PUBLICATION INDEX

FOR

SCHWEIZER SAILPLANES

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

Reissued: 12 Jan 1998
Revised: 2 February 2021

PUBLICATION INDEX

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Reissued: 12 Jan 1998
Revised: 12 May 2022

REVISION PAGE

Change Description	Revision Date
1. Reformatted Initial 7 Pages of Document 2. Changed SB-102-33-1 to proper revision of SB-102-33-1.1 Dated 20 Jun 1988	15 Feb 2010
1. Revised to Change to SA-001.6 from SA-001.5 2. Update Revision Date for SSP-PH-4	20 June 2010
1. Revised to Change to SA-008.1 from SA-008 2. Revised to Change to SA-010-2 from SA-010.1 3. Update Revision Date for SSP-PH-4	16 April 2018
Revised SA-102-33-1.2 from SA-102-33-1.1	2 Feb 2021
1. Updated Revision Date for SSP-PH-4 2. Update Revision Date for SSP-PM-1	12 May 2022

Publication List

Publication No.	Title	Date Issued	Revised/ Reissued
SSP-PH-1	SGU 2-22 C & E Flight – Erection - Maintenance Manual	Not Dated	
SSP-PH-2	SGS 1-26 A thru E Flight – Erection – Maintenance Manual	Jan 1978	
SSP-PH-3	SGS 2-32 Flight – Erection - Maintenance Manual	March 1969	
SSP-PH-4	SGU 2-33 & 2-33A Flight – Erection - Maintenance Manual	March 1978	15 Feb 2022
SSP-PH-5	SGS 1-34 and 1-34R Flight – Erection – Maintenance Manual	Jan 1970	April 1972
SSP-PH-6	SGS 1-35 C Sailplane Flight Manual	25 Apr 1974	24 Jan 2002
SSP-PH-7	1-35 Supplement #1 to SSP-PH-6 Integrated Flap – Aileron Control System	04 Mar 1976	
SSP-PH-8	1-35 C Supplement #2 to SSP-PH-6	10 Jun 1976	03 Mar 1977
SSP-PH-9	1-35 A Supplement #3 to SSP-PH-6	17 Apr 1978	
SSP-PH-10	1-35 Supplement #4 to SSP-PH-6 Hinged Canopy	23 Apr 1979	
SSP-PH-11	SGS 1-36 (Sprite) Pilot's Operating Handbook	15 Oct 1980	01 Jul 1981
SSP-PM-1	2-33 & 2-33A Parts & Maintenance Manual	1980	24 Jun 2010

Note: The following list provides a complete catalog of publications available to support Schweizer Sailplanes.

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SAILPLANE SERVICE BULLETIN INDEX

Number	Subject	Date	SGU 1-7	SGU 2-8	SGU 2-12	SGU 1-19	SGU 1-20	SGU 1-21	SGS 2-22	SGS 1-23	SGS 1-24	SGS 1-26	SGS 2-32	SGS 2-33	SGS 1-34	SGS 1-35	SGS 1-36
102-22-100	Short Aileron Control Push Rod	28 Oct 1947							X								
102-22-101	Short Aileron Control Push Rod – Replacement of Adjustable End	09 Jun 1949							X								
102-23-1	Jamming of Spoiler Control	02 Jun 1959								X							
102-23-2	Fin and Rudder Lower Hinge – Excessive Wear	29 Jun 1971								X							
102-26-1	Tow Release Mechanism Springs	Not Dated										X					
102-26-2	1-26 Wheel Assembly	Not Dated										X					
102-26-3	Elevator Control Rod	03 Jan 1958										X					
102-26-4	Seat Back	17 Aug 1962										X					
102-26-5	Forward Control Tube Bearing Bracket	20 Aug 1965										X					
102-26-6	Rudder Cable Fairlead Bracket	30 Dec 1968										X					
102-26-7	Rudder Hinge, Lower, Attachment to Fin Spar	11 Feb 1971										X		X			
102-26-8	Inspection of Control Stick Pivot Bolt	18 Dec 1975										X					
102-33-1.2	Inspection of Fuselage Frame Structure	18 Jan 2021							X					X			
102-33-2	Vertical Fin Attach Hardware	02 Sep 1977 R-17 Mar 1978												X			
102-33-3	Removable Ballast Installation	15 Jul 1983												X			
SA-001.6	Inspection of Tow Release Assembly	29 Dec 2009	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SA-002	Inspection of Aircraft Structure	25 Mar 1988														X	X
SA-003	Aerobatics in Schweizer Sailplane	25 Mar 1987	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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Number	Subject	Date	SGU 1-7	SGU 2-8	SGU 2-12	SGU 1-19	SGU 1-20	SGU 1-21	SGS 2-22	SGS 1-23	SGS 1-24	SGS 1-26	SGS 2-32	SGS 2-33	SGS 1-34	SGS 1-35	SGS 1-36
SA-004	Inspection of Elevator Pushrod	16 Jun 1987										X					
SA-005.1	Identification and Possible Replacement of Tow Release Arm	31 Jan 1988	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SA-006	Installation of Seat Adjustment Bracket	01 Mar 1989										X					
SA-007	Improper Rear Seating Location	18 Oct 1988											X				
SA-008.1	Periodic Inspection of Vertical Fin – Forward Spar	28 Nov 2017												X			
SA-009	Inspection of Aileron Push Rod	12 Jan 1998														X	
SA-010.2	Periodic Inspection of Vertical Fin – Rear Spar	28 Nov 2017												X			
SA-011	Inspection of Elevator Control Cable	30 Jan 2004											X				
SA-012	One-Time Inspection of Seat Pan Installation	25 Sep 2003													X		

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SAILPLANE SERVICE LETTER INDEX

Number	Subject	Date	SGU 1-7	SGU 2-8	SGU 2-12	SGU 1-19	SGU 1-20	SGU 1-21	SGS 2-22	SGS 1-23	SGS 1-24	SGS 1-26	SGS 2-32	SGS 2-33	SGS 1-34	SGS 1-35	SGS 1-36
SL-001	Annual Disassembly of Aircraft	01 Jun 1987								X		X	X		X		
SL-102-1	Water in Pitot System of SGS 2-33	29 Sep 1967												X			
SL-102-2	Possibility of Tow Line Ring Fouling	6 Oct 1967												X			
SL-102-3	Fire Potential of Fabric Covered Aircraft	15 Jan 1968							X					X			
SL-102-4	Conversion of SGS 2-33 to SGS 2-33A	20 Mar 1968												X			
SL-102-5	Retro-fit Instructions for Installation of 34189D Dive Brake Control Handle	23 Apr 1970													X		
SL-102-6	Trim Control	01 Jun 1970													X		
SL-102-7	Vertical Surface Flutter	24 May 1971								X							
SL-102-8	Installation Instructions for 1/64th Oversize Main Wing Pins	20 Jan 1972											X				
SL-102-9	Instrument Panel Installation	22 Nov 1974												X			
SL-102-10	Flutter of Flaps at Approx. 60-70 mph	09 Jul 1975														X	
SL-102-11	Canopy Latch Guard Installation	09 Dec 1976														X	
SL-102-12	SGS 2-33 Wing Strut Attach Options	20 Jan 1978												X			
SL-102-13	Securing Aileron During Tie-Down	11 Feb 1978												X			
SL-102-14	Seat Back Adjustment vs. C.G. Aft Limit	21 Aug 1978										X					
SL-102-15	Spring Assembly, Ratchet Lock Trim	27 Oct 1981												X			
SL-102-16	Fuselage Fabric Cover Separation	26 Aug 1983												X			
SL-102-17	Bellcrank, Aileron – Wing	13 Jul 1983												X			
SL-102-18	Tow Release Slot	14 Jul 1983												X			

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SERVICE

BULLETIN

BULLETIN NO. SA-001.6*
DATE: Dec 29, 2009

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

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 COMPLAINCE:

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

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

Aircraft	Tow Hook	Standard Release Arm	Superseding/ Replacement Release Arm
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.

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 of 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.

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

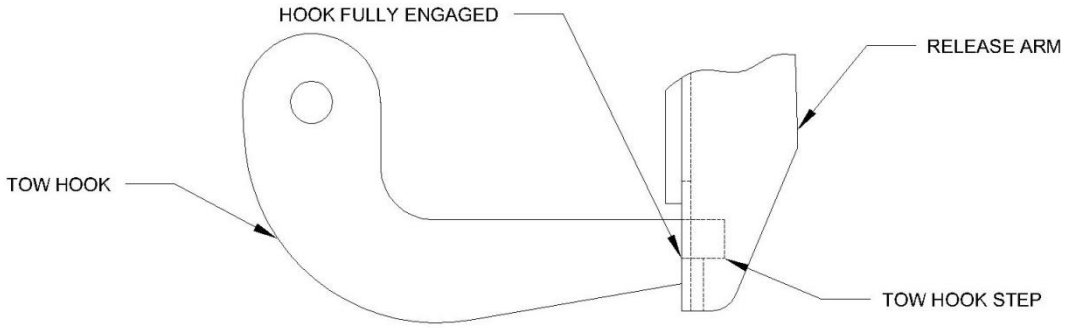
ALL AIRCRAFT REPAIRS MUST BE PERFORMED IN ACCORDANCE WITH AC43.13

b. If defects are noted, repair or replace faulty component (s).

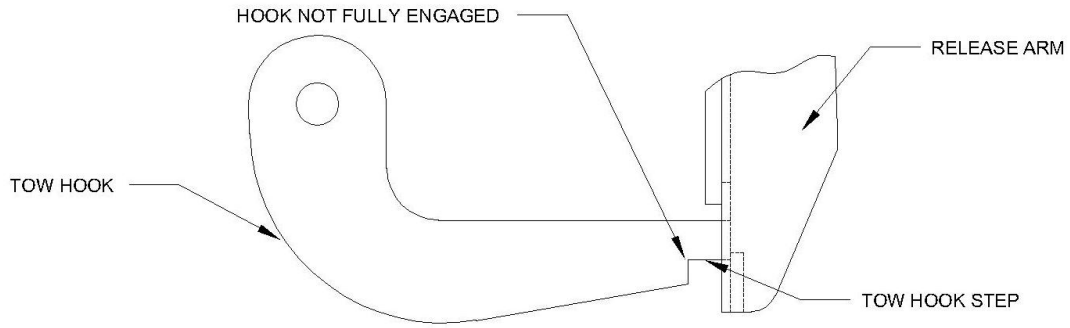
c. Record compliance with Part IV of this Service Bulletin in Aircraft Log Book

WEIGHT & BALANCE DATA

Weight & Balance not affected.

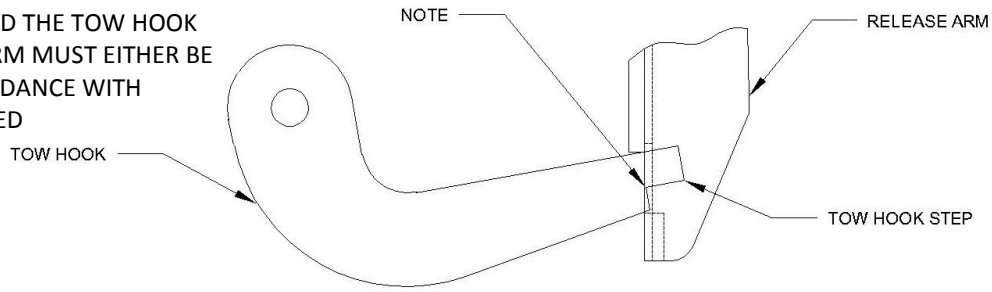


VIEW A – PROPER ENGAGEMENT



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

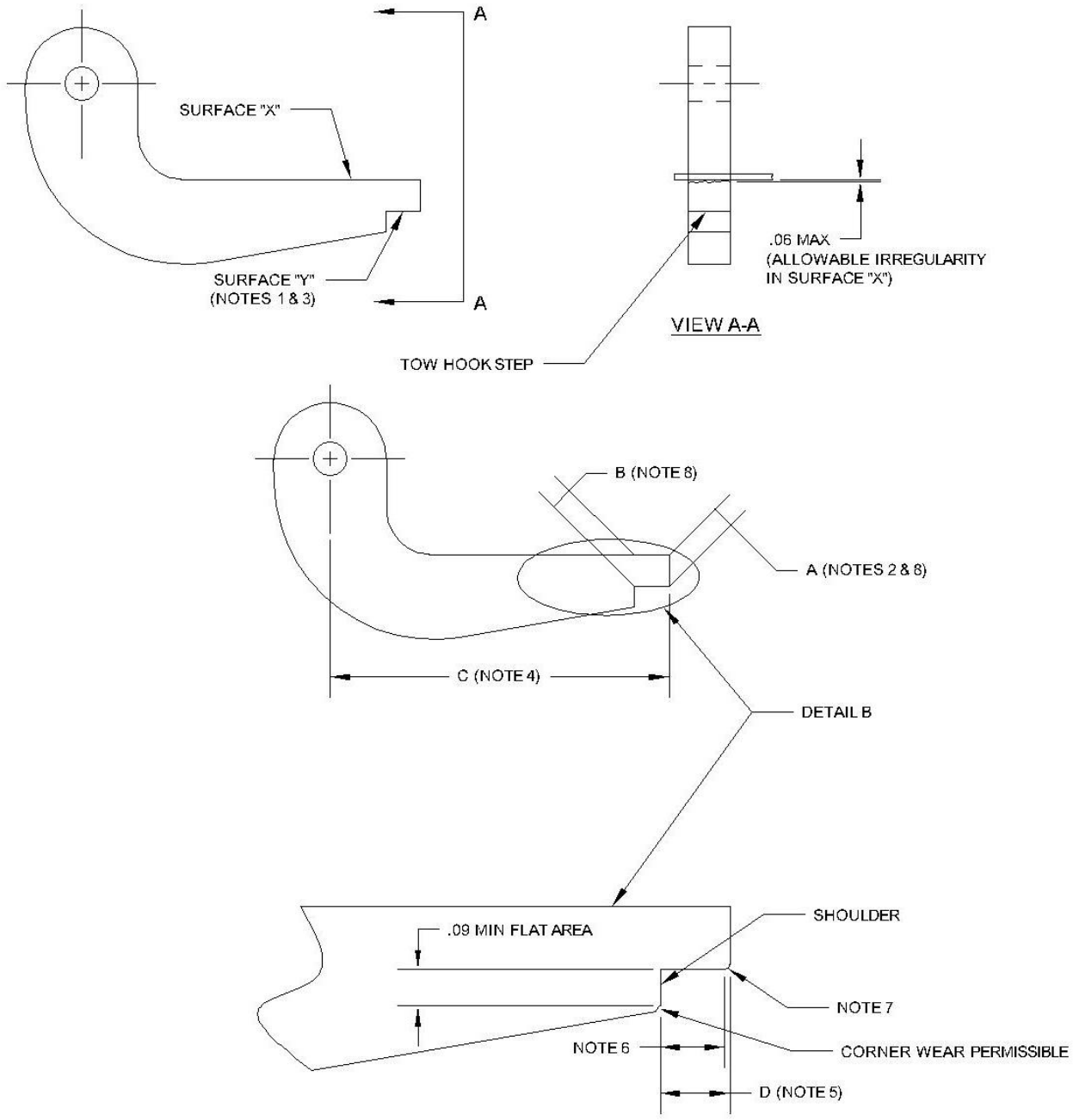
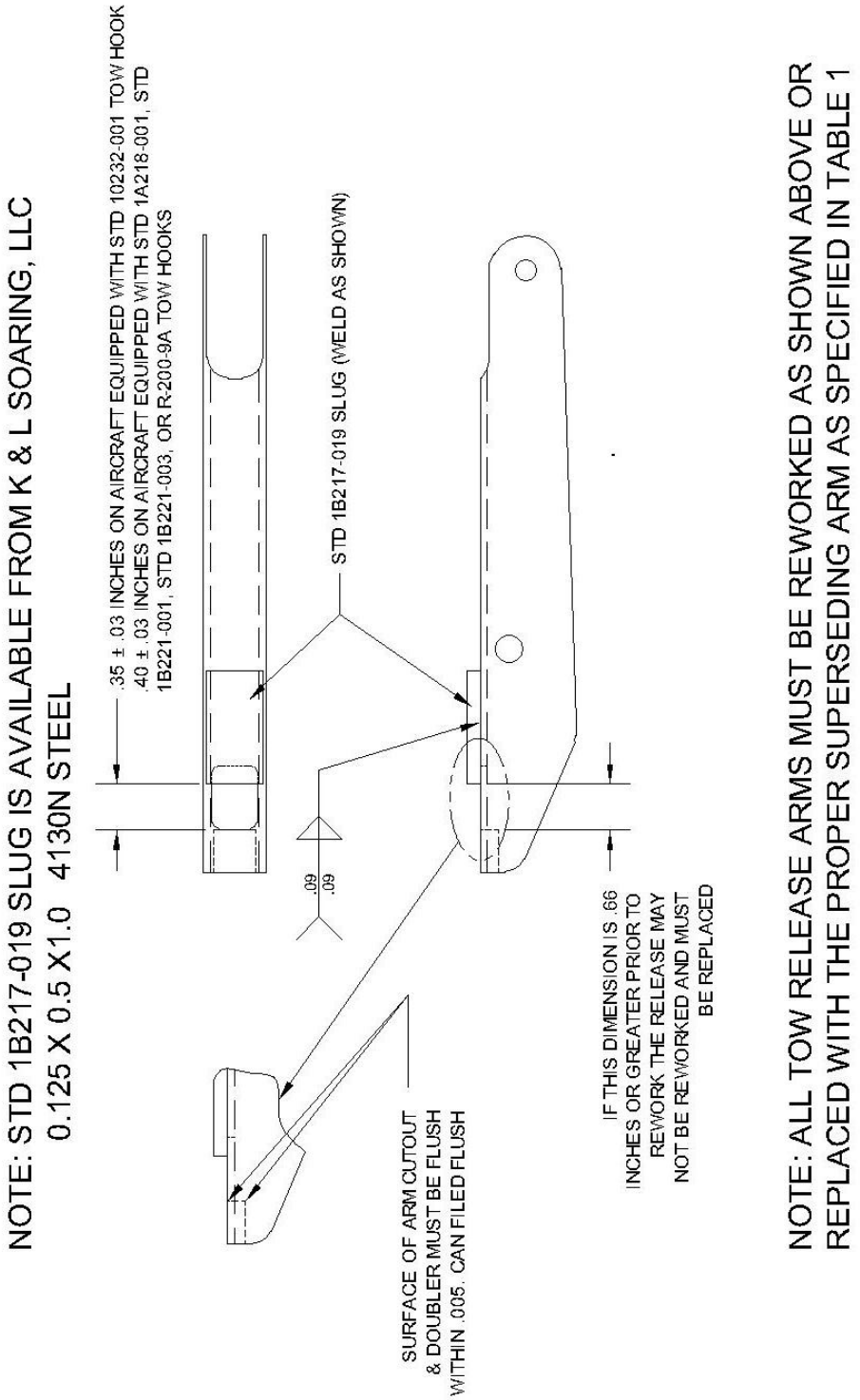


FIGURE 2 – TOW HOOK INSPECTION AND REWORK (SHEET 1 OF 2)

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 ± .03 INCHES. DIMENSION “C” ON STD 1A218-1A, STD 1B221-3, & R-200-9A SHALL BE 3.00 ± .03 INCHES.
5. DIMENSION “D” ON STD 10232-001 HOOK SHALL BE .25 ± .03 INCHES. DIMENSION “D” ON STD 1A218-1A, STD 1B221-3, & R-200-9A SHALL BE .31 ± .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)



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

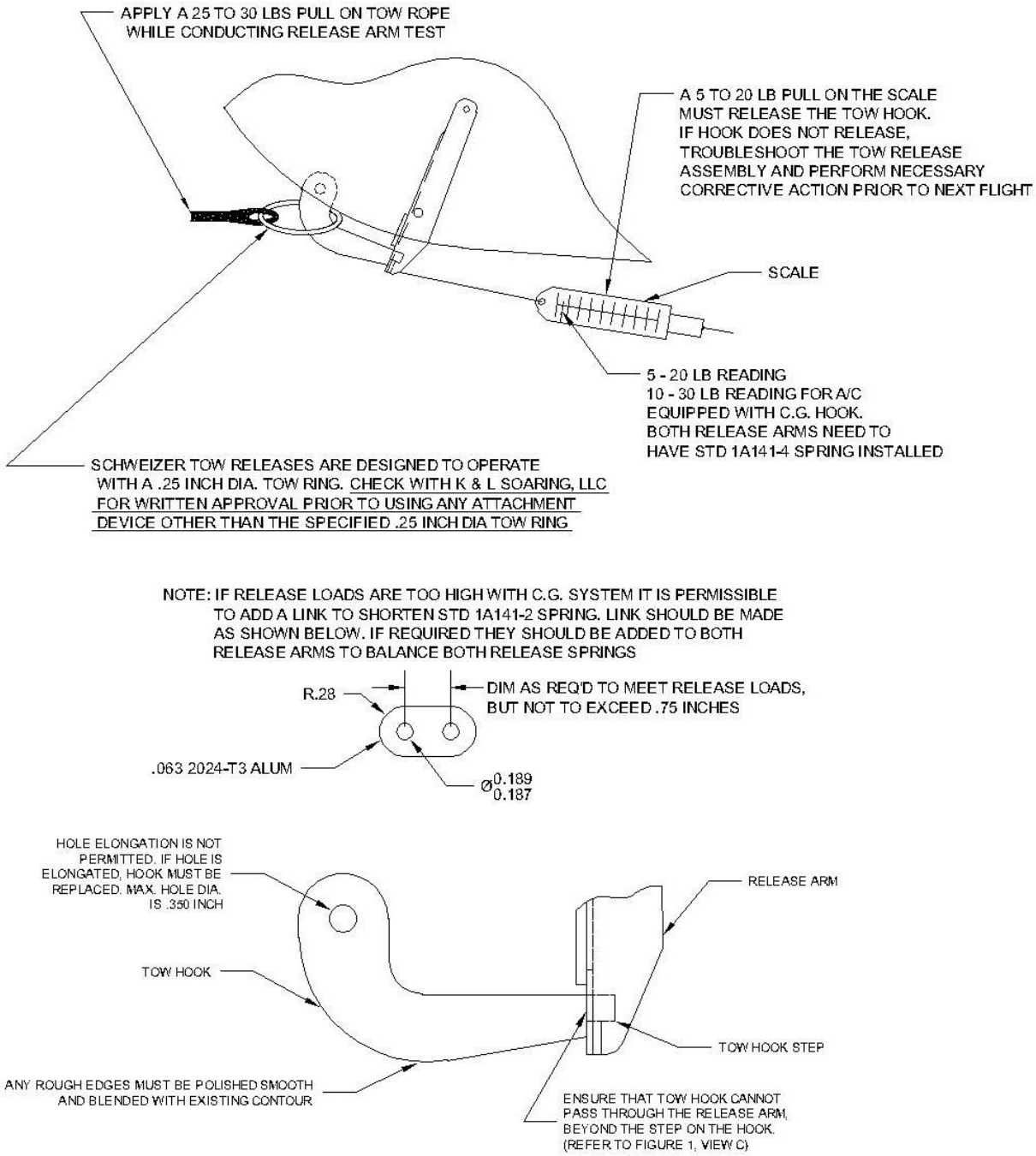


FIGURE 4 - PULL TEST OF TOW RELEASE ASSEMBLY

SERVICE BULLETIN

SERVICE BULLETIN SA-002

DATE: 25 March 1987

SUBJECT: DAILY INSPECTION OF AIRCRAFT STRUCTURES; DETAILED VISUAL INSPECTION OF TAIL RUDDER, ELEVATORS, VERTICAL TAIL SURFACE (TAIL FIN), AND FUSELAGE.

MODELS AFFECTED: ALL SGS 1-35, SGS 1-35A, SGS 1-35C, and SGS 1-36 (Sprite) Schweizer Sailplanes.

TIME OF COMPLIANCE:

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

PART II: Shall be accomplished within next 100 hours of aircraft operation, or next three months, whichever occurs first.

