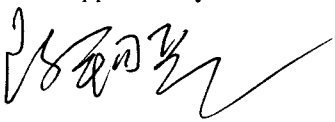


中国民用航空局
Civil Aviation Administration of China

型号设计批准书数据单
TYPE DESIGN APPROVAL DATA SHEET

编号/No.:	TDA016-DB
版次/Revision:	0
型别/Model:	RX1E
批准人/Approved By:	
日期/Data:	2015年02月06日

本数据单是型号设计批准书(编号: TDA016-DB)的一部分,它规定了取得此型号设计批准书的产品符合《中国民用航空规章》有关适航要求的状态和限制。

This data sheet, which is part of Type Design Approval (No. :TDA016-DB) , prescribes condition and limitation under which the product for which the Type Design Approval was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号设计批准书持有人/ Type Design Approval Holder:

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有效页清单/List of effective pages:

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第 1 部分 概述

SECTION 1 GENERAL

I. 概述/General

机型/ Type: RX1E

类别/Category: 轻型运动类/LSA

申请日期/Data of Application 2012 年 11 月 29 日

II. 合格审定基础/Certification Basis

CAAC 审定基础是 CCAR21.25 和 AC-21-AA-2009-25。

CAAC certification basis consists of CCAR21.25 and AC-21-AA-2009-25.

1. 适用的 ASTM 标准/ Applicable ASTM Standards

ASTM F2245-11	轻型运动飞机设计和性能标准规范/ Standard Specification for Design and Performance of a Light Sport Airplane;
ASTM F2279-10	固定翼轻型运动飞机制造质量保证标准/ Standard Practice for Quality Assurance in the Manufacture of Fixed Wing Light Sport Aircraft;
ASTM F2295-10	轻型运动飞机持续运行安全监控标准实施/ Standard Practice for Continued Operational Safety Monitoring of a Light Sport Aircraft;
ASTM F2483-05	轻型运动飞机维修通则和维修手册编制标准实施/ Standard Practice for Maintenance and the Development of Maintenance Manuals for Light Sport Aircraft;
ASTM F2506-10	轻型运动飞机定距/地面可调螺旋桨设计和试验标准规范/ Standard Specification for Design and Testing of Fixed-Pitch or Ground Adjustable Light Sport Aircraft Propellers;
ASTM F2746-09	轻型运动飞机驾驶员操作手册（POH）标准规范/ Standard Specification for Pilot's Operating Handbook(POH) for Light Sport Airplane;

ASTM F2840-11 轻型运动飞机电动力推进系统设计与制造标准/
Standard Practice for Design and Manufacture of Electric Propulsion Units for
Light Sport Aircraft.

2. 等效安全/Equivalent Safety Findings

无/None

3. 专用条件/Special Conditions

无/None

4. 豁免/Exemptions

无/None

第 2 部分 技术特征和使用限制

SECTION 2

TECHNICAL CHARACTERISTICS AND OPERATIONAL LIMITATIONS

I. 型号设计构型定义文件/Type Design Configuration Definition Documents

1. 结构图纸目录/List of Structure Drawing

RX1E-03HZ010B, B 版《RX1E 双座电动飞机零件图纸目录》

RX1E-03HZ010B, Rev. B, List of Parts Drawing on Model RX1E Aircraft

2. 主机载设备清单/ Main Airborne Equipment List

RX1E-03HZ009, A 版《RX1E 双座电动飞机机载设备清单》

RX1E-03HZ009, Rev. A, List of Airborne Equipment on Model RX1E Aircraft

3. 机载软件清单/ Airborne Software List

RX1E-03HZ008, A 版《RX1E 双座电动飞机机载软件清单》

RX1E-03HZ008, Rev. A, List of Airborne Software on Model RX1E Aircraft

II. RX1E 双座电动飞机数据/ Model RX1E Aircraft Data

1. 机体详细数据/Airframe Details

类型/Type	上单翼, 牵引式螺旋桨/High Wing, Traction Propeller
座椅数/Number of Seats	2
结构材料/Structure Material	复合材料/Composite
起落架/Landing Gear	前三点固定式/Fixed Tricycle
增阻装置/High Drag Device	扰流板/Spoiler
纵向操纵/Longitudinal Control	升降舵/Elevator
航向操纵/Directional Control	方向舵/Rudder
横向操纵/Lateral Control	副翼/Ailerons
地面操纵/Steering on the ground	可操纵前轮/Steerable Nose Wheel

