

中国民用航空局
CIVIL AVIATION ADMINISTRATION OF CHINA

型号认可证数据单
THE VALIDATION DATA SHEET

编号/No:	VTC0290A
版次/Revision:	2
型号/Type:	R66
批准人/Approved By:	
职务/Title:	Director General of CAAC-AAD
日期/Date:	2019 年 08 月 23 日

本数据单是型号认可证(编号: VTC0290A)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: VTC0290A), 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:
Robinson Helicopter Company
2901 Airport Drive
Torrance, California 90505

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第 1 部分总则（所有型别）

SECTION 1 General (ALL MODELS)

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	VTC0290A Revision 2 2019/08/23	R00015LA Revision 3 August 17, 2018
历史 History	VTC0290A Revision 1 2019-01-24 VTC0290A Revision 0 2014-04-29	R00015LA Revision 2 March 10, 2015 R00015LA Revision 1 July 10, 2013

2. 适航类别/Airworthiness Category: 正常类旋翼航空器/ Normal Category Rotorcraft

3. 认可当局/Validation Authority: 中国民用航空局/CAAC 审定当局/Certifying Authority: 美国联邦航空局/FAA

4. 型号合格证持有人/Type Certificate Holder: Robinson Helicopter Company 2901 Airport Drive Torrance, California 90505

5. 认可审定基础/Validation Certification Basis

CAAC 的认可审定基础由 FAA 的审定基础（详见 FAA 型号合格证数据单：编号 R00015LA），和 CAAC 的附加技术条件组成。

The CAAC validation certification basis consists of the FAA certification basis (refer to FAA Type Certificate Data Sheet No.R00015LA), and the CAAC additional technical conditions.

第 2 部分/SECTION 2: R66

I. 总则/General

- | | |
|-----------------------------------|---|
| 1. 型别/Model: | R66 |
| 2. 适航类别/Airworthiness Category: | 正常类航空器/Normal Category Aircraft |
| 型号合格证持有人/Type Certificate Holder: | Robinson Helicopter Company
2901 Airport Drive
Torrance, California 90505 |
| 3. FAA 批准日期/FAA Approved Date: | 2010 年 10 月 25 日/25 October, 2010 |
| 4. CAAC 批准日期/CAAC Approved Date: | 2014 年 04 月 29 日/29 April, 2014 |

II. 认可审定基础/Validation Certification Basis

CAAC的认可审定基础由FAA的审定基础和CAAC的附加技术条件组成。

The CAAC validation certification basis consists of the FAA certification basis and the CAAC additional technical conditions.

FAA 审定基础//FAA certification basis

详见FAA型号合格证数据单R00015LA(版本3)中的R66型别的审定基础:

14 CFR 第 27 部, 1965 年 2 月 1 日生效, 随修正案第 27-1 至第 27-44 进行了修订。

14 CFR part 27, dated February 1, 1965, as amended by Amendment 27-1 through Amendment 27-44.

等效安全:

Equivalent Safety Finding:

编号 AT14992LA-R-S-1

Number AT14992LA-R-S-1

14 CFR 第 27 部 695(a)(1)条, 动力助力和带动力操作的操纵系统 (见注释 7)

14 CFR part 27.695 (a)(1), Power boost and power-operated control system. (see Note 7)

专用条件:

Special Condition:

编号 27-035-SC 的 Robinson R66 型直升机, 章节 27.1309, 安装 HeliSAS 自动驾驶仪和增稳系统 (AP/SAS)。

No. 27-035-SC Robinson Model R66 Helicopter, Sec. 27.1309, Installation of HeliSAS Autopilot and Stabilization Augmentation System (AP/SAS).

14CFR36 部, 1969 年 12 月 1 日生效, 随修正案 36-1 到 36-28 进行了修订。

14 CFR Part 36, dated December 1, 1969, as amended by Amendment 36-1 through Amendment 36-28.

27.801 水上迫降要求的符合性没有演示。

Compliance with the ditching requirements of § 27.801 was not demonstrated.

27.1419 防冰要求的符合性没有演示。

Compliance with the ice protection requirements of § 27.1419 was not demonstrated.

R66 只批准昼夜间目视飞行规则运行。

The R66 is approved for day and night VFR operations only.

