# DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

			3A23
			Revision 33
			MAULE
Bee Dee M-4	M-5-180C	MXT-7-160	M-4-180V
M-4	M-5-200	MX-7-180A	M-9-235
M-4C	M-5-210C	MXT-7-180A	
M-4S	M-5-210TC	MX-7-180B	
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		Fel	oruary 19, 2019

## **TYPE CERTIFICATE DATA SHEET NO. 3A23**

This data sheet which is part of Type Certification No. 3A23 prescribes conditions and limit under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: MAULE AEROSPACE TECHNOLOGY, INC.

2099 GEORGIA HIGHWAY 133 SOUTH

MOULTRIE, GEORGIA 31768

Type Certificate Holder Record: Maule Aircraft Corporation transferred type certificate 3A23 to Maule Aerospace Technology,

Inc. on June 18, 1982.

I. Model Bee Dee M-4, 4 PCLM (Normal Category), Approved August 10, 1961

Model M-4, 4 PCLM (Normal Category), Approved February 21, 1963 Model M-4C, 4 PCLM (Normal Category), Approved October 7, 1965 Model M-4S, 4 PCLM (Normal Category), Approved March 15, 1966 Model M-4T, 2 PCLM (Normal Category), Approved March 15, 1966

(M-4 same as Bee Dee M-4 except for minor changes)

(M-4C same as Model M-4 except for modified right fuselage truss, larger rear doors to facilitate cargo loading, and other minor changes.)

(M-4S same as Model M-4 except for minor changes.)

(M-4T same as Model M-4C except no rear seats or rear door and other minor changes.)

Engine Continental O-300-A or B

Fuel 80/87 minimum grade aviation gasoline

Engine limits For all operations, 2700 rpm (145 hp) (See NOTE 3 for climb)

Propeller and McCauley 1A170-DM7460

propeller limits Diameter: Not over 74 in., not under 73 in.

No further reduction permitted.

Static rpm at maximum permissible throttle setting:

Not over 2200, not under 2100 No additional tolerance permitted.

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McCauley 1C172-MDM7647 to 7656 (Eligible on s/n 24, 46-94, 1C-11C, 1S-3S, 1T-3T)

(Eligible on s/n 3-23, 25-45 when modified per Maule Modification Kit No. 36)

Diameter: Not over 76 in., not under 74.5 in.

No further reduction permitted.

Static rpm at maximum permissible throttle setting:

Not over 2250, not under 2100 No additional tolerance permitted.

Airspeed limits (CAS) <u>Landplane and Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range Landplane: (+15.0) to (+23.0) at 2100 lbs.

(+11.0) to (+23.0) at 1400 lbs. or less

NOTE: With fuel in optional auxiliary tanks, aft C.G. restricted to (+18.0). See Service Bulletin No. 18, Airplane Flight Manual Supplement (AFMS) No. 4 is

required.

Skiplane: Models M-4, M-4C with Fli-Lite 3000 MK IIIA Skis

(+13.0) to (+23.0) at 1850 lbs. (+10.6) to (+23.0) at 1550 lbs. or less Models M-4, M-4C with FluiDyne A2000A Skis

(+15.0) to (+23.0) at 2100 lbs. (+11.0) to (+23.0) at 1400 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight <u>Landplane:</u> 2100 lbs.

Skiplane: Fli-Lite 3000 MK IIIA Skis: 1850 lbs.

Federal A2000A Skis: 2100 lbs.

Number of seats 4 (2 at +18 to +21, 2 at +53) (Bee Dee M-4, M-4, M-4C, M-4S)

2 (+18 to +21) (M-4T)

Maximum baggage 100 lbs. (+72) (Bee Dee M-4, M-4)

100 lbs. (+20), 175 lbs. (+42) (M-4C, M-4S, M-4T)

125 lbs. (+70) (M-4C, M-4S)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-37), 4 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface Wing flaps Down 1st Notch 15° ±3° movements 2nd Notch 35° ±3°

Aileron Up  $20^{\circ} \pm 1$  Down  $20^{\circ} \pm 1^{\circ}$  Elevator Up  $25^{\circ} \pm 2^{\circ}$  Down  $21^{\circ} \pm 1^{\circ}$ 

Elevator tab Up  $14^{\circ} \pm 1^{\circ}$  Down  $25^{\circ} \pm 1^{\circ}$  (Bee Dee M-4, s/n 3-14, M-4, s/n 15-43, unless modified by Maule SL#9 dated 11/8/65)

Up  $8^{\circ} + 2^{\circ}/-1^{\circ}$  Down  $25^{\circ} + 1^{\circ}$  (M-4, s/n 44-94, unless modified by

Maule SL#9 dated 11/8/65) Up  $11^{\circ} \pm 3^{\circ}$  Down  $25^{\circ} \pm 1^{\circ}$  (All M-4C, S, and T ar

°  $\pm$  3° Down 25°  $\pm$ 1° (All M-4C, S, and T and M-4, s/n 3-94 modified by Maule SL#9 dated 11/8/65)

Right 21°  $\pm$  1° Left 21°  $\pm$  1° Left 48°  $\pm$  4° Left 48°  $\pm$  4°

Serial numbers eligible Model Bee Dee M-4, 3-14

Rudder

Rudder tab

Model M-4, 15-94 Model M-4C, 1C-3C Model M-4S, 1S-3S Model M-4T, 1T-3T

Production basis (No longer in production)

II. Model M-4-210, 4 PCLM (Normal Category), Approved September 24, 1964 Model M-4-210C, 4 PCLM (Normal Category), Approved October 7, 1965 Model M-4-210S, 4 PCLM (Normal Category), Approved March 15, 1966 Model M-4-210T, 2 PCLM (Normal Category), Approved March 15, 1966

(Same as M-4, M-4C, M-4S, and M-4T except for the installation of a Continental IO-360-A or D engine.)

Engine Continental IO-360-A

Continental IO-360-D for s/n 1086C and up

Fuel 100/100LL minimum grade aviation gasoline

Engine limits <u>IO-360-A</u>: Maximum continuous hp, rpm, in. Hg. alt.

Critical altitude 195-2800-26.2-2250 ft. Sea level 195-2800-26.5

Takeoff hp (5 min.) 210-2800 F.T.

<u>IO-360-D</u>: F.T. all operations 210 hp - 2800 rpm

Propeller and McCauley constant speed model D2A3467/76C-2 (used on A engine) or

propeller limits D2A34C67N/S76C-2 (used on A or D engine)
Diameter: 74 in., no further reduction permitted.

Pitch settings at 30 in. sta.: low 12.5° high 23° Spinner: Cessna 0552016-1

McCauley D-2771-1 assembly (used on A or D eng.)

Governor (hydraulic): Woodward F210452 or B210680

Airspeed limits (CAS) <u>Landplane, Floatplane, and Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane:</u> For s/n 1001-1045, 1001C-1074C, 1079C, 1080C:

(+15.0) to (+23.0) at 2100 lbs. (+11.0) to (+23.0) at 1400 lbs. or less

For s/n 1075C, 1081C-1117C: (+16.0) to (+19.6) at 2300 lbs. (+15.0) to (+23.0) at 2100 lbs. (+11.0) to (+23.0) at 1400 lbs. or less

NOTE: S/n 1001-1035 when modified per Maule SL#7 and SL#15 and s/n 1036-1045, 1001C-1074C, 1079C, 1080C when modified per Maule SL#15 dated

11/12/68 are eligible for the above C.G. range at 2300 lbs. GW.

Skiplane: Models M-4-210, M-4-210C with Fli-Lite 3000 MK IIIA Skis:

(+13.0) to (+23.0) at 2100 lbs. (+10.6) to (+23.0) at 1550 lbs. or less

Models M-4-210, M-4-210C with Federal A2000A Skis:

(+15.0) to (+23.0) at 2100 lbs. (+11.0) to (+23.0) at 1400 lbs. or less

Models M-4-210, M-4-210C with Federal C2200H or C3000H Skis:

(+12.6) to (+18.4) at 2100 lbs. (+9.6) to (+18.4) at 1620 lbs. or less

Floatplane: EDO 248A2440, 248B2440 or Fleet 2500 Floats:

(+15.5) to (+20.5) at 2300 lbs. (+11.0) to (+20.5) at 1600 lbs. or less

CAP 62-2000 Floats:

(+15.6) to (+20.5) at 2220 lbs. (+12.0) to (+20.5) at 1700 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight <u>Landplane</u>: 2300 lbs. or 2100 lbs. (Reference C.G. Range-landplane)

Skiplane: 2100 lbs.

Floatplane: Fleet 2500, EDO 248A2440 or 248B2440 Floats: 2300 lbs.

CAP 62-2000 Floats: 2220 lbs.

Number of seats 4 (2 at +18 to +21, 2 at +53)(M-4-210, M-4-210C)

Maximum baggage 100 lbs. (+72)(M-4-210)

100 lbs. (+20), 175 lbs. (+42)(M-4-210C)

125 lbs. (+70)(M-4-210C)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

Optional wing auxiliary tanks - 23 gal. (23 gal. usable; two 11.5 gal. tanks in outerwings at +22.2)

(Fuel in the optional auxiliary tanks not approved in combination with skis or floats.)

(See NOTE 1 for data on system fuel.)

Oil capacity 10 qt. (-37), 7 qt. Minimum (See NOTE 1 for data on system oil.)

Elevator tab Up 11° ± 3° Down 25° ±1° (M-4-210, s/n 1051 and up; all M-4-210C, -210S and

-210T; and M-4-210 s/n 1001-1050 modified per Maule SL#9 dated

11/8/65

Up  $8^{\circ} + 2^{\circ} / -1^{\circ}$  Down  $25^{\circ} \pm 1^{\circ}$  (M-4-210, s/n 1001-1050 unless modified per Maule

SL#9 dated 11/8/65)

Rudder Right  $21^{\circ} + 1^{\circ}$  Left  $21^{\circ} + 1^{\circ}$  Rudder tab Right  $48^{\circ} + 4^{\circ}$  Left  $48^{\circ} + 4^{\circ}$ 

Serial numbers Model M-4-210, 1001-1045 eligible Model M-4-210C, 1001C-1117C

> Model M-4-210S, 1001S and up (none built) Model M-4-210T, 1001T and up (none built)

Production basis (No longer in production)

III. Model M-4-220, 4 PCLM (Normal Category), Approved October 18, 1966
Model M-4-220C, 4 PCLM (Normal Category), Approved October 18, 1966
Model M-4-220S, 4 PCLM (Normal Category), Approved October 18, 1966

Model M-4-220T, 2 PCLM (Normal Category), Approved October 18, 1966

(Same as M-4, M-4C, M-4S and M-4T except for the installation of a Franklin 6A-350-C1 engine.)

Engine Franklin 6A-350-C1

Fuel 100/100LL minimum grade aviation gasoline

Engine limits Takeoff (5 min.) 2800 rpm, F.T. (220 hp). For all other operations, 2800 rpm at 26.5 in. hg. (194 hp)

(See NOTE 8 if Service Letter 27 is installed)

Propeller and McCauley constant speed model 2A31C21/84S-8 or -6 propeller limits Diameter: Not over 78 in.; not under 74 in.

Diameter: Not over 78 in.; not under 74 in. Pitch settings at 30 in. sta.: low 12.8° high 23.1°

Spinner: Cessna 0552016-1

McCauley constant speed model 2A34C22-N/S84SF-6 or -8

Diameter: Not over 78 in.; not under 74.5 in. Pitch settings at 30 in. sta.: low 11.5° high 22° Spinner: McCauley D4101 assembly

NOTE: This installation also requires incorporation of Maule Drawings 5030F, rev. D, 5090B, rev. D,

and 5043F, rev. G or later revisions.

Governor: Woodward 210453 or 210660

Airspeed limits (CAS) <u>Landplane, Floatplane, and Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.6) to (+19.0) at 2300 lbs.

(+14.5) to (+20.5) at 2100 lbs. (+11.1) to (+20.5) at 1500 lbs. or less

Model M-4-220S, s/n 2001S only: (+15.0) to (+20.5) at 2100 lbs. (+11.0) to (+20.5) at 1400 lbs. or less

NOTE: With fuel in optional wing auxiliary tanks, aft C.G. restricted to +18.0.

Skiplane: Federal C2200H Skis:

(+12.6) to (+18.4) at 2100 lbs. (+9.6) to (+18.4) at 1620 lbs. or less

Model M-4-220C only: Federal A2000A Skis

(+14.5) to (+20.5) at 2100 lbs. (+11.1) to (+20.5) at 1500 lbs. or less

Fli-Lite 3000 MK IIIA Skis (+14.5) to (+20.5) at 2300 lbs. (+11.1) to (+20.5) at 1500 lbs. or less

Floatplane: EDO 248A2440, 248B2440 or Fleet 2500 Floats:

(+15.5) to (+20.5) at 2300 lbs.

(+11.0) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight <u>Landplane</u>: 2300 lbs. (M-4-220C)

2100 lbs. (s/n 2001S only)

Skiplane: 2100 lbs. Floatplane: 2300 lbs.

Number of seats 4 (2 at +18 to +21, 2 at +53) (M-4-220C, M-4-220S)

Maximum baggage 100 lbs. (+20), 175 lbs. (+42) (M-4-220C, M-4-220S)

125 lbs. (+70) (M-4-220C, M-4-220S)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

Optional wing auxiliary tanks 23 gal. (23 gal. usable; two 11.5 gal. tanks in wings at +22.2)

(Fuel in the optional auxiliary tanks not approved in combination with skis or floats)

(See NOTE 1 for data on system fuel.)

Oil capacity 8.8 qt.(-37), 5.8 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface Wing flaps Down 1st Notch 15° ±3°

movements 2nd Notch  $35^{\circ} \pm 3^{\circ}$ 

Serial numbers eligible Model M-4-220, 2001 and up (None built)

Model M-4-220C, 2001C-2190C

Model M-4-220S, 2001S and up (One built) Model M-4-220T, 2001T and up (None built)

Production basis (No longer in production)

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IV. Model M-4-180C, 4 PCLM (Normal Category), Approved October 20, 1970 Model M-4-180S, 4 PCLM (Normal Category), Approved October 20, 1970 Model M-4-180T, 2 PCLM (Normal Category), Approved October 20, 1970

(Same as M-4C, M-4S and M-4T except for the installation of Franklin 6A-335-B1A engine.)

Engine Franklin 6A-335-B1A

Fuel 80/87 minimum grade aviation gasoline

Engine limits For all operations, 2800 rpm (180 hp)

Propeller and McCauley constant speed model 2A34C22-N/S84SF-6

propeller limits Diameter: Not over 78 in.; not under 76.5 in.

Pitch settings at 30 in. sta.: low 11.5° high 22°

Spinner: McCauley D4180 with C4181 bulkhead assembly,

B3243 front support, B3410-16 or -32 shim.

