

# SERVICE BULLETIN

## MANDATORY ACTION REQUIRED

**Subject:** Chafing of Aileron Cable Assembly P/N 7227151-522WE.

1. Planning

a. Effectivity

Part Number	NHA P/N	NHA Description	ATA	Aircraft Application
7227151-522WE	7227150	Controls Instl – Wing Aileron and Trim Tab	27-10-00-05	SAAB 340 Series

b. Reason:

A SAAB 340 operator has reported instances of chafing wear damage on Wencor PMA aileron cables P/N 722151-522WE. The wear was observed during a line maintenance inspection. Upon subsequent inspections, the operator reported finding several more instances of chafing wear damage in their fleet, for a total of five (5) cables exhibiting signs of chafing wear damage. In all instances, the wear affected cables were installed in the forward outboard position at locations where the cables pass through the fairleads as shown below.



There have been no flight control difficulties, no incidents and no failures of the subject aileron cables reported by that or any other operator. In addition, no instances of wear have been reported by any other operator using the Wencor P/N cable assemblies.

c. Background:

SAAB 340 aircraft were originally equipped with aileron cable assemblies P/N 7227151-521, which are manufactured using a 300 series austenitic stainless steel cable. The P/N 722151-522 cable assemblies were incorporated into the IPC as an alternate to P/N 722151-521. The -522 cable assemblies are manufactured using a carbon steel cable.

The Wencor PMA P/N 7227151-522WE cable assembly approved under a FAA-PMA in March 2004, is manufactured using a 300 series austenitic stainless steel cable similar to the SAAB P/N 7227151-521. Based on the reported issue, the Wencor PMA cable may exhibit increased wear compared to P/N 7227151-522, which is made using a carbon steel cable.

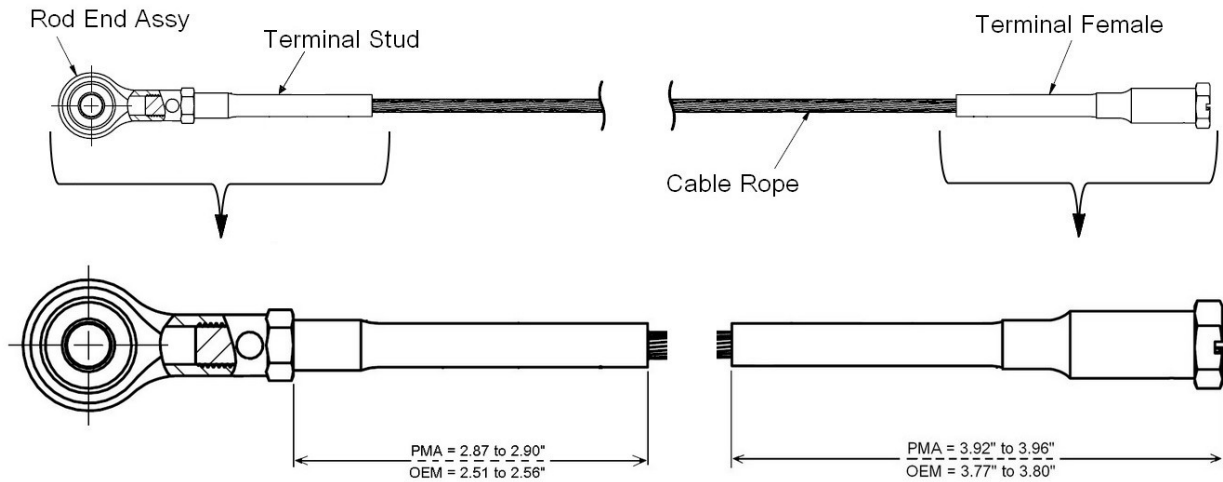
The SAAB cable assemblies P/N 7227151-521 and -522 are not permanently part marked and cannot be readily distinguished from each other by visual means. The PMA cable assembly P/N 7227151-522WE manufactured by Wencor is also not permanently part marked.

Currently, all three cable assemblies P/N's 7227151-521, 7227151-522 and 7227151-522WE are FAA approved for installation without any restrictions. The cable assemblies are interchangeable, and can be intermixed. Because of the lack of part marking, it is possible to misidentify the cables in the field during installation or removal.

Chafing wear damage is dependent upon the installed location of the aileron cables. If the cable passes through a fairlead as in the case of the forward aileron cable run, chafing wear is possible. However, the aft aileron cable run does not pass through any structure, therefore cables installed in this location may not experience chafing damage.

d. Analysis:

Following the operator's reports of chafing wear damage Wencor developed a method for distinguishing the OEM cables -521 and -522 from the Wencor PMA cables -522WE by measuring the length of the cable terminals as shown below.



