

PUBLICATION INDEX FOR SGS 1-34



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PUBLICATION INDEX

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REVISION PAGE

Change Description	Revision Date
Publication Issuance	15 Feb 2010
Revised to Change to SA-001.6 from SA-001.5	20 June 2010

1-34 Publication List

Publication No.	Title	Date Issued	Revised/ Reissued
SSP-PH-5	SGS 1-34 and 1-34R Flight – Erection – Maintenance Manual	Jan 1970	April 1972

Note: The following list provides a complete catalog of publications available to support all models of the 1-34 Sailplane.

1-34 Service Bulletin Index

Number	Subject	Revision Date
SA-001.6	Inspection of Tow Release Assembly	29 Dec 2009
SA-003	Aerobatics in Schweizer Sailplane	25 Mar 1987
SA-005.1	Identification and Possible Replacement of Tow Release Arm	31 Jan 1988
SA-012	One-Time Inspection of Seat Pan Installation	25 Sep 2003

1-34 Service Letter Index

Number	Subject	Revision Date
SL-102-5	Retro-fit Instructions for Installation of 34189D Dive Brake Control Handle	23 Apr 1970
SL-102-6	Trim Control	01 Jun 1970
SL-001	Annual Disassembly of Aircraft	01 Jun 1987

SERVICE

BULLETIN NO. SA-001.6*

DATE: Dec 29, 2009

PAGE: 1 of 13

* Supersedes Service Bulletin

No. SA-001.5, Dated Oct 16, 2009

BULLETIN

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 COMPLAINT:

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

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

PART III: Shall be accomplished at each Preflight inspection

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

BULLETIN NO. SA-001.6*

DATE: Dec 29, 2009

PAGE: 2 of 13

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

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

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

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

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

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

PROCEDURE

NOTE

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

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

TABLE 1 - ACCEPTABLE TOW HOOK / RELEASE ARM COMBINATIONS

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 or replace unserviceable component(s), as required
- l. Record compliance with Part I of this Service Bulletin in Aircraft Log Book.

PART II – DAILY INSPECTION OF TOW RELEASE ASSEMBLY.

PROCEDURE

NOTE

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

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

CAUTION

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

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

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

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

PART III – PREFLIGHT INSPECTION OF TOW RELEASE ASSEMBLY.

PROCEDURE

NOTE

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

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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.