TC 申请日期: 2006 年 9 月 6 日。

TC Application Date: September 06, 2006.

TC 发布日期: 2010 年 10 月 25 日。

TC Issue Date: October 25, 2010.

中国民用航空局附加技术条件/CAAC Additional Technical Conditions:

(1) 必须明确符合 GB6537-2006 “3 号喷气燃油” 规范的燃油是可接受的;

The acceptance of fuel conforming to the Specification GB6537-2006 “No.3 Jet Fuel” must be defined;

(2) 根据 CCAR21.29(5), 机上所有对旅客进行的提示、警告和通知的文字标记和标牌; 机上所有向旅客或机外营救人员指示应急出口和门的位置以及开启方法的文字标记和标牌; 旅客可能使用的机上所有应急设备的操作、使用说明应当至少有简体中文表述。

Per CCAR 21.29(5), all on-board placards and markings for awareness, warning, and note to the passengers; all on-board placard and markings for opening method and location indication of the emergency exit and door to passenger and outside rescuer; and all operational instructions for on-board emergency equipment possible operated by passengers shall be presented in Simplified Chinese at least.

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

1. 发动机 Engine:	一台 Rolls-Royce 250-C300/A1 One Rolls-Royce 250-C300/A1								
型号合格证 Type Certificate	型号合格证编号: E4CE Type Certificate number E4CE								
CAAC 型号认可证 CAAC Validation Type Certificate	型号认可证编号: VTC0232E, 认可数据单版次 2。 Validation Type Certificate No.VTC0232E, VTCDS Revision 2.								
2. 燃油 Fuel	Jet A 或 Jet A-I 符合 ASTM D 1655 Jet A or Jet A-1 conforming to ASTM D 1655 Jet B 符合 ASTM D 6615 Jet B conforming to ASTM D 6615 JP-4 或 JP-5 符合 MIL-DTL-5624 JP-4 or JP-5 conforming to MIL-DTL-5624 JP-8 符合 MIL-DTL-83133。 JP-8 conforming to MIL-DTL-83133 中国国标 3 号喷气燃料, 符合 GB6537-2006 Chinese No.3 Jet Fuel, conforming to GB6537-2006								
3. 发动机限制 Engine Limits	在 N ₂ 转速为 6016 rpm (100% rpm) 时的额定功率: Power Ratings at N ₂ speed of 6016 rpm (100% rpm): <table><tr><td>最大连续:</td><td>224 马力(83%扭矩)</td></tr><tr><td>Maximum continuous:</td><td>224 hp (83% Torque)</td></tr><tr><td>起飞 (5 分钟):</td><td>270 马力(100%扭矩)</td></tr><tr><td>Takeoff (5 minute):</td><td>270 hp (100% Torque)</td></tr></table> 最大转速: Maximum speeds:	最大连续:	224 马力(83%扭矩)	Maximum continuous:	224 hp (83% Torque)	起飞 (5 分钟):	270 马力(100%扭矩)	Takeoff (5 minute):	270 hp (100% Torque)
最大连续:	224 马力(83%扭矩)								
Maximum continuous:	224 hp (83% Torque)								
起飞 (5 分钟):	270 马力(100%扭矩)								
Takeoff (5 minute):	270 hp (100% Torque)								

输出轴 (N₂) 101% (6076 rpm)
 Output shaft (N₂): 101% (6076 rpm)
 燃气发生器轴(N₁): 105% (53519 rpm)
 Gas producer shaft (N₁): 105% (53519 rpm)

最高测量燃气温度:

Maximum Measured gas temperature:

启动期间: 927°C(在 782°C以上限制时间为 10 秒)
 During start: 927°C(10 second limit above 782°C)
 使用 5 分钟: 782°C
 5 minute during operation: 782°C
 连续工作: 706°C
 Continuous during operation: 706°C

4. 旋翼转速限制
 Rotor Speed Limits

状态 Condition	最小 Minimum		最大 Maximum	
	(rpm*)	(%)	(rpm*)	(%)
有功率 Power On	404	99	412	101
无功率 Power Off	359	88	432	106