PREFACE: Field reports indicate that on the affected aircraft it is possible for small animals to enter the aircraft's tail structures and deposit nesting materials and other debris. Part I of this Service Bulletin provides instructions for a daily check of specific aircraft structures for accumulations of debris. Part II of this Service Bulletin lists instructions for thorough visual inspection of the interior of the aircraft's tail rudder, elevators, tail fin and aft fuselage structure for accumulations of debris. Installation of access hole(s) in tail rudder may be required for the purpose of removing debris when performing Part II of this Service Bulletin. Detailed instructions are provided for patching holes in fabric. Part II also lists instructions to install an inspection hole in the aircraft vertical fin. Failure to comply with this Service Bulletin could result in a loss of control of rudder and elevator and/or improper balance of tail surfaces.

PART I: DAILY INSPECTION

PROCEDURE

a. Inspect pitot and static ports for mud dobbers, insect nests or other obstructions. Clear obstructions as required.

CAUTION

DISCONNECT INSTRUMENTS AND ASSOCIATED EQUIPMENT FROM PITOT AND STATIC LINES, IF COMPRESSED AIR IS USED TO CLEAR OBSTRUCTIONS. SERIOUS DAMAGE MAY OCCUR TO THESE COMPONENTS IF INSTRUMENTS AND EQUIPMENT ARE LEFT CONNECTED. (ENSURE REATTACHMENT OF CABLES AT PROPER LOCATIONS.)

b. Inspect all hinges, air vents, and aircraft openings for straw, weeds, sticks or any other obstructions. Pay particular attention to hinge and pushrod openings around the tail fin, tail rudder and elevators. Remove obstructions as required.

c. Inspect for debris inside of tail rudder lower fairing (Figure 1) as follows:

CAUTION

EXERCISE CARE WHEN ADJUSTING RUDDER POSITION IN NEXT STEP. THE RUDDER IS CONSTRUCTED FROM A CECONITE FABRIC BONDED TO AN ALUMINUM FRAME STRUCTURE. ALWAYS EXERT FORCE ON A SECTION OF FRAME CHANNEL WHEN ADJUSTING RUDDER POSITION.

(1) Carefully adjust rudder position to extreme left or right.
(2) Using a flashlight, inspect for debris inside lower fairing (Figure 1) by looking through lower hinge opening.
(3) If debris is found, use a vacuum cleaner with flexible extension hose to remove debris.
(4) Check two drain holes (Figure 1) at bottom of fairing for obstruction. Clear obstructions with 3/16-inch drill bit.

d. Open access door on horizontal stabilizer stub (Figure 2) and use a flashlight to inspect upper fin and stabilizer stub area for debris. Use vacuum cleaner to remove debris.

e. Inspect brake/wheel area for obstructions. Remove obstructions as required.

PART II: DETAILED INSPECTION OF TAIL RUDDER, ELEVATORS, VERTICAL STABILIZER, AND FUSELAGE.

PARTS LIST

NOMENCLATURE	PART NUMBER	QTY	SOURCE
Snap Plug, 1 in., BPF-1	M 21626716	1	SAC
Fabric, Ceconite	101, 102, or 103	A/R	SAC
Doubler	10403-3	1 (A/R)	SAC
Patch (.020 skin)	10403-5020	1 (A/R)	SAC
Patch (.016 skin)	10403-5016	1 (A/R)	SAC
Rivets	AN426AD4, or AN470AD4	16 (A/R)	Commercial
Rivets	CR2248-4	10 (A/R)	Commercial

MATERIALS

NOMENCLATURE	SPECIFICATION	SOURCE
Lacquer Thinner	MIL-T-81772	SAC/Commercial
Wax Remover	---	SAC/Commercial
Clear nitrate dope	MIL-D-5553A	SAC/Commercial
Aluminized Dope - Butyrate (polyurethane paint)	MIL-D-5549	SAC/Commercial
Masking Tape	---	Commercial
Primer - Epoxy (polyurethane paint)	MIL-C-22750	SAC/Commercial
Paint - Polyurethane	MIL-C-83231A	SAC/Commercial
Fabric Cement, Superseam	---	Ceconite
Gap Tape	---	Reeves Fabric

TOOLS AND EQUIPMENT

Razor Knife
Vacuum cleaner with flexible extension hose
Source of compressed air, low pressure
Drill
3/16-inch drill bit
1-inch drill bit or hole saw
Pinking shears
Emery cloth
Flashlight
Heat gun or Blow dryer

PROCEDURE

NOTE

One of two types of tail rudders may be installed on the affected aircraft. The earlier type is an unsealed unit without a leading edge fairing (Figure 3, Detail B). The later type is sealed at the leading edge by a fairing (Detail A). Removal of an unsealed rudder is accomplished by performing step a(1) through a(3). A sealed rudder is removed by performing steps b(1) through b(3).

a. If an unsealed rudder (Figure 3, Detail B) is installed, remove rudder as follows:
   (1) Peel off gap tape between rudder and tail fin.
   (2) Disconnect pushrods at lower end of rudder by removing a cotter pin, nut, washer and bolt from each push rod.
   (3) Remove cotter pin, nut, and washer from upper, middle and lower hinge bolts at forward end of rudder. Remove hinge bolts.
   (4) Remove rudder by sliding aft.

b. If a sealed rudder (Figure 3, Detail A) is installed, remove rudder as follows:
   (1) Remove cotter pin, nut, and washer from upper hinge bolt. (Do not remove bolt.)
   (2) Remove four screws securing lower end of rudder.
   (3) Remove rudder by pulling lower end aft and then sliding rudder upwards off hinge bolt.

NOTE

Rodents may gain access and deposit debris at four different locations within the tail rudder. Debris may be present between the leading edge fairing and the spar, inside the lower fairing, inside of the lower bay or inside the upper bay. (Refer to Figure 1.) Each of these areas should be thoroughly inspected with flashlight and inspection mirror.

c. Using a flashlight and inspection mirror, inspect for debris inside of rudder by looking through hinge openings (Figure 3, Detail A or Detail B, as applicable).

d. If debris is noted between leading edge fairing and spar, remove debris through upper hinge opening, using vacuum cleaner and flexible extension hose.

e. If debris is noted inside lower fairing, remove debris through lower hinge opening, using vacuum cleaner and flexible extension hose.

f. If debris is noted inside upper or lower bay, remove debris as follows:

CAUTION

CECONITE FABRIC IS BONDED IN PLACE TO THE RUDDER'S ALUMINUM FRAME STRUCTURE. CARE SHOULD BE EXERCISED WHEN CUTTING THE FABRIC AND REMOVING DEBRIS IN FOLLOWING STEPS. IT IS POSSIBLE FOR THE CECONITE FABRIC TO BECOME DEBONDED FROM THE ALUMINUM FRAME STRUCTURE.

(1) Determine approximate location of debris.

NOTE

Hole cut in next step should be just large enough to gain access to debris with vacuum cleaner flexible extension hose.

(2) Use razor knife to cut ROUND hole in fabric (at location determined in previous step). Do not leave jagged edge on fabric.

(3) Use vacuum cleaner and flexible extension hose to remove debris from bay.

g. If hole was cut in fabric in previous step, proceed as follows:

(1) If rudder has been waxed, remove wax from surface by using wax remover.

(2) Clean surface around hole using clean rag dampened with lacquer thinner. Remove pigmented (colored) dope coats and aluminized coats.

(3) Ensure that hole is round. If not, cut fabric to make hole round.

(4) Roll edges of fabric around hole slightly inwards.

(5) Using pinking shears, cut a new, unwrinkled piece of ceconite fabric large enough to extend 2 inches beyond edge of hole in all directions.

NOTE

If pinking shears are not available, cut fabric with regular shears and fray edges inwards an 1/8-inch (approx.).

(6) Brush clear nitrate dope on surface to be patched, keeping 1/4-inch away from edges of hole.

(7) Press patch in place; ensure that center does not sag.

(8) Use a heat gun or blow dryer to shrink patch.

(9) Brush more clear nitrate dope on bonding surfaces of patch.

NOTE

Three layers of clear nitrate dope will be required to bond patch. Allow previous layer of dope to dry and abrade surface with emery cloth before applying next layer of dope.

(10) Apply two more layers of clear nitrate dope.
(11) Apply at least one coat of aluminized butyrate dope to patched portion of rudder.
(12) Mask off rudder surface surrounding patch.
(13) Mix epoxy primer and catalyst reducer in equal volumes.

NOTE

Catalyst mixture must stand for a minimum of one hour. The catalyzed mixture will remain workable for approximately eight hours.

(14) Apply one coat of epoxy primer to patched areas on rudder. Allow adequate time for epoxy primer to dry before applying polyurethane top coat

CAUTION

CATALYST COMPONENTS ARE MOISTURE SENSITIVE AND WILL BE DEGRADED BY CONTACT WITH MOISTURE. TIGHTLY REPLACE THE CONTAINER LID IMMEDIATELY AFTER DISPENSING A PORTION OF THE CONTENTS. DISCARD THE CATALYST WHEN CLOUDY, TURBID, OR JELLED.

(15) Mix polyurethane paint one part resin component to one part catalyst. Slowly add the catalyst to the resin component, never the reverse, while stirring and mixing thoroughly. Allow catalyzed mixture to stand one hour before applying. (The workable life of the mixed coating is four hours maximum.)

NOTE

Optimum atmospheric conditions for application of polyurethane topcoats are a temperature of 70 to 86°F (21.1 to 30°C) and a relative humidity of 35 to 50 percent. A relative humidity of 60 to 90 percent can cause bubbling/blistering to occur in polyurethane that exceeds the maximum of the specified thickness range 0.0014 to 0.0020 inch (0.0356 to 0.0508 mm).

(16) Apply polyurethane top coat to patched portion of rudder.

h. Remove elevators from tail fin as follows:
   (1) Open access door (Figure 2) on horizontal stabilizer stub.
   (2) Remove pip pin securing elevators. (Refer to Figure 2.)
   (3) Slide elevators outboard off trunnions.

i. Inspect stabilizer, upper portion of tail fin and elevator attachment areas for debris and obstructions. Remove obstructions and debris as required.

j. Remove oval shaped inspection holes at aft end of fuselage and inspect fuselage interior for debris. Remove debris as required.

k. Using 1-inch drill bit and drill, install a 1-inch inspection hole in one side of tail fin at location shown in Figure 4.

l. Using a flashlight and inspection mirror, inspect lower tail fin through inspection hole and through rudder pushrod opening.

m. If debris is noted inside tail fin, proceed as follows:
   (1) Use drill to puncture skin (of tail fin) and saber saw (or equivalent) to cut access hole at location shown (and size shown) in Figure 4. Deburr edges of access hole.
   (2) Use vacuum cleaner with flexible extension hose to remove debris from lower portion of tail fin.
   (3) Using doubler as a template, install appropriate number of rivet holes (of proper size) in tail fin skin at locations shown in Figure 5.
   (4) Slide doubler through access hole, rotate it 90 degrees, and use appropriate rivets (Figure 5) to fasten doubler to fin skin.
   (5) Secure patch to doubler with rivets. (Refer to Figure 5.)

n. Use a 1-inch BPF snap plug to cover inspection hole installed in step k.

o. Reinstall horizontal stabilizer and tail rudder in reverse order of removal.

p. On sailplanes which incorporate an unsealed rudder, use fabric cement to install two new pieces of fabric gap tape (1 each side) between the tail rudder and the tail fin.

q. Check installation for defects and flight controls for proper operation.

r. Record compliance with Part II of this Service Bulletin in Aircraft Log Book.

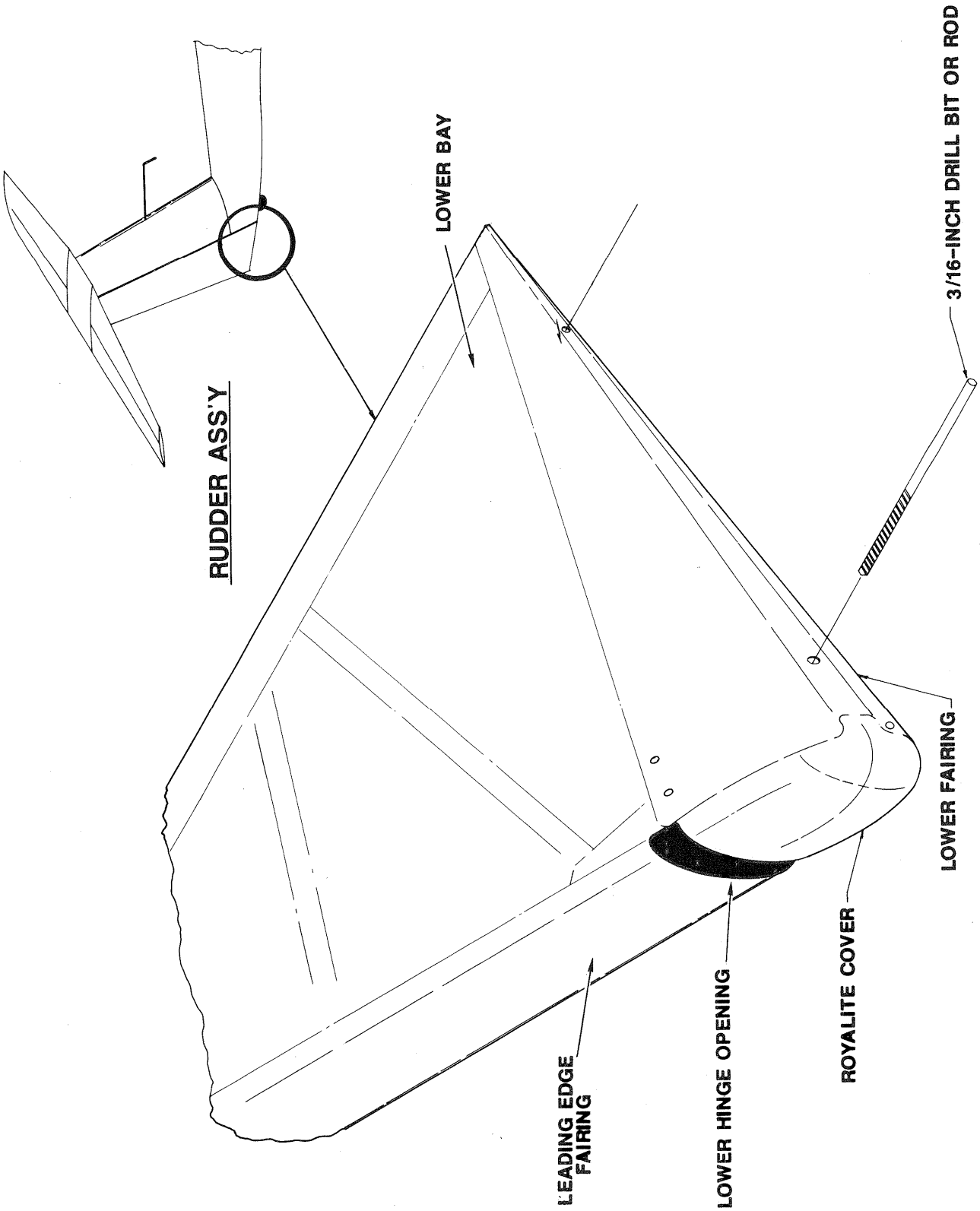

RUDDER ASS'Y
LOWER BAY
3/16-INCH DRILL BIT OR ROD
LOWER FAIRING
ROYALITE COVER
LOWER HINGE OPENING
LEADING EDGE FAIRING

FIGURE 1

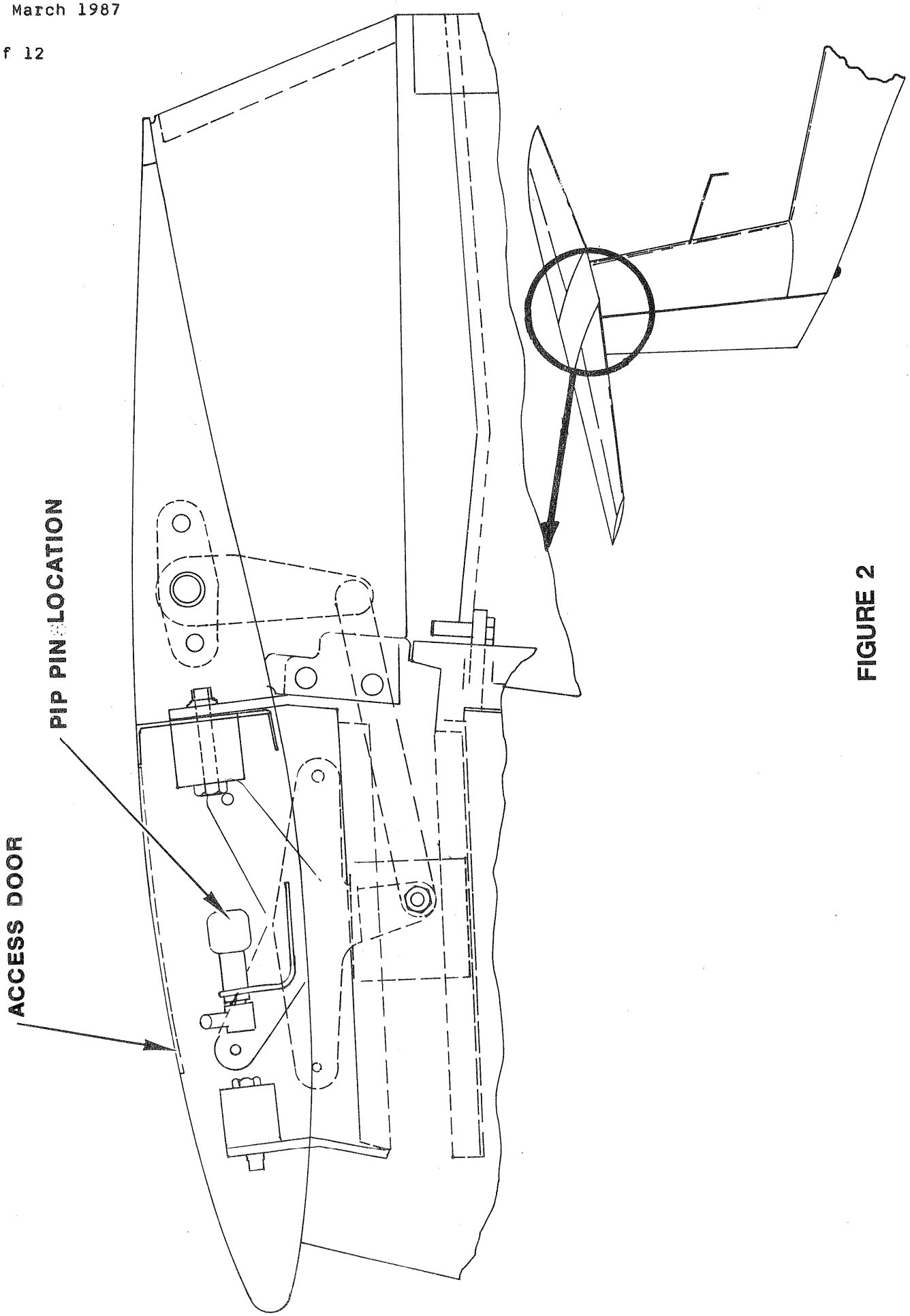
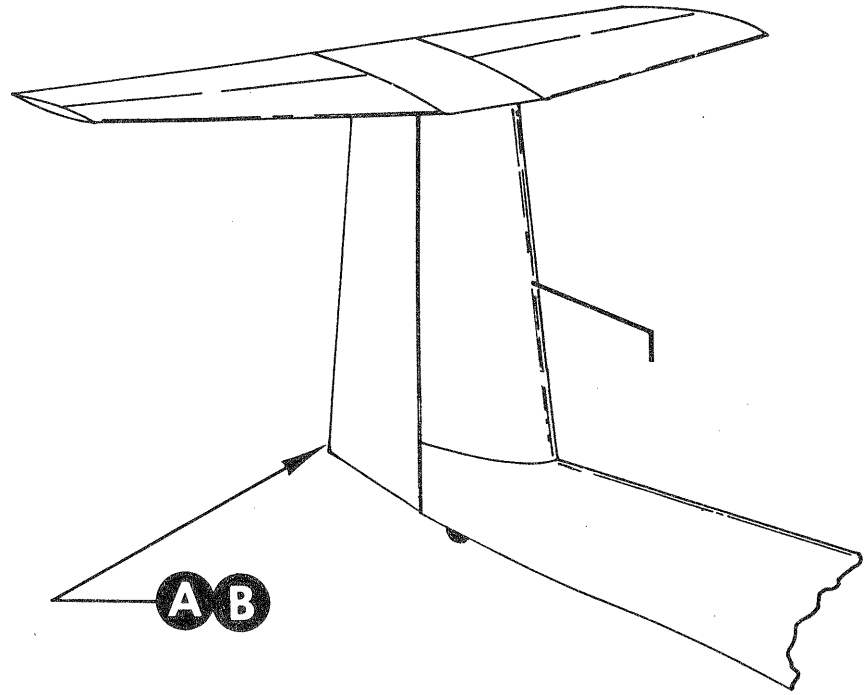


FIGURE 2


A
B

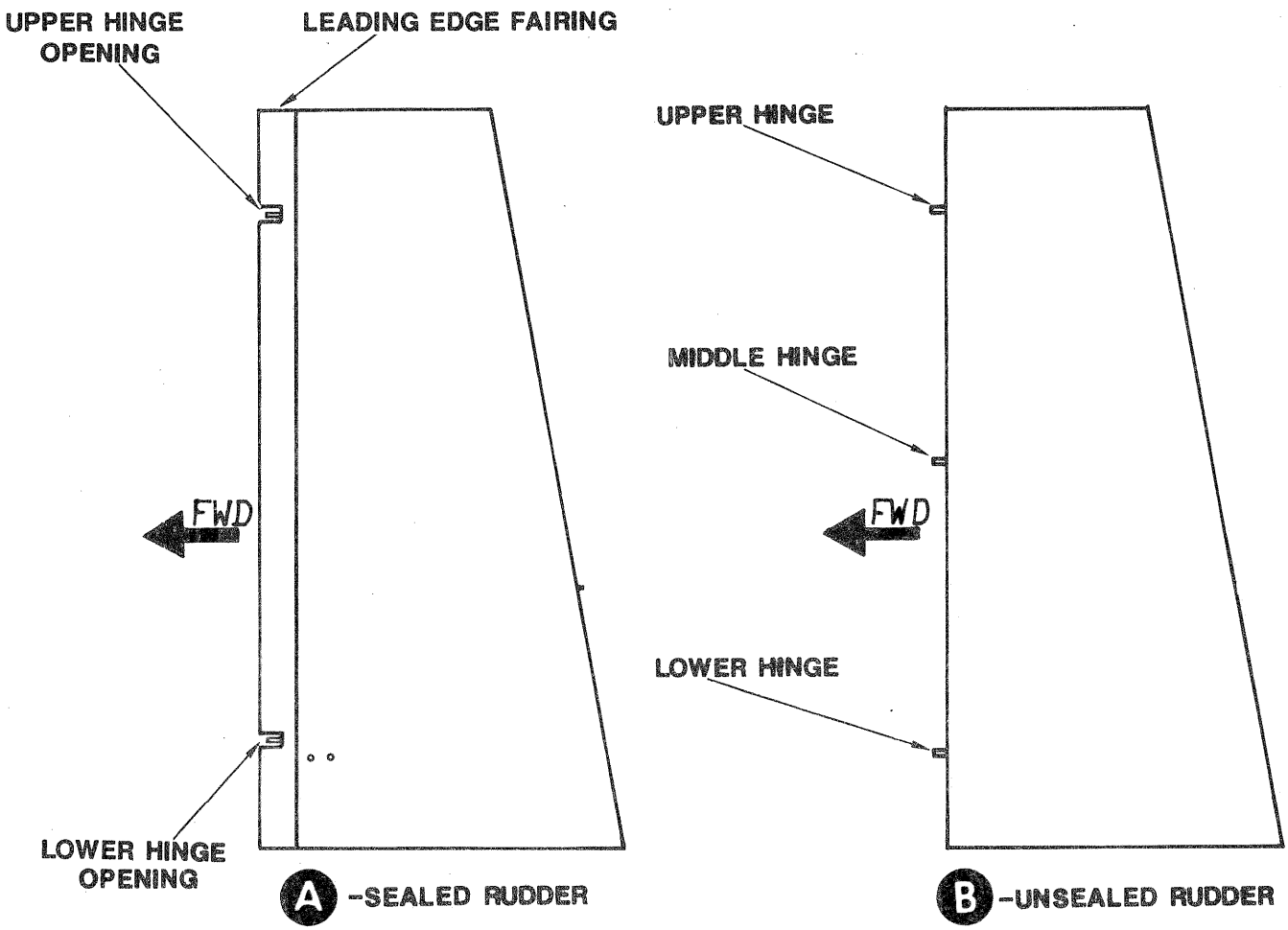

UPPER HINGE OPENING
LEADING EDGE FAIRING
FWD
LOWER HINGE OPENING
A -SEALED RUDDER
UPPER HINGE
MIDDLE HINGE
FWD
LOWER HINGE
B -UNSEALED RUDDER