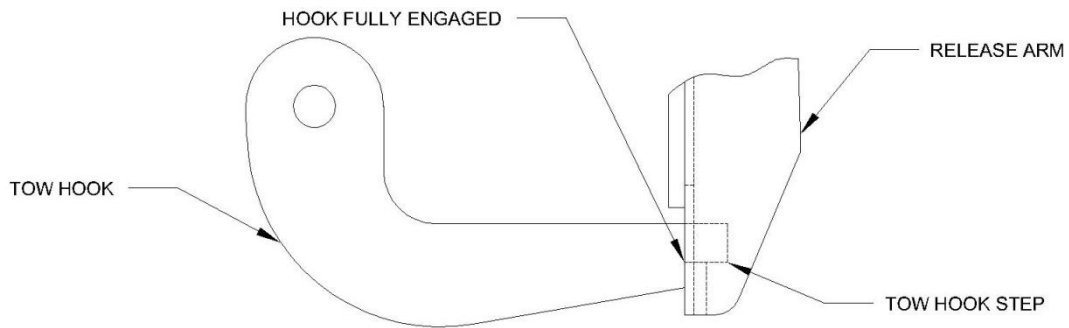
CAUTION

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

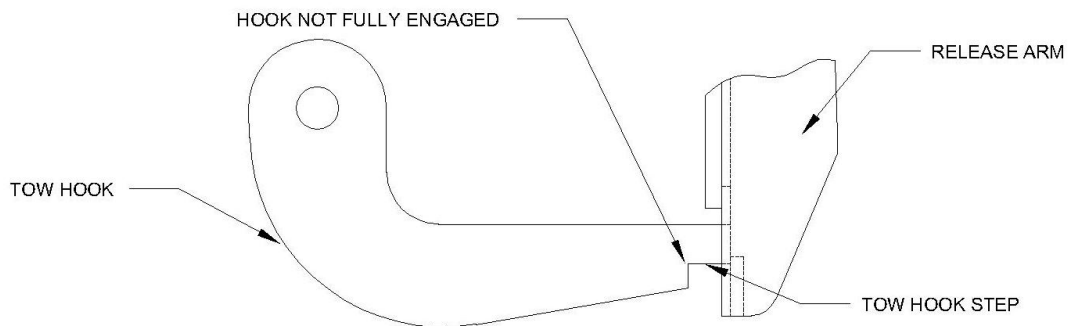
- b. If defects are noted, repair or replace faulty component (s).
- c. Record compliance with Part IV of this Service Bulletin in Aircraft Log Book

WEIGHT & BALANCE DATA

Weight & Balance not affected.



