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<p style="text-align: center;">ACCEPTED BY President of E.Marganski i Wspolnicy, Zakłady Lotnicze</p> <p>on: [---], 24.01.2005 (signature, date) Edward Marganski, MSc. Eng.</p>	<p style="text-align: center;">APPROVED on behalf of President of Civil Aviation Office</p> <p>Checked by LBA as Responsible Party in accordance with EASA-protocol of May 28th, 2004 and approved by EASA under No: 2005-2928 on April 11th 2005</p>
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04. APR. 2005

MANDATORY BULLETIN
No BO-112/2005 SWIFT S-1

DESIGNATION-TYPE/MODEL: SWIFT S-1

SERIA / NUMBER: All gliders of SWIFT S-1 model

CONCERNS: Control column and stop in elevator control circuit

COMPLIANCE TIME: Action 1: prior to the next flight, and at every following inspection
 "at the beginning of the flying season"
 Action 2: prior to the next flight
 Action 3: not later than 31 March, 2005
 Action 4: not later than 31 March, 2005

<p style="text-align: center;">ELABORATED BY:</p> <p style="text-align: center;">Responsible for Type Design</p> <p style="text-align: center;">Tadeusz Zbos, MSc. Eng.</p> <p style="text-align: center;">[---], 23.01.2005 (signature, date)</p>	<p style="text-align: center;">AGREED</p> <p style="text-align: center;">with Civil Aviation Office, Southern Division Krakow</p> <p style="text-align: center;">Mieczyslaw Jarnot, MSc. Eng.</p> <p style="text-align: center;">[---], 31.01.2005 (signature, date) Bielsko-Biała</p>
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Translated by

Tadeusz Zbos

1. GROUNDS FOR ISSUANCE OF THIS BULLETIN

At the glider inspection, on one Swift S-1, the cracked welding joints have been found at the attachment points of control column Part No. A/2-1.00.200, left to the control stick, in the elevator control system.

On the same aircraft, it has been observed also that, direct at the control stick only one adjustable stop has been installed in the elevator control for the „nose up“ (pull) position. For the „nose down“ (push) position, the stop was at the outer (left) end of the control column on a GFRP-bulkhead. This can result in an unacceptable torsional load to the control column.

2. LIST OF FACTORY NOS COVERED WITH THIS BULLETIN

This Bulletin concerns all SWIFT S-1 model gliders.

3. PROCEDURE

The control column must be visually inspected against cracks and damage in welded joints, on all Swift S-1 gliders. Moreover, the stop at the control stick mount on control column must be retrofitted for the „nose down“ (push) position - if not installed already.

In detail:

Action 1. Visually inspect the control column for cracks and the presence of stops (two bolts M6) at the control stick mounting, both for the „nose down“ (push) - ,and „nose up“ (pull) position, according to Working Instruction, Enclosure No 1.

Action 2. If evidence of damage has been detected at the attachment points in Action 1 above, the control column must be replaced with a new one, delivered by the aircraft manufacturer. The elevator deflections must be checked afterwards and adjusted (if exceeding the limits) in accordance with the glider Technical Service Manual.

Action 3. If no stop for the „nose down“ (push) position has been found in Action 1, at the control stick mount on control column, this stop must be retrofitted according to Working Instruction, Enclosure No 1.

Action 4. Replace the pages of Technical Service Manual, listed under „Enclosures“, with corresponding pages marked „Rev. 13/2005“.

4. MASS (WEIGHT) AND BALANCE

No/ negligible influence

5. ENCLOSURES

Working Instruction, Enclosure No 1 to this Bulletin

Technical Service Manual, pages 20, 21, 24, 37, 38

6. **FINAL CONCLUSIONS**

1. The Action 1 and 4 can be carried out by appropriately authorized person, and must be documented in the aircraft log book.
2. The Action 2 and 3 must be carried out either by the glider manufacturer or by an aircraft service station accepted by the responsible airworthiness Authority. These Actions must be inspected, and entered in the log book.
3. The parts necessary for introduction of this Bulletin are listed in Enclosure No 1.


