



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2015-6544; Directorate Identifier 2014-NM-198-AD]**

**RIN 2120-AA64**

**Airworthiness Directives;** Saab AB, Saab Aeronautics (formerly known as Saab AB, Saab Aerosystems) Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede Airworthiness Directive (AD) 2012-24-06 for certain Saab AB, Saab Aeronautics (formerly known as Saab AB, Saab Aerosystems) Model 340A (SAAB/SF340A) and SAAB 340B airplanes. AD 2012-24-06 requires replacing the stall warning computer (SWC) with a new SWC, which provides an artificial stall warning in icing conditions, and modifying the airplane for the replacement of the SWC. Since we issued AD 2012-24-06, a determination was made that airplanes with certain modifications were excluded from the AD applicability and are affected by the identified unsafe condition and the SWC required by AD 2012-24-06 contained erroneous logic. This proposed AD would add airplanes to the applicability, and would add requirements to replace the existing SWCs with new, improved SWCs and modify the airplane for the new replacement of the SWC. We are proposing this AD to prevent natural stall events during operation in icing conditions, which could result in loss of control of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed rule, contact Saab AB, Saab Aeronautics, SE-581 88, Linköping, Sweden; telephone +46 13 18 5591; fax +46 13 18 4874; e-mail [saab2000.techsupport@saabgroup.com](mailto:saab2000.techsupport@saabgroup.com); Internet <http://www.saabgroup.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-6544; or in person at the Docket

Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Shahram Daneshmandi, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1112; fax 425-227-1149.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-6544; Directorate Identifier 2014-NM-198-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

On November 21, 2012, we issued AD 2012-24-06, Amendment 39-17276 (77 FR 73279, December 10, 2012). AD 2012-24-06 applies to certain Saab AB, Saab Aerosystems Model 340A (SAAB/SF340A) and SAAB 340B airplanes. AD 2012-24-06 was prompted by reports of stall events during icing conditions where the natural stall warning (buffet) was not identified. AD 2012-24-06 requires replacing the stall warning computer (SWC) with a new SWC, which provides an artificial stall warning in icing conditions, and modifying the airplane for the replacement of the SWC. We issued AD 2012-24-06 to prevent natural stall events during operation in icing conditions, which, if not corrected, could result in loss of control of the airplane.

Airplanes with certain modifications were excluded from the applicability of AD 2012-24-06, Amendment 39-17276 (77 FR 73279, December 10, 2012). Since we issued AD 2012-24-06, we have determined that those modifications for airplanes identified in the applicability of AD 2012-24-06 are now subject to the identified unsafe condition. In addition, a new, improved SWC has been designed to replace the existing SWC, as well as the SWC required by AD 2012-24-06. The installation of the new SWC includes modifying the airplane.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2014-0218, dated September 29, 2014 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain

Saab AB, Saab Aeronautics Model 340A (SAAB/SF340A) and SAAB 340B airplanes.

The MCAI states:

A few natural stall events, specifically when operating in icing conditions, have been experienced on SAAB 340 series aeroplanes, without receiving a prior stall warning.

This condition, if not corrected, could result in loss of control of the aeroplane.

To address this potential unsafe condition, SAAB developed a modified stall warning system, incorporating improved stall warning logic, and issued Service Bulletin (SB) 340-27-098 and SB 340-27-099, providing instructions to replace the Stall Warning Computer (SWC) with a new SWC, and instructions to activate the new SWC. The new system included stall warning curves optimized for operation in icing conditions, which are activated by selection of Engine Anti-Ice.

Consequently, EASA issued AD 2011-0219 [<http://ad.easa.europa.eu/ad/2011-0219>, which corresponds to FAA AD 2012-24-06, Amendment 39-17276 (77 FR 73279, December 10, 2012)] to require installation of the improved SWC.

After that [EASA] AD was issued, in-service experience with the improved stall warning system revealed cases of premature stall warning activation during the take-off phase. In numerous recorded cases, the onset of stall warning occurred without the 6 minute delay after weight off wheels.

