



THE GLIDING FEDERATION OF AUSTRALIA

GFA AD 416
(ISSUE 1)

GFA AIRWORTHINESS DIRECTIVE

TYPE AFFECTED:	Model/Series	Affected Serial Numbers
	Janus cM	up to S/N 36
	Janus cT	up to S/N 19
	Ventus bT	All
	Ventus cT	up to S/N 174
	Ventus cM	up to S/N 84 and S/N 86 and 87
	Nimbus 3DT	up to S/N 55
	Nimbus 3DM	up to S/N 24
	Discus bT	up to S/N 100

BACKGROUND: Overseas Experience has shown that moisture may enter the vertical elevator pushrod in the fin and cause corrosion and possible failure of the pushrod. Note: This AD is a powered sailplane version of AD 415.

DOCUMENTATION: Combined Shempp-Hirth Technical Notes 809-9, 825-17, 847-4, 863-3 which form part of this AD.

ACTION REQUIRED: 1. Before next flight.

Carry out tests as specified in actions 1 and 2 of the attached Technical Note.

If any defects are found as a result of the above inspections then actions 3, 4 and 5 of the Technical Note must be complied with before next flight.

2. Before 31 August 1994.

If not already completed carry out actions 3, 4 and 5 of the Technical Note.

WEIGHT AND BALANCE: Note affected.

IMPLEMENTATION: The requirements of this AD must be performed by persons rated "Inspection for Issue of Maintenance Release" FRP.

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.

SIGNED:


CHIEF TECHNICAL OFFICER AIRWORTHINESS

For and on behalf of:

**THE GLIDING FEDERATION
OF AUSTRALIA**

Schempp-Hirth Flugzeugbau GmbH Krähenstraße 28 - Postfach 1443 D-7312 Kirchheim unter Teck LBA-Nr. 185	809 - 9 825 - 17 847 - 4 863 - 3	Page No. 2 No. of pages 3
TECHNICAL NOTE NO. 847		

<u>Actions</u> :	Prior to next flight:	① Load test of the elevator control system Remove horizontal tailplane, lock elevator actuating lever as shown in the sketch found in the appendix and pull back the control stick with the force prescribed. ② Thereafter mount the tailplane and check elevator for proper function with the aid of a helper. If no objections can be raised as to the perfect function of the elevator control (after having accomplished step ① and ②), then the following actions are to be carried out by December 31st, 1993 at the latest: ③ Remove vertical elevator actuating rod in compliance with the instructions given in the appendix. ④ Install a replacement elevator actuating rod (designation shown on page 3) - the relevant instructions are given in the appendix. ⑤ Mount horizontal tailplane and adjust ball bearing rod end such that the elevator deflections are within the permitted range (see Maintenance Manual). Thereafter apply a red witness mark to jam nut and thread.
<u>Weight</u> :		No alteration
<u>C/G position</u> :		No alteration

Schempp-Hirth Flugzeugbau GmbH Krähenstraße 28 - Postfach 1443 D-7312 Kirchheim unter Teck LBA-Nr. 185	809 - 9 825 - 17 847 - 4 863 - 3	Page No. 1 No. of pages 3
TECHNICAL NOTE NO. 847		

<u>Subject</u> :	Vertical elevator actuating rod inside the fin																												
<u>Affected</u> :																													
	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Powered sailplane model</th> <th>Type Certificate No.</th> <th>Serial numbers affected</th> </tr> </thead> <tbody> <tr> <td>"Janus CM"</td> <td>809</td> <td>up to S/N 36</td> </tr> <tr> <td>"Janus CT"</td> <td>809</td> <td>up to S/N 19</td> </tr> <tr> <td>"Ventus BT"</td> <td>825</td> <td>all S/N</td> </tr> <tr> <td>"Ventus CT"</td> <td>825</td> <td>up to S/N 174</td> </tr> <tr> <td>"Ventus CM"</td> <td>825</td> <td>up to S/N 84, S/N 86 and 87</td> </tr> <tr> <td>"Nimbus-3DT"</td> <td>847</td> <td>up to S/N 55</td> </tr> <tr> <td>"Nimbus-3DM"</td> <td>847</td> <td>up to S/N 24</td> </tr> <tr> <td>"Discus BT"</td> <td>863</td> <td>up to S/N 100</td> </tr> </tbody> </table>	Powered sailplane model	Type Certificate No.	Serial numbers affected	"Janus CM"	809	up to S/N 36	"Janus CT"	809	up to S/N 19	"Ventus BT"	825	all S/N	"Ventus CT"	825	up to S/N 174	"Ventus CM"	825	up to S/N 84, S/N 86 and 87	"Nimbus-3DT"	847	up to S/N 55	"Nimbus-3DM"	847	up to S/N 24	"Discus BT"	863	up to S/N 100	
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<u>Urgency</u> :	Action ① and ② :	Prior to next flight																											
	Action ③ and the following :	Not later than December 31st, 1993																											
<u>Reason</u> :	By coincidence of unfavourable circumstances, the rubber bellows in the upper end rib of the fin (sealing the control rod opening) may become filled with water, which - with the elevator secured in "fully up" position - may seep through the bolt verification hole in the vertical elevator actuating tube and accumulate at its lower end. A failure of this tube due to corrosion - directly above the welded seam of the U-shaped rod end - is therefore possible.																												

