 在1200 公斤 (2645磅) 和2200公斤 (4850磅) 之间

Linear variation from 3.50 m (137.8 in) to 3.43 m (135 in) between 1200 kg (2645 lb) and 2200 kg (4850 lb)

3.43米 (135 英寸), 2200 公斤(4850 磅)

3.43 m (135 in) at 2200 kg (4850 lb)

横向/Lateral:

左侧限制/L.H. limit:

0.18 米 (7.09 英寸)

0.18 m (7.09 in)

右侧限制/R.H. limit:

0.14 米 (5.51 英寸)

0.14 m (5.51 in)

重量分类及重心限制文件包括审定时空机状态下的设备清单, 同时, 载荷说明在直升要初始审定时即确定, 并建立在从那时起的永久的基础上。

The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

为获得最正确的重量和重心数据, 直升机应从撑点被顶起, 而不是使用刹车。应修正影响重量和重心的位置, 并在飞行手册中指出。

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be referred to.

14. 基准/Datum:

纵向/Longitudinal:

MRH中心线前3.4米 (134英寸)

3.4 m (134 in) forward of the MRH centreline

横向/Lateral: 航空器对称平面
Aircraft symmetry plane

15. 测平方式/Levelling Means: Transmission deck

16. 最小飞行机组/Minimum Flight Crew: 右座一名飞行员
1 pilot in R.H. seat

17. 最多乘员座位数/Maximum Passenger Seating Capacity: 5

当航空器安装了前面的两个可选座位，最大成中增加到6人（不含飞行中）。该可选项按照相应飞行手册附录被使用。

When the aircraft is fitted with the forward two-place seat optional equipment, the maximum number of passengers is increased to six (pilot not included). This optional is to be used in accordance with the corresponding Flight Manual supplement.

18. 乘客紧急出口/Passenger Emergency Exit:

参见飞行手册
Refer to Flight Manual

19. 最大行李/货载 Maximum Baggage/Cargo Loads:

位置/Location	最大载荷/Max Load
右舱最大载荷 Maximum load in R.H. side hold:	100 公斤 (220磅) 100 kg (220 lb)
左舱最大载荷 Maximum load in L.H. side hold:	120公斤(264磅) 120 kg (264 lb)
后舱最大载荷 Maximum load in rear hold:	80公斤(176磅) 80 kg (176 lb)
前部驾驶舱最大载荷 Maximum load in forward cabin floor:	150公斤(331 磅) 150 kg (331 lb)
后部驾驶舱最大载荷 Maximum load in rear cabin floor:	310公斤(683 磅) 310 kg (683 lb)

20. 转动桨叶和控制位移/Rotor blade and control movement:

参见航空器维护手册
Refer to aircraft Maintenance Manual

21. 时寿件/Life-limited parts:

AS 350 维修手册第5章“主要推荐服务”中，认为由DGAC在AS 350直升机上执行满意的维修操作是可信的；5.99中“适航限制”包括那些强制观察的限制。

The AS 350 Maintenance Manuals Chapter 5 "Master Servicing Recommendations" have been deemed acceptable by the DGAC to carry out satisfactory maintenance operations on the AS 350 helicopter ; part 5.99 "Airworthiness Limitations" contains limitations which are to be mandatory observed.

IV. 操作和服务说明/Operating and Service Instructions

1. 旋翼机飞行手册, 文件号/Rotorcraft Flight Manual, Document No:

AS 350 B1飞行手册, 由DGAC-F于1986年1月9日批准, 及以后批准的版次
AS 350 B1 Flight Manual, approved by DGAC-F on January 9, 1986 or later approved revision (reference in French language).

2. 维修手册, 文件号/Maintenance Manual, Document No:

- | | |
|----------------|------------------------------------|
| - AS 350服务手册 | AS 350 Service Manual |
| - AS 350检查手册 | AS 350 Overhaul Manual |
| - AS 350修理手册 | AS 350 Repair Manual |
| - AS 350图解零件目录 | AS 350 Illustrated Parts Catalogue |

可选设备之间的兼容性如下所述/Compatibility between optional items of equipment is described:

- 从安装方面: 在《主要维修建议》中
From an installation aspect: in the "Master Servicing Recommendations".
- 从操作角度: 在飞行手册“附录”部分
From an operational aspect: in "Supplements" chapter of the Flight Manual.

3. 服务信函和服务通告/Service Letters and Service Bulletins:

由EUROCOPTER或Airbus Helicopters公布, 经DGAC-F和EASA批准
As published by Eurocopter or Airbus Helicopters and approved by DGAC-F and EASA.

V. 备注/Notes

1. 合格的序列号/Eligible serial numbers:

- AS 350 B1型机S/N 1822 及以后
AS 350 B1 aircraft S/N 1822 and up.

2. 标牌/Placards:

- 1 - 以下标牌必须安装在飞行员清晰可见的位置
The following placard must be fitted in a way that the pilot can see it clearly:

“安装到此直升机上的标记标牌包括运行此旋翼机必须遵守的运行限制—运行限制不同于在飞行手册中所指出。必须遵守此旋翼机维修手册中的适航限制章节”

"THE MARKINGS AND PLACARDS FITTED TO THIS HELICOPTER CONTAIN THE OPERATING LIMITATIONS WHICH MUST BE OBSERVED WHEN OPERATING THIS ROTORCRAFT - THE OPERATING LIMITATIONS OTHER

THAN THESE ARE INDICATED IN THE ROTORCRAFT FLIGHT MANUAL. THE AIRWORTHINESS LIMITATION SECTION OF THE ROTORCRAFT MAINTENANCE MANUAL MUST BE OBSERVED".

2 - 参考飞行手册中提到的其他标牌

Refer to the Flight Manual as regards the other placards.

第3部分 AS 350 B2

SECTION 2 AS 350 B2

I. 概述/General

1. 数据单号/Data sheet No: EASA R.008, 替代DGAC-F n° 157, 第16版
(2005年3月颁布)
EASA R.008
Superseding DGAC-F n° 157, issue 16 dated
March 2005
2. 型号Type / 型别Variant or Model
- (a) 型号/Type: AS 350
- (b) 型别/Variant or Model AS350 B2 (商业指定: ECUREUIL)
AS350 B2
(commercial designation:ECUREUIL)
3. 适航类别/Airworthiness Category: 正常类
Normal Category
4. 制造商/Manufacturer: Airbus Helicopters
Aéroport International Marseille-Provence
13725 MARIGNANE cedex - France

参见上述TC持有人和V.1节-在许可下生产的合格的直升机序列号

See above for helicopters manufactured by Type Certificate holder and see sub-paragraph
V.1-Eligible serial numbers for helicopters manufactured under license

5. 法国DGAC审查时间/DGAC-F Certification Date: 1989年4月26日
April 26, 1989
6. 向法国DGAC申请时间/DGAC-F Application Date: 1988年10月6日
October 6, 1988

II. 审定基础/Certification Basis

3. 适航要求/Airworthiness Requirements:

FAR 27, 包括1至10号修正案

FAR Part 27, Amendments 1 to 10 included

4. 专用条件/Special Conditions:

补充的和专用条件在6518 (1976年8月17日颁布)、6437 (1977年7月28日颁布), 以及
53639 (1985年6月25日颁布) 号文中确定 (参见 53151/SFACT/TC夹, 1989年2月9日颁布)

Complementary and special conditions defined in letters 6518 dated August 17, 1976, 6437 dated July 28, 1977 and 53639 dated June 25, 1985 (see letter 53151/SFACT/TC dated February 9, 1989)

对安装了VEMD主要更改的a/c, 以上述内容中增加:

- HIRF及闪电防护的专用技术条件
- 动力装置仪表的等效安全条件

详细内容参见AS350B2 (VEMD) CRI n. A-1, 第3版, 2006年11月17日颁布

For a/c equipped with VEMD major modification, as above plus:

- special conditions on protection against the effects of High Intensity Radiated Fields (HIRF) and Lightning
- equivalent safety findings for powerplant instrument markings

See AS350B2 (VEMD) CRI n. A-1 issue 3 dated 17/11/06 for details

III. 技术特征和使用限制/Technical Characteristics and Operational Limitations

1. 型号设计定义/ Type Design Definition

文件号 350A.04.4541
Documents 350A.04.4541

2. 描述/Description

小型单发直升机, 为早期型号AS 350 B1的衍生型设计

Small single-engine helicopter designed as a derivative product of the former type certified model AS 350 B1

3. 设备/Equipment:

经批准的设备清单列在Airbus Helicopters DOCUMENT No.350A04.4320中。

The approved items of equipment are listed in Airbus Helicopters DOCUMENT No.350A04.4320.

适用的适航规章中所要求的基本设备（见审定基础）必须被安装在审定时飞机及审定后的每一架飞机上。

The basic required equipment specified in the applicable airworthiness regulations (see certification bases) must be installed on the aircraft at certification time and at every time after certification.