FIGURE 3

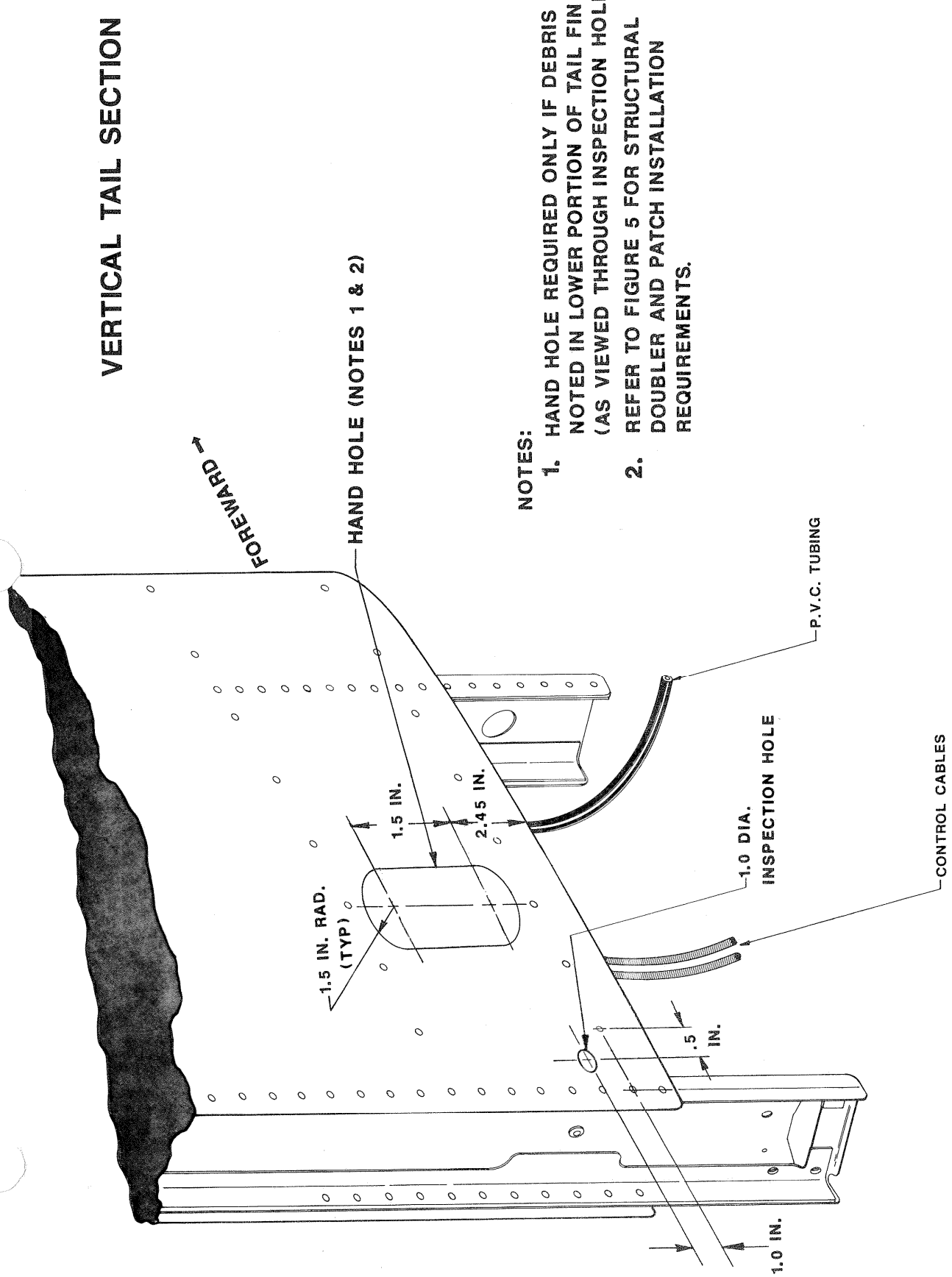
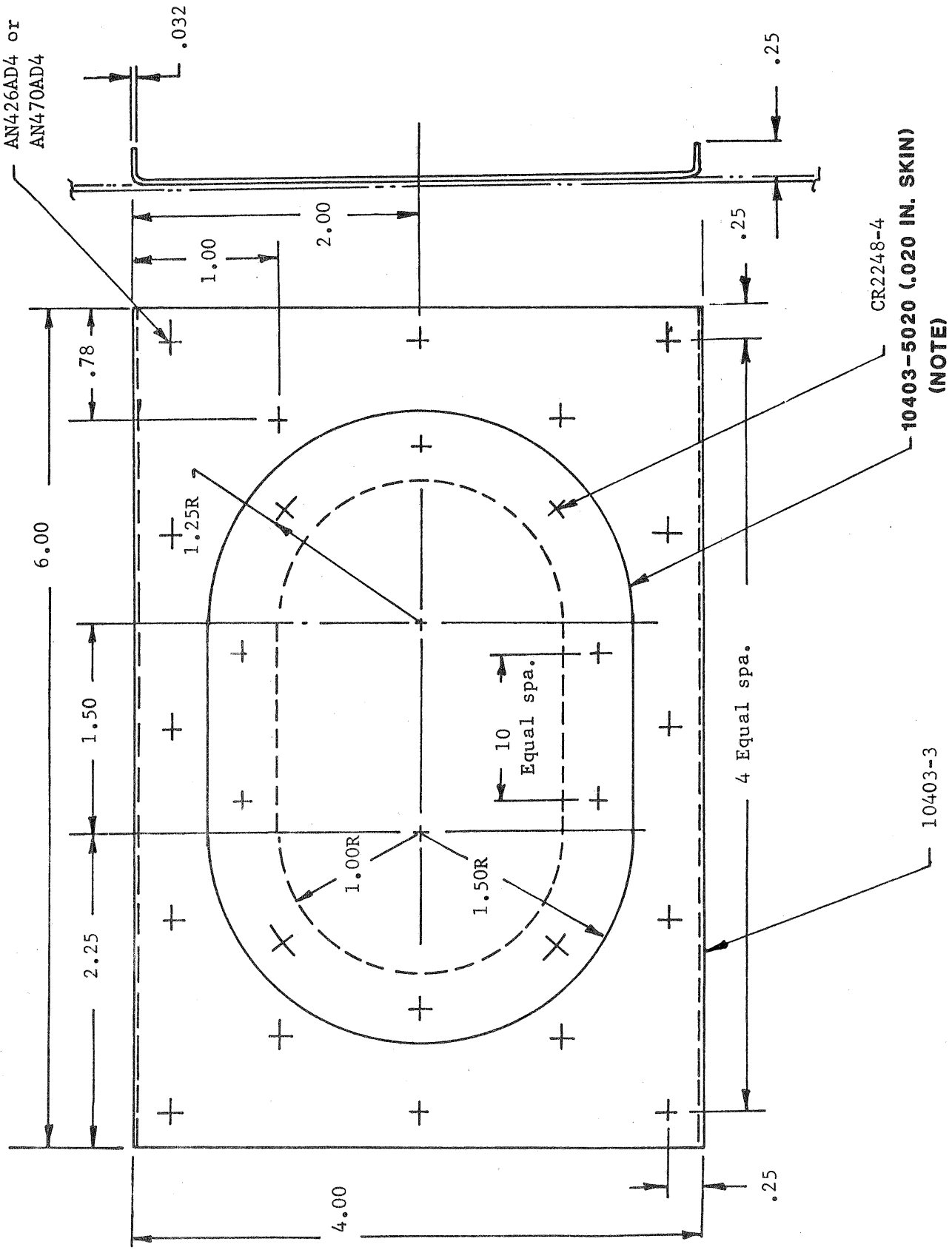

VERTICAL TAIL SECTION
FORWARD
HAND HOLE (NOTES 1 & 2)
NOTES:
1. HAND HOLE REQUIRED ONLY IF DEBRIS IS NOTED IN LOWER PORTION OF TAIL FIN (AS VIEWED THROUGH INSPECTION HOLE).
2. REFER TO FIGURE 5 FOR STRUCTURAL DOUBLER AND PATCH INSTALLATION REQUIREMENTS.
P.V.C. TUBING
1.5 IN.
2.45 IN.
1.5 IN. RAD. (TYP)
1.0 DIA. INSPECTION HOLE
CONTROL CABLES
.5 IN.
1.0 IN.

FIGURE 4.



NOTE: EARLY SGS 1-35 SAIL PLANES WHICH INCORPORATE A .016 IN. SKIN REQUIRE A 10403-5016 PATCH.

FIGURE 5. STRUCTURAL DOUBLER ID PATCH

SERVICE BULLETIN

SERVICE BULLETIN SA-003

DATE: 25 March 1987

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

NOTE

For the purposes of this Service Bulletin, areobatic flight means an intentional manueuver 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-004

DATE: 16 June 1987

SUBJECT: VISUAL INSPECTION OF 26B-123-1A ELEVATOR PUSH ROD ASSEMBLY FOR CORROSION; POSSIBLE REPLACEMENT OF 26B-123-1A PUSH ROD WITH 26147B PUSH ROD.

MODELS AFFECTED: All Model SGS 1-26, SGS 1-26A, SGS 1-26B, and SGS 1-26C Schweizer Sailplanes equipped with a 26B-123-1A Push Rod Assembly.

TIME OF COMPLIANCE: Shall be accomplished prior to next flight of aircraft and at each annual inspection until replacement of 26B-123-1A push rod with 26147B-1 push rod.

PREFACE: Field reports have indicated a possibility of corrosion of the subject 26B-123-1A push rod assembly. This corrosion, if left uncorrected, could lead to failure of the push rod, resulting in a loss of control of the elevator. This Service Bulletin provides instructions for a repetitive visual inspection of the subject push rod assembly. Any corrosion (no matter how slight) found during the inspection is cause for removal of the push rod assembly (PN 26B-123-1A) from service. 26B-123-1A push rods which are found to be completely free of corrosion may be returned to service after a coat of hot linseed oil is applied to the push rod interior surface, as set forth here in. It should be noted that the 26147B push rod is made from an improved design and is not subject to the inspection specified in the below procedure.

PARTS LIST

NOMENCLATURE	PART NUMBER	QTY	SOURCE
Push rod assembly	26147B-1	1 (A/R)	SAC

MATERIALS

NOMENCLATURE	SOURCE
Linseed oil	Commercial

PROCEDURE

a. Remove cotter pin, nut, washers, and bolts securing push rod at each end.
b. Remove push rod.
c. Inspect exterior of push rod for corrosion. No exterior corrosion is allowed. (Refer to Figure 1.)
d. If no exterior corrosion is found, use a high intensity light to inspect the push rod interior surface through the open end of the tube. (Refer to Figure 1.) No interior corrosion is allowed.
e. If any interior or exterior corrosion is found, replace push rod with a serviceable 26147B-1 push rod. If there is any question whether interior or exterior corrosion exists, replace push rod or consult the factory.
f. Inspect attaching hardware for corrosion and general condition. Replace hardware as required.
g. If no interior or exterior corrosion is found, invert push rod and pour hot linseed oil into open end of tube, until entire push rod is filled with linseed oil. Pour out linseed oil and allow inside surface to dry for one hour.
h. Repeat step g. and reinstall push rod.
h. Check installation for defects and flight controls for proper operation.
i. Record compliance with this Service Bulletin in the aircraft log book.

NOTES: 1. INSPECT EXTERIOR OF PUSHROD FOR CORROSION.
NO CORROSION IS ALLOWED.

2. INSPECT INTERIOR SURFACE OF PUSHROD FOR CORROSION BY SHINING HIGH INTENSITY LIGHT THROUGH OPEN END OF TUBE.
NO INTERIOR CORROSION IS ALLOWED.

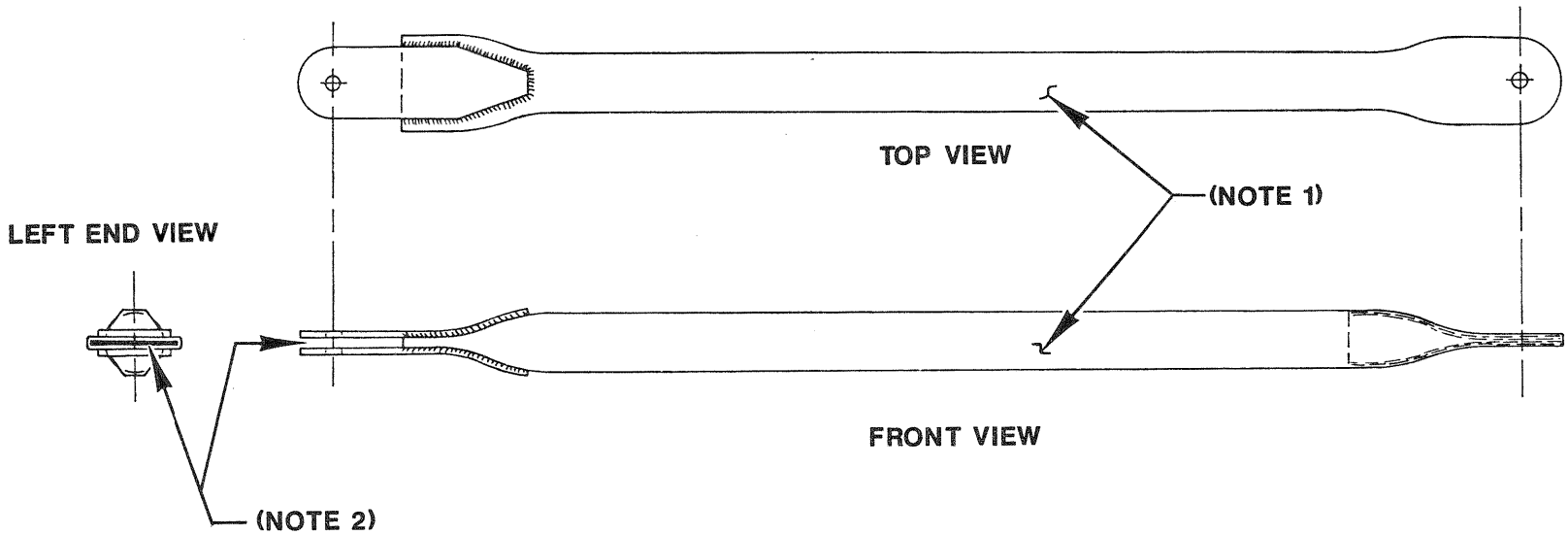


FIGURE 1. ELEVATOR PUSHROD (P/N 26B-12 -1A

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

SERVICE BULLETIN

SERVICE BULLETIN SA-005.1*

DATE: 31 January 1988

* 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).

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.

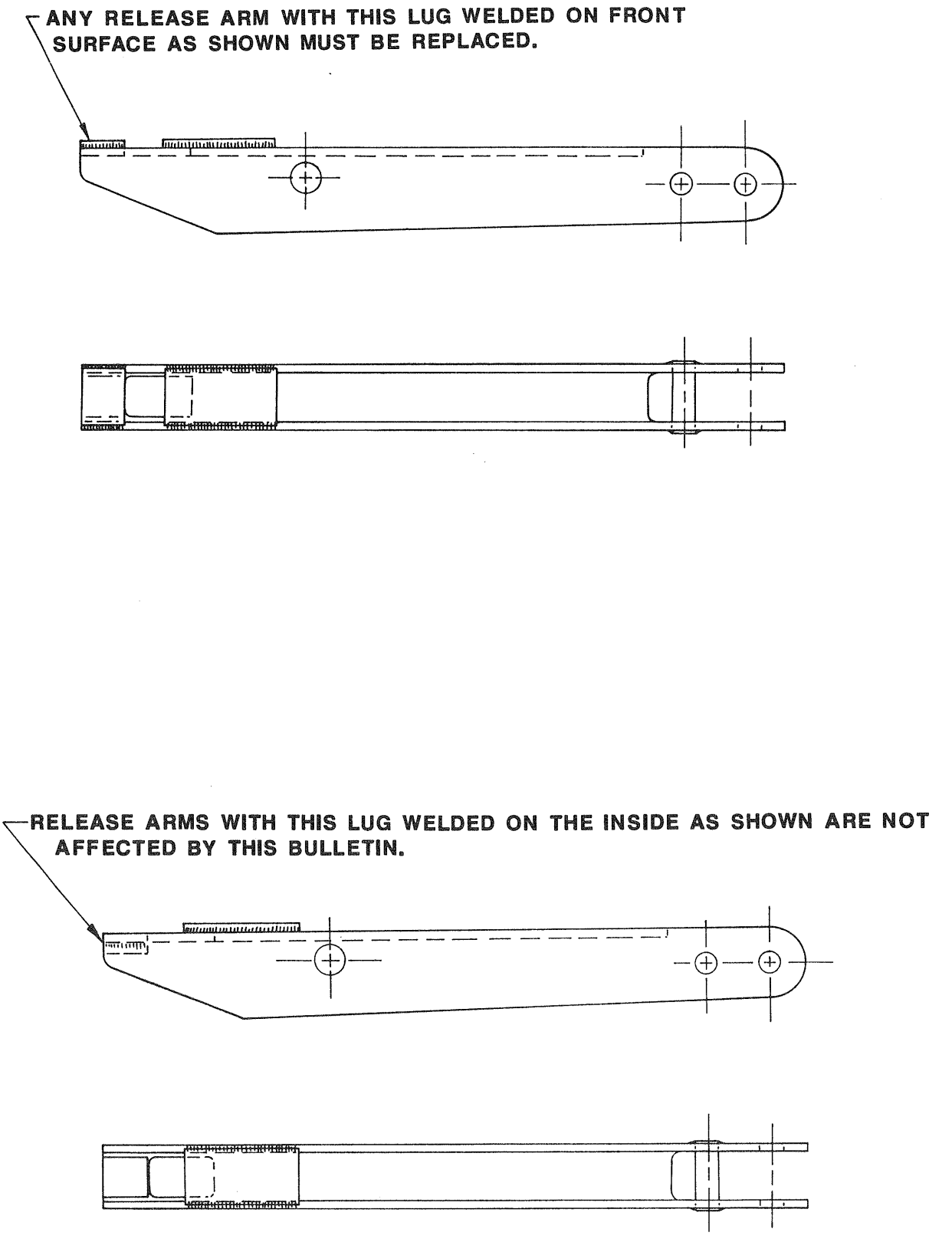


FIGURE 1. RELEASE ARM

SERVICE

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

BULLETIN

Bulletin No.SA-ØØ6
Date: 1 March 1989

SUBJECT: Replacement of Seat Back Adjustment Bracket

MODELS AFFECTED: All SGS 1-26D and SGS 1-26E

TIME OF COMPLIANCE: Shall be accomplished within next 1ØØ Hours of operation, or within 12 months of issue date of this bulletin whichever occurs first.

PREFACE: Reports indicate that on the affected aircraft, the pilot's seat back could inadvertently slide back during tow, when experiencing turbulence or during certain flight attitudes where a negative g condition may exist.
A new bracket, (PN26245D-3), and spacer, (PN26245D-5), has been designed to resolve this problem. This service bulletin lists instructions to install this improved seat back adjustment bracket. This improved bracket should reduce the possibility of sudden seat back movement.

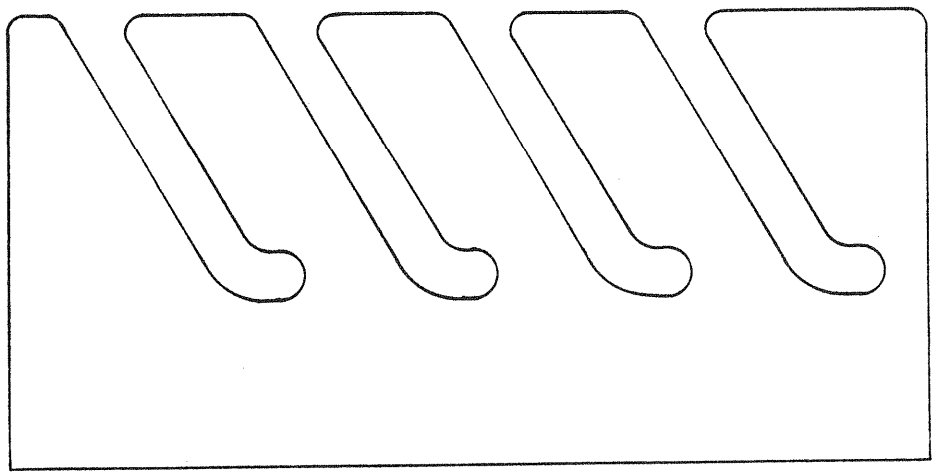
PARTS LISTS

NOMENCLATURE	PART NO.	QUANITY
Bracket	26245D-3	2
Spacer	26245D-5	2
Rivet	MS2Ø426AD4	1Ø

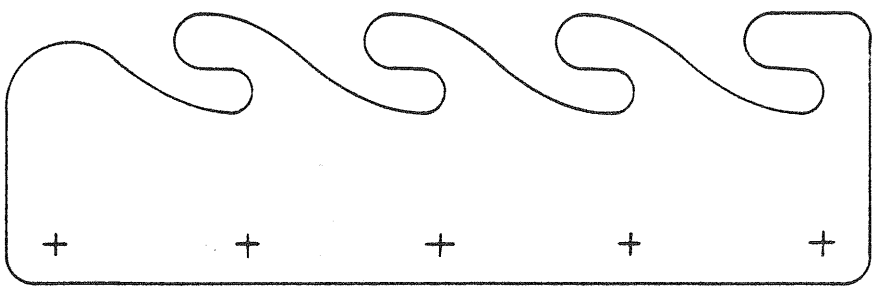
PROCEDURE

a. Drill out rivets securing existing seat adjustment brackets. Remove brackets.
b. Clean up bracket mount area removing any burrs and sharp edges.
c. Paint bracket mount areas with a thin coat of Zinc Chromate or equivalent primer to prevent corrosion.
d. Place the spacer between the inside fuselage wall and the lower edge of bracket.
e. Mark the mount area and drill holes as per old bracket using a #3Ø drill bit and secure with Cleco.
f. Install rivets (MS2Ø426AD4) (5) places on each bracket and spacer kit.
g. Paint exterior of rivet heads.
h. Record compliance with this service bulletin in the aircraft log book.

SEAT ADJUSTMENT BRACKET



NEW DESIGN 26245D-3 BRACKET



OLD DESIGN 26350D BRACKET

Letter No. SA-007
Date: OCT 1 8 1988

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

SERVICE BULLETIN

SUBJECT: IMPROPER REAR SEAT LOADING

MODELS AFFECTED: All SGS 2-32

Time of Compliance: Upon receipt of this letter

PREFACE: As a result of past incidents involving overweight 2-32 Sailplanes, it is imperative that pilots strictly observe the loading requirements and c.g. limits imposed on the aircraft as dictated on pages 1-5 and 1-6 of the Flight, Erection, and Maintenance Manual.

Although the 2-32 Flight, Erection, and Maintenance Manual briefly calls attention to the accommodation of two average sized passengers in the rear seat, pilots must be responsible for the safe operation of the aircraft and not to exceed the c.g. and weight limits as printed in the manual.

Overloading of the 2-32 Sailplane can result in loss of control of the ship, consequently destroying the aircraft and causing injury or death.

SERVICE

BULLETIN

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 COMPLAINCE: 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 revise manual page N5

REFEERENCE: 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.

WEIGHT AND BALANCE

Weight and balance are not affected.