Governor: Woodward 210453 or 210660

Airspeed limits (CAS) <u>Landplane</u>: (See NOTE 11 for airspeeds)

C.G. Range <u>Landplane</u>: (+15.6) to (+19.0) at 2300 lbs.

(+14.5) to (+20.5) at 2100 lbs. (+11.1) to (+20.5) at 1500 lbs. or less Straight line variation between points given.

NOTE: With fuel in optional wing auxiliary tanks, aft C.G. restricted to (+18.0).

See Service Bulletin No. 18, AFMS No. 2 is required.

Empty weight

C.C. Range None

Maximum weight 2300 lbs.

Number of seats 4 (2 at +18 to +21, 2 at +53) (M-4-180C)

Maximum baggage 100 lbs. (+20), 175 lbs. (+42) (M-4-180C)

125 lbs. (+70) (M-4-180C)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8.8 qt. (-37), 5.8 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface Wing flaps Down 1st Notch  $15^{\circ}\pm 3^{\circ}$  movements 2nd Notch  $35^{\circ}\pm 3^{\circ}$  Aileron Up  $20^{\circ}\pm 1^{\circ}$  Down  $20^{\circ}\pm 1^{\circ}$ 

Alleron Up  $20^{\circ}\pm1^{\circ}$  Down  $20^{\circ}\pm1^{\circ}$  Elevator Up  $25^{\circ}\pm2^{\circ}$  Down  $21^{\circ}\pm1^{\circ}$  Elevator tab Up  $11^{\circ}\pm3^{\circ}$  Down  $25^{\circ}\pm1^{\circ}$  Rudder Right  $21^{\circ}\pm1^{\circ}$  Left  $21^{\circ}\pm1^{\circ}$  Rudder tab Right  $48^{\circ}\pm4^{\circ}$  Left  $48^{\circ}\pm4^{\circ}$ 

Serial numbers eligible Model M-4-180C, 3001C-3006C

Model M-4-180S, 3001S and up (None built) Model M-4-180T, 3001T and up (None built)

Production basis (No longer in production)

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#### V. Model M-5-210C, 4 PCLM (Normal Category), Approved December 28, 1973

(Same as M-4-210C except modified empennage, increased span flaps, smaller ailerons, modified C.G. range and other minor changes.)

Engine Continental IO-360-D

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 210 hp at 2800 rpm all operations

Propeller and McCauley constant speed model D2A34C67N/S76C-2 propeller limits Diameter: 74 in., no further reduction permitted.

Diameter: 74 in., no further reduction permitted. Pitch settings at 30 in. sta.: low 12.5° high 23° Spinner: McCauley spinner assembly D-2771-1 Governor (hydraulic): Woodward B210680 or F210452

Airspeed limits (CAS) <u>Landplane</u>, <u>Floatplane</u>, and <u>Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+16.0) to (+20.5) at 2300 lbs.

(+15.0) to (+20.5) at 2100 lbs. (+12.0) to (+20.5) at 1600 lbs. or less All s/n modified per Maule SL#45 and SL#46:

(+17.0) to (+20.5) at 2500 lbs. (+15.0) to (+20.5) at 2100 lbs. (+12.0) to (+20.5) at 1600 lbs. or less

Floatplane: EDO 248A2440 or 248B2440 Floats:

(+16.0) to (+18.0) at 2300 lbs. (+12.0) to (+18.0) at 1600 lbs. or less

EDO 248B2400 Floats with modification per Maule Drawing 9173A:

(+15.6) to (+19.0) at 2500 lbs. (+12.0) to (+19.0) at 1600 lbs. or less

Pee Kay 2300 Floats:

(+15.5) to (+20.0) at 2300 lbs. (+14.0) to (+20.0) at 1800 lbs. or less

Note: M-5-210C s/n 6001C-6014C, 6039C, 6043C-6045C requires compliance to Maule

SL#28 when equipped with EDO 248A2440/B2440 floats.

Skiplane: Fluidyne C2200H Skis

(+12.5) to (+20.0) at 2300 lbs. (+9.5) to (+20.0) at 1600 lbs. or less

Fli-Lite 3000 MK IIIA Skis (+16.0) to (+20.0) at 2300 lbs. (+12.0) to (+20.0) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane, Skiplane and Floatplane: 2300 lbs.

Landplane modified per SL#45 and SL#46: 2500 lbs. Floatplane modified per 9173A: 2500 lbs.

Number of seats 4 (2 at +20, 2 at +50)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +23.3)

Optional wing auxiliary tanks 23 gal. (23 gal. usable; two 11.5 gal. tanks in wings at +22.2)

See NOTE 16 if Modification Kit No. 15 is installed.

(See NOTE 1 for data on system fuel.)

Oil capacity 10 qt. (-37) 7 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface Wing flaps Down 1st Notch 15° +3° 2nd Notch 35° +3° movements Modified per Down 1st Notch 20° +3° Maule SL#46 2nd Notch 40° +3° Aileron Up 20° +1° Down 20° +1° Up 25° <u>+</u>2° Elevator Down 21° +1° Elevator tab Up 12° ±4° Down 29° +2° Rudder Right 21° +1° Left 21°+1° Rudder tab Right 48° +4° Left 48° +4°

Serial numbers eligible Model M-5-210C, 6001C-6206C

(See NOTE 13 for float installation requirements.)

Production basis (No longer in production)

#### VI. Model M-5-220C, 4 PCLM (Normal Category), Approved December 28, 1973

(Same as M-4-220C except modified empennage, increased span flaps, smaller ailerons, and other minor changes.)

Engine Franklin 6A-350-C1

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 220 hp at 2800 rpm, all operations

Propeller and McCauley constant speed model 2A34C22-N/S84SF-6 or -8

propeller limits Diameter: Not over 78 in., not under 74.5 in.

Pitch settings at 30 in. sta.: low 11.5° high 22°

Spinner: McCauley D4180 with C4181 bulkhead assembly,

B3243 front support, B3410-16 or -32 shim

Governor: Woodward 210453 or 210660

Airspeed limits (CAS) Landplane, Floatplane, and Skiplane: (See NOTE 11 for airspeeds)

C.G. range  $\underline{\text{Landplane}}$ : (+16.0) to (+20.5) at 2300 lbs.

(+15.0) to (+20.5) at 2100 lbs. (+12.0) to (+20.5) at 1600 lbs. or less

All s/n modified per Maule SL#48 and SL#51:

(+17.0) to (+20.5) at 2500 lbs. (+15.0) to (+20.5) at 2100 lbs.

(+12.0) to (+20.5) at 1600 lbs. or less

Floatplane: EDO 248A2440 or 248B2440 Floats:

(+16.0) to (+18.0) at 2300 lbs. (+12.0) to (+18.0) at 1600 lbs. or less

EDO 248B2400 Floats with modification per Maule Drawing 9173A:

(+15.6) to (+19.0) at 2500 lbs. (+12.0) to (+19.0) at 1600 lbs. or less

Pee Kay 2300 Floats:

(+15.5) to (+20.0) at 2300 lbs. (+14.0) to (+20.0) at 1800 lbs. or less

NOTE: M-5-220C, s/n 5002C, 5019C, 5020C, 5022C-5024C requires compliance to

Maule SL#28 when equipped with EDO 248A2440/B2440 floats.

Skiplane: FluiDyne C2200H Skis

(+12.5) to (+20.0) at 2300 lbs.

( +9.5) to (+20.0) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane, Skiplane and Floatplane: 2300 lbs.

Landplane modified per SL#48 and SL#51: 2500 lbs. Floatplane modified per 9173A: 2500 lbs.

Number of seats 4 (2 at 15.1 to +18.1, 2 at 50)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +23.3)

Optional wing auxiliary tanks 23 gal. (23 gal. usable; two 11.5 gal. tanks in wings at +22.2)

See NOTE 16 if Modification Kit No. 15 is installed.

(See NOTE 1 for data on system fuel.)

Oil capacity 8.8 qt. (-37) 5.8 qt. minimum (See NOTE 1 for data on system oil.)

Control surface Wing flaps Down 1st Notch  $15^{\circ}\pm3^{\circ}$  movements Modified per 2nd Notch  $35^{\circ}\pm3^{\circ}$  Maule SL#48 Down 1st Notch  $20^{\circ}\pm3^{\circ}$  2nd Notch  $40^{\circ}+3^{\circ}$ 

Aileron Up  $20^{\circ}\pm1^{\circ}$  Down  $20^{\circ}\pm1^{\circ}$ Elevator Up  $25^{\circ}\pm2^{\circ}$  Down  $21^{\circ}\pm1^{\circ}$ Elevator tab Up  $12^{\circ}\pm4^{\circ}$  Down  $29^{\circ}\pm2^{\circ}$ Rudder Right  $21^{\circ}\pm1^{\circ}$  Left  $21^{\circ}\pm1^{\circ}$ Rudder tab Right  $48^{\circ}\pm4^{\circ}$  Left  $48^{\circ}\pm4^{\circ}$ 

Serial numbers eligible Model M-5-220C, 5001C-5057C. (See NOTE 13 for float installation requirement.)

Production basis (No longer in production)

#### VII. Model M-5-235C, 4 PCLM (Normal Category), Approved April 6, 1976

(Same as M-5-220C except for nacelle, engine, propeller and electrical system.)

Engine Lycoming O-540-J1A5D, O-540-J3A5, IO-540-W1A5D,

IO-540-W1A5, or O-540-B4B5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations (O-540-J/IO-540-W)

235 hp at 2575 rpm, all operations (O-540-B)

Propeller and

propeller limits (See NOTE 14 for propeller information)

Airspeed limits (CAS) <u>Landplane, Floatplane, and Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: S/n 7001C-7026C, 7028C, 7030C-7032C, 7037C

(+16.0) to (+20.5) at 2300 lbs. (+12.0) to (+20.5) at 1600 lbs. or less

or - S/n 7001C-7026C, 7028C, 7030C-7032C, 7037C with expanded C.G. limits per

Maule SL#36

(+12.5) to (+20.5) at 2300 lbs. (+10.5) to (+20.5) at 1700 lbs. or less

or -S/n 7001C-7320C, 7322C-7346C, 7348C,7349C modified per Maule SL#43  $\,$ 

(+13.2) to (+20.5) at 2500 lbs. (+10.5) to (+20.5) at 1700 lbs. or less

or -S/n 7001C-7320C, 7322C-7346C, 7348C, 7349Cmodified per Maule SL#44

(+12.5) to (+20.5) at 2300 lbs. (+11.7) to (+20.5) at 1700 lbs. or less

or -S/n 7001C-7320C, 7322C-7346C, 7348C, 7349C modified per Maule SL#43 and

SL#44 and s/n 7321C, 7347C, 7351C, 7363C, 7369C and up

(+13.2) to (+20.5) at 2500 lbs. (+11.7) to (+20.5) at 1700 lbs. or less Floatplane:

EDO 248A2440, 248B2440 or Agua 2400 Floats:

(+14.3) to (+20.0) at 2530 lbs. (+13.3) to (+20.0) at 2100 lbs. or less Pee Kay 2300 Floats: (+14.3) to (+20.0) at 2500 lbs. (+13.3) to (+20.0) at 2100 lbs. or less EDO 248B2440, Aqua 2400, or EDO 797-2500 amphibious Floats (Floatplanes modified per Maule drawing 9143A (B2440's), 9166A (2400's) or 9057A (amphibs)): (+14.0) to (+19.0) at 2750 lbs. (+10.5) to (+19.0) at 1600 lbs. or less Skiplane: FluiDyne C2200H, C3000H, C3000M or Fli-Lite 3000 MK IIIA Skis: (+12.5) to (+20.0) at 2300 lbs. (+9.5) to (+20.0) at 1600 lbs. or less FluiDyne A2500A Skis: (+12.9) to (+20.5) at 2300 lbs. (+11.7) to (+20.5) at 1700 lbs. or less Fli-Lite MK IIIA Skis (Skiplanes modified per Maule drawing 9081A): (+13.2) to (+20.0) at 2500 lbs (+11.7) to (+20.0) at 1700 lbs. or less FluiDyne C3000M or C3000H Skis (Skiplanes modified per Maule drawing 9158A for C3000M or 9174A, Rev. C or later for C3000H): (+13.2) to (+20.0) at 2500 lbs. (+10.7) to (+20.0) at 1700 lbs. or less Straight line variation between points given. Empty weight C.G. range None 2300 lbs. Maximum weight Landplane: Floatplane: 2530 lbs. (EDO 2440 only), 2500 lbs. (PeeKay 2300) Skiplane: 2300 lbs. Landplanes modified per Maule SL#43 and s/n 7321C, 7347C, 7350C and up: 2500 lbs. Floatplanes modified per Maule drawing 9143A (EDO B2440), 9166A(Aqua 2400), or 9057A (EDO amphibs): 2750 lbs. Skiplanes modified per Maule drawing 9081A (Fli-Lites), 9158A (C3000M), or 9174A (C3000H): 2500 lbs. Number of seats 4(2 at +20, 2 at +50)Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70) Fuel capacity 43 gal. (40. gal. usable; two 21.5 gal. tanks in wings at +24) Optional wing auxiliary tanks 23 gal. (23 gal. usable; two 11.5 gal. tanks in wings at +24) See NOTE 16 if Modification Kit No. 15 is installed. (See NOTE 1 for data on system fuel.) Oil capacity IO-540: 8 qt. (-34), 5 qt. minimum O-540: 12 qt. (-34), 9 qt. minimum (See NOTE 1 for data on system oil.) Control surface Wing flaps (s/n 7001C-7320C, 7322C-7346C, 7348C-7350C, 7352C-7362C, 7364C-7368C): 1st Notch 15° +3° movements Down 2nd Notch 35° +3° (s/n 7321C, 7347C, 7351C, 7363C, 7369C and up and airplanes modified per Maule SL#44): 1st Notch 20° +3° Down 2nd Notch 40° +3° Aileron Up 20° +1° Down 20° +1° Up 25° +2° Down 21° +1° Elevator Elevator tab Up 12° ±4° Down 29° +2° Elevator tab w/piano hinge Up 12° +2° Down 38° +2° Rudder Right 21°+1° Left 21°+1° Rudder tab Right 48° +4° Left 48° +4°

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Serial number eligible Model M-5-235C, 7001C and up

(NOTE: Letter 'A' preceding serial number denotes installation of Lycoming IO-540-W1A5D fuel-injected engine and applies only to the following s/n A7354C, A7355C, A7358C, A7360C, A7361C, A7366C and

A7367C.) 'A' was not used on later serial numbers with this engine.

Production basis (No longer in production)

## VIII. Model M-5-180C, 4 PCLM (Normal Category), Approved April 19, 1979

(Same as M-5-235C except for nacelle, engine and propeller.)

Engine Lycoming O-360-C1F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, all operations

Propeller and Hartzell constant speed model HC-C2YR-1BF/F7666A

propeller limits Diameter: Not over 76 in; not under 72 in.

