Airworthiness Directive 2005-11-05 Summary

Subject: Correct problems with the SVS before failure or malfunction

Manufacturer: Standby Vacuum System Category: Appliance

Effective Date: 07/18/2005 Recurring: No Supersedes: N/A Superseded By: N/A

For complete information on this AD, please see:

AD 2005-11-05 FAA Copy AD 2005-11-05 Preamble AD 2005-11-05 CFR Copy

Model Applicability:

This AD affects Precise Flight, Inc. Models SVS I and SVS IA standby vacuum systems (SVS).

Applicable Manufacturers Service Information:

Precise Flight, Inc. Installation Report No. 08074, Standby Vacuum System Model VI Upgrade Kit, dated January 7, 2000

MANUAL VALVE Standby Vacuum System AFM SUPPLEMENT, dated February 4, 2000

Summary:

The FAA adopts a new airworthiness directive (AD) for all airplanes equipped with Precise Flight, Inc. (Precise Flight) Models SVS I and SVS IA standby vacuum systems (SVS) installed under certain supplemental type certificates or through field approval. This AD requires you to replace the airplane flight manual supplement (AFMS) in the airplane flight manual with the appropriate revision and install placards as defined in the AFMS, upgrade the Model SVS I or SVS IA SVS to the Model VI SVS, and add the instructions for continued airworthiness (ICA) to the maintenance schedule for the aircraft. This AD results from several reports of failed shuttle control valves of the standby vacuum system (SVS) and one report of an airplane crash with a fatality in which improper use of the SVS was a factor. We are issuing this AD to correct problems with the SVS before failure or malfunction during instrument flight rules (IFR) flight that can lead to pilot disorientation and loss of control of the aircraft.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-19354; Directorate Identifier 2004-CE-30-AD; Amendment 39-14107; AD 2005-11-05]

RIN 2120-AA64

Airworthiness Directives; Precise Flight, Inc. Models SVS I and SVS IA Standby Vacuum Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA adopts a new airworthiness directive (AD) for all airplanes equipped with Precise Flight, Inc. (Precise Flight) Models SVS I and SVS IA standby vacuum systems (SVS) installed under certain supplemental type certificates or through field approval. This AD requires you to replace the airplane flight manual supplement (AFMS) in the airplane flight manual with the appropriate revision and install placards as defined in the AFMS, upgrade the Model SVS I or SVS IA SVS to the Model VI SVS, and add the instructions for continued airworthiness (ICA) to the maintenance schedule for the aircraft. This AD results from several reports of failed shuttle control valves of the standby vacuum system (SVS) and one report of an airplane crash with a fatality in which improper use of the SVS was a factor. We are issuing this AD to correct problems with the SVS before failure or malfunction during instrument flight rules (IFR) flight that can lead to pilot disorientation and loss of control of the aircraft.

DATES: This AD becomes effective on July 18, 2005.

Ås of July 18, 2005, the Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulation.

ADDRESSES: To get the service information identified in this AD, contact Precise Flight, Inc., 63354 Powell Butte Road, Bend, Oregon 97701, telephone: (800) 547–2558; facsimile: (541) 388–1105; electronic mail: preciseflight@preciseflight.com; Internet: http://www.preciseflight.com/svs.html.

To view the AD docket, go to the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL–401, Washington, DC 20590–001 or on the Internet at http://dms.dot.gov. The docket number is FAA–2004–19354; Directorate Identifier 2004–CE–3–AD.

FOR FURTHER INFORMATION CONTACT: Mr. Tin Truong, Aerospace Engineer, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055–4065; telephone: (425) 917–6486; facsimile: (425) 917–6590.

SUPPLEMENTARY INFORMATION:

Discussion

What events have caused this AD? AD 99–24–10 currently requires the following on all aircraft equipped with Precise Flight, Inc. Model SVS III standby vacuum systems installed under the applicable supplemental type certificate (STC) or through field approval:

- —Incorporate revised operating limitations for the affected SVS into the airplane flight manual (AFM);
- —Inspect (repetitively) the push-pull cable, vacuum lines, saddle fittings, and shuttle valve for correct installation and damage (wear, chafing, deterioration, and so forth); and
- —Correct any discrepancy found and conduct a functional test of the vacuum system after the inspections. The SVS is intended to provide emergency vacuum power for aircraft

instruments when the primary vacuum system fails. The design of the Precise Flight, Inc. Models SVS I and SVS IA SVS is similar to the Model SVS III SVS, and so may not be able to provide sufficient vacuum power without actions similar to those of AD 99–24–10.