- THE END -

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Enclosure No 1
to
Bulletin No BO-112/2005 SWIFT S-1

WORKING INSTRUCTION
INSPECTION OF CONTROL COLUMN
IN ELEVATOR CONTROL SYSTEM
OF SWIFT S-1 GLIDER

Elaborated:


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Tadeusz Zboś

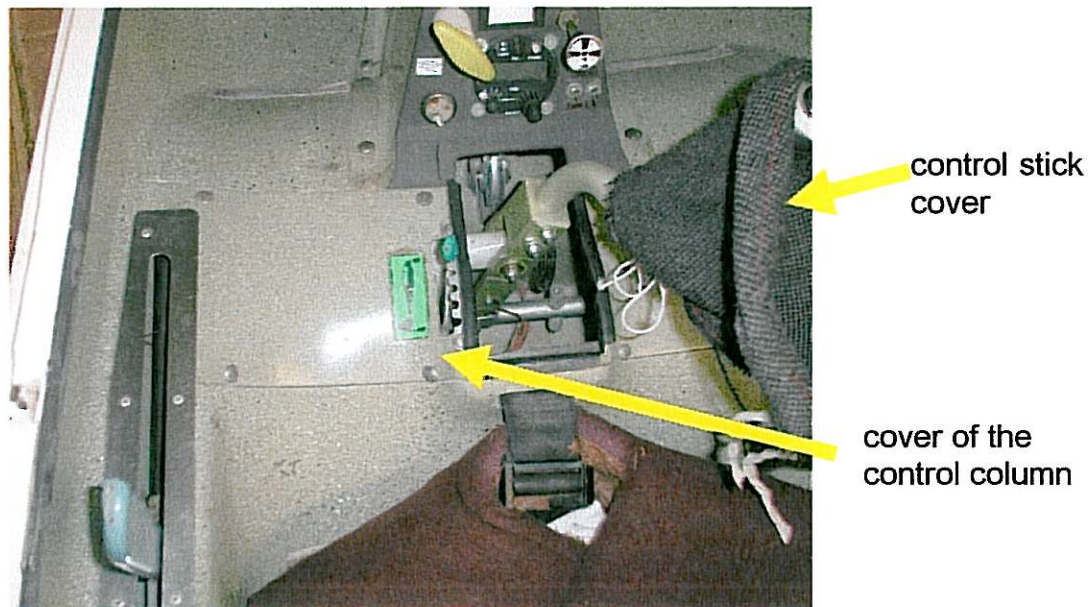
Note:

This Working Instruction has been originally elaborated at LTB
Güntert&Kohlmetz GmbH as the TN 397/3 document.