Pitch settings at 30 in. sta.: low 12° high 27.8° to 29.8° Avoid continuous operation between 2000 and 2250 rpm.

Spinner: Hartzell spinner assembly A2298-2

Governor: Woodward H210681

McCauley C290D3(X)/T29 or DC290D1(X)/T12

Airspeed limits (CAS) <u>Landplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+16.7) to (+20.5) at 2300 lbs.

(+12.6) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2300 lbs.

Number of seats 4 (2 at +20, 2 at +50)

Maximum baggage 100 lbs. (+20), 175 lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

Optional wing auxiliary tanks 23 gal. (23 gal. usable; two 11.5 gal. tanks in wings at +24)

See NOTE 16 if Modification Kit No. 15 is installed.

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface Wing flaps (s/n 8001C-8022C):

movements Down 1st Notch 15° ±3° 2nd Notch 35° ±3°

2nd Notch 35° <u>+</u>3°

(s/n 8023C and up and airplanes modified per Maule SL#49):

Down 1st Notch 20° ±3° 2nd Notch 40° ±3°

Aileron Up 20° +1° Down 20° +1° Up 25° ±2° Down 21° +1° Elevator Up 12° +4° Elevator tab Down 29° +2° Up 12° <u>+</u>2° w/piano hinge Down 38° +2° Right 21° ±1° Rudder Left 21° +1° Rudder tab Right 48° +4° Left 48° +4°

Serial numbers eligible Model M-5-180C, 8001C-8014C, 8016C-8019C, 8021C, 8023C-8042C, 8044C-8064C, 8068C-8094C

Production basis (No longer in production)

#### IX. Model M-5-210TC, 4 PCLM (Normal Category), Approved February 4, 1980

(Same as M-5-180C except for nacelle, engine and propeller.)

Engine Lycoming TO-360-F1A6D, Carburetor parts listing No. IO-5258

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 210 hp at 2575 rpm at 42.0 in. hg. MP, all operations

Propeller and Hartzell constant speed model HC-E2YR-1BF/F8467-7R

propeller limits Diameter: Not over 77 in.; not under 76.5 in.

Pitch settings at 30 in. sta.: low 15° ±0.1° high 30° to 33°

Spinner: Hartzell spinner assembly A2298-2

Governor: Woodward C210681

Airspeed limits (CAS) <u>Landplane and Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.5) at 2300 lbs.

(+12.0) to (+20.5) at 1700 lbs. or less

Skiplane Fli-Lite 3000 MK IIIA Skis:

(+12.5) to (+20.0) at 2300 lbs.

(+9.5) to (+20.0) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane and Skiplane: 2300 lbs.

Number of seats 4 (2 at +20, 2 at +50)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

Optional wing auxiliary tanks 23 gal. (23 gal. usable; two 11.5 gal. tanks in wings at +24)

See NOTE 16 if Modification Kit No. 15 is installed.

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Maximum operating

altitude 20,000 feet

Control surface Wing flaps (s/n 9001C-9010C):

movements Down 1st Notch  $15^{\circ} \pm 3^{\circ}$ 

2nd Notch 35° <u>+</u>3°

(s/n 9011C and up and airplanes modified per Maule SL#47):

Down 1st Notch  $20^{\circ} \pm 3^{\circ}$ 

2nd Notch 40° ±3° 20° +1° Down 20° +1°

Serial numbers eligible Model M-5-210TC, 9001C-9010C

Production basis (No longer in production)

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## X. Model M-6-235, 4/5\*PCLM (Normal Category), Approved June 25, 1981

(Same as M-5-235C except for wings, flaps, ailerons and flap control mechanism.)(\*Optional 5th seat s/n's 7474C and up.)

Engine Lycoming O-540-J1A5D, O-540-J3A5, IO-540-W1A5D, IO-540-W1A5 or O-540-B4B5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations (O-540-J/O-540-W)

235 hp at 2575 rpm, all operations (O-540-B)

Propeller and

propeller limits (See NOTE 14 for propeller information)

Airspeed limits (CAS) <u>Landplane, Floatplane, and Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.5) at 2500 lbs.

(+11.0) to (+20.5) at 1700 lbs. or less

Floatplane: EDO 797-2500 amphibious\* or 248B2440 Floats

(+14.0) to (+19.0) at 2750 lbs. (+10.5) to (+19.0) at 1600 lbs. or less

Aqua 2400 Floats

(+14.8) to (+19.0) at 2750 lbs. (+10.5) to (+19.0) at 1600 lbs. or less Wipline 3000 amphibious Floats (+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less Wipline 2350 amphibious Floats\*\*\* (+14.1) to (+19.0) at 2500 lbs. (+12.6) to (+19.0) at 2090 lbs. or less

Skiplane: FluiDyne A2500A Skis\*

(+14.3) to (+20.5) at 2300 lbs. (+11.0) to (+20.5) at 1700 lbs. or less Fli-Lite 3000 MK IIIA Skis\* (+15.0) to (+20.5) at 2500 lbs. (+11.0) to (+20.5) at 1700 lbs. or less

FluiDyne C2200H, C3000H/AH/M wheel Skis\*\*

(+15.0) to (+20.0) at 2500 lbs. (+10.0) to (+20.0) at 1700 lbs. or less \*Not applicable s/n 7474C and up

\*\*Not applicable s/n 7466C, 7468C-7473C \*\*\*Not applicable s/n 7249C, 7356C-7465C

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Skiplane: Fli-Lite 3000/C2200H/C3000H/AH/M: 2500 lbs.

FluiDyne A2500A: 2300 lbs.

Number of seats 4 (2 at +20, 2 at +53)

S/n 7474C and up: Optional: 5 (2 at +20.0, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

For S/n 7249C, 7356C-7472C w/ MK#27 and S/n 7473C and up: 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 26 gal. (26 gal. usable; two 13 gal. tanks in wings at +24),

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S/n 7473C and up:

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24), or

With Modification Kit 33 installed:

Optional wing auxiliary tanks 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity IO-540: 8 qt. (-34), 5 qt. minimum

O-540: 12 qt. (-34), 9 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-6-235, s/n 7249C, 7356C, 7379C-7444C, 7446C-7450C, 7452C-7459C, 7461C-7466C, 7468C,

7469C, 7471C-7475C, 7488C-7514C, 7516C-7522C and subsequent

Production basis Production Certificate No. 11SO

#### XI. Model M-6-180, 4 PCLM (Normal Category), Approved September 15, 1982

(Same as M-6-235, s/n 7249C-7472C, except for nacelle, engine and propeller.)

Engine Lycoming O-360-C1F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, all operations

Propeller and Hartzell constant speed model HC-C2YR-1BF/F7666A

propeller limits Diameter: Not over 76 in; not under 72 in.

Pitch settings at 30 in. sta.: low 12° high 27.8° to 29.8° Avoid continuous operation between 2000 and 2250 rpm. Spinner: Hartzell spinner assembly A2298-2

Governor: Woodward H210681

McCauley DC290D1(X)T12 or C290D3(X)/T29

Airspeed limits (CAS) <u>Landplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+16.7) to (+20.5) at 2400 lbs.

(+13.6) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2400 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

Optional wing auxiliary tanks 26 gal. (26 gal. usable; two 13 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-6-180, s/n 8020C, 8065C-8067C

Production basis (No longer in production.)

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## XII. Model M-5-200, 4 PCLM (Normal Category), Approved October 29, 1982

(Same as M-5-235C except for nacelle, engine and propeller.)

Engine Lycoming I0-360-J1A6D

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 200 hp at 2700 rpm, all operations

Propeller and Hartzell constant speed model HC-E2YR-1BF/F8467-7R

propeller limits Diameter: Not over 77 in.; not under 76.5 in.

Pitch settings at 30 in. sta.: low 12° high 30° to 33°
Do not exceed 24 in. manifold pressure below 2350 rpm.
Spinner: Hartzell spinner assembly A2298-2P

Governor: Woodward K210681

Airspeed limits (CAS) <u>Landplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+16.7) to (+20.5) at 2500 lbs.

(+13.2) to (+20.5) at 1700 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2500 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

Optional wing auxiliary tanks 23 gal. (23 gal. usable; two 11.5 gal. tanks in wings at +24)

See NOTE 16 if Modification Kit No. 15 is installed.

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface Wing flaps Down 1st Notch 20° +3°

movements 2nd Notch 40° ±3°

Aileron Up  $20^{\circ} \pm 1^{\circ}$  Down  $20^{\circ} \pm 1^{\circ}$ Elevator Up  $25^{\circ} \pm 2^{\circ}$  Down  $21^{\circ} \pm 1^{\circ}$ Elevator tab Up  $8^{\circ}$  to  $16^{\circ}$  Down  $29^{\circ} \pm 2^{\circ}$ Rudder Right  $21^{\circ} \pm 1^{\circ}$  Left  $21^{\circ} \pm 1^{\circ}$ 

Rudder tab Right  $48^{\circ} \pm 4^{\circ}$  Left  $48^{\circ} \pm 4^{\circ}$ 

Serial numbers

eligible Model M-5-200, s/n 8015C, 8022C

Production basis (No longer in production.)

# XIII. Model M-7-235, 5 PCLM (Normal Category) Approved November 9, 1983

(Same as M-6-235 except for fuselage, wings, flaps, ailerons, and rudder.)

Engine Lycoming O-540-J1A5D, O-540-J3A5, IO-540-W1A5D, IO-540-W1A5 or O-540-B4B5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations (O-540-J/IO-540-W)

235 hp at 2575 rpm, all operations (O-540-B)

Propeller and

propeller limits (See NOTE 14 for propeller information)

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Airspeed limits (CAS) Landplane, Floatplane, and Skiplane: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.0) at 2500 lbs.

(+12.5) to (+20.0) at 1700 lbs. or less

Floatplane: EDO 797-2500 amphibious or 248B2440 Floats

(+14.0) to (+19.0) at 2750 lbs. (+10.5) to (+19.0) at 1600 lbs. or less

Aqua 2400 Floats

(+15.0) to (+20.0) at 2750 lbs. (+12.5) to (+20.0) at 1600 lbs. or less Wipline 3000 amphibious Floats (+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less

Skiplane: Fli-Lite 3000 MK IIIA Skis

(+15.0) to (+20.0) at 2500 lbs. (+12.5) to (+20.0) at 1700 lbs. or less FluiDyne C3000H and C3000M Skis (+15.0) to (+20.0) at 2500 lbs. (+10.0) to (+20.0) at 1700 lbs. or less

Straight line variation between points given.

Maximum weight <u>Landplane</u>: 2500 lbs.

Floatplane: 2750 lbs. Skiplane: 2500 lbs.

Number of seats 5(2 at +20, 2 at +53, 1 at +83)

Empty weight

C.G. range None

Maximum baggage 100 lbs. (+20), 175 lbs. (+42), 125 lbs. (+72)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable;two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity IO-540: 8 qt. (-34), 5 qt. minimum

O-540: 12 qt. (-34), 9 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-7-235, s/n 4001C-4132C;

With STC SA2661SO, s/n 12001C and 12002C (also known as Model M-7-420)

Production basis (No longer in production.)

## XIV. Model MX-7-235, 4/5 PCLM (Normal Category), Approved October 18, 1984

(Same as M-6-235 except for wings, flaps, aileron and wing tip.)

Engine Lycoming O-540-J1A5D, O-540-J3A5, IO-540-W1A5D, IO-540-W1A5 or O-540-B4B5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations (O-540-J/IO-540-W)

235 hp at 2575 rpm, all operations (O-540-B)

Propeller and

propeller limits (See NOTE 14 for propeller information)

Airspeed limits (CAS) <u>Landplane, Floatplane, and Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.5) at 2500 lbs.

(+12.0) to (+20.5) at 1700 lbs. or less

Floatplane: EDO 797-2500 amphibious or 248B2440:

(+14.3) to (+19.0) at 2750 lbs. (+12.3) to (+19.0) at 2100 lbs. or less Wipline 2350 amphibious Floats (+14.1) to (+19.0) at 2500 lbs. (+12.6) to (+19.0) at 2090 lbs. or less Wipline 3000 amphibious Floats (+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less

Skiplane: FluiDyne C3000H:

(+15.0) to (+19.0) at 2500 lbs. (+11.0) to (+19.0) at 1840 lbs. or less

FliLite 3000 MK IIIA:

(+15.0) to (+19.0) at 2500 lbs. (+11.0) to (+19.0) at 1700 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs. Skiplane: 2500 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 5 (2 at +20, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity IO-540: 8 qt. (-34), 5 qt. minimum

O-540: 12 qt. (-34), 9 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-235, s/n 10001C-10122C

Production basis (No longer in production.)

## XV. Model MX-7-180, 4/5 PCLM (Normal Category), Approved December 18, 1984

(Same as MX-7-235 except for nacelle, engine and propeller.)

Engine Lycoming 0-360-C1F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, all operations

Propeller and Hartzell constant speed model HC-C2YR-1BF/F7666A

propeller limits Diameter: Not over 76 in., not under 72 in.

Pitch settings at 30 in. sta.: low 12° high 27.8° to 29.8° Spinner: Hartzell spinner assembly A2298-2

Governor: Woodward H210681

McCauley C290D3(X)/T29 or DC290D1(X)/T12

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Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+16.7) to (+20.5) at 2500 lbs.

(+13.6) to (+20.5) at 1600 lbs. or less

Floatplane: Aqua 2200 Floats:

(+13.9) to (+20.5) at 2500 lbs.

(+10.5) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2500 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 5 (2 at +20, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-180, s/n 11001C-11097C

Production basis (No longer in production.)

#### XVI. Model MX-7-420, 4/5 PCLM (Normal Category) Approved June 1, 1989

(Same as MX-7-235 except for nacelle, engine, propeller and rudder.)

Engine Rolls-Royce Corp. (Allison) Gas Turbine 250-B17C

Fuel Primary: Mil-T-5624L, grade JP-4 and JP-5, Mil-T-83133A, grade JP-8, ASTM-D-1655, Jet A, A1 or B, JP-1

Fuel conforming to ASTM-D-1655, Jet A, Artic Diesel Fuel DF-A (VV0F800B) conforming to

ASTM-D-1655, Jet A or A1 Diesel #1 fuel conforming to ASTM-D-1655, Jet A

Emergency: Mil-G-5572, all grades (aircraft boost pump on; maximum of 6 hours operation per

overhaul period of turbine through an engine operating range of idle to 90% maximum SHP)

Cold Weather: To assure consistent starts below 4°C (40°F), the following fuels may be necessary:

MIL-T-5624, grade JP-4 ASTM-D-1655, Jet B AVGAS/Jet A, Jet A1 or Jet JP-5 mixture.

(Refer to Cold Weather Fuels, para 2-48, for mixing/use of cold weather fuel in Allison Manual 11W2.)