The Precise Flight, Inc. Models SVS I and SVS IA SVS are installed on aircraft through a supplemental type certificate (STC) or through field approval. The Applicability section of the proposed AD lists the applicable STCs and aircraft that could have these SVS installed. This list is not meant to be exhaustive nor does it include all aircraft with the systems installed through field approval.

What is the potential impact if FAA took no action? Failure or malfunction of the SVS during IFR flight can lead to pilot disorientation and loss of control of the aircraft.

Has FAA taken any action to this point? Consequently, we issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to all airplanes equipped with Precise Flight, Inc. (Precise Flight) Models SVS I and SVS IA standby vacuum systems (SVS) installed under certain supplemental type certificates or through field approval. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on March 4, 2005 (70 FR 10517). The NPRM proposed to require you to replace the airplane flight manual supplement (AFMS) in the airplane flight manual with the appropriate revision and install placards as defined in the AFMS, upgrade the Model SVS I or SVS IA SVS to the Model VI SVS, and add the instructions for continued airworthiness (ICA) to the maintenance schedule for the aircraft.

Comments

Was the public invited to comment? We provided the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and FAA's response to each comment:

Comment Issue No. 1: Manufacturer's Mailing and Internet Address

What is the commenter's concern? Precise Flight has moved and requests use of the new mailing address. Further, Precise Flight Inc. requests use of a specific Internet address for information about the Models SVS I and SVS IA.

What is FAA's response to the concern? We agree with the commenter. We will include the correct mailing and Internet addresses in the AD.

Comment Issue No. 2: Increase in Cost of Parts

What is the commenter's concern? Precise Flight states that the cost of parts has increased since FAA first issued the NPRM. The cost of parts has changed from \$77 to \$195. Precise Flight requests the AD to reflect this increase.

What is FAA's response to the concern? The FAA agrees with the commenter. We have re-evaluated the proposed cost of parts and determined that the correct cost of parts is \$195.

We will change the final AD action to include the correct cost of parts.

Comment Issue No. 3: Correct Reference to Service Information

What is the commenter's concern? Precise Flight states that the correct report number for the cited service information should change from 08080 to 08074. The commenter requests that the final AD action reflect the correct report number.

What is FAA's response to the concern? We agree with Precise Flight that the correct report number is 08074.

We will change the final AD action to show that the correct report number 08074.

Comment Issue No. 4: AD Applicability

What is the commenter's concern? Precise Flight states that to avoid confusion, the final AD action should state that the AD does not apply to the Models SVS V or SVS III which have been upgraded to the SVS V following the FAA-approved alternative method of compliance (AMOC) dated December 22, 1999. The commenter requests the final AD action include a note that clarifies the affected models of SVS.

What is FAA's response to the concern? To avoid confusion about the applicability of the proposed AD we will include a note to read: "This AD affects Models SVS I and SVS IA only. The Model SVS III is addressed by AD–99–24–10, Amendment 39–11434 (64 FR 66747, November 30, 1999)."

Conclusion

What is FAA's final determination on this issue? We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed except for the changes discussed above and minor editorial corrections. We have determined that these changes and minor corrections:

- —Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- —Do not add any additional burden upon the public than was already proposed in the NPRM.

Changes to 14 CFR Part 39—Effect on the AD

How does the revision to 14 CFR part 39 affect this AD? On July 10, 2002, the FAA published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

Costs of Compliance

How many airplanes does this AD impact? We estimate that this AD affects 800 airplanes in the U.S. registry.