4. 几何尺寸/Dimensions

机身/Fuselage:	长度/Length	10.93米 10.93 m	(35.86 英尺) (35.86 ft)
	宽度/Width	1.87米 1.87 m	(6.14 英尺) (6.14 ft)
	高度/Height	3.14米 3.14 m	(10.30 英尺) (10.30 ft)

主旋/Main Rotor: 3叶桨-直径10.69米 (35.07英尺)
3 blades - Diameter 10.69m(35.07 ft)

尾旋/Tail Rotor: 2叶桨-直径1.86米 (6.10英尺)
2 blades – Diameter 1.86 m (6.10 ft)

5. 发动机/ Engine

TURBOMECA ARRIEL 1D

TCDS EASA E.073, 替代DGAC-F 发动机数据单号 M5

TCDS EASA E.073

Superseding DGAC-F Engine TCDS No M 5

5.1. 发动机限制/Installed Engine Limits:

功率 Power rating	轴的扭矩限制 Limit torque on shaft	最低保障动力* Minimum Guaranteed power*	B2 without VEMD Generator speed(NG)** (Δ Ng)	B2 without VEMD Generator speed(NG)** (Δ Ng)	T4温度 T4 temperature
最大瞬态值 (5秒) Maximum transient (5 sec.)		107.5%(+6)		103.1%(+1)	
起飞最大值 (5分钟) Maximum at takeoff (5 min.)	83 m.daN	478 Kw***	Without P2 air bleed (0) With P2 air bleed (-0.6)	Automatic P2 Derating by VEMD	845°C
持续最大值 Maximum continuous	83 m.daN	449 Kw	98%(-3.5)	98%(-4)	795°C

* 工业标准结构, 地面标准ISA, ground level

** 100%=51800 rpm

*** 由于将燃油流量计算在内, 机械动力被限制在该值,

The mechanical power has been limited to this value taking the fuel flow limit into account.

5.2. 传送扭矩限制/Transmission Torque Limits:

参见飞行手册

Refer to Flight Manual.

6. 液体 (燃油/滑油/添加剂) /Fluids (Fuel/Oil/additives):**6.1. 燃油/Fuel:**

参见飞行手册 (包括中国RP-3号燃油)

Refer to Flight Manual (include Chinese RP-3) .

6.2. 滑油/Oil:

参见飞行手册

Refer to Flight Manual.

7. 液体容量/Fluid capacities:**7.1. 燃油/Fuel: 总容量/Total:**

540升 (142.7加仑)

540 l (142.7 US gal)

可用燃油/Usable fuel:

538.75升 (142.34加仑) – post AMS 07 0289

538.75 l (142.34 US gal) – post AMS 07 0289

	不可用燃油/Unusable fuel:	1.25升 (0.33 加仑) – post AMS 07 0289 1.25 l (0.33 US gal) – post AMS 07 0289
7.2. 滑油/Oil:	发动机滑油容量/Engine reservoir:	5.2 升 (1.37 加仑) 5.2 l (1.37 US gal)
	BTP:	6.51 升 (1.72加仑) –包括管路内油量 6.51 l (1.72 US gal) – circuit included
	BTA:	0.33 升 (0.09 加仑) 0.33 l (0.09 US gal)

8. 空速限制/Airspeed limits:

开车时VNE/Power-on VNE

- 绝对VNE: HP=0时, 287 公里/小时 (155 节)
Absolute VNE:287 km/h (155 kt) for HP=0
- 按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft)
- 在寒冷天气下, 当OAT低于-30℃, 从上述VNE中减去19公里/小时 (10节)
In cold weather, when OAT is below -30℃, subtract 19 km/h (10 kt) from the above VNE.

停车时VNE /Power-off VNE

- 绝对VNE: HP=0时, 231 公里/小时 (125 节)
Absolute VNE:231 km/h (125 kt) for HP=0
- 按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft).
- 在寒冷天气下, 从上述VNE中减去下述数值:
In cold weather, subtract the following values from the above VNE:
 - 19公里/小时 (10节), OAT在-20℃ 至 -30℃之间
19 km/h (10 kt), when OAT is between -20℃ and -30℃
 - 37公里/小时 (20节), 当OAT低于-30℃, VNE 不少于120公里/小时 (65节)
37 km/h (20 kt), when OAT is below -30℃, without VNE being less than 120 km/h (65 kt).

9. 转速限制/Rotor Speed Limits:

开车飞行时/Power-on flight:

390 +4
-5 rpm

自转时/In autorotation:

- 最大: 430 rpm (高于410 rpm 时声音警告)
Maximum:430 rpm (audio warning above 410 rpm)

- 最小: 320 rpm (低于360 rpm 时声音警告)
Minimum: 320 rpm (audio warning below 360 rpm)

10. 最大运行高度及温度/Maximum Operating Altitude and Temperature:

10.1. 高度/Altitude HP:	起飞及着陆/Take-off and landing:	参见飞行手册 Refer to Flight Manual
	在运行中/En route:	6096米 (2000英尺) 6096 m (20 000 ft)
10.2 温度/Temperature:	参见飞行手册 Refer to Flight Manual	

11. 使用限制/Operating Limitations:

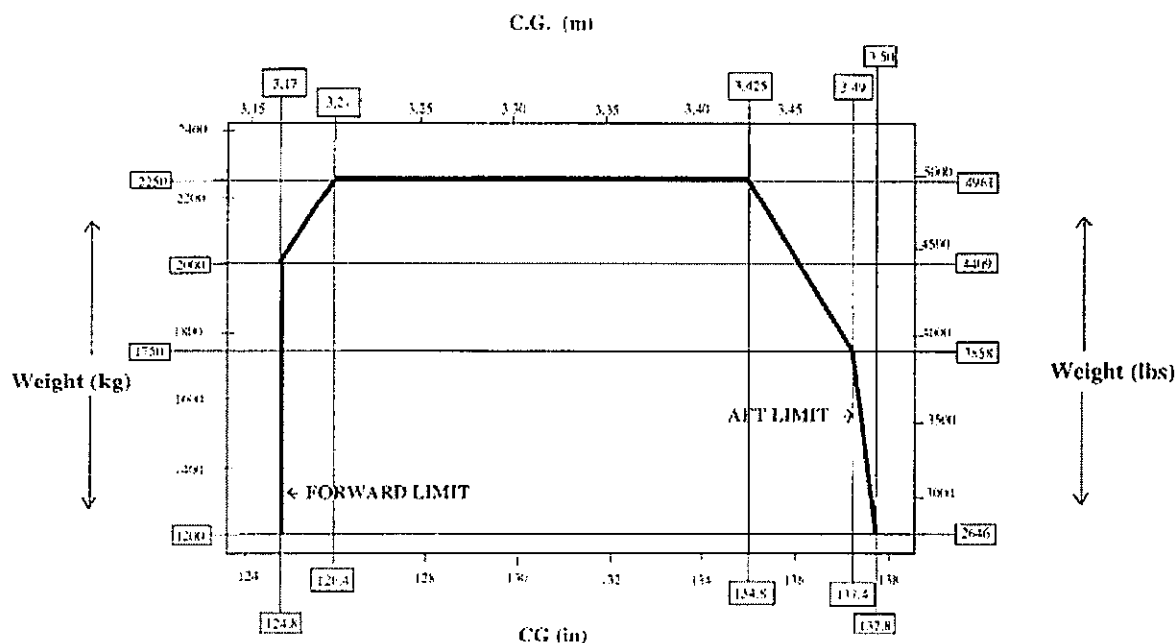
- 白天目视飞行
Day VFR flight
- 在按运行规章要求安装了附加设备且可用时, 可夜间目视飞行
Night VFR flight, when the additional equipment required by operational regulations is installed and serviceable.
- 雪天飞行: 参见飞行手册
Flight in falling snow: refer to Flight Manual

(更多信息参见飞行手册 For more information refer to Flight Manual)

12. 最大审定重量/Maximum Certified Weights:	2250公斤 (4960磅) 2250 kg (4960 lb)
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13. 重心范围/Centre of Gravity Range:

纵向/Longitudinal:



橫向/Lateral: 左側限制/L.H. limit: 0.18 米 (7.09 英寸)
0.18 m (7.09 in)

右側限制/R.H. limit: 0.14 米 (5.51 英寸)
0.14 m (5.51 in)

重量分类及重心限制文件包括审定时空机状态下的设备清单，同时，载荷说明在直升要初始审定时即确定，并建立在从那时起的永久的基础上。

The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

为获得最正确的重量和重心数据，直升机应从撑点被顶起，而不是使用刹车。应修正影响重量和重心的位置，并在飞行手册中指出。

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be referred to.

14. 基准/Datum: 纵向/Longitudinal: MRH中心线前3.4米（134英寸）
3.4 m (134 in) forward of the MRH centreline

横向/Lateral: 航空器对称平面
Aircraft symmetry plane

15. 测平方式/Levelling Means: Transmission deck

16. 最小飞行机组/Minimum Flight Crew: 右座一名飞行员
1 pilot in R.H. seat

17. 最多乘员座位数/Maximum Passenger Seating Capacity: 5

当航空器安装了前面的两个可选座位，最大成中增加到6人（不含飞行中）。该可选项按照相应飞行手册附录被使用。

When the aircraft is fitted with the forward two-place seat optional equipment, the maximum number of passengers is increased to six (pilot not included). This optional is to be used in accordance with the corresponding Flight Manual supplement.

**18. 乘客紧急出口/Passenger Emergency Exit: 参见飞行手册
Refer to Flight Manual****19. 最大行李/货载 Maximum Baggage/Cargo Loads:**

位置/Location	最大载荷/Max Load
右舱最大载荷 Maximum load in R.H. side hold:	100 公斤 (220磅) 100 kg (220 lb)
左舱最大载荷 Maximum load in L.H. side hold:	120公斤(264磅) 120 kg (264 lb)
后舱最大载荷 Maximum load in rear hold:	80公斤(176磅) 80 kg (176 lb)
前部驾驶舱最大载荷 Maximum load in forward cabin floor:	150公斤(331 磅) 150 kg (331 lb)
后部驾驶舱最大载荷 Maximum load in rear cabin floor:	310公斤(683 磅) 310 kg (683 lb)

20. 转动桨叶和控制位移/Rotor blade and control movement:

参见航空器维护手册
Refer to aircraft Maintenance Manual

21. 时寿件/Life-limited parts:

AS 350 B2 维修手册第5章“主要推荐服务”中，认为由DGAC在AS 350直升机上执行满意的维修操作是可信的；5.99中“适航限制”包括那些强制观察的限制。

The AS 350 B2 Maintenance Manuals Chapter 5 "Master Servicing Recommendations" have been deemed acceptable by the DGAC to carry out satisfactory maintenance operations on the AS 350 helicopter ; part 5.99 "Airworthiness Limitations" contains limitations which are to be mandatory observed.