Engine limits 369 hp - 90 psi torque, at 2030 rpm continuous

Propeller and Hartzell, constant speed, full-feathering beta, model propeller limits HC-B3TF-7A/T10173F-21R or HC-B3TF-7A/T10173-21R

Diameter: 80.5 - 78 inches Pitch settings at 30" sta.:

Reverse pitch -15° ±5° feather 81.1° ±5° Spinner: Hartzell spinner assembly A3640P

Maximum operating

altitude 20,000 feet

Airspeed limits (CAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

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C.G. range <u>Landplane</u>: (+15.0) to (+20.0) at 2500 lbs.

(+12.0) to (+20.0) at 1700 lbs. or less

Floatplane: Wipline 2350 Amphibious:

(+14.1) to (+18.5) at 2500 lbs.

(+12.6) to (+18.5) at 2090 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2500 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 5 (2 at +20, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40.6 usable; two 21.5 gal. tanks in wings at +24-considered one tank)

or 47.6 gal. (43 gal.usable, two 23.8 gal. tanks in wings at +24 - considered one tank) Optional wing auxiliary tanks, 30 gal. (30 usable; two 15 gal. tanks in wings at +24)

(or 42 gal. 42 usable; two 21 gal. tanks in wings at + 24).

(See NOTE 1 for data on system fuel.)

Oil capacity 10 qt. (-22.5), 9 qts. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-420, s/n 13001C-13003C

Production basis (No longer in production.)

#### XVII. Model MXT-7-180, 4/5 PCLM (Normal Category), Approved November 9, 1990

(Same as M-6-235, s/n 7474C and up, except for nacelle, engine, propeller, ailerons, flaps and landing gear (aluminum spring mains with nosewheel in lieu of tailwheel).)

Engine Lycoming 0-360-C1F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, all operations

Propeller and Hartzell constant speed model HC-C2YR-1BF/7666A

propeller limits Diameter: Not over 76 in., not under 72 in.

Pitch settings at 30 in. sta.: low 12° high 27.8° to 29.8° Avoid continuous operation between 2000 and 2250 rpm.

McCauley constant speed 3-blade model B3D32C414-C/G-82NDA-8

Diameter: 74 in.

Pitch settings at 30" sta: low 10.6° <u>+</u>0.2° high 27.5° <u>+</u>0.5°

Avoid continuous operation below 10 inches HG between 1900 and 2300 rpm.

Spinner: Hartzell spinner assembly A2298-2 (use with Hartzell propeller only)

McCauley spinner assembly D-6240 (use with McCauley propeller only)

Governor: Woodward H210681

McCauley C290D3(X)/T29 or DC290D1(X)/T12

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.9) to (+20.5) at 2500 lbs.

(+12.4) to (+20.5) at 1740 lbs. or less

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> Agua 2200 Floats: Floatplane:

> > (+13.9) to (+20.5) at 2500 lbs. (+10.5) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2500 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 5 (2 at +20, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MXT-7-180, s/n 14000C and up

Production basis Production Certificate No. 11SO

#### XVIII. Model MT-7-235, 4/5 PCLM (Normal Category), Approved March 20, 1992

(Same as MXT-7-180 except for nacelle, engine, propeller and M-7 fuselage.)

Engine Lycoming IO-540-W1A5D, IO-540-W1A5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, full throttle continuous

Propeller and Hartzell constant speed model HC-C2YR-1BF/8468A-6R or -3R propeller limits Hartzell constant speed 3-blade model HC-C3YR-1RF/F7693(F)-(2)

Diameter: -3R: Not over 81 in.; not under 77 in

-6R: Not over 78 in.; not under 77 in. F7693: Not over 78 in.; not under 76 in.

Pitch settings at 30" sta.: -3R: low  $16^{\circ} \pm 1^{\circ}$  high  $30^{\circ} \pm 1^{\circ}$ 

-6R: low 16.7° +1° high 30° +1° F7693: low 14.2° +1° high 31° +1°

-6R: Do not exceed 23 in. M.P. below 2050 rpm.

McCauley constant speed model B3D32C414-C/G-82NDA-4 or -2 McCauley constant speed model B2D37C-224-B/G-90RA-9

Pitch settings at 30" sta:

-2 (80"): low 15.0° +0.2° high 30.0° +0.5° -4 (78"): low 15.7° +0.2° high 30.0° +0.5° -9 (81"): low 14.7° +0.2° high 24.6° +0.5°

Spinner: Hartzell spinner assembly A2298-2 (use with Hartzell 2 blade propeller only)

> Hartzell spinner assembly C-3535-1P (use with Hartzell 3-blade prop only) McCauley spinner assembly D-6240 (use with McCauley 3 blade propeller only) McCauley spinner assembly D-6195 (use with McCauley 2 blade propeller only)

Governor: Woodward F210681 or B210761

McCauley C290D3(X)/T30 or DC290D1(X)/T14

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds) Rev. 33 21 of 49 3A23

C.G. range <u>Landplane</u>: (+15.0) to (+20.5) at 2500 lbs.

(+12.0) to (+20.5) at 1800 lbs. or less

Floatplane: Aqua 2400 Floats

(+15.0) to (+20.0) at 2750 lbs. (+12.5) to (+20.0) at 1600 lbs. or less Wipline 3000 amphibious Floats (+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-34), 5 qt. Minimum (See NOTE 1 for data on system oil

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MT-7-235, s/n 18001C and up

Production basis Production Certificate No. 11SO

## XIX. Model M-8-235, 4/5 PCLM (Normal Category), Approved August 10, 1992

(Same as M-6-235, s/n 7474C & up, except for flaps, ailerons and landing gear (aluminum spring mains.)

Engine Lycoming O-540-J1A5D, O-540-J3A5, IO-540-W1A5D, IO-540-W1A5 or O-540-B4B5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations (O-540-J/IO-540-W)

235 hp at 2575 rpm, all operations (O-540-B)

Propeller and

propeller limits (See NOTE 14 for propeller information)

Airspeed limits (CAS) <u>Landplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.5) at 2500 lbs.

(+12.0) to (+20.5) at 1760 lbs. or less Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 5 (2 at +20, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

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Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity IO-540: 8 qt. (-34), 5 qt. minimum

O-540: 12 qt. (-34), 9 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-8-235, s/n 15001C and up

Production basis Production Certificate No. 11SO

# XX. Model MX-7-160, 4 PCLM (Normal Category), Approved November 13, 1992

(Same as MXT-7-180, except for engine, propeller, and has conventional tailwheel landing gear.)

Engine Lycoming 0-320-B2D

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 160 hp at 2700 rpm, full throttle continuous

Propeller and Sensenich fixed pitch 74DM7S5-0-52 or -54 or -56 (74" Dia.) or propeller limits Sensenich fixed pitch 74DM7S8-0-52 or -54 or -56 (74" Dia.)

Diameter: Not over 74 in., not under 72 in., no further reduction permitted. Static rpm at full throttle: Not over 2500 rpm, not under 2400 rpm (-54 or -56)

Not over 2620 rpm, not under 2520 rpm (-52) Spinner: Sensenich spinner assembly S74DM

Airspeed limits (IAS) <u>Landplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.4) to (+20.5) at 2200 lbs.

(+12.5) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2200 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-160, s/n 19001C and up

Production basis Production Certificate No. 11SO

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## XXI. Model MXT-7-160, 2/4 PCLM (Normal Category), Approved November 13, 1992

(Same as MXT-7-180, except for engine and propeller.)

Engine Lycoming Lycoming 0-320-B2D

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 160 hp at 2700 rpm, full throttle continuous

Propeller and Sensenich fixed pitch 74DM7S5-0-52 or -54 or -56 (74" Dia.) or propeller limits Sensenich fixed pitch 74DM7S8-0-52 or -54 or -56 (74" Dia.)

Diameter: Not over 74 in., not under 72 in., no further reduction permitted. Static rpm at full throttle: Not over 2500 rpm, not under 2400 rpm (-54 or -56)

Not over 2620 rpm, not under 2520 rpm (-52)

Spinner: Sensenich spinner assembly S74DM

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.4) to (+20.5) at 2200 lbs.

(+12.5) to (+20.5) at 1600 lbs. or less

Floatplane: Aqua 2200 Floats:

(+14.6) to (+20.5) at 2200 lbs. (+13.5) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2200 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 2 (2 at +20)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MXT-7-160, s/n 17001C and up

Production basis Production Certificate No. 11SO

## XXII. Model MX-7-180A, 4 PCLM (Normal Category), Approved June 3, 1993

(Same as MXT-7-180, except for engine, propeller, and has conventional tailwheel landing gear.)

Engine Lycoming 0-360-C1F or 0-360-C4F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, full throttle continuous

Propeller and Sensenich fixed pitch 76EM8S5-0-56 (76" Dia.) or 76EM8S8-0-56 (76" Dia.) propeller limits Diameter: Not over 76 in., not under 76 in., no further reduction permitted.

Static rpm at full throttle: Not over 2500 rpm, not under 2400 rpm.

Spinner: Sensenich spinner assembly S76EM

Airspeed limits (IAS) <u>Landplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.9) to (+20.5) at 2400 lbs.

(+12.4) to (+20.5) at 1740 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2400 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. at (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wing at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-180A, s/n 20001C and up

Production basis Production Certificate No. 11SO

# XXIII. Model MXT-7-180A, 4 PCLM (Normal Category), Approved June 3, 1993

(Same as MXT-7-180, except for engine and propeller.)

Engine Lycoming 0-360-C1F or 0-360-C4F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, full throttle continuous

Propeller and Sensenich fixed pitch 76EM8S5-0-56 (76" Dia.) or 76EM8S8-0-56 (76" Dia.) propeller limits Diameter: Not over 76 in., not under 76 in., no further reduction permitted.

Static rpm at full throttle: Not over 2500 rpm, not under 2400 rpm.

Spinner: Sensenich spinner assembly S76EM

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.9) to (+20.5) at 2400 lbs.

(+12.4) to (+20.5) at 1740 lbs. or less

Floatplane: Aqua 2200 Floats:

(+15.0) to (+20.5) at 2400 lbs. (+13.5) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2400 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. at (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wing at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. Minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MXT-7-180A, s/n 21001C and up

Production basis Production Certificate No. 11SO

## XXIV. Model MX-7-180B, 4/5 PCLM (Normal Category), Approved July 12, 1993

(Same as MXT-7-180 except for conventional tailwheel landing gear.)

Engine Lycoming 0-360-C1F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, all operations

Propeller and Hartzell constant speed model HC-C2YR-1BF/F7666A

propeller limits Diameter: Not over 76 in., not under 72 in. no further reduction permitted.

Pitch settings at 30 in. sta.: low 12° high 27.8° to 29.8° Avoid continuous operation between 2000 and 2250 rpm. Spinner: Hartzell spinner assembly A2298-2

Governor: Woodward H210681

McCauley C290D3(X)/T29 or DC290D1(X)/T12

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.9) to (+20.5) at 2500 lbs.

(+12.4) to (+20.5) at 1740 lbs. or less Straight line variation between points given.

<u>Floatplane</u>: See appropriate AFMS for C.G. range for different float installations.

Empty weight

C.G. range None

Maximum weight 2500 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 5 (2 at +20, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-180B, s/n 22001C and up

Production basis Production Certificate No. 11SO

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## XXV. Model MXT-7-420, 4/5 PCLM (Normal Category), Approved July 12, 1993, Model deleted from TC January 7, 2003

Model MXT-7-420 removed from the type certificate per Maule Aerospace Technology's request. One serial number airplane of this model was built and has now been dismantled.

## XXVI. Model M-7-235B, 4/5 PCLM (Normal Category), Approved October 14, 1993

(Same as MT-7-235 except has conventional tailwheel landing gear.)

Engine Lycoming O-540-J1A5D, O-540-J3A5, IO-540-W1A5D, IO-540-W1A5 or O-540-B4B5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations (O-540-J/IO-540-W)

235 hp at 2575 rpm, all operations (O-540-B)

Propeller and

propeller limits (See NOTE 14 for propeller information)

Airspeed limits (CAS) <u>Landplane</u>, <u>Floatplane</u>, and <u>Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.0) at 2500 lbs.

(+12.5) to (+20.0) at 1700 lbs. or less

Floatplane: EDO 797-2500 amphibious or 248B2440:

(+14.0) to (+19.0) at 2750 lbs. (+12.5) to (+19.0) at 2400 lbs. or less

Aqua 2400 Floats

(+15.0) to (+20.0) at 2750 lbs. (+12.5) to (+20.0) at 1600 lbs. or less Wipline 3000 amphibious Floats (+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less

Skiplane: FliLite 3000 MK IIIA:

(+15.0) to (+20.0) at 2500 lbs. (+12.5) to (+20.0) at 1700 lbs. or less

FluiDyne C3000H:

(+15.0) to (+19.5) at 2500 lbs. (+11.5) to (+19.5) at 1700 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs. Skiplane: 2500 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity IO-540: 8 qt. (-34), 5 qt. minimum

O-540: 12 qt. (-34), 9 qt. minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-7-235B, s/n 23001C and up

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Production basis Production Certificate No. 11SO

## XXVII. Model M-7-235A, 4/5 PCLM (Normal Category) Approved March 10, 1994

(Same as M-7-235 except for flaps and ailerons.)

Engine Lycoming O-540-J1A5D, O-540-J3A5, IO-540-W1A5D, IO-540-W1A5 or O-540-B4B5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations (O-540-J/IO-540-W)

235 hp at 2575 rpm, all operations (O-540-B)

Propeller and

propeller limits (See NOTE 14 for propeller information)

Airspeed limits (CAS) <u>Landplane, Floatplane, and Skiplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.0) at 2500 lbs.

(+12.5) to (+20.0) at 1700 lbs. or less

Floatplane: Aqua 2400 Floats

(+15.0) to (+20.0) at 2750 lbs. (+12.5) to (+20.0) at 1600 lbs. or less

Skiplane: FluiDyne C3000H:

(+15.0) to (+19.5) at 2500 lbs.

(+11.5) to (+19.5) at 1700 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs. Skiplane: 2500 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity IO-540: 8 qt. (-34), 5 qt. minimum

O-540: 12 qt. (-34), 9 qt. minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-7-235A, s/n 24001C and up

Production basis Production Certificate No. 11SO

## XXVIII. Model M-7-235C, 4/5 PCLM (Normal Category) Approved October 10, 1995

(Same as M-7-235B except spring aluminum main landing gear.)

Engine Lycoming O-540-J1A5D, O-540-J3A5, IO-540-W1A5D, IO-540-W1A5 or O-540-B4B5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations (O-540-J/IO-540-W)

235 hp at 2575 rpm, all operations (O-540-B)

Propeller and

propeller limits (See NOTE 14 for propeller information)

Airspeed limits (CAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range Landplane: (+15.0) to (+20.5) at 2500 lbs.