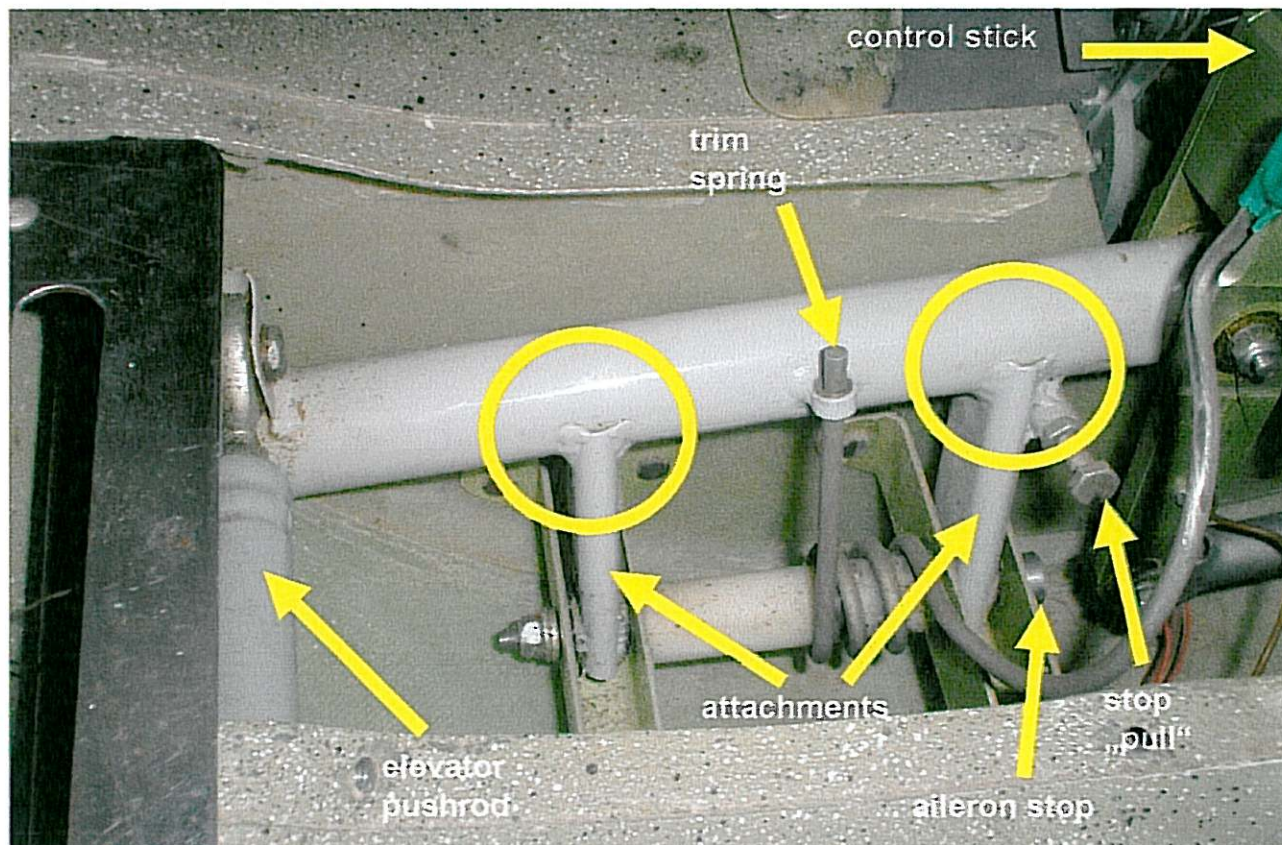
This a.m. document has been adopted at Zakłady Lotnicze for the purpose of
Bulletin No BO-112/205 SWIFT S-1.

1 Action 1 – Inspection of the control column

Check the control column (Dwg-No. A/2-1.00.200) for cracks and, if the stops (two M6 bolts) are installed both for front (push), and for rear (pull) position of the control stick.



