

中国民用航空局
CIVIL AVIATION ADMINISTRATION OF CHINA

型号合格证数据单
TYPE CERTIFICATE DATA SHEET

编号/No: TC0093A

版次/Revision: 0

型别/Model:

GA20

批准人/Approved By:

徐 峰

职务/Title: 航空器适航审定司司长

日期/date: 2024-12-02

本数据单是型号合格证 (编号: TC0093A) 的组成部分, 它规定了获得该型号合格证的产品满足中国民用航空规章相关适航要求的条件和限制。

This data sheet, which is part of Type Certificate (No: TC0093A), prescribes condition and limitation under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulations.

型号合格证持有人/Type Certificate Holder:

江西冠一通用飞机有限公司

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第一部分：GA20 型别技术数据/SECTION A: Model GA20 TECHNICAL DATA

A I. 概述/General

1. 产品型号/Product model:

GA20
2. 类别/Airworthiness category:

正常类/Normal category
3. 型号合格证申请日期/Type certificate application date:

2016-09-21
4. 型号合格证批准日期/Date of approval:

2024-12-02

A II. 生产依据/Production Basis

生产许可证编号：待定
Production Certificate No.: TBD

A III. 审定基础/Certification Basis

1. 适航要求/Airworthiness requirements

中国民用航空规章第 23 部《正常类、实用类、特技类和通勤类飞机适航规定》(CCAR-23-R3)

CCAR-23-R3 Airworthiness Standards: Normal, Utility, Acrobatic and Commuter Category Airplanes
2. 专用条件/Special Conditions

SC-23-08 GA20 型飞机高强度辐射场(HIRF)保护

SC-23-09 GA20 型飞机闪电间接影响

SC-23-08 GA20 High Intensity Radiation Fields Protection

SC-23-09 GA20 Indirect Effects of Lightning Strike
3. 豁免/Exemptions

无/None
4. 等效安全/Equivalent Level of Safety (ELOS)

GA20-A-1 GA20 型飞机关于 23.805(b)款飞行机组应急出口的等效安全

GA20-EE-1 GA20 型飞机关于第 23.1545(b)(1)(2)(3)(4)条款空速指示器标记的等效安全

GA20-A-1 GA20 ELOS of 23.805(b)Flight crew emergency exits

GA20-EE-1 GA20 ELOS of 23.1545(b)(1)(2)(3)(4)Airspeed indicator
5. 环境保护要求/Environmental Requirements

中国民用航空规章第 36 部《航空器型号和适航合格审定噪声规定》(CCAR-36-R2)

CCAR-36-R2 Noise Standards: Aircraft Type and Airworthiness Certification

A IV. 技术特性和使用限制/Technical Characteristics and Operational Limitations

1. 型号设计定义/Type Design Definition:

见《GA20 型飞机整机构型文件》(编号: GA20-LI-001, A 版)及后续批准版。

《GA20 Airplane Configuration Definition》(Doc. No.: GA20-LI-001, Revision A) and subsequent approved revision.

2. 发动机/Engine:

发动机数量: 1 台
发动机制造商: LYCOMING ENGINES
发动机型号: O-320-D2A
FAA型号合格证编号: E-274
CAAC型号认可证编号: VTC0294E(数据单版次0或后续批准版本)
Engine Number: 1
Engine Manufacturer: LYCOMING ENGINES
Engine Type: O-320-D2A
FAA Type Certificate No.: E-274
CAAC Validation of Type Certificate No.:
..... VTC0294E (Revision of VTCDS: 0 or subsequent approved revision)

3. 发动机限制/Engine Limitations:

a) 起飞和连续工作时发动机的使用限制/Take-off and Continuous Operation Limitations

起飞功率: 160 马力
最大转速: 2700 转/分
最大进气压力: 29.92inHg
最大气缸头温度: 260 °C
最大滑油温度: 118 °C
Take-off power: 160 hp
Maximum RPM: 2700 rpm
Maximum air intake pressure: 29.92inHg
Maximum Cylinder Head Temperature: 260 °C
Maximum Oil Temperature: 118 °C

b) 滑油压力/Oil Pressure

最小值: 25 磅/平方英寸
最大值: 115 磅/平方英寸
Minimum: 25 psi
Maximum: 115 psi

c) 燃油压力/Fuel Pressure

最小值: 0.5 磅/平方英寸
最大值: 8 磅/平方英寸
Minimum: 0.5 psi
Maximum: 8 psi

4. 螺旋桨和螺旋桨限制/Propeller and Propeller Limitations:

a) 螺旋桨/Propeller

螺旋桨数量: 1 套
螺旋桨制造商: SENSENICH PROPELLER MANUFACTURING COMPANY, INC
螺旋桨型号: 74DM6S8-0-60
FAA型号合格证编号: P-886
CAAC型号合格证编号: VTC0296P (数据单版次0或后续批准版本)
Propeller Number: 1
Propeller Manufacturer: SENSENICH PROPELLER MANUFACTURING COMPANY.