What is the cost impact of this AD on owners/operators of the affected airplanes? We estimate the following costs to replace the airplane flight manual supplement (AFMS) in the airplane flight manual with the appropriate revision. We have no way of determining the number of airplanes that may need this replacement:

Labor cost	Parts cost	Total cost per airplane
1 work hour × \$65 = \$65	None	\$65

We estimate the following costs to do any upgrade to the Model VI SVS, install placards, and add the installation report including the instructions for continued airworthiness (ICA) to the maintenance schedule for the aircraft.

We have no way of determining the number of airplanes that may need this upgrade:

Laboratori	Parts cost	Total cost per
Labor cost		airplane
3 work hour × \$65 = \$195	\$195	\$390

Authority for This Rulemaking

What authority does FAA have for issuing this rulemaking action? Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this AD.

Regulatory Findings

Will this AD impact various entities? We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and

responsibilities among the various levels of government.

Will this AD involve a significant rule or regulatory action? For the reasons discussed above, I certify that this AD:

- 1. Is not a "significant regulatory action" under Executive Order 12866;
- 2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- 3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD (and other information as included in the Regulatory Evaluation) and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under **ADDRESSES**. Include "Docket No. FAA–2004–19354; Directorate Identifier 2004–CE–3–AD" in your request.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

■ Accordingly, under the authority delegated to me by the Administrator,

the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

■ 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

■ 2. FAA amends § 39.13 by adding a new AD to read as follows:

2005-11-05 Precise Flight, Inc.:

Amendment 39–14107; Docket No. FAA–2004–19354; Directorate Identifier 2004–CE–3–AD.

When Does This AD Become Effective?

(a) This AD becomes effective on July 18, 2005.

What Other ADs Are Affected by This Action?

(b) None.

What Airplanes Are Affected by This AD?

(c) This AD affects Models SVS I and SVS IA standby vacuum systems (SVS), installed on, but not limited to, the following aircraft that are certificated in any category. These systems can be installed under the applicable supplemental type certificate (STC) or through field approval:

Affected STC	Make and model/series aircraft		
SA2160NM	Raytheon Beech Models 23, A23, A23A, A23-19, 19A, B19, B19A, A23-24, B23, C23, A24, A24R, B24R, C24R, 35, A35, B35, C35, D35, E35, F35, G35, 35R, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 35-33, 35-B33, 35-C33, 35-C33A, E33A, E33A, E33C, F33, F33A, F33C, G33, 36, A36, A36TC, B36TC, 4S(YT-34), A45(T-34A, B-45), D45(T-34B), and Series 77.		
SA2161NM SA2162NM	Raytheon Beech Model V35B. The Cessna Aircraft Company Models 321 (Navy OE-2), 172N, 172P, 172D, 172M, 172L, 172I, 172H (USAF T-41A),		
3A2102NW	172F, (USAF T-41A), 172E, 172C, 172, 172B, TR182, TR182, 305B (Military T0-1D, 0-1D, 0-1F), R172E Series, 175C, 175B, 175A, R172F (USAF T-41D), P172D, 150, 150A, 150C, 150B, 150D, A152, A150M, 150M, 152, A150L, 150K, 150J, 150H, 150G, 150F, 210-5 (205), 210-5A (205A), T210R, P210R, T210N, 210N, P210N, 210M, T210L, 210K, T210K, 210J, T210H, 210H, T210G, T210F, 210F, 210D, 210C, 210B, 210A, 210L, 210, A185F, A185E, 185E, 185E, 185B, 185A, 185, 140A, 305A (USAF 0-1A), 305C (USAF 0-1E), 305D (USAF 0-1G), 305F, 120, 170B, 170A, 170, 207A, T207, 207, 206, P206B, P206C, TU206A, TU206G, TU206E, TU206C, P206D, U206G, U206F, U206E, U206D, U206C, U206A, TP206E, TP206D, TP206C, TP206A, P206E, TU206D, T188C, A188B, A188, 188A, and 188.		
SA2164NM	The Cessna Aircraft Company Model 180A.		
SA2167NM	The New Piper Aircraft, Inc. Models PA–16S and PA–16, Series PA–24, Models PA–24–400, PA–24–250, PA–24, PA–24–260, PA–18S–"135", PA–18"105" (Special), PA–18AS–"135", PA–18A–"135", PA–18—"150", PA–19S, PA–19 (Army L–18C), PA–18S–"150", and PA–18–"135" (Army L–21B), Series PA–18, Models PA–28–18–"125" (Army L–21A), PA–18S, PA–18A, PA–18, and PA–18S–"125", Series PA–19 and PA–20, Models PA–20, PA–20S, PA–20–"135", PA–20–"115", and PA–22S–160, Series PA–22, Models PA–22–160, PA–22S–150, PA–22–150, PA–22–150, PA–22–135, and PA–28R–135, Series PA–28, Model PA–28R–200, Series PA–28S and PA–28R, Models PA–28–236, PA–28–201T, PA–28R–180, PA–28RT–201T, PA–28RT–201, PA–28R–201T, PA–28R–181, PA–28S–180, PA–28R–201T, PA–28S–160, PA–28–151, PA–28–150, and PA–28–140, Series PA–25 (Normal Category (Cat.)), Models PA–25–260 (Normal Cat.), PA–25–235 (Normal Cat.), PA–25 (Normal Cat.), L–14, PA–12S, PA–12, PA–14, PA–15, PA–17, PA–38–112, PA–46–310P, and PA–32–260, Series PA–32 and PA–32R, Models PA–32–300, PA–32R–301T, PA–32R–301T, PA–32R–301(HP), PA–32R–301(SP), PA–32RT–300T, PA–32RT–300, PA–32RT–300, and PA–32S–300, Series PA–36, Models PA–36–375 (Normal Cat.), PA–36–300 (Normal Cat.), and PA–36–285 (Normal Cat.)		

