

型号认可证数据单

THE VALIDATION DATA SHEET

编号/No: VTC0308A

版次/Revision: 0

型号/Type:

M20R

M20TN

批准人/Approved By: Yang Zhenmei



职务 /Title: Deputy Director General of
CAAC-AAD

日期/Date: 2014-12-9

本数据单是型号认可证（编号：VTC0308A）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: VTC0308A), prescribes condition and limitation under which the product for which the Validation of 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:

Mooney International Corporation
Kerrville, TX

有效页清单/List of effective pages:

页数/Pages	1	2	3	4	5	6	7	8	10	11	12	13	14	15	16	
版次/Revision	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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第 1 部分 概述

SECTION 1 GENERAL

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	编号/Number: VTC0308A 版次/ Revision: 0 日期/Date: 2014-12-9	编号/Number: 2A3 版次/ Revision: Revision 55 日期/Date: November 26,2014
历史 History	编号/Number: 版次/ Revision: 日期/Date:	编号/Number: 版次/ Revision: 日期/Date:

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 Type Certificate Number:

2A3

型号合格证持有人/Type Certificate Holder:

Mooney International Corporation
Kerrville, TX

型号合格证持有人记录

Type Certificate Holder Record

Mooney Aviation Company, Inc. transferred TC 2A3 to Mooney International Corporation on October 11, 2013.
Mooney Airplane Company, Inc transferred TC 2A3 to Mooney Aviation Company, Inc. on July 23, 2010.
Mooney Aircraft Corporation transferred TC 2A3 to Mooney Airplane Company, Inc. May 6, 2002.
Aerostar Aircraft Corporation of Texas transferred TC 2A3 to Mooney Aircraft Corporation October 25, 1973.
Mooney Aircraft Corporation transferred TC 2A3 to Aerostar Aircraft Corporation of Texas on June 17, 1970.
Mooney Aircraft Inc. transferred TC 2A3 to Mooney Aircraft Corporation on March 10, 1969.
Type Certificate initial issuance to Mooney Aircraft Inc 8/24/1955.

5. 制造厂/Manufacturer:

Mooney International Corporation
Kerrville, TX

第 2 部分
SECTION 2

I. 型号: M20R, 4PCLM (正常类) FAA 批准日期: 1994 年 7 月 30 日
Model M20R, 4PCLM (Normal Category), approved June 30, 1994

发动机/Engine	Teledyne Continental Motors, IO-550-G(5); -G(6)*; 或 -G(7) , or -G(10) (型号合格证编号: E350, 型号认可证编号 VTC0179E) 当要求干垫适配器时, *(6) 构型与(5)构型相同, 可使用 *(6) 构型 Teledyne Continental Motors, IO-550-G(5); -G(6)*; or -G(7), or -G(10) *(6) configuration is same as (5) configuration, and may be used, when dry pad adapter is required.	
燃油/Fuel	100LL 或 100 最低级航空汽油 100LL or 100 minimum grade aviation gasoline	
发动机限制 Engine limits	对所有使用状态, 2500 rpm (280 hp) For all operations, 2500 rpm (280 hp)	
空速限制/Airspeed Limits:	机动/Maneuvering	146 mph (127 knots) IAS
	不可逾越/Never exceed	225 mph (195 knots) IAS
	襟翼展开 Flaps extended	127 mph (110 knots) IAS
	起落架收起 L.G. retraction	122 mph (106 knots) IAS
	起落架伸出 L.G. extension	161 mph (140 knots) IAS
	起落架放下 L.G. extended	190 mph (165 knots) IAS
	最大结构巡航 Maximum structural cruising	200 mph (174 knots) IAS
重心范围/C.G. range	(+46.0) 到 (+51.0) 3368 lbs 时 / (+46.0) to (+51.0) at 3368 lbs	
起落架放下/(L.G. extended)	(+44.0) 到 (+51.0) 3300 lbs 时 / (+44.0) to (+51.0) at 3300 lbs	
S/N29-001 及之后/S/N 29-0001 and on	(+41.0) 到 (+51.0) 2430 lbs 或小于 / (+41.0) to (+51.0) at 2430 lbs. or less	
空机重心范围	不适用	
Empty Weight C.G. Range:	None	
最大重量/Maximum weight	3200 lbs. 着陆, 3368 lbs. 起飞对 for S/N 29-0001 之后 3200 lbs. landing, 3368 lbs. takeoff for S/N 29-0001 and on	
座位数/No. of seats	4 (2 at +34.0) to +39.0, 2 at +70.7)	
最大行李/Maximum baggage	120 lbs. (+101.5), 10 lbs. (+126.0)	
燃油容量 (可用) /Fuel capacity (useable)	89 U.S. 加仑 (机翼上的两个集成油箱 at +49.23). (可用) 不可用燃油量见注 1. 89 U.S. gallons (two integral tanks in wings at +49.23). (usable) See Note 1 for data on unusable fuel.	

