

United States Of America  
Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**

*Number* SA1213NW

*This Certificate issued to* **BENJAMIN N. HERNING**  
**23847 Hilltop Drive**  
**Chugiak, AK 99567-6271**

*certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3\* of the Civil Aviation Regulations \*effective May, 15, 1956*

*Original Product Type Certificate Number:* 3A23

*Make:* Maule

*Model:* M-4-220C, M-4-220S, M-4-220T

*Description of Type Design Change:* Installation of a Franklin 6AS-350-A, or -A1 engine, Rajay Model 325E10 turbocharger, McCauley 2A34C22-N/84S-4, -6, or -8; or a Hartzell HC-C2YF-1BF/F8459A-4 to -8 propeller, and associated systems in accordance with Seaplane Flying, Inc. Assembly and Installation Instructions No. SFM 4002.

*Limitations and Conditions:* Approval of this change in type design applies to the above models aircraft only. This approval should not be extended to aircraft of these models on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this Certificate and Addendum No. SA1213NW, must be maintained as part of the permanent records for the modified aircraft. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

*Date of application:* July 2, 1980

*Date reissued:* March 2, 1993, July 24, 2007

*Date of issuance:* April 10, 1981

*Date amended:*



*By direction of the Administrator*

(Signature)

Manager, Technical and Administrative  
Support Staff  
Los Angeles Aircraft Certification Office

*Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.*

United States Of America  
Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**  
(Continuation Sheet)

NOTE:

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# Supplemental Type Certificate

(Continuation Sheet)

*Number* SA1213NW

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA1213NW

The conditions and limitations of Type Certificate Data Sheet No. 3A23 apply except where superseded by the following:

This Supplemental Type Certificate Data Sheet, which is part of STC SA1213NW prescribes the conditions and limitations under which the STC was issued and meets the airworthiness requirements of the Civil Air Regulations. A copy of this STC Addendum is required to be maintained as part of the permanent records for the modified aircraft.

MODEL MAULE M-4-220C, M-4-220S, AND M-4-220T 4PCLM NORMAL CATEGORY AS  
MODIFIED BY STC SA1213NW

Engine: Franklin 6AS-350-A and 6AS-350-A1

Engine Limits: Takeoff (1 min.) 2800 rpm (250 HP) @ sea level  
Maximum Continuous Power: 2600 rpm full throttle

Fuel: 100/130 octane minimum grade aviation gasoline

Propeller and

- Propeller Limits:
1. McCauley 2A34C22/84S-4 through -8  
Diameter: 78" maximum; 72" minimum  
Governor: Woodward 210453  
Spinner: Cessna 0552016-1
  2. Hartzell HC-C2YF-1BF/F8459-4 to -8  
Diameter: 80" maximum; 76" minimum  
Governor: Woodward 210453  
Spinner: Hartzell 82A4203

Powerplant Instrument

- Markings:
- Oil Temperature:  
Green Arc 100°F to 235°F – normal operating range  
Yellow Arc 60°F – caution  
Red Line 250°F – maximum
- Oil Pressure:  
Green Arc 55 to 80 psi – normal operating range  
Yellow Arc 25 to 55 psi and 80 to 100 psi - caution  
Red Line 25 psi minimum, 100 psi maximum

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# Supplemental Type Certificate

(Continuation Sheet)

*Number* SA1213NW

Powerplant Instrument  
Markings:

Tachometer:

Green Arc 1500 to 2600 rpm - normal operating range  
Red Line 2600 rpm – maximum

Fuel Pressure:

Green Arc 10 to 14 psi – normal operating range  
Red Line 14 psi – maximum at sea level

Cylinder Head Temperature (Well-Type Thermocouple);

Green Arc 200°F to 400°F - normal operating range  
Red Line 400°F – maximum

C. G. Range:

See Type Certificate Data Sheet 3A23

Maximum Weight:

See Type Certificate Data Sheet 3A23

Placards:

1. The following placard is to be in front and in full view of the pilot:

<u>ENGINE LIMITS</u>	
TAKEOFF:	ONE MIN. 2800 RPM @ 40" M.P.
METO POWER:	2800 RPM @ 35" M.P. (SEA LEVEL TO 15,000')

2. Install the Fuel Pump Operation Decal adjacent to the fuel boost pump switch:

<b>FUEL BOOST PUMP OPERATION</b>	
1. BOOST PUMP "ON" ABOVE 2600 RPM @ 34" M.P.	
2. BOOST PUMP "OFF" BELOW 2600 RPM @ 34" M.P.	
<b>EMERGENCY OPERATION</b>	
1. PRIMARY FUEL PUMP FAILURE: BOOST PUMP 'ON' CONTINUOUS	
2. ELECTRICAL SYSTEM FAILURE: TURBO WASTE-GATE "OPEN"	
3. PROCEED TO THE NEAREST AIRPORT	

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United States Of America  
Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**  
(Continuation Sheet)  
*Number SA1213NW*

Placards (continued):

3. Install Turbo Control deal adjacent to the turbo control:

**TURBO CONTROL**

IN – HI. MFP

4. Install Cowl Flap decal adjacent to the cowl flap control:

**COWL FLAP**

PUSH OPEN

5. Install the carb Alternate Air decal adjacent to the carburetor alternate air control in place of “CARB HEAT” decal:

**CARB ALTERNATE AIR**

PULL - OPEN

**NOISE CERTIFICATION PROCEDURE:**

Compliance with Part 36, Appendix F, was shown with the following procedures:

Level flyover at 1,000 feet AGL at 2600 engine rpm and full throttle manifold pressure. The certificated noise level is 70.9 dB(A). This noise level reflects correction of as measured data to a standard 70°F, 77% R.H. acoustic day as well as a -5 dB(A) credit resulting from takeoff and climb characteristics.

**-END-**

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