

型号合格证数据单
TYPE CERTIFICATE DATA SHEET

编号/No: TC0040A

版次/Revision: 1

型别/Type: J230-D

批准人/Approved by:



日期/Date: 2020 年 01 月 02 日

本数据单是型号合格证（编号：TC0040A）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合格证的产品的状态和限制。

This data sheet, which is part of Type Certificate No. TC0040A, prescribes conditions and limitations under which the product for which the type design approval was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulations.

型号合格证持有人/Type Certificate Holder:

Avtech Pty Ltd

Airport Drive, Hinkler Airport

Bundaberg, Queensland 4670

Australia

第 1 部分 概述

SECTION 1 GENERAL

I. 概述/General

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|------------------------------|---|
| 1. 机型/Model | J230-D |
| 2. 类别/Category: | 轻型运动类/ Light Sports Aircraft Category (LSA) |
| 3. 申请日期/Date of Application: | 2012 年 5 月 18 日/18 May 2012 |
| 4. 批准日期/Date of Application: | 2012 年 11 月 26 日/26 November 2012 |
| 5. 修订日期/Date of Application: | 2020 年 01 月 02 日 (第一次修订) /
02 January 2020(First Revision) |

II. 审定基础/Certification Basis

CAAC审定基础是CCAR21.25、AC-21-AA-2009-25、适用的美国试验和材料标准协会 (ASTM) 标准和CAAC专用要求。

CAAC certification basis is consisted of CCAR21.25, AC-21-AA-2009-25, the applicable American Society for Testing and Materials (ASTM) standards and CAAC's special requirements.

1. 适航标准及其修正案水平/Airworthiness Standards and Amendment Levels

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;

F2295-06 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;

F2339-06 轻型运动飞机火花点火活塞发动机设计和制造标准实施/ Standard Practice for Design and Manufacture of Reciprocating Spark Ignition Engines for Light Sport Aircraft;

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;

F2506-10 轻型运动飞机定距或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;

F2746-09 轻型运动飞机驾驶员操作手册（POH）操作规范/ Standard Specification for Pilot's Operating Handbook (POH) for Light Sport Airplane.

2. 环保标准/Environmental Standards

噪声/Noise: CCAR-36-R1 航空器型号和适航合格审定噪声规定/Noise Standards: Aircraft Type and Airworthiness Certification

3. 等效安全/Equivalent Safety Findings:

(a) F2245 §5.8 详细描述了施加于飞机起落架静载荷的要求。J230-D 型机未按这些要求进行验证,而是按照 FAR23 的结构要求对起落架进行符合性验证。根据 FAR23 进行的试验是在 700kg 的最大起飞重量状态下进行的（对应的 J230-D 型机最大起飞重量是 600kg），包括全尺寸落震试验。对 J230-D 起落架已进行的试验达到了等效安全的水平。

F2245, §5.8 details static loads to be applied to the aircraft undercarriage. The J230-D model was not tested against these requirements as the aircraft has demonstrated compliance with FAR 23 structural requirements for the undercarriage. The FAR 23 testing was carried out for a design MTOW of 700kg (compared with 600kg for the J230-D) and included full-scale drop testing. This testing has demonstrated an equivalent level of safety for the J230-D undercarriage structure.

(b) F2483-05 详细描述了轻型运动飞机维修通则和维修手册编制标准实施。J230-D 型机技术手册未满足该标准的要求,然而却满足 CS-VLA 第 1529 段“维修手册”的要求,达到了等效安全的水平。/

F2483-05 details Standard Practice for Maintenance and the Development of Maintenance Manuals for Light Sport Aircraft. The Technical manual for the J230-D does not claim compliance with this standard. The J230-D Technical Manual meets the requirements of CS-VLA para 1529 “Maintenance manual”. This provides an equivalent level of safety for the J230-D Technical Manual

4. 专用条件/Special Conditions:

无/None

5. 豁免/Exemptions:

无/None

6. CAAC 的专用要求/CAAC's special requirements**6.1 与运行有关的要求/requirements related to operation :**

(1) 高度表应以公制单位指示/The altimeter should be indicated in metric units;

(2) 按照 CCAR21 要求, 下列标记和标牌应至少有中文表述/According to CCAR21 requirements, the following markings and placards should be at least in Chinese:

- 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/ Markings and placards for passenger usage;
- 机上所有向旅客或者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/ Markings and placards for passengers and rescue personal usage in case of emergency evacuation。

6.2 中国航空汽油 RH100/130 (GB 1787-79) 应在飞行员使用手册中规定。

The Chinese RH100/130 fuel (GB1787-79) should be defined in the Pilot Operating Handbook.

2 部分

SECTION 2

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

1.1. 型号设计数据/Type Design Data

J230-D 型飞机主图纸清单 1 版（编号 AVDJ230016）2012 年 10 月 22 日。

Master Drawing List (MDL) AVDJ230016, Issue 1 dated 22 October 2012 pertaining to the J230-D Configuration.

1.2. 机身详细资料/Airframe Details

类型/Type	上单翼，拉力螺旋桨/High Wing Tractor
座椅数/Number of Seats	2
结构材料/Construction Material	复合材料：环氧玻璃钢纤维/Composite: Fibre-Glass Epoxy
起落架/Undercarriage	固定三点式/Fixed: Tricycle
增升装置/High Lift Devices	襟翼/Flaps
纵向操纵/Longitudinal Control	升降舵/Elevator
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	主轮同时刹车/Main Wheel Brakes Operating Together

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

运行类别/Type of Operation	昼间或夜间非特技目视飞行/Day or Night VFR Non-Aerobatic Operation Only
允许机动/ Approved Manoeuvre	正常飞行中任何机动包括/Any manoeuvre necessary for normal flying including: 失速和坡度不超过 60°的急转弯 / stalls and steep turns where the bank angle does not exceed 60°

禁止机动/Prohibited Manoeuvre

故意的尾旋/Intentional Spinning

1.4. 重量平衡/Weight and Balance

最大起飞重量/Maximum Take-Off Weight 600kg

最大着陆重量/Maximum Landing Weight 600kg

重心前限/Most Forward CG 99mm 基准点后/aft of aircraft datum

重心后限/Most rearward Position 277mm 基准点后/aft of aircraft datum

飞机基准/Aircraft Datum 机翼前缘/Wing Leading Edge

座椅站位/ Seat Station 12mm 基准点前/fwd of datum

行李区“A”站位/Baggage Zone “A” Station 670mm 基准点后/aft of datum

行李区“B”站位/Baggage Zone “B” Station 1034mm 基准点后/aft of datum

机翼油箱站位/Fuel Station – Wing Fuel Tanks 451mm aft of datum

消耗油箱站位/Fuel Station – Header Tank 1520mm aft of datum for header tank

1.4.1. 测平措施/Levelling Means

纵向/Longitudinal 水平仪置于门下框/Spirit level placed on lower door frame

横向/Lateral 水平仪位于横穿襟翼十字管驱动轴处/Spirit level placed across Flap Cross Tube Drive Shaft

1.5. 动力装置数据/Powerplant Data

发动机制造商/Engine Manufacturer Jabiru Aircraft Pty. Ltd.

发动机型号/Engine Model JABIRU 3300A

最低燃油等级/Minimum Fuel Grade 100LL 和 100/130 航空汽油; 辛烷值 95 号或 AKI 90 号车用汽油 (无航空汽油情况下可以使用) /
 AVGAS100LL & AVGAS 100/130
 95 Octane RON MOGAS or
 AKI 90 MOGAS may be used if AVGAS not available.
 中国航空汽油 RH100/130 (GB 1787-79) /
 Chinese Gasoline RH100/130 (GB1787-79)