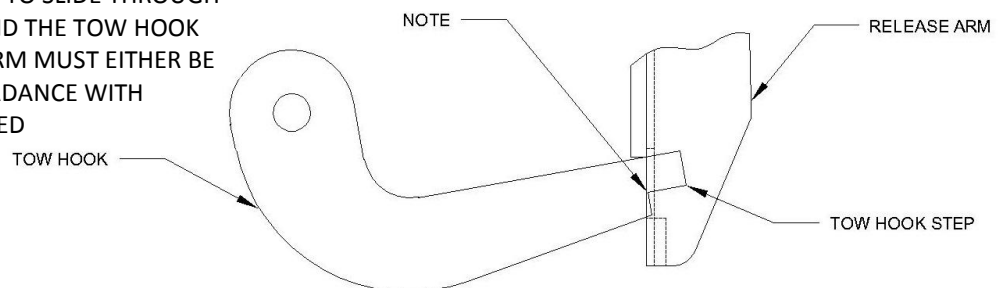
VIEW A – PROPER ENGAGEMENT



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

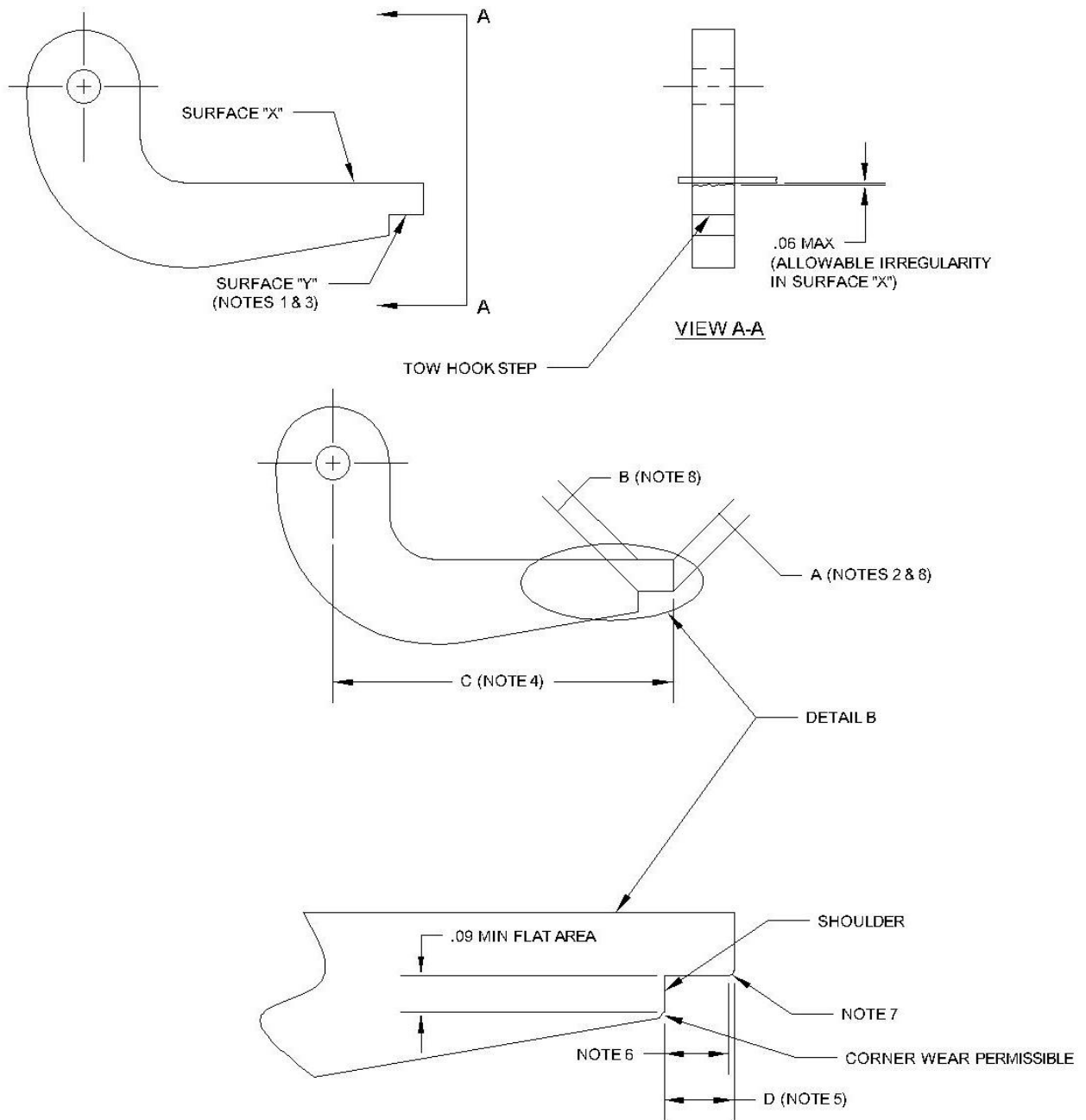


FIGURE 2 – TOW HOOK INSPECTION AND REWORK (SHEET 1 OF 2)

