	AIRWORTHINESS DIRECTIVE
	THE GLIDING FEDERATION OF AUSTRALIA Inc
GLIDING AUSTRALIA	GFA AD 305 Issue 2
C4/1-13 THE GATEWAY,	Date: 27 April 2023
BROADMEADOWS VICTORIA 3047 PHONE +61 (0) 3 9359 9865, FAX +61 (0) 3 9359 1613. ABN: 82 433 264 489	Note: This Airworthiness Directive is issued by the Gliding Federation of Australia
Type Certificate Holder	Grob Aircraft SE
Manufacturer(s)	Burkhart Grob Luft-und Raumfahrt Gmbh & Co.
	GROB-Werke GmbH & Co.KG
Types/Models Affected	All G 109B Touring Motor Gliders
Serial Numbers	Serial numbers 6200 to 6434 inclusive.
Subject	Modifications, including rudder system damper, rudder hinge stiffening, and aileron control mass balance.
Implementation	MANDATORY
Background	GFA AD 296, now cancelled, restricted the G 109B to a V_{NE} of 100 knots as a temporary flutter limitation.
	GFA AD 305 Issue 1 mandated the incorporation of GROB TM 817-20 (which forms part of this AD). This included rudder and aileron control system modifications which, when fully incorporated would allow AD 296 restriction to be lifted, returning the 109B to its normal operating speed limits.
	Subsequently, it was discovered that the rudder damper when fitted reduced rudder control and aircraft controllability in certain conditions.
	GFA AD 305 Issue 2 permits continued operation without the rudder damper assembly fitted with the limitation that the maximum airspeed is limited to 100 knots $V_{\rm NE}$.
	The lifting of the 100 knot limitation may be authorised after successful completion of a flight test program approved by a CASR 21 Subpart M authorised person.
Documentation	TM 817-20
Required Action(s)	1. Grob TM 817-20 (enclosed) is to be fully incorporated by a holder of GFA Annual Inspector FRP maintenance authority with all FRP modification work carried out by a member endorsed FRP

	certificate endorsed CofA FRP with all FRP modification work carried out by a person endorsed FRP Major Repairs). All work is to be carried out referencing Repair Instructions RI 817-20/1 (installation of the rudder damper assembly), RI 817-20/2 (installation of additional aileron mass balance) and RI 817-20/3 (stiffening of the upper and lower rudder suspension at the fuselage). Any logbook or maintenance release entry restricting VNE to 100 kts can be cleared. OR
	2. Grob TM 817-20 is to be partially incorporated except not fitting the rudder dampener assembly IAW RI 817-20/1 but comply with all other instructions. If the rudder dampener assembly has been previously fitted, the assembly can be removed by reverse engineering RI 817-20/1. Structure previously modified can remain.
	(a) An operational limitation placard must be placed on the instrument panel fully visible to the pilot stating 'Maximum Airspeed (IAS) 100 knots'. The placard may be fitted by the registered operator of the aircraft or by a holder of a GFA issued maintenance authority.
	Maximum Airspeed (I.A.S) 100 knots (b) Raise a minor defect aircraft's in the maintenance
	release:
	"Rudder damper assembly not fitted, V_{NE} limited to 100 knots".
	3. On completion, all work is to be detailed in the sailplanes logbook and entries signed by the appropriate inspector.
	4. The Maintenance Manual pages 1, 1a, 12, 12a, 12b, 12c, 13, 13a, 41f, 28 all dated 29/1/1986 are to be incorporated into the maintenance manual (as applicable).
Compliance, Compliance Time(s) and Frequency	Compliance with this Airworthiness Directive is mandatory and compliance, including action taken pursuant to this Airworthiness Directive must be recorded in the aircraft logbook.
Effect on Weight and Balance	Before first flight after the installation of TM 817-20 components, the aircraft is to be weighed and new placards prepared by a holder of a GFA Weight and Balance Authority.
Issuing Authority	Issued for and on behalf of The Gliding Federation of Australia Inc.
	Signed:
	Chief Technical Officer
Effective Date	27/04/2023

\wedge	Techn	ical Informati	on	Motorglider
<u>GROB</u>		TM 817-20		GROB G 109 B
Subject:		res for improv r of the GROB		flutter be-
Effectivity	Seria - The fro	glider GROB G 1-number: 6200 following ser m realization 0, 6293, 6348,	thru 6434 ial-numbers an of instructior	
	fro 629	following ser m realization 0, 6293, 6348, bers as of ser	of instruction 6349, 6351, a	n 3: 6289, all serial
Accomplishm		uction l thru December 31, l		not later
Reason:	motor found high on fl tion desam The o	e course of ty glider GROB G that at high aileron and/or utter may be i frequency. Th t issued Airwo bject of this nnulment of th	109 B in Swede speeds combine rudder deflec nduced at a ce ereupon the Lu rthiness Direc Technical Info	en it was ed with very ctions, ailer- ertain excita- iftfahrt-Bun- ctive 85-218. ormation is
Instruction	the G	der to improve 109 B decisiv must be carri	ely, the follo	
		instruction: r according to 0/1.		
	al ma	d instruction: ss-balance in r Instruction	the ailerons a	
	and lo	instruction: ower rudder su ding to Repair	spension at th	ne fuselage
		epair Instruct t parts of the 7-20.		
	by the	he modification e revision date ages are to be	ed Jan. 29, 86	
	Page :	l replaces la replaces l2 replaces l2a replaces	issue dated Se	et. 21, 1985 p. 1, 1983
Datum	ersetzt Ausgabe vom	Bearbeitung		Seite 1

