



THE GLIDING FEDERATION OF AUSTRALIA

BUILDING 130, WIRRAWAY ROAD, ESSENDON AIRPORT, VICTORIA 3041.

AIRWORTHINESS DIRECTIVE GLIDERS/POWERED SAILPLANES

GFA/AD 238

SCHEMPH-HIRTH 15

Issue 1

Date 11/8/82

Sheet 1 of 5

TYPES AFFECTED:

Schempp-Hirth Cirrus
Cirrus VTC

(Sailplanes subject to German type Certificate No. 265)

SUBJECT:

Prevention of elevator and rudder flutter.

BACKGROUND:

Elevator and rudder flutter have been experienced on Cirrus VTC at speeds less than VNE.
(Schempp-Hirth Technical Note 265-6 refers)

ACTION REQUIRED:

(1) Before next Flight

Cirrus VTC only

1. The following placard is to be fixed onto the instrument panel:

Maximum permissible airspeed (IAS)
in calm and rough air 160 km/h (86 knots)
CLOUD FLYING PROHIBITED.
(Technical Note No. 265-6 of April 27, 1982)

2. At or before next Form 2 inspection

Cirrus and Cirrus VTC

2. Elevator drive

If not previously modified, the drive tube (dia 8mm) on the elevator drive lever must be replaced by a round bar in accordance with the drawing Cirrus No. 30.011/1 - Elevator drive axle.

The maximum play of the elevators respectively of right and left elevator mutually is quoted on page 26 of the Service Manual (see Action 5).

3. Tail Parachute

The tail parachute must be removed if the values for hinge moments and weights on page 27 of the Service Manual (see Action 5) are exceeded.

If it is necessary to remove the tail parachute, proceed as follows:

- a) Lock the operating handle for the tail chute in the cockpit as shown on the sketch, page 4 of this note.
- b) Screw off the blue ball knob.
- c) Remove the reference placard for tail chute operation, if any.



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3. TAIL PARACHUTE (contd)

d) Check the tail chute box for a drainage hole (dia 6 mm)

e) Amendments of the Flight and Service Manual:

Page 2 - Entry in the Amendment List:

Amendment	Page	Date
Tail parachute	16	
omitted, operating	17	April
handle locked.	22	1982
(T.N. No. 265-6)	23	

Page 16 - delete both pages

Page 17 - delete both pages

Page 22 - Check list - Delete A) 6.

Page 23 - Check List - Delete B) 5.

4. HORIZONTAL TAILPLANE

If the values of hinge moments and weights on page 27 of the Service Manual (see Action 5) are exceeded, a mass balance must be installed outboard on the elevator in accordance with the drawing.
Cirrus No. 30.001/1 - Elevator mass balance.

5. AMENDMENTS OF THE SERVICE MANUAL

Page 26 - Play in the control systems
Play in the right and left elevator

Page 27 - Hinge moments and weights

Page 28 - Hinge moments and weights

Page 29 - Damper in the rudder control system

6. AFTER ACCOMPLISHMENT OF ACTIONS 2 THROUGH 5, THE ACTION 1 FOR THE CIRRUS VTC CAN BE CANCELLED.

WEIGHT AND BALANCE. - The Sailplane is to be weighed on completion to determine new empty weight and c.g. position.

Horizontal tailplane with mass balance approx. 0.5kg heavier.

Rudder without tail parachute approx. 0.5 kg lighter.

IMPLEMENTATION

Action 1 To be carried out by owner or operator.

Action 2 to 6 To be carried out by, or under the supervision of the holder of a DOT 1109 endorsed "C. of A. GRP".

Weight and Balance - Sailplane to be weighed and new w/b limitation placards fitted by an 1109 holder authorised for weighing and weight and balance.

