FLIGHT MANUAL APPROVAL

Nationality and Registration Marks : VH- MPJ

Aeroplane Serial Number : 4026 C

Manufacturer : **MAULE AIRCRAFT CORPORATION, MOULTRIE, GEORGIA, U.S.A.**

Designation of Aeroplane : M-7-235

Certification Category or Categories : **NORMAL**

This Flight Manual has been approved by the Secretary to the Department of Aviation and is the Flight Manual referred to in Certificate of Airworthiness Number BK 1249

Date: -7 MAR 1986

for Secretary

Any person finding this Manual should return it to the nearest Regional Office of the Department of Aviation.

GENERAL AMENDMENT RECORD SHEET

Amendment Number	Paragraph(s) Affected	Signature	Date of Incorporation

Incorporation of a General Amendment must be certified by inserting the date of incorporation and signature in the appropriate columns. All amendments must be embodied consecutively. This page will be reissued with each General Amendment, and previous copies should be retained in the Flight Manual to serve as a record of amendments issued. Superseded Flight Manual pages should be removed and destroyed.

Date: ....

for Secretary

Maule M-7-235
VH-MPJ

20 JUN 1995

PARTICULAR AMENDMENT RECORD SHEET

Amendment Number	Paragraph/Section Amended	Signature	Date
P2	RADIO SYSTEMS APPROVAL		

Date. 20 JUN 1995

M.S. O'KEEFFE. Authorised Person for the purpose of Civil Aviation Regulation 138.1.a & 1.c

PARTICULAR AMENDMENT RECORD SHEET

Amendment Number	Paragraph(s) Affected	Signature	Date of Incorporation
P1	SECTION 7.2 - RADIO SYSTEMS APPROVAL & SUPPLEMENT - GLIDER TOWING OPERATIONS		

Incorporation of a Particular Amendment must be certified by inserting the date of incorporation and signature in the appropriate columns. All amendments must be embodied consecutively. This page will be reissued with each Particular Amendment, and previous copies should be retained in the Flight Manual to serve as a record of amendments issued. Superseded Flight Manual pages should be removed and destroyed.

Date -7 MAR 1986

for Secretary

INTRODUCTION

This Flight Manual applies only to the particular aeroplane identified by registration marking and serial number on Page (i) and contains the airworthiness limitations and essential data for that aeroplane. Special operations requiring additional limitations and instructions are listed in "Section 8 - Supplements" and this section shall be consulted before undertaking any such operations. For operating information not included in this Manual, reference should be made to the appropriate operations or manufacturer's manuals.

The Flight Manual shall be carried in the aeroplane on all flights. It is the responsibility of the pilot in command to be familiar with the contents of this Manual and to comply with all directions contained herein relating to the operations of the aeroplane.

Amendments will be issued by the Secretary to the Department of Aviation as necessary and will take the form of replacement pages, with changes to the text indicated by a vertical line in the margin together with the amendment number. It is the owner's responsibility to incorporate in this manual all such amendments, and to enter the date of incorporation and his signature on the appropriate Amendment Record Sheet.

The aeroplane has been certificated on the basis of the equipment fitted at the time of certification. Any changes in equipment are subject to approval by the Secretary.

No entries or endorsements may be made to this Flight Manual except in the manner and by persons authorised for the purpose by the Secretary.

DEFINITIONS.

The following definitions shall apply throughout this Manual:

AIRFIELD PRESSURE HEIGHT

The Airfield Pressure Height is that height registered at the surface of an aerodrome by an altimeter with the pressure sub-scale set to 1013.2 millibars.

I.A.S.

Indicated airspeed, which is the reading obtained from an airspeed indicator having no calibration error.

TAKE-OFF SAFETY SPEED

The Take-Off Safety Speed is a speed chosen to ensure that adequate control will exist under all conditions, including turbulence and sudden and complete engine failure, during the climb after take-off.

APPROACH SPEED

The Approach Speed is a speed chosen to ensure that adequate control will exist under all conditions, including turbulence, to carry out a normal flare and touchdown.

NORMAL OPERATING LIMIT SPEED (MAXIMUM STRUCTURAL CRUISING SPEED)

This speed shall not normally be exceeded. Operations above the Normal Operating Limit Speed shall be conducted with caution and only in smooth air.

MANOEUVRING SPEED

Maximum for manoeuvres involving an approach to stall conditions or full application of the primary flight control.

LIST OF CONTENTS.

INTRODUCTORY PAGES.