(+12.0) to (+20.5) at 1760 lbs. or less

Floatplane: EDO 797-2500 amphibious Floats

(+14.0) to (+19.0) at 2750 lbs. (+12.5) to (+19.0) at 2400 lbs. or less

Aqua 2400 Floats

(+15.0) to (+20.0) at 2750 lbs. (+12.5) to (+20.0) at 1600 lbs. or less Wipline 3000 amphibious Floats (+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

or 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at  $\pm$ 24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity IO-540: 8 qt. (-34), 5 qt. minimum

O-540: 12 qt. (-34), 9 qt. minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-7-235C, s/n 25001C and up, except s/n 25112C is not eligible (no standard certificate of

airworthiness was issued per customer's request before aircraft was exported.)

Production basis Production Certificate No. 11SO

## XXIX. Model MX-7-180C, 4/5 PCLM (Normal Category) Approved August 27, 1996

(Same as MX-7-180B except for landing gear (aluminum spring mains)

Engine Lycoming 0-360-C1F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, all operations

Propeller and Hartzell constant speed model HC-C2YR-1BF/F7666A

propeller limits Diameter: Not over 76 in., not under 72 in. no further reduction permitted.

Pitch settings at 30 in. sta.: low 12° high 27.8° to 29.8° Avoid continuous operation between 2000 and 2250 rpm. Spinner: Hartzell spinner assembly A2298-2

Governor: Woodward H210681

McCauley C290D3(X)/T29 or DC290D1(X)/T12

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.9) to (+20.5) at 2500 lbs.

(+12.4) to (+20.5) at 1740 lbs. or less

Floatplane: Aqua 2200 Floats

(+13.9) to (+20.5) at 2500 lbs. (+10.5) to (+20.5) at 1600 lbs. or less Wipline 2350 amphibious Floats (+15.0) to (+19.0) at 2500 lbs. (+13.5) to (+19.0) at 2090 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2500 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 5 (2 at +20, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

or 43 gal. (40 gal. usable; two 21.5 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

Oil capacity 8 qt. (-36.5), 2 qt. minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-180C, s/n 28001C and up

Production basis Production Certificate No. 11SO

## XXX. Model M-7-260, 4/5 PCLM (Normal Category) Approved April 17, 1998

(Same as M-7-235B except engine and propeller.)

Engine Lycoming IO-540-V4A5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 260 hp at 2700 rpm, full throttle continuous

Propeller and

propeller limits (See NOTE 15 for propeller information)

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.0) at 2500 lbs.

(+12.5) to (+20.0) at 1700 lbs. or less

Floatplane: Wipline 3000 amphibious Floats

(+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less

Aqua 2400 Floats

(+15.0) to (+20.0) at 2750 lbs. (+12.5) to (+20.0) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on fuel system.)

Oil capacity 8 qt. (-34), 5 qt. minimum (See NOTE 1 for data on oil system.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-7-260, s/n 26001C and up

Production basis Production Certificate No. 11SO

## XXXI. Model MT-7-260, 4/5 PCLM (Normal Category) Approved April 17, 1998

(Same as MT-7-235 except engine and propeller.)

Engine Lycoming IO-540-V4A5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 260 hp at 2700 rpm, full throttle continuous

Propeller and

propeller limits (See NOTE 15 for propeller information)

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range Landplane: (+15.0) to (+20.0) at 2500 lbs.

(+12.5) to (+20.0) at 1700 lbs. or less

Floatplane: Wipline 3000 amphibious Floats

(+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less

Aqua 2400 Floats

(+15.0) to (+20.0) at 2750 lbs. (+12.5) to (+20.0) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

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(See NOTE 1 for data on fuel system.)

Oil capacity 8 qt. (-34), 5 qt. minimum (See NOTE 1 for data on oil system.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MT-7-260, s/n 27001C and up

Production basis Production Certificate No. 11SO

## XXXII. Model M-7-260C, 4/5 PCLM (Normal Category) Approved October 19, 1998

(Same as M-7-235C except engine and propeller.)

Engine Lycoming IO-540-V4A5

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 260 hp at 2700 rpm, full throttle continuous

Propeller and

propeller limits (See NOTE 15 for propeller information)

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range Landplane: (+15.0) to (+20.0) at 2500 lbs.

(+12.5) to (+20.0) at 1700 lbs. or less

Floatplane: Wipline 3000 amphibious Floats

(+14.0) to (+19.0) at 2750 lbs.

(+12.0) to (+19.0) at 2100 lbs. or less

Aqua 2400 Floats

(+15.0) to (+20.0) at 2750 lbs. (+12.5) to (+20.0) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on fuel system.)

Oil capacity 8 qt. (-34), 5 qt. minimum (See NOTE 1 for data on oil system.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-7-260C, s/n 30001C and up

Production basis Production Certificate No. 11SO

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## XXXIII. Model M-7-420AC, 4/5 PCLM (Normal Category) Approved December 17, 1998

(Same as M-7-235A except for main landing gear, flap ratchet, nacelle, engine, and propeller.)

Engine Rolls-Royce Corp. (Allison) Gas Turbine 250-B17C

Fuel Primary: Mil-T-5624L, grade JP-4 and JP-5, Mil-T-83133A, grade JP-8,

ASTM-D-1655, Jet A, A1 or B, JP-1 Fuel conforming to ASTM-D-1655, Jet A, Artic Diesel Fuel DF-A (VV0F800B) conforming to ASTM-D-1655,

Jet A or A1 Diesel #1 fuel conforming to ASTM-D-1655, Jet A

Emergency: Mil-G-5572, all grades (aircraft boost pump on; maximum of 6 hours operation per

overhaul period of turbine through an engine operating range of idle to 90% maximum SHP)

Cold Weather: To assure consistent starts below 4°C (40°F), the following fuels may be necessary:

MIL-T-5624, grade JP-4 ASTM-D-1655, Jet B AVGAS/Jet A, Jet A1 or Jet JP-5 mixture.

(Refer to Cold Weather Fuels, para 2-48, for mixing/use of cold weather fuel in Allison Manual 11W2.)

Engine limits 369 hp - 90 psi torque, at 2030 rpm continuous

Propeller and Hartzell, constant speed, full-feathering beta, model

propeller limits HC-B3TF-7A/T10173F-21R

Diameter: 80.5 - 78 inches Pitch settings at 30" sta.:

Reverse pitch -15° ±5° feather 81.1° ±5° Spinner: Hartzell spinner assembly A3640P

Maximum operating

altitude 20,000 feet

Airspeed limits (CAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.5) at 2500 lbs.

 $\left(+13.1\right)$  to  $\left(+20.5\right)$  at 2090 lbs. or less

Floatplane: Wipline 3000 Amphibious:

(+14.0) to (+19.0) at 2750 lbs.

(+12.0) to (+19.0) at 2100 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 47.6 gal. (43 gal. usable, two 23.8 gal. tanks in wings at +24 - considered one tank)

Optional wing auxiliary tanks, 42 gal. (42 usable; two 21 gal. tanks in wings at +24).

(See NOTE 1 for data on fuel system.)

Oil capacity 10 qt. (-22.5), 9 qts. Minimum (See NOTE 1 for data on oil system.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-7-420AC, s/n 29001C and up

Production basis Production Certificate No. 11SO

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## XXXIV. Model MX-7-160C, 4 PCLM (Normal Category), Approved March 12, 1999

(Same as MX-7-160, except for spring aluminum main landing gear.)

Engine Lycoming Lycoming 0-320-B2D

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 160 hp at 2700 rpm, full throttle continuous

Propeller and Sensenich fixed pitch 74DM7S5-0-52 or -54 or -56 (74" Dia.) or propeller limits Sensenich fixed pitch 74DM7S8-0-52 or -54 or -56 (74" Dia.)

Diameter: Not over 74 in., not under 72 in., no further reduction permitted. Static rpm at full throttle: Not over 2500 rpm, not under 2400 rpm (-54 or -56)

Not over 2620 rpm, not under 2520 rpm (-52)

Spinner: Sensenich spinner assembly S74DM

Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.4) to (+20.5) at 2200 lbs.

(+12.5) to (+20.5) at 1600 lbs. or less

Floatplane: Aqua 2200 Floats

(+14.6) to (+20.5) at 2200 lbs. (+13.5) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2200 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wings at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on fuel system.)

Oil capacity 8 qt. (-36.5), 2 qt. minimum (See NOTE 1 for data on oil system.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-160C, s/n 34001C and up

Production basis Production Certificate No. 11SO

## XXXV. Model MX-7-180AC, 4/5 PCLM (Normal Category), Approved May 4, 2000

(Same as MX-7-180A, except for aluminum spring main landing gear.)

Engine Lycoming 0-360-C1F or 0-360-C4F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, full throttle continuous

Propeller and Sensenich fixed pitch 76EM8S5-0-56 (76" Dia.) or 76EM8S8-0-56 (76" Dia.) propeller limits Diameter: Not over 76 in., not under 76 in., no further reduction permitted.

Static rpm at full throttle: Not over 2500 rpm, not under 2400 rpm.

Spinner: Sensenich spinner assembly S76EM

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Airspeed limits (IAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.9) to (+20.5) at 2400 lbs.

(+12.4) to (+20.5) at 1740 lbs. or less

Floatplane: Aqua 2200 Floats

(+15.0) to (+20.5) at 2400 lbs. (+13.5) to (+20.5) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2400 lbs.

Number of seats 4 (2 at +20, 2 at +53)

Optional: 5(2 at +20, 2 at +53, 1 at +78)

Maximum baggage 100 lbs. at (+20), 175lbs. (+42), 125 lbs. (+70)

Fuel capacity 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks 30 gal. (30 gal. usable; two 15 gal. tanks in wing at +24)

or 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on fuel system.)

Oil capacity 8 qt. (-36.5), 2 qt. minimum (See NOTE 1 for data on oil system.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MX-7-180AC, s/n 33001C and up

Production basis Production Certificate No. 11SO

## XXXVI. Model M-7-420A, 4/5 PCLM (Normal Category) Approved November 20, 2000

(Same as M-7-420AC except conventional oleo main landing gear.)

Engine Rolls-Royce Corp. (Allison) Gas Turbine 250-B17C

Fuel Primary: Mil-T-5624L, grade JP-4 and JP-5, Mil-T-83133A, grade JP-8, ASTM-D-1655, Jet A, A1 or B, JP-1

Fuel conforming to ASTM-D-1655, Jet A, Artic Diesel Fuel DF-A (VV0F800B) conforming to

ASTM-D-1655, Jet A or A1 Diesel #1 fuel conforming to ASTM-D-1655, Jet A

Emergency: Mil-G-5572, all grades (aircraft boost pump on; maximum of 6 hours operation per overhaul period of

turbine through an engine operating range of idle to 90% maximum SHP)

Cold Weather: To assure consistent starts below 4°C (40°F), the following fuels may be necessary:

MIL-T-5624, grade JP-4 ASTM-D-1655, Jet B AVGAS/Jet A, Jet A1 or Jet JP-5 mixture.

(Refer to Cold Weather Fuels, para 2-48, for mixing/use of cold weather fuel in Allison Manual 11W2.)

Engine limits 369 hp - 90 psi torque, at 2030 rpm continuous

Propeller and Hartzell, constant speed, full-feathering beta, model HC-B3TF-7A/T10173F-21R

propeller limits Or HC-B3TF-7A/T10173-21R

Diameter: 80.5 - 78 inches Pitch settings at 30" sta.:

Reverse pitch -15° ±5° feather 81.1° ±5° Spinner: Hartzell spinner assembly A3640P

Maximum operating

altitude 20,000 feet

Airspeed limits (CAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.0) to (+20.5) at 2500 lbs.

(+13.1) to (+20.5) at 2090 lbs. or less

Floatplane: Wipline 3000 Amphibious:

(+14.0) to (+19.0) at 2750 lbs.

(+12.0) to (+19.0) at 2100 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 47.6 gal. (43 gal. usable, two 23.8 gal. tanks in wings at +24 - considered one tank)

Optional wing auxiliary tanks, 42 gal. (42 usable; two 21 gal. tanks in wings at + 24).

(See NOTE 1 for data on fuel system.)

Oil capacity 10 qt. (-22.5), 9 qts. Minimum (See NOTE 1 for data on oil system.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-7-420A, s/n 35001C and up

Production basis Production Certificate No. 11SO

## XXXVII. Model MT-7-420, 4/5 PCLM (Normal Category) Approved January 6, 2003, Application date September 16, 2002

(Same as MT-7-260 except for nacelle, engine, propeller.)

Engine Rolls-Royce Corp. (Allison) Gas Turbine 250-B17C

Fuel Primary: Mil-T-5624L, grade JP-4 and JP-5, Mil-T-83133A, grade JP-8,

ASTM-D-1655, Jet A, A1 or B, JP-1 Fuel conforming to ASTM-D-1655, Jet A, Artic Diesel Fuel DF-A (VV0F800B) conforming to ASTM-D-1655,

Jet A or A1 Diesel #1 fuel conforming to ASTM-D-1655, Jet A

Emergency: Mil-G-5572, all grades (aircraft boost pump on; maximum of 6 hours operation per

overhaul period of turbine through an engine operating range of idle to 90% maximum SHP)

Cold Weather: To assure consistent starts below 4°C (40°F), the following fuels may be necessary:

MIL-T-5624, grade JP-4 ASTM-D-1655, Jet B AVGAS/Jet A, Jet A1 or Jet JP-5 mixture.

(Refer to Cold Weather Fuels, para 2-48, for mixing/use of cold weather fuel in Allison Manual 11W2.)

Engine limits 369 hp - 90 psi torque, at 2030 rpm continuous

Propeller and Hartzell, constant speed, full-feathering beta, model HC-B3TF-7A/T10173F-21R

propeller limits or HC-B3TF-7A/T10173-21R Diameter: 80.5 - 78 inches

Pitch settings at 30" sta.:

Reverse pitch -15° ±5° feather 81.1° ±5° Spinner: Hartzell spinner assembly A3640P

Maximum operating

altitude 20,000 feet

Airspeed limits (CAS) <u>Landplane and Floatplane</u>: (See NOTE 11 for airspeeds)

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C.G. range <u>Landplane</u>: (+16.0) to (+20.5) at 2500 lbs.

(+13.0) to (+20.5) at 1700 lbs. or less

Floatplane: Wipline 3000 Amphibious:

(+14.0) to (+19.0) at 2750 lbs. (+12.0) to (+19.0) at 2100 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2500 lbs.

Floatplane: 2750 lbs.

Number of seats 5 (2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 175lbs. (+42), 125 lbs. (+72)

Fuel capacity 47.6 gal. (43 gal. usable, two 23.8 gal. tanks in wings at +24 - considered one tank)

Optional wing auxiliary tanks, 42 gal. (42 usable; two 21 gal. tanks in wings at + 24).