Affected STC	Make and model/series aircraft		
SA2168NM	Learjet Inc. Model Learjet 24D Mooney Aircraft Corporation Models M20C, M20M, M20K, M20J, M20G, M20B, M20A, M20E,		
SA2683NM	M20, M20F, M20E, and M22. Aermacchi S.p.A. Models F.260, F.260B, S.205–22/R, S.205–18/F, S.205–18/R, S.205–20/F, S.205–20/R, S.208A, and S.208 Aerocar, Incorporated Model I Aerodifusion, S.L. Model Jodel D–1190S Aeromere S.A. Model Falco F.8.L Aeronautica Macchi S.p.A. Models AL60, AL60–B, AL60–F5, and AL60–C5 Aeronautica Macchi S.p.A. Models AL60, AL60–B, AL60–F5, and AL60–C5 Aeronautica Macchi S.p.A. Models AL60, AL60–B, AL60–F5, and AL60–C5 Aeronautica Macchi S.p.A. & Aerfer-Industrie Aerospaziali Meridionali S.p.A. Model AM–3 Aeronca Aircraft Corporation Models S15AC and 15AC Ag Cat Corporation Models G–164B, G–164, and G–164A Alliance Aircraft Corporation Models H–395 (USAF L–28A or U–10B), H–250, H–295 (USAF U–10D), HT–295, H–391 (USAF YL–24), H–391B, H–700, and H–395A American Champion Aircraft Corp. Models 7AC, 7FC, 7ACA, S7AC, 7BCM (L–16B), 7DC, S7DC, 7EC, S7CC, 7ECA, 7GC, 7GCA, 7GCAA, 7GCB, 7GCBA, 7GCBC, 7HC, 7JC, 7KC, 7KCAB, 11BC, S11AC, S11BC, 11AC, 11CC, S11CC, 8KCAB, and 8GCBC Arctic Aircraft Company, Inc. Models S–14A, S–14–65F, S–14–85F, S–14–90F, S–182, S–181 (Army L–6), and DR–1050 Bellanca Aircraft Corporation Models 14–19–2, 14–19–3A, 17–30, 17–31, 17–31, 14–13–14–13–2, 14–13–3, 14–13–3, 14–13–3, 14–13–3, 14–13–3, 14–13–3, 14–13		
SE1779NM	Textron Lycoming, AVCO Corporation Series IGO-540, IO-320, IGSO-540, O-290, GSO-580, O-320, IGO-480, GO-480, GSO-435, O-435, SO-580-A1A, SO-580-A1B, SO-580, O-540, VO-540, TIO-541, TIO-360, TO-360, and LTO-360.		
SE1780NM	Curtiss-Wright Corporation Models A70 and A70–2 Teledyne Continental Motors Series TSIO–470, A–65, A–75, C75, C–125, C–115, Models A100–1 and A100–2, Series E–165, E–185, O–200, C90, C145, O–300, E–225, O–470, IO–470, Models FSO–470A, FSO–526A, FSO–526–C, Series GO–300, Models GSO–526–A and 6–260–A, Series IO–360, Models 6–320–B, GIO–470–A, T6–320–A, IO–346–B, and IO–346–A, Series IO–520, GTSIO–520, TSIO–360, and LTSIO–360.		

