

# PUBLICATION INDEX

## FOR

### SGS 2-33



K & L SOARING, LLC  
5996 STATE ROUTE 224  
CAYUTA, NY 14824

<b>PUBLICATION INDEX</b>	
--------------------------	--

Page Description	Page #
Title.....	1
Publication Index.....	2
Revision Page.....	3
2-33 Publication List.....	4
2-33 Service Bulletin Index.....	5
2-33 Service Letter Index.....	6

REVISION PAGE

Change Description	Revision Date
Publication Issuance	15 Feb 2010
Update Revision Date for SSP-PH-4 (Page 4)	07 June 2010
Revised to Change to SA-001.6 from SA-001.5	20 June 2010
<ol style="list-style-type: none"> <li>1. Revised to Change to SA-008.1 from SA-008</li> <li>2. Revised to Change to SA-010.2 from SA-010.1</li> <li>3. Update Revision Date for SSP-PH-4</li> </ol>	16 April 2018
Revised to Change SA-102-33-1.2 from SA-102-33-1.1	2 February 2021
<ol style="list-style-type: none"> <li>1. Revised Title &amp; Revision Date for SSP-PH-4</li> <li>2. Updated Revision Date for SSP-PM-1</li> </ol>	12 May 2022

## 2-33 Publication List

Publication No.	Title	Date Issued	Revised/ Reissued
SSP-PH-4	Sailplane Flight Manual (SFM) for The SGS 2-33, 2-33A and 2-33B Sailplane	March 1978	02/15/2022
SSP-PM-1	2-33 & 2-33A Parts & Maintenance Manual	1980	24 June 2010

Note: The following list provides a complete catalog of publications available to support all models of the 2-33 Sailplane.

## 2-33 Service Bulletin Index

Number	Subject	Revision Date
102-26-7	Rudder Hinge, Lower, Attachment to Fin Spar	11 Feb 1971
102-33-1.2	Inspection of Fuselage Frame Structure	18 Jan 2021
102-33-2	Vertical Fin attach Hardware	17 Mar 1978
102-33-3	Removable Ballast Installation	15 Jul 1983
SA-001.6	Inspection of Tow Release Assembly	29 Dec 2009
SA-003	Aerobatics in Schweizer Sailplane	25 Mar 1987
SA-005.1	Identification and Possible Replacement of Tow Release Arm	31 Jan 1988
SA-008.1	Periodic Inspection of Vertical Fin – Forward Spar	11 Nov 2017
SA-010.2	Periodic Inspection of Vertical Fin – Rear Spar	11 Nov 2017

## 2-33 Service Letter Index

Number	Subject	Revision Date
SL-102-1	Water in Pitot System of SGS 2-33	29 Sep 1967
SL-102-2	Possibility of Tow Line Ring Fouling	6 Oct 1967
SL-102-3	Fire Potential of Fabric Covered Aircraft	15 Jan 1968
SL-102-4	Conversion of SGS 2-33 to SGS 2-33A	20 Mar 1968
SL-102-9	Instrument Panel Installation	22 Nov 1974
SL-102-12	SGS 2-33 Wing Strut Attach Options	20 Jan 1978
SL-102-13	Securing Aileron During Tie-Down	11 Feb 1978
SL-102-15	Spring Assembly, Ratchet Lock Trim	27 Oct 1981
SL-102-16	Fuselage Fabric Cover Separation	26 Aug 1983
SL-102-17	Bellcrank, Aileron – Wing	13 Jul 1983
SL-102-18	Tow Release Slot	14 Jul 1983

# SERVICE

BULLETIN NO. SA-001.6\*

DATE: Dec 29, 2009

PAGE: 1 of 13

\* Supersedes Service Bulletin  
No. SA-001.5, Dated Oct 16, 2009

# B U L L E T I N

SUBJECT: ONE-TIME INSPECTION OF TOW RELEASE ASSEMBLY; DAILY INSPECTION OF TOW RELEASE ASSEMBLY; PILOT'S PREFLIGHT INSPECTION OF TOW RELEASE ASSEMBLY; 100 HOUR/ANNUAL INSPECTION OF TOW RELEASE ASSEMBLY.

AIRCRAFT AFFECTED: All the following Schweizer Sailplane Models  
SGU 1-7  
SGS 2-8 (TG-2)  
SGS 2-12 (TG-3)  
SGU 1-19  
SGU 1-20  
SGU 1-21  
SGU 2-22, 2-22A, 2-22C, 2-22CK, 2-22E, 2-22EK  
SGS 1-23, 1-23B, 1-23C, 1-23D, 1-23E, 1-23F, 1-23G, 1-23H, 1-23H15  
SGS 1-24  
SGS 1-26, 1-26A, 1-26B, 1-26C, 1-26D, 1-26E  
SGS 2-32  
SGS 2-33, 2-33A, 2-33AK  
SGS 1-34, 1-34R  
SGS 1-35C  
SGS 1-36 (Sprite)

All Schweizer Sailplanes field retrofitted to incorporate a tow release assembly

#### TIME OF COMPLIANCE:

PART I: Shall be accomplished on a one-time basis within 30 days of issue date of this bulletin or at next 100 hour inspection, whichever occurs first (unless already accomplished in accordance with Part III of SA-001.4 or prior revision)

PART II: Shall be accomplished prior to the first flight of each day

PART III: Shall be accomplished at each Preflight inspection

PART IV: Shall be accomplished at each 100 hour/Annual inspection

BULLETIN NO. SA-001.6\*

DATE: Dec 29, 2009

PAGE: 2 of 13

REFERENCE: Schweizer Service Bulletin SA-005.1, 31 January 1988 AC 43.13-1A

OVERVIEW: The .5 revision is the same as the .4 revision except changes to Figures 1, 3, & 4. Figure 1 has changed to add View D to show improper engagement. Figure 3 has been changed to show proper release arm cutout. Figure 4 has been changed to show proper readings for the C.G. hook install.

PREFACE: Field reports indicate that it is possible for the tow hooks on the affected aircraft to release during towing operations without input from the sailplane pilot. Thorough analysis of this situation has allowed K & L Soaring, LLC (K & L) to attribute such incidents to (1) improper combinations of tow hooks and release arms, (2) improper installation of the tow hook into the release arm, or (3) excessive wear of the tow hook or release arm.

Parts I through IV of this Service Bulletin list instructions for a one-time inspection, a daily inspection, a Preflight inspection, and a 100 hour/Annual inspection of the tow release assemblies used on the affected aircraft. It should be noted that Part I of this bulletin need not be accomplished if Part III of Service Bulletin SA-001.(.) was previously accomplished. Any discrepancies observed while performing the inspection procedures listed in this bulletin requires the aircraft to be grounded until the situation is resolved.

In addition, since there is always the possibility of improper release of the tow hook, sailplane tow operations must always be performed where there is sufficient airfield available to accommodate such occurrences. Premature release of the tow hook from the release arm should not result in damage to the aircraft or injury of its occupants, if the recovery is executed properly.

#### PART I – ONE-TIME INSPECTION OF TOW RELEASE ASSEMBLY.

##### PROCEDURE

##### NOTE

Many different versions (Part Numbers) of tow hooks and release arms have been manufactured for Schweizer Sailplanes. However, as specified in Table 1 of this bulletin, only certain tow hooks/release arm combinations are compatible with each model sailplane. Unacceptable combinations must be replaced.

- a. Use Table 1 of this bulletin to determine if an acceptable tow hook and release arm are installed



**TABLE 1 - ACCEPTABLE TOW HOOK / RELEASE ARM COMBINATIONS**

<b>Aircraft</b>	<b>Tow Hook</b>	<b>Standard Release Arm</b>	<b>Superseding/ Replacement Release Arm</b>
SGU 1-7	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 2-8 (TG-2)	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 2-12 (TG-3)	R-200-9A or 1A218-1A or 1B-221-3	12B-141 or 1B-217-1A	1D-217-9
SGU 1-19	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGU 1-20	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGU 1-21	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGU 2-22 (All Models) (C.G. Hook)	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 1-23 (All Models)	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 1-24	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 1-26, A, B, C, & C.G. Hook	R-200-9A or 1A218-1A or 1B-221-3	R-200-12A or 1B-217-1A	1D-217-9
SGS 1-26 D, E	1A-218-1A or 1B-221-1	1D-222-7	1D-222-13
SGS 1-26 D & E (C.G. Hook)	1B-221-1	1D-222-1	1D-222-11
SGS 1-26E (opt.)	10232A-1	1B-217-5	1D-217-11
SGS 2-32	1B-221-1	1D-222-1	1D-222-11
SGS 2-33, 2-33A, 2-33AK (C.G. Hook)	1A-218-1A or 1B-221-3	1B-217-1A	1D-217-9
SGS 2-33, 2-33A, 2-33AK (opt.) (C.G. Hook)	10232A-1	1B-217-5	1D-217-11
SGS 1-34, 1-34R	1A-218-1A or 1B-221-1	34017D-1	34017D-11
SGS 1-35C	1A-218-1A or 1B-221-1	1D-222-7	1D-222-13
SGS 1-35C (opt.)	10232A-1	1B-217-5	1D-217-11
SGS 1-36	10232A-1	1B-217-5	1D-217-11

CAUTION

THE 10232A-1 TOW HOOK IS PHYSICALLY SMALLER THAN THE OTHER TOW HOOKS. FIELD RETROFIT TO THE 10232A-1 TOW HOOK REQUIRES INSTALLATION OF A 1B-217-11 ARM AT A LOCATION FURTHER FORWARD ON THE AIRCRAFT. BE SURE TO CONTACT K & L FOR INSTALLATION INSTRUCTIONS BEFORE FIELD RETROFITTING SAILPLANE TO INCORPORATE 10232A-1 TOW HOOK

- b. Replace tow hook and/or release arm as required to obtain an acceptable combination (as specified in Table 1) for sailplane in question.

NOTE

- Proper engagement of the tow hook into the release arm is shown in Figure 1, View A, and Figure 4. Excessive wear of the tow hook step could result in improper engagement. Figure 2 of this bulletin provides inspection data and wear limits for the tow hook. Tow hooks which do not meet the specified limits must either be reworked to obtain dimensions (as specified in Figure 2) or replaced.
  - If tow hooks is able to slide into the release arm, beyond the tow hook step, as shown by Figure 1, View C, the release arm must either be reworked with a slug as specified in Figure 3, or replaced.
- c. Inspect tow hook for wear in accordance with Figure 2 of this bulletin.

CAUTION

ALL AIRCRAFT REPAIRS AND REWORK MUST BE ACCOMPLISHED WITHIN THE GUIDELINES ESTABLISHED BY AC 43.13

- d. If tow hook dimensions are not within limits specified in Figure 2, either rework the tow hook to obtain dimensions (as specified in Figure 2) or replace it with a new or serviceable, used tow hook
- e. Engage tow hook into release arm. Ensure that the tow hook properly engages as shown in Figure 1, View A.
- f. If tow hook is unable to completely engage (shown by Figure 1, View B) shorten the rubber bumper stop between the release knob and the instrument panel to allow the release assembly to close further.

BULLETIN NO. SA-001.6\*

DATE: Dec 29, 2009

PAGE: 5 of 13

- g. If tow hook is able to travel too far inboard as shown in Figure 1, View C, disengage tow hook from release arm and measure the length of the release arm slot
- h. If dimension is less than 0.66 inch, rework release arm by welding on 1B-217-19 slug at location shown in Figure 3. (Release arm may be replaced as an alternate to welding on slug)
- i. If length of release arm slot is greater than 0.66 inch, replace release arm.
- j. Perform a thorough inspection of the tow hook installation in accordance with the 100 hour inspection requirements listed in Table 2 of this bulletin.
- k. Repair or replace unserviceable component(s), as required
- l. Record compliance with Part I of this Service Bulletin in Aircraft Log Book.

#### PART II – DAILY INSPECTION OF TOW RELEASE ASSEMBLY.

##### PROCEDURE

##### NOTE

The following inspection does not require any disassembly of the aircraft or release assembly. However, if any defects are noted during inspection, the problem(s) must be resolved prior to next flight.

- a. Perform a thorough visual inspection of the tow release assembly and associated components in accordance with the daily inspection requirements listed in Table 2 of this bulletin.

##### CAUTION

ALL AIRCRAFT REPAIR AND REWORK MUST BE ACCOMPLISHED WITHIN GUIDELINES SPECIFIED IN AC43.13.

- b. If any defects are noted, repair or replace faulty components prior to next flight.

**TABLE 2 – DAILY, 100-HOUR, & ANNUAL INSPECTION**

	Daily	100 Hour	Annual
Visually inspect release arm for damage, cracks, deformation, and freedom of movement on pivot bolt.	X	X	X
Visually and physically inspect release arm slot for excessive wear which would allow the tow hook to engage beyond hook step. (See Figure 1, Item C.)	X	X	X
Dimensionally measure the slot in the release arm to insure that it is within tolerance as shown on Figure 3.			X
Visually check tow hook for damage, cracks, deformation, and freedom of movement on pivot bolt.	X	X	X
Visually check tow hook to insure that surface "x" and "y" of step shown in Figure 2 are flat, smooth, and properly engages release arm.	X	X	X
Dimensionally check tow hook to insure all dimensions are within tolerances in accordance with Figure 2 and for elongation of attach holes in accordance with Figure 4.			X
Inspect release damper for general condition and proper engagement of tow hook.	X	X	X
Perform operational check per Part III.	X	X	X
Perform a release check for proper release tension in accordance with Figure 4.			X
Lubricate attach hardware for tow hook and release arm.		X	X
Lubricate guide-tubes in release control with dry stick type lubricant.		X	X
Insure that tow hook moves freely on pivot bolt.	X	X	X

PART III – PREFLIGHT INSPECTION OF TOW RELEASE ASSEMBLY.

