Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number SA2683NM

This certificate, issued to

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

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 * of the * Regulations.

Original Product—Type Certificate Number:

*See attached FAA Approved Model List (AML)

Make:

No. SA2683NM 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. SA2683NM, dated March 17, 2000, or later FAA approved revision.

NOTE: As a prerequisite to this change, the iengine must be modified in accordance with Precise Flight, Inc. STC No. SE1779NM or SE1780NM, dated December 28, 1982, or later FAA approved revision. Also, modified aircraft must be equipped with a vacuum indicator.

Similations 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. SA2683NM and the appropriate FAA Approved Flight Manual Supplement (AFMS) listed on AML No. SA2683NM 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 of issuance:

November 7, 1983

Date reissued:

Date amended:

December 16, 1983; December 7, 1984;

October 31, 1989; July 5, 1991

March 17, 2000



(Signature)

Acting Manager, Seattle 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.

PRECISE FLIGHT STANDBY VACUUM SYSTEM LIST OF ACTIVE PAGES

				7
PAGE			,	AMENDMENT DATE
2				March 17, 2000
3				March 17, 2000
4				March 17, 2000
5				March 17, 2000
6				March 17, 2000
7				March 17, 2000
8				March 17, 2000
9				March 17, 2000
10				March 17, 2000
11				March 17, 2000
12				March 17, 2000
13				March 17, 2000
14		*		March 17, 2000
15				March 17, 2000
16				March 17, 2000
17				March 17, 2000
18				March 17, 2000
19				March 17, 2000
20				June 29, 2001
21				March 17, 2000
22				March 17, 2000
23				March 17, 2000
24	*			March 17, 2000
25				March 17, 2000
26				March 17, 2000
27				March 17, 2000

FAA Approved:

Acting Manager, Seattle Aircraft Certification Office

NDED DATE: June 29, 2001

FAA APPROVED MODEL LIST (AML) NO. SA2683NM PRECISE FLIGHT, INC.

For

INSTALLATION OF PRECISE FLIGHT STANDBY VACUUM SYSTEM

Issue Date: May 23, 1988

							issue Date. May 25, 18	700
	Aircraft	Aircraft C	Original Type Certificate	Certification Basis for	FAA Approved Airplane Flight Manual Supplement*	FAA Approved	AML Amdt.	
Item	Make	Model	Number	Alteration		Number	REV	Date
49	Great Lakes Aircraft Co. (Chapparal Motors, Inc.)	2T-1A-1 2T-1A-2	A18EA	Aero Bul. 7A (FAR 23)	Supplemental Flight Manual for SA2683NM dated 6/8/98. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev, dated 3/10/2000 Rev. 25, dated 8/26/99	3/17/2000
50	Great Lakes Aircraft Co. (Chapparal Motors, Inc.)	2T-1A-1 2T-1A-2	A18EA	Aero Bul. 7A (FAR 23)	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	3/17/2000
51	Grumman Amer. Aviation (AgCat Corp.) Grumman American Aviation (American General Aircraft Holding Co.)	G-164, G-164A, G-164B AA-1, AA-1A, AA- 1B, AA-1C AA-5, AA-5A, AA-5B	1A16 A11EA A16EA	CAR 8.10(a)(a) (CAM 8) FAR 23	Supplemental Flight Manual for SA2683NM dated 6/8/98. (SVS III)	SVS III Engineering Drawing 000V0000 And Installation Report No. 50050	Rev, dated 3/10/2000 Rev. 25, dated 8/26/99	3/17/2000
52	Grumman Amer. Aviation (AgCat Corp.)	G-164, G-164A, G-164B AA-1,	1A16 A11EA	CAR 8.10(a)(a) (CAM 8) FAR 23	Supplemental Flight Manual for Push 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	3/17/2000
	American Aviation (American General Aircraft Holding Co.)	AA-1A, AA- 1B, AA-1C AA-5, AA-5A, AA-5B	A16EA	FAR 23	OR Supplemental Flight Manual for Pull Operated Cable Valve dated 2/4/2000. (SVS V)		7	

^{*} or later FAA Approved Revision

Department of Transportation—Hederal Aviation Administration

Supplemental Type Certificate

Number SE1779NM

This certificate, issued to

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

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 33 of the Federal Aviation Regulations.