(See NOTE 1 for data on fuel system.)

Oil capacity 10 qt. (-22.5), 9 qts. Minimum (See NOTE 1 for data on oil system.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model MT-7-420, s/n 51001C and up

Production basis Production Certificate No. 11SO

## XXXVIII. Model M-4-180V, 2 PCLM (Normal Category) Approved September 6, 2005, Application date July 8, 2004

(Same as MX-7-180 except for M-4 tail, M-4 maximum weight, seat capacity (2) and door quantity (2))

Engine Lycoming 0-360-C1F or 0-360-C4F

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 180 hp at 2700 rpm, full throttle continuous

Propeller and Hartzell constant speed model HC-C2YR-1BF/F7666A (eligible on O-360-C1F only)

propeller limits Diameter: Not over 76 in., not under 72 in.

Pitch settings at 30 in. sta.: low 12° high 27.8° to 29.8° Avoid continuous operation between 2000 rpm and 2250 rpm

Spinner: Hartzell spinner assembly A2298-2

Governor: Woodward H210681

McCauley C290D3(X)/T29 or DC290D1(X)/T12

Sensenich fixed pitch 76EM8S5-0-56 or 76EM8S8-0-56

Diameter: Not over 76 in., not under 76 in., no further reduction permitted. Static rpm at full throttle: Not over 2500 rpm, not under 2400 rpm.

For O-360-C1F (modified) avoid continuous operation between 2150 rpm and 2350 rpm.

Spinner: Sensenich spinner assembly S76EM

Airspeed limits (IAS) <u>Landplane</u>: (See NOTE 11 for airspeeds)

C.G. range <u>Landplane</u>: (+15.6) to (+19.0) at 2300 lbs.

(+11.0) to (+19.0) at 1500 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight 2300 lbs.

Number of seats 2 at +20

Maximum baggage 100 lbs. at (+20), 200 lbs. (+43)

Fuel capacity 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Optional wing auxiliary tanks, 30 gal. (30 gal. usable; two 15 gal. tanks in wing at +24)

(See NOTE 1 for data on fuel system.)

Oil capacity 8 qt. (-36.5), 2 qt. minimum (See NOTE 1 for data on oil system.)

Control surface movements

Wing flaps Handle full down  $-7^{\circ} + 1^{\circ}$ First Notch  $0^{o} + 1^{o}$ Second Notch 20° ±3° Third Notch 35° +3° Up 20° ±1°  $20^{\circ} + 1^{\circ}$ Down Up 25° <u>+2</u>° Up 11° <u>+</u>3° Down 21° +1° Elevator tab Down 25° ±1° Right 21° +1° Left 21° ±1° Rudder tab Right 48° +4°  $48^{o} + 4^{o}$ Left

Serial numbers eligible Model M-4-180V, s/n 47001C and up

Aileron

Elevator

Rudder

Production basis Production Certificate No. 11SO

## XXVIX. Model M-9-235, 4/5 PCLM (Normal Category) Approved April 9, 2012, Final application date August 8, 2011

(Same as M-7-235C except for structural reinforcements and minor changes to the fuselage, wings and main landing gear.)

Engine IO-540-W1A5 Lycoming

Fuel 100/100LL minimum grade aviation gasoline

Engine limits 235 hp at 2400 rpm, all operations

Propeller and

propeller limits McCauley constant speed 3-blade model B3D32C414-[]/[]-82NDA-2

Diameter: -2: not over 80 in.; not under 76 in.

Pitch settings at 30 in. sta.: low  $11.3^{\circ} \pm 0.2^{\circ}$  high  $30.0^{\circ} \pm 0.5^{\circ}$ 

Spinner: McCauley spinner assembly D-6240 Governor: McCauley DC290D1(X)/T14

Airspeed limits (CAS) Landplane and Floatplane: (See NOTE 11 for airspeeds)

C.G. range (+16.2) to (+20.5) at 2800 lbs. Landplane:

(+12.5) to (+20.5) at 1700 lbs. or less

Aqua 2400 Floats Floatplane:

(+15.0) to (+20.0) at 2750 lbs.

(+12.5) to (+20.0) at 1600 lbs. or less

Straight line variation between points given.

Empty weight

C.G. range None

Maximum weight Landplane: 2800 lbs.

> 2750 lbs. Floatplane:

Number of seats 5(2 at +20, 2 at +53, 1 at +83)

Optional: 4 (2 at +20, 2 at +53)

Maximum baggage 100 lbs. (+20), 200 lbs. (+42), 125 lbs. (+72)

Fuel capacity 47.6 gal. (43 gal. usable; two 23.8 gal. tanks in wings at +24)

Wing auxiliary tanks 42 gal. (42 gal. usable; two 21 gal. tanks in wings at +24)

(See NOTE 1 for data on system fuel.)

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Oil capacity 8 qt. (-34), 5 qt. minimum (See NOTE 1 for data on system oil.)

Control surface

movements (See NOTE 12 for control surface movement limits)

Serial numbers eligible Model M-9-235, s/n 36001C and up

Production basis Production Certificate No. 11SO

#### **DATA PERTINENT TO ALL MODELS:**

Datum Wing leading edge

Leveling means Leveling lug and mark on bottom side of right wing root.

Certification basis

Part 3, Civil Air Regulations, effective May 15, 1956 as amended by 3-1 thru 3-5 and 3.705 as amended by 3-7; and 14 CFR Part 36 amended thru 36-4\* and part 23.955 in lieu of CAR 3.435 for the models M-5-235C, M-5-180C, M-5-210TC, M-6-235, M-5-200, M-6-180, M-7-235, MX-7-235, MX-7-180, MXT-7-180, MXT-7-180, MXT-7-180A, MXT-7-180A, MXT-7-180A, MXT-7-180B, M-7-235A, M-7-235B, M-7-235C, MX-7-180C, M-7-260, MT-7-260, M-7-260C, MX-7-160C, MX-7-180AC, M-4-180V and M-9-235.

\* Part 36 amendment shown is for the model M-5-235C which was approved in 1976. For models approved between 1976 and 2002, per §36.2 (prior to Amendment 36-24) the Part 36 amendment in effect on the approval date of each model was used. After 2002, per §36.2 the Part 36 amendment in effect on the date of application was used. The applicable dates are located in the first line in each model's section above. Note: Some of these derivative models were able to show no acoustical change from a previously approved model.

#### Special Certification Rules for the Model M-5-210TC:

21.101(b)	Amendment	21-42
23.141		23-7
23.909		23-7
23.1041		23-7
23.1043		23-7
23.1047		23-7
23.1093		23-17
23.1143		23-17
23.1183		23-15
23.1305(p)		23-15
23.1527		23-7
23.1583(k)		23-7
	23.141 23.909 23.1041 23.1043 23.1047 23.1093 23.1143 23.1183 23.1305(p) 23.1527	23.141 23.909 23.1041 23.1043 23.1047 23.1093 23.1143 23.1183 23.1305(p) 23.1527

# Special Certification Rule for the Model MX-7-180:

14 CFR part 23.1545 Amendment 23-23, October 30, 1978 in lieu of CAR 3.757 (Amendment 3-5, September 1, 1959)

# Special Certification Rules for the Model MX-7-420, M-7-420AC, M-7-420A and MT-7-420:

Part 3, Civil Air Regulations, affective May 15, 1956, as amended through 3-7; and 14 CFR Part 36 as amended through 36-14, SFAR 27 as amended through 27-2, and the following

Part 23 requirements for turbine engine installations:

23.45 (-21)	23.939 (-18)	23.1143 (-17)
23.49 (-21)	23.943 (-18)	23.1145 (-18)
23.65 (-21)	23.951 (-15)	23.1155 (-7)
23.75 (-21)	23.955 (-7)	23.1165 (-17)
23.77 (-21)	23.977 (-17)	23.1183
23.173 (-14)	23.991 (-26)	23.1303 (-17)
23.175 (-17)	23.997 (-15)	23.1305 (-26)
23.251 (-0)	23.1013 (-15)	23.1323 (-20)
23.253 (-7)	23.1015 (-15)	23.1337 (-18)

23.335 (-16)	23.1019 (-15)	23.1353 (-20)
23.361 (-26)	23.1027 (-14)	23.1505 (-7) & 3.187 or 23.333
23.371 (-7)	23.1041 (-7)	23.1521 (-21)
23.629 (-31)	23.1043 (-21)	23.1527 (-7)
(to include whirl mode)	23.1045 (-7)	23.1529 (-26)
23.863 (-23)	23.1091 (-7)	23.1545 (-23)
23.901 (-18)	23.1093 (-18)	23.1549 (-12)
23.903 (-26)	23.1103 (-7)	23.1557 (-23)
23.905 (-26)	23.1105 (0)	23.1583 (-23)
23.929 (-14)	23.1111 (-17)	23.1587 (-23)
23.933 (-17)	23.1121 (-18)	
23.937 (-7)	23.1141 (-18)	

Type Certificate No. 3A23 issued August 10, 1961

Application for Type Certificate dated November 1, 1957

# Production Approval Holder

Production Certificate No. 11SO is held by Maule Air, Inc.

# Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

- (A) Stall Warning Indicator, Maule drawing 6016F
- (B) The following FAA Approved Airplane Flight Manuals are required (Original AFM issued when model was first approved or any later FAA approved revision is acceptable):
- Model M-4, AFM dated 3/15/66 with rev. 2 dated 5/1/84 is in effect for all M-4, M-4C, M-4S and M-4T.
- Model M-4-210, s/n 1001-1005 modified per Maule SL#6, 1001-1035 modified per Maule SL#7 (AD#65-28-04) and s/n 1036-1045, AFM dated 9/24/64 with rev. 1 dated 11/18/64 or AFM dated 3/15/66 with rev. 2 dated 3/15/66. When s/n 1001-1045 modified per Maule SL#15 for 2300# GW, AFM dated 3/15/66 with rev. 3 dated 10/15/68 must be incorporated.
- Model M-4-210C, s/n 1001C-1074C, 1079C, 1080C, AFM dated 3/15/66 with rev. 2 dated 3/15/66; s/n 1001C-1074C, 1079C 1080C modified per Maule SL#15 for2300# GW and s/n 1075C-1078C, 1081C-1085C, AFM dated 3/15/66 with rev. 3 dated 10/15/68; s/n 1086C-1117C, AFM dated 3/15/66 with rev. 4 dated 6/20/73 Note: Models M-4-210S and T were never produced.
- 4. <u>Model M-4-220/C</u>, (includes M-4-220, M-4-220C), AFM dated 9/28/66 with rev. 5 dated 5/1/84 Note: Model M-4-220T was never produced.
- Model M-4-220S, s/n 2001S, AFM dated 9/28/66 (2100# GW)
   Note: Rev. 1 to this AFM does not apply to this s/n.
- Model M-4-180C, AFM dated 10/20/70 with rev. A dated 5/1/84 Note: Models M-4-180S and T were never produced.
- 7. Model M-5-220C, AFM dated 12/28/73 with rev. A dated 5/1/84
- 8. <u>Model **M-5-210C**</u>, AFM dated 12/28/73 with rev. B dated 5/1/84
- Model M-5-235C, s/n 7001C-7026C, 7028C, 7030C-7032C, 7037C, AFM dated 4/6/76, with expanded C.G. limits per Maule SL#36, rev. B dated 11/6/80; s/n 7027C, 7029C, 7033C-7036C, 7038C-7248C, 7250C-7320C, 7322C-7346C, 7348C, 7349C, AFM dated 4/6/76 with rev. B dated 11/6/80; s/n 7350C, 7352C-7355C, 7357C-7362C, 7364C-7367C, AFM dated 4/6/76 with rev. C dated 4/22/81; s/n 7321C, 7347C, 7351C, 7363C, 7369C-7373C, 7375C, 7445C, 7451C, 7460C, 7467C, AFM dated 8/12/81 with rev. A dated 5/1/84. Note: AFMs dated 4/6/76 must have AFM Supplement #13 attached. AFM dated1/13/86 for s/n 7470C, 7478C-7480C, 7484C-7487C, 7515C.

- Model M-5-180C, AFM dated 4/19/79 for s/n 8001C-8014C, 8016C-8019C, 8021C, 8023C-8042C, 8044C-8064C, 8068C, 8069C with rev. D dated 4/12/84; AFM dated 6/12/85 for s/n 8070C-8094C.
- 11. Model **M-5-200**, AFM dated 10/29/82, rev. B dated 6/10/94
- 12. <u>Model M-5-210TC</u>, AFM dated 2/4/80, rev. B dated 5/1/84
- 13. Model M-6-235, AFM dated 6/25/81, rev. I dated 6/10/94 for s/n 7249C, 7356C, 7379C-7465C; AFM dated 5/23/85, rev. B dated 6/10/94 for s/n 7466C, 7468C-7473C; AFM dated 2/19/87, rev. C dated 3/3/95 for s/n 7474C and up.
- 14. Model M-6-180, AFM dated 9/15/82, rev. C dated 6/10/94
- 15. <u>Model M-7-235</u>, AFM dated 11/9/83, rev. F dated 10/17/94
- 16. <u>Model **MX-7-235**</u>, AFM dated 10/18/84, rev. F dated 10/28/94
- 17. Model **MX-7-180**, AFM dated 12/18/84, rev. E dated 10/28/94
- 18. <u>Model **MX-7-420**</u>, AFM dated 6/1/89, rev. E dated 10/26/98
- 19. <u>Model **MXT-7-180**</u>, AFM dated 11/9/90, rev. D dated 3/7/02
- 20. <u>Model MT-7-235</u>, AFM dated 3/20/92, rev. D dated 3/7/02
- 21. Model M-8-235, AFM dated 8/10/92, rev. F dated 10/20/08
- 22. Model MX-7-160, AFM dated 11/13/92, rev. G dated 5/24/02
- 23. Model **MXT-7-160**, AFM dated 11/13/92, rev. C dated 3/7/02
- 24. Model MX-7-180A, AFM dated 6/3/93, rev. E dated 1/26/07
- 25. Model **MXT-7-180A**, AFM dated 6/3/93, rev. E dated 3/7/02
- 26. Model MX-7-180B, AFM dated 7/12/93, rev. D dated 3/7/02
- 27. Model MXT-7-420 removed from TC January 7, 2003
- 28. <u>Model M-7-235B</u>, AFM dated 10/14/93, rev. E dated 5/24/02
- 29. Model M-7-235A, AFM dated 3/10/94, rev. C dated 3/7/02
- 30. <u>Model M-7-235C</u>, AFM dated 10/10/95, rev C dated 5/20/02
- 31. <u>Model **MX-7-180C**</u>, AFM dated 8/26/96, rev. D dated 5/24/02
- 32. <u>Model **M-7-260**</u>, AFM dated 4/17/98, rev. F dated 5/24/02
- 33. <u>Model **MT-7-260**</u>, AFM dated 4/17/98, rev. E dated 3/7/02
- 34. <u>Model **M-7-260C**</u>, AFM dated 10/15/98, rev. E dated 5/24/02
- 35. Model M-7-420AC, AFM dated 12/17/98, rev. D dated 10/24/06
- 36. Model MX-7-160C, AFM dated 3/12/99, rev. E dated 3/7/02
- 37. Model **MX-7-180AC**, AFM dated 5/4/2000, rev. A dated 3/7/02
- 38. Model M-7-420A, AFM dated 11/20/2000, rev. C dated 3/7/02
- 39. Model MT-7-420, AFM dated 1/7/2003, rev.A dated 3/5/04

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- 40. Model M-4-180V, AFM dated 9/6/2005, rev. A dated 7/18/06
- Model M-9-235, AFM dated 4/9/2012 41.