PROCEDURE

NOTE

- Figure 1 shows the proper attachment of the tow hook into the release arm. Note that the step of the tow hook should seat against the release arm. The tow hook step must fully engage the release arm to allow the release assembly to function properly. The tow hook must not be allowed to extend through the release arm beyond the step on the hook as shown in Figure 1, View C.
  - The tow rope must not be allowed to wrap around the release arm or any part of the sailplane. It must extend, unobstructed, directly forward from the sailplane to the tow vehicle.
- a. Attach tow line to tow hook and apply tension on line in direction of tow.
  - b. With tension on tow line, pull the release control on the instrument panel and check for proper release of tow line.
  - c. If tow line does not release properly, troubleshoot tow release assembly and perform necessary repairs.
  - d. Reattach tow lines to tow hook and check for retention of tow line as follows.
    - 1) Apply a moderate tug on the tow line in the direction of tow.
    - 2) Inspect the release assembly to ensure that it has remained completely closed.
    - 3) If the release assembly has opened, even partially, ground aircraft and troubleshoot release assembly. Repair or replace faulty component (s) as required.

BULLETIN NO. SA-001.6\*

DATE: Dec 29, 2009

PAGE: 8 of 13

PART IV – 100 HOUR/ANNUAL INSPECTION OF TOW RELEASE ASSEMBLY

PROCEDURE

- a. Perform a thorough inspection of tow release assembly in accordance with 100 hour/annual inspection requirements listed in Table 2.

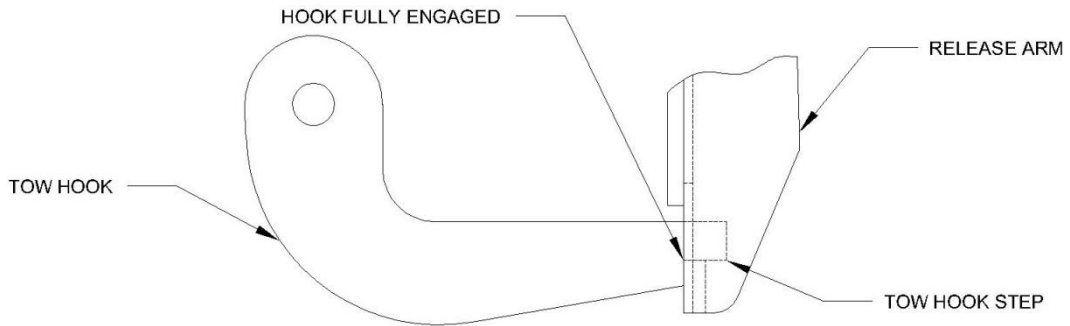
CAUTION

ALL AIRCRAFT REPAIRS MUST BE PERFORMED IN ACCORDANCE WITH AC43.13

- b. If defects are noted, repair or replace faulty component (s).
- c. Record compliance with Part IV of this Service Bulletin in Aircraft Log Book

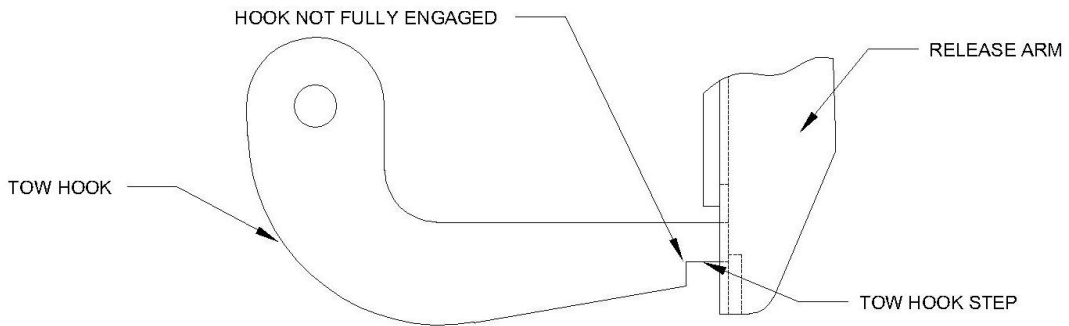
WEIGHT & BALANCE DATA

Weight & Balance not affected.



**VIEW A – PROPER ENGAGEMENT**

---

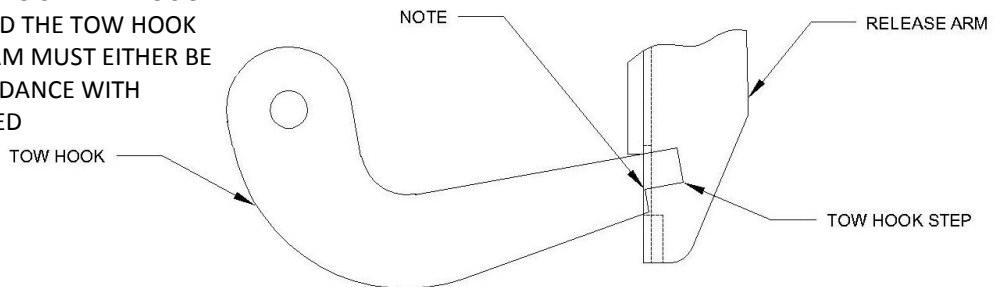


**VIEW B – IMPROPER ENGAGEMENT**

---

**NOTE:**

IF TOW HOOK IS ABLE TO SLIDE THROUGH RELEASE ARM, BEYOND THE TOW HOOK STEP, THE RELEASE ARM MUST EITHER BE REWORKED IN ACCORDANCE WITH FIGURE 3, OR REPLACED



**VIEW C – IMPROPER ENGAGEMENT**

---

**FIGURE 1 – ENGAGEMENT OF TOW HOOK INTO RELEASE ARM**

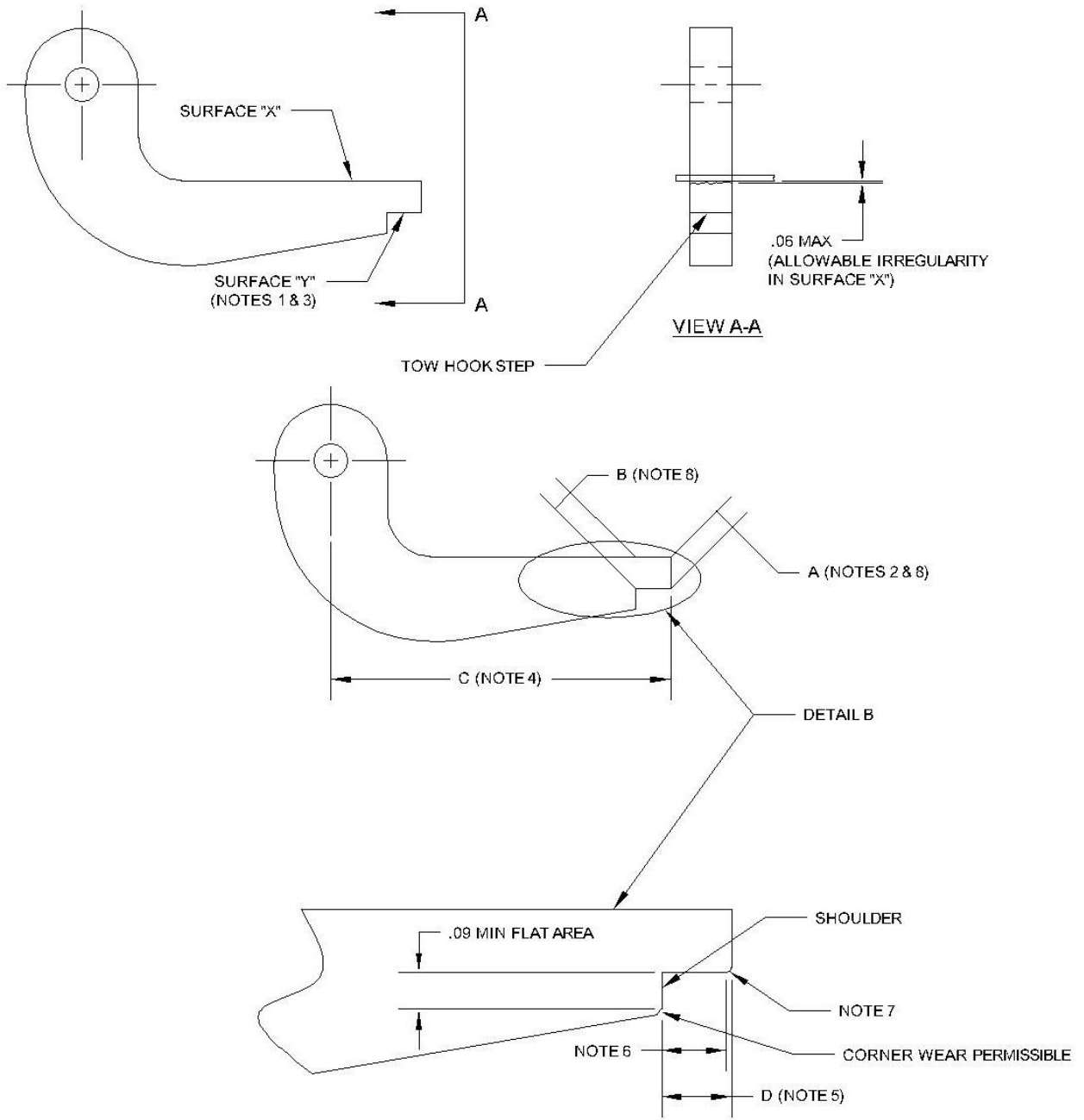


FIGURE 2 – TOW HOOK INSPECTION AND REWORK (SHEET 1 OF 2)



BULLETIN NO. SA-001.6\*

DATE: Dec 29, 2009

PAGE: 11 of 13

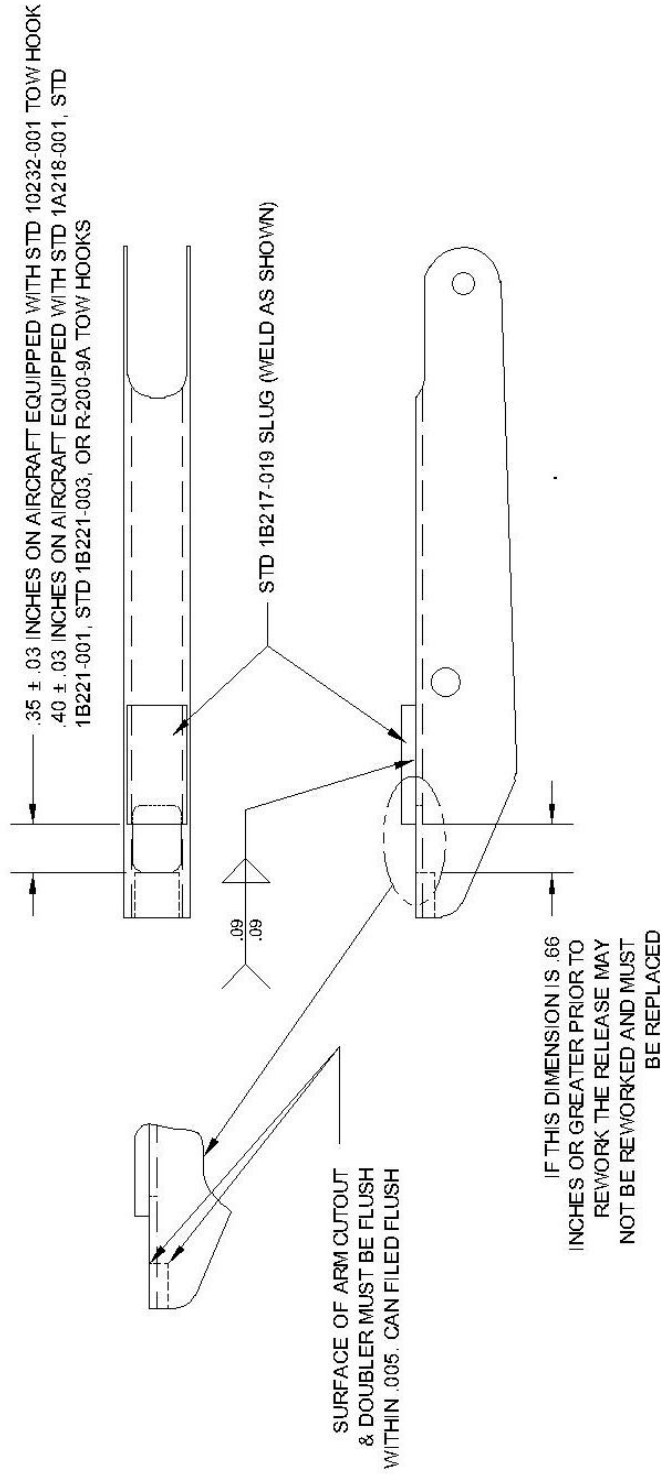
NOTES:

1. IF WEAR OCCURS ON SURFACE "Y" IT MUST BE POLISHED FLAT WITHIN TOLERANCES PROVIDED IN FIGURE 2 (SHEET 1). IF THE HOOK CANNOT MEET THESE REQUIRED DIMENSIONS IT MUST BE REPLACED. UNDER NO CONDITIONS SHOULD SURFACE "X" BE POLISHED OR MACHINED TO CHANGE ITS ANGLE.
2. DIMENSION "A" ON STD 10232-001 HOOK SHALL BE .21 INCHES MIN. & .28 INCHES MAX. DIMENSION "A" ON STD 1A218-1A, STD 1B221-3, & R-200-9A HOOKS SHALL BE .25 INCHES MIN. & .31 INCHES MAX.
3. SURFACE "Y" MUST REMAIN FLAT, SMOOTH, AND WITHIN TOLERANCES SHOWN ON SHEET 1. (SEE ILLUSTRATION).
4. DIMENSION "C" ON STD 10232-001 HOOK SHALL BE  $2.06 \pm .03$  INCHES. DIMENSION "C" ON STD 1A218-1A, STD 1B221-3, & R-200-9A SHALL BE  $3.00 \pm .03$  INCHES.
5. DIMENSION "D" ON STD 10232-001 HOOK SHALL BE  $.25 \pm .03$  INCHES. DIMENSION "D" ON STD 1A218-1A, STD 1B221-3, & R-200-9A SHALL BE  $.31 \pm .03$  INCHES.
6. HOOK MUST REMAIN FLAT IN THIS AREA FOR A MIN. OF .21 INCHES FROM SHOULDER OF HOOK.
7. WEAR OUTSIDE OF THE .21 MIN. FLAT AREA IS PERMISSABLE.
8. DIMENSION "B" MUST BE EQUAL TO DIMENSION "A", OR LESS THAN DIMENSION "A" BY NO MORE THAN .015 INCHES AND CANNOT BE GREATER THAN DIMENSION "A".
9. ALL SURFACES EXCEPT SURFACE "X" MAY BE FILLED TO OBTAIN REQUIRED DIMENSIONS.