滑油容量/Oil capacity	8 quarts (-24.76 in.).			
最大运行高度/ Maximum operating altitude	见注 19/See Note 19			
控制面位移/ Control surface movements	襟翼/Wing flaps	起飞位/T.O. position	下/Down	10° ± 1°
		着陆/Landing	下/Down	33° +0 / -2°
	副翼/Aileron	上/Up 12½° to 14½°	下/Down	8° ± 1°
	副翼静态位/Aileron static position		下/Down	0° to 2°
	升降舵/Elevator	上/Up 22° +0°, -2°	下/Down	22° +0°, -2°
	方向舵/Rudder	左/Left 23° to 24°	右/Right	23° to 24°
	安定面/Stabilizer (L.E.)	上/Up 3.8° to 4.2°	下/Down	6.5° to 7.0°
升降舵配平辅助/ Elevator trim assist	安定面置于最大正位和升降舵全下位, 调整旋转扣使钢索张力为 14.0 至 16.0lb(张立基最大允许读数为 20lb)。检查钢索头与滑轮应有整的间隙。 With stabilizer set at maximum positive setting and elevators Full down. Adjust turn buckle for a 14.0 to 16.0 lb. tensionmeter reading on cable, tensionmeter reading (20 lb. maximum permissible). Check for positive clearance between cable end and pulley sheave.			
顶水平方式/ Leveling means	顶水平螺钉位于左侧尾椎舱门上, 水准仪置于螺钉上调水平。 Leveling screws located above the tailcone access door on left side. Spirit level is to be placed on screws for level.			
序列号范围/ Serial Nos. eligible	系列号 No. 29-326 至 29-TBA Serial No. 29-0001 thru 29-TBA			
出口资格/ Export eligibility	见注 14/See Note 14.			
所需设备/Required equipment	除 CAR 要求的基本设备之外, 须安装下述设备: 1(a) (d) and (b) or (c), 2(a) (d) and (b) or (c), 3(a)(b)(c) or (d), 101(a) (b) or (c), 102(a) or (b) or (c), 103(a) or (b) or (c), 104(a) or (b) or (C) or (d), 201(a), 202(a), 205(a), 206(a), 301(a), 302(a) or (b), 303(a)(b), 401 per S/N, 601(a), 602(a) or (d) and (b) or (c). In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed: 1(a) (d) and (b) or (c), 2(a) (d) and (b) or (c), 3(a)(b)(c) or (d), 101(a) (b) or (c), 102(a) or (b) or (c), 103(a) or (b) or (c), 104(a) or (b) or (C) or (d), 201(a), 202(a), 205(a), 206(a), 301(a), 302(a) or (b), 303(a)(b), 401 per S/N, 601(a), 602(a) or (d) and (b) or (c).			
基准/Datum	M20R, 基准是前起落架支持螺栓中心线 13 英寸后, 是机身的 0.00 站位。 For M20R, datum is 13 inches aft of the centerline of the nose gear support bolts and is fuselage station 0.00. 机翼前缘, 在机翼站位 59.21, 位于机身站位 0.00 之后 33.00 英寸。 The Leading Edge of the wing, at wing station 59.25, is 33.00 inches aft of fuselage station 0.00.			

FAA 审定基础/FAA Certification Basis: Model M20R CAR 3 effective November 1, 1949, as amended to May 18, 1954, paragraph 3.74 as amended to August 25, 1955; paragraphs 3.109, 3.112, 3.115, 3.118, 3.120, and 3.441 of CAR 3 effective May 15, 1956; as amended to October 1, 1959.

In lieu of corresponding CAR 3 paragraphs, where applicable - FAR 23, effective February 1, 1965; paragraph 23.29 as amended to March 1, 1978, paragraph 23.33, as amended to September 14, 1969; paragraphs 23.901 through 23.953, 23.955 through 23.963, 23.967 through 23.1063, as amended to September 14, 1969; paragraphs 23.1091 through 23.1105, as amended to February 1, 1977; paragraphs 23.1121 through 23.1193, 23.1351 through 23.1399 as amended to September 14, 1969, paragraphs 23.1401 as amended to August 11, 1971; paragraphs 23.1441 through 23.1449 as amended to June 17, 1970, paragraph 23.1521 as amended to December 1, 1978, paragraph 23.1525; paragraph 23.1527, as amended to September 14, 1969; paragraphs 23.1545, 23.1549, 23.1553 as amended to December 1, 1978, paragraph 23.1557, as amended to December 20, 1973; paragraph 23.1559 as amended to March 1, 1978; paragraph 23.1563 as amended to September 14, 1969; paragraph 23.1583 as amended to December 1, 1978, FAR 36 effective September 20, 1976, as amended to December 22, 1988. (See Note 22 and 23)

CAAC 认可审定基础 /CAAC Validation Certification Basis: 基于《民用航空产品和零部件合格审定规定》(CCAR-21-R3)和履行计划程序(美国 and 中华人们共和国双边适航协定)穆尼 M20R 型号 CAAC 认可基础定义为: Basing on Certification Procedures for Civil Aviation Products and Parts (CCAR-21)and Schedule of Implementation Procedures (U.S./People's Republic of China Bilateral Airworthiness Agreement), the CAAC validation basis of Mooney M20R was defined as follows:

1. FAA 审定基础/Certification basis as established by FAA;
2. 附加技术条件/Additional Technical Conditions;

CAAC 拟增加以下附加技术条件/CAAC intends to add the following Additional Technical Conditions:

CCAR21.29 (五) 有关适航规章、噪声规定所要求的手册、标牌、目录清单和仪表标记应当用中文或英文书写, 下类各项应当至少有中文表述:

CCAR21.29 (五) The manuals, placards, listings and instrument markings required by the applicable airworthiness regulation, noise requirements, are presented in Chinese or English language. Below items must be at least in Chinese language.

1. 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。/All literal markings and placards on an airplane used for indicating, warning and informing passengers.
2. 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。/All literal markings and placards on an airplane used for indicating passengers or outboard rescue personnel of the location of doors and their means of opening.

3.旅客可能使用的机上所有应急设备的操作、使用说明。/ The operation and use instructions of emergency equipments which passengers will use.