发动机滑油/ Engine Oil AEROSHELL 15W-50, W80, 或/or W100
 (按照适当的使用条件或等效的 BP 或 MOBIL 产品/

	as appropriate to operating conditions) (or Equivalent BP, or MOBIL Products)
燃油总容量/Total Fuel Capacity:	140 升/liters
可用燃油量/Usable Fuel Capacity:	135 升/liters
滑油量/Oil Capacity:	3.5 升/ liters

1.5.1. 起飞操纵/Take-Off Operation

发动机最大转速限制/Maximum Power RPM Limit	3300rpm
发动机最长工作时间限制/Maximum Power Time Limit ..	无限制/No Limit
额定功率/Rated Power	89kW (120hp) / 3300rpm

1.5.2. 温度限制/Temperature Limitations

汽缸头温度/Cylinder Head Temperature	200°C 最大起飞(最大 5 分钟)/ 200°C MAX Take-Off (5 minutes MAX) 180°C 连续/180°C Continuous (用热电偶在火花塞下测量/ Measured by thermocouple under spark plug)
滑油温度/Oil Temperature	118°C 起飞（最大 5 分钟）/118°C Take Off (5 minutes MAX) 100°C 连续（滑油通道入口处测量）/ 100°C Continuous (measured at inlet to Oil Gallery)
发动机转速范围内的限制/ Engine Precautionary Range	无/ There is No Precautionary Range

1.6. 螺旋桨数据/Propeller Data

制造商/Manufacturer	Jabiru Aircraft Pty. Ltd.
型别/Model	C000262 或 4A484E0D/ C000262 or 4A484E0D
桨叶数/Number of Blades	2
直径/Diameter	60 inches(1524 mm)
材料/Material	玻璃纤维覆盖的南洋杉或玻璃纤维凯芙拉环氧树脂复合材料/

Hoop Pine Sheathed in Fibreglass or

Fibreglass/Kevlar/Epoxy/Composite

桨距调定值/Pitch Setting

桨距标称值/Nominal Pitch: 53 inches

最大螺旋桨转速/Maximum Propeller Rotational Speed

3300 rpm

1.7. 性能概述/Summary of Performance不可超越速度/ V_{NE} , Never Exceed Speed ..

140KCAS

最大结构巡航速度/Maximum Structural Cruising Speed

108KCAS

机动速度/Manoeuvring Speed

90KCAS

襟翼展态速度/Flaps Extend Speed

80KCAS

起飞安全速度/Take-Off Safety Speed

65KIAS

最终进近速度/Final Approach Speed

65KIAS

 V_H 最大平飞速度（海平面、最大起飞重量）/ V_H Max Level Flight Speed @ Sea Level, MTOW

120KCAS 125KIAS

 V_C 巡航速度（75%功率、最大起飞重量）/ V_C Cruising Speed at 75% Power & MTOW

108KCAS 112KIAS

失速速度（无动力、襟翼收起）/

Stalling Speed Power Off Flaps Up

45KCAS 47KIAS

失速速度（无动力、襟翼全放下）/

Stalling Speed Power Off Flaps Full Down

40KCAS 42KIAS

 V_D 设计俯冲速度/ V_D , Design Dive Speed

155 KCAS

 V_{DF} 俯冲演示速度/ V_{DF} , Demonstrated Dive Speed

155 KCAS

起飞距离/Take-Off Distance

地面滑跑距离/Ground Roll Distance

226m

总起飞距离/Total Take-Off Distance to 15m

356m

着陆距离/Landing Distance

地面滑跑距离/Ground Roll Distance

141m

总着陆距离/Total Landing Distance from 15m 535m

起飞或着陆时最大侧风速度/

Maximum Crosswind Component for take-off and landing 14 kts.