LIST OF CONTENTS (CONTINUED)

SECTION 1 - GENERAL AEROPLANE PARTICULARS

1.1 **ENGINE:**

Manufacturer: LYCOMING

Type: IO-540 -W1A5D

1.2 **PROPELLER**

Manufacturer	Type	Diameter	
HARTZELL	HC-C2YR- IBF/F8468 A-7R	Not over: 81 inches Not under: 77 inches	Pitch setting at 30" statio Low: 16°+ 1° High:29°-31°
		Not over: inches Not under: inches	

1.3 FUEL

GRADE 100/130 or 100LL minimum grade aviation gasoline.

FUEL TANK CAPACITIES:

Main tanks: 163 litres (43 U.S. Gallons) total
152 litres (40 U.S. Gallons) usabl

Aux. tanks: 114 litres (30 U.S. Gallons) total

Note: It is recommended that fuel transfer pump are not activated until their respective main tanks are less than one half full, to avoid over filling the main tanks and thus spilling fuel overboard. To transfer the contents of an aux. tank into its respective main tank takes approx -imately one half-hour. Fuel in aux. tanks is not available for consumption until transferred into the main tanks.

1.4 OIL

Average ambient air temperature	MIL-L-6082 mineral grade	MIL-L-22851 Ashless dispersant grade.
Above 27°C (80°F)	SAE 60	SAE 60
Above 15°C (60°F)	SAE 50	SAE 40 or SAE
0°C to 32°C (30°F to 90°F)	SAE 40	SAE 40
-18°C to 21°C (0°F to 70°F)	SAE 30	SAE30, SAE40, SAE20W40

NOTE: Engine must be operated on straight mineral oil during the first 50 hours of operat
(Refer Lycoming Service Instruction No. 1014 for oil change recommendations.)

OIL SUMP CAPACITY

Normal /2 qts US.
Minimum safe quantity in sump 9 qts US.

SECTION 2 - OPERATING LIMITATIONS

The aeroplane shall at all times be operated in accordance with the limitations and instructions contained in this section.

2.1 AIRSPEEDS

Never exceed . . . 156 Kts I.A.S.

Normal operating limit
(Maximum structural cruising) . . . 126 Kts I.A.S.

Manoeuvring . . . 109 Kts I.A.S.

Maximum, wing flaps extended . . . 82 Kts I.A.S.

2.2 MANOEUVRES PERMITTED

This aeroplane is certificated in the normal category only; operations shall be limited to normal flying manoeuvres, but may include straight and steady stalls, and turns in which the angle of bank does not exceed 60 degrees.
All acrobatic manoeuvres, including spins, are prohi-ited.

2.3 CROSSWIND COMPONENT

The maximum demonstrated 90° crosswind component is 12 knots.

2.4 POWERPLANT

Maximum power
(Take-off & continuous) . . . 235 H.P.

Maximum manifold pressure: Full throttle.
Maximum oil temperature : 118°C (245°F)
Maximum cylinder head temperature: 260°C (500°F)

NOTE: For maximum engine life, avoid exceeding 224°C (435°F) C.H.T.

NOTE: Do not exceed 23 inches M.P. below 2050 RPM.

2.4 POWERPLANT (continued)

(B) OIL PRESSURE

Normal in-flight operating	60 - 90 PSI.
Maximum overpressure	90 PSI.
Minimum safe in flight	60 PSI.

(C) OIL TEMPERATURE

Minimum for take-off power	60°C. (140°F.)

USE OF MIXTURE CONTROL

Manually operated mixture controls may be used to establish and maintain lean mixture strengths only at authorised cruise power settings. At all higher power settings such mixture controls may be used only to the extent necessary to avoid rough running which would otherwise result from an over-rich mixture.

NOTE: Leaning to peak exhaust gas temperature whilst cruising at or below 75% power is not contrary to the engine manufacturer's instructions, provided the recommended cylinder head and oil temperatures are not exceeded. Refer Lycoming Service Instruction No. 1094 for E.G.T. leaning procedures for high-altitude take-off.

2.5 WEIGHT AND BALANCE

(A) Weight:

Maximum take-off weight 1134 ..... kg
Maximum landing weight 1134 ..... kg } As per C of A

(B) Centre of Gravity:

Forward Limit: 381 mm aft of datum at 1134 Kg.
317 mm aft of datum at 771 Kg. or less
Straight line variation between points given

Rear Limit: 508 mm aft of datum at all weights.

(C) Datum: Wing leading edge
NOTE: This is also station zero.

Levelling datum: Levelling lug under R.H. wing root and levelling mark 787 mm to rear of lug.