\wedge
GROB
C TFE

ť

Technical Information

TM 817-20

	· · · · · · · · · · · · · · · · · · ·			
	Page Page Page Page	<pre>12b new page 12c new page 13 replaces 13a new page 28 replaces 41f replaces</pre>	issue dated Se	ep. 1, 1983
Material:	Mater	ial for instru	ction 1:	
	d I I I I I I I I I I I I I I I I I I I	epair instruct rawing of damp AW TM 817-20 emplate for bo tick mounting ages for maint evision no. 4, amper unit, co isk 109B-4380. ower mounting exagon nut M8 exagon nut M8 exagon nut M8 exagon head so alvanized asher 8,5 DI for serial-no. piral spring 1 able clamp H-N in with shrink exagon head so alvanized exagon nut M4 asher 4,3 LN pring grommet	per-installation frame enance manual dated Jan. 2 mpletely assen 05 bracket 109B- LN 9348 rews M5 x 16 19025 N 9021 6200 thru 63 02-2000.33 Y 12 H 4300, tube Z 85 08 rew M4 x 10 D LN 9348 9025	on 109B-4380 s in the G 109 B, - 9.,86 nbled 4384.01 DIN 933 8.8 39 company Bürk- 3, 11 mm long
	Mater	ial for instru	uction 2:	
- -	a 8 2 M e 10 R 2 H 1 P t d (- G	epair instruct ileron left/ri 17-20 ass balance (1 ach 360 mm ler oll pins 2 x 1 exagon nuts M6 iece of hard f hick) 50 x 100 iagonally with Interglas 9212 lass-cloth, LN 2125 /) 500 x	ght 109B-1111 ead dia. 12 m ngth) 0 DIN 7344 LN 9348 coam (Conticel) mm, covered 1 glass-cloth 1 25,7) 1 8.4551.6 (In	/1112 IAW TM m, 4 parts 1 60 8 mm on both sides LN 8.4551.6 terglas
Datum	ersetzt Ausgabe vom	Bearbeitung		Seite 2



Technical Information

TM 817-20

GROB G 109 B

Material for instruction 3:

- 1 Repair instruction no. 817-20/3
 - 3 Templates for the wood and glass-cloth
 - 2 Plywood strips 20 x 3 x 140
 - 2 Hexagon nuts M6 LN 9348
 - Glass-cloth LN 8.4554.6 (Interglas 92140) 400 x 1000 mm

Also required:

- Resin Glycidäther 162 (BASF) 100 GT* (previously Epikote 162, SHELL)
- Hardener Laromin C 260 (BASF) 38 GT*
- Filler cotton flocks (type FL 1 f).

*GT = parts

Weight and Balance:

After execution of the repair, the new empty weight and empty weight center of gravity position are to be determined.

Remarks:

Instruction 1 to 3 must be carried out by an authorized aviation workshop. The proper execution of the instructions has to be certified in the log-book by an authorized inspector, class 3.

Mattsies, signed i.A	Jan.	29],	1986	/	ζ.
		$ \Lambda $. VIA	1 R	\sim
signed i.A	A. Dij	p1ℓ. –1	ing.	R'.	Rischer

LBA-approved on:

-7 MRZ 1936

P.S.: In case you have sold your motorglider meanwhile, we ask you kindly to give this information immediately to the new owner and to let us know his address and serialnumber.

> The translation has been done by best knowledge and judgement. In any case or doubt, the German original is authoritative. The German original of this Technical Information has been approved by the LBA under the date of March 7, 1986 and is signed by H. Frieß.

			company of the second
Datum	ersetzt Ausgabe	Bearbeitung	Seite
	vom	_	3





AIRWORTHINESS

DIRECTIVE

GFA	AD	305

Issue 1

<u>TYPE AFFECTED:</u> Grob 109B Powered sailplanes Serial Nos. 6200 to 6434 inclusive.

DETAILS: Modifications, including rudder system damper, rudder hinge stiffening, and aileron mass balance.

BACKGROUND: GFA AD 296 restricted the G109B to a VNE of 100kts as a temporary flutter limitation.

GROB TM 817-20 (which forms part of this AD) has been issued, outlining rudder and aileron control system modifications which, when fully incorporated will allow AD 296 restriction to be lifted, returning the 109B to its normal operational speed limits.

ACTION REQUIRED: Before April 30th 1987

Grob TM 817-20 is to be incorporated fully.

- IMPLEMENTATION: I. TM 817-20 may be incorporated by holders of a DoA 1109 glider inspectors certificate endorsed "C. of A. FRP" with all FRP modification work to be carried out by a person endorsed "FRP Major repairs".
 - On completion, but before the test flight, the sailplane is to be weighed and new placards prepared by the holder of a Do A 1109 glider inspectors certificate endorsed "Weighing and Weight and Balance".

3. Logbook

On completion all work is to be detailed in the sailplane's logbook and entries signed by the appropriate inspectors.

4. <u>Maintenance Manual</u>

Pages 1, 1a, 12, 12a, 12b, 12c, 13, 13a, 41f, 28 all dated 29/1/86 are to be incorporated into the maintenance manual.

COMPLIANCE:

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

Issued by:

Chief Technical Officer, Airworthiness 19/9/1986

For and on hehalf of.

