

Subject : Main pin bushes

Effectivity : LS1 all variants

Accomplishment : In case that main pin bushes have to be exchanged.

Reason : The initial main pin bushes are made from aluminium with a thin liner inside.
When performing 3000 h inspections in most cases too much free play was detected as the bushes had become oval.
To improve the life time of the bushes a new design was made with bushes completely made of brass.

Instructions : When exchanging the main pin bushes install new bushes according to drawing F3.5 issue c.
Caution: Exchange the bushes according to repair instruction: RI-MPB-LS
Exchange of main pin bushes

Material : Main pin bushes according to drawing F3.5 issue c:
2 items F3.5 part 1
2 items F3.5 part 2
Repair instruction RI-MPB-LS Exchange of main pin bushes

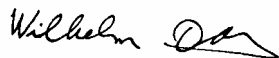
Weight and balance : influence negligible

Remarks : 1. EASA countries: The actions have to be performed in a Part -145 approved organisation, or in a Part M, Subpart F approved organisation according to the regulations of the Part M and released according to M.A.801.
2. Non EASA countries The actions have to be performed in a licensed workshop. All instructions are to be inspected and entered in the aircraft logs by a licensed inspector.

Bruchsal, date:
April 21. 2010

Author: W. Dirks

Modifications approved by EASA Date 27.04.2010
under Approval No. 10029865



Applicability: All variants of the types :LS sailplanes (LS1, LS3, LS4, LS7), LS8 and LS10

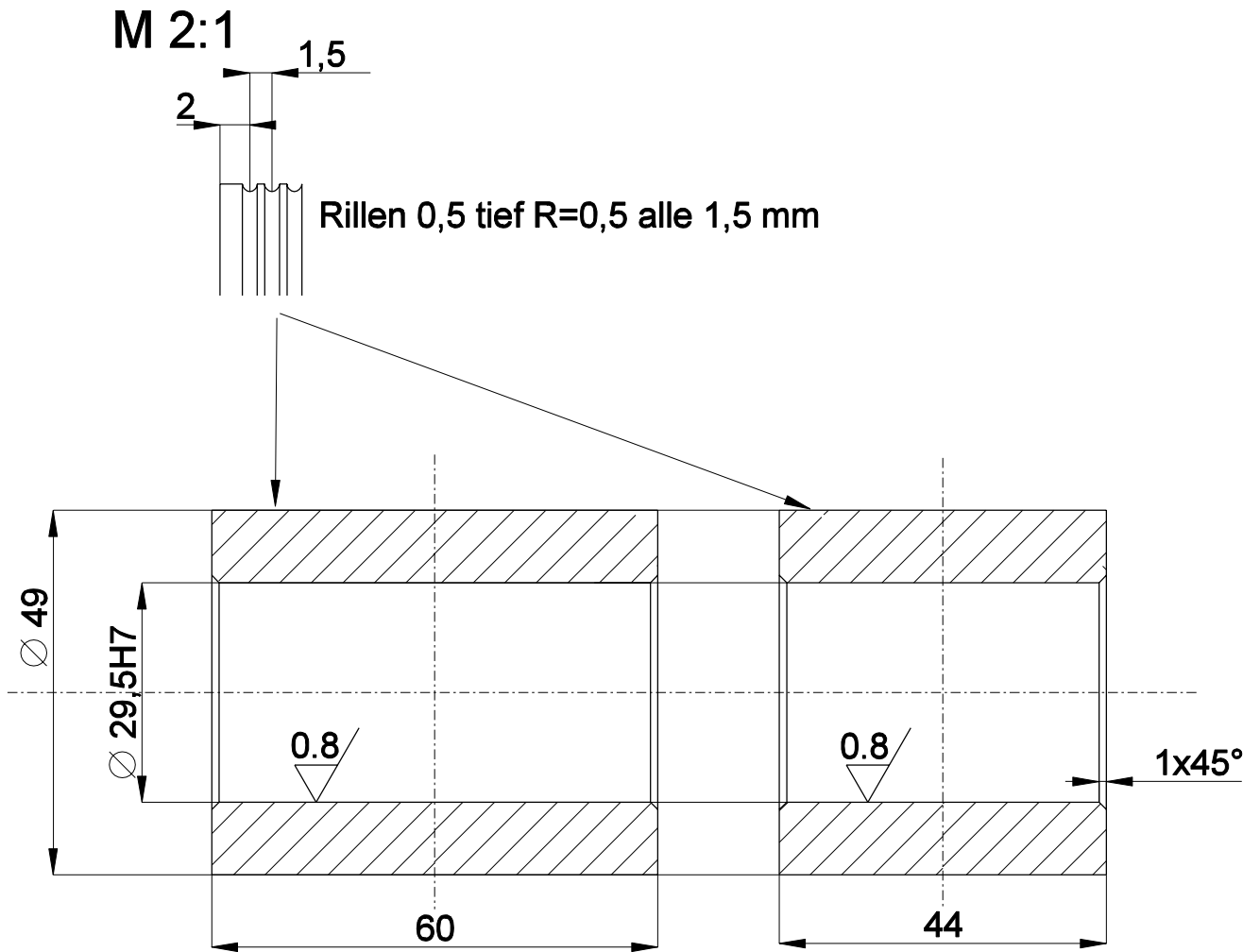
Reason: When the wing main pins have free play in the bushes it is likely that the bushes are worn. Both pins and bushes should be measured and exchanged when worn.