最大运行高度/Operating Altitude

密度高度/Maximum density altitude. 10,000 feet

1.8. 操纵面开度范围/Control Surface Deflection

操纵面开度范围的总容差为 $\pm 1.0^\circ$ /General Tolerance on Control Surface Deflection is $\pm 1.0^\circ$

操纵面/Control Surface	开度测量结果/Deflection Measured Results
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升降舵上偏/Elevator Up	20°
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升降舵下偏/Elevator Down	10°
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左副翼上偏/LH Aileron Up	24.0°
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左副翼下偏/LH Aileron Down	13.0°
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右副翼上偏/RH Aileron Up	24.0°
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右副翼下偏/RH Aileron Down	13.0°
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左襟翼第一行程（在根部测量） LH Flap 1st Stage Measured at Root	24.5°
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左襟翼第二行程（在根部测量） LH Flap 2nd Stage Measured at Root	40.0°
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右襟翼第一行程（在根部测量） RH Flap 1st Stage Measured at Root	24.5°
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右襟翼第二行程（在根部测量） RH Flap 2nd Stage Measured at Root	40.0°
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方向舵右偏/Rudder Right	20°
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方向舵左偏/Rudder Left	20°
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1.9. 操纵面配平/Control Surface Balancing

操纵面/Control Surface	铰链力矩限制/Limiting Hinge Moment
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方向舵/Rudder	0.09kg.m
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副翼/Aileron 0.07kg.m

升降舵/Elevator 0.15kg.m

1.10. 飞机尺寸/AIRCRAFT DIMENSIONS

翼展/Wingspan, b 9.582m

平均弦长/Mean chord, c 0.990m

翼面积/Wing Area, S 9.5m²

1.11. 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。

Equipments and placards required by the applicable Pilot's Operating Handbook must be installed.

1.12. 最小飞行机组/Minimum Flight Crew

1 名飞行员/1 Pilot

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

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

CAAC 批准的飞行员使用手册 JP-FM-09 Rev 3 及其补充, 或批准的后续版本。

CAAC approved Pilot's Operating Handbook (Document JP-FM-09 Rev 3 and supplements), or later approved revisions.

2.2. 维护检查文件/Instructions for maintenance and inspection

J230-D 飞机技术手册 JTM001 (2 版) 或后续批准的版本/

J230-D Aircraft Technical Manual, JTM001 Issue 2 or later approved revisions.

J230-D 警告类服务通告/服务通告/服务信息/

J230-D Alert Service Bulletin/ Service Bulletin/ Service information

Jabiru 发动机维护手册 JEM0002 (1 版) 或后续批准的版本/

Jabiru Engine Maintenance Manual JEM0002 Issue 1 or later approved revisions.

Jabiru 发动机大修手册 JEM0001 (3 版) 或后续批准的版本/

Jabiru Engine Overhaul Manual JEM0001 Issue 3 or later approved revisions.

Jabiru 螺旋桨技术手册 JMP3L1 (2 版) 或后续批准的版本/

Jabiru Propeller Technical Manual JMP3L1 Issue 2 or later approved revisions.

3. 产品序列号/Product Serial Number

产品序列号为J627及其后续序号/Serial Number J627 and later

III 备注/ NOTES

备注1/ Note 1:

经批准的 Jabiru 230-D 维修计划见飞机技术手册 JTM001（2 版）或后续批准版本/The approved maintenance schedule for the Jabiru 230-D is that specified in the Aircraft Technical Manual JTM001 Issue 2 or later approved revisions.

备注2 /Note 2:

强制检查和退役寿命见J230-D飞机技术手册JTM001（2版）或后续批准版本的适航限制部分/
Mandatory inspections and retirement lives are contained in the Airworthiness Limitations section of the J230-D Aircraft Technical Manual JTM001 Issue 2 or later approved revisions.

备注3 /Note 3:

Avtech 公司将确保所有的服务信息（例如服务通告）贯彻到进口到中国的飞机上，并且将该飞机重大构型变化通知 CAAC /Avtech Pty Ltd will ensure that all service information such as Service Bulletins have been carried out for aircraft imported to China and notify CAAC of major configuration changes for aircraft imported to China.