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DATE: Dec 29, 2009

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NOTES:

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

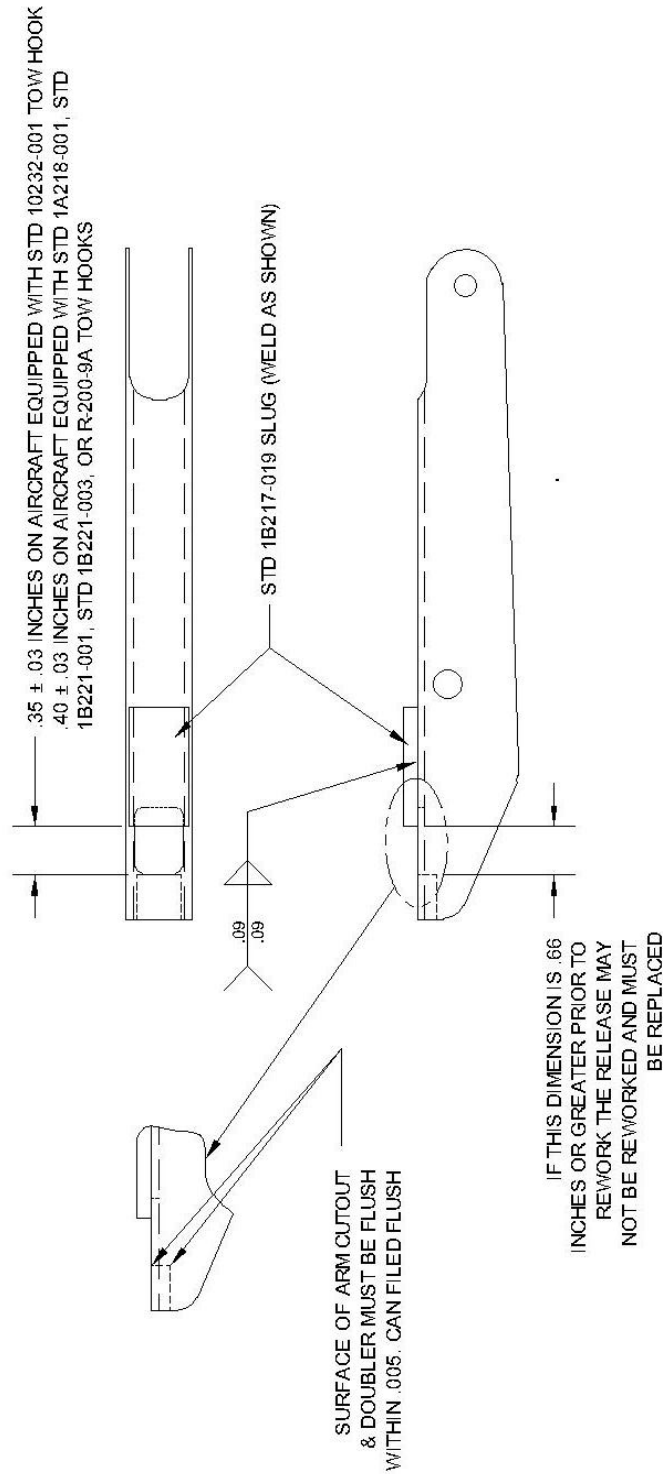
FIGURE 2 – TOW HOOK INSPECTION AND REWORK (SHEET 2 OF 2)