*主旋翼/Main Rotor

5. 传动装置扭矩限制
 Transmission Torque Limits

额定值 Rating	在100% N ₂ 下的最大扭矩 Max Torque at 100% N ₂	
	(ft-lb)	(%)
起飞5分钟 Takeoff (5 min)	236	100
最大连续 Max Continuous	196	83

6. 空速限制
 Airspeed Limits

起飞 总重或构型 Takeoff Gross Weight or Configuration	有功率V _{NE} Power On V _{NE} (KIAS)	无功率V _{NE} Power Off V _{NE} (KIAS)
小于2200 磅 Less than 2200 lb	140	100
2200 lb 到2700 lb 2200 lb to 2700 lb 或警用型 (任意总重) Or Police Version/(any Gross Weight) 或弹出式浮筒 (安装浮筒, 任意总重) Or with Pop-out Floats (Floats Stowed, any Gross Weight)	130	100
电子化新闻收集型 (任意总重) Electronic News Gathering Version (any Gross Weight)	120	100

海平面 V_{NE} 值如上所示。 V_{NE} 随高度和温度的变化, 见 R66 驾驶员操作手册和 FAA 批准的旋翼航空器飞行手册 (RTR 661)。

Sea level V_{NE} values shown above. For reduction of V_{NE} with altitude and temperature, see R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661).

功率设定超过 83% 扭矩时的空速限制是 65 KIAS。

Airspeed limit is 65 KIAS for power settings above 83% torque.

门拆除的任何组合的空速限制是 100 KIAS。

Airspeed limit is 100 KIAS for any combination of doors off.

与选装设备相关的附加空速限制见 R66 驾驶员操作手册和 FAA 批准的旋翼航空器飞行手册 (RTR661)。

See R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661) for additional airspeed limitations associated with optional equipment installations.

7. 重心范围 Center of Gravity (C.G.) Range

总重 (磅) Gross Weight (lb)	纵向重心 Longitudinal C.G.	
	前部限制 (英寸) Forward Limit (in)	后部限制 (英寸) Aft Limit (in)
1400	91.0	102.5
2300		102.5
2500	91.0	
2700	92.0	98.0

纵向重心 (英寸) Longitudinal C.G. (in)	横向重心 Lateral C.G.	
	左侧限制 (英寸) Left Limit (in)	右侧限制 (英寸) Right Limit (in)
91.0	-3.5	+3.5
100.0	-3.5	+3.5
102.5	-2.5	+2.5

注释:

Notes:

1. 点与点之间以直线变化

Straight line variation between points shown

2. 横向重心限制对所有总重有效

Lateral C.G. limits valid for all gross weights

3. 外部载荷的扩展极限见 R66 驾驶员操作手册和 FAA 批准的旋翼航空器飞行手册 (RTR661)。

See R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661) for expanded limits with external load.

8. 空机重量重心范围 Empty Weight C.G. Range

无。航空器的空机重量和空重重心必须由 R66 维修手册 RTR 660 第 8 章的程序决定。

None. The aircraft's empty weight and empty weight C.G. must be determined by the procedures in Chapter 8 of the R66 Maintenance Manual, RTR 660.