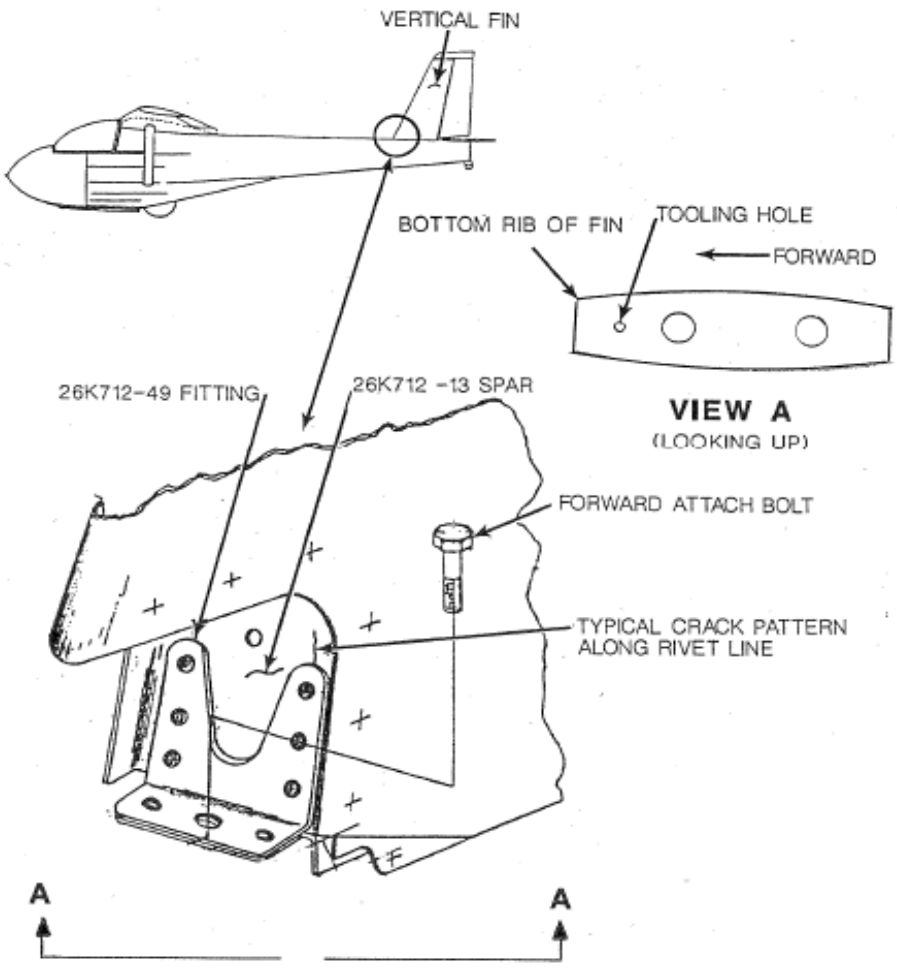


Figure SA-008-1 Vertical Fin Forward Attach Point

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

SERVICE BULLETIN

Bulletin No. **SA-009**
Date: **12 Jan 1998**

SUBJECT: INSPECTION OF AILERON PUSH-ROD

MODELS AFFECTED: All Models SGS-135

TIME OF COMPLIANCE: • Next Annual Inspection

REFERENCE: Schweizer SGS 1-35 Flight Manual, Erection & Maintenance Instructions

PREFACE: • Field reports indicate that there may be looseness in the riveted joint of the long aileron push-rods in the wings. This could result in excessive play in the aileron control system leading to flutter and/or loss of aileron control.

PROCEDURE:

a. Remove aileron push-rods from the wings by disassembly at the bellcrank (outboard) and removing through the wing root - the wings must be removed from the fuselage to do this.

b. Inspect the joint in the push-rod, approximately 50 inches from outboard end for looseness (any relative motion between the rivets and/or component parts) or corrosion (rust emanating from the joint).

c. If no corrosion or looseness is evident proceed to step **i.** If looseness or corrosion is evident, remove rivets. Disassemble push-rod and sleeve.

d. Check for corrosion, especially internal steel surfaces. Clean component parts and reprime as necessary.

e. Lightly abrade primed surfaces with 180 grit sandpaper.

f. Clean faying surfaces with MEK. Allow 20 minutes for all of the solvent to flash off.

g. Reassemble using Hysol EA9309.3 adhesive or equivalent on all faying surfaces. (Any epoxy structural adhesive suitable for metal that can be purchased at a hardware store is acceptable).

h. While adhesive is still wet install CR2249-5-4 Cherry Bulbed or CR3243-5-4 Cherry Max blind rivets. These are 1st oversize rivets.

NOTE

Be sure the push-rod goes through the roller guide, located at wing STA. 111.4, with the push-rod rotated so as the rivet heads (subject rivet joint) miss the rollers.

i. Re-install aileron push-rods in wings

j. Report any condition that necessitates the re-riveting of this joint to the Schweizer Engineering Department along with the serial no. and time on aircraft.

k. Record compliance with this Service Bulletin in the aircraft records.

WEIGHT AND BALANCE

Weight and balance are not affected.

SERVICE

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

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

BULLETIN

SUBJECT: PERIODIC INSPECTION OF VERTICAL FIN REAR SPAR

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

TIME OF COMPLAINCE: 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.

REFEERENCE: 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-0101-1)

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.

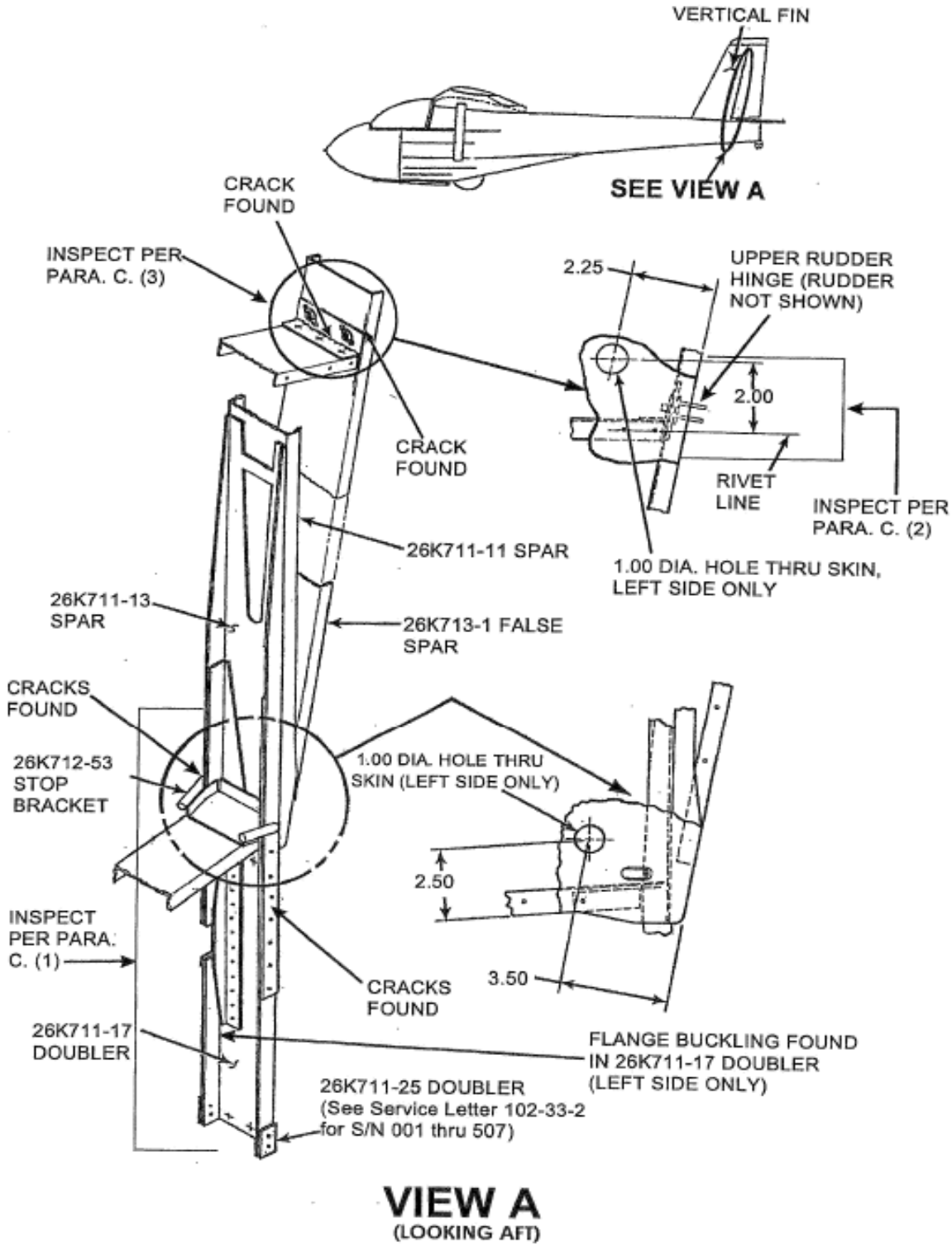


Figure SA-010-1. Vertical Fin Rear Spar Inspection

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

Bulletin No. **SA-010**
Date: **11 Nov 1999**

SERVICE BULLETIN

SUBJECT: PERIODIC INSPECTION OF VERTICAL FIN - REAR SPAR

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

TIME OF COMPLIANCE: Initial inspection shall be accomplished at the next 100-Hour Inspection or Annual Inspection, whichever occurs first.

At each Annual Inspection thereafter

NOTE

Step b.(2) under PROCEDURE is mandatory only on aircraft with more than 10,000 hours.

REFERENCE: Schweizer 2-33 and 2-33A Parts and Maintenance Manual; Revised 05 Nov 1999

PREFACE:

- 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 or the reported damage consists of buckling (with and without cracking) found on the left side spar doubler flange mid way 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.

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. (This hole is mandatory if the time on the airframe is above 10,000 hours; optional below 10,000 hours.)

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) If the upper hinge inspection hole has been cut, Inspect the clip angle and false spar for cracking forward of the upper rudder hinge.

d. If damage is found, remove the aircraft from service and contact Schweizer Customer Service Department for repair instructions (607) 739-3821.

e. If no damage is found, install a snap plug BPF-1 (SAC Part No. M 21626716) 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.

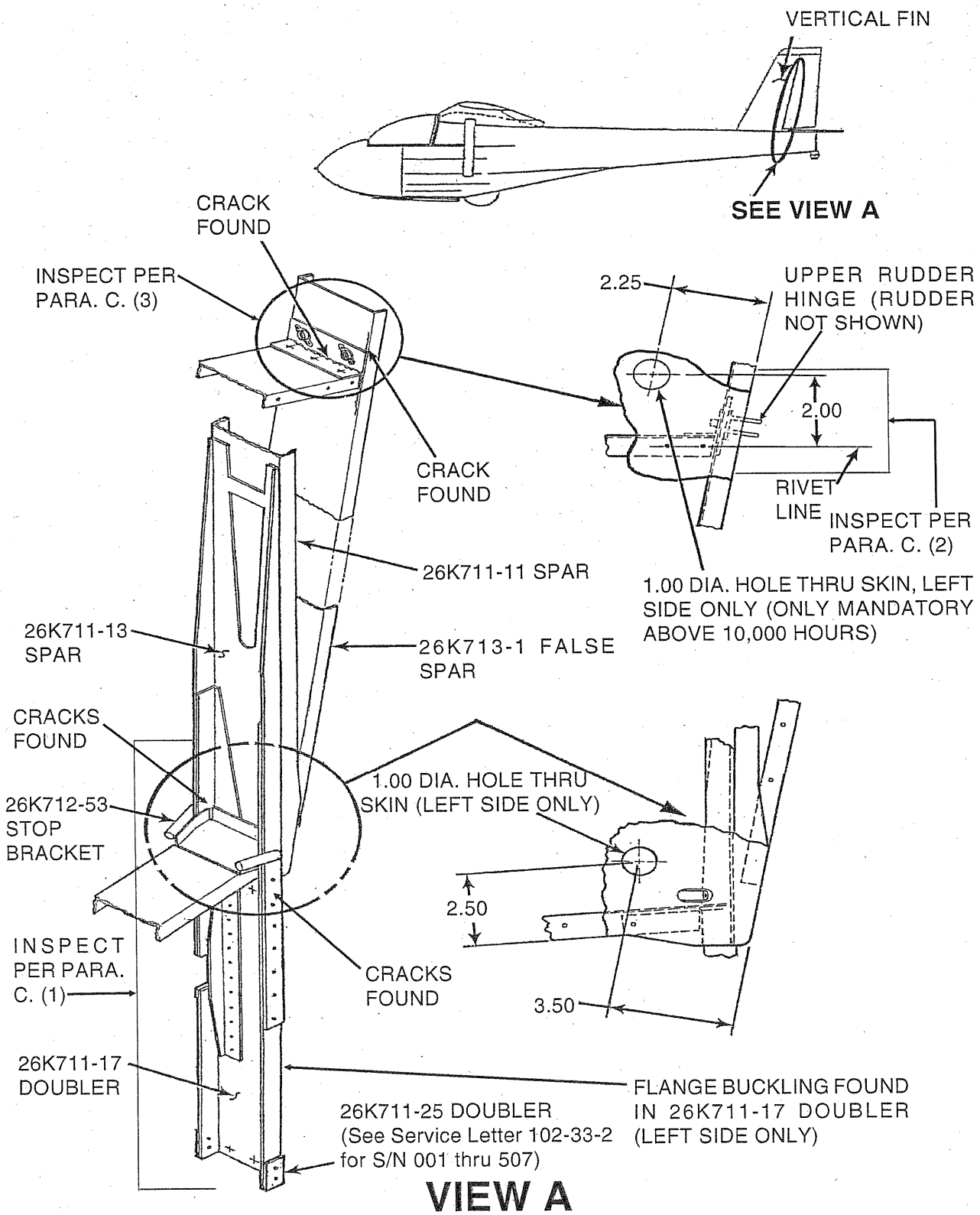


Figure SA-010-1. Vertical Fin Rear Spar Inspection

SERVICE

Bulletin No. SA-011
Date: 30 Jan 2004

BULLETIN

SUBJECT: INSPECTION OF ELEVATOR CONTROL CABLE ASSEMBLY

MODELS AFFECTED: All Model SGS 2-32

TIME OF COMPLIANCE:
- Within next four months from issue date of this Bulletin or at next annual inspection, whichever occurs first
- Each Annual Inspection thereafter

REFERENCE: Schweizer SGS 2-32 Flight Manual, Erection & Maintenance Instructions

Schweizer Drawing No. 32138

PREFACE:
- Field reports indicate that there may be corrosion pits and/or cracking of subject control cable terminals (P/N AN 669). Failure of this component could result in loss of elevator control.

PROCEDURE:

a. Gain access to elevator control cable assembly.

b. Using a 10X magnifying glass, inspect the control cable assembly terminals (end fittings) for evidence of corrosion pits or cracking.

c. Replace control cable assembly if damage is found.

d. Reassemble sailplane.

e. Record compliance with this Service Bulletin in the aircraft records.

WEIGHT AND BALANCE

Weight and balance are not affected.

SERVICE

Bulletin No. SA-012
Date: 25 Sep 2003

BULLETIN

SUBJECT: ONE-TIME INSPECTION OF SEAT PAN INSTALLATION

MODELS AFFECTED: All Models SGS 1-34/1-34R

TIME OF COMPLIANCE:
- PART I: Prior to next flight
- PART II: At next 100-Hour Inspection or Annual Inspection, whichever occurs first

REFERENCE: Schweizer SGS 1-34 & 1-34R Flight, Erection & Maintenance Manual

PREFACE:
- On the affected models, the forward seat pan may be inadvertently installed with the pan hinge oriented incorrectly. This condition moves the pan forward far enough to significantly limit the control stick/up elevator travel; resulting in restricted nose-up control. The purpose of this Bulletin is to ensure that the seat pan is installed correctly (PART I), and to prevent incorrect installation during future maintenance (PART II).
- Failure to comply with this Bulletin may lead to loss of control of the aircraft and subsequent serious injury, death and/or property damage.

PROCEDURE, PART I:

a. Remove the bottom seat cushion to gain access to the seat pan (Fig. SA-012-1).

b. Raise the seat pan to a partially open position and observe that the lower hinge half is positioned forward of the hinge pin as shown on Fig. SA-012-2, Detail A. This is the correct orientation. (If the lower hinge half is positioned aft as shown on Detail B, the seat pan is in the wrong location and this condition must be corrected before further flight.)

c. With the seat pan raised, check the control stick/elevator range of motion; perform the same check with the seat pan in normal (down) position. Verify that range of motion is not affected by seat pan position.

PROCEDURE, PART II:

a. Raise seat pan and remove five hinge screws; remove seat pan (Fig. SA-012-2).

b. Using scissors or sharp knife, cut the "CAUTION" and "SEAT PAN" placards from Fig. SA-012-3.

NOTE

In preparation for placard installation in next step, the respective aircraft surfaces should be cleaned with a suitable solvent. The placards may then be attached with any suitable spray adhesive or cement, and covered with transparent tape for protection.

c. Install the "CAUTION" placard on hinge as shown on Fig. SA-012-3. Install the "SEAT PAN" placard as shown on Fig. SA-012-2.

d. Using five hinge screws, re-install the seat pan with the "CAUTION" placard facing downward.

e. Perform steps b. and c. of PART I to verify that seat pan is installed correctly.

f. Record compliance with this Bulletin in the aircraft records.

WEIGHT AND BALANCE

Weight and balance are not affected.

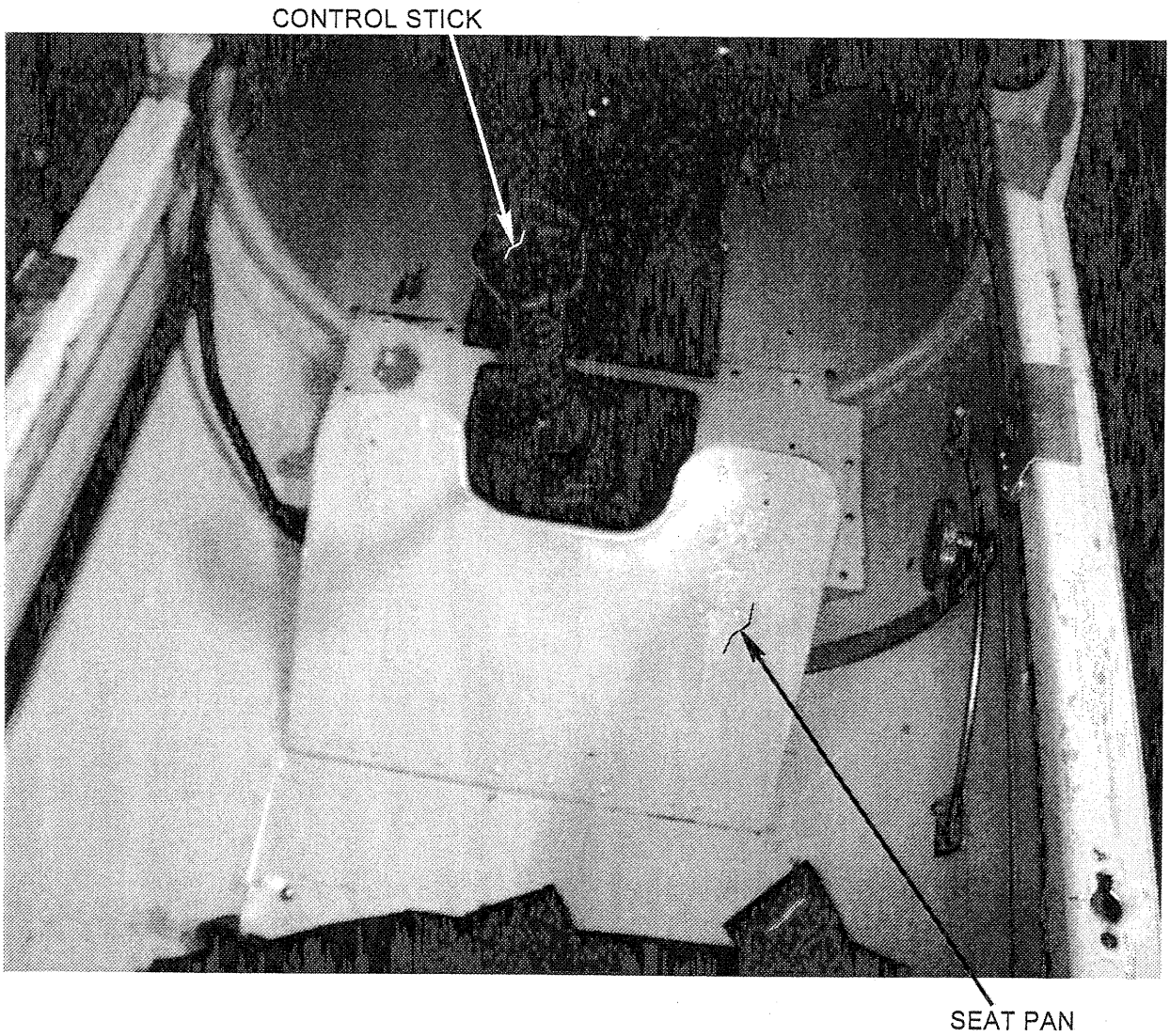


Figure SA-012-1. Seat Pan in Normal Position (Bottom Seat Cushion Removed)