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DRAWINGS: Part of this AD are Schempp-Hirth drawings -

30.001/1 Sheet 4

30.011/1 Sheet 5

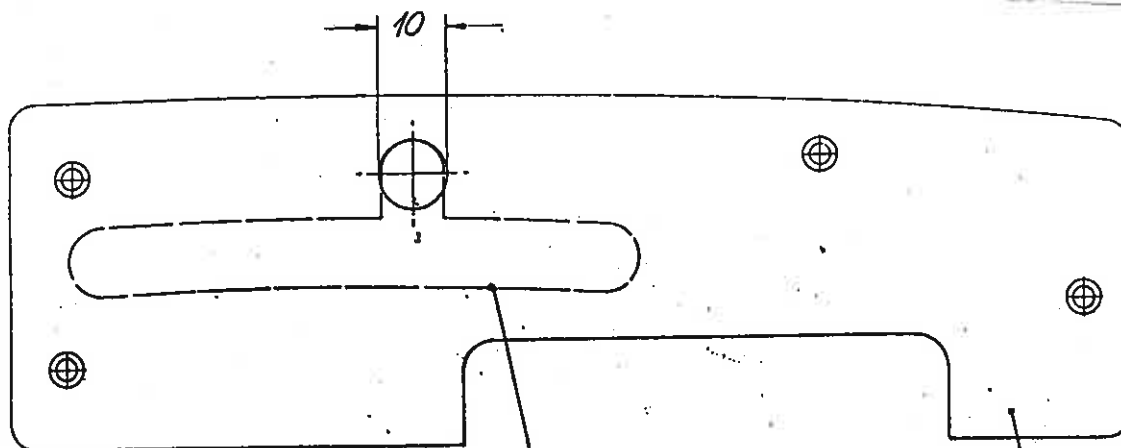
COMPLIANCE: The requirements of this Airworthiness Directive are mandatory. This Directive is issued pursuant to Air Navigation Regulations under delegated authority of the Secretary of the Department of Aviation.

Mike Burns

M.P. BURNS

CHIEF TECHNICAL OFFICER AIRWORTHINESS
GLIDING FEDERATION OF AUSTRALIA

Cover plate for locking the tail parachute operating handle



The guide slot for operating the tail chute handle must be omitted

Use the already installed cover plate as a pattern

Material:

Aluminum alloy half-hard - hard AlMg1
sheet 1.5 mm thick

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Section C-D
Schnitt C-D

inner glass cloth layer
Innengen 1-92110-X

Conticell 60, 80 mm

outer glass cloth layers
Außengen 2-92110-X

Plywood ribs bonded
with thickened resin
Verklebung der Sph.-Rippen
mit eingedicktem Harz

cut-out in the lower
shell for elevator
assembly
Aussparung in Unterschale
für Rudermontage

2-92110-X

Plywood 4 mm
Sperholz 4mm

200 g grain of
lead mixed with
resin
Bleischrot 200g
mit Kunstharz

Plywood 4 mm
Sph 4mm

With lead weight installed
on the elevator, the
force at the trailing
edge at the root rib should
be between 125 g
and 160 g.

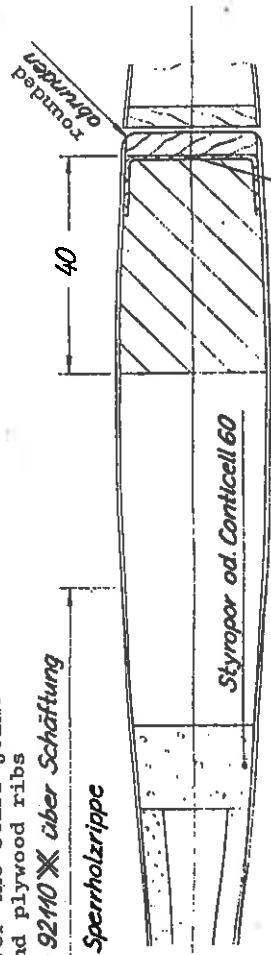


mit Blei im Höhenruder soll die
Kraft an der Endleiste an der
Wurzelrippe zwischen 125g
und 160 g liegen

glass cloth layers
over the scarf joint
and plywood ribs
4-92110-X über Schäftung
u. Sperrholzrippe

