



This Technical Note is effective in connection with LTA 74-323, edition 2 from 2.11.1974.

Subject: All gliders and powered gliders made by Scheibe Flugzeugbau (inclusive all manufactured under licence and from amateurs) which are not in accordance with LTA 74-323, as well as new planes, overhauls and repairs.

Priority:

- 1) At next overhaul
- 2) At exchange because of wear and tear or damage of the cable
- 3) All parts which are not in accordance with LTA 74-323, immediately
- 4) New Aircraft, immediately

Reason: Insufficient stress resistance of flight control cable connections especially with cables according to DIN L 9 - resp. DIN 655-specifications used with different types of sleeves.

In one accident investigation was found out, that the cable was partially cut at one wrong cable sleeve in connection with a cable according to DIN-specifications. It is possible, that this failure could appear again.

Instructions: Flight control cables used in gliders and powered gliders have to correspond with LN-specifications 9374. The necessary diameter of cables used in different types of gliders and powered gliders are listed in the table on page 2 and 3. The cable connections should be made with Aluminium Talurit cable sleeves and tools of the Talurit factory.

At the cable ends there should be used thimbles according to DIN 6899. The cable connections should be made in accordance with processing directives and directives for checking on page 4 and 5. For better security the utilization of two sleeves per cable end is allowed.

Informations:

Gliders and powered gliders produced by Scheibe Flugzeugbau are equipped with cables according to LN 9374 since the year 1963. Since September 1974 all cable fittings are made with two sleeves per cable end.

Material: Cables according to LN 9374.
Thimbles according to DIN 6899.
Aluminium Talurit cable sleeves and tools from the Talurit factory.
The dimensions of the parts should be taken from this technical note.

Weight and Balance: not affected.

Remarks:

- 1) This technical note is in operation with LTA 74-323 edition 2.
- 2) All parts needed for the execution can be supplied from Scheibe Flugzeugbau GmbH.
- 3) The modification should be made by the manufacturer or by an aeronautical workshop with an adequate authorization. The execution must be certified in the aircraft log book.

Review over flight control cables which should be usedRemark:

In the gliders and powered gliders of Scheibe Flugzeugbau GmbH flight control cables are used according to B 3,2 LN 9374. If flight control cables are lead over rolls with a diameter of 50 and 60 mm, there is used a cable according to A 2,4 LN 9374 (for instance: pedal adjustment in the "Spatz"-, "Bergfalke"-, and "Zugvogel I"-gliders and elevator- and aileron control cables in the "Specht"-gliders). Control cables which are loaded with the foot forces of two pilots accords to B 3,2 LN 9374 (all rudder control cables in all tandem twoseaters between the pedals in the rear seat and the rudder).



Type of glider or powered glider		Cable to be used	Installation place
Mü 13 E Bergfalke Bergfalke II Bergfalke II/55 Bergfalke III Bergfalke IV	104	Cable A 2,4 LN 9374 Cable B 3,2 LN 9374	between forward and rear pedals between rear pedals and rudder
Spatz A Spatz B Spatz 55 L-Spatz L-Spatz 55	105	Cable A 2,4 LN 9374	rudder control cables
L-Spatz III	105	Cable B 3,2 LN 9374	rudder control cable
Specht	138	Cable A 2,4 LN 9374 Cable A 2,4 LN 9374 Cable B 3,2 LN 9374	elevator control cable aileron control cable rudder control cable
Sperber	209	Cable B 3,2 LN 9374	rudder control cable
Zugvogel I	172	Cable A 2,4 LN 9374	rudder control cable
Zugvogel II	212	Cable B 3,2 LN 9374	rudder control cable
Zugvogel III Zugvogel III A Zugvogel III B	214	Cable B 3,2 LN 9374	rudder control cable
Zugvogel IV Zugvogel IV A	217	Cable B 3,2 LN 9374	rudder control cable
SF 24 A Motorspatz SF 24 B Motorspatz	581	Cable B 3,2 LN 9374	rudder control cable
SF 25 A Motorfalke SF 25 B Falke SF 25 C Falke SF 25 E Superfalke	653	Cable B 3,2 LN 9374	rudder control cable
SF 26 Standard	232	Cable B 3,2 LN 9374	rudder control cable
SF 27 A SF 27 B	257	Cable B 3,2 LN 9374	rudder control cable
SF 27 M-A	678	Cable B 3,2 LN 9374	rudder control cable
SF 28 A Tandemfalke	770	Cable B 3,2 LN 9374	rudder control cable
SF 29	789	Cable B 3,2 LN 9374	rudder control cable
SF 30 Clubspatz	302	Cable B 3,2 LN 9374	rudder control cable
SFS 31 Milan	755	Cable B 3,2 LN 9374	rudder control cable



Processing Directives and Directives for Checking

1. Dimensiones and checking of the cable connections

measures in mm

Cable LN 9374 rated diameter real diameter	2,4 2,4 bis 2,6	2,4 2,7	3,2 3,2 bis 3,5
Thimble A...DIN 6899 rated diameter	2,5 	2,5 	3
Tool of the firm Talurit, rated dimension	3	3,5	4
Alu-Talurit-sleeve rated dimension	3	3,5	4
Dimensions (raw dimensions)			
final dimensions checking dimensions ²⁾			
	measured in the middle of the sleeve		
Additional checking	a) The ready sleeve should not touch the thimble end. b) The cable end should stand out the sleeve a little. c) The sleeve should be free of cracks (check with a 5Xpowered magnifying glass). d) If 2 sleeves per thimble are used, both sleeves should accord to the above named checking dimensions		
	2) To be checked with a slide gauge with a 0,1 mm vernier scale.		



2. Instructions to make the cable connection

Upper and lower part of the tools are marked with the serial number and rated dimension and they are not interchangeable. Damaged tools must be taken away and destroyed. If the press boring of the tool is greased the durability of the tool is increased. Upper and lower part of the tool should not be used twisted! The marks of the rated dimension must be on the same side at the upper and lower part.

The cables should be cut off with a sharp tool or with a flame cutter. The annealed part of the cable end should not be used in the connection, it must stand out of the sleeve complete. Back drilled cable ends should never be in the sleeve. The normal twist of the cable end must be present.

The cut cable is shoved through the sleeve until the cable end is one cable diameter out of the sleeve. Now the thimble is put in the cable loop. The cable loop is drawn together, so that the sleeve has a distance from the thimble of $1/2-1$ times of cable diameter, because the sleeve grows longer during the compression.

To press the sleeve, one should use a mean heavy hammer and a non elastic base plate. About 4 heavy-hammer beats are sufficient, and when the upper and lower part of the tool are in contact (shrill sound during the blow and making rebound the hammer) the sleeve is finished. Do not turn the sleeve during the work, because otherwise the sleeve can be damaged.

The flash is taken away and the rest is smoothed with a file.

If the sleeve is ready it is to be inspected according to the informations on page 4.

As protection from stand off wires a short piece of PVC-tube is shoved over the ready sleeve by Scheibe Flugzeugbau GmbH. This tube must be shoved over the cable first when the connection will be produced.

SCHEIBE FLUGZEUGBAU GMBH
Dachau, Aug. Pfaltz-Str. 23

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