刹车/Braking

主轮刹车/Main Wheel Brake

2. 运行类别和使用限制/Type of Operation and Operating Limitations

运行类别/Type of Operation 昼间非特技目视飞行/Day VFR Non-Aerobatic Operation Only

允许机动/Allowed Maneuver 正常飞行中遇到的任何机动/All Normal Flight Maneuvers

失速/Stalling

坡度不大于 60°的缓 8 字飞行、急上升转弯和急转弯/ Lazy Eight, Chandelles and Steep Turns in which the angle of bank is not more than 60 degrees.

禁止机动/Prohibited Maneuver 故意的尾旋/Intentional Spinning

3. 重量平衡/Weight and Balance

最大起飞重量/Maximum Take-off Weight 500kg

最大着陆重量/Maximum Landing Weight 500kg

飞机重心测量基准面/ Measuring Datum Plane of Aircraft C. G. 过左右机翼根部前缘作垂直于 X 轴的平面（距飞机坐标原点 1720mm）/ The Datum Plane is a plane which is normal to the aircraft's X axis and on which the root leading edges of the left and right wing are (1720mm from origin of body axis) .

重心前限/Most Forward C. G. 飞机重心测量基准面后 276mm (28%MAC)/276mm After The Measuring Datum Plane of Aircraft C. G.

重心后限/Most Rearward C. G. 飞机重心测量基准面后 363mm (38%MAC)/363mm After The Measuring Datum Plane of Aircraft C. G.

4. 水平测量方法/Leveling Means

纵向/Longitudinal 将气泡式水平仪置于垂直安定面下方的水平边缘上/ Place the bubble level on the lower horizontal edge of vertical stabilizer.

横向/Lateral 从距左、右机翼外露根弦 330mm 处的前缘点各吊一铅锤,

然后测量左右机翼各自该前缘点到地面的距离，两者距离值相等或两者距离差值在 5mm 内是可以接受/Suspend plumbs respectively and symmetrically at the leading edge points of the left and right wings. The distance between the plumb and the exposed root chord is 330mm. Measure the heights from the suspending points to the ground. It is acceptable that the difference between 2 heights is less than or equal to 5mm.

5. 电力装置数据/Electric Power-plant Data

电动机制造商/Electric Motor Manufacturer	Sineton d. o. o.
电动机型号/ Electric Motor Model	A37K154
控制器制造商/Controller Manufacturer	Unitek Co. Ltd.
控制器型号/Controller Model	Bamocar D3
锂离子电池制造商/Battery Pack Manufacturer	Kokam Co. Ltd.
锂离子电池型号/Battery Pack Model	RX-BATTERY88
锂离子电池总容量/Battery Pack Capacity	8.88kWh
锂离子电池标称电压/Battery Pack Nominal Voltage	355V
满充电状态电压/ Voltage in 100% state of charge	403V
锂离子电池允许最低电压/ Battery Pack Lower Limit Voltage	288V

起飞操纵/Take-off Operation

电动机最大转速限制/Electric Motor Maximum Power RPM Limit	2200r/min (rpm)
电动机最大功率时间限制/Electric Motor Maximum Power Time Limit	90s
电动机最大起飞功率/ Electric Motor Maximum Take-off Power	40kW
电动机最大连续功率/ Electric Motor Maximum Continuous Power	30kW

温度限制/Temperature Limitations

控制器最高工作温度（内部）/Controller Maximum Operating Temperature (Inside)	82℃
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电动机最高工作温度/ Electric Motor Maximum Operating Temperature	120℃
锂离子电池最高工作温度/Battery Maximum Operating Temperature	60℃
锂离子电池最低工作温度/Battery Maximum Operating Temperature	5℃