2 1 Bur

NIMING EENEDATION OF AUCTOANA

Sheet 1 of 19

 , -			 - ·.	· ·			•	ſ	GFA	AD 305		Issue	9 1	
	• • •	· . ·				· · · · · · · · · · · · · · · · · · ·			19/9/	1986		Sheet	2 of 1	9
:	,		• 			• . : * 	· · · ·			: 			-	
MOTOTGLIDER GROB G 109 B	Jan, 15, 1985	Sep. 1, 1983 Jan. 15, 1985	817-20/1 with 11ation 109B-4380 holes in the	1 G 109 В, 29.,86	assembled 1098-4384.01 1 16 DIN 933 8.8	- - - - - - - - - - - - - - - - - - -	ojjy , company Bürk-	.1. mu 13.3 8		with drawing 1/1112 IAW TM	mm, 4 parts	11 60 8 mm on both sides LN 8.4551.6	(Interglas diagonally cut	Selte 2
at ion	ge ge fssue dated	issue dated issue dated uction 1:	o. sta the	ដំដំ សូច សូច	ompletely .05 bracket] B LN 9348 5 LN 9348 5 LN 9348 crews M5 >	9025 N 9021	serial-no. 5200 thru 5 serial 102-2000.33 clamp H-NY 12 H 4300,	ink tube Z 85 083, 1 screw M4 x 10 DIN 9	nut M4 IN 9348 ,3 IN 9025 rommet 109B-5130 1nstruction 2:	801	(lead dia. 12 .ength) : 10 DIN 7344 M6 LN 9348	(foam (Cont 00 mm, cove th glass-cl	LN 8.4551.6 (I × 1000 mm, dia	
Technicai Information 817-20	12b new 12c new 13 rep1	28 rep 28 rep 41f rep rial for	Repair instru drawing of da IAW TM 817-20 Template for	stick mountin Pages for mai revision no.	amper lsk 10 ower m exagon exagon exagon alvani	Washers 5,3 Washer 8,5	o ror s Spiral Cable	lin with shrink Hexagon head sc galvanized	Hexagon nut M4 Washer 4,3 LN Spring grommet terial for instr	1r 11 20	s balance h 360 mm l pins 2 agon nute	iecé of ha hick) 50 > iagonally Interglas	20 20	Bearbeltung
ц Ц	ក្តា ស្ត្រី ស្ត្រ ស ស ស្ត្រ ស្ត្រ ស ស្ត្រ ស្ត្រ ស ស្ត្ ស ស្ត្ ស ស្ត្ ស ស្ត្រ ស ស ស ស ស ស ស្ត្ ស ស ស ស ស ស ស ស ស ស ស			10		प न -		T			, 10 2 1	Т	I .	ersetzt Ausgabe vom
GROB		Material				C	, C	S						Datum
	<u></u>					9								_ ,
GRO 109 B	flutter be-	are excluded on 1: 6289,	re excluded n 3: 6289, ali serial 56.	not later	ttion of the den it was ned with very ections, aller certain excita- Luftfahtescita- Luftfahtescita- Luftfahtes	ormation is ss Directive.	behavior of owing instruc-	of a rudder uction no.	un of addition- according to	of the upper the fuselage n no. 817-20/3.	/2/3 are com- ice Bulletin	tenance manual 6, the follow-	Oct. 21, 1985 Oct. 21, 1985 Sep. 1, 1983 Sep. 1, 1983	Selte 1
1	vement of the G 109 B 109 B	<pre>Serial-number: 6200 thru 6434 - The following serial-numbers are from realization of instruction 6290, 6293, 6348, 6349</pre>	The following serial-humbers are exclude from realization of instruction 3: 6289, 6290, 6293, 6348, 6349, 6351, all seria numbers as of serial-number 6356.	instruction 3 1986.	In the course of type certification of the motorglider GROB G 109 B in Sweden it was found that at high speeds combined with very high aileron and/or rudder deflections, ailer on flutter may be induced at a certain excita tion frequency. Thereupon the Luftfahrt-Bun- desend at morthiness Directive Sc218	The object of this Technical Information is the annulment of the Airworthiness Directive	<pre>ier to improve the flutter behavior of 109 B decisively, the following instr must be carried out.</pre>	Installation of a r o Repair Instruction	Installatic he allerons o. 817-20/2.	Third instruction: Stiffening of th and lower rudder suspension at the according to Repair Instruction no.	uctions 817-20/1/2/3 the present Service	For the modification of the maintenance by the revision dated Jan. 29, 86, the f ing pages are to be exchanged.	issue dated issue dated issue dated issue dated	
-11-20 917-20	res for improvement r of the GROB G 109 glider GROB G 109 B	l-number: 6200 following sey m realization 0, 6293, 6348	following ser m realization 0, 6293, 6348 bers as of ser	Instruction 1 thru instruction than December 31, 1986.	In the course of ty motorglider GROB G found that at high high alleron and/o on flutter may be tion frequency. Th	object of this annulment of th	der to improve ti 109 B decisivel must be carried	First instruction: damper according to	Second instruction: Ir Second instruction: Ir al mass-balance in the Repair Instruction no.	instruction: ower rudder su ding to Repain	The Repair Instructions ponent parts of the pres TM 817-20.	he modificatio e revision dat ages are to be	l replaces issue la replaces issue 12 replaces issue 12a replaces issue	Bearbeitung
WE WE	•	Serla - The fro 629	- The fro 629 num		In aototh found fo	The of	s: In order the G 10 tions mu	First dampe 817-2	Secon Secon alman	<u>Third</u> and <u>1</u> accor	The R Ponen TM 81	For the mo by the rev ing pages	Раде Раде Раде	ersetzt Ausgabe vom
GROB	Subject: Effectivity:			Accomplishment:	Reason:		Instructions:							Datum

GFA AD 305	Issue 1
19/9/1986	Sheet 3 of 19

;

			·	
GROB	Tech	nical Informat TM 817-20	ion	Motorgliðer GROB G 109 B
	1 3 2	Templates fo Plywood stri Hexagon nuts	uction no. 817 r the wood and ps 20 x 3 x 14 M6 LN 9348 LN 8,4554.6 (1	glass-cloth 0
	. <u>A1</u>	o <u>required:</u>		
	- - -	(previously) Hardener Lar	äther 162 (BAS Epikote 162, S omin C 260 (BA n flocks (type	HELL) SF) 38 GT*
Weight and E	emp	ty weight and	of the repair, empty weight are to be det	center of
Remarks:	an pro to	authorized av per execution be certified :	3 must be car iation worksho of the instru in the log-boo ctor, class 3.	p. The ctions has k by an
Mattsies, Ja signed i.A.	n. 29, 1986 DiplIng. R	Rischer	(tr	roved on:
you k	wner and to	e this informa	orglider meanw ation immediat is address and	$a_1v + a_2 + b_a$
judge autho Infor	ment. In an ritative. T mation has b	y case or doub he German oric	by best knowle bt, the German final of this by the LBA und by H. Frieß.	oríginal is
Datum er	rsetzt Ausgabe om	Bearbeitung		Seite 3

. . .