生产基础/
Production basis

PC13SW: 29-0326 至 29-0519; PC18SW: 无整机, 只有零部件; PC19SW: 29-0520 及后续机型。
PC13SW: 29-0326 thru 29-0519; PC18SW: No Aircraft Produced, Spare Parts Only; PC19SW: 29-0520 and subsequent.

设备/Equipment

这里所列设备的所有设备的安装批准, 已由航空器制造上获得。
Approval for the installations of all items of equipment listed herein has been obtained by the aircraft manufacturer.

螺旋桨和螺旋桨附件 -	机身站位	重量	F.S.
Propeller and Propeller Accessories -	Fuselage Station Location:	Weight	F.S.

1. Hartzell 恒速螺旋桨装置/Hartzell constant speed propeller installation

(a)Hartzell 桨毂、螺旋桨型号/ Hartzell Hub/Blade Model Number PHC-J3YF-1RF/F7693DF(B)-2 or PHC-J3YF-1RF/F7693DF-2
(型号认可证编号 VTC0204P)

桨叶站位 30.0 英寸处桨距设置/Pitch settings at 30" blade station:

低/Low 16.5° ±0.2°

高/High 38.0° ±1.0°

直径/Diameter - 76.0 in. - 1/2 Inch 允许打磨/reduction permitted.

- (b) 桨毂头组件/Spinner assy. Hartzell A-2295-10P (polished)
- (c) 螺旋桨控制器/Propeller governor, McCauley C290D3X/T45
- (d) 螺旋桨控制器/Propeller governor, McCauley D-20960-1 (可替换/Alternate)

发动机和发动机附件 (燃油和滑油系统) Engines and Engine Accessories (Fuel and Oil System)

101. 燃油泵/Fuel Pumps

- | | | |
|--|---------------|-------|
| (a) 电动/Electric, Weldon, A8152B | 1.9 lbs. | +6.50 |
| (b) 发动机驱动/Engine driven, TCM, 649364-4A1 | 2.0 lb. | -9.95 |
| (c) 发动机驱动/Engine Driven, CMI, 655921-4A7..... | 2.0 lb | -9.95 |

102. 滑油散热器/Oil Radiator

- | | | |
|---------------------------------|---------------|--------|
| (a) TCM, 649479 or | 7.8 lbs. | -12.24 |
| (b) TCM, 654585A1 | 7.8 lbs. | -12.24 |
| (c) Niagra Thermal, 10281A..... | 7.8 lbs. | -12.24 |

103. 进气空气滤/Induction Air Filter

- | | | |
|--------------------------------|------------|-------|
| (a) Air-Maze, ED04028..... | 1 lb..... | -36.0 |
| (b) Donaldson, P5242257 | 1 lb. | -36.0 |
| (c) Challenger, CPE-11179..... | 1 lb..... | -36.0 |

104. 启动机/Starters

- | | | |
|---|----------------|------|
| (a) 启动机, 齿轮式/Starter, geared, TCM, 646275 | 14.5 lbs. | -9.1 |
| (b) 启动机, 齿轮式/Starter, geared, TCM, 655566..... | 9.4 lbs. | -9.1 |
| (c) 启动机, 齿轮式/Starter, CMI, 657596..... | 9.4 lb..... | -9.1 |
| (d) 启动机, 齿轮式/Starter, Skytec, C24ST3..... | 6.9 lb..... | -9.1 |

起落架/Landing Gear:

201. 两个主机轮/刹车组件/Two Main Wheel/Brake Assemblies, 6.00-6
 (a) *Cleveland 机轮组件/Wheel Assembly,
 机轮型号/Wheel, Model No. 40-86/刹车组件 Brake Assembly No. 30-56A..... 19 lbs. See Note 8.
 *可选/Optional - Cleveland, 40-86E, 30-56D or McCauley D-30670-9, -10, -11, -12.
202. 两个主机轮, 6 层等级, 轮胎 Two main wheel, 6-ply rating, tires
 (a) 6.00-6, Type III w/ 常规管 regular tubes..... 17 lbs. See Note 8.
205. 一个前机轮 One, Nose Wheel, 5.00-5
 (a) *Cleveland. wheel assembly, Model 40-87..... 2.6 lbs. See Note 8.
 **Optional - McCauley D-305000
206. 一个主机轮, 6 层等级, 轮胎 One, Nose Wheel, 6-Ply Rating tire
 (a) 5.00-5, Type III w/ regular tube 7 lbs. See Note 8.

电气设备 Electrical Equipment:

301. 发电机/Alternator
 (a) 发电机/Alternator, TCM, 649304 (100 amp)..... 17.5 lb. -38.05
 (发电机组件/Alternator Assy. -649305 包括毂, 等 includes Hub, etc.)
302. 电池/Batteries
 (a) Gill, (Teledyne) G-243 (2 required)..... 29.5 lb. (ea.)..... +146.0
 (b) Concorde, RG24-11M or -15 (2 required)..... 26.5 lb. (ea.)..... +146.0
303. 稳压器/Voltage Regulators
 (a) MAC, 800270-501 (发电机 alternator)..... 0.3 lb. (ea.) +16.25
 (b) MAC, 800270-523 (低增压泵 low boost pump)..... 0.25 lbs. +16.25

内设设备 Interior Equipment:

401. FAA 批准的飞机飞行手册/FAA Approved Airplane Flight Manual
 (a) 驾驶员操作手册/Pilot's Operating Handbook, 日期/dated 11/99 for S/N 29-0183, 29-0200 至/thru 29-0494
 (b) 驾驶员操作手册/Pilot's Operating Handbook, 日期/dated 12/07 for S/N 29-0495 至/thru 29-519
 (c) 驾驶员操作手册/Pilot's Operating Handbook, 日期/dated 11/14 for S/N 29-0520 至/thru 29-TBA