This condition, if not corrected, could lead to premature stick shaker activation and consequent increase in pilot workload during the take-off phase, possibly resulting in reduced control of the aeroplane.

To correct this unsafe condition, EASA issued AD 2013-0254 [<http://ad.easa.europa.eu/ad/2013-0254>] retaining the requirements of EASA AD 2011-0219, which was superseded, to require deactivation of the ice speed

curves in the improved SWC on SAAB 340 aeroplanes, in accordance with SAAB SB 340-27-116.

Since EASA AD 2013-0254 was issued, SAAB developed a technical solution to eliminate the premature activation of the stall warning ice curves and issued SB 340-27-120 (modification of the existing Stall Warning System installation), SB 340-27-121 (activation of improved SWC for aeroplanes with a basic wing tip) and SB 340-27-122 (activation of improved SWC for aeroplanes with an extended wing tip). SAAB SB 340-27-120 provides modification and installation instructions valid for pre- and post-SB 340-27-097, 340-27-098, SB 340-27-099 and SB 340-27-116 aeroplanes. For aeroplanes modified in accordance with SAAB AB mod. No. 2650 and/or mod. No. 2859 which are no longer registered in Canada, SAAB AB issued SAAB AB SB 340-27-109 to provide modification and installation instructions to remove the ice speed curve function.

For the reasons described above, this [EASA] AD retains the requirements of EASA AD 2013-0254, which is superseded, and requires modification of the Stall Warning and Identification System and replacement of the SWC with an improved unit.

You may examine the MCAI in the AD docket on the Internet at

<http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-6544.

### **Related Service Information under 1 CFR part 51**

Saab AB, Saab Aeronautics has issued the following service information:

- Saab Service Bulletin 340-27-109, dated April 14, 2014.
- Saab Service Bulletin 340-27-116, dated October 18, 2013.
- Saab Service Bulletin 340-27-120, dated July 11, 2014.
- Saab Service Bulletin 340-27-121, dated July 11, 2014.
- Saab Service Bulletin 340-27-122, dated July 11, 2014.

The service information describes procedures for deactivating the stall warning speed curves in the SWCs for certain airplanes; replacing the existing SWCs with new, improved SWCs, and modifying the airplane for the new replacement of the SWC. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **FAA's Determination and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of these same type designs.

#### **Differences Between this Proposed AD and the MCAI or Service Information**

The applicability in the MCAI excludes airplanes which have been modified by Saab AB mod No. 2650 or mod No. 2859; however, this proposed AD does not exclude those airplanes because this proposed AD requires corrective actions for U.S. N-registered airplanes that have either modification installed.

Paragraph (2) of the MCAI requires replacement of the existing SWCs within 18 months after the effective date of the MCAI. However, due to the urgency of the identified unsafe condition, we have determined that this replacement must be done

within 12 months after the effective date of this AD, as specified in paragraph (h) of this proposed AD.

These differences have been coordinated with the EASA and Saab AB, Saab Aeronautics.

### **Costs of Compliance**

We estimate that this proposed AD will affect 105 airplanes of U.S. registry.

We also estimate that it would take about 78 work-hours per product to comply with the actions required by this proposed AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$33,000 per product. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$4,161,150, or \$39,630 per product.

### **Authority for this Rulemaking**

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 rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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.

For the reasons discussed above, I certify this proposed regulation:

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);
3. Will not affect intrastate aviation in Alaska; and
4. 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.

### **List of Subjects in 14 CFR Part 39**

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

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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. The FAA amends § 39.13 by removing Airworthiness (AD) 2012-24-06, Amendment 39-17276 (77 FR 73279, December 10, 2012), and adding the following new AD:

**Saab AB, Saab Aeronautics:** Docket No. FAA-2015-6544; Directorate Identifier 2014-NM-198-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 2012-24-06, Amendment 39-17276 (77 FR 73279, December 10, 2012).