picture 1: Cover of the elevator controls



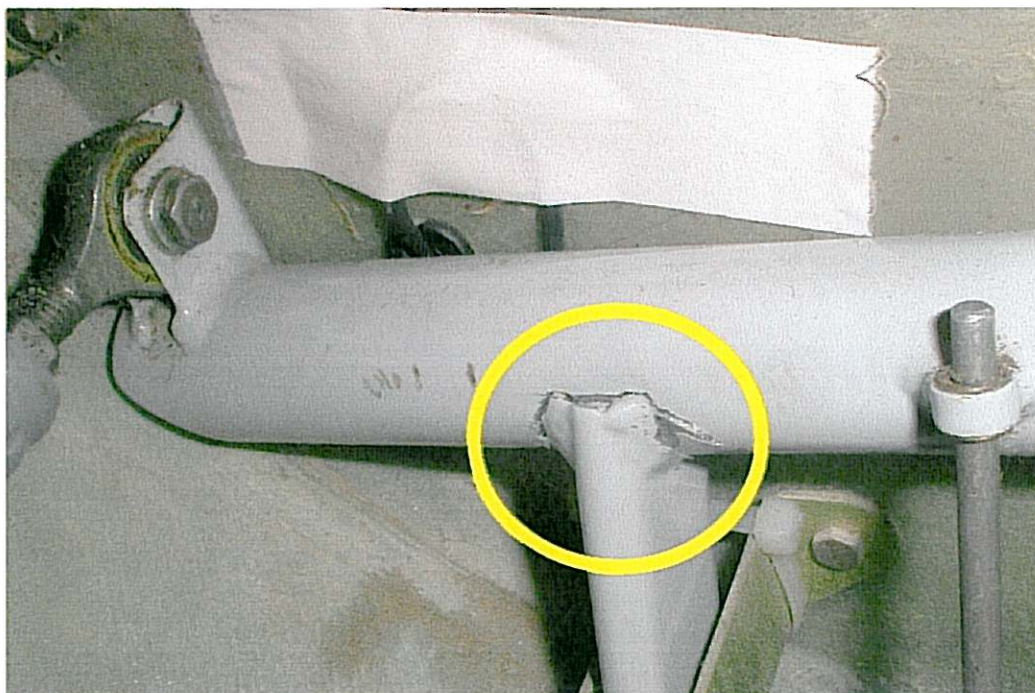
picture 2 : Elevator control column

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- I) Dismantle the control stick cover and remove the left (in flight direction) access cover of the controls close to the control stick (s. picture 1).
- II) Inspect the welding seams of the attachments (see circles in picture 2) over the whole length for cracks and other damage; use a strong pocket lamp and a mirror - if necessary. If crack or other damage is found, the control column must be replaced.



picture 3: Damage viewed from front

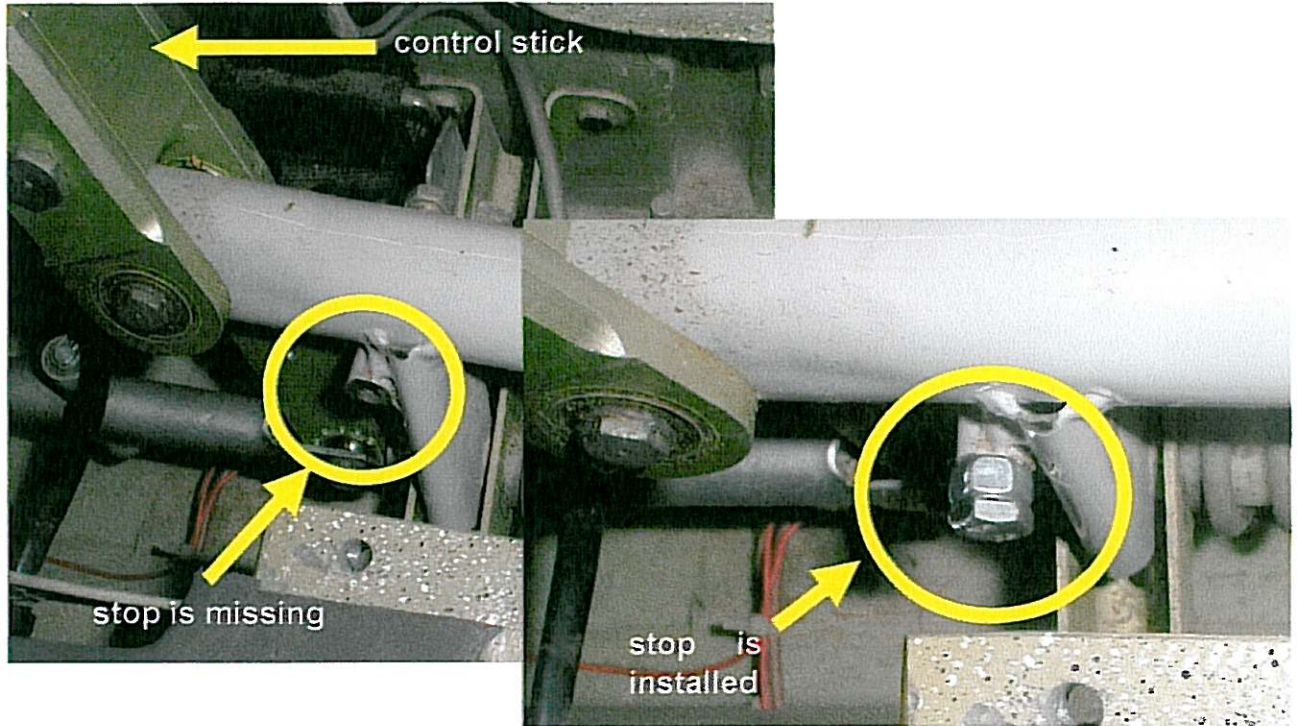


picture 4: Damage viewed from behind

picture 3 and picture 4 show a sample of the possible damage.