Note 1 Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

> The certificated empty weight and corresponding center of gravity location must include unusable fuel and undrainable oil as follows:

Fuel 18 lbs. (+24)	M-4 series (except M-4-180V), M-4-210 series, M-4-220 series, M-4-180 series, M-5-210C,
(20 gal. main)	M-5-220C, M-5-210TC, M-5-235C, M-5-200, M-6-235, M-6-180, M-7-235, MX-7-235,
	MX-7-180, MXT-7-180, MT-7-235, M-8-235, MX-7-160, MXT-7-160, MX-7-180A, MXT-
	7-180A MX-7-180B M-7-235B M-7-235A M-7-235C MX-7-180C

Fuel 27.6 lbs. (+24) M-7-235, MX-7-235, MX-7-180, MXT-7-180, MT-7-235, M-8-235, MX-7-160, MXT-7-(21.5 gal. main) 160, MX-7-180A, MXT-7-180A, MX-7-180B, M-7-235B, M-7-235A, M-7-235C, MX-7-

180C, M-7-260, MT-7-260, M-7-260C, MX-7-160C, M-6-235, MX-7-180AC, M-5-210C\*, M-5-220C\*, M-5-235C\*, M-5-180C\*, M-5-210TC\*, M-5-200\*, M-4-180V, M-9-235

\*with Modification Kit No. 15 installed.

Fuel 16.2 lbs. (+24)

(40.6 gal. main)\* MX-7-420 (tank configuration A)

Fuel 31 lbs. (+24)

(43 gal. main)\* MX-7-420 (tank configuation C), M-7-420AC, M-7-420A, MT-7-420

MX-7-420, M-7-420AC, M-7-420A, MT-7-420

\* Two main tanks considered one tank

Oil 8 lbs. (-37)	M-4 series
Oil 6 lbs. (-37)	M-4-220 series, M-4-180 series, M-4-210 series, M-5-220C, M-5-210C
Oil 6 lbs. (-36.5)	M-5-180, M-5-210TC, M-5-200, M-6-180, MX-7-180, MXT-7-180, MX-7-160, MXT-7-160, MX-7-180A, MXT-7-180A, MX-7-180B, MX-7-180C, MX-7-160C, MX-7-180AC, M-4-180V
Oil 6 lbs. (-34)	M-5-235C, M-6-235, M-7-235, MX-7-235, MT-7-235, M-7-235B, M-7-235A, M-7-235C, M-7-260, MT-7-260, M-7-260C, M-9-235

## The following placards shall be displayed:

Oil 20 lbs. (-22.5)

- (A) In front of and in clear view of the pilot:
  - For all M-4 models (except M-4-180V): THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUALS.

For M-4-180V and M-5 and subsequent models: THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATION LIMITATIONS STATED IN THE FLIGHT MANUAL AND IN THE FORM OF PLACARDS AND MARKINGS.

- NO ACROBATIC MANEUVERS, INCLUDING SPINS, APPROVED. or AEROBATIC MANUVERS, INCLUDING SPINS, ARE NOT APPROVED.
- For M-4 series (except M-4-180V), M-5 series, M-6 series, M-7-235, and MX-7-235: ROUGH AIR OR MANEUVERING SPEED 125 MPH.

For M-4-180V and M-9-235:

ROUGH AIR OR MANEUVERING SPEED 109K (125 MPH).

For MX-7-180:

ROUGH AIR OR MANEUVERING SPEED: 129 MPH (112K)

For MX-7-420, M-7-420AC, M-7-420A, and MT-7-420: ROUGH AIR OR MANEUVERING SPEED IS 121 MPH (105K)

For MXT-7-180, MT-7-235, M-8-235, MX-7-160, MXT-7-160, MX-7-180A, MXT-7-180A, MXT-7-180B, M-7-235B, M-7-235A, M-7-235C, MX-7-180C, M-7-260, MT-7-260, M-7-260C, MX-7-160C, MX-7-180AC: MANEUVERING SPEED: 125 MPH IAS (109K). (Knots and MPH may be interchanged)

- 4. One of the following placards must be installed in the M-4 and M-4-210:
  - a. THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.
  - b. THIS AIRCRAFT APPROVED FOR DAY OR NIGHT VFR FLIGHT. (If equipment and instruments conforming to 14 CFR part 91.33(c) are installed.)
  - c. THIS AIRCRAFT APPROVED FOR DAY OR NIGHT VFR OR IFR FLIGHT. (If equipment and instruments conforming to §91.33(d) and §91.170 are installed.)

The following placard must be installed on all models except the M-4 and M-4-210: THIS AIRCRAFT APPROVED FOR DAY OR NIGHT IFR NON-ICING FLIGHT WHEN EQUIPPED IN ACCORDANCE WITH FAR 91 OR FAR 135.

- SEE LOADING INSTRUCTIONS IN WEIGHT AND BALANCE SECTION OF AIRPLANE FLIGHT MANUAL.
- 6. FUEL REMAINING IN TANK WHEN INDICATOR READS ZERO CANNOT BE USED SAFELY IN FLIGHT.
- For M-4-180V, M-5 and subsequent models except -420 series:
   DO NOT TURN OFF ALTERNATOR IN FLIGHT EXCEPT IN CASE OF EMERGENCY.
- 8. For -420 series:

COMPASS UNRELIABLE WHEN HEATED INLET IS ON.

For -235 series (when using -6R propeller):
 DO NOT EXCEED 23 INCHES M.P. BELOW 2050 RPM.

For M-5-200:

FOR CONTINUOUS OPERATION DO NOT EXCEED 24 INCHES OF MANIFOLD PRESSURE BELOW 2350 RPM.

For M-5-210TC:

NOT MORE THAN 34" OF MANIFOLD PRESSURE AT PROPELLER SPEEDS LESS THAN 2350 RPM.

NOT LESS THAN 20" OF MANIFOLD PRESSURE AT PROPELLER SPEEDS BETWEEN 2250 AND 2450 RPM.

For M-4-180V:

With Hartzell HC-C2YR-1BF/F7666A:

AVOID CONTINUOUS OPERATION 2000-2250 RPM

With Sensenich fixed pitch propeller and O-360-C1F (modified): AVOID CONTINUOUS OPERATION 2150-2350 RPM

10. For MXT-7-180A:

DEMONSTRATED CROSSWIND 15 MPH.

For M-4-180V:

DEMONSTRATED CROSSWIND 12K (14 MPH)

and

TAKEOFF WITH 20° FLAPS

11. In addition to the above placards, the following is required when Fli-Lite 3000 MK IIIA skis are installed: For M-4 series:

SKIPLANE LIMITATIONS: MAXIMUM GROSS WEIGHT 1850 LBS. DO NOT EXCEED 160 MPH. SKI OPERATION PROCEDURES: SET SELECTOR TO POSITION DESIRED THEN OPERATE PUMP UNTIL MAXIMUM PRESSURE IS DEVELOPED.

For M-4-210C series:

SKIPLANE LIMITATIONS: MAXIMUM GROSS WEIGHT 2100 LBS. DO NOT EXCEED 160 MPH. SKI OPERATION PROCEDURES: SET SELECTER TO POSITION DESIRED THEN OPERATE PUMP UNTIL MAXIMUM PRESSURE IS DELVELOPED.

Additional placards listed in the applicable AFM Supplement for skiplane operation must be installed.

12. For M-4, s/n 3-91, M-4-210, s/n 1001-1043, M-4-210C, s/n 1001C-1010C, or if no ashtray installed per Maule drawing 6007B:

At the top of the instrument panel, to the right of the radio group: NO SMOKING

13. On the instrument panel or wing root panel at the auxiliary fuel tank transfer switches, (if installed):

#### FUEL TRANSFER PUMPS

PUSH FOR PUSH FOR AUX. QUANT. AUX. QUANT.

LEFT RIGHT

FUEL CAPACITY: MAIN TANKS (\*) GAL. USABLE EACH, AUX. TANKS (\*\*) GAL. USABLE EACH TANK.

\* 20 gal. except M-7/MX-7/MXT-7/MT-7/M-8 series may have either 20 gal. or 21.5 gal.; M-4-180V and M-9-235 have 21.5 gal.

\*\* For M-4 (except M-4-180V) and M-5 series: 11.5 gal. For M-6-180: 13.0 gal. For M-6-235, s/n 7249C-7473C: 13.0 gal. For M-6-235, s/n 7474C and up, M-4-180V: 15.0 gal.

For M-7/MXT-7/MT-7/M-8 series

and MX-7 series except those listed below: 15.0 or 21.0 gal. For MX-7-420/MX-7-180/MX-7-235: 15.0 gal. For M-9-235 21.0 gal.

- (B) Located on the flap handle:
  - For M-4 series (all except M-4-180V) and M-5-235C, s/n 7001C-7248C, 7250C- 7320C, 7322C-7346C, 7348C-7350C, 7352C-7362C, 7364C-7368C, M-5-180, s/n 8001C-8022C, M-5-210C (all), M-5-220C (all), M-5-210TC (all):

FLAPS - PULL ON/ 15° TAKEOFF/ 35° LANDING

 $\underline{or}$  for M-5-235C, s/n 7321C, 7347C, 7351C, 7363C, 7369C and up, M-5-200, s/n 8015C and up, M-5-180C, s/n 8023C and up, and for M-5-235C, s/n 7001C-7248C, 7250C-7320C, 7322C-7346C, 7348C-7350C, 7352C-7362C, 7364C-7368C with Maule SL#44 c/w, M-5-180C, s/n 8001C-8022C with Maule SL#49 c/w, all M-5-210C with Maule SL#46 c/w, all M-5-220C with Maule SL#48 c/w, all M-5-210TC with Maule SL#47 c/w:

FLAPS - PULL ON/ 20° TAKEOFF/ 40° LANDING

2. For M-6-180/-235, M-7-235/-235A/-235B\*/-235C/-260/-260C, MX-7-180/-180A\*/-180B\*/-180C/-180AC/-235/-160\*/-160C, M-8-235\*, M-9-235:

FLAPS/PULL ON/ 2ND NOTCH/ TAKEOFF/ 4TH NOTCH/ LANDING

\* 4TH NOTCH" is replaced by "3RD NOTCH" for M-7-235B S/N's 23001C thru 23003C, 23005C thru 23010C, and 23012C, MX-7-180A S/N's 20001C thru 20026C, 20028C, 20029C, and 20031C thru 20035C, MX-7-180B S/N's 22003C, 22006C, and 22007C, MX-7-160 S/N's 19001C thru 19034C and 19041C M-8-235 S/N's 15001C thru 15005C unless Mod Kit #11 is complied with.

3. For MX-7-420, MXT-7-180/-180A/-160/-420, MT-7-235/-260/-420, M-8-235, M-7-420AC, M-7-420A, M-4-180V:

FLAPS/PULL ON/2ND NOTCH/TAKEOFF/3RD NOTCH/LANDING

- (C) Located at the main fuel tank selector valve on left kick panel:
  - 1. For M-4, s/n 23, 25-45:

TAKE + LANDING LEFT ONLY 21 GAL.

RIGHT 21 GAL.

**OFF** 

2. For M-4, s/n 24, 46-94, 1C-11C, 1S-3S, 1T-3T:

TAKEOFF + LANDING BOTH TANKS LEFT 21 GAL. RIGHT 21 GAL.

OFF

For M-4-220C, (s/n 2125C, 2127C, 2128C, 2137C, 2138C, 2140C and up), M-5-220C, M-5-200, M-5-210TC, M-5-235C/-180C, M-6-235/-180, MX-7-235/-180, M7-7-235/-235A/-235B, MXT-7-180, MT-7-235, M-8-235, MX-7-160, MXT-7-160, MX-7-180A, MXT-7-180A, MX-7-180B, M-7-235C, MX-7-180C:

FUEL SELECTOR VALVE LEFT: 20\* GAL. OFF BOTH

RIGHT: 20\* GAL.

\* $\underline{\text{or}}$  21.5 gal. for later M-6-235, MX-7-160/-180/-180A/B/C/-235, M-4-180V, M-7-235/A/B/C, MXT-7-160/-180/A, MT-7-235, M-8-235.

For MX-7-160C/-180AC, M-7-260/C, MT-7-260, M-9-235:

FUEL SELECTOR VALVE LEFT: 21.5 GAL. OFF BOTH RIGHT: 21.5 GAL.

 $\underline{\text{or}}$  for M-4-220C and early M-5-235C with  $\underline{\text{SP2321-B3}}$  Fuel Selector Valve: (Not applicable to M-5-235C s/n 7321C, 7347C, 7351C, 7363C, 7369C and up.):

LEFT

20 GAL. RIGHT 20 GAL.

OFF

4. For M-4-210(C,S) and M-5-210C:

LEFT LEFT 20 GAL. 20 GAL.

RIGHT <u>or</u> BOTH (Use with 10049E-7 Valve) 20 GAL. RIGHT

(Use with SP-2263-B3 or10049E-6 Valve) 20 GAL.

5. For -420 series:

FUEL SELECTOR VALVE BOTH ON

**OFF** 

- (D) In rear cabin area:
  - 1. For M-4 (except M-4-180V) and M-5 series:

BAGGAGE 125 LBS. MAXIMUM. FOR LOADING INSTRUCTIONS SEE WEIGHT AND BALANCE INFORMATION.

2. For M-5 and subsequent models (except M-4-180V):

CARGO OR BAGGAGE LIMITATIONS

MAX. LOAD AREA "A" 100 LBS.

MAX. LOAD AREA "B" 175 LBS.\*

MAX. LOAD AREA "C" 125 LBS.

\* MAX. LOAD AREA "B" 200 LBS. for M-9-235 or aircraft with Cargo Straps installed per 1244F.

3. For models with optional 5th seat installed and M-7/MT-7/M-9 series with 5<sup>th</sup> seat:

CHECK WEIGHT AND BALANCE CAREFULLY WHEN

USING 5TH SEAT OR LOADING

REAR/CARGO/BAGGAGE.

MAXIMUM REAR SEAT LOADING 170 LBS.