BULLETIN NO. SA-001.6*

DATE: Dec 29, 2009

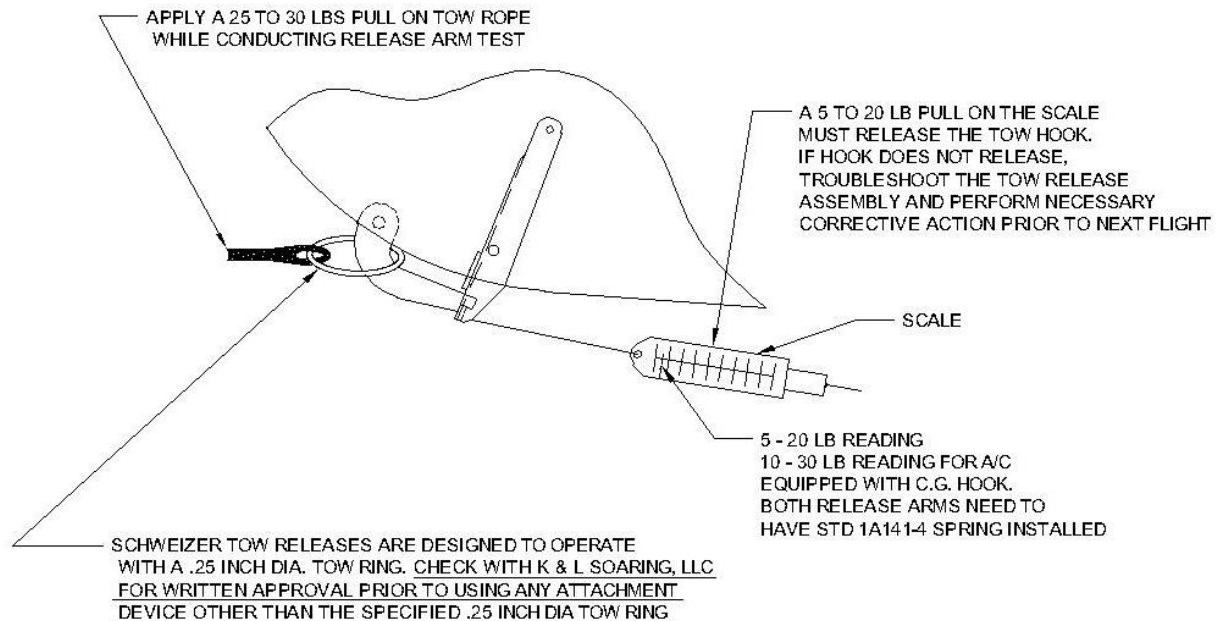
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NOTE: STD 1B217-019 SLUG IS AVAILABLE FROM K & L SOARING, LLC
0.125 X 0.5 X 1.0 4130N STEEL