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III) Check if a stop is installed on the control column for the „nose down“ (push) position. If no stop (bolt M6) is found, this must be retrofitted according to part 2 of this Working Instruction.



picture 5: Check of the stop for elevator „nose down“ (viewed from front)

IV) If no damage to the control column is found, and both stops are installed and correctly adjusted, the access cover of the control column and the control stick cover can be assembled again.
No further action is necessary.

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2 Action 2 – Exchange of the control column

When exchanging the elevator control column, pay special care to the bolt mounting the column with its bearings, as the head of this bolt is at the same time the stop for the aileron (see picture 2). Therefore it is necessary that the washers and spacers (if installed) are fitted at the same position when the new column is assembled.

In detail the following procedure is recommended:

- Disassemble the control stick and elevator pushrod from the column.
- Disassemble the lower attachment bolt M6 (hinge axis). Mark the position of all washers and spacers since these must be assembled at the same position, when installing the new column!
- Pull the elevator control column together with the trim spring up and disconnect the trim spring by pulling it downwards.
- Install the trim spring on the new column, and install the column in reverse order.
- After installation of the new column, all items of part 3 of this Working Instruction must be completed and the elevator deflections and stops must be adjusted
- Additionally, the aileron deflections must be checked.

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3 Action 3 – Retrofit of a stop bolt for the „nose down“ position of the elevator

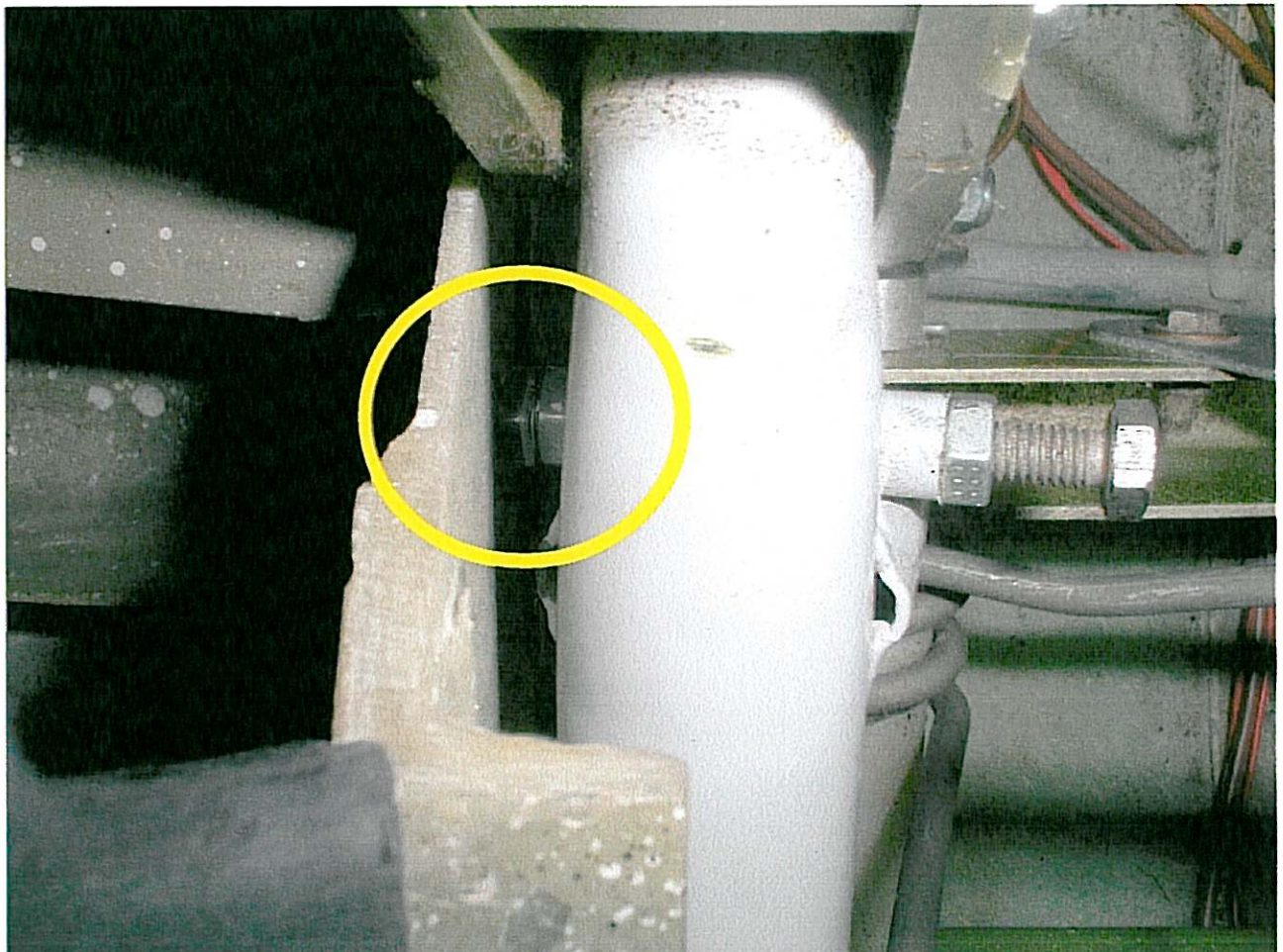
To retrofit the „Swift S-1“ with a front elevator stop the following parts are necessary (all parts are available at the Günstert + Kohlmetz company):