其它/Miscellaneous:

- | 601. 系统/Systems | <u>Weight</u> | <u>F.S.</u> |
|--|---------------|-------------|
| (a) 失速、起落架告警/Stall/Gear Warn, IAI-950D-0309-000..... | 1.1 lb. | +4.24 |
| (b) 氧气装置/Oxygen installation, 870029 or 870032 (see note 19) | | |
602. 真空泵/Vacuum Pumps – N/A

II. 型号: M20TN, 4PCLM (正常类) FAA 批准日期: 2006 年 10 月 15 日

Model M20TN, 4PCLM (Normal Category), approved October 15, 2006

发动机/Engine	Teledyne Continental Motors, TSIO-550-G(1), -G(2), -G(3), -G(4), -G(5) (型号合格证编号: E5SO, 型号认可证编号 VTC0180E)			
燃油/Fuel	100LL 或 100 最低级航空汽油 100LL or 100 minimum grade aviation gasoline			
发动机限制 Engine limits	对所有使用状态, 2500 rpm (280 hp) For all operations, 2500 rpm (280 hp)			
空速限制/Airspeed Limits:	机动/Maneuvering		146 mph (127 knots) IAS	
	不可逾越/Never exceed		225 mph (195 knots) IAS	
	襟翼展开 Flaps extended		127 mph (110 knots) IAS	
	起落架收起 L.G. retraction		122 mph (106 knots) IAS	
	起落架伸出 L.G. extension		161 mph (140 knots) IAS	
	起落架放下 L.G. extended		190 mph (165 knots) IAS	
	最大结构巡航 Maximum structural cruising		200 mph (174 knots) IAS	
重心范围/C.G. range	(+46.0) 到 (+51.0) 3368 lbs 时 / (+46.0) to (+51.0) at 3368 lbs			
起落架放下/(L.G. extended)	(+44.0) 到 (+51.0) 3300 lbs 时 / (+44.0) to (+51.0) at 3300 lbs			
S/N29-001 及之后/S/N 29-0001 and on	(+41.0) 到 (+51.0) 2430 lbs 或小于 / (+41.0) to (+51.0) at 2430 lbs. or less			
空机重心范围	不适用			
Empty Weight C.G. Range:	None			
最大重量/Maximum weight	3200 lbs. 着陆, 3368 lbs. 起飞对 for S/N 31-0001 至 31-TBA 3200 lbs. landing, 3368 lbs. takeoff -S/N 31-0001 thru 31-TBA			
座位数/No. of seats	4 (2 at +34.0) to +39.0, 2 at +70.7)			
最大行李/Maximum baggage	120 lbs. (+101.5), 10 lbs. (+126.0)			
燃油容量 (可用) /Fuel capacity (useable)	89 U.S. 加仑可用(机翼上的两个集成油箱 at +49.23). 不可用燃油量见注 1. 89 U.S. gallons usable (two integral tanks in wings at +49.23). See Note 1 for data on unusable fuel.			
滑油容量/Oil capacity	8 quarts (-24.76 in.).			
最大运行高度/ Maximum operating altitude	见注 19/See Note 19			
控制面位移/ Control surface movements	襟翼/Wing flaps	起飞位/T.O. position	下/Down	10° ± 1°
		着陆/Landing	下/Down	33° +0 / -2°
	副翼/Aileron	上/Up 12½° to 14½°	下/Down	8° ± 1°
	副翼静态位/Aileron static position		下/Down	0° to 2°

升降舵/Elevator	上/Up	22° +0°, -2°	下/Down	22° +0°, -2°
方向舵/Rudder	左/Left	23° to 24°	右/Right	23° to 24°
安定面/Stabilizer (L.E.)	上/Up	3.8° to 4.2°	下/Down	6.5° to 7.0°

升降舵配平辅助/ Elevator trim assist	安定面置于最大正位和升降舵全下位, 调整旋转扣使钢索张力为 14.0 至 16.0lb(张立基最大允许读数为 20lb)。检查钢索头与滑轮应有整的间隙。 With stabilizer set at maximum positive setting and elevators Full down. Adjust turn buckle for a 14.0 to 16.0 lb. tensionmeter reading on cable, tensionmeter reading (20 lb. maximum permissible). Check for positive clearance between cable end and pulley sheave.
顶水平方式/Leveling Means	顶水平螺钉位于左侧尾椎舱门上, 水准仪置于螺钉上调水平。 Leveling screws located above the tailcone access door on left side. Spirit level is to be placed on screws for level.
序列号范围/ Serial Nos. eligible	系列号 No. 31-0001 至 31-TBA Serial No. 31-0001 thru 31-TBA
所需设备/Required equipment	除 CAR 3 要求的基本设备之外, 须安装下述设备: 1(a), (b) or (c) or 2(d)(e)(f) for Type S Mod, 101(a) (b) or (a)(c), 102(a)(b) or (c), 103(a), 104(a)(b))(c) or (d), 201(a), 202(a), 205(a), 206(a), 301 (a)(c) or (b)(c), 302(a) or (b), 303 (a), 401 per S/N, 601(a). In addition to the pertinent required basic equipment specified in CAR 3, following items of equipment must be installed: 1(a), (b) or (c) or 2(d)(e)(f) for Type S Mod, 101(a) (b) or (a)(c), 102(a)(b) or (c), 103(a), 104(a)(b))(c) or (d), 201(a), 202(a), 205(a), 206(a), 301 (a)(c) or (b)(c), 302(a) or (b), 303 (a), 401 per S/N, 601(a).
基准/Datum	M20TN, 基准是前起落架支持螺栓中心线 13 英寸后, 是机身的 0.00 站位。 For M20TN, datum is 13 inches aft of the centerline of the nose gear support bolts and is fuselage station 0.00. 机翼前缘, 在机翼站位 59.21, 位于机身站位 0.00 之后 33.00 英寸。 The Leading Edge of the wing, at wing station 59.25, is 33.00 inches aft of fuselage station 0.00.
FAA 审定基础/FAA Certification Basis:	Model M20TN CAR 3 effective November 1, 1949, as amended to May 18, 1954, paragraph 3.74 as amended to August 25, 1955; paragraphs 3.109, 3.112, 3.115, 3.118, 3.120, and 3.441 of CAR 3 effective May 15, 1956, as amended to October 1, 1959. In lieu of corresponding CAR 3 paragraphs, where applicable FAR 23, effective February 1, 1965; paragraph 23.29 as amended to March 1, 1978, paragraph 23.33, as amended to September 14, 1969; paragraphs 23.20 1 and 23.203 as amended March 11, 1996; paragraphs 23.45 thru 23.77 as amended to March 11, 1996; paragraph 23.77 1 as amended to December 20, 1973; paragraph 23.773 as amended to September 7, 1993; paragraphs 23.901 through 23.953, 23.955 through 23.963, 23.967 through 23.1063, as amended to September 14, 1969; paragraphs 23.1091 through 23.1105, as amended to February 1, 1977; paragraphs 23.1121 through 23.1193 as amended to September 14, 1969; paragraph 23.1301 as amended to September 1, 1997; paragraph 23.1305 as amended to July 25, 1996; paragraphs 23.1307, 23.1311, 23.1321 as amended to March 11, 1996; paragraph 23.1322 as amended to May 10, 1993; paragraphs 23.1323 thru