**FIGURE 2 – TOW HOOK INSPECTION AND REWORK (SHEET 2 OF 2)**

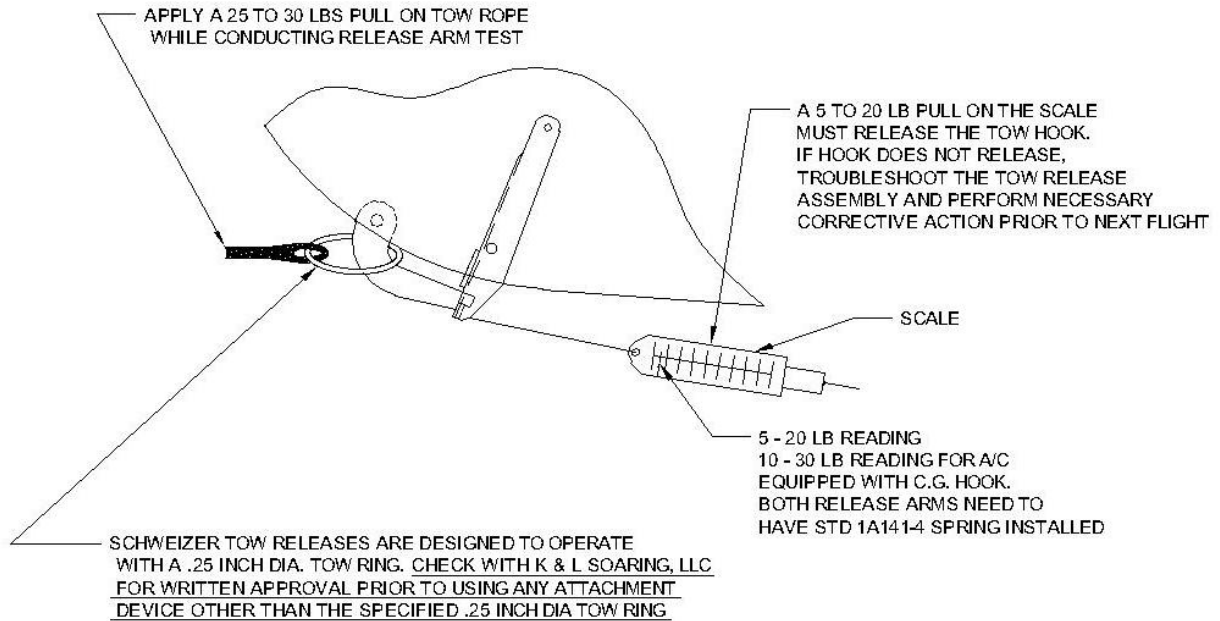
BULLETIN NO. SA-001.6\*  
 DATE: Dec 29, 2009  
 PAGE: 12 of 13

**NOTE: STD 1B217-019 SLUG IS AVAILABLE FROM K & L SOARING, LLC  
 0.125 X 0.5 X 1.0 4130N STEEL**



**NOTE: ALL TOW RELEASE ARMS MUST BE REWORKED AS SHOWN ABOVE OR  
 REPLACED WITH THE PROPER SUPERSEDING ARM AS SPECIFIED IN TABLE 1**

**FIGURE 3 - REWORK OF RELEASE ARM**



NOTE: IF RELEASE LOADS ARE TOO HIGH WITH C.G. SYSTEM IT IS PERMISSIBLE TO ADD A LINK TO SHORTEN STD 1A141-2 SPRING. LINK SHOULD BE MADE AS SHOWN BELOW. IF REQUIRED THEY SHOULD BE ADDED TO BOTH RELEASE ARMS TO BALANCE BOTH RELEASE SPRINGS

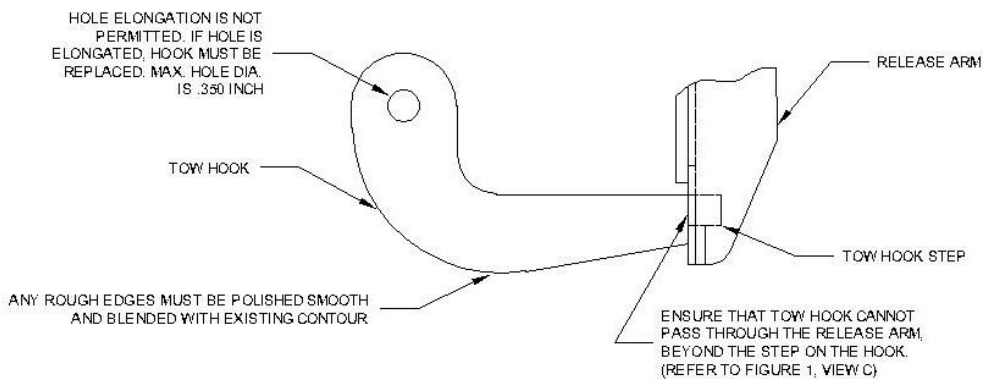
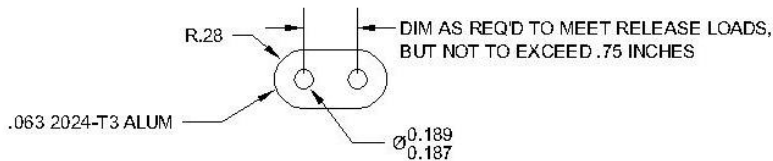


FIGURE 4 - PULL TEST OF TOW RELEASE ASSEMBLY

SERVICE BULLETIN SA-003

DATE: 25 March 1987

PAGE 1 of 2

SUBJECT: AEROBATICS IN SCHWEIZER SAILPLANE MODELS LISTED BELOW.

MODELS AFFECTED: SGU 1-7  
SGS 2-8 (TG2)  
SGS 2-12 (TG3)  
SGU 1-19  
SGU 1-20  
SGU 1-21  
SGU 2-22, 2-22A, 2-22C, 2-22CK, 2-22E, 2-22EK  
SGS 1-23, 1-23B, 1-23C, 1-23D, 1-23E, 1-23F, 1-23G, 1-23H,  
1-23H15  
SGS 1-24  
SGS 1-26, 1-26A, 1-26B, 1-26C, 1-26D, 1-26E  
SGS 2-32  
SGS 2-33, 2-33A, 2-33AK  
SGS 1-34, 1-34R  
SGS 1-35, 1-35A, 1-35C  
SGS 1-36 (Sprite)

NOTE

In the text of this writing, the terms "GLIDER"  
and "SAILPLANE" are to be considered synonymous.

REFERENCE: 2-32 Flight-Erection-Maintenance Manual ..... Page 1-10  
2-22 Flight-Erection-Maintenance Manual ..... Page 5  
2-33 Flight-Erection-Maintenance Manual ..... Pages 1-5  
1-26 Flight-Erection-Maintenance Manual ..... Page 5  
1-34 Flight-Erection-Maintenance Manual ..... Pages 1-7  
1-36 "Sprite" Pilot's Operating Manual ..... Page 23

DATE: 25 March 1987

PAGE 2 of 2

NOTE

For the purposes of this Service Bulletin, aerobatic flight means an intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration, not necessary for normal flight. (Refer to FAR 91.71 for further information.)

PREFACE: Schweizer Aircraft Corporation DOES NOT APPROVE OR RECOMMEND that aerobatics of any kind be performed in any of the Schweizer sailplane models affected by this Service Bulletin, despite any language to the contrary in any of the Flight-Erection and Maintenance Manuals or Pilot's Operating Manual referenced herein.

Although there is language in the referenced publications that various levels of aerobatics are permitted, Schweizer Aircraft Corporation RECOMMENDS that NO TYPE of aerobatics be performed in these model sailplanes since in doing so, the structural design levels of the sailplane could be exceeded, which may result in serious personal injury to the occupants of the aircraft.

The only exception to this recommendation is spins when performed within the guidelines of, and as approved in, the Flight Manual or Pilot's Operating Handbook for the aircraft being operated. However, before performing spins in the aircraft, each pilot must receive complete instructions and training as to the proper execution of this maneuver, as well as the characteristics of the aircraft during the spin and recovery therefrom.

Schweizer Aircraft Corp.  
Post Office Box 147  
Elmira, New York 14902

# SERVICE

# BULLETIN

SERVICE BULLETIN SA-005.1\*

DATE: 31 January 1988

PAGE 1 of 3

\* Superseded Service Bulletin  
NO. SA-005, Dated 1 June 1987

SUBJECT: IDENTIFICATION AND POSSIBLE REPLACEMENT OF TOW RELEASE ARM.

MODELS AFFECTED: ● All the following Schweizer manufactured and kit built Schweizer gliders and sailplane models.

- SGU 1-7
- SGS 2-8 (TG-2)
- SGS 2-12 (TG-3)
- SGU 1-19
- SGU 1-20
- SGU 1-21
- SGU 2-22, 2-22A, 2-22C, 2-22CK, 2-22E, 2-22EK
- SGS 1-23, 1-23B, 1-23C, 1-23D, 1-23E, 1-23F, 1-23G, 1-23H, 1-23H15
- SGS 1-24
- SGS 1-26, 1-26A, 1-26B, 1-26C, 1-26D, 1-26E
- SGS 2-32
- SGS 2-33
- SGS 2-33, 2-33A, 2-33AK
- SGS 1-34, 1-34R
- SGS 1-35C
- SGS 1-36 (Sprite)
- All Schweizer Sailplanes field retrofitted to incorporate a tow hook installation

TIME OF COMPLIANCE: Shall be accomplished on affected aircraft prior to next auto or winch tow, or within 60 days of issue date of this bulletin, whichever occurs first.

PREFACE: Reports indicate that part number 1D217-13, 1D222-15, 1D222-17, and 34017D-15 tow release arms may fail to properly disengage the tow hook from the sailplane during tow operations. The possibility of this incident occurring greatly increases during auto and winch tow operations or during an overrun of the tow line. This Service Bulletin requires the replacement of the above mentioned release arms with new or serviceable, used release arms (part numbers specified within procedure).

DATE: 31 January 1988

PAGE 2 of 3

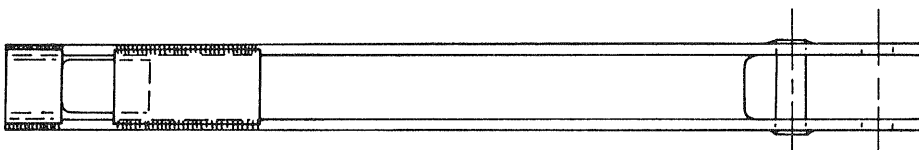
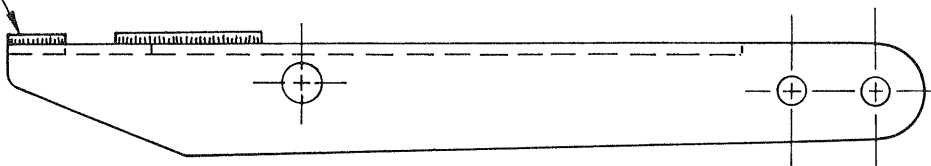
PROCEDURE

- a. Visually check release arms on the affected aircraft for the presence of a lug welded to the front of the arm, below tow hook slot. (Refer to Figure 1.)

NOTE

- The suspect release arms (PN's 1D217-13, 1D222-15, 1D222-17, and 34017-15) may be identified by the presence of a lug welded on the front of the arm, below the tow hook slot. (Refer to Figure 1.)
  - Replace suspect release arms as follows:
    - (1) Replace 1D217-13 arm with 1D217-9 arm,
    - (2) Replace 1D222-15 arm with 1D222-11 arm,
    - (3) Replace 1D222-17 arm with 1D222-13 arm,
    - (4) Replace 34017D-15 arm with 34017D-11 arm.
- b. Remove and replace all suspect release arms (arms which incorporate lug welded to front, below tow hook slot) with acceptable replacement arm as specified in preceding NOTE.
  - c. Return suspect release arms to Schweizer Aircraft Corp. within 90 days of issue date of this bulletin for free warranty replacement. Contact Sailplane Product Support Department for exchange information.
  - d. Upon replacement of release arm, perform an operations check and maintain periodic and preflight inspections in accordance with the procedures outlined in Schweizer Bulletin SA-006.
  - e. Record Compliance with this Service Bulletin in aircraft log book.

ANY RELEASE ARM WITH THIS LUG WELDED ON FRONT SURFACE AS SHOWN MUST BE REPLACED.



RELEASE ARMS WITH THIS LUG WELDED ON THE INSIDE AS SHOWN ARE NOT AFFECTED BY THIS BULLETIN.

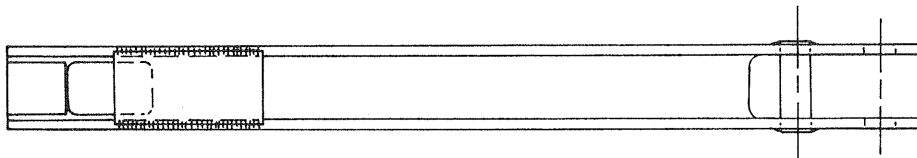
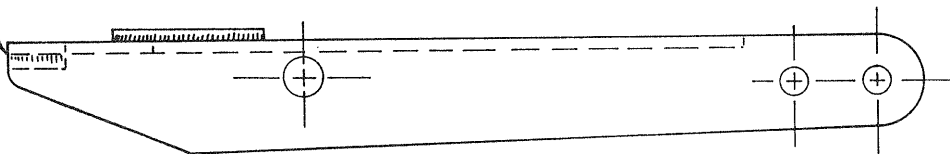


FIGURE 1. RELEASE ARM



BULLETIN NO. SA-008.1\*  
DATE: November 28, 2017

\* Supersedes Service Bulletin  
No SA-008, dated May 11, 1995

SUBJECT: PERIODIC INSPECTION OF VERTICAL FIN FORWARD SPAR

AIRCRAFT AFFECTED: All Models 2-33, 2-33A and 2-33AK

TIME OF COMPLAINT: Initial inspection shall be accomplished with the next 100 hour inspection or within three months from issue date of this Service Bulletin, whichever occurs first

The revised manual pages (attached) shall be inserted in the maintenance manual upon receipt of this Service Bulletin

Subsequent periodic inspections shall be accomplished at each 100 hour and annual inspections as specified on the revised manual page N5

REFERENCE: Schweizer 2-33 & 2-33A Parts and Maintenance Manual (Revised: 05 Nov 1999)

PREFACE: Field reports indicate that cracking was discovered in the forward spar of the vertical fin, and the forward fin attach bolt was loose. This Service Bulletin provides the inspection procedure to check for cracking and hardware security.