4. For M-7-235, s/n 4001C-4061C: (Unless Maule SK#15 is c/w)

BALLAST IN AFT FUSELAGE SHOULD BE

**REMOVED** 

FOR LARGE AFT CABIN LOADS. THIS BALLAST SHOULD BE IN PLACE IN THE AFT FUSELAGE

STORAGE FOR LIGHT/FORWARD LOADING.

5. For M-4-180V:

CHECK WEIGHT AND BALANCE CAREFULLY WHEN LOADING REAR/CARGO/BAGGAGE.

CARGO OR BAGGAGE LIMITATION MAX. LOAD AREA "A" 100 LBS. MAX. LOAD AREA "B" 200 LBS.

- When Tow Release Assembly is installed (M-9-235): GROSS WEIGHT LIMITED TO 2500 LBS. WHEN TOWING
- Note 3 The models Bee Dee M-4 and M-4, s/n 3-23, 25-45 fuel systems do not comply with CAR 3.433 and 3.434 for horsepower greater than 125 at the best angle of climb speed, which is the most critical flight attitude, unless optional Modification Kit No. 36 is installed.
- Note 4 The following aircraft were manufactured at Jackson, Michigan:

Models	Serial numbers
M-4	3-94
M-4C	1C-11C
M-4S	1S-3S
M-4T	1T-3T
M-4-210	1001-1045
M-4-210C	1001C-1074C, 1079C, 1080C
M-4-220C	2001C-2018C
M-4-220S	2001S

- Note 5 Optional wing tips (ref. Maule drawing 9041F) have been approved for all M-4 series models except Bee Dee M-4 s/n 3-14.
- Note 6 Equipment approved for all models is listed on the Required and Optional Equipment Lists.
- Note 7 The following aircraft are eligible for manufacture under Production Certificate No. 11SO:

<u>Models</u>	Serial numbers
M-4 Series	(Spare parts)
M-5-220C	(Spare parts)
M-5-210C	(Spare parts)
M-5-235C	(Spare parts)
M-5-180C	(Spare parts)

M-5-200	(Spare parts)
M-5-210TC	(Spare parts)
M-6-235	7249C, 7356C, 7379C-7444C, 7446C-7450C, 7452C-7459C, 7461C-7466C, 7468C,
	7469C, 7471C-7475C, 7488C-7514C, 7516C-7522C and subsequent
M-7-235	(Spare parts) (with STC SA2661SO known as M-7-420) (Spare parts)
M-6-180	(Spare parts)
MX-7-235	(Spare parts)
MX-7-180	(Spare parts)
MX-7-420	(Spare parts)
MXT-7-180	14000C and up
MT-7-235	18001C and up
M-8-235	15001C and up
MX-7-180A	20001C and up
MXT-7-180A	21001C and up
MX-7-160	19001C and up
MXT-7-160	17001C and up
MX-7-180B	22001C and up
M-7-235B	23001C and up
M-7-235A	24001C and up
M-7-235C	25001C and up
MX-7-180C	28001C and up
M-7-260	26001C and up
MT-7-260	27001C and up
M-7-260C	30001C and up
M-7-420AC	29001C and up
MX-7-160C	34001C and up
MX-7-180AC	33001C and up
M-7- 420A	35001C and up
MT-7-420	51001C and up
M-4-180V	47001T and up
M-9-235	36001C and up

- Note 8 For M-4-220C, s/n 2178C and up, and all other M-4-220 airplanes which have complied with Maule SL#27, the maximum continuous throttle operation restriction may be removed and replaced by 220 hp 2800 rpm all operations. Airplane Flight Manual Supplement No. 3 must be attached to the FAA approved Airplane Flight Manual for those airplanes incorporating Maule SL#27.
- Note 9 All Maule float installations require installation of wing tip mounted anti-collision light system conforming to Maule drawing 7045F for night flight.
- Note 10 For all aircraft except model Bee Dee M-4, s/n 3-14 and M-4 s/n 15-44, all placards required in the applicable approved Airplane Flight Manual and skiplane and floatplane AFM Supplements must be installed in the appropriate location.

### Note 11 Airspeed limits -

(A) For models M-4/C/S/T, M-4-180C/-180S/-180T, M-4-210/-210C/-210S/-210T, M-4-220/-220C/-220S/-220T:

Landplane: Never exceed 180 mph (156 knots)
Max. structural cruising 145 mph (126 knots)
Maneuvering 125 mph (109 knots)
Flaps extended 90 mph (78 knots)

(B) For models M-5-180C/-210C/-220C/-235C/-210TC/-200, M-6-235/-180, M-7-235/A, M-8-235, MX-7-235, and M-9-235:

Landplane: Never exceed 180 mph (156 knots)

Max. structural cruising145 mph (126 knots)Maneuvering125 mph (109 knots)Flaps extended94 mph (82 knots)

<u>Landplane</u>: Never exceed 180 mph (156 knots)

Max. structural cruising
Maneuvering
Flaps extended

147 mph (128 knots)
125 mph (109 knots)
95 mph (82 knots)

(D) For models M-7-235B/-235C, M-7-260/-260C, MXT-7-180, MT-7-235/-260, and M-4-180V:

Landplane: Never exceed 182 mph (158 knots)

Max. structural cruising
Maneuvering

Flaps extended

Max. structural cruising
147 mph (128 knots)
125 mph (109 knots)
95 mph (83 knots)

(E) For models MX-7-180A/-180B/-180C/-180AC and MXT-7-180A:

<u>Landplane</u>: Never exceed 185 mph (161 knots)

Max. structural cruising
Maneuvering

Flaps extended

Max. structural cruising
149 mph (129 knots)
125 mph (109 knots)
98 mph (85 knots)

(F) For models MX-7-180:

Landplane: Never exceed 185 mph (161 knots)

Max. structural cruising
Maneuvering
Haps extended
149 mph (129 knots)
129 mph (112 knots)
98 mph (85 knots)

(G) For all –420 models:

Landplane,<br/>Floatplane,<br/>andNever exceed151 mph (131 knots)Max. structural cruising<br/>and151 mph (131 knots)Maneuvering121 mph (105 knots)Skiplane:Flaps extended94 mph (82 knots)

(H) All reciprocating engine models (except M-4-210/-210C with Federal A2000A Skis never exceed speed is unchanged from Landplane):

Skiplane: Never exceed 160 mph (139 knots) Floatplane: Never exceed 164 mph (142 knots)

Airplane Flight Manual Supplements required for Floatplanes and Skiplanes.

Airspeed limits for Models M-4 series, M-5 series, M-6 series, M-7-235/-235A, M-8-235, MX-7-235 and MX-7-420 are Calibrated Airspeeds (CAS). All other models are Indicated Airspeeds (IAS).

Note 12 Control surface movements for M-6 and subsequent models (except M-4-180V):

Wing flaps	Handle full down		-7° <u>+</u> 1°
	First Notch		$0^{\circ} + 1^{\circ}$
	Second Notch		24° <u>+</u> 3°
	Third Notch		40° <u>+</u> 3°
	Fourth Notch*		48° <u>+</u> 2°
Aileron	Up 20° <u>+</u> 1°	Down	20° <u>+</u> 1°
Elevator	Up 30° <u>+</u> 1°	Down	20° <u>+</u> 1°
Elevator tab	Up 14° <u>+</u> 2°	Down	28° <u>+</u> 2°
Elevator tab			
w/piano hinge	Up 12° <u>+</u> 2°	Down	38° <u>+</u> 2°
Rudder	Right 21° <u>+</u> 1°	Left	21° <u>+</u> 1°
Rudder tab	Right 48° <u>+</u> 4°	Left	48° <u>+</u> 4°

(Note: Rudder tab not installed on M-7-235 s/n 4001C- 4022C - M-7 Rudder w/tab may be installed per MK#4) \*Fourth Notch applicable to those models listed in Note 2 (B) 2.

48 of 49 Rev. 33 3A23 Note 13 Airplanes that are eligible for float installations require structural modifications and other changes to the airplane as identified on Maule float installation drawings for each float model. Propeller and propeller limits - For models M-5-235C, M-6-235, M-7-235, MX-7-235, M-8-235, M-7-235A, M-7-235B, and M-7-235C: Hartzell constant speed model HC-C2YR-1BF/F8468A-6R or -3R (-3R use with 7:00 tires or larger/26 psi minimum air pressure.) Hartzell constant speed 2 blade model HC-C2YR-1BF/F8477D-6 (Use with O-540-J3A5 or O-540-B4B5 engine only) Hartzell constant speed 3 blade model HC-C3YR-1RF/F7693(F)-() (Use with O-540-J3A5, O-540-B4B5, IO-540-W1A5D or IO-540-W1A5 engines only) -3R: Not over 81 in.; not under 77 in. -6R: Not over 78 in.; not under 77 in. F8477D-6 or F7693(F)-(): Not over 78 in.; not under 76 in. Pitch settings at 30" sta.: -3R: low 16° +1° high 30° ±1° (O-540-J1A5D, O-540-J3A5, IO-540-W1A5D or IO-540-W1A5 engines) low 13.8° +1° high  $30^{\circ} + 1^{\circ}$ (O-540-B4B5 engine) -6R: low 16.7° +1° high 30° +1° (O-540-J1A5D, O-540-J3A5, IO-540-W1A5D or IO-540-W1A5 engines) low 14.3° +1° high  $30^{\circ} + 1^{\circ}$ (O-540-B4B5 engine) F8477D-6: low 16.7° +1° high 30° +1° (O-540-J3A5 engine) low 14.3° +1° high 30° +1° (O-540-B4B5 engine) low 14.2° +1° F7693(F)-(): high 31° +1° (O-540-J3A5, IO-540-W1A5 or IO-540-W1A5D engines) low 12.5° ±1° high 31° ±1° (O-540-B4B5 engine) -6R: Do not exceed 23 in. M.P. below 2050 rpm. McCauley constant speed 3-blade model B3D32C414-C/G-82NDA-2 or -4 (-2 use with 7:00 tires or larger) McCauley constant speed 2-blade model B2D37C224-B/G-90RA-9 (-9 use with 7:00 tires or larger/26 psi minimum air pressure.) -2: not over 80 in.; not under 76 in. -4: not over 78 in.; not under 76 in. -9: not over 81 in.; not under 78 in. Pitch settings at 30" sta.: low 15.0° +0.2° -2 (80"): high 30.0° +0.5° (O-540-J1A5D, O-540-J3A5, IO-540-W1A5D or IO-540-W1A5 engines) low 13.3° +0.2° high 30.0° +0.5° (O-540-B4B5 engine) -4 (78"): low 15.7° +0.2° high 30.0° ±0.5° (O-540-J1A5D, O-540-J3A5, IO-540-W1A5D or IO-540-W1A5 engines) low 14.0° +0.2° high 30.0° +0.5° (O-540-B4B5 engine) low 14.7° ±0.2° -9 (81"): high 24.6° ±0.5° (O-540-J1A5D, O-540-J3A5, IO-540-W1A5D or IO-540-W1A5 engines) low 13.3° +0.2° high 24.6° +0.5° (O-540-B4B5 engine) Spinner: Hartzell spinner assembly A2298-2 (use with Hartzell propeller only) Hartzell spinner assembly C-3535-1P (use with Hartzell 3-blade prop only) McCauley spinner assembly D-6240 (use with McCauley 3-blade propeller only) McCauley spinner assembly D-6195 (use with McCauley 2-blade propeller only) Woodward F210681\* or B210761 (O-540-J1A5D, O-540-J3A5, IO-540-W1A5D or IO-540-W1A5 only); Governor: E210761 (O-540-B4B5 only) McCauley C290D3(X)/T30 or DC290D1(X)/T14 (O-540-J1A5D, O-540-J3A5, IO-540-W1A5D or IO-540-W1A5 only); C290D3(X)/T31 or DC290D1(X)/T15 (O-540-B4B5 only) \* For Woodward Governor F210681 on M-5-235C refer to AD#81-25-01 for eligible serial numbers. Note 15 Propeller and propeller limits - For models M-7-260, M-7-260C and MT-7-260:

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MT-Propeller 4 Blade Model MTV-14-B/190-17 Diameter: not over 75in.; not under 69 in. Pitch settings at 26.18 in. sta.: low 12.0^{\circ} \pm 0.2^{\circ}; high 32.0^{\circ} \pm 1^{\circ} Hartzell - constant speed 2-blade model HC-C2YR-1BF/F8477D-6 Hartzell - constant speed 3-blade model HC-C3YR-1RF/F7693(F) and (F)-2 Diameter: not over 78 in.; not under 76 in. Pitch settings at 30 in. sta.:
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F8477D-6:
                          low 13.5^{\circ} \pm 0.1^{\circ} high 30^{\circ} \pm 1^{\circ}
                          low 12.0^{\circ} \pm 0.2^{\circ} high 31^{\circ} \pm 1^{\circ}
       F7693:
McCauley - constant speed 2-blade model B2D37C224/90RA-12 and -10.5
McCauley - constant speed 3-blade model B3D32C414/82NDA-2 and -4
    Diameter:
                     -12: not over 78 in.; not under 77 in.
                      -10.5: not over 79.5 in.; not under 78 in.
                      -2: not over 80 in.; not under 76 in.
                      -4: not over 78 in.; not under 76 in.
    Pitch settings at 30 in. sta.:
        -12:
                     low 13.4^{\circ} \pm 0.2^{\circ} high 29.5^{\circ} \pm 0.5^{\circ}
                     low 13.1^{\circ} \pm 0.2^{\circ} high 29.5^{\circ} \pm 0.5^{\circ}
        -10.5:
        -4:
                      low 12.0^{\circ} \pm 0.2^{\circ} high 30.0^{\circ} \pm 0.5^{\circ}
         -2:
                      low 11.3^{\circ} \pm 0.2^{\circ} high 30.0^{\circ} \pm 0.5^{\circ}
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Spinner: MT-Propeller spinner assembly P-238-A-1 (use with MT-Propeller only)

> Hartzell spinner assembly A2298-2 (use with Hartzell 2-blade prop only) Hartzell spinner assembly C-3535-1P (use with Hartzell 3-blade prop only) McCauley spinner assembly D-6195 (use with McCauley 2-blade prop only)

> McCauley spinner assembly D-6240 (use with McCauley 3-blade prop only)

Governor: McCauley DC290D1(X)/T33

Note 16 For M-5 series models with optional wing assemblies 2110X-30 installed per Modification Kit No. 15: Fuel Capacity 47.6 gal (43 gal. usable; two 23.8 gal. tanks in wings at +24.0)

Note 17 For notification from Maule Aerospace of revisions to Maule airplane manuals or new/revised Service Letters or Bulletins, send your email address to OwnerAlert@mauleairinc.com. Include Airplane Model No. and Serial No. Owners will be emailed alerts when new documents are available for download on www.mauleairinc.com.

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