#### **(c) Applicability**

This AD applies to Saab AB, Saab Aeronautics (formerly known as Saab AB, Saab Aerosystems) Model 340A (SAAB/SF340A) and SAAB 340B airplanes, certificated in any category, as identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Model 340A (SAAB/SF340A) airplanes, serial numbers 004 through 159 inclusive.

(2) Model SAAB 340B airplanes, serial numbers 160 through 459 inclusive, except serial numbers 170, 342, 362, 363, 367, 372, 379, 385, 395, 405, 409, 431, 441, and 455.

**(d) Subject**

Air Transport Association (ATA) of America Code 27: Flight Controls.

**(e) Reason**

This AD was prompted by a determination that airplanes with certain modifications were excluded from AD 2012-24-06, Amendment 39-17276 (77 FR 73279, December 10, 2012), and are affected by the identified unsafe condition and the stall warning computer (SWC) required by AD 2012-24-06 contained erroneous logic. We are issuing this AD to prevent natural stall events during operation in icing conditions, which could result in loss of control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Deactivation of Stall Speed Curves**

For airplanes identified in paragraphs (g)(1) and (g)(2) of this AD: Within 30 days after the effective date of this AD, do the deactivation specified in paragraph (g)(1) or (g)(2) of this AD, as applicable to airplane configuration, in accordance with the Accomplishment Instructions of Saab Service Bulletin 340-27-116, dated October 18, 2013.

(1) For airplanes with a basic wing tip that has been modified in accordance with Saab Service Bulletin 340-27-098: Deactivate the stall speed curves in the SWC having part number (P/N) 0020AK6.

(2) For airplanes with an extended wing tip that has been modified in accordance with Saab Service Bulletin 340-27-099: Deactivate the stall speed curves in the SWC having part number (P/N) 0020AK7.

**(h) Replacement of SWCs**

Within 12 months after the effective date of this AD: Do the replacement specified in paragraph (h)(1) or (h)(2) of this AD, as applicable.

(1) For airplanes with basic wing tips: Replace all SWCs with new, improved SWCs having P/N 0020AK6-1, in accordance with the Accomplishment Instructions of Saab Service Bulletin 340-27-121, dated July 11, 2014.

(2) For airplanes with extended wing tips: Replace all SWCs with new, improved SWCs having P/N 0020AK7-1, in accordance with the Accomplishment Instructions of Saab Service Bulletin 340-27-122, dated July 11, 2014.

**(i) Concurrent Modification**

Before or concurrently with the accomplishment of the applicable requirements of paragraph (h) of this AD, do the actions specified in paragraph (i)(1) or (i)(2) of this AD, as applicable to airplane configuration.

(1) For airplanes on which either Saab AB mod No. 2650 or mod No. 2859 is not installed: Modify the stall warning and identification system, in accordance with the Accomplishment Instructions of Saab Service Bulletin 340-27-120, dated July 11, 2014.

(2) For airplanes on which either Saab AB mod No. 2650 or mod No. 2859 is installed, or on which both mods are installed: Modify the stall warning and identification system, in accordance with the Accomplishment Instructions of Saab Service Bulletin 340-27-109, dated April 14, 2014.

**(j) Parts Installation Prohibitions**

After doing the replacement required by paragraph (h) of this AD, no person may install any SWC having P/N 0020AK, 0020AK1, 0020AK2, 0020AK4, 0020AK6, 0020AK7, or 0020AK3 MOD 1, on any airplane.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, ANM-116, International Branch, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Shahram Daneshmandi, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1112; fax 425-227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the

local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or Saab AB, Saab Aeronautics' EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

#### **Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2014-0218, dated September 29, 2014, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-6544.

(2) For service information identified in this AD, contact Saab AB, Saab Aeronautics, SE-581 88, Linköping, Sweden; telephone +46 13 18 5591; fax +46 13 18 4874; e-mail [saab2000.techsupport@saabgroup.com](mailto:saab2000.techsupport@saabgroup.com); Internet <http://www.saabgroup.com>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on November 23, 2015.

Jeffrey E. Duven,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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