

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 therefor as specified hereon meets the airworthiness requirements of Part 03 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 Dwg. 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 surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

*Date of application:* 27 January 1965

*Date received:* 18 December 1972

*Date of issuance:* 10 March 1960

*Date amended:* 3 February 1965



*By direction of the Administrator*

*Robert A. Chamberlain*

WILLIAM J. THIEVON, 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.*

BILQUIST - DATA SHEET NO. 1

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 AC4036.
3. Electric fuel pump is Bendix 47-57-12V Neg.
4. Carburetor is Stromberg NA-S3A1, 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-E7 Min, 9 gal, Point Vent Fwd."
2. Behind Seat: "Max Pilot Wt. 155#"
3. Above Baggage Compartment: "No Baggage"
4. Adjacent to Fuel Valve Handle: "Fuel Valve, On-Off, 9 gal."
5. On Instrument Panel Switch Knob: "Fuel Pump - Pull On."
6. Fuel Gauge Calibration Shows "Full" at 9 gal. Higher readings blocked out.

BILQUIST - DATA SHEET NO. 1 (Continued)

- E. Replace "Rebat" S-24 battery with "Rebat" S-12.
- III. Attach FAA - approved Airplane Flight Manual Supplement dated February 29, 1960 to basic Airplane Flight Manual in the airplane.

Signed \_\_\_\_\_  
W. P. Bilquist

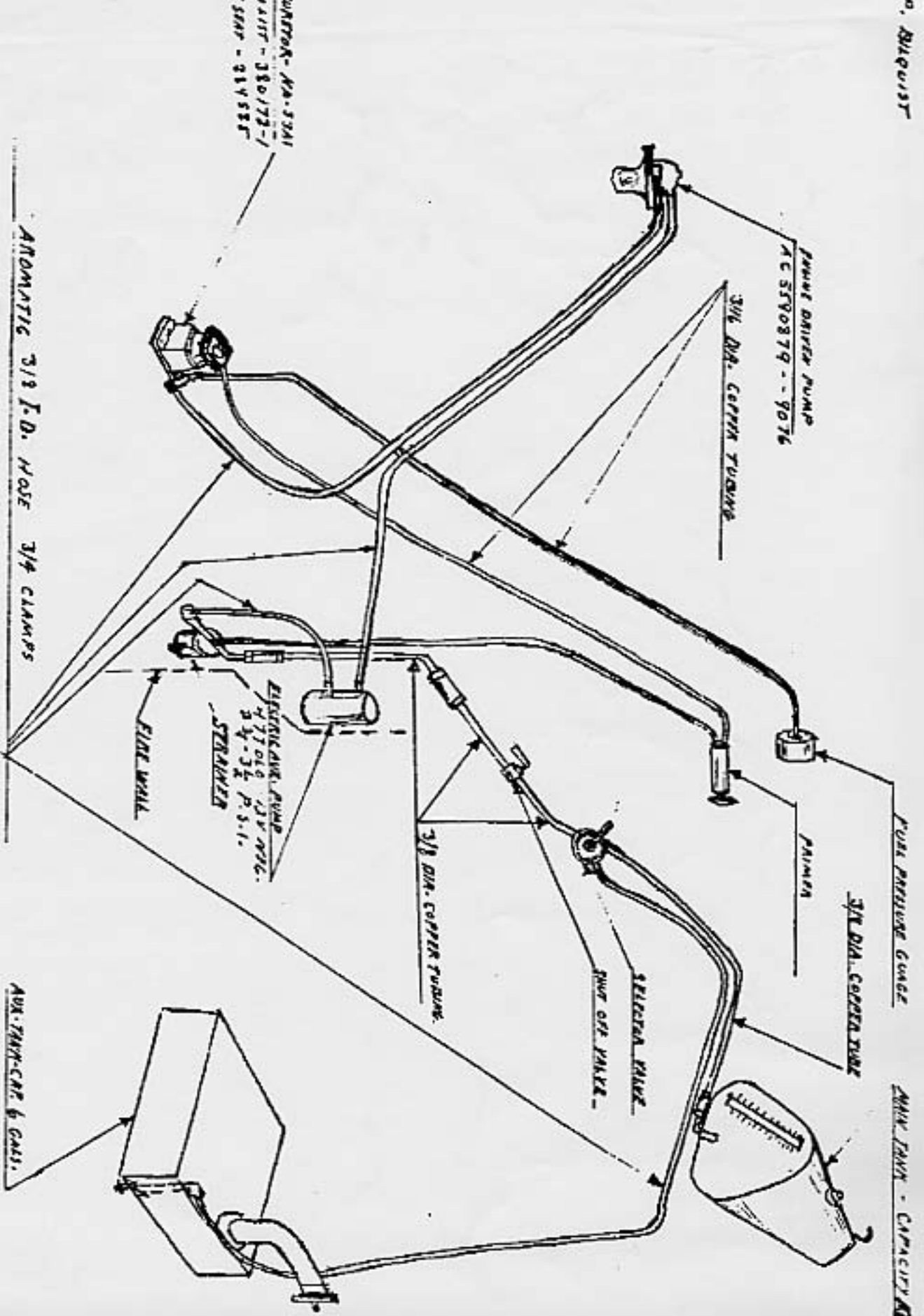
Feb. 11, 1965, revisions

Other Bilquist data required: Fuel System Sketch dated Mar. 17, 1960  
Fuel System Drawing dated Mar. 5, 1960  
FAA-approved Airplane Flight Manual  
Supplement dated Feb. 29, 1960,  
revised Mar. 15, 1960