Failure to comply with this Service Bulletin may lead to loss of control of the aircraft, and subsequent serious injury, death and/or property damage.

Modification of an undamaged fin spar in accordance with Drawing 26712, Sheet 3 (installing 26712-75 channel) will eliminate the need for the repeated inspection required by this Service Bulletin.

If there is damage found through the procedures outlined below, contact K&L Soaring prior to any modification in accordance with Drawing 26712, Sheet 3.

PROCEDURE:

- A. Remove access cover from the lower edge of the vertical fin, to expose 26712-49 fitting (Figure SA-008-1).
- B. Visually inspect for cracks in the 26712-13 spar propagating from behind the -49 fitting and check for security of the forward attach bolt. Perform the following steps, as applicable:
- C. If cracking is found, contact K&L Soaring for repair instructions (607) 594-3329.

- D. If cracking is suspected, but not confirmed, or if the forward fin attach bolt is loose, perform the following:
1. Remove the vertical fin from the aircraft (2-33 & 2-33A Manual)
  2. Enlarge the forward tooling hole in bottom rib of vertical fin to one inch maximum (Figure SA-008-1, Detail A). Use the enlarged hole for visual access to inspect for cracking on the back side of the -13 spar. If cracking is found, perform step C above.
  3. Install vertical fin on aircraft (2-33 & 2-33A Manual)  
FAA AD Note 76-13-11 was previously performed, remove plugs from above
- E. Ensure that forward fin attach bolt is tight; then install access cover on vertical fin.
- F. Record compliance with this Service Bulletin in the aircraft records.

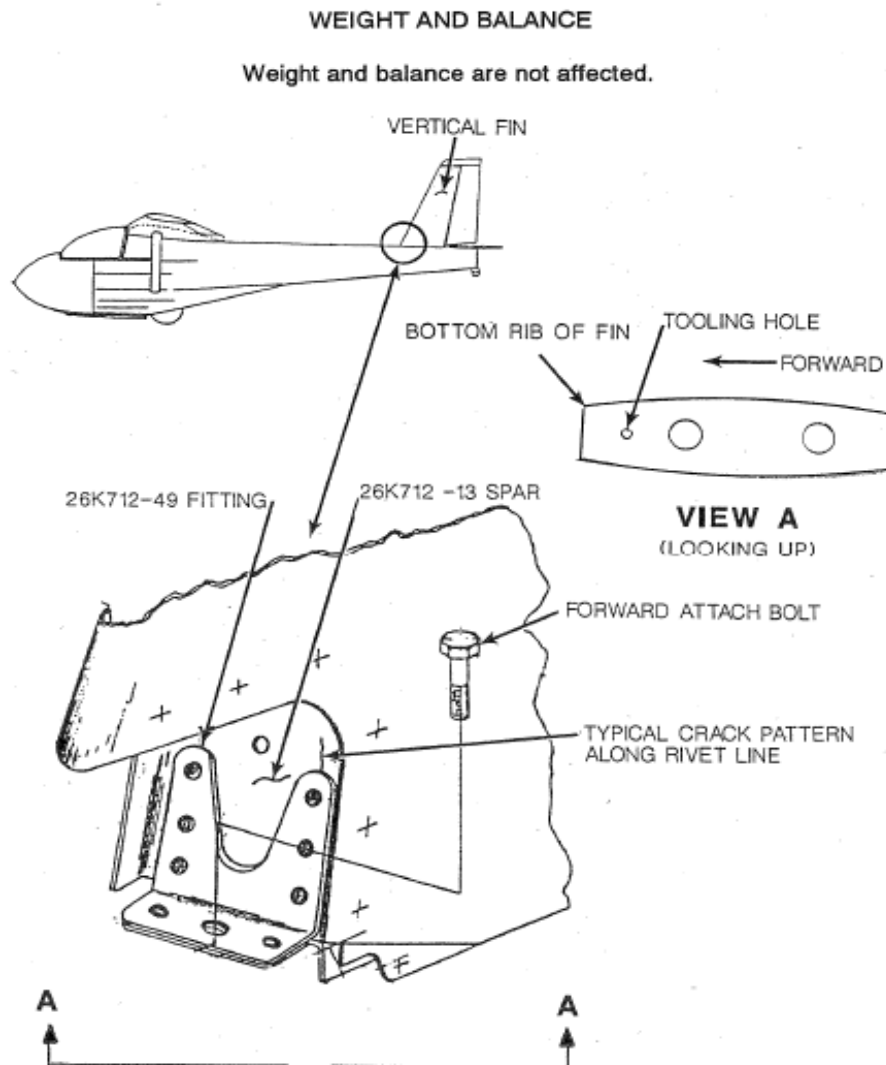


Figure SA-008-1 Vertical Fin Forward Attach Point

BULLETIN NO. SA-010.2\*  
DATE: November 28, 2017

\* Supersedes Service Bulletin  
No SA-010.1, dated April 20, 2004

SUBJECT: PERIODIC INSPECTION OF VERTICAL FIN REAR SPAR

AIRCRAFT AFFECTED: All Models 2-33, 2-33A and 2-33AK

TIME OF COMPLAINT: Initial inspection shall be accomplished with the next 100 hour inspection or Annual Inspection, whichever occurs first

At each Annual Inspection thereafter

NOTE

Aircraft already in compliance with SA-010 (dated Nov 1999) should review Procedures B. (2) and C. (3). Aircraft with less than 10,000 hours total time had originally been exempt but now these procedures are mandatory – regardless of flight time.

REFERENCE: Schweizer 2-33 & 2-33A Parts and Maintenance Manual (Revised: 05 Nov 1999)

PREFACE: Since the original issuance of this service bulletin there have been four additional field reports of fin spar cracking at the upper rudder hinge point. Three of these aircraft had less than 6,500 hours total time, the lowest being 3,450 hours.

In light of these reports this revised bulletin makes mandatory the upper hinge inspection that had been optional for aircraft with less than 10,000 hour total time. (There has been no further field reports of the other problems addressed in the Service Bulletin).

There have been field reports of damage found on the rear spar of the vertical fin. Some of these reports involved high time sailplanes (over 11,000 hours) with cracks in the spar (and spar doubler). Cracks were found on the left-hand spar flange (and doubler) just below and under the fin skin running around the mold line towards the upper left hand fin/fuselage attach point. Additional cracks were found in the 26K713 false spar and rib clip angle under the uppermost rudder hinge. On another sailplane, cracks were found above the rudder stop fitting. (See Figure SA-010-1)

The remainder of the reported damage consists of buckling (with and without cracking) found on the left side spar doubler flange midway between the upper and lower fin/fuselage attach points.

Failure to comply with this Service Bulletin may lead to loss of control of the aircraft, and subsequent serious injury, death and/or property damage.

Modification of an undamaged fin spar in accordance with Drawing 26712, Sheet 3 (installing 26712-67, 26712-71 and 26712-73 channels) will eliminate the need for the repeated inspection required by this Service Bulletin.

If there is damage found through the procedures outlined below, contact K&L Soaring prior to any modification in accordance with Drawing 26712, Sheet 3.

PROCEDURE:

- A. Remove the fin/fuselage gap and hand hole covers.
- B. Drill the inspection hole(s) in the fin skin according to steps (1) and (2) below. (These holes are used to facilitate the inspections set forth in Paragraph C that follows)
  1. Drill a 1.00 inch diameter hole in the area of the rudder stop fitting, in the location specified in Figure SA-010-1.
  2. Drill a 1.00 inch diameter hole in the area forward of the upper rudder hinge, in the location specified in Figure SA-010-1.
- C. Using a mirror and flashlight, inspect the following: (Figure SA-010-1)
  1. Inspect the rear spar assembly, from the bottom to above the rudder stop fitting, for evidence of buckling, cracking, or other deterioration. Check the four attach bolts for tightness.
  2. Inspect the false spar (aft face) around the upper rudder hinge. Look specifically for any cracking that emanates from under the hinge doubler and may only have traveled 1/8 inch or less beyond the doubler.
  3. Through the upper hinge inspection hole, inspect the clip angle and false spar for cracking forward of the upper rudder hinge (Figure SA-010-1)
- D. If damage is found, remove the aircraft from service and contact K&L Soaring for repair instructions. (607) 594-3329
- E. If no damage is found, install a snap plug BPF-1 in each of the 1.00 inch diameter holes in fin; reinstall fin/fuselage gap and hand hole covers.
- F. Record compliance with this Service Bulletin in the aircraft records.

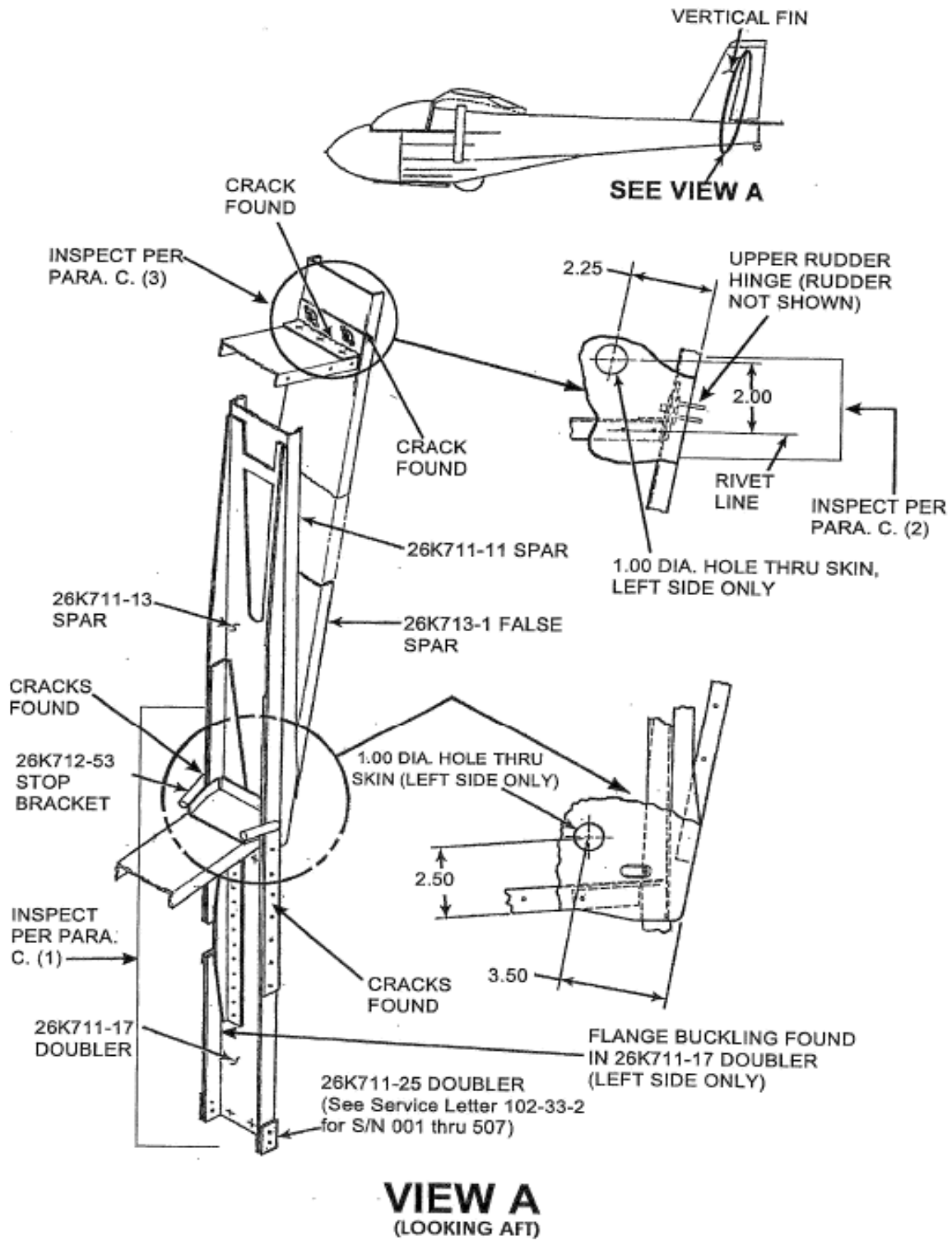


Figure SA-010-1. Vertical Fin Rear Spar Inspection

Schweizer Aircraft Corp.  
P. O. Box 147  
Elmira, New York 14902

SERVICE LETTER

Sept. 29, 1967

SERVICE LETTER NO. SL-102-1

SUBJECT: Water in Pitot System of SGS 2-33  
Ser. No's 12 and up

On ship Serial No. 12 the pitot tube mast was moved somewhat aft on the nose section to remove a potential hazard to ground-handling personnel. The former location, in many instances, came very close to a person's eyes as he stooped to attach the tow line.

Since this relocation, it has become apparent that the pitot lines have become more susceptible to picking up water while the aircraft is in 3-point position on the ground.

It is therefore recommended that a pitot cover be used when the aircraft is parked. The preflight check should include a check for water in the system to prevent instrument error or damage.

SCHWEIZER AIRCRAFT CORP.

M. Courtright  
M. Courtright  
Quality Control.

Schweizer Aircraft Corp.  
P. O. Box 147  
Elmira, New York 14902

SERVICE LETTER

October 6, 1967

SERVICE LETTER NO. SL-102-2

SUBJECT: Possibility of Tow-line-ring fouling  
Model SGS 2-33, Ser. No's 1 thru 40

It has been reported that the cut-out in the fiberglass nose fairing, forward of the tow hook is shaped so that there is a possibility that the tow ring could become caught under the corners of the cut-out when the tow ring is released from the hook.

