

Subject: Sheet-metal locks for the screws to fix the air brake levers to the main controls in the central part of the fuselage (see pictures).

Effectivity: Sailplane model TWIN ASTIR work N° 3000 to 3255 (included)
Sailplane model TWIN ASTIR TRAINER work N° 3001-T-1 to 3254-T-31 (included).

Accomplishment: Carrying out of measure N° 1 before next flight.
Observing of measure N° 2 till carrying out of measure N° 3.
Carrying out measure N° 3 before 31 Aug. 79, at the latest.

Reason: Avoiding the self-loosening of fastening screws on the air brake levers.

Instructions: The main controls are located in the middle of the fuselage, behind the spars. The inner shaft of the control unit carries the aileron levers (upper and lower) each of these connected with a conic pin. The outer shaft of the control unit carries the air brake levers at the top and at the bottom, each of these levers being fixed with three hexagonal screws (M 6). The technical information concerns these six fastening screws. If necessary, operating the controls of the air brakes will help you identify the levers. Further information is given in the instructions for repair and on the attached pictures.

1. a) Before next start, check the tight seat of each of the 3 fastening screws at the upper and at the lower airbrake lever. The upper lever is easily accessible after lifting the boot cover. The lower lever is located under the fuselage structure behind the seat-back of the rear seat. At this point, it is recommended to use a pocket lamp and a mirror.
b) In case one or more of the screws has got loose or has turned out for a few threads, it has to be tightened again. Use no force, so as not to damage the threads in the aluminium shaft.
2. Repeat measure N° 1 daily before the first flight, till measure N° 3 is carried out.
3. a) The main control unit at the centre of the fuselage has to be dismantled.
b) Lock sheets to be inserted under the 6 fastening screws. Carrying out the repairs in all details according to repair instruction to TM 103-6 is mandatory.

Material: 2 Sheet metal locks Nr. 103-4220.14
6 Hexagonal nuts M6 LN 9348

Weight and Balance: No influence

Remarks: Please, mail the reply postcard within the requested time.

Burkhart Grob Flugzeugbau GmbH & Co. KG

München, den 12. 6. 1979

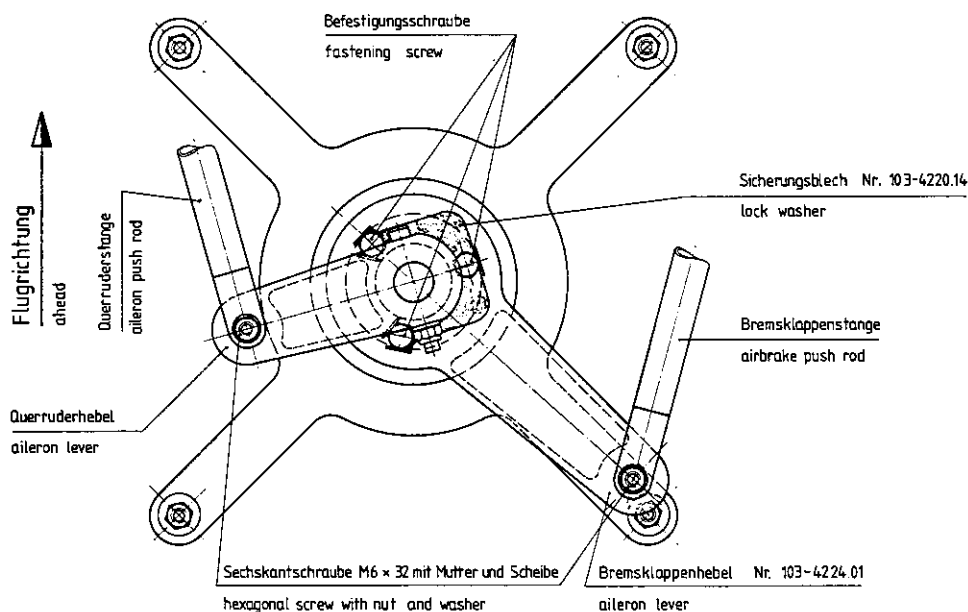
LBA certified

gez. i. A. Dipl. Ing. H. Wilser

Instructions for insert the sheet metal locks below the fastening screws of the air brake levers, located in the main control unit at the centre of the fuselage.