Original Product—Type Certificate Number:

Make:

Model:

*See attached FAA Approved Model List (AML)
No. SE1779NM for list of approved airplane models

and applicable airworthiness regulations

Description of the Type Design Change: Installation of Precise Flight, Inc. Standby Vacuum System SVS III, in accordance with Engineering Drawing 000V0000, Revision -, dated March 10, 2000, and Installation Reprot No. 50050, Revision 25, dated August 26, 1999, or later approved revision. Or Installation of Precise Flight, Inc. SVS V, in accordance with Precise Flight, Inc. Engineering Drawing 000V0000, Revision -, dated March 10, 2000 and Installation Instructions 08072, Revision -, dated December 12, 1999, or later FAA approved revision.

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, Addendum No. SE1779NM, and FAA approved AML No. SE1779NM, December 30, 1983, or later FAA approved revision, 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: Date of issuance: December 13, 1982

December 28, 1982

Date reissued:

Date amended:

December 30, 1983; January 31, 1985;

July 25, 1990; January 31, 1991

April 21, 2000



By direction of the Administrator

(Signatúre,

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 3 years, or both.

United States of America

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number SE1779NM

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SE1779NM

The conditions and limitations of Type Certificate Data Sheet as listed in the attached AML apply except where superseded by the following:

This Supplemental Type Certificate Data Sheet, which is part of STC SE1779NM, prescribes the conditions and limitations under which the product for which the STC was issued meets the airworthiness requirements of the Federal Aviation Regulations:

SUPPLEMENTAL TYPE CERTIFICATE HOLDER: Precise Flight, Inc.

Engines:

Lycoming

Fuel:

See Type Certificate Data Sheet

Engine Limits:

See Type Certificate Data Sheet

Placards:

Placards and Operating Limits on appropriate Type Certificate Data Sheet apply except as noted herein:

The following placard is mandatory on aircraft that are required to have POH/AFM's and must be located near instrument suction gauge in full view of pilot:

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

NOTE:

This STC covers modification of the engine only. Installation of this system in an aircraft requires aircraft installations approval and associated Airplane Flight Manual and Pilot Operating Handbook Supplement for the installation.

For those airplanes which do not have an AFM/POH, the placards provided in each Precise Flight, Inc. Installation Kit must be installed with the modification.

-END-

APPROVED MODEL LIST NO. SE1779NM PRECISE FLIGHT STANDBY VACUUM SYSTEM LIST OF ACTIVE PAGES

PAGE	A Barry Buddelije i	AMENDMENT DATE
1		08/22/90 12/28/82
3		12/28/82

FAA Approved:

Assistant Manager, Seattle Aircraft Certification Office

Amended: September 9, 1990

FAA APPROVED MODEL LIST (AML) NO. SE1779NM

FOR

INSTALLATION OF STANDBY VACUUM SYSTEM (SVS)

ISSUE DATE: OCTOBER 31, 1989

	A IDODACT	A IDODAIT	OR IG INAL TYPE	CERT IF ICATION BASIS	FAA SEALED DRAWING/ DRAWING LIST		AFM	AML
ITEM	A IRCRAFT MAKE	A IRCRAFT MODEL	CERT IF ICATE NUMBER	FOR ALTERATION	NUMBER	REVISION NO. AND DATE	SUPPLEMENT NUMBER/DATE	AMENDMENT DATE
1	LYCOMING	0-235 Series	E-223	CAR 13 and T.C. E-223	LYC . SVS 00 10		12-28-82	4-11-83
2		0290	E-229	CAR 13 and T.C. E-223	LYC . SVS 00 10] 		
3		0-320	E-274	C.AR 13 and T.C. E-274	LYC. SVS 00:10			
4		10-320	1E 12	CAR 13 and T.C. IE 12	LYC. SVS	 		
5		0-340	E-277	CAR 13 and T.C. E-277	LYC . SVS - 00 10		. E	
6		0-350	227	CAR 13 and T.C. 227	LYC . SVS 00 10	\ 		
7		0-360 L0-360 10-360 L10-360	E-286 1E 10	CAR 13 and T.C. E-286	LYC. SVS 00 10			5 1085
8		AE 10-360	E 1CE	CAR 13 and T.C. E1CE	LYC . SVS 00 10	i ! !		8-22-90
9		T10-360	E-16EA	CAR 13 and T.C. E-16EA	LYC. SVS 00 10			
10		TO-360 LTO-360	E26EA .	. CAR 13 and T.C. E-26EA	LYC. SVS 00 10			