			GFA AD 30	— <u> </u>	Issue 1
			19/9/1986		Sheet 4 of
-					
	-				
	· ·			÷.	. • .
			· · · · · · · · · · · · · · · · · · ·		
\wedge	Repair I	Instruction No.	817-20/1		
GROB			, —		
C-TFE		to TM 817-20 .		GROB G	109 B
· ·	•			I·	
The Repair	Instruction	no. 817-20/1 pe	rtains to the	Technic	al
damper in t	1 TM 817-20 a he rudder 11	nd includes the nkage of the G	installation	of a ru	ldder
		-			
<u>Material:</u>	1	Repair Instruct drawing damper-			
		TM 817-20			
	. 1	Template for bo stick mounting	ring the hole frame	s in the	
	10	Pages for maint revision no. 4	enance manual	G 109 H	3,
	1	Damper unit com	pletely assem	bled	
		Disk 109B-4380. Lower mounting	05		
· · · ·	1	Hexagon nut M8	LN 9348	4704°AT	
· · ·	4	Hexagon nuts M5 Hexagon head sc	LN 9348	דדף אדת	8 8
· •	-	galvanized		DIN 333	°.°
		Washers 5,3 LN Washer 8,5 DI			
	AISC	o for serial-no.	6200 Ehru 63	39	
	. 1 1	Spiral spring 1 Cable clamp H-N	02-2000.33		
	-	lin with shrink	tube Z 85 08	3 11 mm	i i
·	1	long Hexagon head sc	rew.M4 x 10 D	א ררף אדו	
• •		galvanized			
	G	Hexagon nut M4 Washer 4,3 LN 9	025		
	1	Spring grommet	109B-5130 -		
Tools:	1	Set of screwdri			
		Metric wrenches - 13 mm)	, different w	vidths (7	mm
	_	Sockets differe	nt widths (7	mm - 13	mm)
	1 1	Brush Electric drill	(preferably a	ngle dri	.11)
. •	3	Drills: dia. 8,	2, dia. 20, d	lia. 2	
Operating					
Sequence:	The	"item numbers" cated in parent	of drawing 10	9B-4380	are
	· · ·	-		:	
<u>Note:</u>	It i stat	s recommended t to memory bef	o commit the	assemble	ed
	part	s, or to make n	otes or sketo	hes, in	order
	to f part	acilitate the r s, i.e. screws,	eassembly. A should be ma	lso smal rked exa	.1
• •				Show one	
	:				
.*					
	· · · · · · · · · · · · · · · · · · ·				
atum	ersetzt Ausgabe vom	Bearbeitung		Seite	1
		1		1 ·	·

.

·. · .		-			19/9/1986	Sheet	5 of 19
•					· · · · · · · · · · · · · · · · · · ·	<u>I</u>	
 	· . 		· · · ·		E -		-
						.	
	. /	\mathbf{N}	Repair In	struction No.	817-20/1		
	, ŚR	ÔB		to TM 817-20		GROB G 109	B
				· · ·	_ *		
	asser	nbling –	the right win	g. Insure th	e facilitated at the piston installation.	rod of the	
	1.	Remove	right seat.				
	2.	Remove frame washer	(4 countersum	S plastic cov k screws M4 x	er over the st 20 DIN 963 wi	ick mounting th finish	a
	3.	drawin	g 109B- 4 380.	To properly	ick mounting f locate the hol	es, cut out	
		that t	he holes are		k mounting fra ndicular to th •		
·	4.		ve holes with agents).	resin (Cauti	on! Never use	e oily prese	r-
	5.	tured figure washer	drawing 109B- 2. The stor (11), includ	4380. The mo nut (14), th led in the del	ng frame accor unted damper u e cut disk (5) ivery, are to	nit is in and the be used.	-
	6.	piston full r mounti 4380 (rod mounting udder deflect ng unit (3,4)	g (3) with the tion to the ri at the dimen Secure the mo	ng bracket (4) hardware (7,9 ght, locate th sion shown in ounting unit ha	,12). With le piston ro drawing 109	d B-
	7.	Mount 3. Fo flange spiral (≥ 5) over t shrink hex he previo	spiral spring r that purpos of the seat spring (fig. mm). Next th he airbrake of tube and sec ad screw M4, usly installe	y to the airbr se, drill a ho frame cut-out 3). Insure he shrink tube cable. Push t cure with the stop nut M4,	0 thru 6339. ake cable acco le (dia. 2 mm) for attachmer sufficient edg should be cut he cable clamp spring grommet and washer 4.3 his application.)	in the at of the ge clearance and turned over the 109B-5130 4. (Any	,
	8.			the damper per ntion to the f	form functionation	al test. In	
		- The the - The (scc - To p dime	damper must w rudder push m piston rod of pres, scratche prevent jammin	work without t cod; f the damper m es, etc.). ng of the rudd	rudder stop. ension in each nust not have a ler at full dei ed in point 6 a	any damages Election, th	e
	Datum		ersetzt Ausgabe	Bearbeitung	······································	Seite	
			Vom		1	2	

:

11

•

• • • • •			GFA AD			ue l
			19/9/19	86	Sheet 6	of 19
· .		•	· · ·			
			· - · · ·		-	
	Repair	Trating		<u> </u>		
GRO	DB Nepall	Instruction No. to TM 817-20			, -	
			···	GROB G 1	09 B	
9.	Assemble the rig	ht plastic cover	of stick mour			
10.	Install right sea	at.	of selex moun	ting fram	e.	
Matte						
Matts	les, Jan. 29, 198	B <i>Q</i>				
signed	1 i.A. Dipl. ing.	R. Rischer				
			X			
		•	X			
			. O .			
•			5			
		_0)				
	(\sim				
		-				
	· · ·					
	-	-				•
	:					
		· · · ·				· :
		•	-			
						. *
						4 .
	1 . · ·					
	1 - • • • : • •	· ·				
Datima	-	- -				. · ·
Datum	ersetzt Ausgabe	Bearbeitung	[[Seite 3		