- 1 bolt M6 x 20
- 1 nut M6
- if necessary, some washers 6.4 and a lock nut M6

The bolt M6 x 20 must be screwed into the existing thread on the front face of the control column and locked with the nut M6 (see picture 5).

The bolt must be screwed in at least 10mm deep into the thread of the column.

The head of the stop bolt must be adjusted so to hit the front control bulkhead prior to the contact between attachment of the elevator push rod at the outer side (sheet metal-U, see picture 7) and GFRP frame!



picture 6: Control column pushed fully forward until the stop

If the elevator deflections according to the Technical Service Manual (figure 1, page 7) are not available now, the swivel head at the end of the elevator push rod on the left side of the column must be adjusted.

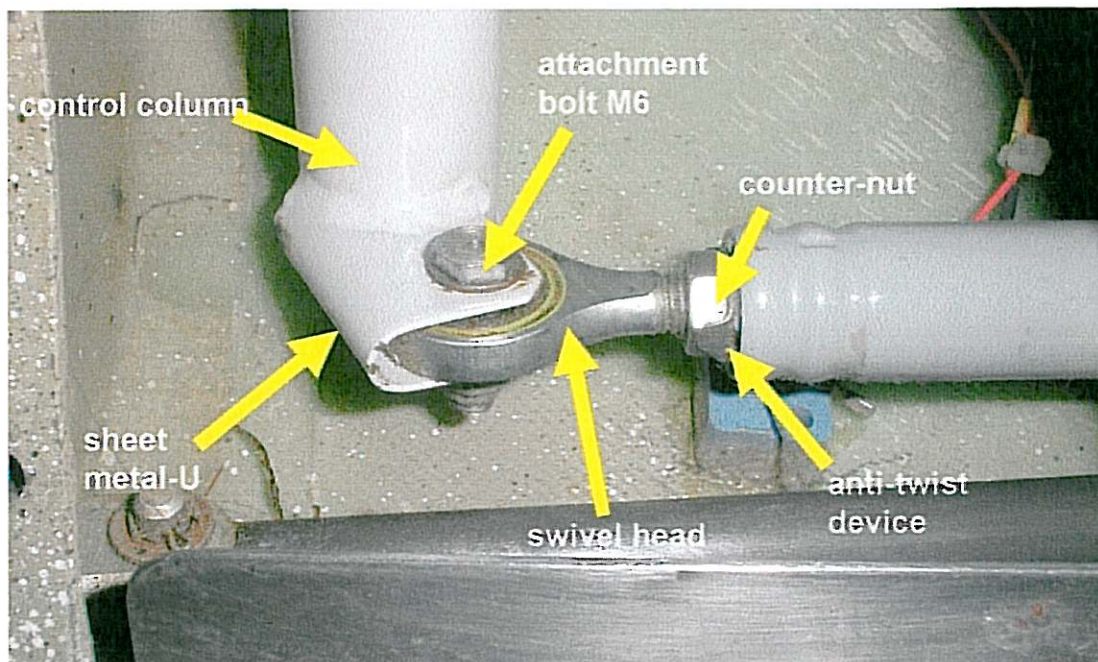
To do so, untighten and disconnect the bolt M6, one connecting the push rod end with the column, mark the positions of the washers and keep all these items. Bend off the anti-twist lock at the counter-nut (sheet metal clip), unthighten the counter-nut and screw the swivel head into the pushrod until the elevator deflections in „nose down“ direction reach the required value (see picture 7 and picture 8).

