

GFA AIRWORTHINESS DIRECTIVE

- TYPE AFFECTED:** Stemme S10 Serial Numbers 10-03 to 10-64
Stemme S10-V Serial Numbers 14-002 to 14-030 and converted aircraft from 14-012M to 14-063M
Stemme S10-VT Serial Numbers 11-001, 11-004 to 11-015 and 11-015
- SUBJECT:** Cracking of control system components.
- BACKGROUND:** During static load testing the cracks were found in the longitudinal control coupling. This design is similar to four other components and it is possible that these may also crack.
- DOCUMENTATION:** Stemme Service Bulletin A31-10-032 which forms part of this AD. Note that only pages 3 and 4 are included as pages 1 and 2 are the German language version.
- ACTION REQUIRED:**
1. Before next flight a dye penetrant inspection of parts
10SH-RVH
10SW-RVW
10SB-RVW
10SW-RMW
10SQ-RMW
must be completed.

If cracks are found then the part must be replaced before further flight.
 2. After completing the inspection the Service Bulletin Return Form must be completed and forwarded to the GFA Secretariat. The GFA will then forward the form to Stemme.
 3. If no cracks are found then the longitudinal control coupling (10SH-RVH) must be returned to Stemme GmbH & Co. KG within 100 hours or before 31 March, 1999 for rework or replacement.
- WEIGHT AND BALANCE:** Not affected.

SIGNED


CHIEF TECHNICAL OFFICER AIRWORTHINESS

For and on behalf of:

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OF AUSTRALIA

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IMPLEMENTATION: The requirements of this AD must be completed by persons rated for Annual Inspections any type.

COMPLIANCE: The requirements of this GFA Airworthiness Directive are mandatory. This Directive is issued pursuant to the Rules and Regulations of the Gliding Federation of Australia.

STEMME GmbH & Co. KG Design Org. No. EB 11	Service Bulletin	Document number: A31-10-032
	- Cracking in the Longitudinal Ctrl. Coupling -	Am.-Index: 01.a
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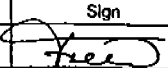
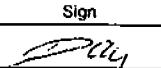
This Service Bulletin provides from page 1 to 2 the original version in German, approved by the Luftfahrt-Bundesamt, and from page 3 to 4 a translated version in English. The translation has been performed to the best of our knowledge and judgement.

1. **Subject:**
Cracking in the elevator control coupling.
2. **Effectivity:**
Powered sailplane type STEMME S10; LBA Type Certificate no. 846; FAA TC Nos. G 58 EU and G 06 CE. Affected serial numbers:
 - model S10: 10-03 to 10-63
 - model S10-V: 14-002 to 14-030 and converted A/C from 14-012M to 14-063M
 - model S10-VT: 11-001, 11-004 to 11-013, 11-015.
3. **Time of compliance:**
Step 1 (inspection): Prior to next flight.
Step 2 (replacement): Within 100 flight hours, by March 31, 1999 at the latest.
4. **Background Information:**
During a static load test on the elevator control, which was conducted for design purposes, cracks were found in the longitudinal control coupling (P/N 10SH-RVH) where there is a welded joint with the drive-off lever. Since the cracks were already well advanced, the part concerned would in all likelihood have failed within the next few operating hours with disastrous consequences.

In addition to the defective part there are other parts in the control system with a similar force intersection design which, therefore, also harbor the risk of failure. These are the other coupling shafts in the control well (wing flap and airbrake ctrl coupling, P/Ns 10SW-RVW and 10SB-RVW) and the flap drive rocker (10SW- RMW) and the flap/aileron interference shaft (10SQ- RMW) in the mixing unit in the middle of the fuselage.
5. **Instructions:**
Step 1:
As an immediate action all the affected aircraft must undergo an inspection of the five parts described above. The coupling rods must be removed for this purpose. A dye penetration test must be carried out to detect any cracks in the area where the (thin) drive lever is welded onto the (thicker) base pipe. If cracks are found, the defective part must be replaced prior to the next flight.
Step 2:
The manufacturer will improve the design of the parts affected in the critical areas.

The longitudinal control coupling must be replaced by new or dressed parts in any affected S/N within the deadline given above. For this purpose the original part must be sent to the manufacturer regardless of whether it is defective or not. The manufacturer will then decide whether a new part must be fitted or the old part can be re-worked.

Only after the results of the fleet check and other analyses are known can a decision be taken as to whether any other parts have to be replaced in addition to the long. ctrl. coupling. If any, the operators will be informed in an update of this Service Bulletin.

prepared:	Sign	checked:	Sign	Date:	Supersedes issue of:
Freudenberger		Dalldorff		20.05. 1998	---

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6. Mass and balance:

Not affected.

7. Material:

After the used part has been sent in, the manufacturer will supply a modified part with the requisite release certificate at short notice. The manufacturer will decide whether this will be a new part or the dressed old part.

8. Associated documents:

Installation Instruction no. A34-10-032 is required in addition to the Maintenance Manual for the installation of the new long. ctrl. coupling and the subsequent adjustment of the control system. The annex to this Installation Instruction contains the Rigging Report, which must be completed by the inspector and added to the service records of the A/C.

9. Accomplishment and log entry:

Action detailed in this Service Bulletin must be accomplished by an authorized mechanic and entered in the airplane's log book by a licensed inspector. The dye penetration test to detect any cracks must be carried out in compliance with the conditions laid down in DIN 65 450 (or a national equivalent outside of Germany). The Regulations on the keeping of service records must be adhered to.

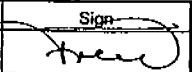
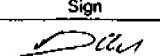
10. Remarks:

Attention is drawn in this connection to Service Bulletin No. A31-10-017 which stipulates that the flap drive rocker 10SW-RMW must also be replaced in older S/N's. Since the same date of compliance applies as in this bulletin, the work to be carried out can be co-ordinated accordingly.

The operators are required to report the results of the dye penetration test for crack detection (Step 1) to STEMME using the Findings Report enclosed with this SB. This is the only way to ensure that any potential safety risks are detected and eliminated accordingly.

This Service Bulletin is being sent to all the latest holders of the S/Ns affected who are known to the manufacturer. If, following a change of ownership, the new holder cannot be reached in this way, the bulletin should be returned with the name and address of the new holder if known.

Stemme GmbH & Co. KG - Airworthiness Department / LBA approved

prepared:	Sign	checked:	Sign	Date:	Supersedes issue of:
Freudenberger		Dalldorff		20.05.1998	---

STEMME GmbH & Co. KG Design Org. No. EB 11	Service Bulletin	Document number: A31-10-032
	- Crack Development in the Long. Ctrl. Coupling -	Am.-Index: 01.a Return Form

Report of findings of crack inspection (Dye Check):

<i>inspected part</i>	<i>Part No.</i>	<i>Cracks found</i>	
Longitudinal Ctrl. Coupling	10SH-RVH	<input type="checkbox"/> yes	<input type="checkbox"/> no
Wing Flap Ctrl. Coupling	10SW-RVW	<input type="checkbox"/> yes	<input type="checkbox"/> no
Airbrake Ctrl. Coupling	10SB-RVW	<input type="checkbox"/> yes	<input type="checkbox"/> no
Mixing unit – flap drive rocker	10SW-RMW	<input type="checkbox"/> yes	<input type="checkbox"/> no
Mixing unit – flap/aileron interference shaft	10SQ-RMW	<input type="checkbox"/> yes	<input type="checkbox"/> no

Other findings:

prepared:	Sign	checked:	Sign	Date:	Supersedes issue of:
Freudenberger		Dalldorff		20.05. 1998	---,---