Schempp-Hirth Flugzeugbau GmbH Kernenstraße 25 - Postfach 1443 -7312 Kirchheim unter Teck LBA-Nr. 185	TECHNICAL NOTE NO. 809 - 9 825 - 17 847 - 4 863 - 3	Pa. No. 3 No. of pages 3
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Material : The replacement elevator actuating rod may be obtained from the manufacturer

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 Kernenstraße 25
 W-7312 Kirchheim unter Teck
 FED. REPUBLIC OF GERMANY

Model	Drawing No.	Dimensions
Janus CM Janus CT	HS 5-31.005A	∅ 20 x 0.5 x 1103
Janus CT S/N 7 and 11 through 19	HS10-31.005	∅ 20 x 0.5 x 1233
Janus CM S/N 29 and 33 Janus CT S/N 8 and 9	HS 6-31.005	∅ 14 x 1.0 x 1103
Ventus bt	HS 8-31.005	∅ 20 x 0.5 x 985
Ventus ct	HS 8-31.305	∅ 20 x 1.0 x 985
Ventus cm		
Nimbus-3DT	HS10-31.005	∅ 20 x 0.5 x 1233
Nimbus-3DM	HM 5-31.005	∅ 20 x 1.0 x 1232
Discus bt	HS 8-31.005	∅ 20 x 0.5 x 985

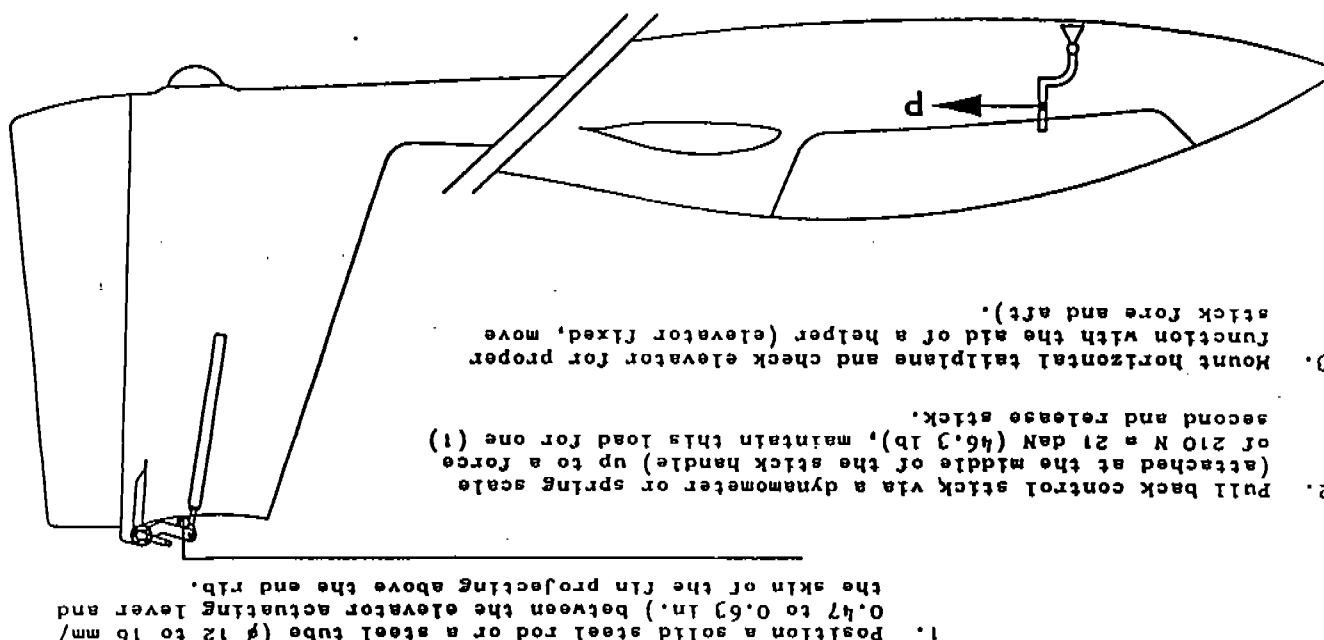
Note : The aforementioned actions may be carried out by a skilled person. Their accomplishment must be inspected by a licensed inspector and be entered in the aircraft log book.