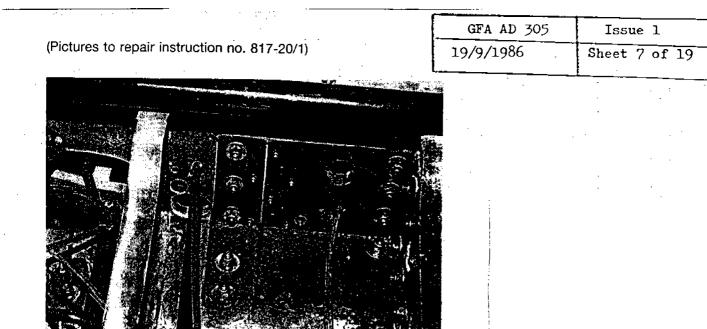
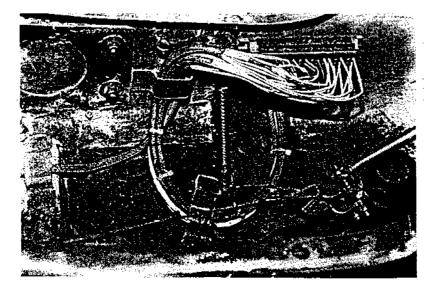
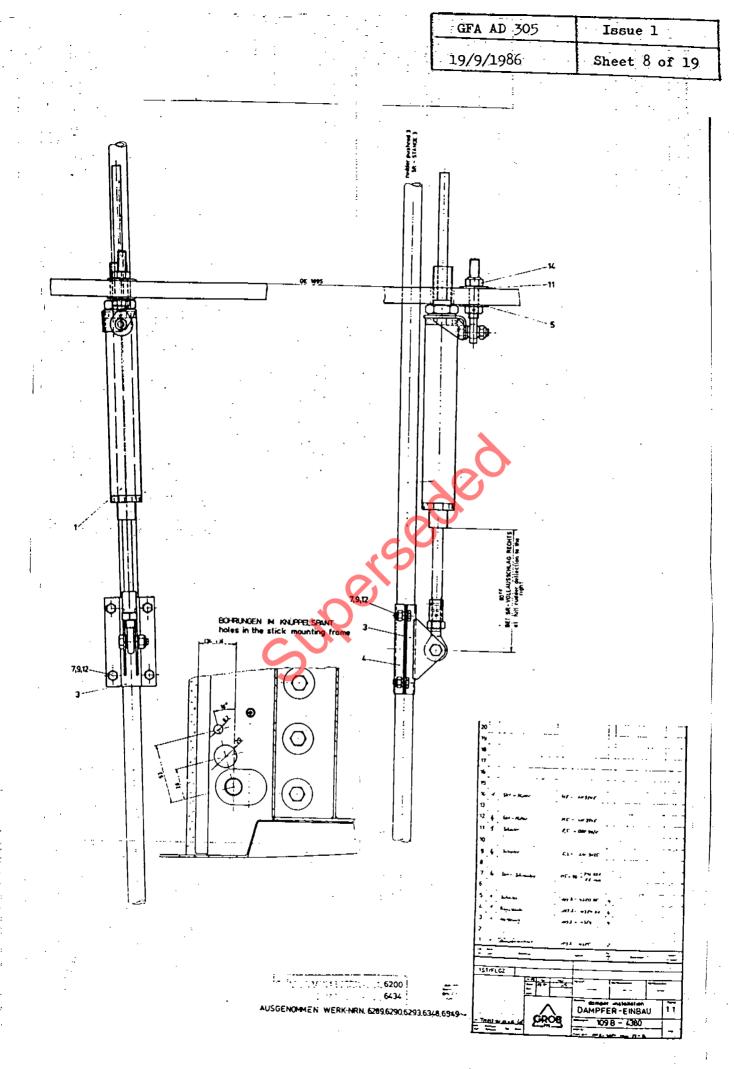
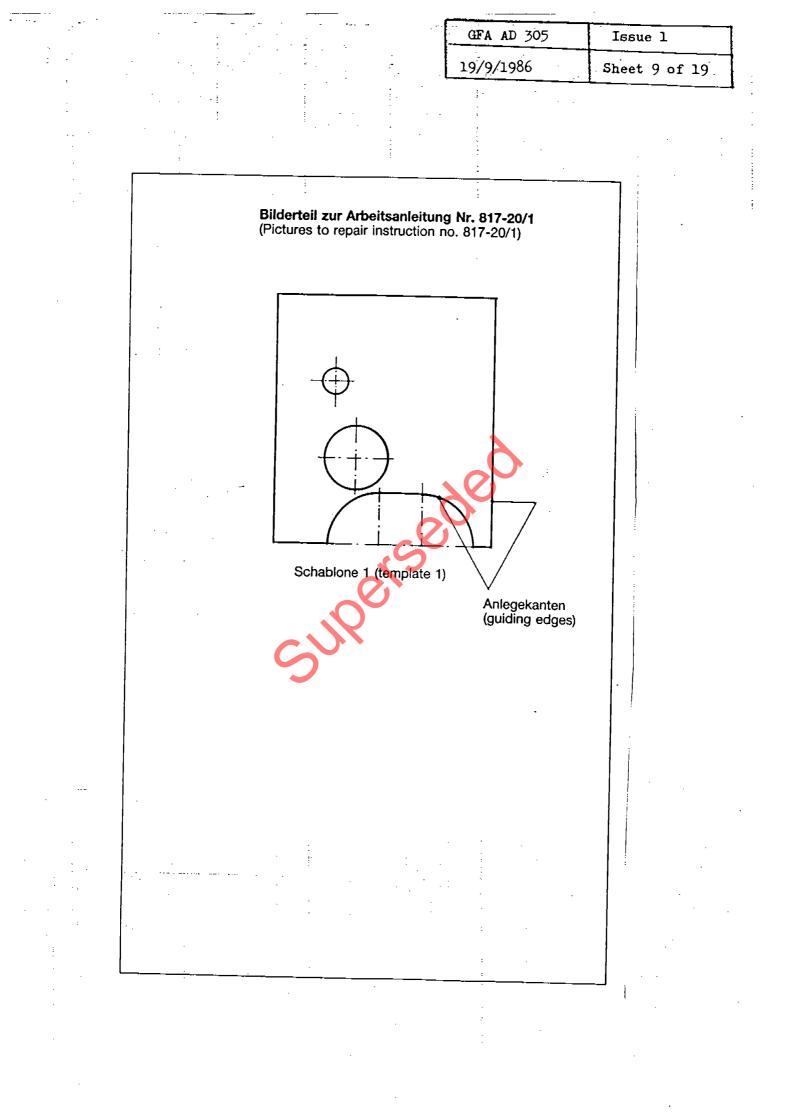


Abb. 1 (fig. 1)