Max. allowable free play: See related Life Extension Program.

Instructions:

1. Support the rigged glider with a fuselage dolly and wing supports in such a way that it is possible to remove and insert the main wing pins without force. Fix the position and height of the supports.
Measure distances between the bushes in flight direction with a feeler gauge and note the values.
2. Prepare rings with inside diameter= outside diameter of main pins and thickness= measured values, e.g. from wire.
3. Grind through existing bushing in three places until metal is removed, but do not grind into FRP structure. Lift 3 pieces of the bushing from hole and remove "bonding thread" until new main wing bushing just slides in.
4. Coat the spar stub with a release agent.
5. Degrease gluing areas of the bushes with Acetone.
6. Grease the main pins (very thin coat and assemble the bushes and the rings see 2. on the main pins.
7. Install the whole assembly see 6. in the spar stubs (glider rigged see 1.) and measure how far the assembly must be pushed in so that the gaps between the bushes are centred to the gaps between the spar stubs.
In case the bushes are chamfered (from LS3a on) note the correct direction of the chamfer and mark at the front flanges of the bushes. Remove assembly.
8. Apply resin/hardener to main pin bushes and inside the holes for the bushes.
9. Bond the new main pin bushes (whole assembly see 6.) into spar stubs (glider rigged see 1.) using resin/hardener thickened with cotton flocks, regard the correct positions see 7..
Let the resin cure.
10. After curing de-rig the glider and remove excess resin.
11. Post cure spar stubs at least for 15 hours at 55°C.


Resin system: Hexion L 285/H285 or H286, mixing ratio 100:40 by weight



Teil 1	Stück 2
Oberflächenschutz: -	
Werkstoff: Cu Zn39 Pb3 F44	

Teil 2	Stück 2
Oberflächenschutz: -	
Werkstoff: Cu Zn39 Pb3 F44	

gültig für LS 1 alle Baureihen, TM62-LS

Toleranzen nach Arbeitsanweisung BA 1					Tag	Name	DG Flugzeugbau GmbH 76646 Bruchsal Otto-Lilienthal-Weg 2
Schweißen nach Arbeitsanweisung SA 1					Gez.	20.03.68 Lemke	
					Gepr.		
					Norm.		
					Maßstab	Hauptbolzenbuchsen Teil 1: lange Buchsen Teil 2 kurze Buchse	 F3.5
					1:1		
					2:1		
					Maße ohne Toleranzang. nach:		
c	neu gezeichnet aus einem Stück	TM 62-LS	13.04.10	W.Dirks			
Ausg.	Änderung	ÄM	Tag	Name			