Kirchheim/Teck, 20.11.1992

issued: */v. Treiber*
 (H. Treiber)

LBA-approved:
 The German original of this Technical Note has been approved by LBA under the date of Dec. 17, 1992 and is signed by Mr. *Stoy*.
 The translation into English has been done by best knowledge and judgement. In any case of doubt the German original is authoritative.

SCHEMPP-HIRTH Flugzeugbau GmbH 7312 Kirchheim/Teck	APPEN TO TECHNICAL NOTE NO. 809-09, 825-17, 847-04, 863-03	Page No. 1 No. of pages 5
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1. Position a solid steel rod or a steel tube (∅ 12 to 16 mm/ 0.47 to 0.63 in.) between the elevator actuating lever and the skin of the fin projecting above the end rib.

2. Pull back control stick via a dynamometer or spring scale (attached at the middle of the stick handle) up to a force of 210 N ± 21 daN (46.3 lb), maintain this load for one (1) second and release stick.

3. Mount horizontal tailplane and check elevator for proper function with the aid of a helper (elevator fixed, move stick fore and aft).

Load testing the elevator control system

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APPENDIX TO TECHNICAL NOTE NO.
809-09, 825-17, 847-04, 863-03

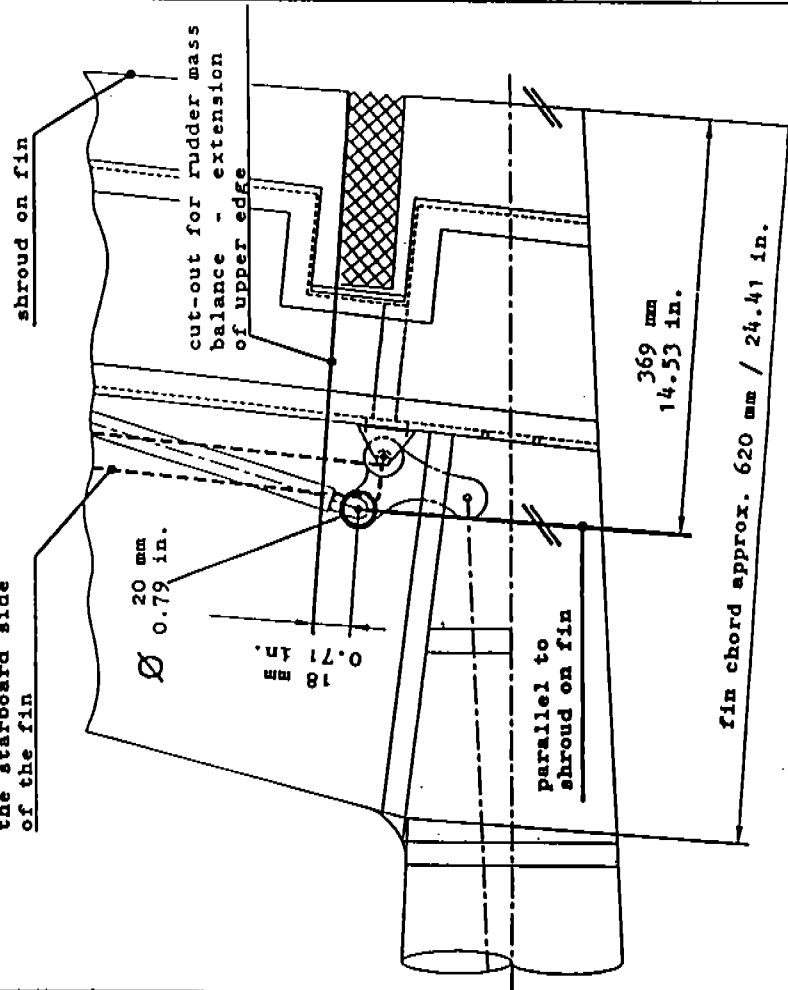
Page No. 3
No. of pages 5

Dimensions shown below are applicable to the following models:

Nimbus-3DT
Janus CM, Janus CT

Notes: Prior to drilling the openings into the fin, measure its chord for compliance with the sketch (see also page 4)

if installed, the VHF-antenna is on the starboard side of the fin



REMOVING THE VERTICAL ELEVATOR ACTUATING ROD (inside the fin)