9.测量基准 Datum	主旋翼中线前 100 英寸。 100 inches forward of main rotor centerline.
10.水平测量措施 Leveling Means	对于重量和平衡：水平的横向及纵向布置在后通道口盖上，即后排中间座椅的前部。如口盖不平整，拆下后部通道口盖，使用龙骨板上缘。 For weight and balance: Level placed laterally and longitudinally on aft tunnel cover immediately forward of aft middle seat. If cover is not straight, use keel panel upper flanges, accessed by removing aft tunnel cover. 对于装配：水平位置在主旋翼轴顶部，平行于跷跷板螺栓。主旋翼叶片前后对齐用于横向水平，跷跷板螺栓前后对齐用于纵向水平。 For rigging: Level placed on top of main rotor hub parallel with teeter bolt. Main rotor blades are aligned fore-aft for lateral levelling, and teeter bolt is aligned fore-aft for longitudinal levelling.
11.最大重量 Maximum Weight	无外部载荷：2700 磅 No External Load: 2700 lb 有外部载荷：2900 磅（关于外部载荷限制见注释 8） With External Load: 2900 lb (See Note 8 for external load limitations)
12.最小机组 Minimum Crew	1 名驾驶员位于右前方座位。关于允许一名驾驶员在左前方座椅的构型见 R66 驾驶员操作手册和 FAA 批准的旋翼航空器飞行手册（RTR661）。 1 pilot in forward right seat. See R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661) for configurations that allow 1 pilot in forward left seat.
13.座位数量 Number of Seats	5（警用和电子化新闻收集型 4 人） 5 (4 for Police and Electronic News Gathering versions)
14.座位位置 Seat Locations	驾驶员和前部乘员在站位 49.0 英寸处 Pilot and forward occupant at STA 49.0 in 后部外侧乘员在站位 80.0 英寸处 Aft outboard occupants at STA 80.0 in 后部中间乘员在站位 78.0 英寸处 Aft center occupant at STA 78.0 in
15.最大行李舱重量 Maximum Compartment Weights	主行李舱 Main baggage compartment 在站位 107.0 英寸处最大重量是 300 磅 Maximum weight is 300 lb at STA 107.0 in 警用和电子化新闻收集型在站位 103.0 英寸处最大重量是 250 磅 Maximum weight is 250 lb at STA 103.0 in for Police and Electronic News Gathering versions 安装副油箱时在站位 117.0 英寸处最大重量是 100 磅。 Maximum weight is 100 lb at STA 117.0 in with auxiliary fuel tank installed 最大装载密度是 50 磅/平方英尺 Maximum loading density is 50 lb/ft² 座椅下方行李舱 Underseat baggage compartments 前部座椅-在站位 42.0 英寸处最大重量是 50 磅 Forward seats - Maximum weight is 50 lb at STA 42.0 in 后部座椅-在站位 82.0 英寸处最大重量是 50 磅

Rear seats-Maximum weight is 50 lb at STA 82.0 in

注释：对于任何座椅位置，座椅上装载（如：乘员）的最大组合重量加上存放物品和任何安装在座椅下行李舱设备的重量是 300 磅。

Note: For any seat location, the maximum combined weight of the load on the seat (e.g., occupant) plus the weight of stowed items and any installed equipment in the underseat baggage compartment is 300 lb.

16. 燃油容量
Fuel Capacity

燃油箱容量是 74.6 美加仑

在站位 102.5 英寸处，可用燃油量是 73.6 美加仑

注释：航空器空机重量包括 1.0 美加仑不可用燃油。

Fuel tank capacity is 74.6 U.S. gallons

Usable fuel quantity is 73.6 U.S. gallons at STA 102.5 in

Note: Aircraft empty weight includes 1.0 U.S. gallon of unusable fuel.

17. 滑油容量
Oil Capacities

部件 Component	容量（夸脱） Capacity (qt)	站位（英寸） STA (in)
发动机 Engine	6	126.0
主旋翼变速箱 Main Rotor Transmission	2	100.0
尾旋翼变速箱 Tail Rotor Transmission	0.11	327.0
液压油箱 Hydraulic Reservoir	0.65	110.8

18. 最大使用高度
Maximum Operating
Altitude

14000 英尺密度高度。

地平面以上最大高度是 9000 英尺。

14,000 feet Density Altitude.

Maximum altitude above ground level is 9,000 ft.

19. 旋翼桨叶和操纵面
运动范围
Rotor Blade and
Control Movements

装配信息详见 Robinson R66 维修手册和持续适航说明（RTR 660）。

For rigging information refer to the Robinson R66 Maintenance Manual and Instructions for Continued Airworthiness (RTR 660).

20. 制造商的序列号
Manufacturer's Serial
Numbers

0002 及以后。

0002 and subsequent.

21. 生产依据
Production Basis

生产证书编号 424WE，2010 年 10 月 25 日。

Production Certificate No. 424WE dated October 25, 2010.

22. 设备
Equipment

适用的适航规章中（见审定基础）描述的基本所需设备必须安装在飞行器上用于合格审定。此外，需要以下的经 FAA 批准的旋翼航空器飞行手册：

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following FAA-approved Rotorcraft Flight Manual is required:

R66 驾驶员操作手册和 FAA 批准的旋翼航空器飞行手册（RTR 661），日期为 2010 年 10 月 25 日，或者以后批准的版次。

R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661), dated October 25, 2010, or later approved revision.

