

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: 0
型号/Type: Robinson R66
批准人/Approved By:



日期/Date: 2014.4.29/April 29, 2014

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 Type Certificate (No. VTC0290A) prescribes conditions and limitations 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, USA

有效页清单/List of effective pages :

页数/ Pages	1	2	3	4	5	6	7	8
版次/Revision	0	0	0	0	0	0	0	0

第 1 部分概述（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, Rev 0, 2014.4.29	No.R00015LA, Revision 1, July 10, 2013

2. 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

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

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飞机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 the Exporting Authority which states (in English language): This aircraft conforms to its CAAC type design and is in a condition for safe operation.

第 2 部分/SECTION 2: Robinson R66

I. 总则/General

1. 衍生型或型别/Variant or Model: R66
 适航类别/Airworthiness Category: 正常类旋翼航空器/ Normal Category Rotorcraft
 型号合格证持有人/Type Certificate Holder: Robinson Helicopter Company
 2901 Airport Drive
 Torrance, California 90505, USA.
 2. FAA 批准日期/FAA Approved Date: 2013.7.10/ July 10, 2013
 3. CAAC 批准日期/CAAC Approved Date: 2014.4.29/ April 29, 2014

II. 技术特征和运行限制 /Technical Characteristics and Operational Limitations

发动机/Engine: 一台罗罗 250-C300/A1 发动机(型号合格证编号: E4CE, 型号认可证编号: VTC0232E)
 One Rolls-Royce 250-C300/A1 (Type Certificate number E4CE, Validation Type Certificate No.VTC0232E).

燃油/Fuel: Jet A 或 Jet A-I 符合 ASTM D 1655
 Jet B 符合 ASTM D 6615
 JP-4 或 JP-5 符合 MIL-DTL-5624
 JP-8 符合 MIL-DTL-83133。
 中国国标 3 号喷气燃料符合 GB6537-2006

发动机限制/Engine Limits:

在 N_2 转速额定功率 6016 转每分钟 (100%转每分钟)
 /Power Ratings at N_2 speed of 6016 rpm (100% rpm):
 最大连续/Maximum continuous: 224 hp (83% Torque)
 起飞 (5 分钟) /Takeoff(5 minute): 270 hp (100% Torque)

最大速度/Maximum speeds:

输出轴 (N_2)/Output shaft (N_2): 101%(6076rpm)
 燃气发生器轴/ Gas producer shaft(N_1): 105%(53519rpm)

最高燃气温度/ Maximum Measured gas temperature:

起动期间/ During start: 927°C (10 秒时间限制在 810°C 以上)
 运行 5 分钟/5 minute during operation: 782°C
 连续工作/Continuous during operation: 706°C

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

传动扭矩限制/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
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空速限制/Airspeed Limits:

起飞/Takeoff 总重/Gross Weight	带功率 /Power On V _{NE} (KIAS)	无功率 /Power On V _{NE} (KIAS)
小于2200lb	140	100
2200 lb 到2700 lb	130	100

海平面 V_{NE} 值见上表。对于随高度和温度减小的 V_{NE}，见 R66 飞行员操作手册和 FAA 批准的旋翼机飞行手册（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).

功率设置在83%扭矩以上的空速限制是65 KIAS。

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

对于关门的任何组合其空速限制是100KIAS。

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

重心范围/Center of Gravity (C.G.) Range:

总重 /Gross Weight (lb)	纵向重心 /Longitudinal C.G.	
	前向限制 /Forward Limit (in)	后向限制 /Aft Limit (in)
1400	91.0	102.5
2300		102.5
2500	91.0	
2700	92.0	98.0

纵向重心 /Longitudinal C.G. (in)	横向重心 /Lateral C.G.	
	左向限制 /Left Limit (in)	右向限制 /Right Limit (in)
91.0	-3.5	+3.5
100.0	-3.5	+3.5
102.5	-1.5	+1.5

注:

1.显示点与点之间的直线变化

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

空重心范围/Empty Weight C.G. Range:

没有。飞机的空重量和空重心必须由 R66 维修手册-RTR 660 第 8 部分的程序决定。

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

基准/Datum:

主旋翼中线前向 100 英寸。

/100 inches forward of main rotor centerline.

