Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number SA3-483

This certificate issued to  W. P. Bilquist  
R. R. #2, Box 113  
Blue Springs, MO  64015

certifies that the change in the type design for the following product with the limitations and conditions 
therein as specified herein meets the airworthiness requirements of Part 23 of the Civil Air 
Regulations.

Original Product—Type Certificate Number 803
  Make: Mooney  
  Model: M-18C 55

Description of Type Design Change: Install Continental C85-12 engine.

Bilquist data required: Copy of this Supplemental Type Certificate. 
Data Sheet No. 1 (2 sheets) dated March 7, 1960  
Fuel System Sketch dated March 17, 1959  
Fuel System Dive. No. 2 dated March 5, 1960  
Airplane Flight Manual Supplement dated Feb. 29, 1960, 
revised March 15, 1960.

Limitations and Conditions: Empty weight of altered airplane must not exceed 631 lb., 
including 0.5 gal. unusable fuel. This approval should not be extended to other 
specific airplanes of this model on which other previously approved modifications are 
incorporated, unless it is determined that the inter-relationship between this change 
and any of those other previously approved modifications will introduce no adverse 
effect upon the airworthiness of that airplane.

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

Date of application: 27 January 1965

Date of issuance: 10 March 1960

Date issued: 18 December 1972

By direction of the Administrator

WILLIAM J. THIEVOY, Chief  
Engineering and Manufacturing Branch

(Title)

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

This certificate may be transferred in accordance with FAR 21.47.
I. GENERAL:

This outlines all changes to Mooney M18C-55 airplane N4168 associated with the installation of a Continental C85-12 engine. Omission of an entry (such as the exhaust system) shows that no change was made to this part of the airplane.

II. POWER PLANT & ELECTRICAL SYSTEM

A. Engine: Starter removed.

B. Propeller: Installed McCauley IB90 CM7054. 
   Static rpm: 2050, diameter 69.5 in.

C. Fuel System: Altered per W. P. Bilquist sketches dated March 17, 1959 and March 5, 1960, except as follows:

1. Auxilliary fuel system removed.
2. Engine driven fuel pump is A04036.
3. Electric fuel pump is Bendix 47-57-12V Neg.
4. Carburetor is Stromberg NA-83AL, P/L 380172.
5. "AN" type Aeroquip 5/16" 4000 psi hose & "AN" fittings used for all piping between the electric pump outlet and the carburetor.

D. Placards:

1. On Fuel Tank Filler Cap: "Fuel 80-87 Min, 9 gal, Point Vent Fwd."
2. Behind Seat: "Max Pilot Wt. 155#"
3. Above Baggage Compartment: "No Baggage"
E. Replace "Rebat" S-24 battery with "Rebat" S-12.


Signed

W. P. Bilquist

Feb. 11, 1965, revisions

Other Bilquist data required: Fuel System Sketch dated Mar. 17, 1960
Fuel System Drawing dated Mar. 5, 1960

LIMITATION OF APPLICABILITY: Empty weight of altered airplane must not exceed 631 lb. including 0.5 gal. unusable fuel. This approval should not be extended to other specific airplanes of this model on which other previously approved modifications are incorporated, unless it is determined that the inter-relationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of that airplane.

Signed

W. P. Bilquist
AIRPLANE FLIGHT MANUAL SUPPLEMENT
MOONEY M18-C55
With CS5-12 Engine Installation
STC SA3-483

This document is to be attached to the CAA Approved Airplane Flight Manual and is to be kept in the airplane at all times.

I. LIMITATIONS

The limitations stated in the Airplane Flight Manual dated April 11, 1955, apply to this airplane equipped with Continental C-85-12 engine with the following exceptions and additions:

**Engine:** Continental C-85-12. For all operations 2575 rpm, 85 hp.

**Fuel:** 80-87 Minimum grade aviation gasoline. Usable fuel capacity 9.0 gallons.

**Propeller:** McCauley IB90
Diameter not more than 69 1/2 inches, not less than 67 inches, static rpm not more than 2100, not less than 1950

**Power Plant Instruments:**
- **Oil Temperature:** Normal operating range 120°F to 200°F
  Maximum 225°F
- **Oil Pressure:** Normal operating range 30 to 35 psi,
  Maximum 40 psi, Minimum 10 psi
- **Cylinder Head Temperature:** Maximum 540°F
  Cylinder Head Temp. gauge not required
- **Fuel Pressure:** Normal operating range 1.0 to 4.0 psi
- **Tachometer:** Maximum rpm 2575

**Placards**

On Fuel Tank Filler Cap: "FUEL, 80-87 OCTANE, 9 GALLON,
POINT VENT FORWARD"

Behind Seat: "MAXIMUM PILOT WEIGHT 155 POUNDS"

Above Baggage Compartment:"NO BAGGAGE"

Adjacent to Fuel Valve Handle: "FUEL VALVE, ON-OFF, 9 GALLON"

The fuel gauge is calibrated in gallons, 9 gallons is the maximum reading.

II. PROCEDURES

If fuel pressure drops below the minimum allowable or if the engine driven pump fails, turn on the electric fuel booster pump.
III. PERFORMANCE

The performance of this airplane equipped with C-85-12 engine and 1890 propeller is equal to or better than that shown in the Airplane Flight Manual.

Approved Date 2/29/60
Revised: 3/15/60

Approved

John A. Carran
Chief, Aircraft
Engineering Division
Federal Aviation Agency
Region Three