1. Drill a small hole ($\varnothing$ 6 mm/0.24 in.) through the skin of the fin on its port side as shown in the sketch on page 3, 4 or 5.
Check opening for proper alignment with the bolt to be removed and make sure that the VHF-antenna (if installed) will not be damaged when repeating the step on the far side - then enlarge opening appropriately to a diameter of 20 mm/0.79 in.
2. Repeat procedure on the starboard side - be careful not to damage the antenna (if installed).
3. Prior to disconnecting the upper end of the elevator actuating rod (from elevator actuating lever), measure the length of the thread projecting above the jam nut and register value (for reinstallation).
WARNING: Only ball bearing rod ends "14C6" having a thread length of 60 mm/2.36 in. are to be used!
4. Disconnect lower end of vertical elevator actuating rod at the base of the fin by removing the bolt "M6" with the aid of a socket wrench.
Recommendation:
 - Thin adhesive tape or grease in the wrench's socket will prevent the nut or the bolt from falling down into the tail boom while pulling out the tool.
 - The washer can be removed with the aid of a magnet.
 - Using a drift facilitates the removal of the bolt.
5. Remove bolt attaching the vertical elevator actuating rod to the elevator actuating lever.

INSTALLING THE VERTICAL ELEVATOR ACTUATING ROD

6. Install replacement elevator actuating rod by reversing the above steps (5 through 3).
7. Mount horizontal tailplane and check elevator deflections - if necessary adjust ball bearing rod end on actuating rod such that the deflections are within the permitted range. Make sure that the depth of the seating of the threaded rod end is at least 10 mm (0.39 in.).
8. Check for foreign particles in the fuselage tail boom and tape over the openings cut at the base of the fin.

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809-09, 825-17, 847-04, 863-03Page No.
No. of pages

4

5

SCHEMPP-HIRTH
Flugzeugbau GmbH
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809-09, 825-17, 847-04, 863-03Page No.
No. of pages

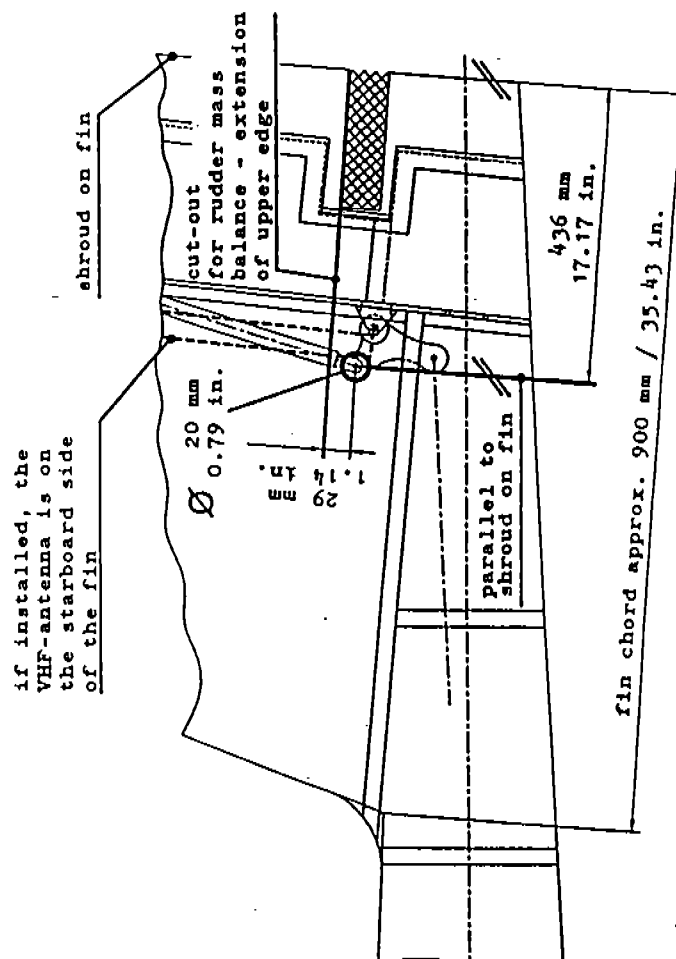
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Dimensions shown below are applicable to the following models:

Nimbus-3DT, Nimbus-3DM
Janus CT

Notes: Prior to drilling the openings into the fin,
measure its chord for compliance with the sketch
(see also page 3)



Dimensions shown below are applicable to the following models:

Ventus bT, Ventus cT, Ventus cM
Discus bT