IV. 操作和服务说明/Operating and Service Instructions**1. 旋翼机飞行手册，文件号/Rotorcraft Flight Manual, Document No:**

AS 350 B1飞行手册，由DGAC-F于1989年4月26日批准，及以后批准的版次
AS 350 B2 Flight Manual, approved by DGAC-F on April 26,1989 or later approved revision (reference in French language).

对VEMD 主要更改: AS 350 B2 (VEMD) 飞行手册, 由EASA.R.C 01396批准, 2006年11月22日或以后批准的版次
For VEMD major modification: AS 350 B2 (VEMD) Flight Manual, approved by EASA.R.C 01396 on 22nd November 2006 or later approved revision (reference in English language)

2. 维修手册, 文件号/Maintenance Manual, Document No:

- | | |
|----------------|---------------------------------------|
| - AS 350维修手册 | AS 350 B2 Service Manual |
| - AS 350检查手册 | AS 350 Overhaul Manual |
| - AS 350修理手册 | AS 350 Repair Manual |
| - AS 350图解零件目录 | AS 350 B2 Illustrated Parts Catalogue |

可选设备之间的兼容性如下所述/Compatibility between optional items of equipment is described:

- 从安装方面: 在《主要维修建议》中
From an installation aspect: in the "Master Servicing Recommendations".
- 从操作角度: 在飞行手册“附录”部分
From an operational aspect: in "Supplements" chapter of the Flight Manual.

3. 服务信函和服务通告/Service Letters and Service Bulletins:

由EUROCOPTER或Airbus Helicopters公布, 经DGAC-F和EASA批准
As published by Eurocopter or Airbus Helicopters and approved by DGAC-F and EASA.

V. 备注/Notes

1. 合格的序列号/Eligible serial numbers:

- AS 350 B2型机S/N 2100 及以后
AS 350 B2 aircraft S/N 2100 and up.
- AS 350 B1 型机通过实施服务通告n° 01.26 或 01.00.26转成AS 350 B2
AS 350 B1 aircraft converted into AS 350 B2 by application of Service Bulletin n° 01.26 or 01.00.26
- AS 350 B 型机通过实施服务通告n° 01.00.51转成AS 350 B2
AS 350 B aircraft converted into AS 350 B2 by application of Service Bulletin n° 01.00.51
- AS 350 BA型机通过实施服务通告n° 01.00.50转成into AS 350 B2
AS 350 BA aircraft converted into AS 350 B2 by application of Service Bulletin n° 01.00.50
- 安装了VEMD主要更改的AS 350 B2: 机号S/N 4129及以后
AS 350 B2 with VEMD major modification: aircraft S/N 4129 and up

列在Airbus Helicopters文件L102-001中的飞机序号在Helibras许可下生产，文件L 102-002 中列出机号在AE-MS许可下生产

The aircrafts whose s/n is listed in Airbus Helicopters document L102-001 are manufactured under Helibras license and those in L 102-002 under AE-MS license.

2. 标牌/Placards:

- 1 - 以下标牌必须安装在飞行员清晰可见的位置

The following placard must be fitted in a way that the pilot can see it clearly:

“安装到此直升机上的标记标牌包括运行此旋翼机必须遵守的运行限制 –运行限制不同于在飞行手册中所指出。必须遵守此旋翼机维修手册中的适航限制章节”

"THE MARKINGS AND PLACARDS FITTED TO THIS HELICOPTER CONTAIN THE OPERATING LIMITATIONS WHICH MUST BE OBSERVED WHEN OPERATING THIS ROTORCRAFT - THE OPERATING LIMITATIONS OTHER THAN THESE ARE INDICATED IN THE ROTORCRAFT FLIGHT MANUAL. THE AIRWORTHINESS LIMITATION SECTION OF THE ROTORCRAFT MAINTENANCE MANUAL MUST BE OBSERVED".

- 2 - 参考飞行手册中提到的其他标牌

Refer to the Flight Manual as regards the other placards.

第4部分 AS 350 B3

SECTION 4 AS 350 B3

I. 概述/General

1. 数据单号/Data sheet No: EASA R.008 , 替代DGAC-F n° 157, 第16版
(2005年3月颁布)
EASA R.008
Superseding DGAC-F n° 157, issue 16 dated
March 2005
2. 型号Type / 型别Variant or Model
 - (a) 型号/Type: AS 350
 - (b) 型别/Variant or Model AS350 B3 (商业代号: ECUREUIL)
AS350 B3
(commercial designation: ECUREUIL)
3. 适航类别/Airworthiness Category: 正常类
Normal Category
4. 制造商/Manufacturer: Airbus Helicopters
Aéroport International Marseille-Provence
13725 MARIGNANE cedex - France

参见上述TC持有人和V.1节-在许可下生产的合格的直升机序列号

See above for helicopters manufactured by Type Certificate holder and see sub-paragraph
V.1-Eligible serial numbers for helicopters manufactured under license

5. 法国DGAC审查时间/DGAC-F Certification Date: 1997年12月24日
December 24, 1997
6. 向法国DGAC申请时间/DGAC-F Application Date: 1996年10月14日
October 14, 1996

II. 审定基础/Certification Basis

1. 适航要求/Airworthiness Requirements:

FAR 27, 包括1至10号修正案

FAR Part 27, Amendments 1 to 10 included

2. 专用条件/Special Conditions:

补充的和专用条件在 DGAC-F 971726号文中确定 (1997年4月3日颁布)

Complementary and special conditions defined in DGAC-F letters 971726 dated April 3,

1997

3. 对a/c 集成改装OP-3369的适航要求（2370公斤重量扩展）

Airworthiness Requirements for a/c incorporating mod. OP-3369 (2370 kg weight extension),

按2003年11月14日CS 27第一版（ED Decision 2003/15/RM），替换FAR 27 相同段落：
as above with the following requirements of CS 27 first issue of 14/11/2003 (ED Decision 2003/15/RM) to replace the same numbered paragraphs of FAR 27:

CS27 §1; §21; §25; §27; §33; §45; §51; §65; §71; §73; §75; §79; §141; §143; §173; §175; §177; §241; §301; §303; §305; §307; §309; §321; §337; §339; §341; §351; §471; §473; §501; §505; §521; §547; §549; §563(b); §571; §602; §661; §663; §695; §723; §725; §727; §737; §751; §753; §801(b)(d); §927(c); §1041; §1043; §1045; §1301; §1501; §1519; §1529; §1581; §1583; §1585; §1587; §1589.

4. 对a/c 集成改装OP-4305的适航要求（Arriel2D 发动机安装）

Airworthiness Requirements for a/c incorporating mod. OP-4305 (Arriel2D engine installation)

按CRI A-01(X1)更改
as above and modified as per CRI A-01(X1)

III. 技术特征和使用限制/Technical Characteristics and Operational Limitations

1. 型号设计定义/ Type Design Definition

文件号 350A.04.4805
Documents 350A.04.4805

文件号 350A045426 针对 a/c 集成改装OP-3369 （2370公斤重量扩展）
Document 350A045426 for a/c incorporating mod. OP-3369 (2370 kg weight extension).

文件号350A047343针对a/c集成改装OP-4305（Arriel2D 发动机安装）
Document 350A047343 for a/c incorporating mod. OP-4305(Arriel 2D engine installation)

2. 描述/Description

小型单发直升机，为早期型号AS 350 B2的衍生型设计

Small single-engine helicopter designed as a derivative product of the former type certified model AS 350 B2.

3. 设备/Equipment:

经批准的设备清单列在Airbus Helicopters DOCUMENT No.350A04.4320中。
The approved items of equipment are listed in Airbus Helicopters DOCUMENT No.350A04.4320.

适用的适航规章中所要求的基本设备（见审定基础）必须被安装在审定时飞机及审定后的每一架飞机上。

The basic required equipment specified in the applicable airworthiness regulations (see certification bases) must be installed on the aircraft at certification time and at every time after certification.