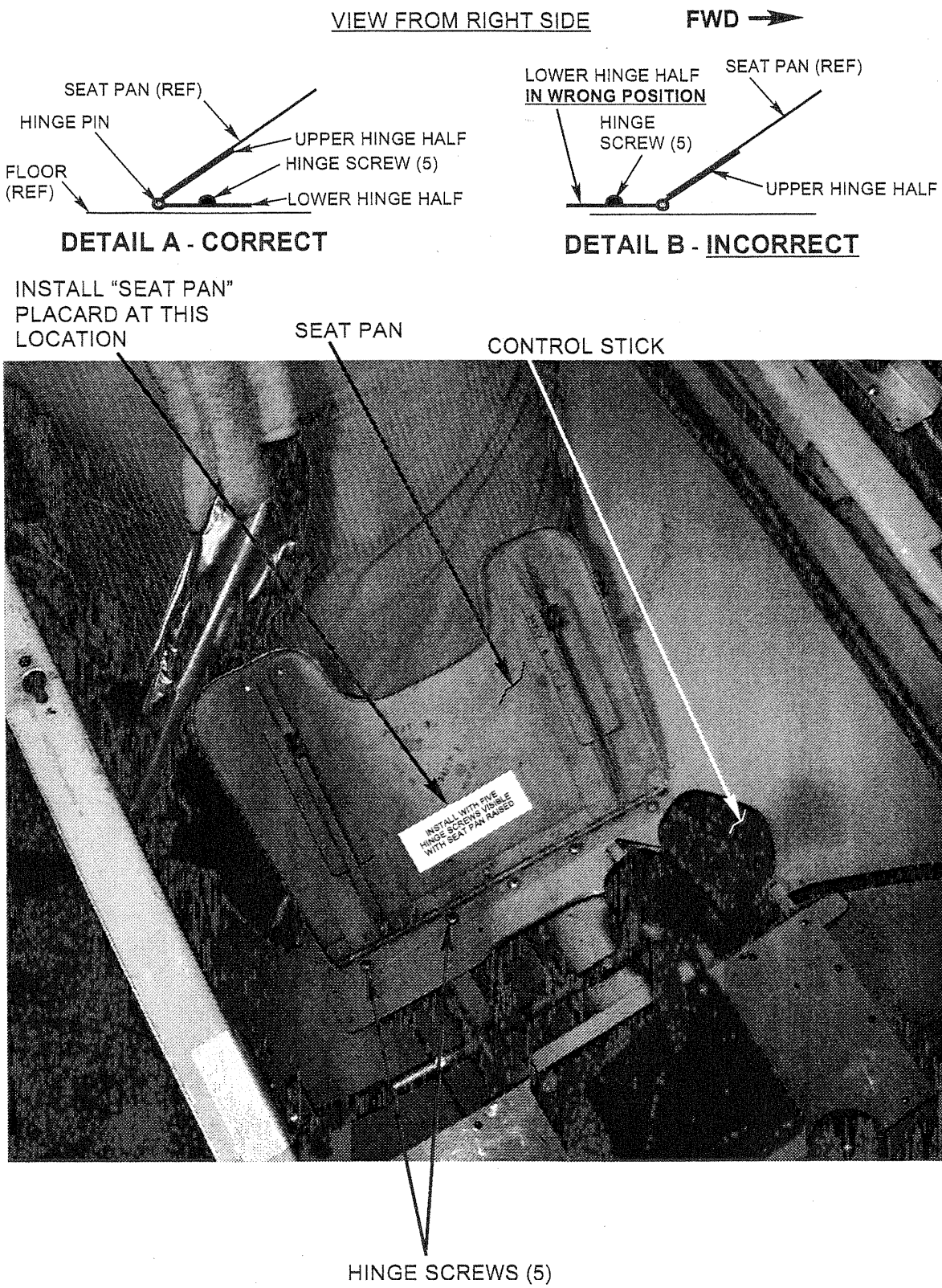


Figure SA-012-2. Seat Pan in Raised Position

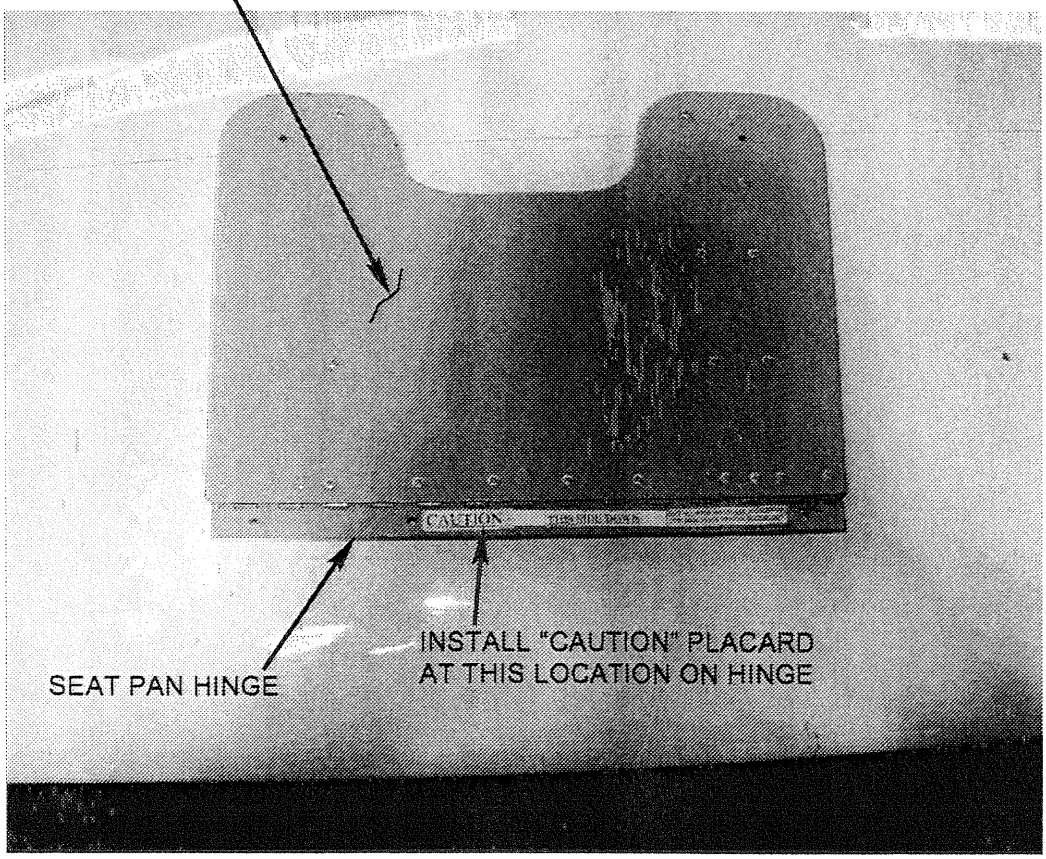
"SEAT PAN" PLACARD - CUT ON THIS LINE AND CAREFULLY REMOVE PLACARD

INSTALL WITH FIVE HINGE SCREWS VISIBLE WITH SEAT PAN RAISED

SPARE

INSTALL WITH FIVE HINGE SCREWS VISIBLE WITH SEAT PAN RAISED

SEAT PAN



CAUTION - THIS SIDE DOWN

INCORRECT INSTALLATION RESULTS IN LIMITED STICK TRAVEL AND POSSIBLE LOSS OF NOSE-UP CONTROL, AND CONTROL OF THE AIRCRAFT!

CAUTION - THIS SIDE DOWN

INCORRECT INSTALLATION RESULTS IN LIMITED STICK TRAVEL AND POSSIBLE LOSS OF NOSE-UP CONTROL, AND CONTROL OF THE AIRCRAFT!

"CAUTION" PLACARD - CUT ON THIS LINE AND CAREFULLY REMOVE PLACARD

Figure SA-012-3. Seat Pan on Work Surface

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SERVICE

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

LETTER

SERVICE LETTER SL-001

DATE: 1 June 1987

TO: All owners and operators of Schweizer Sailplanes.

SUBJECT: ANNUAL DISASSEMBLY OF AIRCRAFT.

MODELS AFFECTED: All Model SGS 1-23, SGS 1-26, SGS 2-32, and SGS 1-34 Schweizer Sailplanes.

Reports indicate that failure to disassemble the subject sailplanes periodically (removal of wings and stab) could result in corrosion buildup on the attach fittings and hardware, making disassembly difficult or even impossible without damage to the aircraft. For this reason, Schweizer Aircraft Corp. suggests that the affected sailplanes be disassembled at each 12-month calendar interval. After disassembly, inspect the wing and stab attachment fittings and trunnions for corrosion. Cleanup light corrosion with abrasive paper and wipe surfaces with a clean, soft, lint-free cloth. Apply light grease to all attaching fittings and parts. Ensure that all attaching parts are free of dirt, grit, and contamination, prior to reassembly. Failure to comply with this Service Letter could lead to a difficult-to-disassemble condition.

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
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 undesireable.

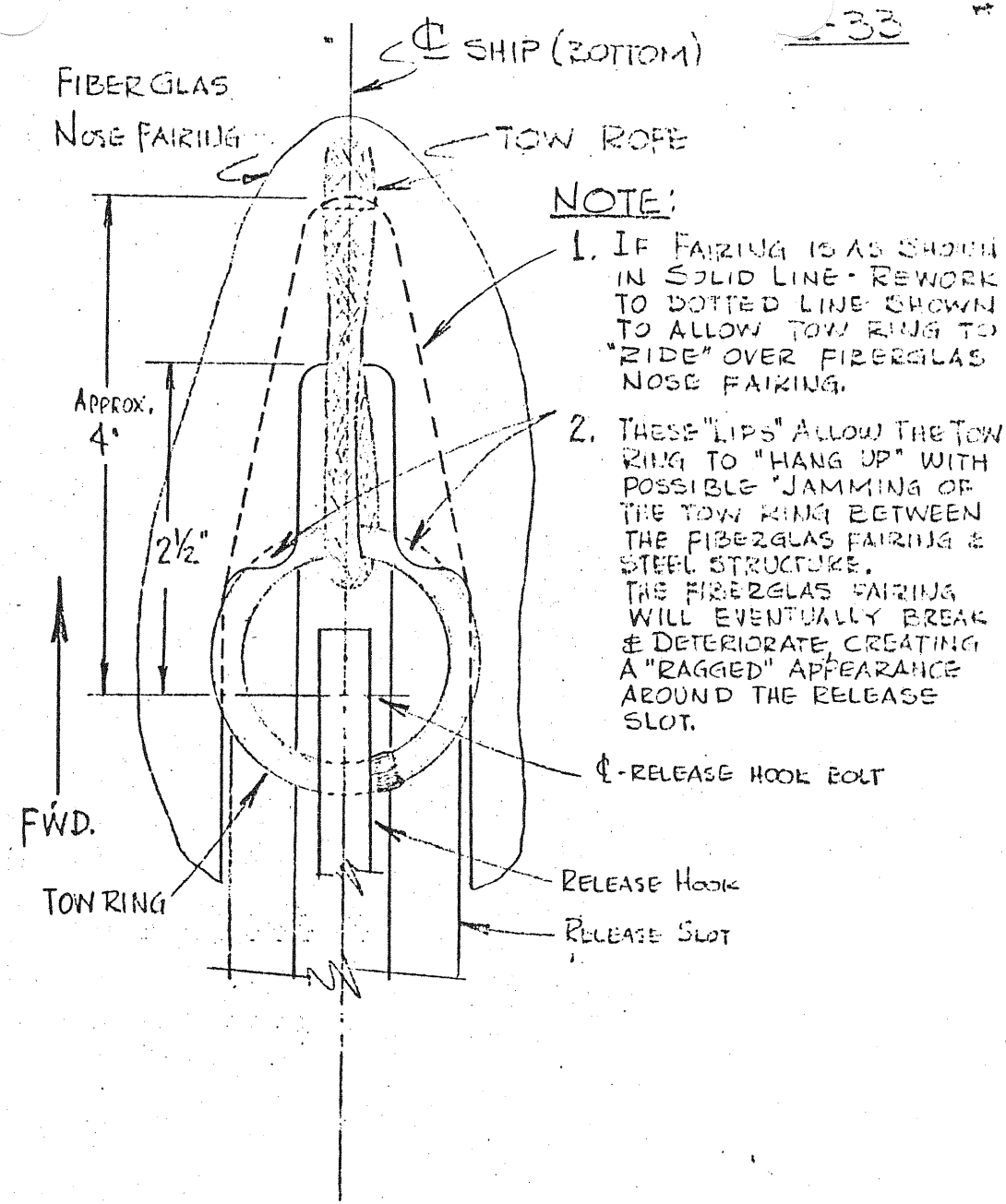
To prevent the above possibility it is recommended that the fairing opening be reworked in accordance with Schweizer sketch No. 4550A, copy of which is attached to this letter.

SCHWEIZER AIRCRAFT CORP.

Milton A. Courtright

Milton A. Courtright
Quality Control

-33



2-33 RELEASE SLOT FAIRING REWORK
DRAWN: 9-12-67 - POWELL
CHKED: 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, ($30^{\circ} \pm 2^{\circ}$) 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

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.

Schwe[illegible]rcraft Corporation
P. O. [illegible]
Elmira[illegible] York 14902

April 23, 1970

SERVICE LETTER

SERVICE LETTER NO.: SL-102-5

SUBJECT: RETRO-FIT INSTRUCTIONS FOR INSTALLATION OF 34189D DIVE BRAKE CONTROL HANDLE

MODEL: Schweizer, SGS 1-34 Sailplane

SER. NO.'s: 1 thru 18 and 21 only

Reference Drawings:

34055D Gusset - Seat Intercostal
34188G Dive Brake Handle - Installation
4762B Modification for Installation of 34188G Dive Brake Handle

Parts, Hardware, and/or Assemblies Required:

(1)	34188-3 Rub Strip	(2)	AN509-8R-10 Screw
(1)	34055-3 Gussett	(12)	AN470-AD5-4 Rivet
(1)	34192-1 Bearing } Assembled	(1)	4762B-3 Bulkhead Repair Doubler
(1)	34186-7 Bearing }	(4)	AN380-2-2 Cotter Pin
(1)	34189-1 Handle Assembly	(10)	AN960-8 Washer
(1)	34190-3 Detent	(8)	AN365-832 Nut
(2)	34190-5 Bearing Half	(1)	AN23-12 Bolt
*(1)	34191-1 Dive Brake Push Rod Assy	(1)	AN364-1032 Nut
(1)	AN960-716 Washer	(6)	AN525-8-7 Screw
(2)	AN3-16A Bolt	(5)	AN470-AD4-4 Rivet
(3)	AN960-10 Washer		
(2)	AN365-1032 Nuts		

* -7 Bushing wired in place on fixed end

Step No. 1 Ref. Drawing 34055D & 4762B

A. Wings should be removed from ship for ease of installation

B. Disconnect the present dive brake push rod from the aft (short) push rod. Retain the bolt and nut. Remove (4) screws attaching present dive brake handle support bracket assembly, remove the bracket, handle and push rod assemblies from the ship. Reinstall the two (2) screws common to the fuselage skin (add washers as required).

C. Disassemble trim mechanism on L/H side only, and remove the 34011-3 gusset that is presently attached to the seat intercostal (P/N 34010-7).

D. Cut out the 34018-3 seat bottom just outboard of the seat intercostal, to clear the 34055-3 gusset as shown on Drawing 4762B.

E. Trim off the end (lower flange only) of the 34011D-7 Channel on the bulkhead assembly per section "A" of Drawing 4762B.

F. Locate, drill and rivet (or substitute (6) AN525-8-7 screws, in place of rivets) the 34055-3 gusset to seat intercostal. The #21 (.159) rivet holes in the forward flange must be back-drilled from the existing holes in the 34011D-1 Bulkhead Assembly.

Step No. 2 Ref. Drawing 34188G

A. Install (1) AN960-716 Washer on the inboard end of the handle against the spacer tube and insert end into the 34055-3 gusset and 34192-1 bearing plate.

B. Place the two (2) 34190-5 bearing halves on the handle support end, making sure the AN960-716 washer, which is already assembled to the handle assembly, is placed between the bearing halves and the spacer tube.. Position the handle in the "closed position" against the side longeron and drill (2) No. 12 holes (.189) thru the 34011-1 bulkhead assembly, using the bearing halves as a drill guide. Install the (2) AN3-16A bolts, (2) AN960-10 washers, and (2) AN365-1032 nuts.

C. Locate the 34190-3 detent as shown on 34188G drawing, drill (2) #19 holes (.166) thru the inboard leg of longeron only. Install the detent using (2) AN509-8R screws, (2) AN960-8 washers, and (2) AN365-832 nuts.

D. Locate and bond the 34188-3 rub strip to the longeron using "Metal Set A-4", or an equivalent metal-to-metal type adhesive.

Step No. 3 Ref. Drawing 4762B

A. Remove the screw attaching the L/H seat back adjusting bar to the bulkhead angle for ease in installing bulkhead fairlead repair doubler (Ref. 4762B).

B. Remove the 34243-1 phenolic fairlead from the 34049 bulkhead and elongate the fairlead hole in bulkhead per Drawing 4762B.

C. Locate the 4762B-3 bulkhead repair doubler, drill #30 (.1285) and rivet per the drawing.

D. Position the 34243-1 fairlead as shown on 4762B drawing, drill #19 (.166) and install with screws.

E. Install the new 34191-1 dive brake push rod assembly (fixed end forward) and attach at the dive brake handle using the AN23-12 bolt (through the bushing), AN960-10 washer and AN365-1032 nut provided. The bolt should be clamped up sufficiently to prevent bushing from turning, however pushrod should move freely on bushing. Connect the push rod to the short aft pushrod using the original bolt, washer, and nut. Resafety with new AN380-2-2 cotter pin.

F. Rework seat back adjustment bar to clear bulkhead repair doubler and re-install screw.

Step No. 4

A. Install wings on ship and adjust the push rod linkage with dive brake doors in closed position.

Step No. 4 cont'd

NOTE: The control system should have a slight preload to insure proper closure of doors, and to make certain that there is sufficient pressure on the control handle lock. This can be adjusted at the aft short push rod. If dive brake doors tend to spring open at "red line" speed (135 mph), increase the preload pressure on the control system slightly. Avoid excessive pressure for ease in operation.

B. After obtaining correct adjustment of linkage, safety the push rod with the jam-nut.

C. Return the removed pushrod assembly to Schweizer Aircraft Corp.

D. Weight change for this approved modification is negligible and may be disregarded. Make the required logbook entry regarding the modification.

Installation Complete

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

June 4, 1970

SERVICE LETTER

SERVICE LETTER NO.: SL-102-6

SUBJECT: RETROFIT INSTRUCTIONS FOR INSTALLATION OF 34186H-1 ELEVATOR TRIM CONTROL

MODEL: SCHWEIZER, SGS 1-34 SAILPLANE

SER. NO'S. AFFECTED: 1 thru 7 only

Reference D

Reference Drawings:

34185D Inst'l. Sector Rod, Elev. Trim
34186H Inst'l. Control Lever Elev. Trim
34101H 2/2 "C" Control Inst'l., Fuselage
34161A 2/2 "A" Guide Tube - Bungee Trim System
34018H "D" Seat Floor, Details & Inst'l.
34010D "C" w/ECO-34-64, Shts. 1 & 2 - Bulkhead & Intercostals under Flr.
34217G w/ECO-34-53A Seat, Forward Section

The new and improved 34186H-1 elevator trim installation is designed for a quick responsive control which incorporates a friction type lock control knob, lever, and a sector assembly which acts as a guide for the lever and a means of locking the handle in any desired position. The control knob requires approximately 1/2 turn counter-clockwise to allow movement of the control handle and the same amount of turn clockwise to lock in position.

The procedures outlined for installing this trim control system are intended as an aid to the qualified person or persons performing this installation, and should in all intent and purpose conform to accepted standard aircraft procedures.

Parts, Hardware, and/or Assemblies Required:

(2)	34010D-11	Plate	(4)	AN509-8R-7 Screw
(1)	34101H-15	Spring	(2)	AN364-1032 Nut
(2)	-17	"	(6)	AN364-832 "
(1)	34185D-11	Sector Rod Weld Assy.	(4)	AN960-8L Washer
(1)	-13	Plate Weld Assy.	(2)	-8 "
(1)	34186H-5	Shaft Weld Assy.	(6)	-10 "
(2)	-7	Bearing Plate	(1)	AN470-AD4-8 Rivet
(1)	-23	"S" Hook	(8)	-AD5-5 "
(1)	-25	Shaft Extension Weld Assy.	(4)	-6 "
(1)	-27	Lever Assy.	(4)	AN426-AD5-5 "
(1)	No P/N	Cardboard Template	(32)	MS20601-AD4-W-4 Rivet (Blind)
(2)	AN3-7A	Bolt	(22)	AN426-AD4-5 Rivet
(2)	AN3-10A	Bolt	(4)	~~MS20601-AD5W-4~~ ~~Rivet~~

Step No. 1

A. Remove the present elevator trim push-pull cable assembly from ship

B. Remove the present seat adjusting mechanism from ship.

Step No. 2: (Ref. 34018H D)

A. Remove seat back by removing (4) screws in seat bottom.

B. Remove forward hinged seat assembly by removing (5) screws attaching hinge.

C. Drill out all rivets attaching seat bottom to under structure.

D. Remove the screw attaching the 34060A guide tube to the seat under structure and remove the guide assembly from ship (see Step 4A).

Step No. 3: (Ref. ECO 34-64, Sht. 1 & 2)

A. Locate, drill and rivet (or optionally use AN525-8R-6 screws, AN364-832 Nuts & AN960-8 washers) to attach the 34010D-11 plates to the 34010D-3 & -9 bulkheads per ECO.

B. Elongate the hole in the -3 & -9 bulkhead to match the .75 diameter hole in the -11 plates by using a 3/4" counterbore, by filing out, or with a rotary file bit in a drill motor.

Step. No. 4 (Ref. 34161A, Rev. A)

A. Rework the length of the 34161-1 tube assembly to the 9.00 length dimension, and replace after drilling the No. 18 (.169) attachment hole thru the 34010D-11 plate that was added in Step 3A.

Step No. 5: (Ref. 34186H)

A. Locate the 34186H-7 bearing plate to the 34011D-6 R/H bracket by using the cardboard template supplied, or layout by measurement to dimension shown on drawing.

NOTE: If installing a 34189D-1 modified dive brake installation at the same time, or already have a modified dive brake handle installed, see Service Letter SL-102-5, the -7 bearing plate will already have been installed with the new 34055D-3 Gusset which replaced the 34011D-5 Gusset originally installed on the L/H side of the cockpit.

B. Drill and rivet -7 bearing plates to bracket or brackets as noted above.

C. Install the 34186-5 and -25 shaft and shaft extension weld assemblies and bolt using appropriate hardware as called out on drawing 34186H.

D. Install -27 lever assembly on shaft and bolt as shown on above drawing.

Step No. 6: (Ref. 34185D)

A. Slide the 34185D-11 sector assembly through the clamp opening of the lever assembly and slip the -13 plate weld assembly on the end of the sector rod assembly.

B. Mark the sector rod at mid-point, center the sector rod assembly in the lever clamp and tighten the knob sufficiently to clamp the sector rod in place at the mid-point of the rod.

Step No. 6 (Con't.)

C. Move the lever assembly, with the sector rod clamping plate, to a vertical position, level across the bottom edges the -5 sector rod assembly plates and drill a No. 41 (.096) hole through the fuselage skin at both ends. Check sector assembly in place.

D. Loosen the control knob and move lever to the extreme forward and aft positions to check for proper tracking in the lever clamp bracket. Make necessary adjustment to insure proper operation of lever, drill and countersink outside skin for AN509-8R-7 screws at both ends of sector attachment plates, or, rivet the -13 plate assembly as shown on 34186H drawing.

Step No. 7 (Ref. 34101H (2/2) Rev. "C")

A. Remove and replace the (2) 34101H-17 coil springs with the two new -17 springs provided in the kit (approximately 1/2" longer). Also replace the 34101H-15 coil spring if different in length than the spring originally installed. (See 34101H "B" drawing for correct dimension).

B. Attach the 34186H-23 "S" hook to the -15 spring. Insert thru the 34161H-1 guide tube and attach other end of spring to the 34186H-19 trim control arm as shown on 34101H controls drawing. Check the system for proper operation.

Step No. 8 (Ref. 34010H "D")

A. Replace the floorboard and blind rivet in place using the MS20601-AD5W-4 rivets provided in the kit hardware, except for the (4) 5/32 diameter rivets at the intercostal intersections, for which you must change pulling head assembly to install the (4) MS20601-AD5W-4 blind 5/32 diameter rivets provided in the kit. Other rivets remain the MS-20601 rivets.

B. Reinstall seat back.

Step No. 9 (Ref. ECO 34-33)

A. Remove the (4) 34226B-3 Rachets secured by (2) AN470AD6 rivets on each side of 34217-1 forward seat assembly.

B. Locate, drill and install the (2) 34217-11 phenolic stops which will provide a fixed seat stop in lieu of the adjustable which was removed in Step No. 1 and A. above.

C. Reinstall the 34217-1 front seat section to complete the installation.

D. Weight change for the installation is negligible and may be disregarded.

Flight Test Requirements:

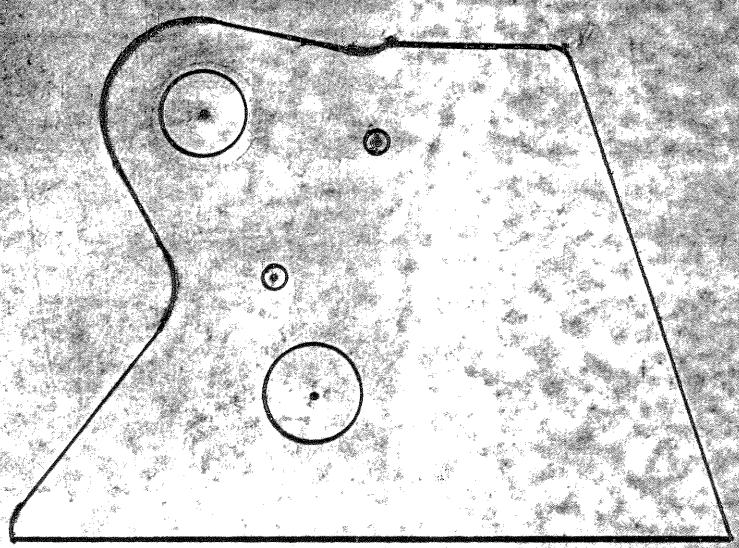
A flight test must be performed by a qualified pilot to check the proper trim speeds in the forward and aft center of gravity limits.

1. Using minimum pilot weight (aft C.G.) the ship should trim to at least 43 MPH (preferably 45-50 MPH) with the trim control in the fwd. position.

2. Using maximum pilot weight (forward C.G.) the ship should trim no faster than 55 MPH and no slower than 43 MPH with the trim control in the aft position.

NOTE: It may be necessary to temporarily add ballast to obtain the C.G. conditions referred to above.

2. If the ship does not trim within the limits outlined above, it may be necessary to decrease the length of the 34186-23 "S" Hook until the desired trim speeds are achieved or check with the factory for additional instructions.



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

Service Letter No. SL-102-7
May 24, 1971

SERVICE LETTER TO 1-23 OWNERS
Models and Ser. No.'s Affected: All

There have been two reported occurrences of vertical surface flutter in the 1-23H Sailplane. There have been no occurrences in any of the other versions of the 1-23 series to our knowledge.