Techn. Note No. 265-6
Elevator mass balance
zu TM-Nr. 265-6

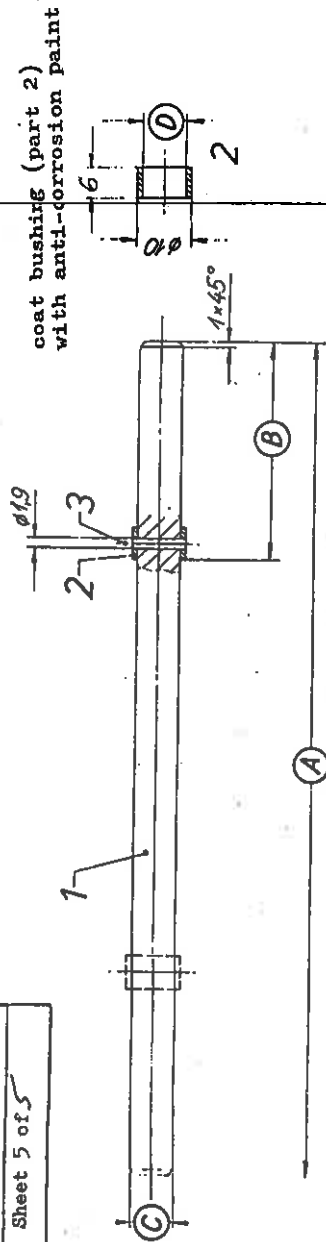
Teil	Stück	Benennung	Abmessung	Werkstoff (Norml)	Anmerkung (Zeichn Nr.)
L-265	1:1	Maßstab			
1982	Tag	Name			
gez	22.06.	Hirth			
gepr	27.4.	Hirth			
Bourmaster					
CIRRUS					
Höhenruder Massenausgleich					
Zeichn Nr.					30.001/1
Schempp-Hirth Flugzeugbau GmbH 7312 Kirchheim-Teck					



Schnitt A-B
Section A-B

Alle Schweißnähte und Bohrungen enlgrafen
Oberflächenschutz: Zweikomponenten-Primex und Nitrolack grau (nur Teil 2)

coat bushing (part 2)
with anti-corrosion paint



Measures (A), (B)

are to be taken from the originally installed tubular drive axle.

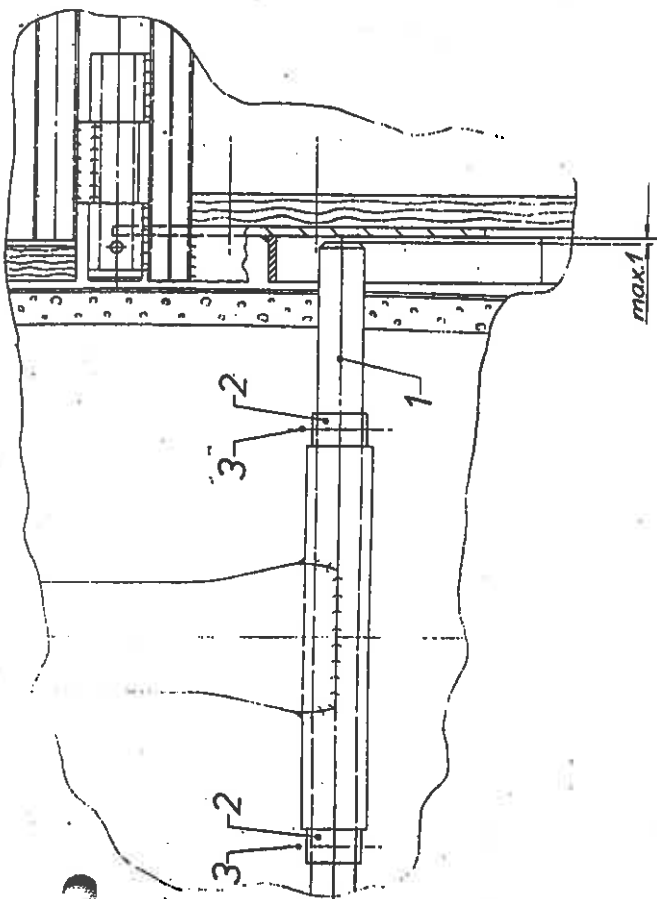
Care is to be taken that the distance between the drive axle (part 1) and the drive fitting on the elevator root rib is not greater than 1 mm.