IV.经批准的中文标记标牌/ The Approved Chinese Placards

以下资料中所包含的中文标记标牌的中文表述已由 CAAC 接受并由 FAA 批准:

The Chinese Placards involved in the following data have been accepted by CAAC and approved by FAA:

序号 Code	标题 Title	编号 Number	版本 Rev.
1	DECALS INST'L-CHINESE	B842	D

V. 注释/Notes

- 注释/NOTE 1. 现行的重量和平衡报告，包括审定空重中的设备清单和必要时的装载说明，必须在初始适航审查时及此后的任何时候提供给每架航空器，除了运营商已有批准的重量控制系统。
A current weight and balance report, including a list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification and at all times thereafter, except in the case of operators having an approved weight control system.
- 注释/NOTE 2. 下面的标记标牌必须安装在驾驶员的清晰视野里：
“THIS ROTORCRAFT APPROVED FOR DAY AND NIGHT VFR OPERATIONS”
对于其它的标记标牌，见旋翼航空器飞行手册。旋翼航空器飞行手册要求的所有标记标牌必须安装在适合位置。
The following placard must be installed in clear view of the pilot:
“THIS ROTORCRAFT APPROVED FOR DAY AND NIGHT VFR OPERATIONS”
For additional placards, see the Rotorcraft Flight Manual. All placards required in the Rotorcraft Flight Manual must be installed in the appropriate locations.
- 注释/NOTE 3. Robinson 的 R66 维修手册和持续适航说明（RTR 660）包括直升机适当维修的必要信息，包括关键部件的更换寿命。更换寿命在“适航限制”章节列出。
Information essential to the proper maintenance of the helicopter, including retirement time of critical components, is contained in the Robinson R66 Maintenance Manual and Instructions for Continued Airworthiness (RTR 660). Retirement times are listed in the “AIRWORTHINESS LIMITATIONS” section.
- 注释/NOTE 4. 删除自 2015 年 3 月 10 日起。
Deleted as of March 10, 2015.
- 注释/NOTE 5. 第三方安装的任何座舱仪表必须按 Robinson 的标识方案做限制标识和范围标识。
Any cockpit instruments installed by a 3rd party must be marked with limit markings and range markings in accordance with Robinson's marking scheme.
- 注释/NOTE 6. 删除自 2015 年 3 月 10 日起。
Deleted as of March 10, 2015.
- 注释/NOTE 7. 2008 年 1 月 28 发布的豁免 No.9589，从 Robinson 直升机公司被授予针对 27.695(a)(1)条的等效安全后删除，该等效安全的编号为 AT14992LA-R-S-1，2013 年 2 月 20 日发布。此豁免允许带动力的飞控系统无需考虑把单个控制阀的卡滞作为一个可能的单点失效。这对已经交付的或正在服役的 R66 直升机没有影响。
Exemption No. 9589, dated January 28, 2008, has been removed since Robinson Helicopter Company was granted an Equivalent Level of Safety (ELOS) finding to CFR §27.695(a)(1), Number AT14992LA-R-S-1, dated February 20, 2013. The exemption allowed a powered flight control system without considering the jamming of a control valve as a possible single failure. There is no impact to R66 helicopters that have been delivered or are in service.
- 注释/NOTE 8. 当超过 2700 磅的部分在吊货钩上是可抛放载荷，且使用高度在 7000 英尺密度

高度及以下时，安装了 G132 吊货钩的 R66 直升机可以在大于 2900 磅的总重下使用。附加的使用限制见 R66 驾驶员操作手册和 FAA 批准的旋翼航空器飞行手册（RTR 661）的吊货钩增补部分。

R66 helicopters equipped with the G132 Cargo Hook installation may be operated at up to 2900 pounds gross weight when the portion above 2700 pounds is jettisonable load on the cargo hook and the helicopter is operating at or below 7000 feet density altitude. See Cargo Hook Supplement to R66 Pilot's Operating Handbook and FAA Approved Rotorcraft Flight Manual (RTR 661) for additional operating limitations.

—结束—

—END—