

Department of Transportation—Federal Aviation Administration

**Supplemental Type Certificate***Number* SA2168NM

Precise Flight, Inc.  
63120 Powell Butte Rd.  
Bend, OR 97701

*This certificate, issued to*

*covers the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part \* of the \* Regulations.*

*Original Product—Type Certificate Number:*

\*See attached FAA Approved Model List (AML)

*Make:*

No. SA2168NM for list of approved airplane models

*Model:*

and applicable airworthiness regulations

*Description of the Type Design Change:* Installation of Precise Flight, Inc. Stand-By Vacuum System (SVS) in accordance with the appropriate Precise Flight, Inc. Engineering Drawing listed on FAA Approved Model List No. SA2168NM, dated May 4, 2000, or later FAA approved revision.

NOTE: As a prerequisite to this change, the engine must be modified in accordance with Precise Flight, Inc. STC No. SE1779NM or SE1780NM, dated April 21, 2000, or later FAA approved revision. Also, modified aircraft must be equipped with a vacuum indicator.

*Limitations and Conditions:* Approval of this change in type design applies to the above model aircraft only. This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated unless it is determined by the installer 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, AML No. SA2168NM and the appropriate FAA Approved Flight Manual Supplement (AFMS) listed on AML No. SA2168NM 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:* October 31, 1983*Date received:**Date of issuance:* November 7, 1983*Date amended:*

December 16, 1983; December 7, 1984;

August 18, 1989; May 4, 2000

*By signature of the Administrator*

(Signature)

Acting Manager, Seattle Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 2 years, or both.

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

*Number* SA2168NX

CONDITIONS AND LIMITATIONS: (continued)

The conditions and limitations of the original Type Certificates apply except as follows:

This Continuation Sheet, which is part of Supplemental Type Certificate (STC) No. SA2168NX, prescribes the conditions and limitations under which the STC was issued and meets the airworthiness requirements of the Civil Air Regulations.

SUPPLEMENTAL TYPE CERTIFICATE HOLDER: Precise Flight, Inc.

I. Mooney Model (as listed on Approved Model List (AML)) as modified by STC No. SA2168NX

Equipment: The Airplane Flight Manual or Pilot's Operating Handbook Supplement must be maintained in the airplane at all times.

NOTE 1: Current weight and balance report including list of equipment in the certified empty weight must be in the aircraft.

NOTE 2: In addition to the Placards and Markings required by TCDS 2A3 or 66SM, Note 2, apply the following:

(a) To be located on the push/pull control cable knob:



(b) To be located around the LED bulb for the pump inoperative warning light:



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CONDITIONS AND LIMITATIONS: (continued)

(c) Place in front of and in full view of the pilot:

**STANDBY VACUUM SYSTEM:  
 FOR OPERATING INSTRUCTIONS AND LIMITATIONS SEE SUPPLEMENT  
 IN OWNER'S MANUAL OR PILOT'S OPERATING HANDBOOK**

(d) One of the following placards must be placed in full view of the pilot near the instrument vacuum indicator after appropriate entries have been made:

Approx. Standby Vacuum Available - Altitude Power Chart  
 for Aircraft With C.S. Prop. Max. Cont. RPM.

Press. Alt.	RPM	Max. Press.	SVS Vacuum In Hg. Min.
2000	Max cont.		
4000	Max cont.		
6000	Max cont.		
8000	Max cont.		
10000	Max cont.		

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Approx. Standby Vacuum Available - Annular Power Chart  
 For Aircraft With Fixed Pitch Prop.

Press. Alt.	RPM	SVS Vacuum In. Hg. Min.
2000		
4000		
6000		
8000		
10000		

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- END -

*Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.*  
 FAA FORM 8110-2-1 (10-59) *This certificate may be transferred in accordance with FAR 21.47.*

FAA APPROVED MODEL LIST (AML) NO. SA2168NM

PRECISE FLIGHT, INC.

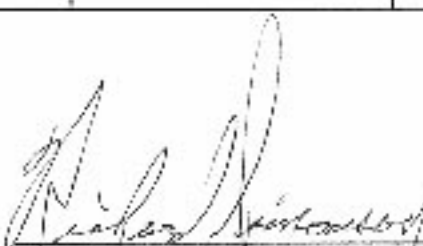
For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: December 7, 1984

Item	Aircraft Make	Aircraft Model	Original Type Certificate Number	Certification Basis for Alteration	FAA Approved Airplane Flight Manual Supplement*	FAA Approved Drawing*		AML Amdt. Date
						Number	REV	
1	Mooney Aircraft Corp.	M20, M20A, M20B, M20C, M20D, M20E, M20F, M20G, M20J, M20K, M20M	2A3	CAR 3	Supplemental Flight Manual for SA2168NM dated 9/30/99. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev. , dated 3/10/2000 Rev. 25, dated 8/26/99	5/4/2000
		M22	A6SW	CAR 3				
2	Mooney Aircraft Corp.	M20, M20A, M20B, M20C, M20D, M20E, M20F, M20G, M20J, M20K, M20M	2A3	CAR 3	Supplemental Flight Manual for Push Operated Cable Valve dated 2/4/2000. (SVS V) OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)	SVS V Engineering Drawing 000V0000 And Installation Report No. 08072	Rev. , dated 3/10/2000 Rev.-, dated 12/22/1999	5/4/2000
		M22	A6SW	CAR 3				

\* or later FAA Approved Revision

FAA Approved:   
Acting Manager, Seattle Aircraft Certification Office

Amended: May 4, 2000