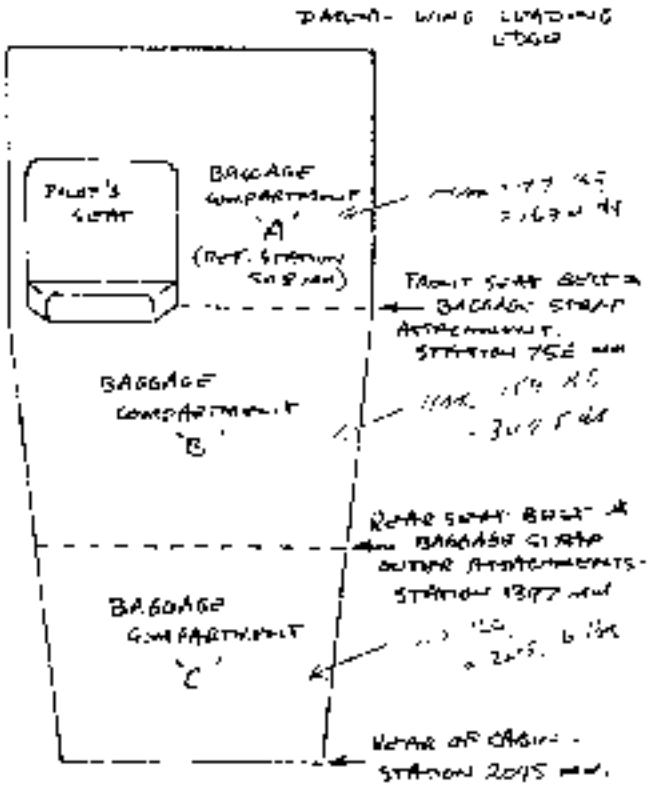
2.5 WEIGHT AND BALANCE (continued)

(D) Cargo/baggage compartment structural load limits:

COMPARTMENT A : (In lieu of right-hand front seat): - 77 Kg maximum

COMPARTMENT B : (In lieu of rear seat) - between station 756 mm and station 1397 mm: -159 Kg. maximum

COMPARTMENT C : (Behind rear seats): - between station 1397mm and station 2095 mm: - 113 Kg maximum



NOTE: Refer section 6 of this manual for the approved loading system for this aircraft.

2.6 SMOKING

Smoking is not permitted during take-off, landing, refuelling or defuelling operations.

SECTION 3 - HANDLING

This Section contains essential information relating to the handling characteristics and operation of the aeroplane and its systems.

3.1 STALLING SPEEDS (I.A.S.)

Flap Setting	Stalling Speeds - Power Off	
	Gross Weight 1134 kg	
-7°	53 knots	
47°	47 knots	
48°	45 knots	

3.2 STALL WARNING

Warning is provided by a stall warning lamp which produces a steady signal approximately 5 to 10 knots before the stall in all configurations.

3.3 FLAPS

The take-off and landing weight charts in Section 4 of this Flight Manual are based on the following flap settings:

Take-off	24° - 2nd notch
Landing	48° - 4th notch

3-4 ELECTRICAL POWER

Do not turn off the generator in flight except in an emergency.

This aeroplane is fitted with a generating system which relies on battery power for initial excitation, therefore there is a possibility that if the generator is turned off in flight, the loss of the battery system, or the subsequent discharge of the battery will result in the loss of all electrical power.

SECTION 4 - PERFORMANCE

STRIP LENGTH REQUIREMENTS

Pending the issue of approved take-off and landing performance charts, the following performance instructions will be observed for all operations:

The required strip length for take-off and landing shall be not less than 568 metres plus 56 metres for each 1000 feet or part thereof, elevation of the strip above sea level. The required strip length for take-off, is based on a take-off safety speed of 65 knots I.A.S. and a wing flap setting of 20°. The required strip length for landing is based on a minimum approach speed of 60 knots I.A.S. and a wing flap setting of 40°.

To comply with climb requirements the maximum take-off weight shall be reduced by 77 Kg for each 1000 feet or part thereof, elevation of the strip above 4600 feet.

Operations outside Australia are not permitted.

SECTION 5 - INSTRUMENT AND EQUIPMENT INSTALLATIONS

5.1 MANDATORY INSTRUMENTS AND INDICATORS

The aeroplane shall not be operated unless, in addition to the minimum flight and navigational instruments required by Air Navigation Order Section 20.18, the following indicators and instruments are also installed.

(a) Position Indicators -

Trim position indicator

(b) Power Plant Instruments and Indicators -

(i) Fuel quantity indicator for each tank

(ii) Fuel Flow Indicator

(iii) Oil pressure indicator

(iv) Oil temperature indicator

(v) Tachometer

(vi) Cylinder head temperature indicator

(c) Other Airworthiness Instruments or Indicators -

Stall Warning Indicator

SECTION 6 - LOADING DATA

6.1 GENERAL

This Section contains basic weight and centre of gravity information necessary to ensure correct loading of the aeroplane and comprises Aeroplane Weight and Loading System pages. Both of these documents, separately approved by the Director-General or and aircraft weight control design signatory, are to be carried in the Flight Manual at all times.