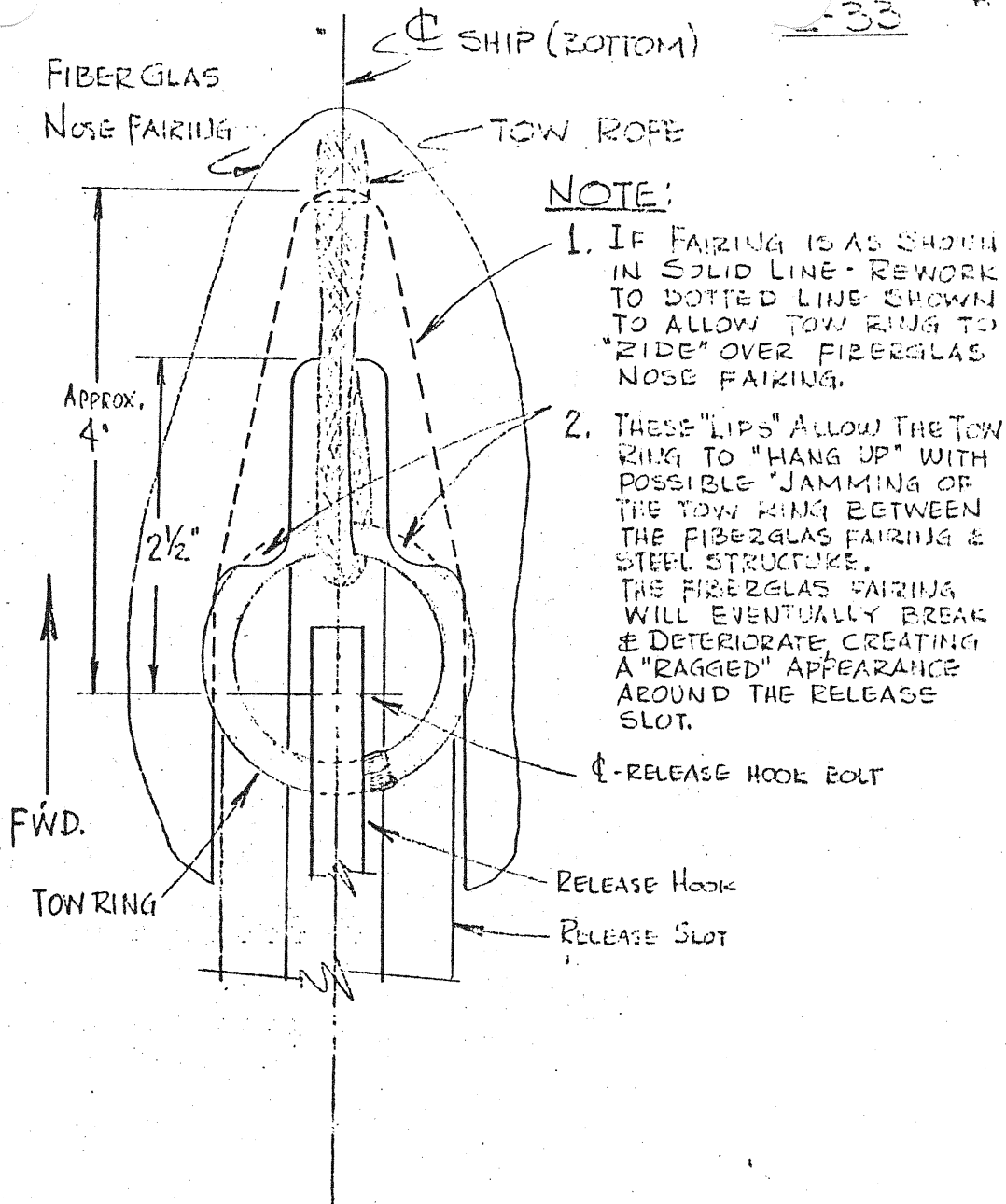
Should this happen, the forces involved would simply tear the tow ring from under the fiberglass fairing and not endanger further flight, however damage such as this is obviously undesirable.

To prevent the above possibility it is recommended that the fairing opening be reworked in accordance with Schweizer sketch No. 4550A, copy of which is attached to this letter.

SCHWEIZER AIRCRAFT CORP.

*Milton A. Courtright*

Milton A. Courtright  
Quality Control



2-33 RELEASE SLOT FAIRING REVISION  
DRAWN: 9-12-67-POWELL  
CHECKED: 9-12-67  
SCHWEIZER AIRCRAFT CORP.

4550A

Schweizer Aircraft Corp.  
P. O. Box 147  
Elmira, New York 14902

January 15, 1968

SERVICE LETTER

SERVICE LETTER NO.: SL-102-3

SUBJECT: Fire Potential of Fabric Covered Aircraft

MODELS AFFECTED SGU 2-22 & SGS 2-33 having C.G. Tow Release Installation

(1) A report was received recently of a 2-33 glider which caught fire after completion of landing. The fire burned the entire fabric covering from the aircraft

From the owner's report, they believe the cause of the fire was due to excessive generation of heat in the nose skid shoe, during the landing roll. The heat buildup was apparently enough to ignite the doped fabric fairing covering the gap between the skid and lower fuselage surface.

This is the only case of fire resulting from skid friction that we know of in our 38 years experience in gliding. However, since it did happen, we feel it is our responsibility to distribute the information, and suggest a way to lessen the possibility of repetition.

Since this has never happened before, it seems that the two factors which could cause the skid to heat up enough to start a fabric fire was (A) The prolonged skid contact during a long downwind landing roll, and, (B) To the fact that the landing was made on a very smooth dry lake bed.

The ship involved in the above incident was equipped with Center of Gravity (C.G.) Tow Hook. On this installation, the gap between the nose skid and the fuselage was filled with ensolite blocks. These blocks are, in turn, covered with a doped fabric fairing on each side of the skid. This fabric fairing would appear to be the point where ignition could occur if the skid was overheated, so we assume that a fire from this source could only happen on ships with a covered skid.

RECOMMENDATIONS:

(1) On 2-33 with C.G. Hook, remove the fabric fairing from both sides between the nose skid and the bottom of the fuselage. The "Ensolite" blocks thus exposed, may be bonded in place using a good commercial-type waterproof adhesive. The edges of the blocks can then be painted to match the finish or trim on the fuselage.

(2) Refrain from doing prolonged downwind landings or take-offs, on surfaces that will cause heat buildup. If you must operate from pavement or hard surface runways, we recommend adding a heavy steel plate at the area of the skid that touches the ground. The heavier steel will dissipate the heat better. Also, an asbestos fabric strip between the steel shoe and the wooden skid should be of help.

(3) While on the subject of fire possibilities, we feel it appropriate to caution against smoking in fabric covered aircraft. The possible consequences for doing this requires the sober reflection of each glider pilot.

ADDITIONAL NOTE: The student in the front seat experienced some difficulty in getting out and had to be helped by the instructor. The student was wearing a parachute and the seat belt adjustment buckles apparently caught on the parachute harness. We have tried to duplicate this situation in different combinations of pilots and positions in adjustment, but have not been able to do so. Since this seems to be an isolated case, and since it is not general practice to use parachutes in this aircraft, no action is taken on this at this time.

SCHWEIZER AIRCRAFT CORP.



Schweizer Aircraft Corp., P.C. 101  
P. O. Box 147  
Elmira, New York 14902

Service Letter No. SL-102-4  
(Sheet 1 of 2)  
March 20, 1968

SERVICE LETTER

SUBJECT: Conversion of Glider, Model SGS 2-33 to Model SGS 2-33A

SER. NO.'s AFFECTED: Ser. No.'s 70 through Ser. No. 85  
(Optional on Ser. No.'s 1 through 69)

The Model SGS 2-33A Glider is the same as Model SGS 2-33 except for the rudder used. SGS 2-33 uses rudder, P/N 26K714-3, whereas Model SGS 2-33A uses rudder, P/N 33700K-1. The 33700K-1 rudder is taller and incorporates a balance weight in the upper forward end which overhangs the top of the fin. The static-unbalance limits of the 33700K-1 rudder, after covering and finishing is complete, is 10 to 13 in./lbs. tail-heavy, measured from the hinge center line. Two 10-32 self-locking nut plates are installed internally, on the lower overhang rib to provide for attachment of additional weight, if required, to meet the unbalance limits.

PROCEDURE

1. Disconnect rudder control cables from rudder horn.
2. Remove rudder-hinge bolts ( (1) AN4-11 lower with (2) washers each above and below male hinge, and (2) AN3-11 center and upper), and remove 26K714-3 rudder assembly from the aircraft.
3. Remove royalite fin cap, P/N 26K712-3, from fin. Install #4 x 1/4 stove-head P.K. screws in open holes resulting from fin cap removal. Touch up to match finish.
4. Place P/N 33700K-1 rudder in position and reinstall hinge-bolts (see 2. above). Replace bolts if original hinge bolts are worn.
5. Check clearance along top of fin (.20 nominal, .10 min.). Adjust clearance if necessary by removing or adding washers at the lower hinge. Also, a slight file touch up, to straighten the skin trim lines, on both the fin and rudder may be in order.  
  
Check clearance along fin spar at full-travel positions, (30° + 2°) left and right. File fin spar and skin locally, if necessary, to effect a minimum of .02 clearance. Care must be exercised to avoid insufficient edge distance at rivets in fin skin-to-spar flange (.40 min.).
6. Safety the castle-nuts at hinges and cable-attach points.
7. Weight and Balance - - The balanced rudder weighs two (2) pounds more than the unbalanced version which will increase the tail weight directly, while the main wheel weight change will be negligible. The empty weight C.G. will be moved aft .60 (example: 95.85 to 96.45). The "Flight Limits" placard on the instrument panel must be corrected in the amounts listed below:

Max. Wt. Aft Pilot/220# Fwd . . . . . - 2 lbs  
 Min. Wt. Aft Pilot/100# Fwd . . . . . +35 lbs  
 Min. Wt. Fwd Pilot Solo . . . . . +10 lbs

Schweizer Aircraft Corp.

SL-102-4  
(Sheet 2 of 2)

8. Since the above installation affects both the aircraft C.G. and the model designation, the alteration must be entered on FAA Form 337 and Returned to Service by a person so authorized by the Federal Aviation Administration. Suggested statement of "Description of Work Accomplished" is as follows:

- a. Removed 26K714-3 rudder and installed 33700K-1 rudder in accordance with manufacturer's drawing No. 33601D, Vertical Tail Surface Assy.
- b. Weight and Balance information:

Empty C.G.	* _____
Max. Weight, Aft Pilot	_____
Min. Weight, Aft Pilot	_____
Min. Weight, Fwd Pilot, Solo	_____

\*See original Weight and Balance, and enter adjusted figures as explained in Para. 7. above.

- c. Changed "Flight Limits" placard on instrument panel to reflect new min./max. pilot weights as shown.
- d. Stamped suffix "A" on aircraft nameplate to read: "Model SGS 2-33A" - - reference approval statement on Glider Data Sheet No. G2EA.

Schweizer Aircraft Corp.  
P. O. Box 147  
Elmira, New York 14902

November 22, 1974

Schweizer Aircraft Corp.  
P. O. Box 147  
Elmira, New York 14902

November 22, 1974

SERVICE LETTER

SERVICE LETTER NO. SL-102-9

SUBJECT: Instrument Panel Installation, Lower V-22 Fasteners

MODELS AFFECTED: SGS 2-33 and 2-33A, Serial No's. 1 thru 370

A report from the field indicates that pulling aft on the lower edge of an instrument panel during flight has resulted in an undesired release of the tow rope. V-22 "Vibrex" fasteners, used to install the 33301-1 instrument panel assembly, have a limited tensile load capacity. If the panel is pulled aft firmly, the two lower V-22 fasteners can be disengaged and the panel can force the release knob aft actuating the tow release hook.

A. To assure that this does not occur on ships in service the following action should be taken.

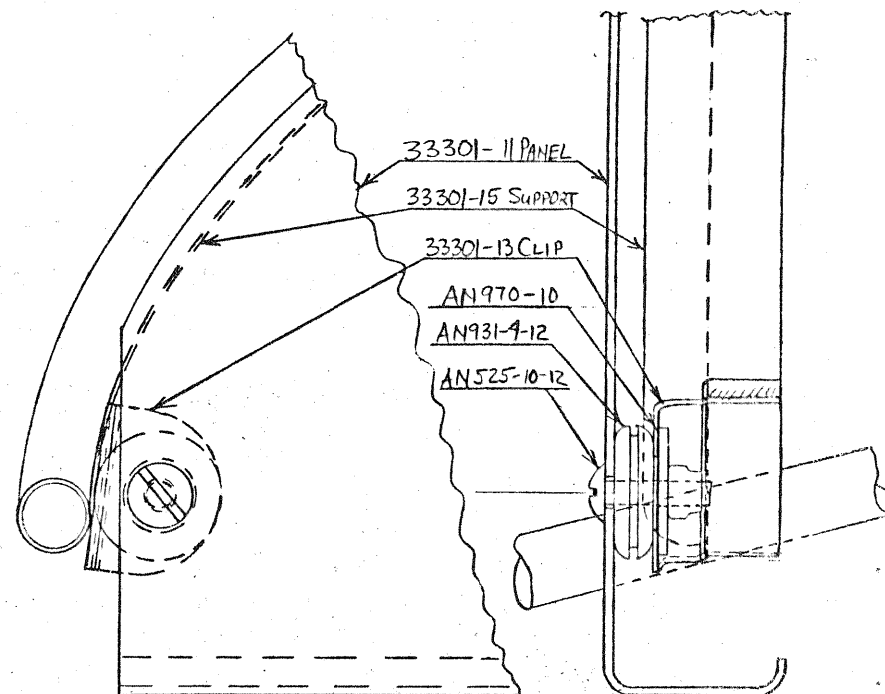
- 1) Remove the two lower V-22 fasteners used to install the instrument panel.
- 2) Install AN522-10 screw AN931-4-12 rubber grommet, AN970-3 wood washer per the sketch on sheet 2.

B. An alternate method which will substantially reduce the probability of an undesired release, resulting from the panel being pulled aft, may be accomplished in lieu of the method described in A. above as follows:

Disconnect the release cable at the forward end of the rod attached to the release knob. Pull the rod from its guide and remove the rubber bumper from the rod. With a sharp knife, reduce the length of the rubber bumper from  $\frac{3}{4}$  inch to  $\frac{1}{4}$  inch.