Note: This AD affects Models SVS I and SVS IA only. The Model SVS III is addressed by AD–99–24–10, Amendment 39–11434 (64 FR 66747, November 30, 1999).

What Is the Unsafe Condition Presented in This AD?

(d) This AD is the result of several reports of failed shuttle control valves of the SVS and one report of an airplane crash with a fatality in which improper use of the SVS was a factor. The actions specified in this AD are intended to correct problems with the

SVS before failure or malfunction during instrument flight rules (IFR) flight that can lead to pilot disorientation and loss of control of the aircraft.

What Must I Do To Address This Problem?

(e) To address this problem, you must do the following:

Actions	Compliance	Procedures
(1) Incorporate the airplane flight manual supplement (AFMS) in the airplane flight manual with the appropriate revision in the FAA-approved airplane flight manual (AFM). (i) The owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7) may do the flight manual changes requirement of this AD. (ii) Make an entry in the aircraft records showing compliance with this portion of the AD following section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).	Within 30 days after July 18, 2005 (the effective date of this AD), unless already done.	Not applicable.
(2) Install placards described in the AFMS	Before further flight after incorporating the AFMS in the FAA-approved airplane flight manual (AFM) required by paragraph (e)(1) of this AD.	Follow the MANUAL VALVE Standby Vacuum System AFM SUPPLEMENT, dated February 4, 2000.
(3) Upgrade the Model SVS I or SVS IA SVS to the Model VI SVS, install the appropriate placards, and add the installation report including the instructions for continued airworthiness (ICA) to the maintenance schedule for the aircraft.	Within 1 year after July 18, 2005 (the effective date of this AD), unless already done.	Follow Precise Flight, Inc. Installation Report No. 08074, Standby Vacuum System Model VI Upgrade Kit, dated January 7, 2000.
(4) Do not install any Model SVS I or SVS IA SVS without also doing the actions required by paragraphs (e)(1), (e)(2) and (e)(3) of this AD.	As of July 18, 2005 (the effective date of this AD).	Not applicable.

May I Request an Alternative Method of Compliance?

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Seattle Aircraft Certification Office (ACO), FAA. For information on any already approved alternative methods of compliance, contact Mr. Tin Truong, Aerospace Engineer, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055–4065; telephone: (425) 917–6486; facsimile: (425) 917–6590.

Does This AD Incorporate Any Material by Reference?

(g) You must do the actions required by this AD following the instructions in Precise Flight, Inc. Installation Report No. 08074, Standby Vacuum System Model VI Upgrade Kit, dated January 7, 2000 and the MANUAL VALVE Standby Vacuum System AFM SUPPLEMENT, dated February 4, 2000. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To get a copy of this service information, contact Precise Flight, Inc., 63354 Powell Butte Road, Bend, Oregon 97701, telephone: (800) 547-2558; facsimile: (541) 388-1105; electronic mail: preciseflight@preciseflight.com; Internet: http://www.preciseflight.com/svs.html. To review copies of this service information, go to the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, go to: http://www.archives.gov/federal_register/ code_of_federal_regulations/ ibr_locations.html or call (202) 741-6030. To

view the AD docket, go to the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL—401, Washington, DC 20590—001 or on the Internet at http://dms.dot.gov. The docket number is FAA—2004—19354; Directorate Identifier 2004—CE—30—AD.

Issued in Kansas City, Missouri, on May 25, 2005.

David R. Showers,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service. [FR Doc. 05–10864 Filed 6–6–05; 8:45 am] BILLING CODE 4910–13–P