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

FIGURE 3 - REWORK OF RELEASE ARM



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

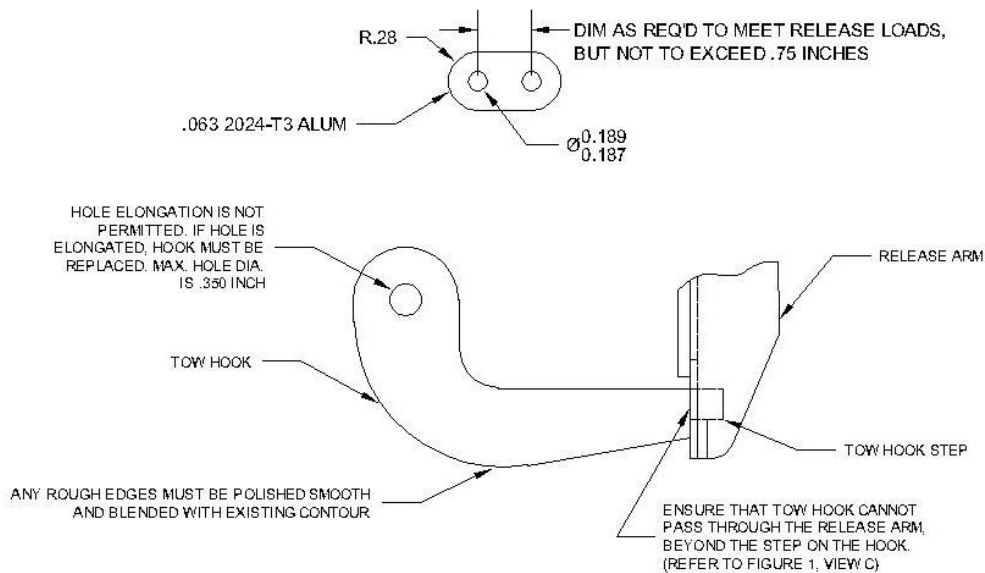


FIGURE 4 - PULL TEST OF TOW RELEASE ASSEMBLY

SERVICE BULLETIN SA-003

DATE: 25 March 1987

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SUBJECT: AEROBATICS IN SCHWEIZER SAILPLANE MODELS LISTED BELOW.

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

NOTE

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

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

DATE: 25 March 1987

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NOTE

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

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

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

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

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

SERVICE

BULLETIN

SERVICE BULLETIN SA-005.1*

DATE: 31 January 1988

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

SUBJECT: IDENTIFICATION AND POSSIBLE REPLACEMENT OF TOW RELEASE ARM.

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

SGU 1-7

SGS 2-8 (TG-2)

SGS 2-12 (TG-3)

SGU 1-19

SGU 1-20

SGU 1-21

SGU 2-22, 2-22A, 2-22C, 2-22CK, 2-22E, 2-22EK

SGS 1-23, 1-23B, 1-23C, 1-23D, 1-23E, 1-23F, 1-23G,
1-23H, 1-23H15

SGS 1-24

SGS 1-26, 1-26A, 1-26B, 1-26C, 1-26D, 1-26E

SGS 2-32

SGS 2-33

SGS 2-33, 2-33A, 2-33AK

SGS 1-34, 1-34R

SGS 1-35C

SGS 1-36 (Sprite)

- All Schweizer Sailplanes field retrofitted to incorporate
a tow hook installation

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

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

DATE: 31 January 1988

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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.)

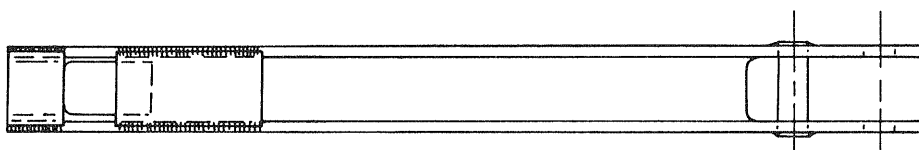
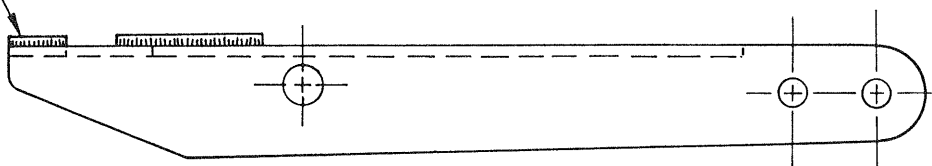
NOTE

- 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.