6.2 - AEROPLANE WEIGHT

Aeroplane Type : MAULE M-7-235

Registration Marking : VH- MPJ S/N 40260

Issue	Date	Date of Expiry
ONE	3/3/86	INDEFINITE

Aeroplane Weight and Centre of Gravity Data :

Item	Weight kg	Arm mm aft of datum	Index Unit kg mm/1000	Cabin Configuration
EMPTY	695.3	324	224.924	FIVE SEATS TOTAL
	↓			
	(1542 lbs)			

NOTE : The above weight(s) include

EMPTY - unusable fuel, undrainable oil and 4.9 Kg Ballast Slug in AFT Position at station 2979 mm.

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6.3 - LOADING SYSTEM

Aeroplane Type ..MAULE M-7-235.....

Registration Marking VH-MPJ S/N 4026C.....

ISSUE	DATE
ONE	3/3/86

The following limitations are valid only for the empty weight specified in 6.2 - Aeroplane Weight dated 3/3/86 and are devised to obtain optimum loading capability.

1. Load front to rear
2. Baggage/Ballast Limitations:-

Number of Occupants	Ballast Position	Maximum Baggage
One(Pilot)	AFT	92 Kg
Two	AFT	91 Kg
Three	FORWARD	65 Kg
Four	FORWARD	29 Kg
Five	FORWARD	See Item 3

3. With FIVE occupants, NIL baggage to be carried and Maximum Load on 5th seat is 26 Kg
4. With more than Two occupants check all up weight to ensure Maximum (1134 Kg) is not exceeded.
5. Instrument Panel to be Placarded:-
   "Check Ballast Slug Position and Loading Limitations Prior to each flight"

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SECTION 7 - RADIO SYSTEMS - OPERATIONAL LIMITATIONS.

7.1 GENERAL

The radio communication and radio navigation systems in the aeroplane are approved for the types of operation and maximum operating altitudes shown in the Radio Systes Approval table of this Section. Approval of a radio system for a particular type of operation is signified in this table by inclusion of the maximum operating altitude of the equipment (expressed in thousands of feet) under the appropriate headings.

Before the aeroplane may engage in the types of operation for which the radio systems are approved, the instruments, radio systems and equipment which are required., in accordance with the appropriate Sections of Air Navigation Orders Part 20, for the operation to be performed shall be installed and airworthy to the standards required for that operation.

NOTE: Reported unserviceability of instruments, radio systems and equipment will be indicated on the Maintenance Release.

Maule M-7-235
VH-MPJ

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7.2 RADIO SYSTEMS APPROVAL

System	Equipment Type	Type of Operation	
		IFR	VFR
VHF NAVCOM	KING KX155/KI208	50	20
VHF COM	KING KY97A	20	20
AUDIO	KING KA134	50	20
ATC TXPNDR	KING KT76A (MODE A)	30	20
ALT ENCODER	AR-350 (MODE C)	15	15
GPS	GARMIN GPS 100	**	**
UHF COM	UNIDEN UE-001	**	**
AM/FM RCVR	SONY XR-1300	**	**
INTERCOM	PM2000	**	**

** SYSTEM IS NOT APPROVED FOR AERONAUTICAL OPERATIONS

NOTE: THE CARRIAGE OF HEADPHONES IS MANDATORY

20 JUN 1995

M.S. O'KEEFFE, Authorised Person for the purposes of Civil Aviation Regulation 5B.1.A.1.c

SECTION 0 - SUPPLEMENTS

0.1 GENERAL

Flight Manual Supplements covering the special operations for which this aeroplane is approved are listed below.

The operations listed shall be conducted in accordance with the limitations and instructions contained in the appropriate Supplements included in this manual.

SUPPLEMENT III:

NIGHT V.F.R. OPERATIONS.

NIGHT V.M.C. OPERATIONS

This aeroplane is eligible for Night V.M.C. operations provided that the radio communication and radio navigation systems installed in the aeroplane are are approved for this type of operation - see Flight Manual supplement "Radio Systems - Operational Limitations".

1.0.2h Reported unserviceability of instruments, radio systems and equipment will be indicated on the Maintenance Release. Air Navigation Orders Part 20 require the placarding or removal of unserviceable instruments, radio systems and equipment.

PARTICULAR AMENDMENT RECORD SHEET VH-MPJ

Amendment Number	Paragraph(s) Affected	Signature	Date of Incorporation
P2	Aircraft Operation Take off and landing performance charts.		

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Date 20-10-86

for Regional Director