23.1326 as amended to March 11, 1996; paragraph 23.1327 as amended September 1, 1977; paragraph 23.1329 as amended to March 11, 1996; 23.1331 as amended to May 10, 1993; 23.1337, 23.1359 as amended to March 11, 1996; 23.1351 through 23.1399 as amended to September 14, 1969; paragraphs 23.1401 as amended to August 11, 1971; paragraphs 23.1441 through 23.1449 as amended to June 17, 1970, paragraph 23.1521 as amended December 1, 1978; paragraph 23.1525; paragraph 23.1527, as amended to September 14, 1969; paragraph 23.1529 as amended to October 14, 1980; 23.1541 as amended to March 1, 1978; 23.1543 as amended to February 1, 1997; 23.1553 as amended to December 1, 1978; paragraph 23.1557, as amended to December 20, 1973; paragraph 23.1559 as amended to March 1, 1978; paragraph 23.1563 as amended to September 14, 1969; paragraph 23.1583 as amended to December 1, 1978; paragraph 23.1587 as amended to March 11, 1996; FAR 36, effective September 20, 1976, as amended to December 22, 1988. (See Note 22 and 23)

CAAC 认可审定基础 /CAAC
Validation Certification Basis:

基于《民用航空产品和零部件合格审定规定》(CCAR-21-R3)和履行计划程序(美国 and 中华人们共和国双边适航协定)穆尼 M20TN 型号 CAAC 认可基础定义为:
Basing on Certification Procedures for Civil Aviation Products and Parts (CCAR-21)and Schedule of Implementation Procedures (U.S./People's Republic of China Bilateral Airworthiness Agreement), the CAAC validation basis of Mooney M20TN was defined as follows:

1. FAA 审定基础/Certification basis as established by FAA;
2. 附加技术条件/Additional Technical Conditions;

CAAC 拟增加以下附加技术条件/CAAC intends to add the following Additional Technical Conditions:

CCAR21.29 (五) 有关适航规章、噪声规定所要求的手册、标牌、目录清单和仪表标记应当用中文或英文书写, 下类各项应当至少有中文表述:

CCAR21.29 (五) The manuals, placards, listings and instrument markings required by the applicable airworthiness regulation, noise requirements, are presented in Chinese or English language. Below items must be at least in Chinese language.

1. 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。/All literal markings and placards on an airplane used for indicating, warning and informing passengers.
2. 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。/ All literal markings and placards on an airplane used for indicating passengers or outboard rescue personnel of the location of doors and their means of opening.
3. 旅客可能使用的机上所有应急设备的操作、使用说明。/ The operation and use instructions of emergency equipments which passengers will use.

PC13SW: 31-0001 至 31-0127; PC18SW: 非整机,仅零部件; PC19SW 31-0128 及后续机。

PC13SW: 31-0001 thru 31-0127; PC18SW: No Aircraft Produced, Spare Parts Only; PC19SW 31-0128 and subsequent.

生产基础/

Production basis

设备/Equipment

这里所列设备的所有设备的安装批准, 已由航空器制造上获得。

Approval for the installations of all items of equipment listed herein has been obtained by the aircraft manufacturer.