Reinstall the knob and rod using the  $\frac{1}{4}$  inch long bumper, reconnect the release cable to the rod and safety.

SERVICE LETTER NO. SL-102-9 cont'd



VIEW FORWARD - L.H. LOWER  
CORNER OF INST PANEL SH'N.

January 20, 1978

Schweizer Aircraft Corp.  
P.O. Box 147  
Elmira, New York 14902

SERVICE LETTER

Service Letter No. SL-102-12

Subject: SGS 2-33 Wing Strut Attach Options

Model/Ser. No's. Affected: All

Since the model SGS 2-33 was Type Certificated, various methods of attachment of the wing strut, to the wing and fuselage, have been approved. Several of these are shown on the sketch below, one of which should meet the needs of most operators.

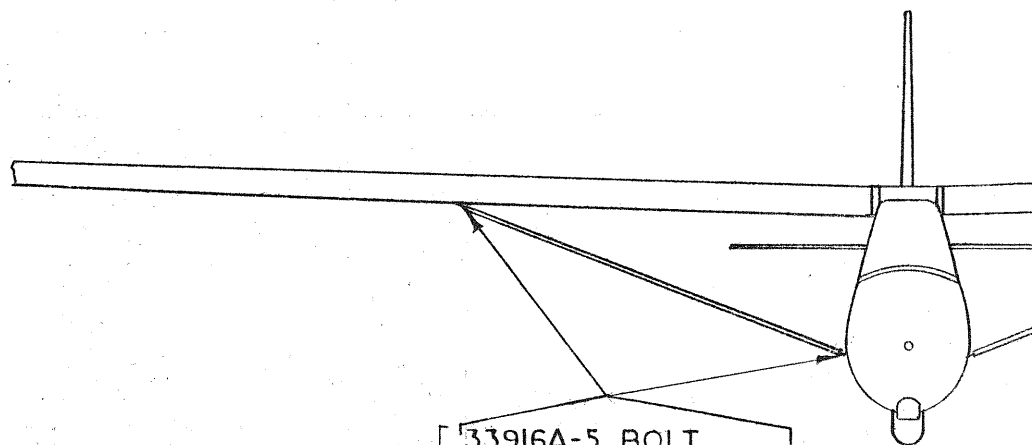
Occasionally, reports have been received from the field of a problem, primarily with the option no. 4 in sketch below. The usual report was that the attach bolt had backed out to the point where one or more threads were in bearing. Part of the reported problem may be attributed to inadequate Preflight Inspection.

The order of the numbered options shown may not be applicable for all operators because of certain operating conditions, such as -

- a. Need for frequent disassembly and reassembly of the sailplane.
- b. Operations from field with high grass, during which, use of the safety pin might result in excessive pick-up of vegetation.

The options listed on the sketch may be used in either of the two strut locations indicated, in any combination.

## SGS 2-33 WING STRUT ATTACH OPTIONS



- 4 — 33916A-5 BOLT  
LSP-I SAFETY PIN
- 3 — 33916A-5 BOLT  
AN310-7 NUT  
AN960-716 WASHER  
AN380-3-5 COTTER PIN
- 2 — 33916A-5 BOLT  
AN310-7 NUT  
AN960-716 WASHER  
LSP-I SAFETY PIN
- 1 — 33428B-1 BOLT  
33428B-3 COLLAR  
AN310-5 NUT  
LSP-I SAFETY PIN

OPTIONS ARE NUMBERED IN ORDER OF PREFERENCE

SERVICE LETTER

Service Letter No. SL-102-13

Model/Ser. No's Affected: SGS 2-33 & SGS 2-33A, Ser. No's 1 thru 487.

Subject: Securing of Ailerons During Tie-Down

Schweizer has received some random reports of a crack occurring in the aileron spar doubler (Part No. 33501H-39, -40) on the forward side of the aileron spar near the actuating horn. The cracking appeared in the bend radius of the upper flange. It has been reported on both inboard and outboard ailerons.

CAUSE: Air loads are not normally great enough to cause an incipience of such cracks. It appears therefore that cracks were caused by ground wind-loads by a ground tail wind driving the aileron upward and coming up hard, against the wing control-stops.

INSPECTION: Because of the several reportings it is recommended that, at the next preflight inspection the doublers on both inboard and outboard ailerons of each wing be visually inspected for the existence of a crack in the formed radius of the doubler, at the end of the doubler adjacent to the actuating horns.

If a repair is indicated, which is considered to be beyond the scope of AC43.13-1A, Schweizer Aircraft Corp. will furnish necessary information upon request.

RECOMMENDATION: It is recommended that aileron chocks (as supplied with each sailplane), or other method of securing control surfaces, be used at all times when the sailplane is tied-down in an area exposed to wind.

NOTE: On sailplanes, serial number 488 and up, the ailerons incorporate a -39 and -40 doubler of .050 thickness, in lieu of an .032 thickness on previous ships.

Schweizer Aircraft Corporation  
P.O. Box 147  
Elmira, New York 14902

SERVICE LETTER

Service Letter No. SL-102-15

Model/Ser. No.'s Affected: SGS 2-33A, Ser. No.'s 508 thru 570 and retrofit aircraft

Subject: Spring Assembly, Ratchet Lock Trim

A report has been received of one instance where the 33141G-31 rod, running through the 33141G-9 or -11 Spring Assembly (attached to the control stick torque tube) has become disengaged from the threads in the 33141G-35 fork fitting which is attached to the aft end of the ratchet quadrant. This allowed the forward end of the Spring Assembly to drop downward, with the aft end rotating up to contact the forward torque tube support.

This interference with the support causes a restriction in control travel for right aileron only. A stick force of about ten lbs will cause the Spring Assembly to slide off the support and around the torque tube, thereby full travel for the right hand aileron will be regained.

To insure that this condition does not occur, or exist, accomplish the following:

- A. Prior to further flight, inspect the Spring Assembly attachment to the fork fitting attached to the ratchet
  - (1) If found loose accomplish the modification in B.
- B. At the next Annual Inspection, or sooner (as in A. (1) above)
  - (1) Assure the fork fitting is fully engaged on the rod in the Spring Assembly
  - (2) Drill #50 (.070) hole through the fork fitting and rod, on centerline, one-half inch forward of the aft end of the fork fitting
  - (3) Deburr the drilled hole both sides of fork fitting
  - (4) Install a cotter pin (AN380-2), or equivalent and spread ends
- C. Make a log entry of inspection and compliance with this Service Letter

SCHWEIZER AIRCRAFT CORP.

Schweizer Aircraft Corp.  
Post Office Box 147  
Elmira, New York 14902

SERVICE LETTER NO. SL-102-16

DATE: February 8, 1982, Rev. August 26, 1983  
TO: All Owners, Dealers  
SUBJECT: FUSELAGE FABRIC COVER SEPARATION  
MODEL AFFECTED: SGS 2-33, A  
SERIAL NO.'S: Through 570

L  
E  
T  
T  
E  
R

There have been reports of the fuselage fabric coming apart at the machine-sewn seam along the bottom centerline of the fuselage between the main landing gear wheel well and the tail wheel.

The fabric on the bottom surface of the aircraft is normally subjected to a greater amount of deterioration - inducing conditions, i.e., water and mud splash and bouncing sticks or stones. Sailplanes in some areas are, at times, subjected to blown-in snow packed beneath the fuselage while in tie-down position.

For these reasons, the condition of the fabric along the lower surface of the fuselage should receive particular attention at each Annual Inspection.

Repairs to fabric covering, including seams, should be made using approved materials in accordance with Ceconite Process Procedure Manual No. 101 and/or Chapter 3 of Advisory Circular No. AC 43.13-1A, if the aircraft has been recovered in the field with cotton fabric.

July 13, 1983

SERVICE LETTER NO. SL-102-17

MODELS SGS 2-33, A, AK

SUBJECT: Bellcrank, Aileron - Wing

SER. NO.'S AFFECTED: All, thru Ser. No. 573

It has been reported that the steel bushing, at the pivot bolt, for the aileron bellcrank assembly has become rusted and siezed on both the pivot bolt and the bellcrank assembly hub. This condition, upon actuation of the aileron controls, would cause the bellcrank, bushing and bolt to turn together. This, in turn, causes the bolt to pivot in the mounting plates attached to the intercostal assembly, rather than the bellcrank hub pivoting on the steel bushing.

The condition is the result of improper maintenance practices.

The net result of the above cumulative conditions might be a rapid wear of the bolt holes in the aluminum intercostal mounting plates, with consequent play in the aileron control movement.

INSPECTION:

1. Within the next fifty (50) hours of operating time and at annual lubrication intervals thereafter, inspect the aileron bellcrank installation as follows:
  - A. Through the access door in the lower surface of the wing, observe the action of the bellcrank while a second person actuates the aileron controls:
    - (1) Should the pivot bolt remain stationary while the bellcrank is rotating, no further action is necessary except that the bellcrank and bushing be lubricated with SAE #30 lubricating oil as specified in Section 2 of the Flight Erection Maintenance Manual.
    - (2) Should the pivot bolt rotate and/or show radial movement in excess of .005, the bellcrank assembly must be removed from the wing for maintenance:

- (a) Disassemble the bellcrank assembly and inspect the pivot bolt, hub and bushing for evidence of rust.
- (b) Take corrosion protection steps in accordance with Chapter 6 of AC 43.13-1A. If desired, the part number 33105D-9 bellcrank hub may be reworked per Schweizer Dwg 33105D, Rev C, by tap drilling #3 (.213) through one side of the hub to the .375 dia. hole. Tap the drilled hole .25 deep with 1/4-28 UNF tap. Install MS15002-1, or equivalent, grease fitting. This will facilitate lubrication with a grease gun, using a low-viscosity lubricant such as "Lubriplate", or equivalent.
- (c) Parts having corrosion-attack beyond salvage limits must be replaced with new manufacturers parts.

<u>Part No.</u>	<u>Part Name</u>	<u>Req'd per wing</u>
33105D-9	Hub	1
-7	Bushing	1
AN4-25	Bolt, Pivot	1

- B. Inspect the pivot bolt holes in the wing for wear or elongation in excess of .253 dia. (max.) or scoring due to rotation of the steel bushing.
  - (1) Plates which are scored and/or have oversize bolt hole must either:
    - (a) Be replaced with new mfr's part. Part No. 33108D-7 Plate,
    - (2) req'd per wing, or -
    - (b) Be reworked by line-reaming the -7 plates and also the 33105D-7 Hub bushing to .3125/.3145 diameter and replacing the original AN4 pivot bolt with AN5-25 bolt, AN310-5 nut with appropriate washer and cotter pin.



SERVICE LETTER NO. SL-102-18

MODEL: SGS 2-33, A, AK  
SER. NO.'S: 1 through 568 (excluding S/N's 539 - 541)  
SUBJECT: Tow-Release Slot, Cracking Of

There have been instances in which the forward tow release hook slot assembly, Part No. 1B210-1A, in the fuselage has been found cracked. The cracking has usually occurred in the area of the formed radius of the part, adjacent to the damper spring bolted into the top of the release slot assy forward of the tow hook pivot bolt. At times, cracking has also been found radiating from the hole for the attach of Part No. 10223B-1 Damper Spring, Release Hook.

Quite often the cracking has occurred subsequent to breakage of the damper spring, allowing the release hook to contact, with full force, the bolt-head attaching the damper spring. Continued pounding by the release hook has, eventually resulted in cracks forming in the release slot fuselage member.

RECOMMENDATION:

It is recommended that at the next Annual Inspection, the 1B210-1A release slot assy be carefully examined in the area adjacent to the damper spring. Replacement of a damaged damper spring should be accomplished when so indicated by this inspection.

CORRECTIVE ACTION:

- A. Should cracks be evident in the 1B210-1A release slot assy, it will be necessary to remove the cracked member and weld in a new manufacturer's part. Should this be found necessary, it is recommended that a part number 1B210-5 release slot be used for the replacement member which will allow modification of the Tow Hook installation in accordance with Schweizer Drawing 33926G. This modified installation uses a small tow hook, Part No. 10232A-1 and a new Release Arm, Part No. 1B217-5. The reduced mass of this small hook greatly diminishes the inertial force of the hook contact with the damper spring bolt, thereby lessening the chance of a crack reoccurring.
- B. Existing tow hook installations may also be modified per Drawing 33926G. This entails modification of the existing 1B210-1A slot assy by drilling a new pivot bolt hole for the release arm .78 forward of the existing bolt hole. Also, elongating the arm-clearance opening in the top of the release slot assy a like amount. The modification is applicable to both the normal nose tow hook and to the center of gravity release tow hook.

SERVICE LETTER NO. SL-102-18

MODEL: SGS 2-33, A, AK  
SER. NO.'S: 1 through 568 (excluding S/N's 539 - 541)  
SUBJECT: Tow-Release Slot, Cracking Of

There have been instances in which the forward tow release hook slot assembly, Part No. 1B210-1A, in the fuselage has been found cracked. The cracking has usually occurred in the area of the formed radius of the part, adjacent to the damper spring bolted into the top of the release slot assy forward of the tow hook pivot bolt. At times, cracking has also been found radiating from the hole for the attach of Part No. 10223B-1 Damper Spring, Release Hook.

Quite often the cracking has occurred subsequent to breakage of the damper spring, allowing the release hook to contact, with full force, the bolt-head attaching the damper spring. Continued pounding by the release hook has, eventually resulted in cracks forming in the release slot fuselage member.

RECOMMENDATION:

It is recommended that at the next Annual Inspection, the 1B210-1A release slot assy be carefully examined in the area adjacent to the damper spring. Replacement of a damaged damper spring should be accomplished when so indicated by this inspection.

CORRECTIVE ACTION:

- A. Should cracks be evident in the 1B210-1A release slot assy, it will be necessary to remove the cracked member and weld in a new manufacturer's part. Should this be found necessary, it is recommended that a part number 1B210-5 release slot be used for the replacement member which will allow modification of the Tow Hook installation in accordance with Schweizer Drawing 33926G. This modified installation uses a small tow hook, Part No. 10232A-1 and a new Release Arm, Part No. 1B217-5. The reduced mass of this small hook greatly diminishes the inertial force of the hook contact with the damper spring bolt, thereby lessening the chance of a crack reoccurring.
- B. Existing tow hook installations may also be modified per Drawing 33926G. This entails modification of the existing 1B210-1A slot assy by drilling a new pivot bolt hole for the release arm .78 forward of the existing bolt hole. Also, elongating the arm-clearance opening in the top of the release slot assy a like amount. The modification is applicable to both the normal nose tow hook and to the center of gravity release tow hook.