DATE: 31 January 1988

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



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

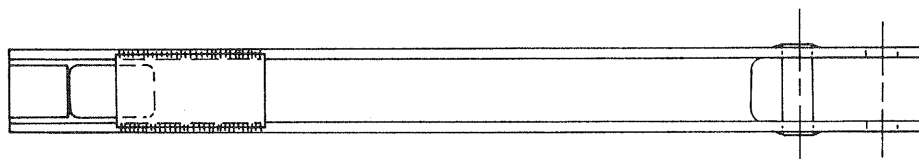
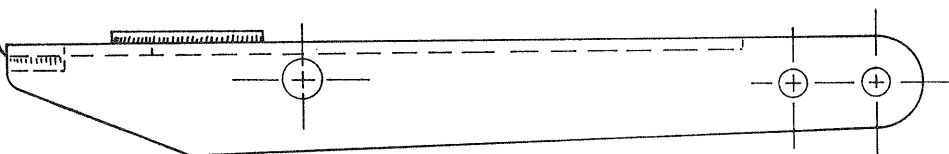


FIGURE 1. RELEASE ARM

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:

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

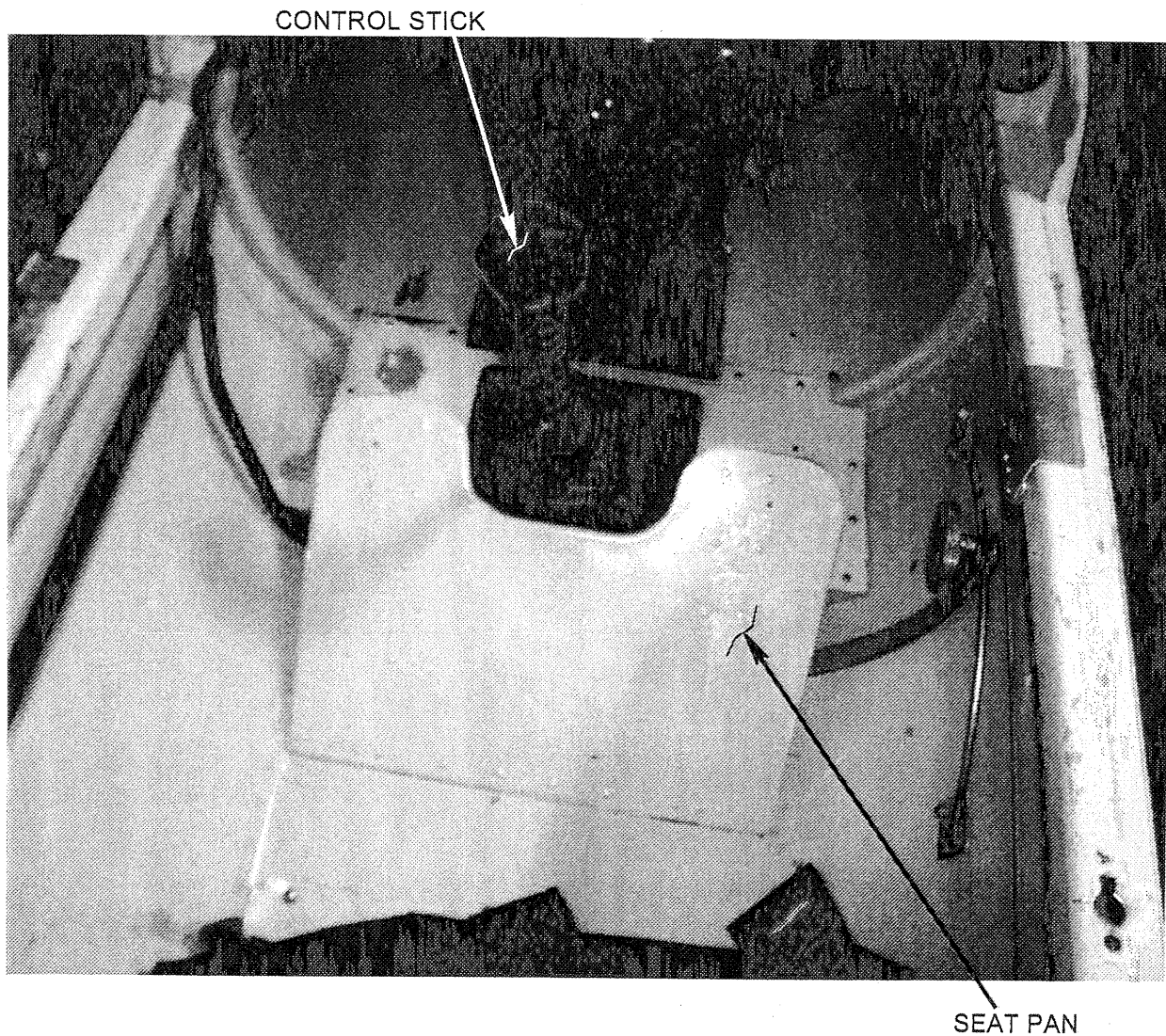
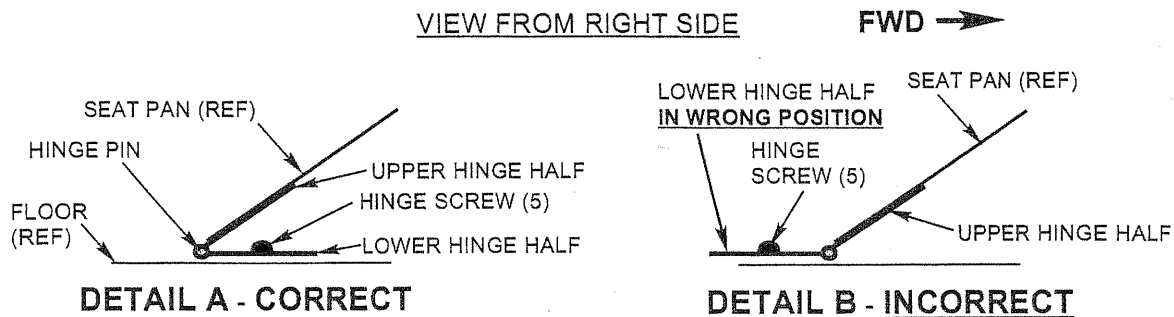