螺旋桨和螺旋桨辅助设备/Propeller and Propeller Accessories

	Weight	F.S.
1. Hartzell 恒速螺旋桨装置/Hartzell constant speed propeller installation		
(a) Hartzell 桨毂/桨叶型号/Hartzell Hub/Blade Model Number PHC-J3YF-1RF/F7693DF-2 or	80.0	-49.4
PHC-J3YF-1RF/F7693DF(B)-2	80.0	-49.5
(型号认可证编号 VTC0204P)		
注: (B) 标示靴状螺旋桨 Note: The (B) denotes a booted prop (for TKS)		
30 英寸桨叶站位桨距角/Pitch Settings at 30" blade station:		
低/Low 16.5° ±0.2°		
高/High 38.0° ±1.0°		
直径/Diameter – 76.0 in. –1/2 inch 允许打磨/reduction permitted.		
(b) 桨毂头组件/Spinner assy, Hartzell, A-2295-10P (抛光 polished)		
(c) 螺旋桨控制器/Propeller governor, McCauley, D-20960-1		
2. Hartzell 恒速螺旋桨装置/Hartzell constant speed propeller installation		
(d) Hartzell 桨毂/桨叶型号/Hartzell Hub/Blade Model Number PHC-J3YF-1RF/F7498 or	75.0	-49.5
PHC-J3YF-1RF/F7498(B)	75.0	-49.5
注: (B) 标示靴状螺旋桨/Note: The (B) denotes a booted prop (for TKS)		
30 英寸桨叶站位桨距角/Pitch Settings at 30" blade station:		
低/Low 17.° ±0.2°		
高/High 38.0° ±1.0°		
直径/Diameter – 76.0 in. max., 74.0 in. min.,		
(e) 桨毂头组件/Spinner assy, Hartzell, A-2295-10		
(f) 螺旋桨控制器/Propeller governor, McCauley, D-20960-1		

发动机和发动机附件 (燃油及滑油系统) Engines and Engine Accessories (Fuel & Oil Systems)

101. 燃油泵 Fuel Pumps		
(a) 电动/Electric, Dukes 5791-00-1		
(b) 发动机驱动/Engine Driven, TCM, 649362-44A7		
(c) 发动机驱动/Engine Driven, TCM, 649368-60A6		
102. 滑油散热器/Oil Radiator		
(a) TCM, 649479	7.8	-12.24
(b) TCM, 654585	7.8	-12.24

(c) Niagara Thermal, 10281A

7.8 -12.24

103. 进气空气滤/Induction air filter

(a) Challenger Aviation Products, CPE 1179

104. 启动机/Starter

(a) 启动机, 齿轮式/Starter, Geared TCM, 646275

14.5 -9.11

(b) 启动机 Starter, TCM – 655566

9.4 -9.11

(c) 启动机 Starter, CMI – 657596

6.9 -9.11

起落架/Landing Gear

201. 两个主机轮/刹车组件/Two, Main Wheel/brake assy, 6.00-6

(a) Cleveland, 机轮组件/Wheel Assembly, Model No. 40-90-A/

刹车组件/Brake Assembly No. 30-65..... See NOTE 8

202. 两个主机轮, 6 层等级, 轮胎/Two, main wheel, 6-ply rating tires,

(a) 6.00-6, Type III, w/ regular tube See NOTE 8

205. 一个前机轮/One, nose wheel, 5.00-5

(a) ** Cleveland, Model 40-87 2.6 lbs. See Note 8.

** Optional-McCauley, D-305000

206. 一个主机轮, 6 层等级, 轮胎/One, nose wheel, 6-ply rating tire,

(a) 5.00-5, Type III, w/regular tube 7 lbs. See Note 8.

电气设备/Electrical Equipment

301. 发电机/Alternator

(a) 发电机/Alternator, TCM, 656802

(b) 发电机/Alternator, Kelly Aerospace, ES-10024-1 (100 amp)

(c) 发电机, 备用/Alternator, Stand-by, B&C, BC410-1

302. 蓄电池/Batteries

(a) Gill (Teledyne), G-243 (2 reqd.) or 29.5 +146.0

(b) Concorde, RG24-1 1M or -15 (2 reqd.) 26.5 +146.0

303. 稳压器/Voltage Regulators

(a) Zeftronics, A25EAM, (发电机/Alternator)

内设备/Interior Equipment

401. FAA 批准的飞机飞行手册/FAA Approved Airplane Flight Manual

(a) 驾驶员操作手册/Operating Pilots Operating Handbook, 003900 日期 dated 11/2006 for S/N 31-0001 至 thru 31-0089.

(b) 驾驶员操作手册/Operating Handbook, 003901 日期 dated 04/02/2008 S/N 31-0001 thru 31-TBA for M20TN Type S equipped with Hartzell Propeller Hub/Blade Model Number PHC-J3YF-1RF/F7498 or PHC-J3YF-1RF/F7498(B).

(c) 驾驶员操作手册补充页/Pilots Operating Handbook Supplement, 003900A dated 12/2008 for S/N 31-0001 thru 31-0089 – When equipped with Heater Modification Kit Only.

(d) 驾驶员操作手册补充页/Pilots Operating Handbook Supplement, 003901A dated 12/2008 for S/N 31-0001 thru 31-TBA M20TN Type S aircraft – When equipped with Heater Modification Kit Only.

(e) 驾驶员操作手册/ Pilots Operating Handbook, 003901B dated 11/21/14 for S/N 31-0128 thru 31-TBA M20TN Type S equipped with Hartzell Propeller Hub/Blade Model Number PHC-J3YF-1RF/F7498 or PHC-J3YF-1RF/F7498(B).

其它/Miscellaneous:

601. 系统/Systems

(a) 氧气装置/Oxygen instl, 870029 or 870032 (see note 19)

602. 真空泵/Vacuum Pumps – N/A

第 3 部分 注释 SECTION 3 Notes

适用于所有型号的注释/NOTES APPLICABLE TO ALL MODELS (只对适用的 VTC 型号注释标注了中文说明)

NOTE 1:

目前重量和平衡报告, 包括包含在审定空机重量和载重手册的设备清单, 如果需要, 必须是每架飞机原始审定和其后审定的设备清单 (除货运类有批准的重量控制系统)。必须包括在审定的空机重量及相应中心不可用燃油 (不包括在燃油量) 如下: 36 lbs. (+49.23) 对 M20R (S/N 29-0001 和之后); 36 lbs. (+49.23) 对 M20TN (S/N 31-0001 和之后)。

Current weight and balance report, including list of equipment included in certificate empty weight and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system.) The certificated empty weight and the corresponding center of gravity location must include unusable fuel (not included in fuel capacity) as follows: 36 lbs. (+49.23) for the M20R (S/N 29-0001 and ON); 36 lbs. (+49.23) for the M20TN (S/N 31-0001 and ON).