· ·				19/9/1986	 ;	Chart	10 - 0	
÷		· · · .	· · ·	19/9/1900		Sneet	10 of 19	
• •				1			-	
	\wedge	Repair Ins	truction No. 8	17-20/2	· · · · · ·	;		
		t	о ТМ 817-20		GROB G	109 B		
	Information	Instruction no TM 817-20 and ance in the ai	includes the	installation	Technic of add	cal ition-		
	<u>Material:</u>	ai	pair instructi leron left/rig 7-20					
		2 Ma ea 10 Ro	ss balance (le ch 360 mm leng 11 pins 2 x 10	th) DIN 7344	, 4 pa:	rts		
		· 1 Pi	xagon nuts M6 ece of hard fo	am (Conticell				
	· · · · · · · ·	di (I - G1	ick) 50 x 100 agonally with nterglas 92125 ass-cloth, LN	glass-cloth L) 8.4551.6 (Int	N 8.45 erglas	51.6 92125		
	Maala		500 x 1000 mm		cut up	•		
	Tools:	1 Fi	x wrenches (10 le rewdriver	mm)		·.		
		1 Ha 1 Pu Ab 1 E1	mmer nch, size 2 rasive paper ectric drill (ill dia. 6					
	Operating Sequence:	The "i are in	tem numbers" o dicated in par	f drawing 109 entheses.	B-1111	/1112		
	Note:	(See n	ote of Repair	Instruction 8	17-20/	1)		
	The installation of the additional mass balance in the ailerons of the G 109 B can be carried out in the rigged or derigged condition.							
	 Put both wings on a supporting stand and secure with wedges (only if the motorglider is derigged). 							
	2. Remove							
	3. Deflect aileron upwards and remove the screw connection (hexagon head screw M6 x 24 LN 9037, hexagon nut M6 LN 9348, washer 6,4 LN 9025) between fork and rod end bearing of the aileron-push rod. On older motorgliders, the sheet metal (2) (see also drawing 109B-1111/1112) must be removed (2 countersunk screws M4 x 12 DIN 963-8.8 galvanized). The installation opening is on app. 1/4 of the span of the aileron.							
	4. Remove the five roll pins from the aileron hinges.							
						:		
	Datum	ersetzt Ausgabe vom	Bearbeitung	· · · · · · · · · · · · · · · · · · ·	Selte .	1		
		······································	I		L		- ·	

•

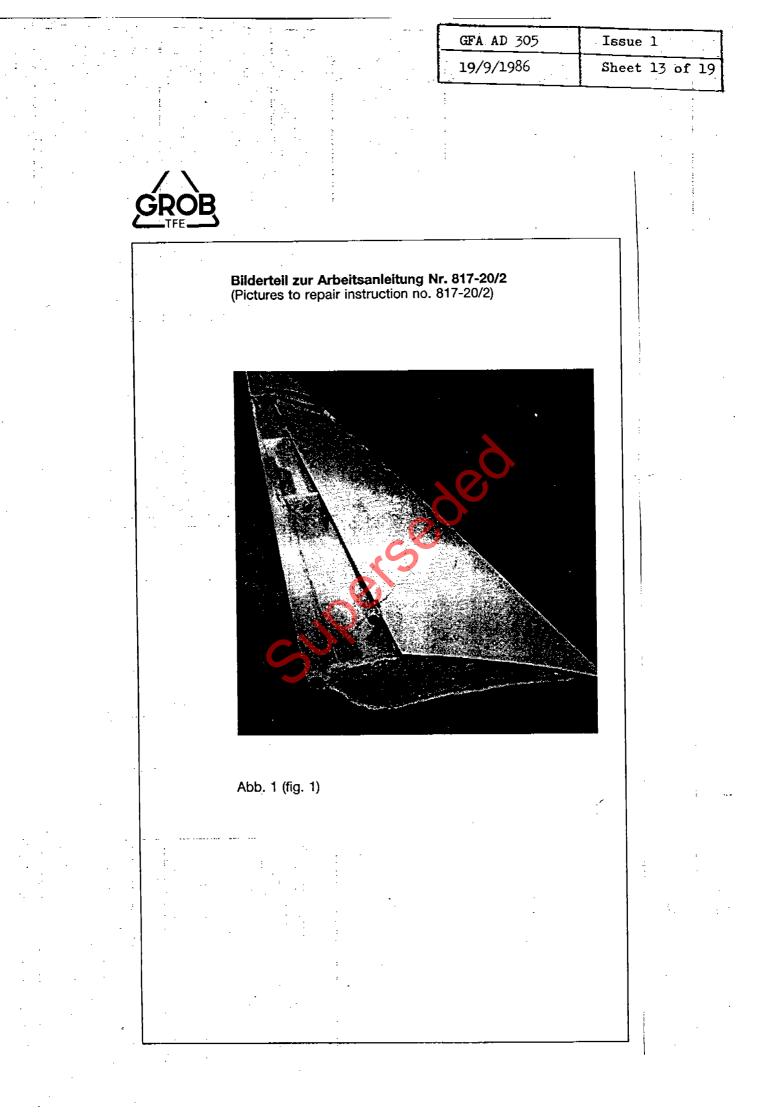
GFA AD 305	Issue 1
19/9/1986	Sheet 11 of 19
	· · · · · · · · · · · · · · · · · · ·