In one occurrence there appeared to be a torsional flutter condition near the red line speed, but at considerable altitude. It was reported that the pilot was flying with feet off the pedals when it occurred and it stopped when the pilot got on the rudders and slowed up.

In the other case the altitude was low and the speeds in 110 mph range according to the pilot.

In both cases the pilots were able to land with no difficulty, but significant structural damage occurred on the fuselages of both aircraft.

The 1-23 series sailplanes have had a reputation for being rugged and capable of operation at high speeds. A lot of pilots, to our knowledge, have taken liberties and operated at speeds well over the red line which we do not recommend. If a flutter should occur at the speeds over the red line, it is much more likely to be catastrophic.

None of the vertical tail surfaces or horizontal tail surfaces of the 1-23 series are balanced, but they were flutter tested to ample margins over the red line. Deterioration of the condition of the aircraft can change this. Some of these aircraft are now 23 years old.

We suggest to all owners that they check the following items:

1. Check rudder hinges for excessive play. It is better to be on the tight side as long as it does not cause too much friction in operation.

2. Also check for accumulation of dust or other material in the rudder, water or ice could also be a problem. Since this mass is at the trailing edge, it changes the balance and could cause problems.

   Inspections 1. and 2. should also be carried out on the elevators.

3. It is recommended that the rear wing carry-thru fittings and bolts be checked for excessive play and corrective action taken if this is present. This situation could contribute to a flutter condition.

4. It is advisable in all cases to reduce your red line at higher altitudes. The true speed, not the indicated speed, is the critical flutter speed. There is sufficient margin in most aircraft to cover reasonable altitudes. In view the higher altitudes involved in some operations, particularly wave flying, it is advisable to avoid speeds any higher than necessary at extreme altitudes.

5. While on the subject of water and debris accumulation in aircraft, it is a good policy to check the fuselage for drainage and/or accumulation of dirt. This could cause an unexpected tail-heavy condition if not detected, or could cause a jamming condition.

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

January 20, 1972

SERVICE LETTER

SERVICE LETTER NO. SL-102-8
SUBJECT: Installation Instructions for 1/64th Oversize Main Wing Pins
MODEL: Schweizer, SGS 2-32 Sailplane
SER. NO.'s AFFECTED: All Serial Numbers

REFERENCE DRAWING: 32444B, Rev. D Main Wing Pins

TOOLS REQUIRED: Hand Reamer - 49/64 (.7656)
12" Tap Handle or a 3/4" (12 Point) Socket and 3/8 - 1/2 Drive Rachet

PARTS REQUIRED: (2) 32444B-1A Oversize Main Wing Pin (.7637 - .7645)
(2) -3A Oversize Main Wing Pin (.7637 - .7645)

INSTALLATION PROCEDURE:

1. Disassemble wings from fuselage and remove rear cockpit interior liners.

2. Ream L & R Hand Outboard Main Pin holes only in both the wing spar and fuselage carry-thru 49/64" (.7656) using a socket and ratchet. Exercise caution when reaming to prevent oversize hole as a result of reamer not being perpendicular to hole during reaming operation.

3. Assemble wings to fuselage and install oversize pins in L & R Outboard Pin locations.

4. Level wings and support each wing with an adjustable wing stand.

5. Adjust the wing stand to allow the original standard-size wing pin to be inserted freely in the inboard main pin location.

   NOTE: By applying wing pressure in an up or down motion while turning the standard wing pin within the hole, one should be able to determine the best relative position of the wing to fuselage alignment by the freedom of movement of the pin.

6. Insert shim stock between the wing spar and carry-thru to obtain a solid pack-up for clamping the wing spar and carry-thru to help prevent movement of the spar, in relation to the carry-thru, during the line-ream operation.

7. Clamp the spar and carry-thru with 2 large "C" clamps and line-ream 49/64" (.7656)

   CAUTION: Protect the carry-thru from damage from the clamp by inserting a pad to shim between the clamp screw pad and carry-thru.

8. Repeat Oper. 5, 6, & 7 for opposite hand wing.

9. Install the new wing pins, reconnect controls and perform normal inspections prior to release for flight.

OPERATION COMPLETE

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.

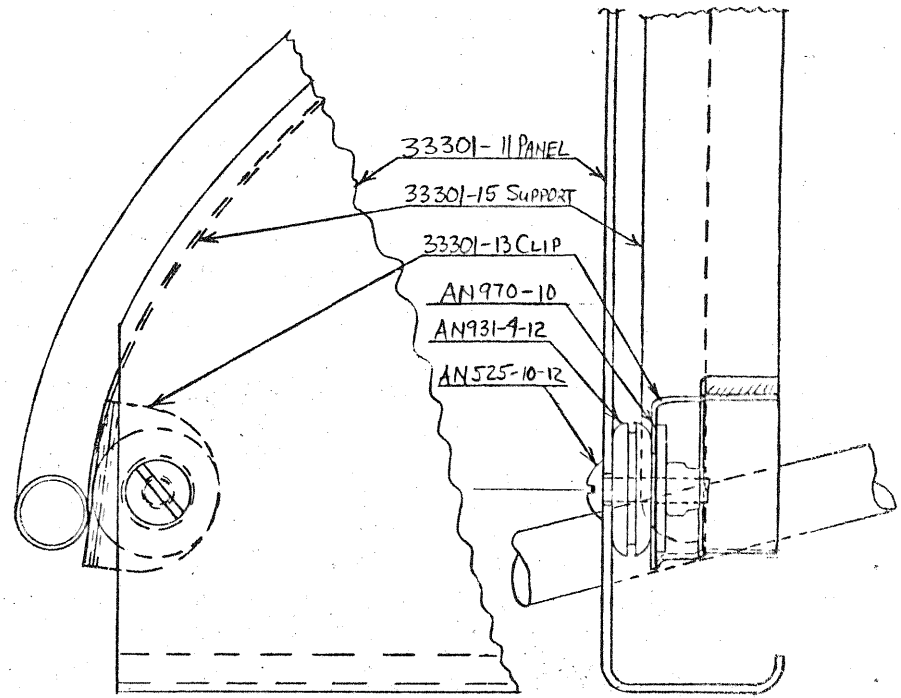
B. An alternate method which will substantially reduce the probability of an undesired release, resulting from the panel being pulled aft, may be accomplished in lieu of the method described in A. above as follows:

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 3/4 inch to ¼ inch.

Reinstall the knob and rod using the ¼ inch long bumper, reconnect the release cable to the rod and safety.

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

November 22, 1974



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

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

July 9, 1975

SERVICE LETTER

SERVICE LETTER NO. SL-102-10
SUBJECT: Flutter of Flaps at approx. 60 - 70 mph
MODEL AFFECTED: SGS 1-35, Serial No.'s 2 thru 35

There have been 2 cases of flap buzz or flutter at speeds of about 60 - 70 mph. In both cases it stopped by applying a small amount of flap, either positive or negative flap. It appears that at this speed range the flap is not subject to any damping airload at 0° flap position.

It appears from the owner's reports that the flap free play was .250 or more. This was free play with light hand pressure at trailing edge of the flap at the fuselage. More firm pressure will show more free play due to the tolerance in the fuselage flap control. To insure that the fuselage free play does not affect this, we are enclosing the attached rework Engineering Change Order No. 35-264.

Check your aircraft using the light pressure, about 2 - 3#, and if your free play exceeds .125 please advise us. If the free play approaches 3/16" do not fly until rework is accomplished per our instructions.

We have not as yet determined what is causing the free play. It may be unfavorable accumulation of tolerances or excessive wear in the system. Both aircraft mentioned above have accumulated some time but not a large amount of time.

The major sources of free play are probably the clearance in the torque tube drive at wing root, the bolt that attaches the outboard torque tube horn to the torque tube and the attachment of the push rod to the flap horn. If there is excessive play try to determine in what area it exists.

You will be advised of any mods if this proves necessary. The prototype has several hundred hours of severe use and has not shown this problem, though it shows about 3/16" free play in one wing.

Attachment: ECO 35-264

F-700 H.H.S. 10 9155-0

SCHWEIZER AIRCRAFT CORP.

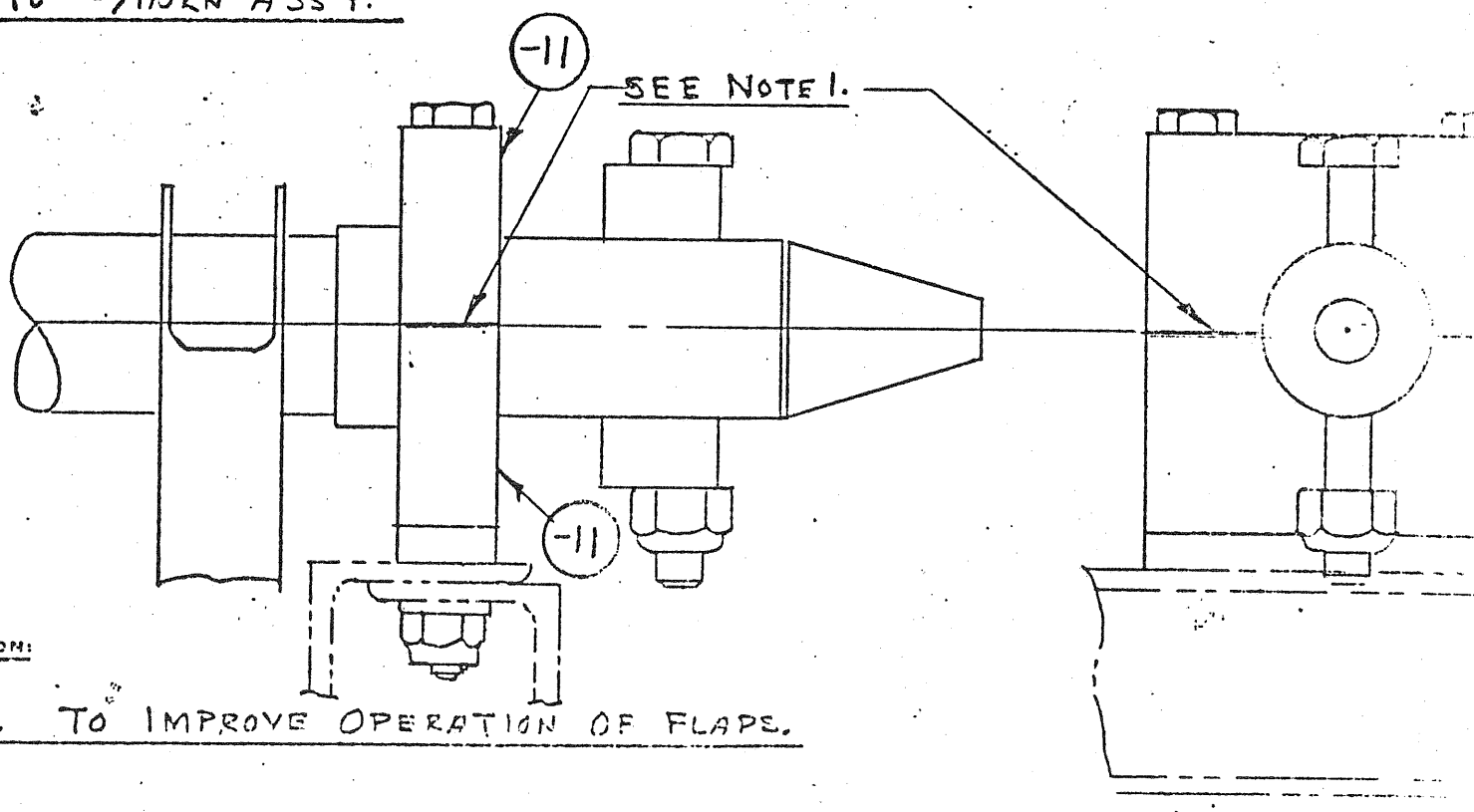
ENGINEERING CHANGE ORDER							CHG. LET.
TITLE:	FLAP TORQUE TUBE - FUSE.						
CHG. INC.		EFFECTIVITY	ALL A/C	PARTS AFFECTED	———	ECO. SERIAL	35-264
BY	A. HAUCK	CARD POSTED	7-7-75	TOOLS AFFECTED	———	D. C. R. SERIAL	———
DATE	7-7-75	CHECKED	A A L... 7/8/75	STOCK DISPOSITION	REWORK	DWG. NO.	35E206

CHANGE:

1. F/D ADD: NOTE 1.

1. WITHOUT PUSH ROD ATTACHED ADJUST (1) PAIR OF -11 BEARING BLOCKS (L.H.) TO GIVE A FRICTION TORQUE ON TORQUE TUBE OF 5 - 8 IN. LBS. -11 BLOCK MAY BE FILED LIGHTLY TO ACHIEVE THE FINAL RESULT. WING PANELS SHALL BE REMOVED WHEN DOING THIS MOD.

2. F/D. ADD: SEE NOTE 1. TO CENTERLINE OF (2) -11 BLOCKS ADJACENT TO -7 HORN ASS'Y.



REASON:

1. - 2. TO IMPROVE OPERATION OF FLAPS.

Attachment to Service Letter SL-102-10

Schweizer Aircraft Corporation
P.O. Box 147, Elmira, N.Y. 14902

December 9, 1976

To: SGS 1-35 Owners

Subject: SERVICE LETTER NO. SL-102-11

Effectivity: SGS 1-35, Ser. No's 1 through 69

We are happy to report that, with over 70 1-35's flying, the operational experience with them has been very good.

We have, however, had two reported cases where, due to the use of heavy clothing, and/or accidentally striking the conopy latch, the 1-35's lost their canopies, although the ships landed without any other damage. In order to minimize this possibility, we have designed a simple guard which can be added to the two latches. We are sending a Kit, at no cost, to all owners who will be responsible to accomplish this. The details on installation of these guards follows:

CANOPY LATCH GUARD INSTALLATION

1) Center the dimple on face of 35249B-3 Guard with the center pivot bolt of L.H. Canopy Latch as shown on Engineering Change Order No. 35-322, against the 35245R Drawing. Be sure bottom edge of quard is parallel with edge of canopy frame.
2) Drill aft hole first, picking up *existing hole in canopy frame as shown in E.C.O. (Use drill bit sharpened for plastic materials). Drill new hole fwd. of latch where shown on print, being certain that fwd. latch rod will clear the spacer, when installed, through open-and-close operating range.

   Notes: *a. Some early 1-35's will not have the existing screw holes in the canopy frame fwd. of the latches. In this case, simply position guard as instructed in (1), and drill holes where they are shown on the E.C.O. No. 35-322.

2) Notes: Cont'd.
   b. Prior to installing the guards, it is recommended that the nut on each latch pivot-bolt be torqued at 10-15 inch-lbs. to provide a firm, but smooth-working, drag on the latch handle operation.
3) Carefully countersink newly-drilled hole(s) on outside of canopy frame to sufficient depth (.320 - .330 diameter) for flush fit of AN509-8-27 screws, provided in kit.
4) Remove the existing screw (if a later model) from fwd. hole and install AN509-8-27's provided in kit through fwd and aft holes.
5) Install 35249-5 spacer, -3 guard, AN960-8 washer and 22 NKTE -82 cap nut as shown on drawing.
6) Repeat above procedure with -4 guard and remaining hdw. in kit on right-hand latch.

If any problems, give us a call (607) 739-3821

KIT LIST OF PARTS AND HARDWARE

1	35249B-3	Guard
1	35249B-4	Guard
4	35249B-5	Spacer
4	AN509-8-27	Screw
4	AN960-8	Washer
4	22NKTE-82	Cap Nut-Red Nylon

DRAWING INFORMATION

1 (Attached)	E.C.O. No. 35-322	Canopy Assembly

SCHWEIZER AIRCRAFT CORP.

ENGINEERING CHANGE ORDER							CHG. LET.	
TITLE: CANOPY ASSEMBLY								
INC	BY		EFFECTIVITY	#-70 UP	PART AFFECTED	YES	ECO. SERIAL	35-322
ECO	BY	A.HAUCK	CARD POSTED	11-17-76	TOOLS AFFECTED	YES	D.C.R. SERIAL	———
DATE		11-17-76	CHECKED	[illegible] 11/17/76	STOCK DISPOSITION		DWG. NO.	35245R

1. B/M, ADD TO -1 COLUMN

CHANGE:

(27) ZZNKTM-8Z CAP NUT-RED NYLON
(4) AN509-8-27 SCREW
(4) 352498-5 SPACER
(1) 352498-9 GUARD
(1) 352498-3 GUARD

(A/C #70 & UP)

2. B/M, RE: AN960-8 WASHER CH'G QUAN. FROM: (13) TO: (15)
AN509-8R10 SCREW CH'G QUAN ~~(10)~~ (8)
AN365-832 NUT ~~(DELETE)~~ (NEVER USED)

LOCATE GUARD, DRILL #17 (.173) MTG HOLES BY DRILLING THRU HOLES IN FRAME.

3. F/D ADD:
VIEW "F-F"

(ON L.H. INST'L 35266A-1 KNOB IS ON O.B. SIDE OF 35249B-3 HANDLE)

(2) AN509-8-27
(2) AN960-8
(2) ZZNKTE-8Z CAP NUT

35249B-3 GUARD

#17 (.173) HOLE

EXISTING HOLE

.86

2.38

1.25 (REF)

(2) 35249B-5

REASON:

VIEW "F-F" (LATCH GUARD INST'L) (A/C #70 & UP)
(L.H. SIDE SH'N) (SHOULD BE RETROFITTED
(R.H. SIDE OPP.) ON A/C #1 THRU #65)

1. & 2. BRING B/M UP TO DATE.

3. GUARD REQ'D TO PREVENT ACCIDENTAL OPENING OF CANOPY.

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.

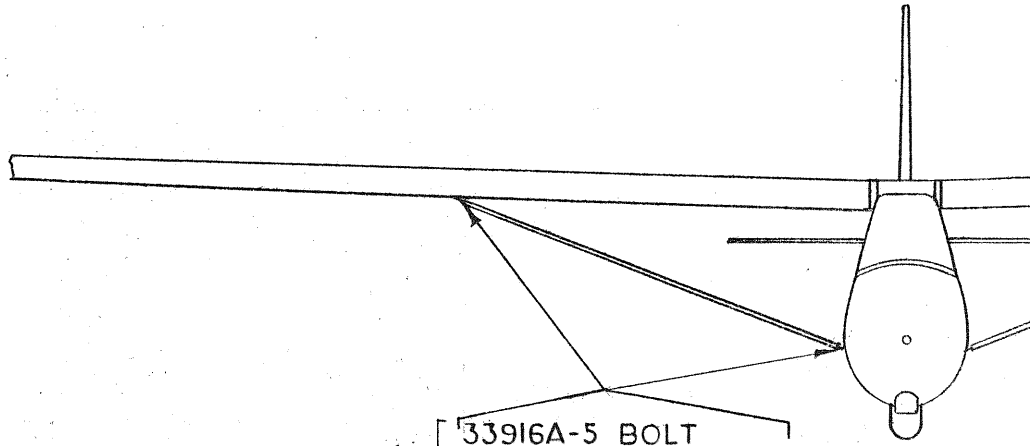
The order of the numbered options shown may not be applicable for all operators because of certain operating conditions, such as -

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-1 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-1 SAFETY PIN

1
- 33428B-1 BOLT
- 33428B-3 COLLAR
- AN310-5 NUT
- LSP-1 SAFETY PIN

OPTIONS ARE NUMBERED IN ORDER OF PREFERENCE

Schweizer Aircraft Corp.
Elmira, New York 14902

SL-102-13
Feb. 11, 1978

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

Schweizer Aircraft Corp.
Elmira, New York 14902

SL-102-14
Aug. 21, 1978

SERVICE LETTER

Service Letter No. SL-102-14
Model/Ser. No's Affected: SGS 1-26E, Ser. No's 500 and up
Subject: Seat-Back Adjustment vs C.G. Aft Limit

It has come to our attention that certain seat-back adjustments on the SGS 1-26E might result in a condition of the sailplane aft CG limit being exceeded, with a pilot at, or near, the minimum-pilot-weight.

The seat back on the model SGS 1-26E is ground-adjustable only, at both top and bottom. The adjustment was provided for accomodation of large-frame pilots and to allow the use of a back-pack parachute or back cushion.

While it is difficult to foretell the actual center of gravity of a given pilot - considering body structure, height and development - it must be noted that, in some combinations of pilot configuration and seat-back location, an adverse effect on the flight C.G. (aft limit) could occur. This would most likely be that of a tall, slender pilot having adjusted the seat-back to the most aft position, rather than adjusting the rudder pedals to the forward position.

Without the back cushion, or parachute, the C.G. of a minimum-weight pilot would move significantly aft, which would appreciably increase the minimum pilot-weight requirement.

For this reason, a pilot near the minimum pilot-weight should extend the rudder pedal adjustment to the forward position rather than adjusting the seat-back aft. The most effective method to avoid skirting the aft C.G. limit, however, is the use of the manufacturer's removable ballast weight.

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

NOTE:

It is recommended that this service letter be inserted in the Sailplane Flight Manual - attached to page 23.

Schweizer Aircraft Corp.
Elmira, New York 14902

SL-102-15
October 27, 1981

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

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

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.

Schweizer Aircraft Corp.
Elmira, New York 14902

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 ¼-28 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.

Part No.	Part Name	Req'd per wing
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 mfgr'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.

Schweizer Aircraft Corp.
Elmira, New York 14902

July 14, 1983

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 occured 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 reoccuring.

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.

Schweizer Aircraft Corp.
Elmira, New York 14902

July 14, 1983

SERVICE LETTER NO. SL-102-18

MODEL: SGS 2-33, A, AK

SER. NO.'S: 1 through 568 (excluding S/N's 539 - 541)

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SCHWEIZER AIRCRAFT CORPORATION

October 28, 1947
SGU 2-22

SERVICE BULLETIN NO. 100

The short aileron control push rods have been found to be subject to handling and wind damage. To avoid any dangerous conditions from this, the following instructions should be observed.

(1) The push rod should be installed so that the adjustable clevis end is at the bell crank in the wing rather than at the aileron horn, if this has not already been done.

(2) If the ship is tied down or otherwise subject to strong wind or gusts on the ground, suitable aileron chocks should be used.

(3) In the normal pre-flight check the condition of this push rod should be checked. Any threaded ends that are bent should be replaced.

Observance of these rules should eliminate any problems from normal conditions. Additional bulletins will be sent to cover modification if they are found to be necessary.

Ernest Schweizer
Chief Engineer

SCHWEIZER AIRCRAFT CORPORATION

June 9, 1949
SGU 2-22

SERVICE BULLETIN NO. 101

Supplementing our Bulletin No. 100. It has been found that it is desirable to replace the adjustable end of the short aileron push rod 19B-120-9A by a fixed end. It has been found that visual inspection in the aircraft is not entirely satisfactory in detecting cracks due to service or handling damage.

(1) It is recommended that these ends be replaced immediately to SAC Drawing 22A-132. SAC will furnish Part 22B-131-4 or will rework the rods at no charge if they are returned to the factory.

(2) It is important that all brass be removed from the rod before attempting to weld in the replacement end. This should be done by properly qualified personnel.

(3) If it is so desired a complete new rod can be furnished.

Ernest Schweizer
Chief Engineer

102-23-1
6/2/59

102-23-1

SCHWEIZER AIRCRAFT SERVICE BULLETIN NO. 2

Model SGS 1-23D, F & G Serial No's 25-29 and 31-44

A case of spoiler control jamming has occurred on a 1-23G caused by excessive clearance between spacer block and spoiler control pulley just aft of main wing bulkhead fuselage, Sta. 76, near bottom of fuselage. This condition may exist in any of the above aircraft. The jamming has occurred only once and should not occur under normal conditions, but all aircraft should be checked and the correction below applied to eliminate this possibility. See Fig. I.