Measures (C), (D)

The outer diameter of the elevator drive axle (part 1) and the inner diameter of the bushing (part 2) is determined by the following requirements:

1. Small internal play in the tube of the drive lever on the fin.
2. Small play in the elevator drive fittings (max. permissible play in the elevators against one another:
3 mm, measured at the trailing edge of the root ribs.

The drive axle (part 1) should be well greased before inserting it into the tube of the elevator drive lever.



Teil 1 bei Montage in HR-Antriebshebel gut einfetten

Technical Note No. 265-6

Elevator drive axle

zu TM-Nr. 265-6

Teil	Stück	Benennung	Abmessung	Werkstoff (Norm)	Anmerkung (Zeichn. Nr.)
3	2	Splint	2x16 mm	DIN 94	
2	2	St. Rohr	10x16 mm	St 35 BK	DIN 2391
1	1	Rundst. Round bar (steel)	8x(A) mm	1.7734.4	od. St 52K-DIN 1652
Maßstab 1:1					
L-265					
1982	Tag	Name	Bourmaster		
gez 23.04		Artlich			
gez 27.4		T. 1.4			
Schempp - Hirth			Zeichn. Nr.		
Flugzeugbau GmbH			30.011/1		
7312 Kirchheim-Teck					

Höhenruder-
Antriebsachse

CIRRUS

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Appendix

Polar curve
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Operating and maintenance instructions for tail parachutes



Play in the controls

With controls held fixed the play of the control surfaces must not exceed the following values:

Ailerons : ± 4 mm measured at the trailing edge, 204 mm from hinge axis

Elevator : ± 3 mm measured at the trailing edge, 180 mm from hinge axis

Bearings and hinges with excessive play must be replaced.
In case of doubt ask the manufacturer for advice how to eliminate the play.

Play of the right and left elevator

When moving one elevator with opposite elevator held fixed, the play must not exceed 3 mm, measured at the trailing edge at the inner drive.

Hinge moments and weights

The following values must not be exceeded:

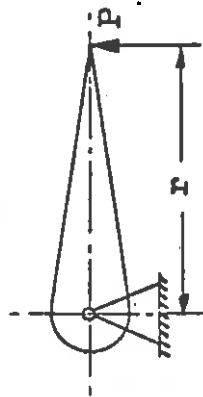
Control surface	Weight		Hinge moment	
	kg	lb.	cmkg	in.lb.
① Rudder with tail chute	7.2	15.9	38	33
② One elevator without mass balance	0.9	2.0	4.5	3.9
③ One elevator with approx. 200 g mass balance	1.3	2.9	2.2-2.9	1.9-2.5

- ① If the values for the rudder are exceeded, the tail parachute must be removed.
If the values for the rudder without tail parachute should be still exceeded, ask the manufacturer for advice.
- ② If the values for one elevator without mass balance are exceeded, a mass balance must be installed so that the values with mass balance ③ are observed.

See Technical Note No. 265-6.

The hinge moments must be determined on the disassembled control surfaces.

$$M = P \cdot r$$



The control surface should be supported at its hinge axis.

The force P is to be measured by means of a letter or spring balance.

After the installation of an additional mass balance the control surface movements are to be checked for their unlimited travel.

- CIRRUS -

- Service Manual -

Damper in the rudder control

The damper in the rudder control system must be dismounted during every annual inspection and be checked for its damping effectiveness.

It must not be possible to move the damper free of force.

- CIRRUS -

- CIRRUS VTC -

- Flight Manual -

According to the statements of the

Technical Note No. 265-6 of April 27, 1982 the following restrictions must be observed before the actions 2 through 5 are carried out :

Maximum permissible airspeed (I.A.S.)

in calm air	160 km/h (86 knots)
in rough air	160 km/h (86 knots)

Cloud flying is prohibited.

Techn. Note No. 265-6

April 1982

Techn. Note No. 265-6

April 1982

ps. 12
25.6.82