4. 几何尺寸/Dimensions

机身/Fuselage:	长度/Length	10.93米 10.93 m	(35.86 英尺) (35.86 ft)
	宽度/Width	1.87米 1.87 m	(6.14 英尺) (6.14 ft)
	高度/Height	3.14米 3.14 m	(10.30 英尺) (10.30 ft)
主旋/Main Rotor:	3叶桨-直径10.69米 (35.07英尺) 3 blades - Diameter 10.69m(35.07 ft)		
尾旋/Tail Rotor:	2叶桨-直径1.86米 (6.10英尺) 2 blades – Diameter 1.86 m (6.10 ft)		

5. 发动机/ Engine
- TURBOMECA ARRIEL 2B
DGAC-F Engine TCDS No M 19
EASA Engine TCDS No E.001
- TURBOMECA ARRIEL 2B1
DGAC-F Engine TCDS No M 19
EASA Engine TCDS No E.001
- TUBOMECA ARRIEL 2D
EASE Engine TCDS E.001

5.1. 发动机限制/Installed Engine Limits:

- 在AS 350 B3 ARRIEL 2B (AMS072803 和 072808 改装前)
- On AS 350 B3 ARRIEL 2B (before modifications AMS 072803 and 072808):

功率 Power rating	轴的扭矩限制 Limit torque on shaft	最低保障动力* Minimum Guaranteed power*	电机速度 (NG) ** Generator speed (NG)** (Δ Ng)	T4温度 T4 temperature
最大瞬态值 (5秒) Maximum transient (5 sec.)			102.3% (+1)	
起飞最大值 (5分钟) Maximum at takeoff (5 min.)	85.3 m.daN	535 Kw	101.1% (0)	915°C
持续最大值 Maximum continuous	71.6 m.daN	450 Kw	94.8% } Vi>70kt (-4) 97.1% } Vi<70kt (-4)	849°C

- 在AS 350 B3 ARRIEL 2B（进行AMS 072803 和 072808改装后），以及在AS 350 B3 ARRIEL 2B1

- On AS 350 B3 ARRIEL 2B (after modifications AMS 072803 and 072808) and on AS 350 B3 ARRIEL 2B1

功率 Power rating	轴的扭矩限制 Limit torque on shaft	最低保障动力* Minimum Guaranteed power*	电机速度 (NG) **(ΔNg) Generator speed (NG)** (ΔNg)	T4温度 T4 temperature
最大瞬态值（5秒） Maximum transient (5 sec.)			102.3% (+1)	
起飞最大值 （5分钟） Maximum at takeoff (5 min.)	85.3 m.daN	535 Kw	101.1% (0)	915°C
持续最大值 Maximum continuous	79.1 m.daN	497 kW	97.1% (-4)	849°C

* ISA, 每秒386转的转速下的地面等级

ISA, ground level at rotor speed 386 rpm

** 100 % = 52 110 rpm – 非放电状态, 也非P2, ISA, 地面等级

100 % = 52 110 rpm - without electrical bleed, nor P2, ISA, ground level.

-对于AS350 B3 ARRIEL 2D****

-On AS350 B3 ARROEL 2D****

功率 Power rating	轴的扭矩限制 Limit torque on shaft	最低保障动力* Minimum Guaranteed power*	燃气发生器速度 (ΔNG) (Ng) ** Generator speed*** (ΔNg) (NG)**	T4温度 T4 temperature
最大瞬态值（5秒） Maximum transient (5 sec.)			+1 (101.9%)	
起飞最大值 （5分钟） Maximum at takeoff (5 min.)	85.3 m.daN	535 Kw	0 (100.9%)	949°C
起飞最大值 (30分钟)(HIP) ***** Maximum at takeoff (30min)(HIP) *****	85.3 m.daN	535 Kw	0 (100.9%)	949°C
持续最大值 Maximum continuous	79.1 m.daN	497Kw	-4 (98.0%)	905°C

* ISA, 地面状态, 转速为每秒386转

ISA, ground level at rotor speed 386 rpm

** 100 % = 52 110 rpm – 非放电状态, 也非P2, ISA, 地面状态

100 % = 52 110 rpm - without electrical bleed, nor P2, ISA, ground level.

*** 由于实际的Ng限制依赖于周围环境, 运行限制是 Δ Ng值。Ng值相当于整个飞行包线内的能达到的最大Ng值。

*** As the actual Ng limitations depend on ambient conditions, the operational limitations are the Δ Ng values. Ng values correspond to the maximum Ng reached in the whole flight domain.

**** 注意: 发动机不是本身降低了功率, 而是安装到AS350B3上以后性能进行了限制。在VEMD中进行了特殊的限制, 允许飞行员在每个飞机功率(MCP, MTOP和MTP)操纵Arriel2D时与安装Arriel2B1发动机时具有相同的功率。

**** Note: The engine is not physically derated but its performance is limited when installed in the AS350B3. Specific limitations have been implemented in the VEMD, allowing the pilot to control the installed Arriel2D at the same power limitations as when an Arriel2B1 is installed, for each aircraft rating (MCP, MTOP and MTP).

***** 仅允许当AS350B3尾梁上进行了加强热防护改装(OP-4309)使用HIP(增强悬停功率, 最多30分钟)。

***** Use of HIP (Hover Increased Power, TOP 30 min) is only allowed when enhanced thermal protection is fitted on the AS350B3 tail boom (modification OP-4309)

5.2. 传递扭矩限制/Transmission Torque

参见飞行手册

Limits:

Refer to Flight Manual.

对AS350 B3 ARRIEL 2D

最大连续扭矩: 92.7%

Max continuous torque: 92.7 %

从0到40kt起飞扭矩范围 92.7-100%

Take-off torque range from 0 to 40kt 92.7 to 100%

最大起飞扭矩: 100%

Max take-off torque: 100 %

最大瞬时扭矩(5s): 104%

Max transient torque (5s): 104 %

(100%扭矩相当于在功率535kW, 主旋翼386rpm转速时)

(100% torque corresponds to 535 kW at 386 rpm main rotor speed)

6. 液体(燃油/滑油/添加剂)/Fluids (Fuel/Oil/additives):

6.1. 燃油/Fuel:

参见飞行手册(包括中国RP-3号燃油)

Refer to Flight Manual (include Chinese PR-3)

6.2. 滑油/Oil:

参见飞行手册

Refer to Flight Manual.

7. 液体容量/Fluid capacities:

7.1. 燃油/Fuel:

总容量/Total:

540升 (142.7加仑)

540 l (142.7 US gal)

可用燃油/Usable fuel:

538.75升 (142.34加仑) – post AMS 07 0289

538.75 l (142.34 US gal) – post AMS 07 0289

不可用燃油/Unusable fuel:

1.25 升 (0.33 加仑) – post AMS 07 0289

1.25 l (0.33 US gal) – post AMS 07 0289

7.2. 滑油/Oil:

发动机滑油容量/
Engine reservoir:

5.2 升 (1.37 加仑)

5.2 l (1.37 US gal)

BTP:

6.51 升 (1.72加仑) – 包括管路内油量

6.51 l (1.72 US gal) – circuit included

BTA:

0.33 升 (0.09 加仑)

0.33 l (0.09 US gal)

8. 空速限制/Airspeed limits:

8.1. 对AS 350 B3 ARRIEL 2B (进行AMS 072803和 072808改装前) 和AS 350 B3 ARRIEL 2B1
For AS 350 B3 ARRIEL 2B (before modifications AMS 072803 and 072808) and for AS 350 B3
ARRIEL 2B1:

开车时VNE/Power-on VNE

- 绝对VNE: HP=0时, 287 公里/小时 (155 节)
Absolute VNE: 287 km/h (155 kt) for HP=0
- 按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft)
- 在寒冷天气下, 当OAT低于-30℃, 从上述VNE中减去19公里/小时 (10节)
In cold weather, when OAT is below -30℃, subtract 19 km/h (10 kt) from the
above VNE.

停车时VNE /Power-off VNE

- 绝对VNE: HP=0时, 231 公里/小时 (125 节)
Absolute VNE: 231 km/h (125 kt) for HP = 0.
- 按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺), 无VNE时将
低于120公里/小时 (65节)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft), without
VNE being less than 120 km/h (65 kt).
- 在寒冷天气下, 当OAT低于-20℃, 从上述VNE中减去37公里/小时 (20节), 无
VNE时将低于120公里/小时 (65节)
In cold weather, subtract 37 km/h (20 kt) from the above VNE, when OAT is
below - 20°, without VNE being less than 120 km/h (65 kt).

8.2. 对AS 350 B3 ARRIEL 2B (经过AMS 072803 和 072808改装后)
For AS 350 B3 ARRIEL 2B (after modifications AMS 072803 and 072808):

开车时VNE/Power-on VNE

- 绝对VNE: HP=0时, 287 公里/小时 (155 节)
Absolute VNE: 287 km/h (155 kt) for HP = 0.
- 按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft)
- 在寒冷天气下, 当OAT低于-30℃, 从上述VNE中减去19公里/小时 (10节)
In cold weather, when OAT is below - 30° C, subtract 19 km/h (10 kt) from the above VNE.
- 在G图C, 十字开口区域, VNE限制到246公里/小时 (133节), 或者以上定义的VNE (最低值)
In the cross-hatched area in the C of G graph, VNE is limited to 246 km/h (133 kt) or the VNE defined above (the lowest value).

停车时VNE/Power-off VNE

- 绝对VNE: HP=0时, 231 公里/小时 (125 节)
Absolute VNE: 231 km/h (125 kt) for HP = 0.
- 按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺), 无VNE时将低于120公里/小时 (65节)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft), without VNE being less than 120 km/h (65 kt).
- 在寒冷天气下, 当OAT低于-20℃, 从上述VNE中减去37公里/小时 (20节), 无VNE时将低于120公里/小时 (65节)
In cold weather, subtract 37 km/h (20 kt) from the above VNE, when OAT is below - 20°, without VNE being less than 120 km/h (65 kt).

8.3 对 AS 350 B3 ARRIEL 2D:

For As 350 B3 ARRIEL 2D

开车时VNE/Power- on VNE

- 绝对VNE: HP=0时, 287 公里/小时 (155 节)
-Absolute VNE: 287 km/h (155 kt) for HP = 0.

按高度计算, 每1000米, 速度降低18公里/小时 (3节/1000英尺)
In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft)

在寒冷天气下，当OAT低于-30℃，从上述VNE中减去19公里/小时（10节）

In cold weather, when OAT is below - 30° C, subtract 19 km/h (10 kt) from the above VNE.