NOTE 2: 标牌/Placards:

a. 以下标牌必须置于驾驶员前视野范围内/The following placards must be displayed in front of and in clear view of the pilot.

- (1) 保留/Reversed.
- (2) 保留/Reversed.
- (3) 保留/Reversed.
- (4) 保留/Reversed.
- (5) 保留/Reversed.
- (6) 保留/Reversed.
- (7) 保留/Reversed.
- (8) 保留/Reversed.
- (9) 保留/Reversed.
- (10) 保留/Reversed.
- (11) 保留/Reversed.

(12) M20R- - (S/N 29-0001 和之后) “安装在飞机上的标识标牌包含了本架飞机正常类运行时必须符合的使用限制。如已安装所要求的设备, 且正常工作, 本架飞机可按批准的昼夜目视/仪表飞行规则运行。禁止在已知结冰条件下飞行。禁止特技飞行包括尾旋。按此类运行必须遵守其它使用限制包含在飞机飞行手册中。机动速度 (3368LBS) 127 KIAS; (2232 LBS.) 103 KIAS.”

M20R - (S/N 29-0001 and ON) "THE MARKINGS AND PLACARDS INSTALLED IN THIS AIRPLANE CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THE NORMAL CATEGORY. THIS AIRPLANE IS CERTIFIED FOR DAY AND NIGHT VFR/IFR OPERATION WHEN THE REQUIRED EQUIPMENT IS INSTALLED AND OPERATIONAL. FLIGHT INTO KNOWN ICING CONDITIONS IS PROHIBITED. NO AEROBATIC MANEUVERS, INCLUDING SPINS, ARE APPROVED. OTHER OPERATING LIMITATIONS WHICH MUST

BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THIS CATEGORY ARE CONTAINED IN THE AIRPLANE FLIGHT MANUAL. MANEUVERING SPEED (3368 LBS.) 127 KIAS; (2232 LBS.) 103 KIAS."

(13) 保留/Reversed;

(14) M20TN- (S/N 29-0001 和之后) “安装在飞机上的标识标牌包含了本架飞机正常类运行时必须符合的使用限制。如已安装所要求的设备, 且正常工作, 本架飞机可按批准的昼夜目视/仪表飞行规则运行。禁止在已知结冰条件下飞行。禁止特技飞行包括尾旋。按此类运行必须遵守其它使用限制包含在飞机飞行手册中。机动速度 (3368LBS) 127 KIAS; (2600 LBS.) 111 KIAS."

M20TN - (S/N 31-001 and ON) THE MARKINGS AND PLACARDS INSTALLED IN THIS AIRPLANE CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THE NORMAL CATEGORY. THIS AIRPLANE IS CERTIFIED FOR DAY AND NIGHT VFR/IFR OPERATION WHEN THE REQUIRED EQUIPMENT IS INSTALLED AND OPERATIONAL. FLIGHT INTO KNOWN ICING CONDITIONS IS PROHIBITED. NO AEROBATIC MANEUVERS, INCLUDING SPINS, ARE APPROVED. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THIS CATEGORY ARE CONTAINED IN THE AIRPLANE FLIGHT MANUAL. MANEUVERING SPEED (3368 LBS) 127 KIAS; (2600 LBS) 111 KIAS.

a. 恶劣天气风挡: “大于 132KIAS 时, 不要打开。” (注: 早期 M20R 飞机-选装 “大于 129KIAS 时, 不要打开。”

On storm window: "DO NOT OPEN ABOVE 132 KIAS." (NOTE:

Early M20R aircraft - OPTIONAL "DO NOT OPEN ABOVE 129 KIAS".

b. 行李舱: “警告: 此舱不要超过 129LBS (54.4kg)。见飞机行李舱允许的装载计划单”

On baggage compartment: "WARNING: DO NOT EXCEED 120 LBS. (54.4 Kg) IN THIS COMPARTMENT. SEE AIRCRAFT LOADING SCHEDULE DATA FOR BAGGAGE COMPARTMENT ALLOWABLE."

c. M20R: “警告: 此舱不要超过 10LBS (4.5kg)。仅用于轻软物体, 将飞机行李舱允许的装载计划单”

M20R: "WARNING: DO NOT EXCEED 10 LBS. (4.5 Kg) IN THIS COMPARTMENT. USE FOR STOWAGE OF LIGHT SOFT ARTICLES ONLY. SEE AIRCRAFT LOADING SCHEDULE DATA FOR BAGGAGE COMPARTMENT ALLOWABLE."

NOTE 3: 保留/Reversed。

NOTE 4: 保留/Reversed。

NOTE 5: 保留/Reversed。

NOTE 6: 保留/Reversed。

NOTE 7: 保留/Reversed。

NOTE 8: 见机轮处飞机重量和平衡数据/See aircraft weight and balance data for wheel locations.

NOTE 9: 保留/Reversed。

NOTE 10: 保留/Reversed。

NOTE 11: 保留/Reversed。

NOTE 12: 保留/Reversed。

NOTE 13: 保留/Reversed。

NOTE 14: M20R (系列号 29-0001 和之后) 可出口法国, 如符合图纸更改 Drawing No. 940002, "电气 - 法国更改"

M20R (Serial No's. 29-0001 and ON) are eligible for export to France if in compliance with the modifications of Drawing No. 940002, "Electrical - French Modification."