LIMITATION OF APPLICABILITY: Empty weight of altered airplanes 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*

W. P. Bilquist



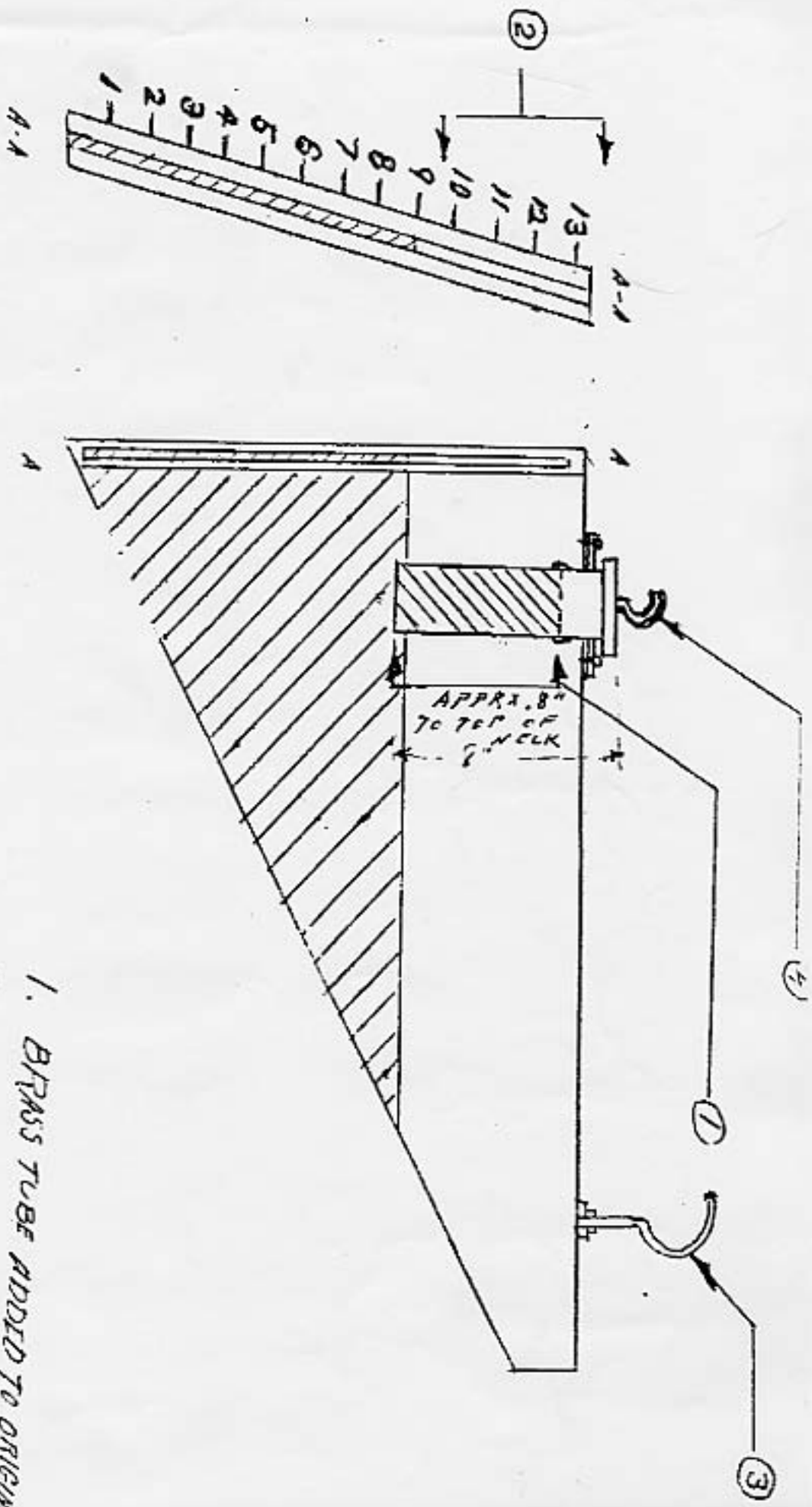
WATER - No. 5241  
AIR - 58072-1  
SEAL - 214585

FUEL SYSTEM

FOR

MIBC - 55 MOONEY AITE N-41LR

WITH C85-12 CONTINENTAL ENGINE - PHOTOGRAPH SOURCE PROPRIETOR



FUEL SYSTEM DRAWING, NO. 2 SHOWING CHANGES TO  
MAIN FUEL TANK TO RESTRICT CAPACITY AND  
MEET REQUIREMENTS OF CAP. 3.74 AND 3.440

1. BRASS TUBE ADDED TO ORIGINAL
2. NUMBERS 10 TO 13 DELETED
3. ORIGINAL VENT - REMOVED
4. VENT THRU FILTER CAP - ADDED

MARCH 5, 1960

W. P. BIRQUIST



**AIRPLANE FLIGHT MANUAL SUPPLEMENT**

**MOONEY M18-C55**

**With C85-12 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 1B90  
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 1B90 propeller is equal to or better than that shown in the Airplane Flight Manual.

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

Approved Harold H. Hermes  
for JOHN A. CARRAN  
Chief, Aircraft  
Engineering Division  
Federal Aviation Agency  
Region Three