停车时VNE/Power-off VNE

绝对VNE: HP=0时, 231 公里/小时 (125 节)

Absolute VNE: 231 km/h (125 kt) for HP = 0.

按高度计算，每1000米，速度降低18公里/小时（3节/1000英尺），直到VNE将低于120公里/小时（65节）

In altitude, speed decreases by 18 km/h per 1000 m (3 kt per 1000 ft), without VNE being less than 120 km/h (65 kt).

在寒冷天气下，当OAT低于-20℃，从上述VNE中减去37公里/小时（20节），直到VNE将低于120公里/小时（65节）

In cold weather, subtract 37 km/h (20 kt) from the above VNE, when OAT is below - 20°, without VNE being less than 120 km/h (65 kt).

9. 转速限制/Rotor Speed Limits:

开车飞行时/Power-on flight:

- 对AS 350 B3 ARRIEL 2B: 390 +4 -5 rpm
For AS 350 B3 ARRIEL 2B:
- 对AS 350 B3 ARRIEL 2B1: 375 到 405 转/每分钟
For AS 350 B3 ARRIEL 2B1: 375 to 405 rpm
- 对AS 350 B3 ARRIEL 2D: 375 到 405 转/每分钟
For AS 350 B3 ARRIEL 2D: 375 to 405 rpm

自转时/In autorotation:

- 最大: 430 rpm (高于410 rpm 时声音警告)
Maximum: 430 rpm (audio warning above 410 rpm)
- 最小: 320 rpm (低于360 rpm 时声音警告)
Minimum: 320 rpm (audio warning below 360 rpm)

10. 最大运行高度及温度/Maximum Operating Altitude and Temperature:

10.1. 高度/Altitude HP: 起飞及着陆/Take-off and landing: 参见飞行手册
Refer to Flight Manual

在运行中/En route: 7010米 (23 000英尺)
7010 m (23 000 ft)

10.2 温度/Temperature: 参见飞行手册/Refer to Flight Manual

11. 使用限制/Operating Limitations:

- 白天目视飞行
Day VFR flight

- 在按运行规章要求安装了附加设备且可用时，可夜间目视飞行

Night VFR flight, when the additional equipment required by operational regulations is installed and serviceable.

(更多信息参见飞行手册 For more information refer to Flight Manual)

12. 最大审定重量/Maximum Certified Weights:

2250公斤 (4960磅)

2250 kg (4960 lb)

2370公斤 (5220磅)，对a/c 改装OP-3369

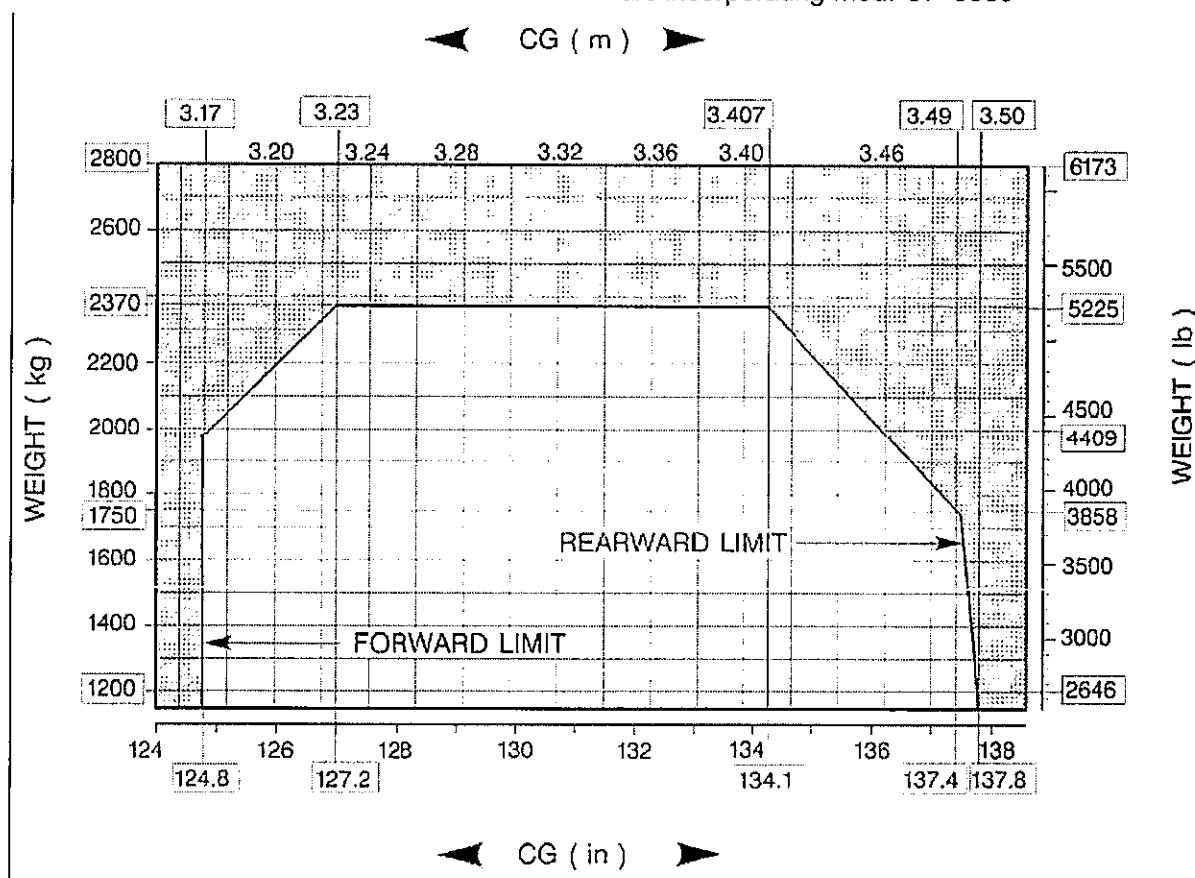
2370 kg (5220 lb) for a/c incorporating mod. OP-3369.

13. 重心范围/Centre of Gravity Range:

纵向/Longitudinal:

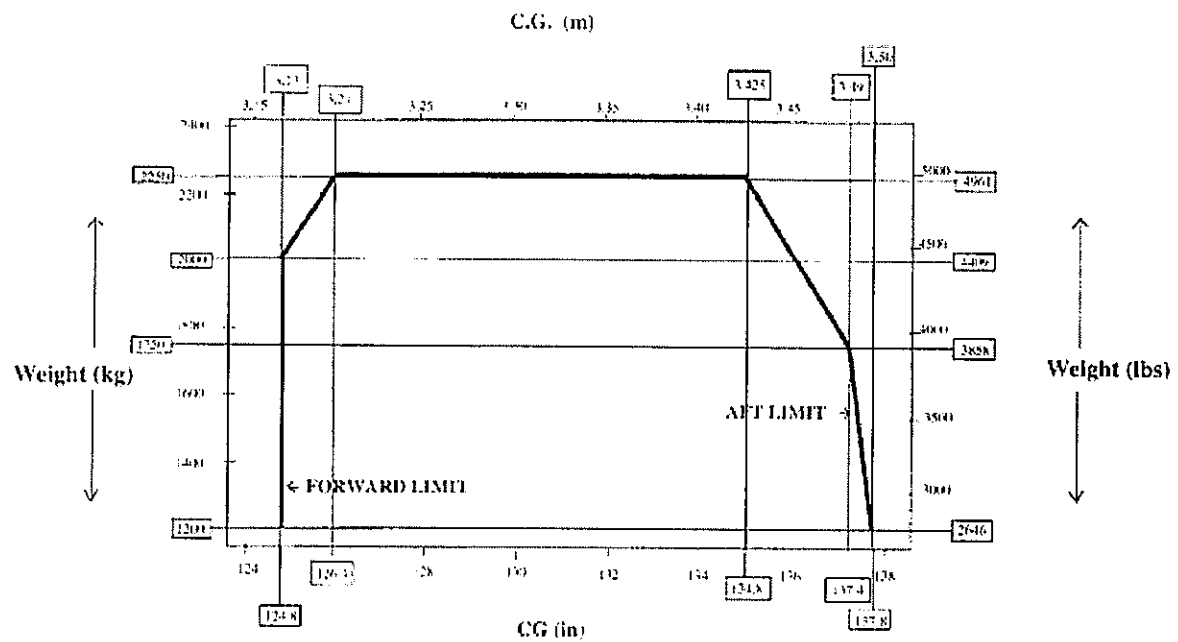
- 350 B3 ARRIEL 2B1 a/c 集成改装OP-3369

350 B3 ARRIEL 2B1 a/c incorporating mod. OP-3369

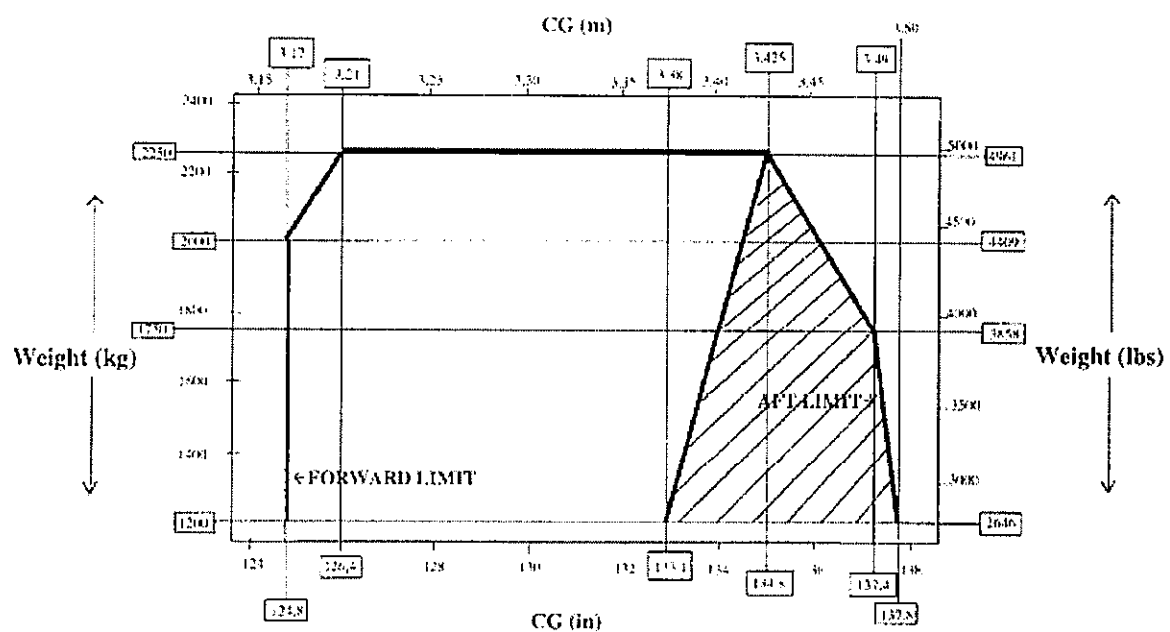


纵向/Longitudinal:

- 350 B3 ARRIEL 2B (AMS 072803 和 072808改装前)，以及AS 350 B3 ARRIEL 2B1
- 350 B3 ARRIEL 2B (before modifications AMS 072803 and 072808) and for AS 350 B3 ARRIEL 2B1:

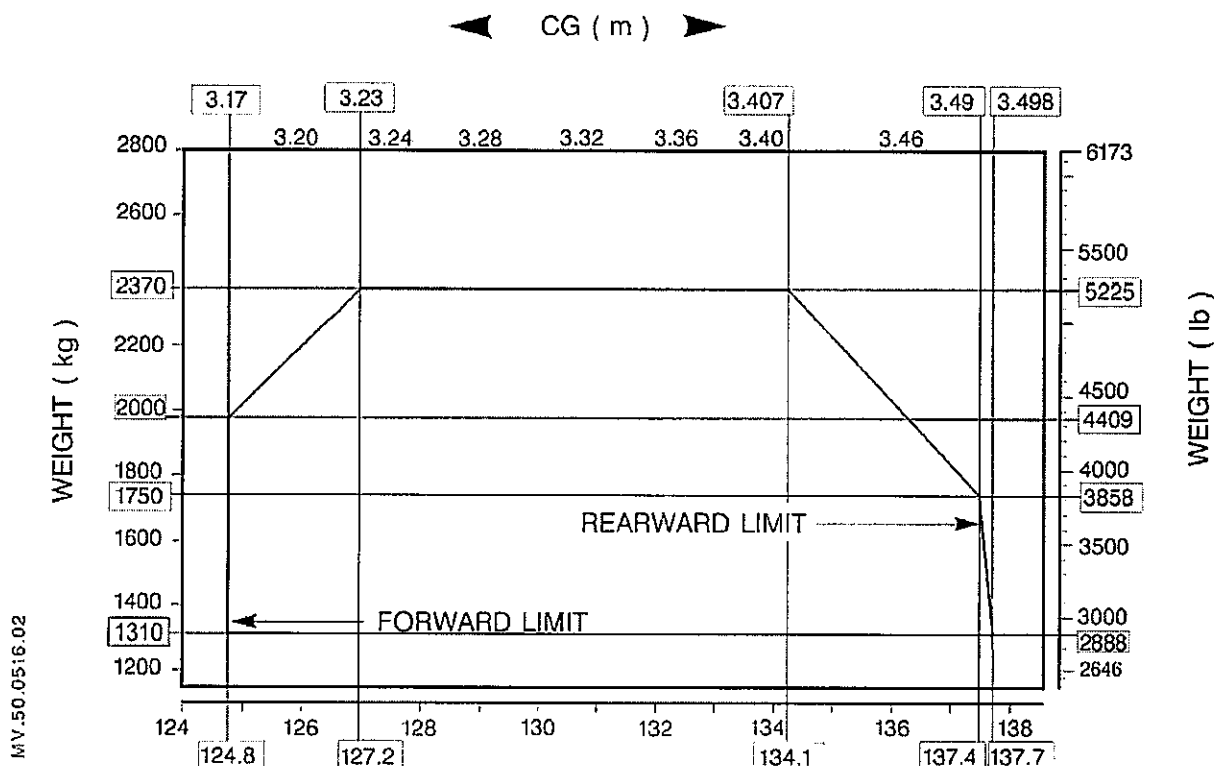


- 纵向/Longitudinal:
- 350 B3 ARRIEL 2B (AMS 072803 和 072808改装后)
 - 350 B3 ARRIEL 2B (after modifications AMS 072803 and 072808)



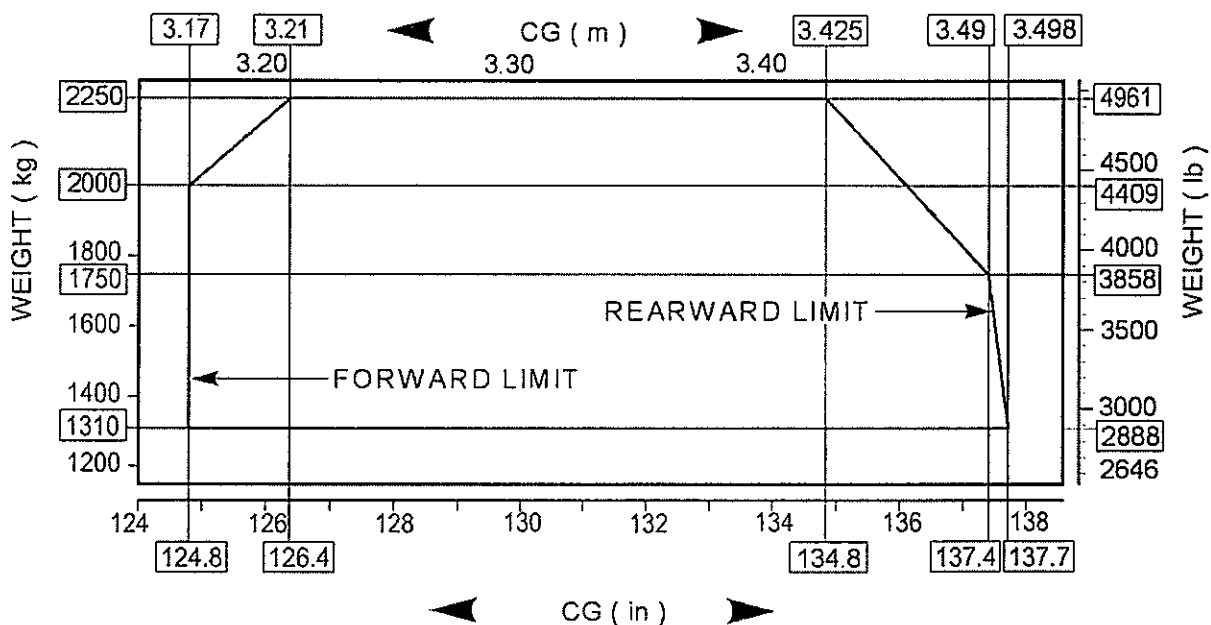
纵向: 经过mod. OP-3369改装后的AS350 B3 ARRIEL 2D直升机:

Longitudinal: AS350 B3 ARRIEL 2D a/c incorporating mod. OP-3369:



纵向: AS350 B3 ARRIEL 2D:

Longitudinal: AS350 B3 ARRIEL 2D:



横向/Lateral:

左侧限制/L.H. limit:

0.18米 (7.09英寸) 直到2250公斤, 和

对进行过OP-3369改装a/c, 0.08 米 (7.09 英寸) 从2250 到2370

公斤

0.18 m (7.09 in) up to 2250 kg and

0.08 m (3.15 in) from 2250 up to 2370 kg for a/c incorporating mod. OP-3369

右侧限制/R.H. limit:

0.14米 (5.51英寸) 直到2250公斤, 和

对经过OP-3369改装的a/c, 0.08 米 (3.15 英寸) 从2250 到 2370公斤

0.14 m (5.51 in) up to 2250 kg and

0.08 m (3.15 in) from 2250 up to 2370 kg for a/c incorporating mod. OP-3369

重量分类及重心限制文件包括审定时空机状态下的设备清单, 同时, 载荷说明在直升机要初始审定时即确定, 并建立在从那时起的永久的基础上。

The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

为获得最正确的重量和重心数据, 直升机应从撑点被顶起, 而不是使用刹车。应修正影响重量和重心的更改, 并在飞行手册中指出。

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be referred to.

14. 基准/Datum: 纵向/Longitudinal: MRH中心线前3.4米 (134英寸)
3.4 m (134 in) forward of the MRH centreline

横向/Lateral: 航空器对称平面
Aircraft symmetry plane

15. 测平方式/Levelling Means: Transmission deck

16. 最小飞行机组/Minimum Flight Crew: 右座一名飞行员
1 pilot in R.H. seat

17. 最多乘员座位数/Maximum Passenger Seating Capacity: 5

当航空器安装了前面的两个可选座位, 最大乘员增加到6人 (不含飞行员)。该可选项按照相应飞行手册中的附录使用。

When the aircraft is fitted with the forward two-place seat optional equipment, the maximum number of passengers is increased to six (pilot not included). This optional is to be used in accordance with the corresponding Flight Manual supplement.