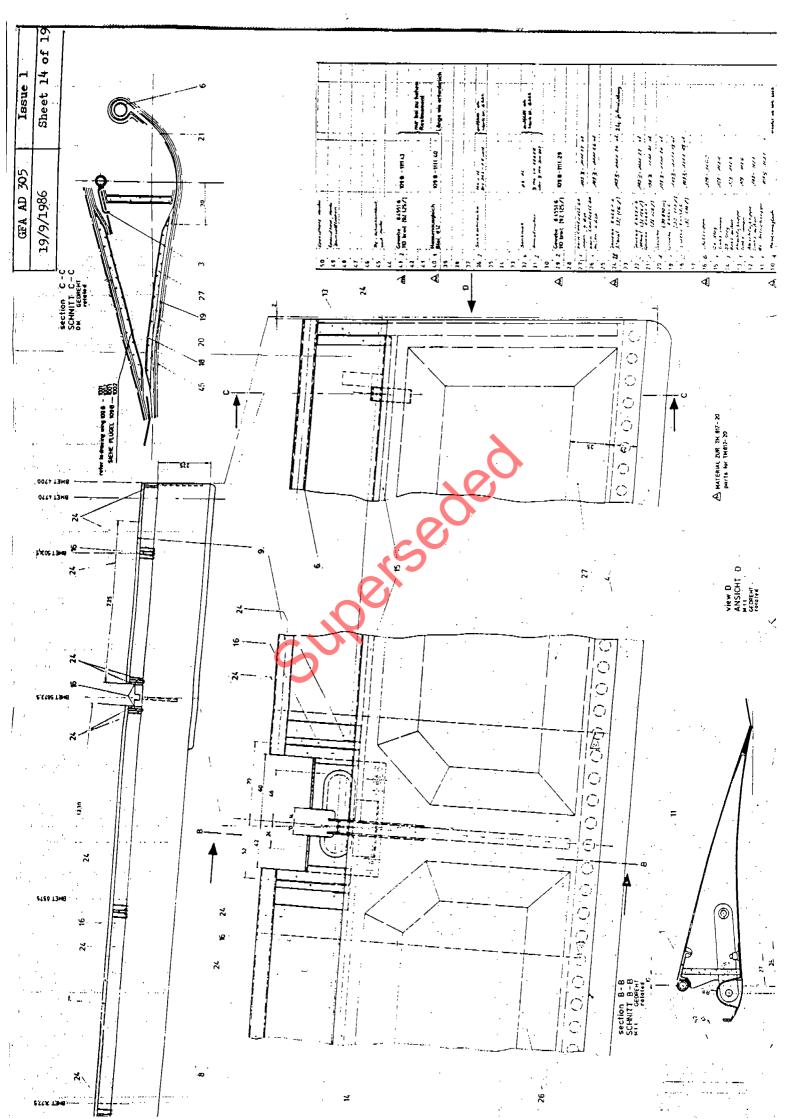
· ·

÷

			to TM 817-20	017-2072	
					GROB G 109 B
5.	ailero belong cernin	n bearings. ing together g the install	hinge pins (4 e 6f7 x 40 DIN Caution: Pins must be marked lation direction left) should be	1434 galvani and aileron - Likewise	zed) from the bearings
6.			porting stands.	made.	
7.				L. L. I .	
	drawin	g 109B-1111/1	in the region the line in the region the line in the line is the lin the line is the line	of pictures	ted on (see).
8.	If a so lo) him lead f file. I specifie the roo	crew head or nders the att rom the new r NOTE: In the ied as lead r d was divided	is (ea. 360 mm) (9) according to nut from the ex- cachment of the cods in the corr parts list, the cod 720 mm long. I into two halve	o drawing 10 cisting mass new lead ro cesponding 1 ie mass bala For reaso es of 360 mm	9B-1111/1112. balance (5, ds, remove ocation with a nce (7) is ns of packing, ea.
	horn (2	29) (see draw	mass balance v Interglas no. s ing 109B-1111/1	2125/) to 12 view A).	the aileron
	ing rih right). horn at llll/ll on both (24). A	The stiffen the indicat 12. The stif sides, each	stiffening rib Caution: There hard foam piece ing rib is to be ed place accord fening rib is t with 2 layers ng, a drainage ameter of 6 mm	must be made a fitted to ing to draw: be glassed of glass-clo	de 2 stiffen- left and the aileron ing 109B- l into place oth 92125
1.	The poi aileron	nts 2. thru , also.	10. must be car	ried out for	the second
:	G 109 B all cas	, page 28 (no es, the indic	e weight and th termined accord ew manual page cated limiting ,5 kgcm <u>+</u> 15 %,	ing to maint dated Jan. 2	enance manual 9, 86). In
-	If the stall a but onl at the ed from	residual mome dditional lea y if the weig upper limit. the manufact	ent is too high ad at the indic ght of the aile The necessary turer with info cesidual moment	, it is poss ated locatio ron does not material mu	ible to in- n (40,43); yet exceed
itúm		ersetzt Ausgabe vom	Bearbeitung		Seite
					2

GFA AD 305 Issue 1 19/9/1986 Sheet 12 of 19 Repair Instruction No. 817-20/2 to TM 817-20 GROB G 109 B The mounting of the ailerons takes place in reverse se-quence. The new stop nuts (M6) and roll pins, included in 13. the delivery, are to be used. 14. Function check of the aileron controls in the rigged condition. Insure free movement of the ailerons. Mattsies, Jan., 29, 1986 superseder signed i.A. Rischer R. Datum ersetzt Ausgabe Bearbeitung Seite 3 vom





		-	· ·	GFA AD	305	Issue	e 1]
				19/9/1986		Sheet	15 of 19
		•					
	CDOR	_	struction No.	817-20/3			
			to TM 817-20		GROB G	109 B	
	Information	1 TM 817-20 an	o. 817-20/3 pe d describes th ion at the fus	e stiffening	Technic of the u	cal upper	
-	<u>Material:</u>	3 T 2 P 2 H	epair instruct emplates for t lywood strips exagon nuts M6 lass-cloth LN	he wood and g 20 x 3 x 140 LN 9348	lass-clo	oth	
		9	2140) 400 x 10	00 mm .	ergias		
	<u>Tools:</u>	1 S 1 A A	ngineer's wren ocket 10 mm llen wrench si brasive paper ong nose plier	ze 5 mm coarse-graine	d (i.e.8	80)	
	Note:		note of Repair				
	1. Remove the adhesive tape from the rudder hinge line. Next, remove the hardware at the lower rudder hinge (internal wrenching cap screw M6 x 70 DIN 912, stop nut M6 LN 9348, washer 6,4 LN 9025). With the rudder at full left deflection and slightly aft, remove the rudder pushrod connection (hex head screw M6 x 30 LN 9037, stop nut M6 LN 9348, washer 6,4 LN 9025). The rudder can now be carefully lifted off of the top hinge pin and away from the fuselage. CAUTION: A/C with nav and/or strobe lighting must have their wiring disconnected upon rudder-removal. Insure that the wiring does not fall into the rudder.						
	– uppe	r rudder bear	be stiffened. ing see fig. 1 ing see fig. 2	(pictures) (pictures)			
- - -	plate (valid warp d lower	l (valid for for lower ru- lirection (see	lass-cloth to upper rudder b dder bearing). respective te g 3 layers of for each.	earing) and t Pay attenti mplate). For	emplate on to th upper a	2 ne and	
	4. Cut th to tem	e plywood str plate 3.	ips included i	n the deliver	y accord	ling	
	5. Fix plywood strips with thickened resin-hardener mixture at the assigned places (rudder bearing above and below) (see also fig. 1 and 2).						
 	6. Lamina plywoo	te glass-cloti d strips.	h according to	fig. l and 2	over th	ne .	
•							
: · · ·	Datum	ersetzt Ausgabe vom	Bearbeitung	<u> </u>	Seite	1	