SERVICE BULLETIN NO. 102-26-7

MODELS AFFECTED: SGS 1-26B and C, Ser. No.'s 289 thru 399 which have Swept-back Vertical Tail Surfaces

SGS 1-26D, Ser. No.'s 400 thru 475

SGS 2-33 and 2-33A, Ser. No.'s 1 thru 196

SUBJECT: Rudder Hinge, Lower, Attachment to Fin Spar

A report from the field has been received indicating failure of both AN3-7A bolts attaching the lower rudder hinge to the fin spar. This report was from one aircraft only.

One bolt only, of the two which failed, was found and, under a 50X magnification, an apparent defect in the bolt itself was noted. Whether this bolt was the first to fail, leading to the failure of the second, is not known. However, it was stated that a rudder lock was not used during periods of tie-down which may have been a contributing factor, as flight loads are very low on these bolts.

To assure that a similar failure has not occurred on ships in service -

1. Preflight inspect the aircraft to assure the bolts are in place.
2. Accomplish the following at the first 100-hour or Annual Inspection, whichever occurs first. One at a time, remove each AN3-7A bolt (these bolts have a one quarter inch long, 3/8 diameter x .090 wall, aluminum bushing under the bolt head). Solvent-clean and inspect, especially at the thread and shank intersection, for damaged threads or cracks. Magnetic particle inspection is recommended, if available. Otherwise a magnifying glass of 3.5X to 5X should be used.

Replace the bolts with new bolts, when:

- a. Inspection equipment is not available.
- b. Aircraft has been in service for more than either 200 hours, or three years.
- c. Inspection reveals any defect in the bolt (s).

Use a torque-value of 20 to 25 inch-pounds when reinstalling the bolts, and insure that the bushings are transferred to the new bolts.

RECOMMENDATION: Since wind-gust loads are usually much greater than flight loads, it is strongly recommended that control chocks be used during all periods of tie-down.

SCHWEIZER AIRCRAFT CORP.

*Milton A. Courtright*  
 Milton A. Courtright  
 Quality Control Supervisor

BULLETIN NO. SA-102-33-1.2\*

DATE: January 18, 2021

Page 1 of 8

\* Supersedes Service Bulletin SA-102-33-1.1

Dated June 20, 1988

SUBJECT: INSPECTION OF FUSELAGE FRAME STRUCTURE

AIRCRAFT AFFECTED:

Any SGU 2-22 Sailplanes

Any SGS 2-33 Sailplanes

TIME OF COMPLAINT:

Shall be accomplished with next 25 hours of operation or within 90 days of issue date of this bulletin, whichever occurs first

Shall be accomplished every 5 or 10 years

PREFACE:

Field reports indicate that on the affected aircraft it is possible for moisture to enter the fuselage frame tubes. If not immediately detected, this moisture could accumulate in the frame structure and cause the frame tubes to corrode. This situation has been especially prevalent in aircraft which are frequently exposed to salt air, stored outside, and/or tied down by the tail wheel.

This Service Bulletin lists instructions to visually inspect the steel fuselage frame structure on the affected aircraft for indications of corrosion. If any indication of corrosion is found in the tubes, the tubes must be dimensionally inspected for sufficient wall thickness. Any tube whose wall thickness is less than the specified minimum wall thickness must be replaced.

Any aircraft that was factory overhauled by K&L Soaring must perform inspection every ten years

Any aircraft with field installed Fuselage Oiling Kit, part number 33021-001K, or previous initial compliance of this service bulletin are eligible for once every five-year compliance.

PROCEDURE 1:

Procedure 1 applies to any SGU 2-22 or SGS 2-33 aircraft without the Fuselage Oiling Kit, part number 33021-001K, installed or aircraft with the kit installed in the field.

- A. If FAA AD Note 76-13-11 Has NOT been previously performed, perform the following:
- a. In forward keel tube drill a Number 30 hole just ahead of the tow release slot.
  - b. In aft longerons, drill a number 30 hole approximately one inch forward of the weld cluster at the tail skid in the lower longerons.

- OR -

Install Fuselage Oiling Kit.

- B. If FAA AD Note 76-13-11 was previously performed, remove screw/rivets from above mentioned locations. If the aircraft has the Fuselage Oiling Kit installed, part number 33021-001K, remove the threaded plugs that were installed with the kit as opposed to the locations mentioned above, and check for moisture. **(This must be performed every five years after initial inspection).**

NOTE

As an alternate to x-raying tubes for internal corrosion in next step, holes may be drilled at splices (areas marked A on Figure 1) to visually inspect the ID of the tubes. The holes should be drilled about 45 degrees in the lower outboard quarter of the tube just ahead of the splices. In the tail wheel area, enlarge number 30 holes to 7/16 inch maximum. (Refer to Figure 1 for other allowable hole sizes.) If corrosion exists, measure the wall thickness as shown in Figure 2. Tubes which have a wall thickness which is less than the limit specified in Figure 1, must be replaced.

- C. If water drains from holes, x-ray inspect splices of longeron tubes that are marked A on Figure 1.
- D. If any corrosion is evident, proceed as follows:
- a. Drill holes at suspect locations. (Refer to Figure 1 for maximum allowable hole size)
  - b. Measure the wall thickness as shown in Figure 2.
  - c. If wall thickness is less than the required limit (specified in Figure 1), repair or replace the tube in accordance with AC 43.13

NOTE

If the front keel tube is excessively corroded, it is preferable to replace the tube rather than attempting a splice in this member. It is also recommended that the handle detail be replaced with the new detail in accordance with Schweizer blueprint 33010. If this is not accomplished, the weld cluster inside of the nose

bushing should be sealed with a waterproof caulking compound.

NOTE

It is possible to replace the aft longeron tube, but it requires additional preventive measures to maintain the alignment of the fuselage.

- E. Visually inspect longeron tubes for external corrosion from inside the aircraft.
- F. If external corrosion is evident, drill holes and measure wall thickness in accordance with steps D (a) and D (b) above. If wall thickness is less than required limit (specified on Figure 1), repair or replace tubes in accordance with AC 43.13.
- G. With a dull ice pick, perform a prod test at one inch intervals along entire length of the lower surface of the longerons from station 141.55 aft to station 285.00. If ice pick penetrates tube, drill holes and measure wall thickness as specified by steps D (a) and D (b) above. If wall thickness is less than the required limit (specified on Figure 1), repair or replace tubes in accordance with AC 43.13.

NOTE

The following anti-corrosion procedure is only required on a repetitive basis if internal corrosion is evident during the 5 year inspection. Perform steps H(a) through H(c) below after performing the initial inspection of the fuselage frame structure. Perform subsequent anti-corrosion treatments at the 5 year inspection if internal tube corrosion is evident during the inspection.

- H. Prior to plugging or patching holes at initial inspection, treat internal surface of lower longeron tubes with linseed oil as follows:
  - a. Thin linseed oil 15% to 20% parts by volume with turpentine. (approximately five parts linseed oil to one part turpentine)

NOTE

Ensure that the fuselage is level before pumping oil into tubes as specified in next step

- b. Use hand or power pump to fill longeron tubes with oil through holes drill for inspection. (Drill additional holes as required to fill tubes. Refer to Figure 3 for recommended hole locations and diameters)
- c. Allow oil to drain from tubes.

- I. Plug number 30 holes with either a drive screw or self-plugging blind rivet. (A water proof sealant must be applied when installing the screw or rivet).

- OR -

Re-install threaded plugs from Oiling Kit

- J. Plug the remaining inspection holes in accordance with AC 13.13-1A, Chapter 2, Section 2, Figure 2.6.
- K. Record compliance with this Service Bulletin in the Aircraft Log Book.

PROCEDURE 2:

Procedure 2 applies to any SGU 2-22 or SGS 2-33 aircraft with Fuselage Oiling Kit, part number 33021-001K, which was factory installed by K&L Soaring.

- A. Remove the threaded plugs that were installed with the kit and check for moisture. **(This must be performed every 10 years after factory installation)**
- B. If water drains from plugs perform pressure check of fuselage.

Pressure Check (Upper and Lower Longerons)

1. Reinstall all plugs except behind rear seat in upper longeron
  2. Install a pressure check gauge similar to what is shown in Figure 4 in upper longeron behind rear seat
  3. Using compressed air fill fuselage up to 30 psi. Wait 1 hour and then refill fuselage to 30 psi
  4. Wait 6 hours. If fuselage pressure is below 15 psi the fuselage fails pressure check and K&L Soaring must be contacted before returning aircraft to service.
- C. Reinstall threaded plugs from oiling kit
  - D. Record compliance with this Service Bulletin in the Aircraft Log Book

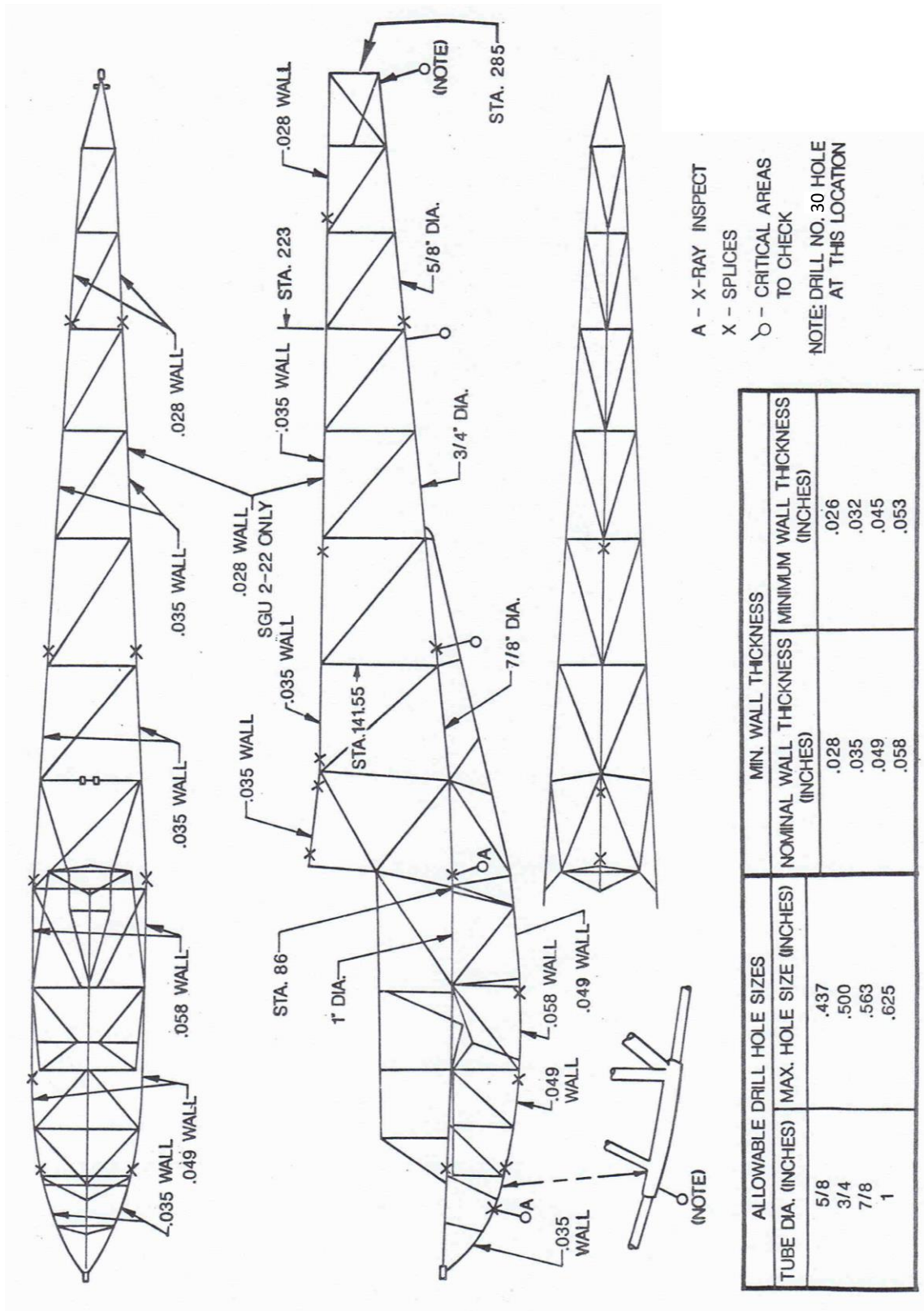
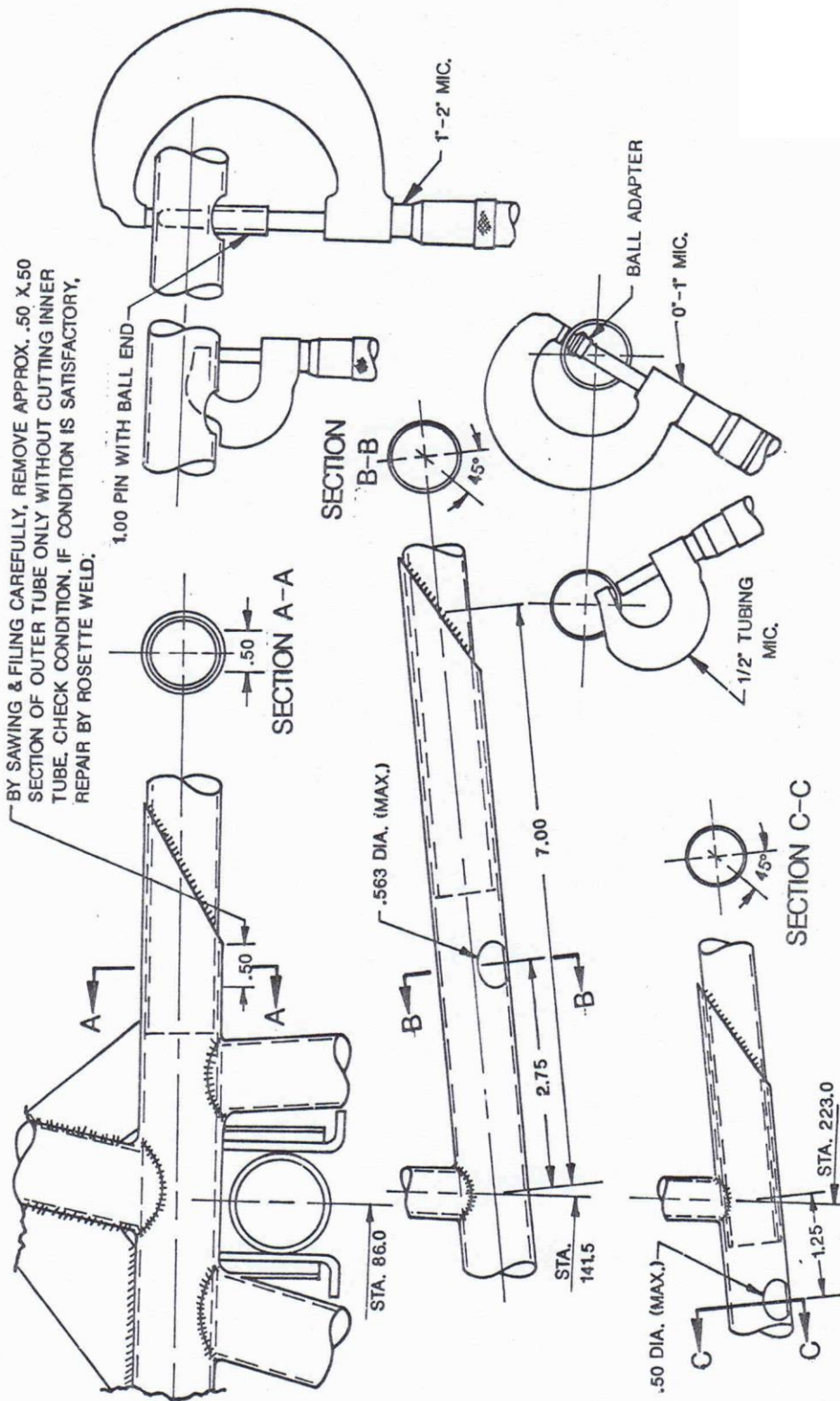