18. 乘客紧急出口/Passenger Emergency Exit: 参见飞行手册
Refer to Flight Manual

19. 最大行李/货载 Maximum Baggage/Cargo Loads:

位置/Location

最大载荷/Max Load

右舱最大载荷	100 公斤 (220磅)
Maximum load in R.H. side hold:	100 kg (220 lb)
左舱最大载荷	120公斤(264磅)
Maximum load in L.H. side hold:	120 kg (264 lb)
后舱最大载荷	80公斤(176磅)
Maximum load in rear hold:	80 kg (176 lb)
前部驾驶舱最大载荷	150公斤(331 磅)
Maximum load in forward cabin floor:	150 kg (331 lb)
后部驾驶舱最大载荷	310公斤(683 磅)
Maximum load in rear cabin floor:	310 kg (683 lb)

20. 转动桨叶和控制位移/Rotor blade and control movement:

参见航空器维护手册

Refer to aircraft Maintenance Manual

21. 时寿件/Life-limited parts:

AS 350 维修手册第5章“主要推荐服务”中，已指出能在AS 350直升机上执行满意的维修操作的可信单位；MSM 第4章“适航限制”，最初由DGAC批准，随后由EASA批准，包括了强制性限制。

The AS 350 Maintenance Manuals Chapter 5 "Master Servicing Recommendations" have been deemed acceptable to carry out satisfactory maintenance operations on the AS 350 helicopter ; MSM Chapter 04 "Airworthiness Limitations", originally approved by DGAC and subsequently by EASA, contains limitations which are mandatory.

IV. 操作和服务说明/Operating and Service Instructions

1. 旋翼机飞行手册，文件号/Rotorcraft Flight Manual, Document No:

-AS 350 B3 ARRIEL 2B飞行手册（1997年12月24日由DGAC-F批准），加上更新版次RR 1A（经过AMS 072803 和 072808改装），或者之后（DGAC-F和后续的EASA）批准的版次

-AS 350 B3 ARRIEL 2B Flight Manual, approved by DGAC-F on December 24, 1997 plus rapid revision RR 1A (after modifications AMS 072803 and 072808), or later (DGAC-F and subsequently EASA) approved revisions (reference in English language).

-AS 350 B3 ARRIEL 2B1飞行手册（2004年7月16日由DGAC-F批准），或以后（DGAC-F及随后的EASA）批准的版次

-AS 350 B3 ARRIEL 2B1 Flight Manual, approved by DGAC-F on July 16, 2004 or later (DGAC-F and subsequently EASA) approved revision (reference in English language).

- AS 350 B3e的英文飞行手册（对进行了OP-4305-Arriel2D发动机安装和其它对尾桨操纵系统的改装a/c - 见第V部分注释的第3条），由EASA在2011年6月17日批准，或后续其它批准版本。

- AS 350 B3e Flight Manual, in English (for a/c incorporating mod. OP-4305 - Arriel2D engine installation – and additional modifications to the tail rotor control system – see point 3 in section V. Notes), approved by EASA on June 17, 2011, or later approved revisions

2. 维修手册，文件号/Maintenance Manual, Document No:

- AS 350 B3维修手册 AS 350 B3 Service Manual

- AS 350检查手册 AS 350 Overhaul Manual
- AS 350修理手册 AS 350 Repair Manual
- AS 350 B3图解零件目录 AS 350 B3 Illustrated Parts Catalogue

可选设备之间的兼容性如下所述/Compatibility between optional items of equipment is described:

- 从安装方面：在《主要维修建议》中
From an installation aspect: in the "Master Servicing Recommendations".
- 从操作角度：在飞行手册“附录”部分
From an operational aspect: in "Supplements" chapter of the Flight Manual.

3. 服务信函和服务通告/Service Letters and Service Bulletins:

由Eurocopter或Airbus Helicopters发布，经DGAC-F (早于 EASA)或Airbus Helicopters DOA批准

As published by Eurocopter or Airbus Helicopters and approved by DGAC-F (prior to EASA) or under the Airbus Helicopters DOA.

V. 备注/Notes

1. 合格的序列号/Eligible serial numbers:

- AS 350 B3 型机S/N 2968, S/N 3063及以后
AS 350 B3 aircraft S/N 2968, S/N 3063 and up.
- AS 350 B3 型机S/N 4201及以后，直到a/c集成改装OP-3369 (2370 公斤重量扩展)
AS 350 B3 aircraft S/N 4201 and up for a/c incorporating mod. OP-3369 (2370 kg weight extension)

AS 350 B3型机S/N 4767及以后，进行OP-4305 (带与不带OP-3369)

AS 350 B3 aircraft S/N 4767 and up for a/c incorporating mod. OP-4305 (without or with mod. OP- 3369)

列在Airbus Helicopters文件L102-001中的飞机序号在Helibras许可下生产，文件L 102-002 中列出机号在AE-MS许可下生产

The aircrafts whose s/n is listed in Airbus Helicopters document L102-001 are manufactured under Helibras license and those in L 102-002 under AE-MS license.

2. 标牌/Placards:

- 1 - 以下标牌必须安装在飞行员清晰可见的位置

The following placard must be fitted in a way that the pilot can see it clearly:

“安装到此直升机上的标记标牌包括运行此旋翼机必须遵守的运行限制—运行限制不同于在飞行手册中所指出。必须遵守此旋翼机维修手册中的适航限制章节”
在直升机上安装标识运行限制的标记标牌，在操作直升机必须满足。其它在操作直升机时必须满足的运行限制包含在直升机的运行手册中。必须遵守此旋翼机维修手册中的适航限制章节”。

"THE MARKINGS AND PLACARDS INSTALLED ON THIS HELICOPTER
CONTAIN OPERATING LIMITATIONS WHICH MUST BE OBSERVED
(COMPLIED WITH) WHEN OPERATING THIS ROTORCRAFT. OTHER
OPERATING LIMITATIONS WHICH MUST BE COMPLIED WHICH WHEN

OPERATING THIS ROTORCRAFT ARE CONTAINED IN THE ROTORCRAFT FLIGHT MANUAL. THE AIRWORTHINESS LIMITATION SECTION OF THE ROTORCRAFT MAINTENANCE MANUAL MUST BE COMPLIED WITH".

2 - 参考飞行手册中提到的其他标牌

Refer to the Flight Manual as regards the other placards.

3. 特殊更改的商业代号:

Commercial designation related to particular modifications

AS350B3 型直升机, 其型号设计包含如下更改:

The AS350B3 model a/c, which type design incorporates the following modifications:

- o OP-4305 (Arriel 2D 发动机安装), 和其它
- o OP-4305 (Arriel2D engine installation), and additionally
- o 07-5601 (尾桨操纵装置更改)
- o 07-5601 (Tail rotor control mechanism modification)
- o 07-5600 (尾桨叶加强)
- o 07-5600 (Tail rotor blade reinforcement)
- o 07-8551 (尾减操纵臂更改)
- o 07-8551 (Tail Gear Box control lever modification)

带有商业代号<AS350B3e>

has a commercial designation <AS350B3e>

第5部分 EC 130 B4

SECTION 5 EC 130 B4

I. 概述/General

- | | |
|---|--|
| 1 数据单号/Data sheet No: | EASA R.008, 替代DGAC-F n° 157, 第16版 2005年3月颁布,
依据JAA数据单No JAA/27/00/003 第6版 2004年6月颁布
EASA R.008
Superseding DGAC-F data sheet No 157, issue 16 dated March 2005,
based on the JAA data sheet No JAA/27/00/003, issue 6 dated June 2004. |
| 2 型号Type / 型别Variant or Model | EC 130 B4 |
| 3 适航类别/Airworthiness Category: | 正常类
Normal Category |
| 4 制造商/Manufacturer: | Airbus Helicopters
Aéroport International Marseille-Provence
13725 MARGNANE cedex - France |
| 5 JAA推荐日期/ JAA recommendation date: | 2000年12月14日
December 14, 2000 |
| 6 DGAC审定时间/ DGAC-F Certification Date: | 2000年12月14日
December 14, 2000 |
| 7 向JAA申请时间/JAA Application Date: | 1998年3月23日
March 23, 1998 |

II. 审定基础/Certification Basis

- | | |
|--|---|
| 1. JAA审定基础
JAA certification basis: | 按2000年12月12日CRIA1 issue 12 及2000年12月10日 CRIA6 issue 10定义。
As defined in CRIA1 issue 12 dated December 12, 2000 and CRIA6 issue 10 dated December 1, 2000. |
| 2. 适航要求
Airworthiness Requirements: | 按1993年9月6日JAR27 第一版, 及1998年2月16日黄页修订案27/98/1。
JAR 27 first issue dated September 6, 1993, and orange paper amendment 27/98/1 effective February 16, 1998 |
| 3. 专用条件
Special Conditions: | 高能辐射场
High intensity radiated field |
| 4. 豁免
Exemptions | 对: 针对后座椅平台JAR 27-562 和 JAR 27-785 (a), (b), (j)
针对燃油系统JAR 27.952 (a), (c), (d), (f), (g)
For: - The rear seat bench regarding JAR 27-562 and JAR 27-785 (a), (b), (j) |

5. 等效安全
Equivalent safety findings:
- Fuel systems regarding JAR 27.952 (a), (c), (d), (f), (g)
 - 在: 主减速器滑油滤旁通
 - 动力装置仪表标记
 - On: - Main gearbox oil filter by pass
 - Powerplant instrument markings