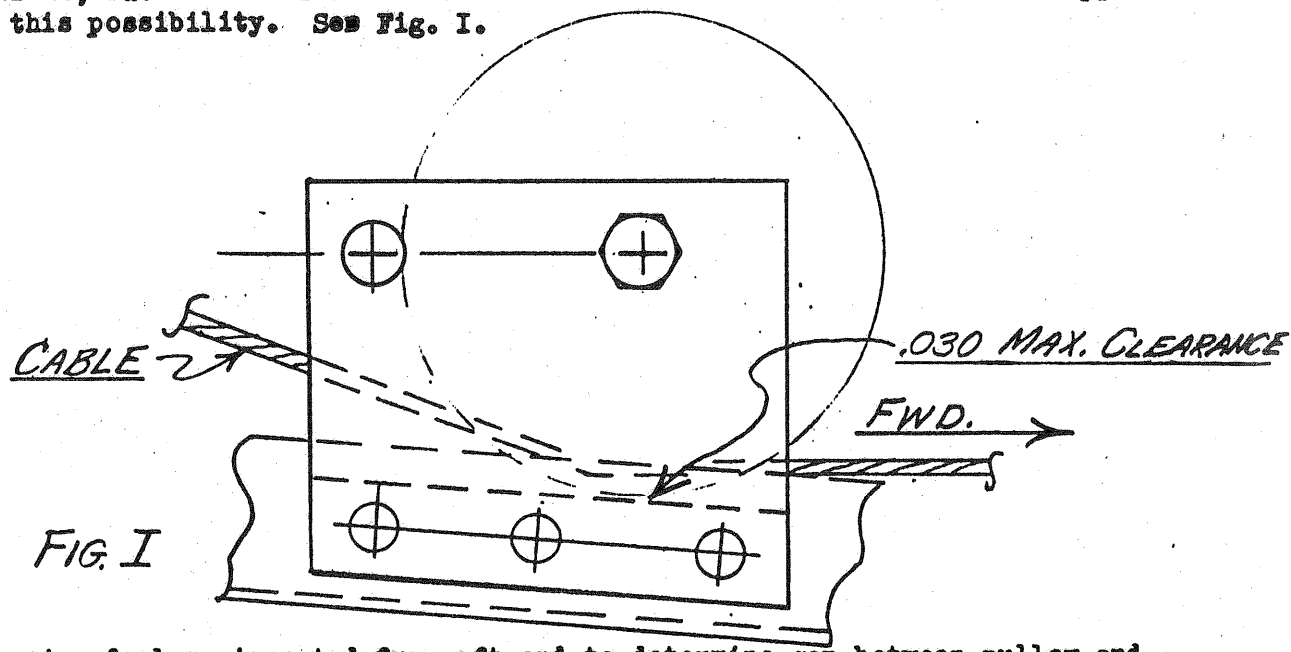


FIG. I

Check by using feelers inserted from aft end to determine gap between pulley and 23D117-2 block. If this exceeds .030, correction should be made as follows:

(1) Schweizer Aircraft Corp. can furnish an oversize blank 23D117-2 replacement which can be installed to bring the clearance between .010 to .030. Since this is difficult to do in the field due to the confined space, the alternate method No. 2 may be used.

(2) A spacer can be inserted as shown in Fig. II.

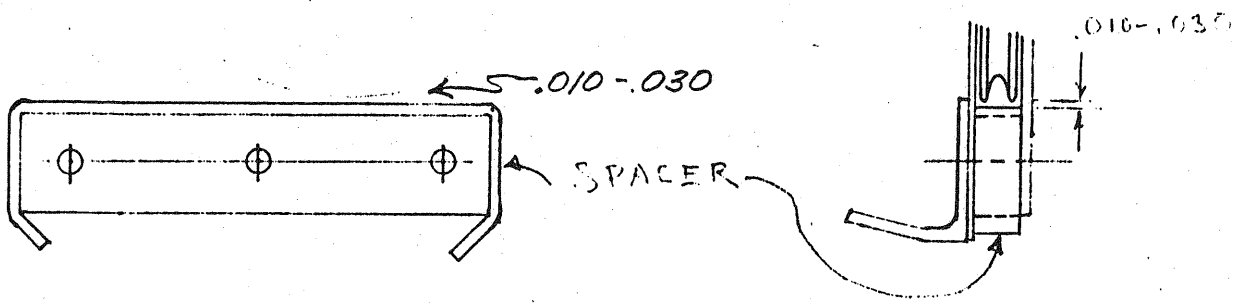


FIG. II

This spacer is made of soft aluminum sheet 3S½H, 32S0, 24S0, etc. 5/16" wide.

Schweizer Aircraft Service Bulletin No. ~~XXXX~~ 102-23-1.

(a) Form hook from Spacer stock as in Fig. III.

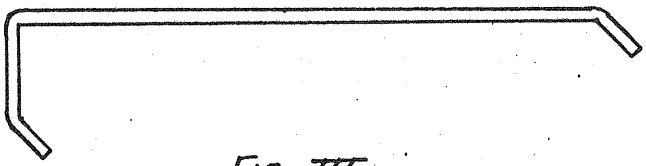


FIG. III

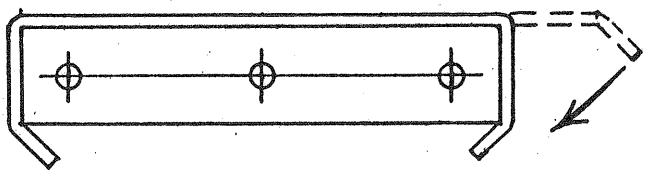


FIG. IV

(b) Remove pulley and insert hooked spacer over forward end of block 23D117-2 and form spacer as shown in Fig. IV. The forward end of hook should fit snuggly over the block before forming the aft end into place. When the spacer is securely in place, recheck for gap with feelers to see that gap does not exceed .030, and reinstall and safety, cable and pulley.

Minimum thickness of spacer should be .040 and maximum thickness is .093. Width of spacer should full 5/16" so that there is no excessive gap at the edges.

If more than .093 is required, use a flat strip 5/16" wide between the space and the block as shown in Fig. V.

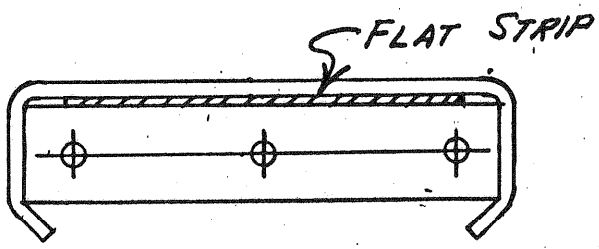


FIG. V

Schweizer Aircraft Corp. will furnish the spacers on request specifying the thickness required.

Please acknowledge receipt of this on enclosed Post Card as soon as possible.

SCHWEIZER AIRCRAFT CORPORATION
ELMIRA, NEW YORK
6/2/59

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

June 29, 1971

SERVICE BULLETIN NO. 102-23-2

SUBJECT: Fin and Rudder Lower Hinge - Excessive Wear
MODELS AFFECTED: SGS 1-23H and H15
SERIAL NO.'s " : 45 thru 75
REFERENCE : Schweizer Service Letter No. SL-102-7, 5/24/71

This Service Bulletin is to advise owners that tail flutter has been experienced on aircraft which were found to have excessive lower rudder-hinge wear. Compliance with the following is required within the next 25 hours of operation or the next 100 hour inspection, whichever is sooner, and at each Annual Inspection thereafter.

A. Inspection

1. Remove the rudder cable and hinge bolts and remove the rudder from the aircraft.

2. Solvent-clean the hinge lugs and hinge bolts.

3. Using a ball gage and micrometers check the lower hinge holes and bolt for size or elongation.

4. The maximum useable diameter, or elongation of the hinge holes (fin or rudder) is .252.

B. Repair Methods

1. In cases where the hole size is .250 - .252, the simplest repair is replacement of the hinge bolt with a high-limit (.249) AN4-12 bolt, or, a close-tolerance AN-174-12 bolt (.2487 - .2492 dia.).

2. Holes with a diameter or elongation greater than .252 may be repaired by enlarging the bolt holes in both the aluminum rudder hinge (23H704-11 & -17 horn and doubler) and the steel fin hinge (23H705-21) and installing an AN5-12 bolt with AN310-5 nut and cotter pin. The final hole size can best be obtained by first drilling with "N" (.302) drill and final ream, using a standard 5/16 jobbers reamer with an .005 - .007 lead. The final hole size shall be checked and found to be not greater than .3120.

3. An alternate method of repair is to replace the lower (steel) fin hinge fitting (P/N 23H705-21) with a new part. In the aluminum rudder hinge, enlarge the hinge bolt hole to .3735 - .3740 diameter. Press in a 7/16 to 1/2" long steel bushing having an .0010 to .0015 interference fit. Final ream the installed bushing to .248 - .249 I.D. to accept a new AN4-12 bolt. A bushing may be procured from Schweizer Aircraft Corp. for this application, (Drawing 7016A).

C. Reassemble the rudder on the aircraft and apply a small amount of dry-type lubricant to the hinge bolts. It is also recommended that a new AN4-22 bolt be installed at the upper hinge location.

NOTES:
1. To preclude possibility of change of the rudder balance, check drain holes in the lower rudder rib to assure that water is not entrapped.

2. The above repair methods are also acceptable for repair of other models of the SGS 1-23 series.

SCHWEIZER AIRCRAFT CORP.

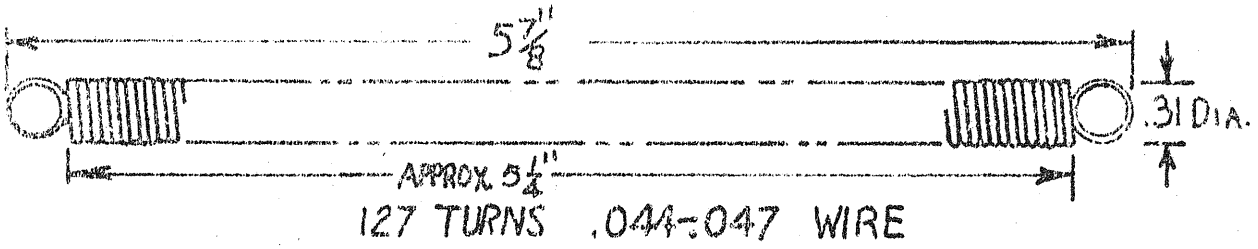
Milton A. Courtright

102-26-1

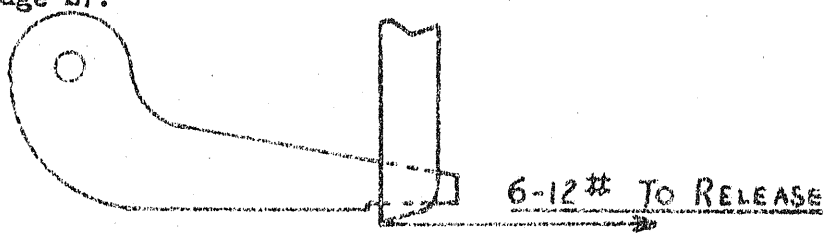
Service Bulletin No. 1

SGS 1-26, A, B, C

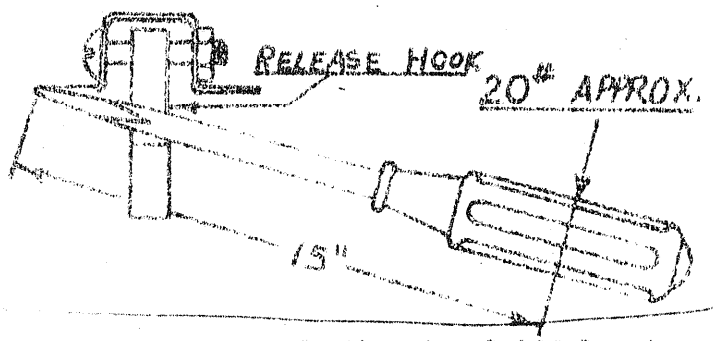
1. There are three alternate springs used in the 1-26 tow release mechanism. From field reports from owners, it appears there are cases of excessively high release operating loads. We have run tests and have determined that the best spring is our No. 1A113-1 shown below.



All 1-26's should be equipped with this spring. The installation should be checked by pulling on the release arm just below the hook with a small spring scale. This should require from 6-12 lbs. pressure to release. **(See note on page 2).**



The force required at the release control should be moderate. Check your control system if you feel the operating force is excessive. An additional check which is used at the factory is to operate the release while load is applied at the hook. This is done by applying pressure with a large screw driver or small bar (see sketch). Pilot should be able to release under this condition--it will, however, take more force.



ADD THIS ITEM TO 1-26 MANUAL. PG IV-10.3

If you have another type of spring in your ship than the 1A113-1, please advise us and we will ship one at no charge.

An alternate release system using cable and pulleys is now available which we have had approved for sale. Write for price and details.

Service Bulletin No. 1 (cont'd.)

2. The use of adequate tow rings also affects the safety of operation. We have a report from one group who experienced several release jams. Investigation showed this to be caused by the use of an oval ring which was also used on DVL type release. We recommend the use of a 2" OD ring made of 1/4" round rod--preferably alloy steel. These are available from Schweizer Aircraft if you wish to purchase them. Soft harness rings will elongate and possibly cause jamming and should be avoided. A slightly heavier ring 5/16 x 2 to 2-1/2 OD will also work and can be made of softer steel.

The release mechanism and rings are very important to safety--do not use makeshifts. If you are using a very strong tow cable as on winches, use a safety link of 5/16" or 3/8" single manilla rope. (Use correct rings.) The only other known case of release jamming on a Schweizer tow hook occurred when a crewman hooked a small DVL ring on a TG-2 hook. The winch surge locked the ring on the hook making it impossible to release. The pilot realized that the line had not been released and made a safe landing by spiraling down around the winch.

In the interest of all 1-26 owners, we appreciate prompt reporting of any operating difficulty that you encounter.

Yours for more safe Soaring,

SCHWEIZER AIRCRAFT CORPORATION

Ernest Schweizer
Chief Engineer

ES/ach

Note: The only condition at which the higher release arm pressure is desireable is in aero tow in turbulent air such as in wave flying where the glider may overtake the tow line and cause inadvertent release. The heavier springs may be used for such conditions as long as the operating loads are satisfactory. If the pulley type release control is used, this will be quite satisfactory.

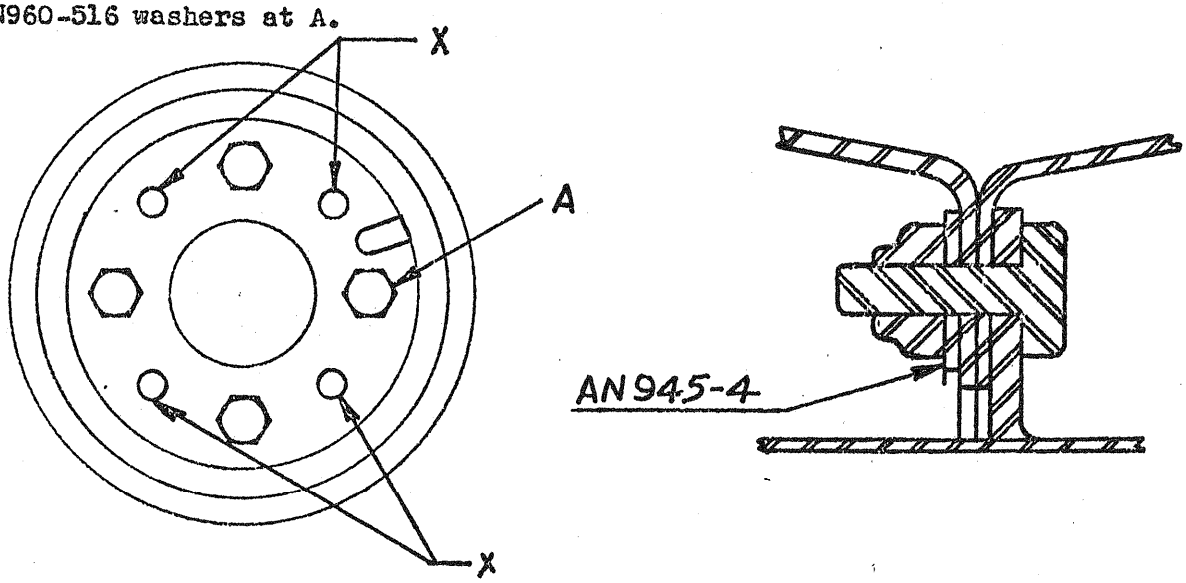
CHG. TEXT IN 1-26 MANUAL TO REFLECT THE DWG CHG ON THIS. WORK

Service Bulletin No. 2

SGS 1-26, A, B, C

A few failures have occurred in the field to the 1-26 Wheel Assembly--26B201. This failure has occurred in the stamped flange at the edge of the bolt heads. To eliminate this condition, the following procedure should be used. This is not a safety of flight item, but it will eliminate the possibility of a wheel failure. The change is being incorporated in new production 1-26 sailplanes.

Procedure: Take the wheel assembly out of the ship and drill thru the four holes at X that do not have bolts with a 5/16" drill, install an AN 5-6A bolt, AN945 washer, and AN365-524 nut. Then remove the original four bolts and reinstall with AN945-4 washers. Note that all bolts will be installed with the washer between the nut and the wheel flange. (See sketch below). The one bolt next to the valve stem does not have room for the AN945 washer. On this bolt use one of the existing AN960-516 washers at A.



We are furnishing the following items to complete this modification--4 AN5-6A, 7 AN945-4, 4 AN365-5.

SCHWEIZER AIRCRAFT CORPORATION

Ernest Schweizer
Chief Engineer

ES/ach

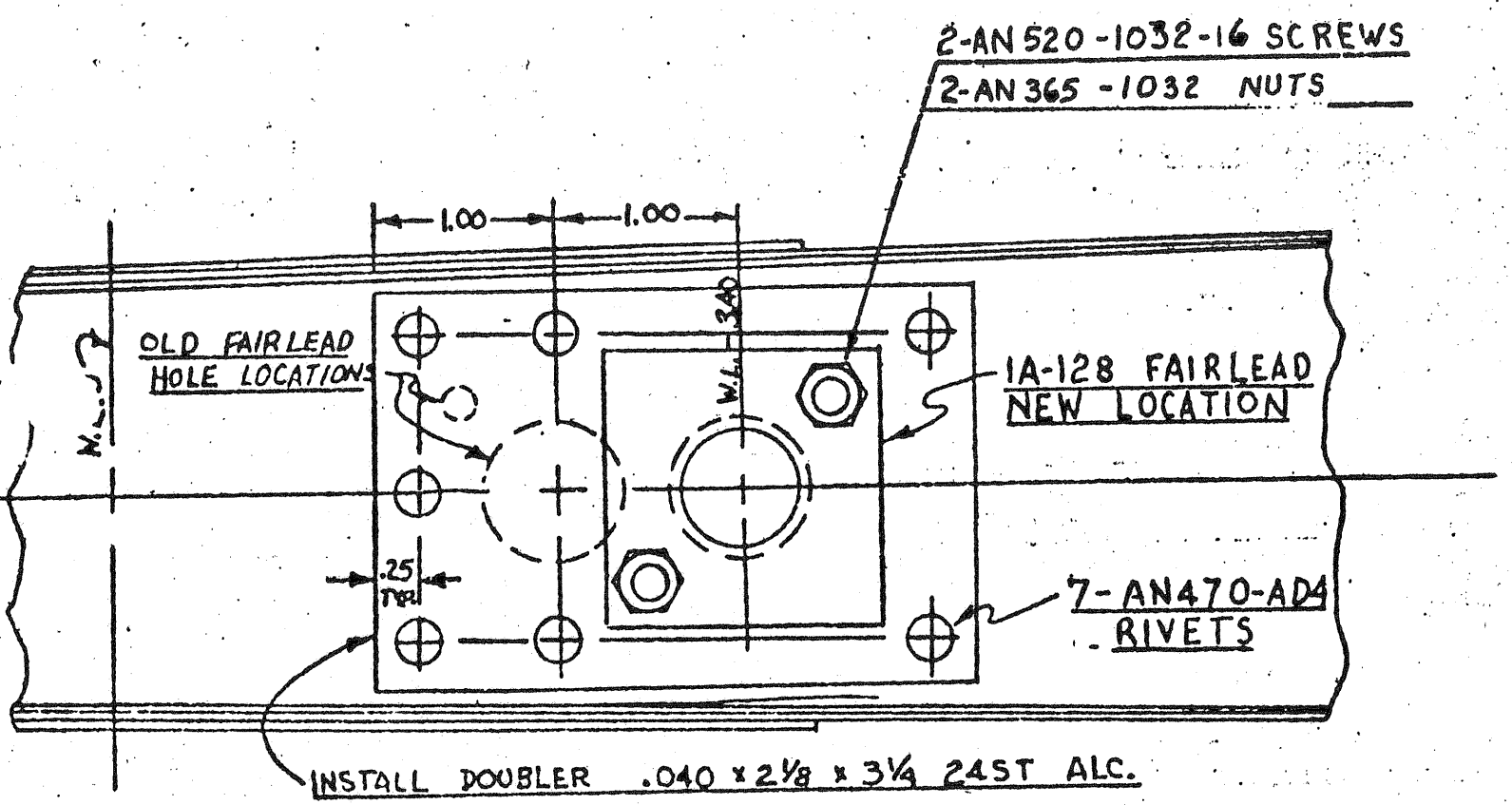
SCHWEIZER AIRCRAFT CORP., ELMIRA, N. Y.

Service Bulletin No. 102-26-3

SGS 1-26, A, B, C

A condition has been discovered which could cause excessive wear on the 26B120-2A Elevator Control Cable at the 1A-128 Fairlead on the Fin Spar. This wear would be induced by the location of the 1A-128 Fairlead at W.L.--2.40. This condition exists on all ships to and including Ship No. 75.

The condition noted may be eliminated by relocation of the 1A-128 Fairlead to W.L. 3.40 according to the attached sketch. Material kits for this work are available upon request.



We recommend the accomplishment of this relocation at the earliest convenience and thorough inspection of the area and parts for indications of wear, each 25 hours until the relocation is made.

SCHWEIZER AIRCRAFT CORPORATION

W.H. McClure

Warren H. McClure
Quality Control Supervisor
January 3, 1958

WHM/mch

Schweizer Aircraft Corporation
Elmira, New York

August 17, 1962

SERVICE BULLETIN NO. 102-26-4

SGS 1-26 SEAT BACK

There have been cases reported where the seat back, which is held at the bottom end by aluminum clips, has disengaged and moved back suddently. This is disconcerting to the pilot and could cause loss of control at a critical flight condition.

It is recommended that as a routine preflight check that this seat back be checked to see that it is secure in its normal position. If the clips, 26D-315-4 are distorted, they should be reworked or replaced. If they are reworked, check carefully for cracks. An alternate design is being investigated and you will be advised if this becomes available.

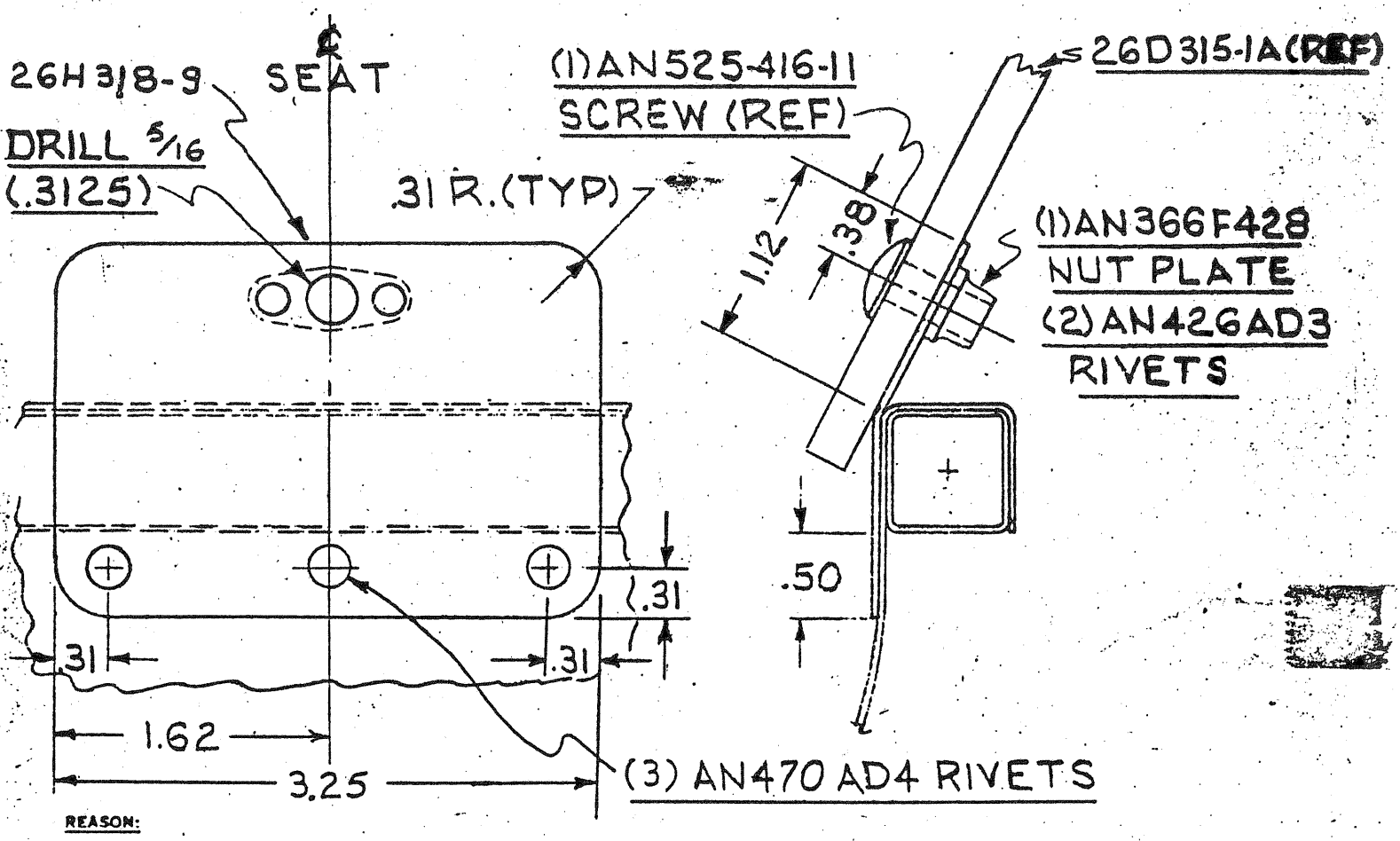
As an additional precaution, E.C.O. 26-259 is enclosed. Installation of this is optional, and we will furnish at no charge the necessary parts if you request them.