NOTE 15: 保留/Reversed。

NOTE 16: 保留/Reversed。

NOTE 17: 保留/Reversed。

NOTE 18: 保留/Reversed。

NOTE 19: 使用升限见适用的驾驶员操作手册和 FAA 批准的飞机飞行手册。Mooney 氧气系统安装是经批准的氧气安装。

- (a) 保留/Reversed;
- (b) M20R 和 M20TN 上的 AVOX/SCOTT 氧气系统是按照 Mooney 图纸 870029 安装的。
AVOX/SCOTT Oxygen System on the M20R and M20TN equipped per Mooney Drawing 870029.
- (c) (选装) Mooney 型号 M20R, M20TN 上的 Precise Flight Oxygen 系统是按 Mooney 图纸 870032 安装的。
(Optional) Precise Flight Oxygen System on Mooney Models M20R, M20TN per Mooney Drawings 870032 through 870038.

NOTE 20: 保留/Reversed。

NOTE 21: 保留/Reversed。

NOTE 22: 装有 Garmin G1000 集成航电系统的 M20 系列飞机有 M20R, 系列号 29-0334 至之后; M2-TN 系列号 31-001 至之后, 审定基础如下:

M20 series aircraft with Garmin G1000 Integrated Avionics System installed in M20R, S/Ns 29-0334 thru 29-TBA; M20TN S/Ns 31-0001 thru 31-TBA.. certification basis as follows:

零件更改的审定基础或更改影响的参考数据, 是基于修正案至 23-55 的 Part-23, 更改适用的审定基础定义为: 修正案 23-0 至 23-55 的最新规章。

The certification basis for parts changed or affected by the change since the reference date of application, is based upon Part 23 as amended by Amendment 23-55. The certification basis for this modification was determined to be: Regulations at the latest Amendment 23-0 through 23-55.

14 CFR Part	Amendment	14 CFR Part	Amendment
§ 23.143(a)(b)(c)	23-50	§ 23.867(a)(b)	23-49
§ 23.303(a)	23-48	§ 23.1301(a)(b)(c)(d)	23-20
§ 23.303	-	§ 23.1309(a)(b)(c)(d)(e)(f)	23-49
§ 23.305(a)(b)	23-45	§ 23.1311(a)(b)(c)	23-49
§ 23.307(a)	-	§ 23.1321(a)(c)(e)	23-49
§ 23.395(a)(l)	23-7	§ 23.1322(a)(b)(c)(d)(e)	23-43
§ 23.397(a)(b)	23-45	§ 23.1329(a)(b)(c)(d)(e)(f)(h)	23-49
§ 23.561(a)(b)(2)	23-48	§ 23.1335	23-20
§ 23.601	-	§ 23.1351(a)(g)	23-49
§ 23.603(a)(b)	23-23	§ 23.1353(h)	23-49
§ 23.605	23-23	§ 23.1357(a)(b)(c)(d)	23-43
§ 23.607	-	§ 23.1359(a)(b)(c)	23-49
§ 23.609(a)(b)	-	§ 23.1365(a)(b)(d)(e)	23-49
§ 23.611	-	§ 23.1367(a)(b)(c)(d)	-
§ 23.613(a)(b)(c)	23-45	§ 23.1381(a)(b)	-
§ 23.625(a)	23-7	§ 23.1431(a)(b)(e)	23-49
§ 23.671(a)(b)	-	§ 23.1525	23-45
§ 23.677(a)(d)	23-49	§ 23.1529	23-26
§ 23.685(a)(c)(d)	23-17	§ 23.1541(b)(l)(c)(2)	23-21
§ 23.689(a)(l)(2)(3)(b)(c)(d)(e)	23-7	§ 23.1555(a)	23-50
§ 23.771(a)	23-14	§ 23.1581(a)(b)(2)(c)(d)(f)	23-50
§ 23.777(a)(b)	23-51	§ 23.1583(h)(m)	23-50
§ 23.779(a)	23-51	§ 23.1585(j)	23-50

Special Conditions 23-177-SC; GFC 700 AFCS on the Mooney M20R, and M20TN with G1000 EFIS;
Protection of Systems for High Intensity Radiated Fields (HIRF)

NOTE 23: 装有 AmSafe 三点充气安全带的 M20 系列飞机有 M20R, 系列号 29-0362 至之后; M20TN 系列号 31-001 至之后。

NOTE 23: M20 series aircraft with AmSafe Inflatable Three-Point Safety Belt With an Integrated Airbag Device installed in M20R, S/Ns 29-0362 thru 29-TBA; M20TN, S/Ns 31-0001 thru 31-TBA.

Special Conditions 23-156-SC: AmSafe Inflatable Restraint System optional on all seats of the Mooney

M20R, and M20TN

NOTE 24: 保留/Reversed。

NOTE 25: 中文标牌和标识包含在图纸 150086 (2014 年 10 月 21 日) 或 CAAC 批准的更新版本中。

Chinese Placards and markings are included in drawing 150086 (October 21,2014) or later revisions CAAC approved.

NOTE 26: 型号设计定义/Type Design Definition:

M20R 主图纸目录文件号 No. 110071, 2014 年 12 月 5 日。

M20R: Master Drawing List, Document No. 110071, December 5,2014.

M20 TN 主图纸目录文件号 No. 110080, 2014 年 12 月 5 日。

M20TN: Master Drawing List, Document No. 110080, December 5,2014.