6. 螺旋桨数据/Propeller Data

制造商/Manufacturer	辽宁锐翔通用飞机制造有限公司 /Liaoning Ruixiang General Aircraft Manufacturing Co. Ltd.
型别/Model	RX-1E1600F
螺旋桨数量/桨叶数量/ Propeller Number /Blades Number	1/2
直径/Diameter	1600mm
材料/Material	黄桦木 (Beech)
桨距/Pitch	1250mm
螺旋桨最大转速/Maximum Propeller Rotational Speed	2200r/min (rpm)

7. 性能概述/Summary of Performance

不可超越速度 V_{NE} /Never Exceed Speed V_{NE}	160km/h
最大巡航速度 V_C /Maximum Cruising Speed V_C	147 km/h
最大机动速度 V_A /Maximum Maneuvering Speed V_A	147km/h
扰流板展开时最大速度 V_{SP} / Maximum Spoiler Extended Speed V_{SP}	110 km/h
失速速度 V_{S1} /Stalling Speed V_{S1}	73 km/h

7.1 起飞距离/Take-off Distance

起飞滑跑距离/Take-off Run Distance	160m
越过 15 米高度的起飞距离/Take-off Distance to Clear a 15m Obstacle	330m

7.2 着陆距离/Landing Distance

着陆滑跑距离/Landing Run Distance	150m
从 15 米高度着陆距离/Landing Distance from 15 m above Ground	310m

起飞或着陆时最大侧风速度/

6m/s

Maximum Demonstration Crosswind Strength for Take-off or Landing

7.3 使用升限/Service Ceiling

海拔/ASL 1400m

8. 操纵面偏度/Control Surface Deflection

操纵面偏度容差/General Tolerance on Control Surface

 $\pm 1^\circ$

Deflection

操纵面/Control Surface**偏度测量结果/Deflection of****Measured Results**

升降舵上偏/Elevator Up

30°

升降舵下偏/Elevator Down

20°

左副翼上偏/LH Aileron Up

25°

左副翼下偏/LH Aileron Down

25°

右副翼上偏/RH Aileron Up

25°

右副翼下偏/RH Aileron Down

25°

方向舵右偏/Rudder Right

20°

方向舵左偏/Rudder Left

20°

9. 操纵面配平/Control Surface Balancing

操纵面/Control Surface**铰链力矩限制/****Limiting Hinge Moment**

方向舵/Rudder

0.12kg · m

升降舵/Elevator

0.93kg · m

副翼/Aileron

0.96kg · m

10. 飞机尺寸/Aircraft Dimensions

机长/Length

6.58m

机高/High

2.45m

翼展/Wingspan	14.5m
平均气动弦长/Mean Aerodynamic Chord	0.868m
机翼面积/Wing Area	12 m ²

11. 设备和标牌/Equipments and Placards

飞行员使用手册所要求的设备和标牌必须安装在飞机上。

Equipment and placards required by Pilot's Operating Handbook must be installed on the aircraft.

12. 最小飞行机组/Minimum Flight Crew

1 名飞行员/1 Pilot.

III. 运行和使用说明/Operating and Service Instructions

1. 飞行员使用手册/ Pilot's Operating Handbook

CAAC 批准的飞行员使用手册见《RX1E 双座电动飞机飞行员使用手册》(RX1E-12SM001,A 版,或后续批准版)。

Pilot's Operating Handbook approved by CAAC is RX1E-12SM001 Rev A, Model RX1E Aircraft Pilot's Operating Handbook, or later approved.

2. 飞机维修文件/ Aircraft Maintenance Documents

《RX1E 双座电动飞机维护手册》(RX1E-12SM002,A 版) 或后续批准版/

《Model RX1E Aircraft Maintenance Manual》(RX1E-12SM002, Rev. A) or later approved

《RX1E 双座电动飞机螺旋桨维护手册》(RX1E-11SM001, A 版) 或后续批准版/

《Model RX1E Aircraft Propeller Maintenance Manual》(RX1E-11SM001, Rev. A) or later approved

3. 产品序列号/Product Serial Number

RX1E01002 , RX1E01003.

IV. 备注/Notes

备注 1/Note 1:

适航限制内容见《RX1E 双座电动飞机维护手册》(RX1E-12SM002,A 版及后续批准版)第 3 章中相关内容。 / Airworthiness Limitations Items reference to the section 3 of RX1E-12SM002 Rev. A, Model RX1E Aircraft Maintenance Manual, or later approved.