Ernest Schweizer,
Chief Engineer

SCHWEIZER AIRCRAFT CORP.

ENGINEERING CHANGE ORDER							CHG. LET.	
TITLE:	SEAT BOTTOM							
CHG. INC.		EFFECTIVITY	OPT	PARTS AFFECTED		ECO. SERIAL	26-259	
BY	W.E.F.	CARD POSTED	7.20.62	TOOLS AFFECTED		D.C.R. SERIAL	—	
DATE	7.20.62	CHECKED	ES 7/15/62 KEV ES 9/10/62	STOCK DISPOSITION	—	DWG. NO.	26H-318	

CHANGE: 1. ADD ATTACH PLATE TO SEAT AS SHN.
MAKE FROM .040 2024-T3 ALC



REASON:

1. TO PROVIDE ADDITIONAL ATTACHMENT FOR SEAT BACK.

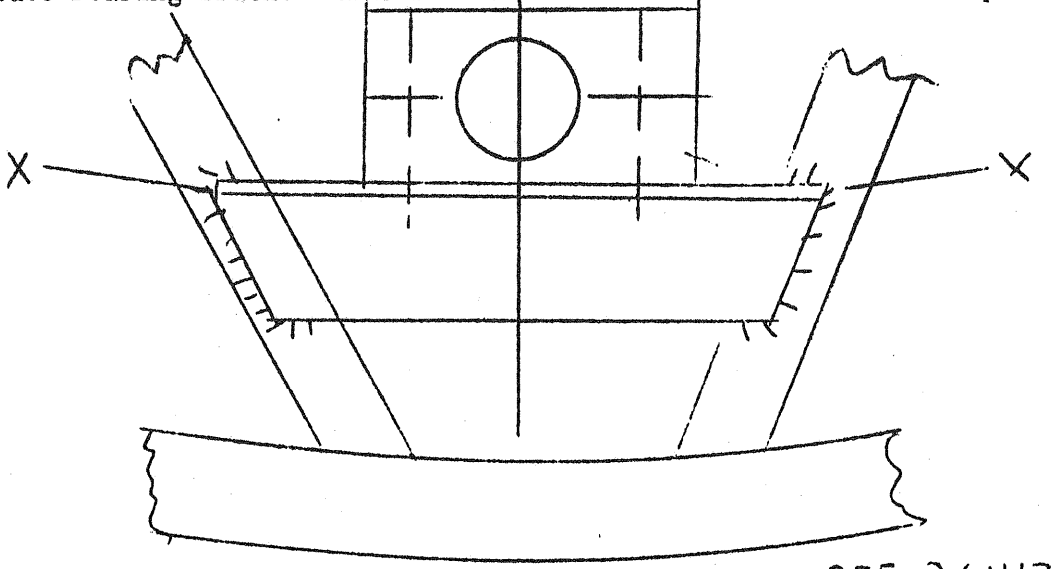
Schweizer Aircraft Corporation
P.O. Box 147
Elmira, New York 14902

August 20, 1965

SERVICE BULLETIN NO. 102-26-5

Models S.G.S. 1-26, A, B, C

We have a field report of a weld failure at the forward Control Torque Tube Bearing Bracket marked "X". Effective Serial No. 2 and up.



REF 2GH136

While we believe this to be an isolated case, we feel that this point should be checked before flight by all owners. It is readily accessible for inspection. If any cracks are found, please advise us.

SCHWEIZER AIRCRAFT CORPORATION

Milton A. Courtright

Milton A. Courtright,
Quality Control Supv.

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

December 30, 1968

SERVICE BULLETIN NO. 102-26-6

Model Affected: SGS 1-26D
Serial No.'s Affected: 404 through 409

It has been established that several SGS 1-26D fuselage frames were built with the rudder cable fairlead bracket, R. H., welded to the upper cross member, P/N 26H001-14 at fuselage Station 194.25, rather than to the R. H. vertical member as per drawing.

This put the fairlead location approximately 1.0 high and 3/4 inboard of its proper location. This mislocation raises the right hand rudder cable enough to rub slightly on the upper horizontal diagonal tube, P/N 26H001-13 located between the upper R. H. cluster at Fuselage Sta. 194.25 and the upper L. H. cluster at Fuselage Sta. 216.0.

Correction of the rudder cable rubbing on the listed ships can be corrected by the installation of a rudder cable guard installed per Schweizer Drawing No. 4656D.

A standard hand-hole, with reinforcing ring (P/N 1A903-1) and cover (P/N 1B913-1), may be installed in R. H. fuselage fabric at approximate Station 200.0, W. L. -2.50, to facilitate installation of the guard.

Materials for this installation will be furnished upon request without charge. Mail requests to Schweizer Aircraft Corporation, P. O. Box 147, Elmira, New York 14902. Mention Service Bulletin 102-26-6 and the affected ship serial number, or registration number, in your request.

This Service Bulletin should be accomplished at the next 100-Hour Inspection or at the next Annual Inspection, whichever shall occur first.

SCHWEIZER AIRCRAFT CORPORATION

Milton A. Courtright

Milton A. Courtright,
Quality Control Supv.

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SCHWEIZER AIRCRAFT CORP.
P. O. Box 147
Elmira, New York 14902

February 11, 1971

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 occured 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

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

December 18, 1975

SERVICE BULLETIN NO. 102-26-8

SUBJECT: Inspection of Control Stick Pivot Bolt

MODELS AFFECTED: SGS 1-26D & E

SERIAL NO.'s AFFECTED: (D Model) 400 thru 481
(E Model) 500 thru 642

TIME OF COMPLIANCE: Within 10 Hours Flight Time

It has been determined that an incorrect length bolt has been installed on some SGS 1-26D and E Models at the attachment of the control-stick-yoke weldment to the aileron control torque tube.

The correct bolt, as specified on drawings, is AN6-21.

INSPECTION: On ships having the (optional) aft floorboard and stick boot, it will be necessary to remove this.

1. Scale-measure the length of the bolt installed. If the length of the bolt, from beneath the head to the end, is 2.20 no further action is required, other than a logbook entry of compliance.
2. Should the bolt be shorter than the 2.20 length -
   a. Remove the bolt.
   b. Reinstall the yoke on the torque tube using an AN6-21 bolt (2.20 long, with 1-9/16 grip) using (2) AN960-616 Washers under the nut and safety. Replace stick boot, as applicable.
   c. Check the side-play at the top of the control stick.
      If 1/8" or less, the installation is satisfactory.
      If greater than 1/8", contact Schweizer Aircraft Corp. for method of repair.

SCHWEIZER AIRCRAFT CORP.

SERVICE

BULLETIN NO. SA-102-33-1.2*
DATE: January 18, 2021

BULLETIN

* 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 COMPLAINCE:

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, teat 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)**

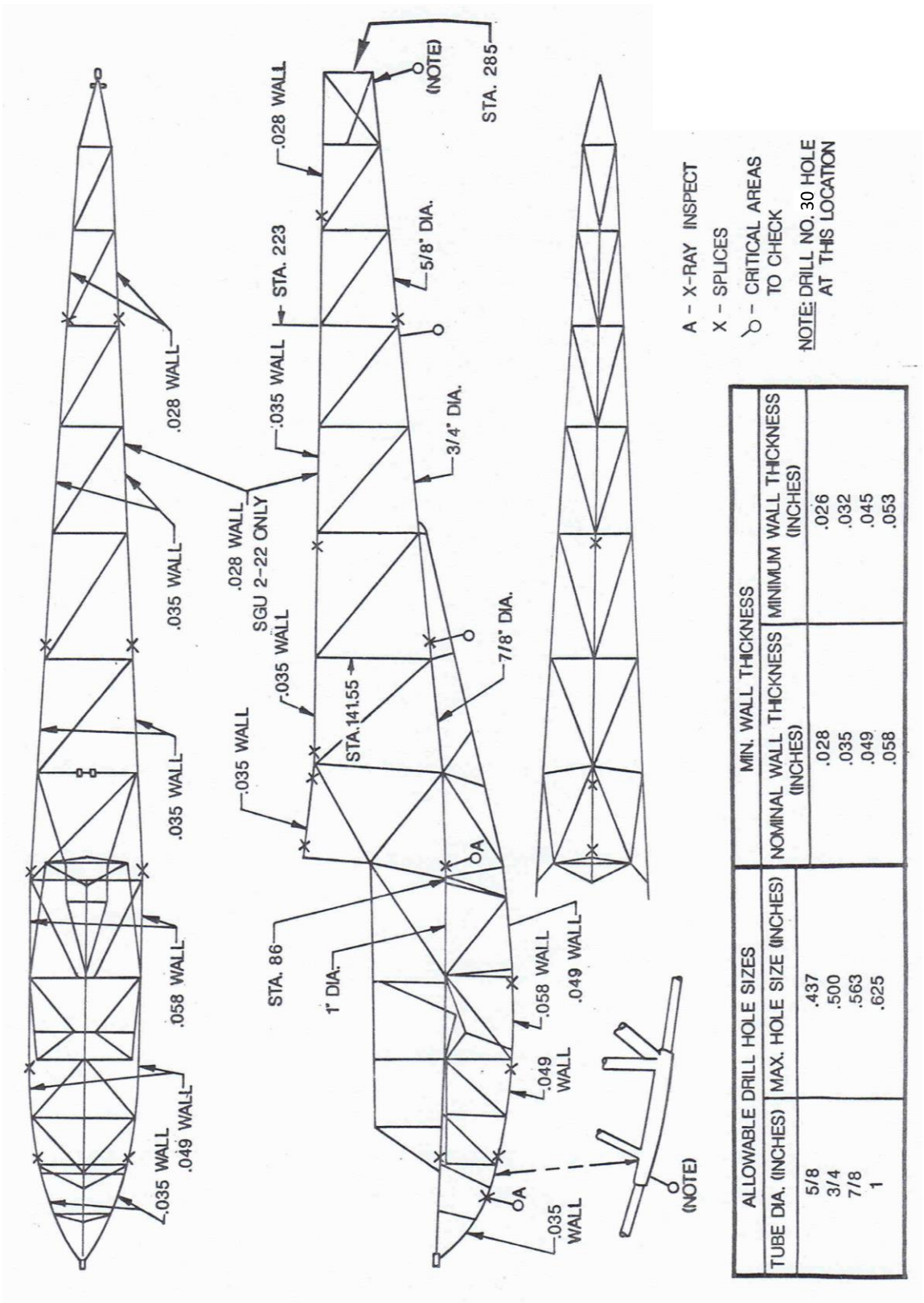
B. If water drains from plugs perform pressure check of fuselage.

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



ALLOWABLE DRILL HOLE SIZES		MIN. WALL THICKNESS	
TUBE DIA. (INCHES)	MAX. HOLE SIZE (INCHES)	NOMINAL WALL THICKNESS (INCHES)	MINIMUM WALL THICKNESS (INCHES)
5/8	.437	.028	.026
3/4	.500	.035	.032
7/8	.563	.049	.045
1	.625	.058	.053

Figure 1 - Tube Dimension and Minimum Wall Thickness

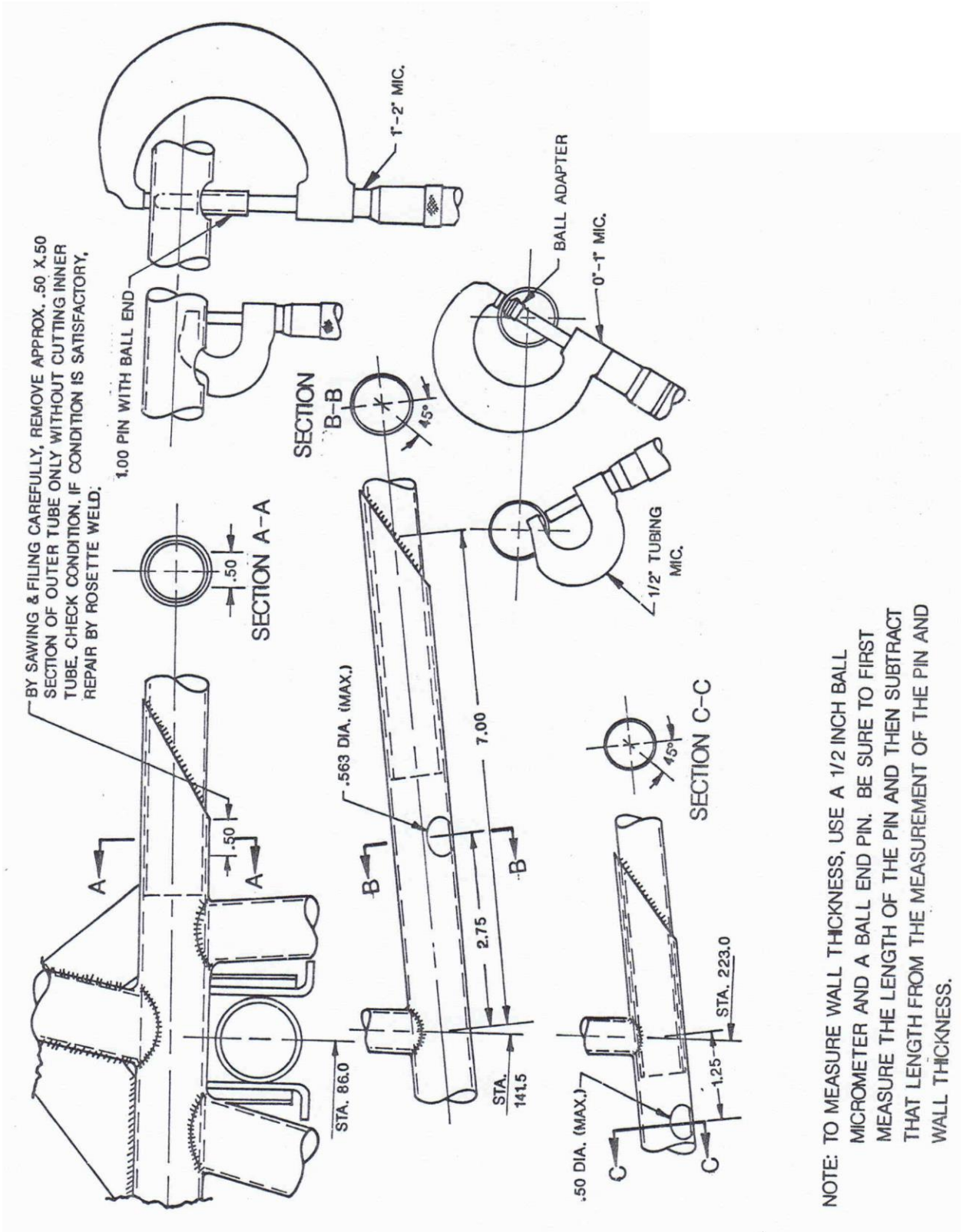


Figure 2 - Measuring of Tube Wall Thickness

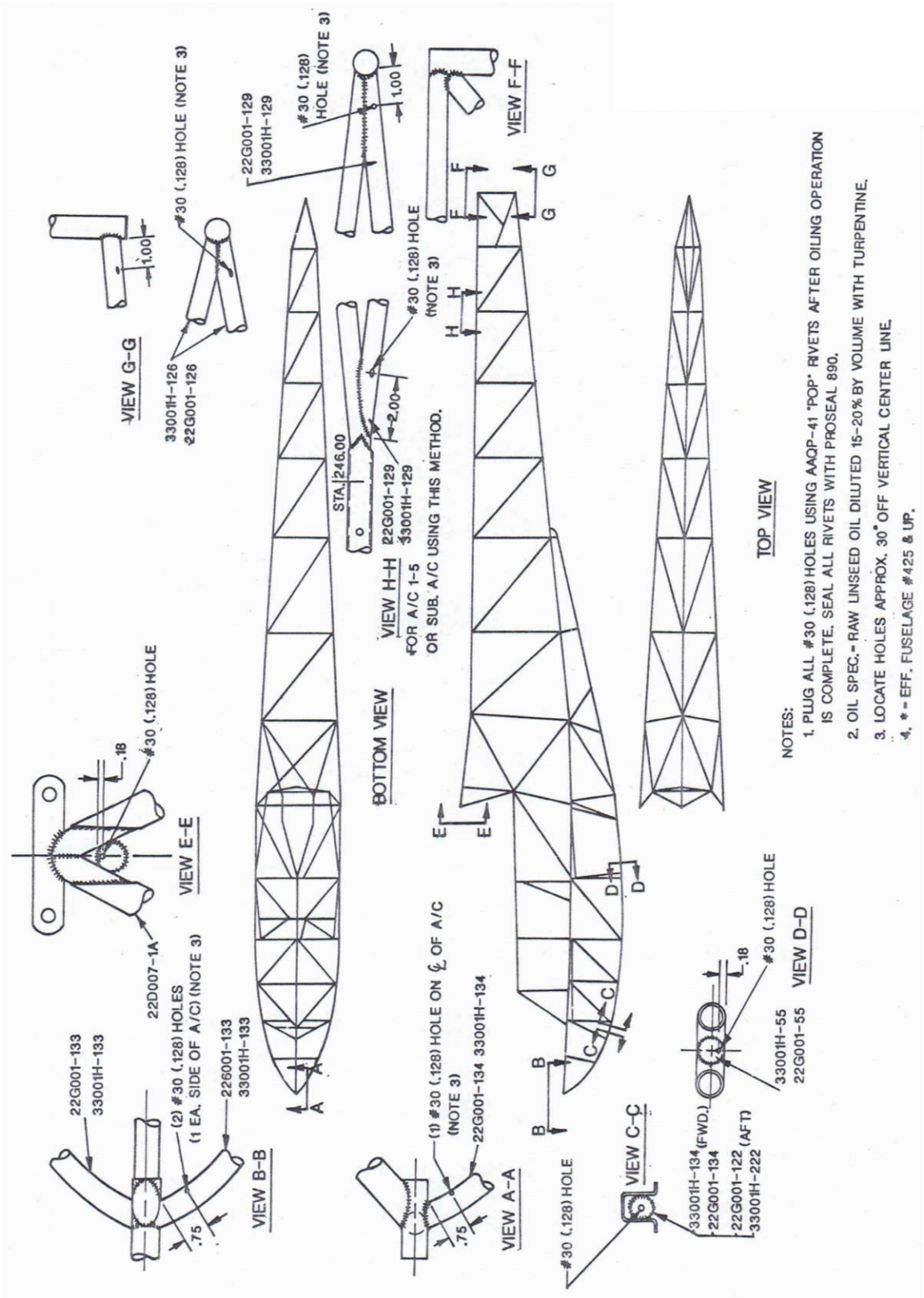


Figure 3 - Anti-Corrosion Treatment

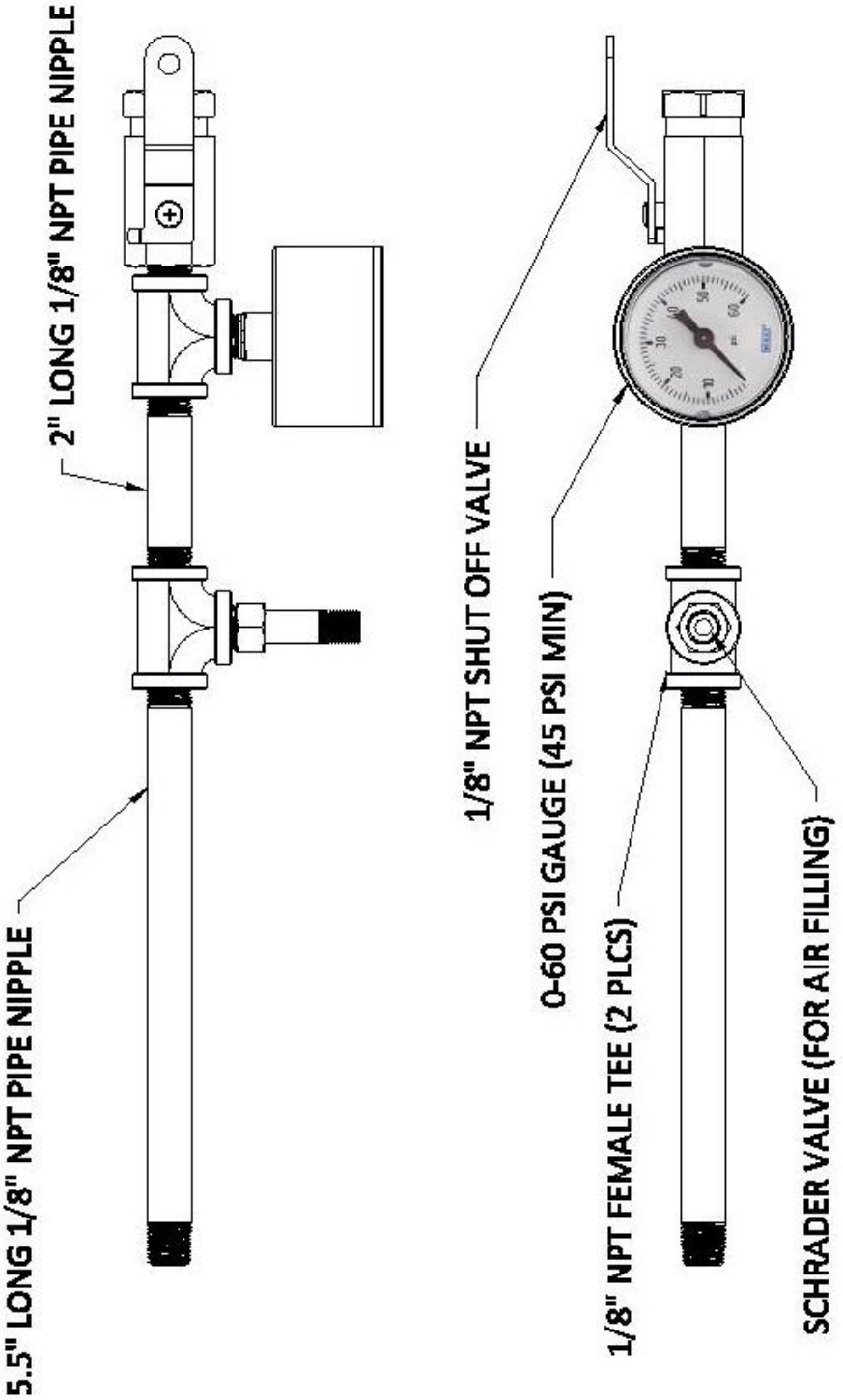


Figure 4 – Pressure Check Gauge

Schweizer Aircraft Corp.
Elmira, New York 14902

September 2, 1977
Rev. March 17, 1978

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 Paragragh 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 -

ES:mab

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"