Figure SA-012-1. Seat Pan in Normal Position (Bottom Seat Cushion Removed)



INSTALL "SEAT PAN"
PLACARD AT THIS
LOCATION



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

Date: 25 Sep 2003

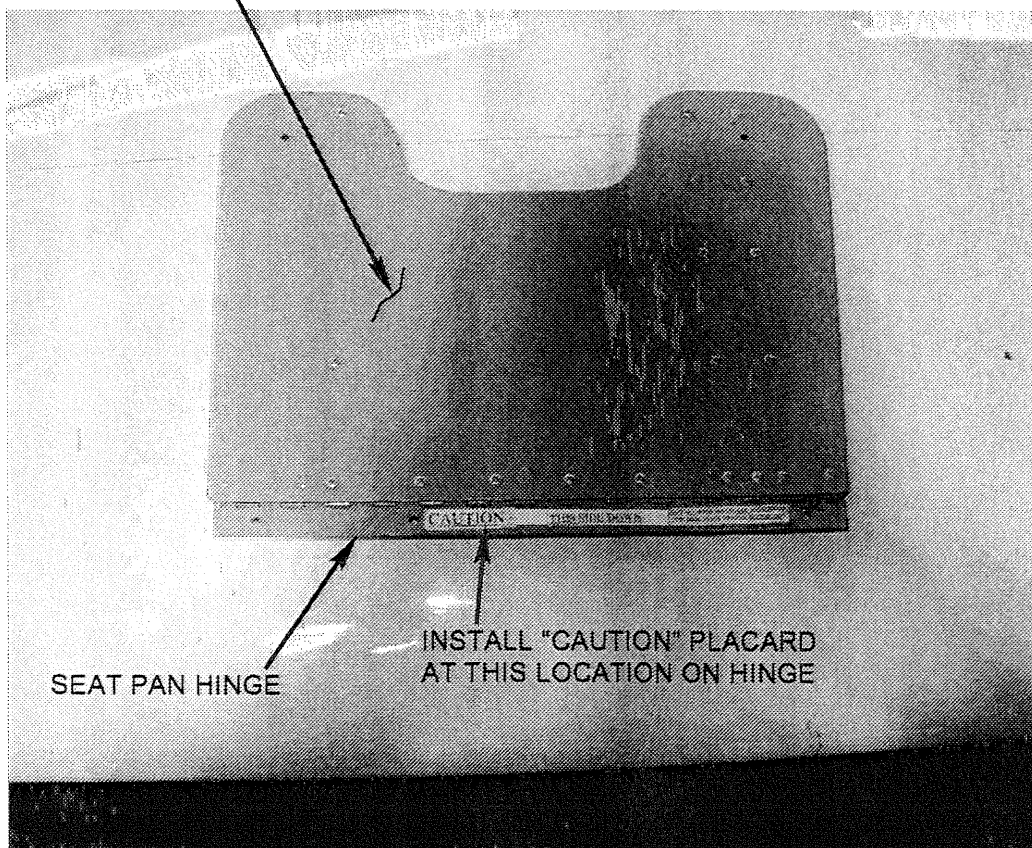
"SEAT PAN" PLACARD -
CUT ON THIS LINE
AND CAREFULLY
REMOVE PLACARD

**INSTALL WITH FIVE
HINGE SCREWS VISIBLE
WITH SEAT PAN RAISED**

SPARE

**INSTALL WITH FIVE
HINGE SCREWS VISIBLE
WITH SEAT PAN RAISED**

SEAT PAN



SEAT PAN HINGE

INSTALL "CAUTION" PLACARD
AT THIS LOCATION ON HINGE

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

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 - THIS SIDE DOWN

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

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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 Gusset | (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 and 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

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 34010A 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 (Cont.)

- C. Move the lever assembly with the sector rod assembly in place, to a vertical position, level across the bottom edges the -5 sector rod assembly plate, 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 34186H-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. 34018H "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, and the (4) 5/32 diameter rivets using standard rivets.
- B. Reinstall seat belt.

Step No. 9 (Ref. ECO 34-13)

- A. Remove the (4) 34226B-3 Ratchets 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.

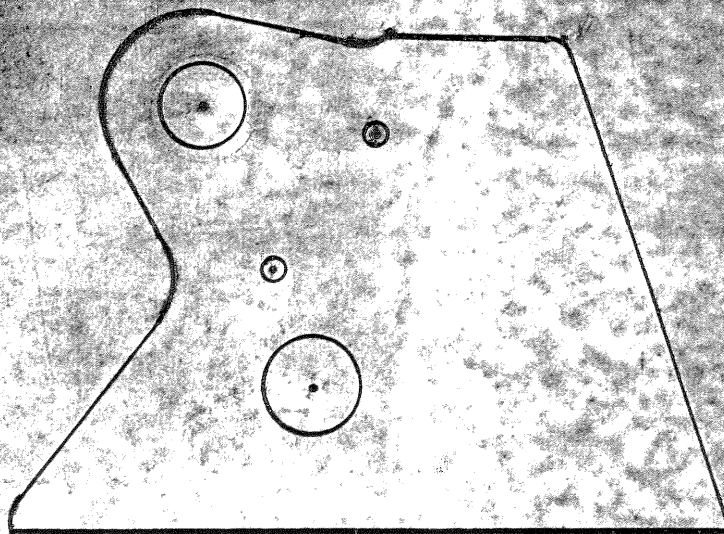
Flight Test Requirements:

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.



SERVICE

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

SERVICE LETTER SL-001

DATE: 1 June 1987

PAGE 1 OF 1

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.

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