Aileron Cable Identification Summary			
	-521	-522	-522WE
<b>Rod End Terminal Length</b>	Shorter *2.51"- 2.56"	Shorter *2.51"- 2.56"	Longer *2.87"- 2.90"
<b>Female Terminal Length</b>	Shorter *3.77"- 3.80"	Shorter *3.77"- 3.80"	Longer *3.92"- 3.96"

\* Approximate dimensions

e. Safety

Chafing wear damage has been observed on the outer strands of the 19-strand cables where they pass through the fairleads. Since the forward aileron cables pass through fairleads, those cables may be subject to chafing wear damage. Of the forward aileron cables on each wing, the outboard cables may experience greater vibration and would typically be the one contacting the fairleads and experiencing wear. If chafing wear damage proceeds to the point of cable failure, corresponding aileron control would be lost in the direction controlled by the failed cable. The opposite control direction of that aileron would remain unaffected, as would both control directions of the aileron on the other wing.

2. Required Actions

a. Aileron cable identification and return

Within the compliance time limits of section 3a, identify and return Wencor aileron cable assemblies P/N 7227151-522WE as described below:

- I. Identify all new uninstalled and as removed Wencor PMA cable assemblies and return all Wencor PMA cables to Wencor.
- II. Identify quantity and date of any Wencor PMA cable assemblies that have been previously scrapped.
- III. Identify all Wencor PMA cable assemblies that are currently installed on aircraft by providing the aircraft operator name and aircraft tail number.
- IV. Report the findings of this action to Wencor COS administrator Scott Rollins at [cosboard@wencor.com](mailto:cosboard@wencor.com) or +1-801-491-2447.

b. Aileron cable inspection

Within the compliance time limits of section 3b, inspect the entire length of all Wencor aileron control cable assemblies for chafing wear damage or broken strands. Prior to visual inspection, wipe the cables with a clean cloth. During inspection, operate the ailerons through the full range of motion to reveal all portions of the cable. Also inspect the condition of the fairleads for wear or cracking. Report inspection results to Wencor COS administrator Scott Rollins at [cosboard@wencor.com](mailto:cosboard@wencor.com) or +1-801-491-2447.

c. Removal of damaged Wencor PMA aileron cables

Within the compliance time limits of section 3c, remove all Wencor aileron cable assemblies PN 722151-522WE that have chafing wear damage that exceed the limits defined in the SAAB 340 AMM 27-00-00-06. Send the removed cables to Wencor. Do not replace removed aileron cable assemblies with a Wencor PMA aileron cable assembly.

d. Repeated Inspection of serviceable Wencor PMA aileron cables

Within the compliance time limits of section 3d, any Wencor aileron cable assemblies that are found to have no chafing wear damage may remain in service on the condition of repeated inspection as required in section 3d.

Within the compliance time limits of section 3e, any Wencor aileron cable assemblies that are found to have limited chafing wear damage that is within the wear limits of the SAAB 340 AMM 27-00-00-06 may remain in service on the condition of repeated inspection as required in section 3e.

At the operator's discretion, any serviceable Wencor PMA aileron cable assemblies that are found within the wear limits of the SAAB 340 AMM 27-00-00-06 may be repositioned from the forward aileron cable run to the rear aileron cable run that does not pass through any fairleads. Service experience has shown that cables in this location may exhibit reduced chafing wear.

e. Non-Wencor aileron cables

Non-Wencor aileron cables exhibiting signs of wear may be evaluated iaw SAAB 340 AMM 27-00-00-06.

3. Compliance

a. Identification and return per section 2a above shall be performed within 30 days of the revision date of this SB.

b. Inspection and reporting per section 2b above shall be performed within 30 days of the revision date of this SB.

c. Removal and return of damaged Wencor PMA aileron cable assemblies per section 2c above shall be done before further flight.

- d. Repeat inspection of the Wencor PMA aileron cable assemblies that have no wear per 2d above shall be done at every B check not to exceed 950 flight hours until the cable is removed from service at the next convenient opportunity or within 18 months of the revision date of this SB.
- e. Repeat inspection of Wencor PMA aileron cable assemblies that have wear within the serviceable limits per 2d above shall be done at the every A check not to exceed 450 flight hours until the cable assemblies are removed from service at the next convenient opportunity or within 18 months of the revision date of this SB.
- f. Removal of all Wencor PMA aileron cable assemblies constitutes terminating action for this SB. Complete removal of all Wencor PMA aileron cable assemblies shall be done within 18 months of the revision date of this SB. Record completion of this SB in the aircraft maintenance log book. Report the completion of the SB to Wencor COS administrator Scott Rollins at [cosboard@wencor.com](mailto:cosboard@wencor.com) or +1-801-491-2447.

#### 4. Material

Wencor will not be providing replacement aileron cable assemblies PN 7227151-522WE. Removal and replacement costs of the Wencor cable assembly per this SB will be assessed under the Wencor material warranty. If there are any questions regarding this SB, please contact the applicable Wencor sales representative by calling +1-801-489-2000 or email: [sales@wencor.com](mailto:sales@wencor.com). For technical questions please contact Jon Bies [jbies@wencor.com](mailto:jbies@wencor.com) .