GFA AD 305 Issue 1 19/9/1986 Sheet 16 of 19 Repair Instruction No. 817-20/3 GROB G 109 B to TM 817-20 After hardening the mounting of the rudder takes place in 7. reverse sequence. The new delivered stop nuts are to be used. Function check the rudder control. Insure free movement of 8. the rudder. On motorgliders with installed nav and/or strobe lighting in the rudder, also a function check of these warning lights must be effected. Mattsies, Jan, 20, 1986 superseder signed i.A. R. Rischer Datum ersetzt Ausgabe Bearbeitung Seite vom 2

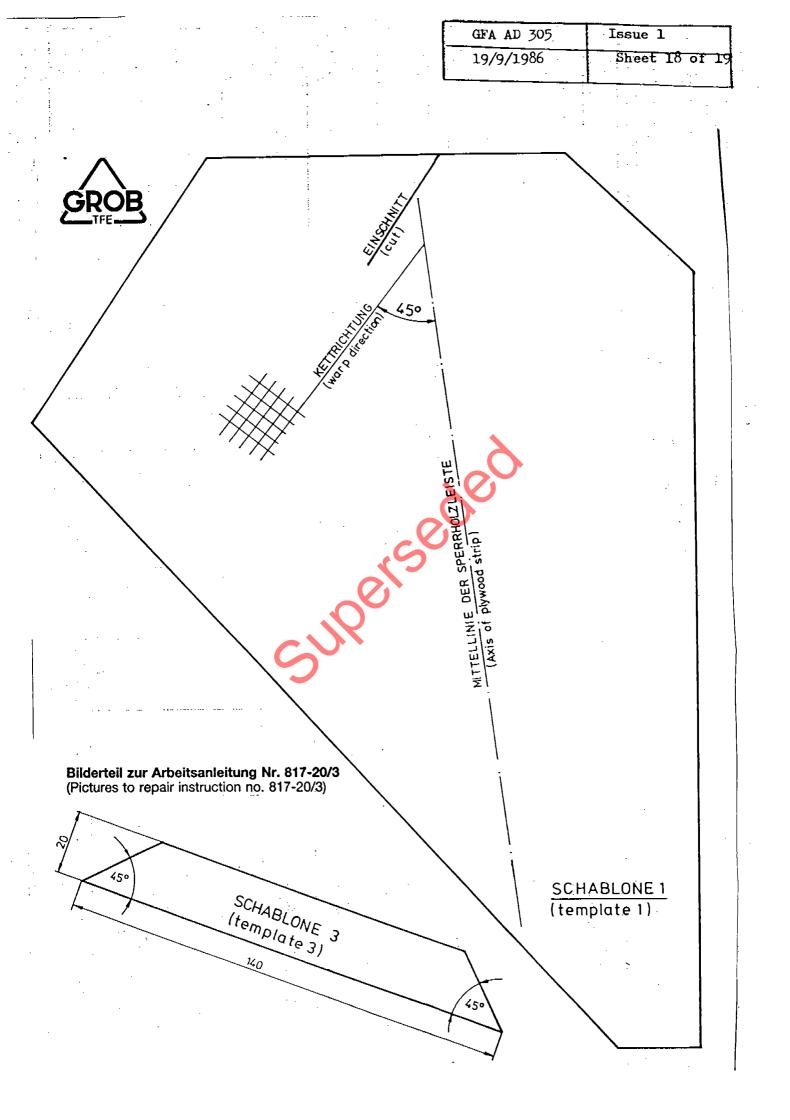
GFA AD 305	Issue 1
19/9/1 98 6	Sheet 17 of 19

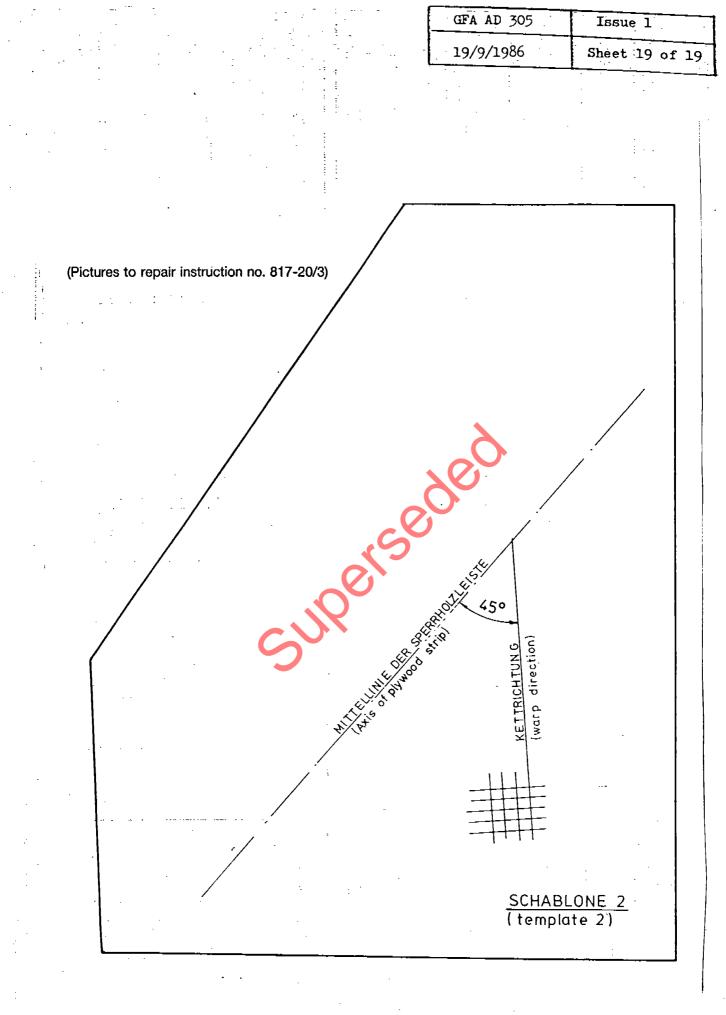
(Pictures to repair instruction no. 817-20/3)

Abb. 1 (fig. 1)

Abb. 2 (fig. 2)

seder





. -