水平测量方法/ Leveling Means:

对重量和平衡: 横向及纵向水平置于后中部座椅前, 后通道口盖上。如口盖不平整, 拆下后部通道口盖, 使用上部法兰龙骨平面。

对安装: 水平置于主旋翼轴顶部, 平行于跷跷板螺栓。横向水平, 将主旋翼置于前后位置, 纵向水平, 跷跷板螺栓前后对齐。

/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.

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.

最大重量(正常使用重量)/ Maximum Weights :2700lb

最小机组/ Minimum Crew: 右前方座位的1名飞行员/1 pilot in forward right seat.

座位数量/Number of Seats: 5

座位位置/Seat Locations:

飞行员和前面乘员在站位 49.0 英寸处

/Pilot and forward occupant at STA 49.0 in

后外侧乘员在站位 80.0 英寸处

/Aft outboard occupants at STA 80.0 in

后中间乘员在站位 78.0 英寸处

/Aft center occupant at STA 78.0 in

最大机舱重量/Maximum Compartment Weights:

主行李舱/Main baggage compartment:

在站位107.0英寸处最大重量是300lb

/Maximum weight is 300 lb at STA 107.0 in

在站位107.0处, 最大装载密度是50英镑每平方英尺

/Maximum loading density is 50 lb/ft²

座椅下面行李舱/Underseat baggage compartments:

前向座椅-在站位42.0英寸处最大重量是50英镑

/Forward seats – Maximum weight is 50 lb at STA 42.0 in

后面座椅-在站位82.0英寸处最大重量是50英镑

/Rear seats – Maximum weight is 50 lb at STA 82.0 in

注: 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英镑。

/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.

燃油容量/ Fuel Capacity:

燃油箱容量是74.6美国加仑

/Fuel tank capacity is 74.6 U.S. gallons

在站位102.5英寸处, 可用燃油数量是73.6美国加仑

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

注: 飞机空重包括1.0美国加仑不可用燃油。

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

滑油容量/ Oil Capacity:

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
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最大运行高度/Maximum Operating Altitude:

14000 英尺密度高度。

/14,000 feet Density Altitude.

最大高度在地面水平9000英尺以上。

/Maximum altitude above ground level is 9,000 ft.

旋翼桨叶和控制运动/Rotor Blade and Control Movements:

主旋翼桨叶/Main Rotor Blades :

总距/Collective Pitch	13.0° ± 0.5° 总行程/total travel	
周期变距/Cyclic Pitch	前向/Forward	13.50° 到 14.25°
	后向/Aft	13.50° 到 14.25°
	左向/Left	7.5° 到 8.5°
	右向/Right	6.0° 到 7.0°

注：低总距根据维修手册和为获得合适自转 RPM 的持续适航程序指令（RTR 660）建立。

Note: Collective low pitch to be established in accordance with the Maintenance Manual and Instructions for Continued Airworthiness (RTR 660) procedures to obtain proper autorotation RPM.

尾旋翼桨叶/Tail Rotor Blades :

总距/Collective Pitch	左踏板/Left pedal	15.5° 到 16.5°
	右踏板/Right pedal	18.5° 到 19.0°

所有叶片角度在75%半径测量

/All blade angles measured at 75% radius

制造商的序列号/ Manufacturer's Serial Numbers: 0002和随后的。/ 0002 and subsequent.

审定基础/Certification Basis:

FAR 27 部，1965 年 2 月 27 日生效，包括第 27-1 至第 27-44 修正案。

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

等效安全: AT14992LA-R-S-1

FAR 27.695(a)(1), 动力助力和带动力操作的操纵系统（见注7）

/Equivalent Safety Finding:

Number AT14992LA-R-S-1

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

FAR 36部，1969年12月1日生效，包括第36-1到36-28修正案。

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

27.801迫降要求的符合性没有表明。

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

27.1419结冰防护要求的符合性没有表明。

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

R66只批准白天和夜间的目视飞行规则运行。

/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.

CAAC认可审定基础/CAAC Validation Certification Basis

CAAC 的认可审定基础由 FAA 的审定基础和 CAAC 附加技术条件组成。

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

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

(1) 必须确定符合“GB6537-2006 3 号喷气燃料”规范的燃料是可接受的;

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 equipments possible operated by passengers shall be presented in Simplified Chinese at least.