Figure 1 - Tube Dimension and Minimum Wall Thickness





NOTE: TO MEASURE WALL THICKNESS, USE A 1/2 INCH BALL MICROMETER AND A BALL END PIN. BE SURE TO FIRST MEASURE THE LENGTH OF THE PIN AND THEN SUBTRACT THAT LENGTH FROM THE MEASUREMENT OF THE PIN AND WALL THICKNESS.

Figure 2 - Measuring of Tube Wall Thickness

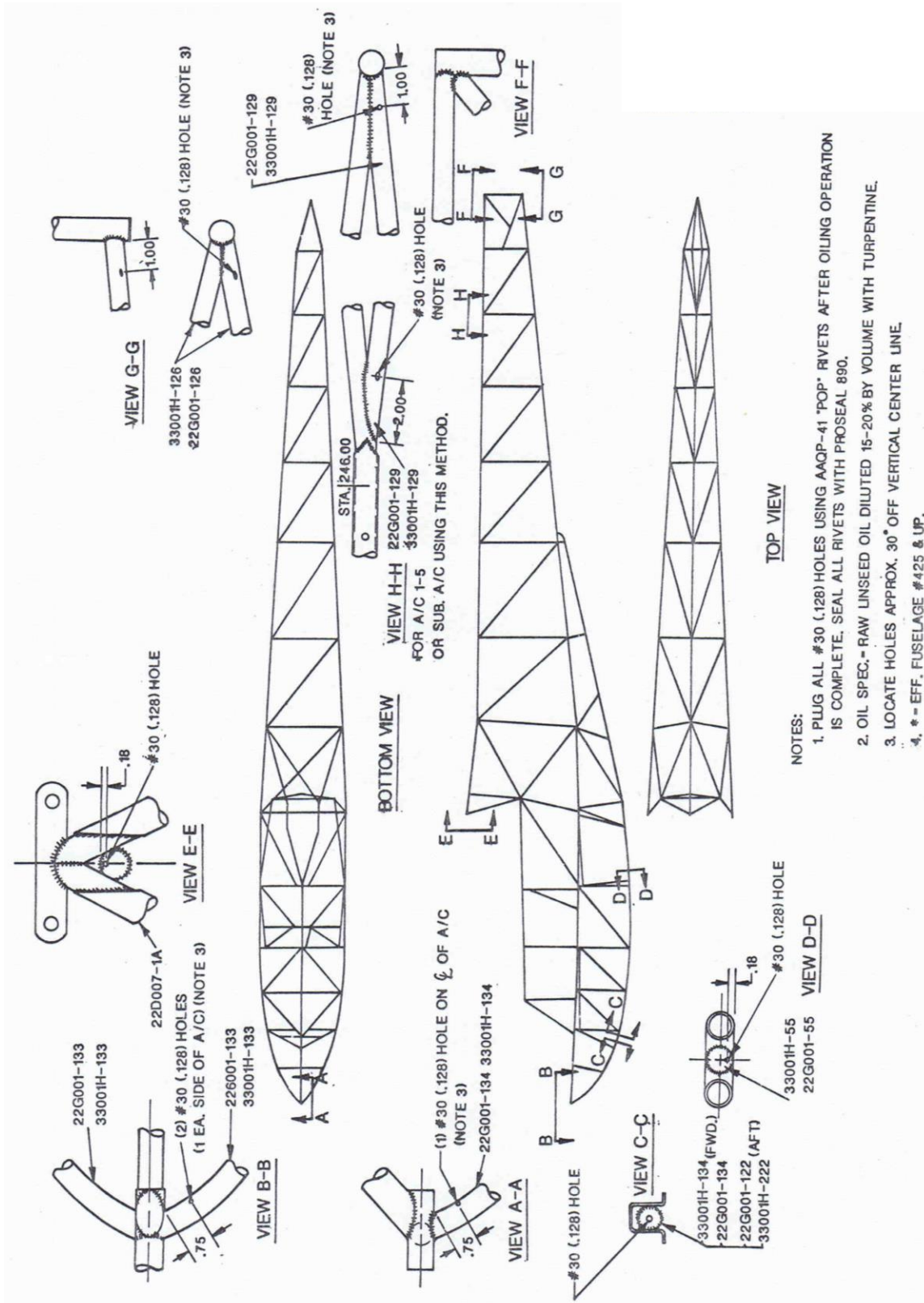


Figure 3 - Anti-Corrosion Treatment

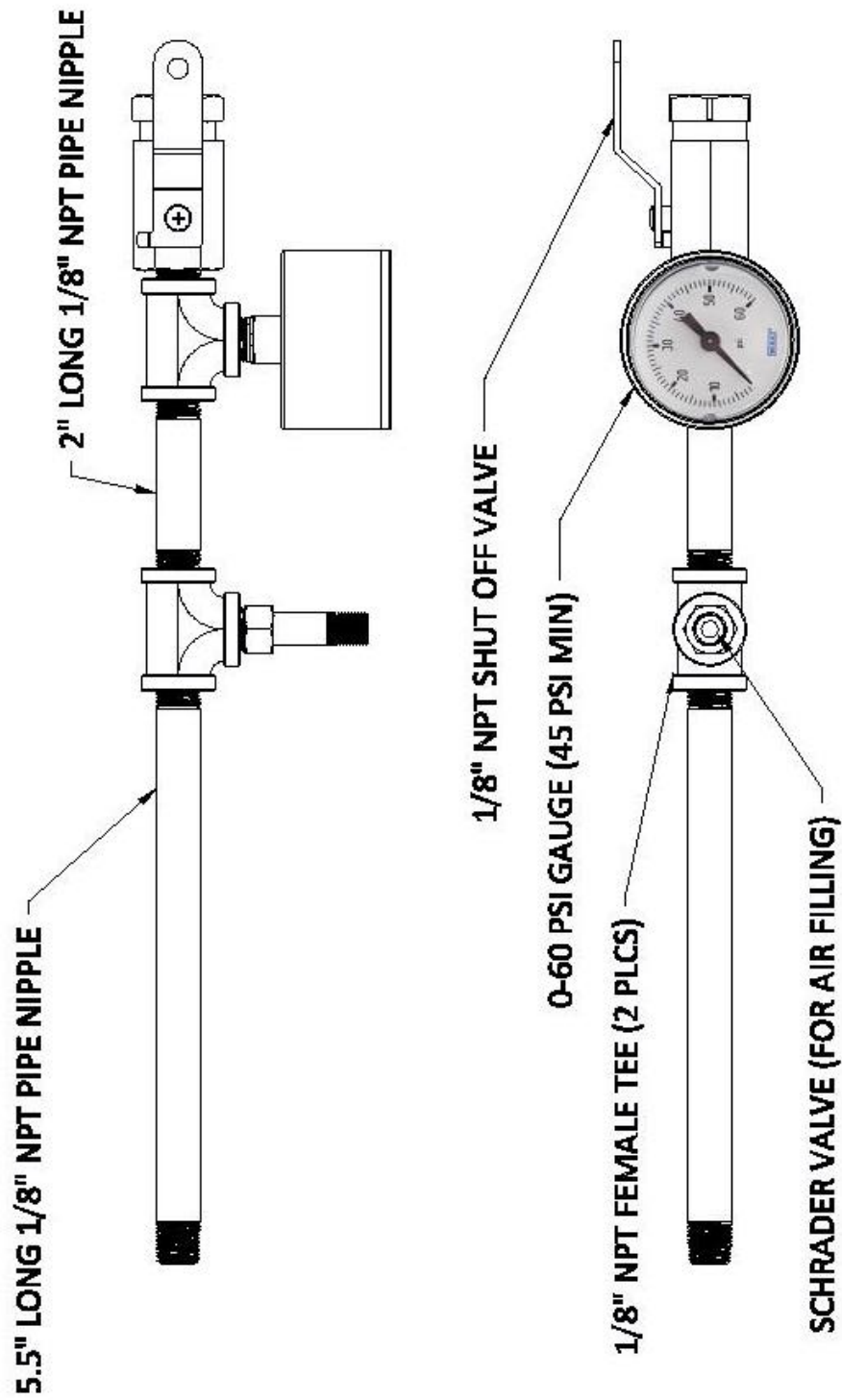


Figure 4 – Pressure Check Gauge

SERVICE BULLETIN NO. 102-33-2  
Models SGS 2-33, SGS 2-33A, SGS 2-33AK

Variations in the hardware attaching the vertical fin spar to the fuselage structure have been found which has resulted in some looseness of this joint and some cases of cracking of the lower fin spar at the subject holes. To correct any possible unsatisfactory situations, the following action should be taken.

1. Within the next 25 hours, check this connection as follows:
  - a. Remove hand hole covers and fin to fuselage fairing.
  - b. Remove the fin-spar attach bolts (AN-3), one at a time, and check for initial tightness, condition of hole, and corrosion.
  - c. If the condition of the holes and bolts are satisfactory, install serviceable AN3-5A bolts and new AN365-10 nut with 3 washers (AN960-10), one under the head of the bolt and 2 under the nut. This applies to both upper and lower bolts and is required to insure that the nut does not bottom on the threads. Apply 20 to 25 in./lbs torque to the nut and check to make certain that there is clamp-up between the spar and fuselage fitting.
  - d. If a hole, or holes, are more than .010" oversize, line-ream subject hole/s to  $.250 \pm .001$  with other attach bolts in place. Install AN4-5A bolt and AN365-428 nut, with one AN960-416L washer under the bolt head and two AN960-416 washers under the nut. Torque to 50 - 70 in./lbs.
  - e. Check the tightness of the forward attach bolt, AN3-14A. This should be torqued to 20 - 25 in./lbs and must clamp up.
  - f. If any corrosion is found, the corroded part must be replaced with a new part.
  - g. If cracks at hole edges are found that can not be cleaned out with the .250 ream, S.A.C. will recommend repairs on receipt of detail information.
  - h. If cracks are found in the spar webb or flange area, replace with new parts or S.A.C. will furnish recommended repairs on receipt of detailed data.
2. The inspection in paragraph 1. shall be repeated every 100 hours or six months, whichever comes first, from the last inspection.
3. Modification of an undamaged fin spar in accordance with Drawing 33924D will eliminate the need for the repeated inspection of Paragraph 2. Production aircraft, Ser. No. 508 and up, will incorporate this doubler and attach hardware change, in accordance with Drawing 33924D.

If there is damage that can not be eliminated by 1.g. above, the installation of the doubler will not delete the repetitive inspection. S.A.C. will furnish recommended repairs on receipt of details of damage.

- End -

Schweizer Aircraft Corp.  
P. O. Box 147  
Elmira, New York 14902

July 15, 1983

SERVICE BULLETIN NO. 102-33-3

SUBJECT: Removable Ballast Installation, Weight & Balance  
MODEL AFFECTED: SGS 2-33A  
SERIAL NO.'S AFFECTED: 262 thru 570 and retrofit installations

It has been determined that on Model SGS 2-33A having Part No. 33011D Removable Ballast Weight installation, a condition exists whereby pilot weights shown on the Calculated Weight and Balance, Removable Ballast (Form I-4606RB, 4/74) and on the 33914A placard on the instrument panel are incorrect.

The condition stems from the circumstance that the removable portion of the ballast weighs 19 lbs with the balance of the 26 lb total for the installation being in the fixed cannister assembly portion.

INSTRUCTIONS:

Obtain Form I-4606RB, 4/82 Calculated Weight and Balance (Removable Ballast) and recalculate the various pilot weights using the formula's on the form.

Revise the weights shown on the 33914A placard, using an overlay, or obtain a new blank placard on which to engrave or stamp the recalculated weights and install in place of the existing placard. Make a logbook entry of compliance with this Service Bulletin.

NOTE:

Form I-4606RB, 4/82 and Part Number 33914A blank placard will be available at no cost, from Schweizer Aircraft Corporation or from Schweizer dealerships.

COMPLIANCE TIME:

At, or prior to, the next 100-hour or Annual Inspection, whichever occurs first.

"FAA APPROVED"