III. 技术特性和使用限制 Technical Characteristics and Operational Limitations

1. 型号设计定义
Type design definition: 文件350A.04.7053
Document 350A.04.7053
2. 种类
Description: 小型单发直升机依据认证的AS350B3设计的延伸型号
Small single-engine helicopter designed as a derivative product of the former types certified model AS 350 B3.
2. 设备
Equipment: 满足JAR27要求及包括原始型号审计标准或在飞行手册第二部分限制章中表明的那样
As per compliance with JAR 27 requirements and included in the original Type Design Standard or indicated on the section 2 - limitations of the Flight Manual.
1. 尺寸
Dimensions
- | | | |
|----------------|-------------------------------|--------------------|
| 机身/Fuselage | 长/Length | 10.68 m (35.03 ft) |
| | 宽/Width | 2.03 m (6.66 ft) |
| | 高/Height | 3.34 m (10.96 ft) |
| 主旋翼Main Rotor: | 3片桨叶-直径 | |
| | 3 blades-Diameter | 10.69 m (35.07 ft) |
| 尾桨Tail Rotor: | 涵道式10片桨叶 | |
| | Fan-in-fan 10 blades-Diameter | 1.00 m (3.28 ft) |
2. 发动机
Engine: TURBOMECA ARRIEL 2B1
DGAC-F Engine TCDS No M 19
JAA Engine TCDS No JAA/E96-013

2.1. 发动机安装限制/Installed Engine Limits:

功率 Ratings	燃气涡轮转速 Gas generator Speed (NG)*	喷口燃气温度 Exhaust gas Temperature (T4)**
最大瞬间/Max transient	102.3 %	865°C (10 s)
最大起飞 (5分钟) Max take-off (5 min)	101.1 %	915°C
最大连续/Max Continuous	97.1 %	849°C

* 100%: 52110rpm

** 启动时最大连续/Max Continuous during starting: 750°C

- 5.2. 输出扭矩限制/Transmission Torque Limits:
- 最大瞬间/Max transient (5s): 104%
 - 最大起飞/Max Take off: 100%
 - 最大连续/Max Continuous: 92.7%

100%: 536 Kw 发动机 6000 rpm = 主旋翼 386 rpm

100%: 536 Kw at 6000 rpm engine = 386 rpm main rotor

6. 液体/Fluids (燃油/Fuel/滑油/Oil/添加剂/Additives):

6.1. 燃油/Fuel: 参见飞行手册 Refer to Flight Manual

6.2. 滑油/Oil: 参见飞行手册 Refer to Flight Manual.

7. 液体容量/Fluid capacities:

- 7.1. 燃油/Fuel: 总 Total: 5401 (142.7 US gal)
- 可用燃油 Usable fuel: 538.71 (142.32 US gal)

7.2. 滑油/Oil: 参见飞行手册 Refer to Flight Manual

8. 空速限制/Airspeed limits:

有动力状态/VNE power on: 155 kt at sea level less 3 kt/1000 ft

无动力状态VNE power off: 125 kt at sea level less 3 kt/1000 ft

9. 旋翼转速限制/Rotor Speed Limits:

有动力正常范围/Normal range power on: 375 to 405 rpm

无动力最大/Maximum power off: 430 rpm (aural warning ≥ 410 rpm)

无动力最小/Minimums power off: 320 rpm (aural warning = 360 rpm)

10. 最大使用高度及温度/Maximum Operating Altitude and Temperature:

10.1. 高度/Altitude HP: -起飞及着陆/Take-off and landing: 参考飞行手册/Refer to Flight Manual

-航路/En route: 7010 m (23 000 ft)

10.2. 温度/Temperature: -最小/Minimum: -20°C 或 -40°C 从076302更改之后/after modification 076302

-最大/Maximum: ISA +35°C 限制到/limited to +50°C

11. 使用限制/Operating Limitations:

-白天目视飞行规则/Day VFR

-如07-3664更改安装, 夜晚目视飞行规则/Night VFR if modification 07-3664 is installed

-禁止在结冰及冻雨条件下飞行/Flights under icing and freezing rain are prohibited

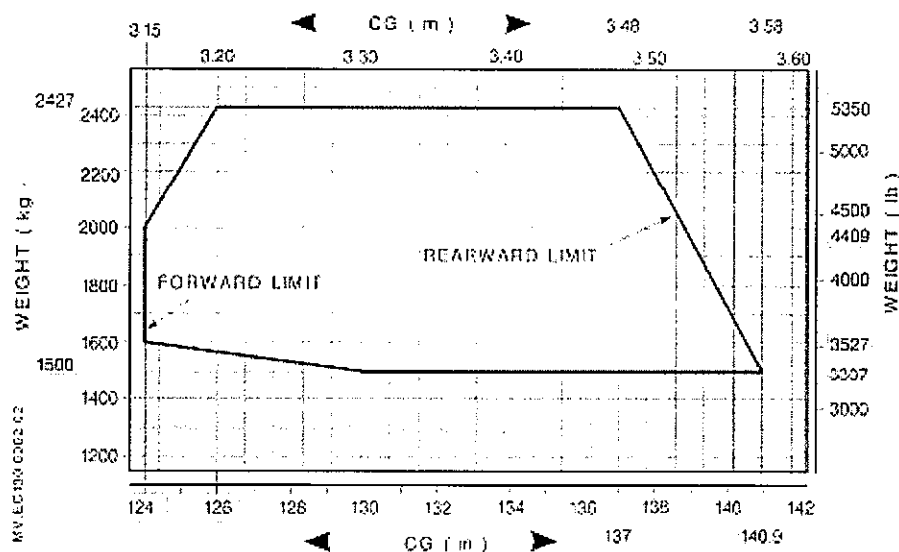
-禁止特技飞行/Aerobatic manoeuvres are prohibited

-禁止在下雪天飞行, 除非安装沙尘过滤装置 (见飞行手册补充页9-14)

Flights under falling snow are prohibited except if sand filter is installed (see Flight Manual Supplement 9-14)

12. Maximum Certified Weights: 2427 kg (5350 lb)**13. 重心范围/Centre of Gravity Range:**

纵向/Longitudinal:



横向/Lateral: 左极限/L.H. limit: 0.10 m (3.94 in)

右极限/R.H. limit: 0.10 m (3.94 in)

14. 基准/Datum: 纵向/Longitudinal: 主旋翼轴前3.4 m (134 in) forward of the MRH centerline

横向/Lateral: 飞机的对称面/Symmetrical plane of the aircraft

15. 水平基准/Levelling Means: 机械地板/Mechanical floor**16. 最小机组/Minimum Flight Crew:** 左侧单驾驶/1 pilot in left seat

17. 最大座位数(包括飞行机组)/ Maximum number of occupants (including flight crew):

7人 (3人在前, 4人在后) / 7(3 at front and 4 at rear)

或8人 (4人在前, 4人在后) 完成OP-3673更改后 or 8(4 at front and 4 at rear) after modification OP-3673

18. 乘客应急出口/Passenger Emergency Exit: 机身每侧一个/One door on each side of the fuselage**19. 最大行李、货物装载量/Maximum Baggage/Cargo Loads:**

右侧货舱最大装载量/Maximum load in R.H. cargo compartment:	130 kg (287 lb)/300 kg/m ² (62.5 lb/ft ²)
左侧货舱最大装载量/Maximum load in L.H. cargo compartment:	155 kg (342 lb)/300 kg/m ² (62.5 lb/ft ²)
后部货舱最大装载量/Maximum load in rear cargo compartment:	80 kg (176 lb)/145 kg/m ² (30 lb/ft ²)
后部行李舱最大装载量/Maximum load in rear cabin floor:	495 kg (1091 lb)/300 kg/m ² (62.5 lb/ft ²)
前部客舱地板最大装载量/Maximum load in forward cabin floor:	405 kg (893 lb)/300 kg/m ² (62.5 lb/ft ²)

20. 旋翼桨叶及操纵范围/Rotor blade and control movement:

参见飞机维护手册/Refer to aircraft Maintenance Manual

IV. 使用及维护介绍/Operating and Service Instructions**1. 旋翼机飞行手册, 文件版次/ Rotorcraft Flight Manual, Document No:**

- EC130B4 飞行手册 (英文版): DGAC-F自2000年11月29日批准及以后版次
- EC 130 B4 Flight Manual (in English), approved by DGAC-F on November 29, 2000 or later approved revision
- EC130B4 飞行手册 (英文版): DGAC-F自2002年5月27日批准及以后版次
- EC 130 B4 Flight Manual (in French), approved by DGAC-F on May 27, 2002 or later approved revision.

2. 维护手册, 文件版次/Maintenance Manual, Document No:

- EC130B4主维护手册—04章 (适航限制), DGAC-F 2000年12月6日批准及以后批准的版次 (英文版)
- EC 130 B4 Master Servicing Manual—chapter 04 (Airworthiness Limitations), approved by DGAC-F on December 6, 2000 or later approved revision/edition (in English).
- 维护手册/Maintenance Manual
- 大修手册/ Overhaul Manual
- 图解零件目录/ Illustrated Parts Catalogue

3. 服务信件及服务通报/ Service Letters and Service Bulletins:

Eurocopter或Airbus Helicopters出版经DGAC-F 和 EASA 批准/ As published by Eurocopter or Airbus Helicopters and approved by DGAC-F and EASA.

V. 注/ Notes**1. 符合系列号/Eligible serial numbers:** 系列号SN3358及以上的EC 130 B4 aircraft SN 3358 and up.