生产基础/Production Basis:

生产许可证号: No. 424WE, 2010 年 10 月 25 日。

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

设备/Equipment:

在适用适航规章里(见审定基础)描述的基本要求设备必须安装在飞机上审查。另外, 需要下面 FAA 批准的旋翼机飞行手册:

R66 飞行员操作手册和 FAA 批准的旋翼机飞行手册(RTR 661), 2010 年 10 月 25 生效, 或最新批准的版本。

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

III. 一般事项/GENERAL NOTES

备注 1: 现行的重量和平衡报告, 包括审定空重中的设备清单和装载指令(必要时), 必须在初始适航审查时和此后的任何时候提供给每架飞机, 除了运营商已有批准的重量控制系统。

NOTE 1. 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.

备注2: 下面的标志标牌必须安装在飞行员清晰的视野里:

“本旋翼机批准昼夜目视飞行规则运行”

对于另外的标志标牌, 见旋翼机飞行手册。FAA批准的旋翼机飞行手册要求的所有标志标牌必须安装在适合位置。

NOTE 2. 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 FAA-approved Rotorcraft Flight Manual must be installed in the appropriate locations.

备注 3: 罗宾逊 R66 维修手册和持续适航指令(RTR 660)包含直升机适当维修的必要信息, 包括关键部件的退役时间。退役时间在 FAA 批准的“适航限制”部分列出。没有 FAA 的工程批准, 退役值或使用寿命和检查间隔不能改变。

NOTE 3. 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 FAA approved “AIRWORTHINESS

LIMITATIONS" section. The values of retirement or service lives and inspection intervals cannot be changed without FAA Engineering approval.

备注 4：采用改进型号合格证（TC）、补充型号合格证（STC），或改进 STC 办法的本直升机的任何型号设计更改，在飞机交付之前，或为受影响的飞机发布第一个标准适航证之前，按 FAR 21.50 描述的以后发生的为准，要求持续适航指令必须已经通过项目审查办公室提交飞行标准地区办公室(FSDO)沃思堡飞机评估组（FTW-AEG）审查和接受。通过 337 表格“外场批准”的型号设计更改，要求持续适航指令必须已经由外场批准 FSDO 审查过。

NOTE 4. Any changes to the type design of this helicopter by means of an amended type certificate (TC), supplemental type certificate (STC), or amended STC, requiring instructions for continued airworthiness (ICA's) must have the ICA's submitted thru the project certification office for review and acceptance by the Fort Worth -Aircraft Evaluation Group (FTW-AEG) Flight Standards District Office (FSDO) prior to the aircraft delivery, or upon issuance of the first standard airworthiness certificate for the affected aircraft, whichever occurs later as prescribed by Title 14 CFR 21.50. Type design changes by means of a Form 337 "field approval" that require ICA's must have those ICA's reviewed by the field approving FSDO.

备注 5：第三方安装的任何座舱仪表必须按罗宾逊的标志方案做限制标志和范围标志。

NOTE 5. Any cockpit instruments installed by a 3rd party must be marked with limit markings and range markings in accordance with Robinson's marking scheme.

备注 6：为了确定 27.562(c)(5) 符合性，对任何安装在座舱或客舱的设备，必须执行头部碰撞标准。

NOTE 6. Determination for compliance with 27.562(c)(5), Head Impact Criteria (HIC) must be performed for any equipment installed in the cockpit or passenger cabin.

备注 7：2008 年 1 月 28 发布的豁免，号为 No. 9589，已被删除，由于罗宾逊直升机公司已被授予针对 27.695(a)(1) 的等效安全，号为 AT14992LA-R-S-1，2013 年 2 月 20 日发布。这个豁免允许动力飞控系统不考虑把控制阀的卡阻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。

NOTE 7. 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.

备注 8：中文标牌和标识包含在图纸 B842（A 版）或 CAAC 批准的更新版本中。

Note 8: Chinese Placards and markings are included in drawing B842 (Revision A) or later revisions CAAC approved.

备注 9：主图纸目录 0066，2013 年 9 月 25 日。

Note 9: MASTER DRAWING LIST 0066, 25 SEPTEMBER 2013.

- 完/END -