If the required value has still not been reached, when the swivel head is screwed into the push rod as far as possible (the counter nut at the swivel head may not be removed!), the front stop bolt must be screwed further into its thread.

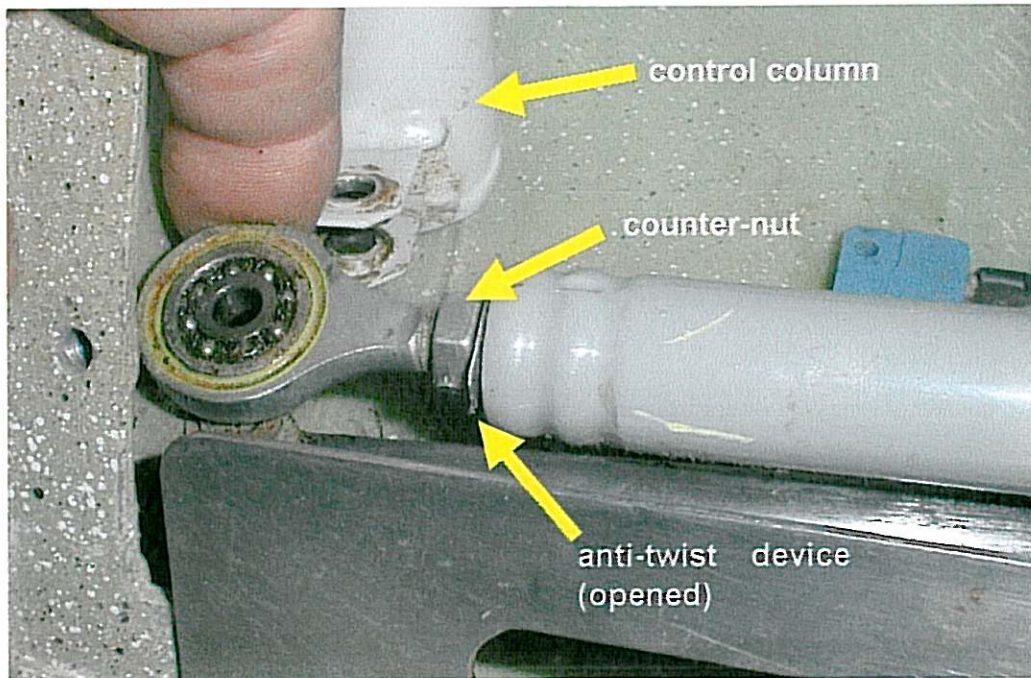
If it is not possible due to the stop bolt counter-nut, then the counter-nut of the stop bolt must be removed and a adequate amount of 6.4 washers have to be added until the stop could be tightened firmly in the desired position.

During these adjustments, one must ensure that the head of the stop bolt hits the bulkhead prior to the outer part of the control column (sheet metal-U) at any time.

If the stop bolt is fully screwed into the socket (i.e. there are no washers between its head and the mounting), or the bolt can't be screwed in further without the sheet metal-U of the shaft hitting the bulkhead first, and the required elevator deflections are still not reached, contact the manufacturer for further advise.



picture 7: Swivel-head at the elevator pushrod fixed by a locknut and secured



picture 8: Swivel-head disconnected and counter-nut untightened

If the swivel-head at the elevator pushrod had to be adjusted, the aft („nose up“) elevator stop has to be readjusted as well.

To do so, untight the counter-nut of that bolt and screw the bolt into the mounting, until the full range of elevator deflection both up and down will be reached, (but not more!) according to the Technical Service Manual. Tighten the counter-nut again afterwards.

Finally, tighten the counter-nut of the swivel-head and secure it against loosening with the anti-twist device. Connect the pushrod with the control column by means of the M6 bolt, use the washers as marked when disassembling the set. Use a new lock nut M6.

Check all controls for clearance and full deflection.