INC

Propeller Type: 74DM6S8-0-60
FAA Type Certificate No.: P-886
CAAC Validation of Type Certificate No.:
..... VTC0296P (Revision of VTCDS: 0 or subsequent approved revision)

b) 螺旋桨限制/Propeller Limitations

螺旋桨直径: 1.88 米 (74 英寸)
最大转速: 2700 转/分
标准海平面最大功率静态转速限制:
最小值: 2180 转/分
最大值: 2280 转/分
Propeller Diameter: 1.88 m (74 inch)
Maximum RPM: 2700 rpm
Static RPM at Maximum Throttle Setting, Sea Level, ISA:
Minimum: 2180 rpm
Maximum: 2280 rpm

5. 燃油和燃油容量/Fuel and Fuel Capacity:

a) 燃油/Fuel

燃油牌号..... 100号低铅航空汽油(蓝色)
Fuel Grade..... Avgas 100LL (Blue)

b) 燃油容量/Fuel Capacity

总燃油容量..... 156 升
每个油箱容量..... 78 升
总可用燃油量..... 144 升
总不可用燃油量..... 12 升
Total Fuel Capacity 156 L
Fuel Capacity Each Tank..... 78 L
Total Usable Fuel 144 L
Total Unusable Fuel 12 L

6. 滑油和滑油容量/Oil and Oil capacity:

a) 滑油/Oil

前50小时使用MIL-L-6082或SAE J1966航空级纯矿物油，直到累计50小时或滑油消耗稳定后，使用MIL-L-22851或SAE J1966无灰分散剂滑油。滑油必须符合莱康明发动机公司服务指令SI No.1014最新修订和/或补充的要求。

Use MIL-L-6082 or SAE J1966 Non-Dispersant Mineral Oil during the first 50 hours of operation, or until oil consumption has stabilized. Afterwards, use MIL-L-22851 or SAE J1966 Ashless Dispersant Oil. Oil grades must conform to latest issue of TEXTRON Lycoming Service Instruction No.1014 and/or its supplement.

b) 滑油容量/Oil Capacity

收油池..... 7.6 升(8 夸脱)
Oil Sump..... 7.6 L (8 US quart)

7. 空速限制/Airspeed Limitations (IAS):

不可超越速度..... $V_{NE} = 260$ 千米/小时
最大结构巡航速度..... $V_{NO} = 206$ 千米/小时
机动速度..... $V_O = 201$ 千米/小时
最大襟翼展态速度，起飞襟翼..... $V_{FE} = 200$ 千米/小时
最大襟翼展态速度，着陆襟翼..... $V_{FE} = 185$ 千米/小时
Never Exceed Speed $V_{NE} = 260$ km/h
Maximum Structural Cruising Speed..... $V_{NO} = 206$ km/h
Maneuvering Speed..... $V_O = 201$ km/h
Maximum Flap Extended Speed (T/O) $V_{FE} = 200$ km/h
Maximum Flap Extended Speed (LDG) $V_{FE} = 185$ km/h

8. 运行类型/Kinds of Operation:

昼间目视飞行规则
禁止进入已知结冰条件
VFR (Day)
Flying into known icing conditions is prohibited.

9. 重心范围/Center of Gravity Range:

重心前限: 930kg及以下为基准面后0.980米，1080kg时为基准面后1.108米，其他重量下的重心前限随重量在如上两个值之间线性变化。
重心后限: 720kg时为基准面后1.108米，900kg及以上为基准面后1.208米，其他重量下的重心后限随重量在如上两个值之间线性变化。
Forward limit: 0.980m aft of reference datum for 930kg and less, 1.108m aft of reference datum for 1080kg, with linear variation between the two.
Aft limit: 1.108m aft of reference datum for 720kg, 1.208m aft of reference datum for 900kg and more, with linear variation between the two.

10. 参考基准面/Reference Datum:

参考基准面: 防火墙前立面
Reference Datum: Front plane of firewall

11. 水平测量措施/Leveling Means:

参考《GA20飞机飞行手册》(Doc.GY 01.01)第6章。
Refer to 《GA20 Airplane Flight Manual》(Doc. GY 01.01) Chapter 06.

12. 平均气动弦长/Mean Aerodynamic Chord (MAC):

1420mm, 其前点距离参考基准面 739mm。
1420mm, distance between reference datum and leading edge of MAC is 739mm.

13. 最大重量/Maximum Weights:

最大起飞重量/Maximum Take-off Weight 1080 kg
最大着陆重量/Maximum Landing Weight 1080 kg
最大零油重量/Maximum Zero Fuel Weight 1080 kg

14. 最小飞行机组/Minimum Flight Crew:

最小飞行机组 1 人
Minimum Flight Crew 1 pilot

15. 最大乘客座位数/Maximum Number of Passenger Seats:

最大乘客座位数量 3 座
Max. Number of Passenger Seats 3 seats

16. 最大行李重量/Maximum Luggage Weight:

65kg

17. 最大使用高度/Maximum Operating Altitude:

3048m

18. 飞行载荷系数/Flight Load Factor:

襟翼收上/Flap Retracted: +3.8 g, -1.52 g
襟翼放下/Flap Extended: +3.0 g, -0 g

19. 操纵面运动范围/Control Surface Movement:

副翼: 上偏: $15^{\circ} \pm 2^{\circ}$, 下偏: $15^{\circ} \pm 2^{\circ}$
升降舵: 上偏: $25^{\circ} \pm 1^{\circ}$, 下偏: $10^{\circ} \pm 1^{\circ}$
升降舵调整片: 上偏: $15^{\circ} \pm 1^{\circ}$, 下偏: $15^{\circ} \pm 1^{\circ}$
方向舵: 左偏: $25^{\circ} \pm 2^{\circ}$, 右偏: $25^{\circ} \pm 2^{\circ}$

方向舵调整片: 左偏: $25^{\circ}\pm 2^{\circ}$, 右偏: $4^{\circ}\pm 2^{\circ}$
襟翼: 起飞: $7^{\circ}\pm 1^{\circ}$, 着陆: $30^{\circ}\pm 1^{\circ}$
Aileron: Up: $15^{\circ}\pm 2^{\circ}$, Down: $15^{\circ}\pm 2^{\circ}$
Elevator: Up: $25^{\circ}\pm 1^{\circ}$, Down: $10^{\circ}\pm 1^{\circ}$
Elevator Trim Tab: Up: $15^{\circ}\pm 1^{\circ}$, Down: $15^{\circ}\pm 1^{\circ}$
Rudder: Left: $25^{\circ}\pm 2^{\circ}$, Right: $25^{\circ}\pm 2^{\circ}$
Rudder Trim Tab: Left: $25^{\circ}\pm 2^{\circ}$, Right: $4^{\circ}\pm 2^{\circ}$
Flap: Take-off: $7^{\circ}\pm 1^{\circ}$, Landing: $30^{\circ}\pm 1^{\circ}$

20. 制造序号/Manufacturing Serial Numbers:

MSN2, MSN4, MSN6及以后。
MSN2, MSN4, MSN6 and subsequent.

21. 设备/Equipment:

适用的适航规章(见审定基础)所要求的基本设备必须安装在航空器上以满足型号合格审定的要求。

The basic equipment required in the applicable airworthiness regulations (See Certification Basis) must be installed in the airplane.

设备清单/Equipment List:

《GA20飞机成品清册》(编号: GA20-CA-010, 版次E)及后续批准版。见注释1。

《GA20 Airplane Equipment List》(Doc. No.: GA20-CA-010, Revision E) and subsequent approved revision. See Note 1.

22. 标牌/Markings:

标牌情况见《GA20飞机飞行手册》(Doc.GY 01.01)第2章。见注释2。

Markings information refers to 《GA20 Airplane Flight Manual》(Doc.GY 01.01) Chapter 02. See Note 2.

A V. 批准的技术资料/Approved Technical Documents

1. 飞行手册/AFM

《GA20 飞机飞行手册》(编号: Doc. GY 01.01, 版次 R00)及后续批准版本。

《GA20 Airplane Flight Manual》(Doc.GY 01.01, Revision R00)and subsequent approved revision.

2. 维护手册/Maintenance Manual

《GA20 飞机维护手册-第四章 适航限制》(编号: Doc. GY 02.01, 版次 R00)及后续经批准版本。

《GA20 Airplane Maintenance Manual-Chapter 04 Airworthiness Limitation》(Doc. GY 02.01, Revision R00)and subsequent approved revision.

《GA20 飞机维护手册-第五十一章 结构修理手册》(编号: Doc. GY 02.01, 版次 R00)及后续经批准版本。

《GA20 Airplane Maintenance Manual-Chapter 51 Structural Repair Manual》(Doc. GY 02.01, Revision R00)and subsequent approved revision.

A VI. 注释/Notes

- 注释1: 对于每一架飞机, 在首次颁发适航证时必须提供其现行有效的重量和平衡数据、装载说明和空重重量所包含的设备清单。这些资料包含在《GA20飞机飞行手册》(Doc.GY 01.01)第6章。
- 注释2: 所有在已批准的《GA20飞机飞行手册》(Doc.GY 01.01)、适用的运行规章和审定基础中所要求的标牌必须安装在飞机的适当位置。
- Note 1: For every airplane, up-to-date weight and balance data, loading instructions and equipment list for empty weight must be provided at initial issue of airworthiness certificate. These information are included in 《GA20 Airplane Flight Manual》(Doc.GY 01.01) Chapter 06.
- Note 2: All the placards listed in approved 《GA20 Airplane Flight Manual》(Doc.GY 01.01), applicable operating regulations and certification basis must be installed at appropriate position in the airplane.

第二部分：管理信息/SECTION B: ADMINISTRATIVE INFORMATION**B I. 型号持有人记录/Type Certificate Holder Record**

2024年12月02日，江西冠一通用飞机有限公司获得中国民用航空局颁发的“型号合格证(编号TC0093A)”。

Jiangxi Guanyi Aviation Co, Ltd was granted the Type Certificate (No.TC0093A) for GA20 aircraft by the Civil Aviation Administrator of China(CAAC) on Dec. 02, 2024.

B II. 修订记录/Change Records

无。

None.

结束

- THE END -