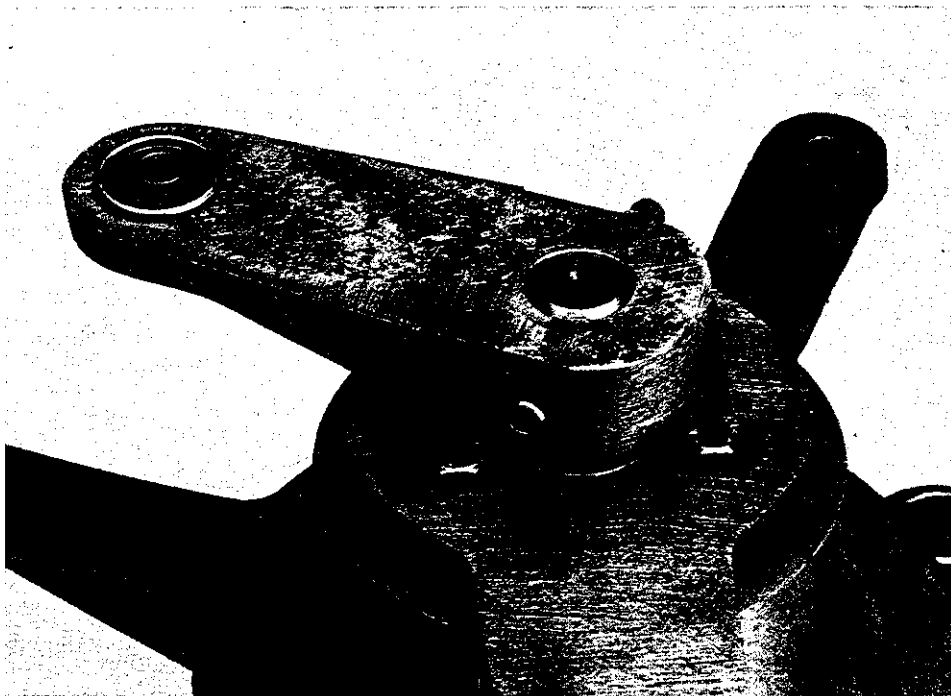
1. Dismantle plane and erect fuselage. Remove rear canopy.
2. Remove head-rest, lift up the boot cover and fix it against the fuselage with cello-tape. Remove rear seat or push seat-back forward.
3. Remove aileron push-rod (fuselage, right) and air brake push-rod (fuselage, left) from the lower levers of the control unit. The rods are located under the fuselage structure behind the seat. The connecting of the rods consist of hexagonal screws (M6x32), washers and nuts; for freeing, use 2 fork keys, 10 mm width. After dismantling, screws, washers and nuts should be replaced into their forks and slightly screwed so that they don't get lost or mingled.
4. At this stage, the main control unit, also called "spider" has to be removed. (see Pict. 1).

The four legs of the "spider" are fixed on the fuselage structure with 4 hexagonal screws (M6x40, SW 10 mm). When loosening, hold back the nuts from underneath the fuselage structure. The "spider" can now be removed from above. If necessary, slightly turn the levers at the bottom part so that they fit into the gap of the fuselage structure. Here again, plug screws, washers and nuts into the four legs so that they don't get lost. While carrying out the repair, the four little push rods remain connected with the upper levers.



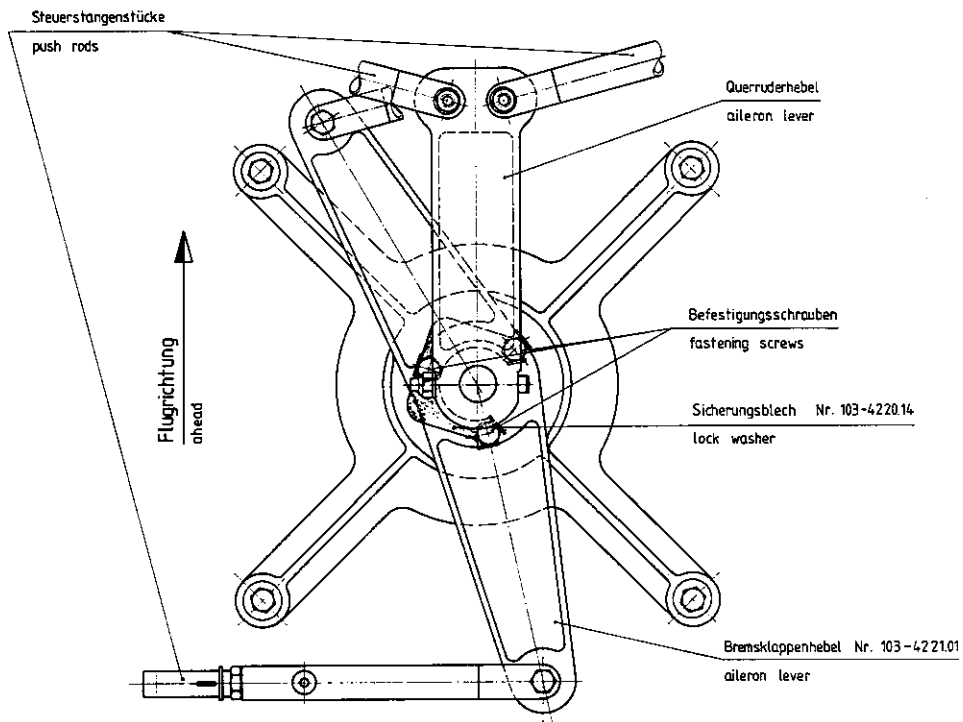
Picture 1:

5. The lock sheet N° 103-4220.14 has now to be fixed to the lower air brake lever (Pict. 1 and 2). Loosen the screws (M6, SW 10 mm) on this end for about 2 turns. Insert the lock washer under the fastening screws as on pict. 1 and 2, then put on the screws again. Proceed carefully so that the thread in the aluminium shaft will not be damaged. The 5 lugs of the lock washer have now to be bent upwards as shown on pict. 1 and 2. Adequate tools are a screwdriver and a small hammer. Now adjust the lugs fast against the sides of the heads of the hexagonal screws.

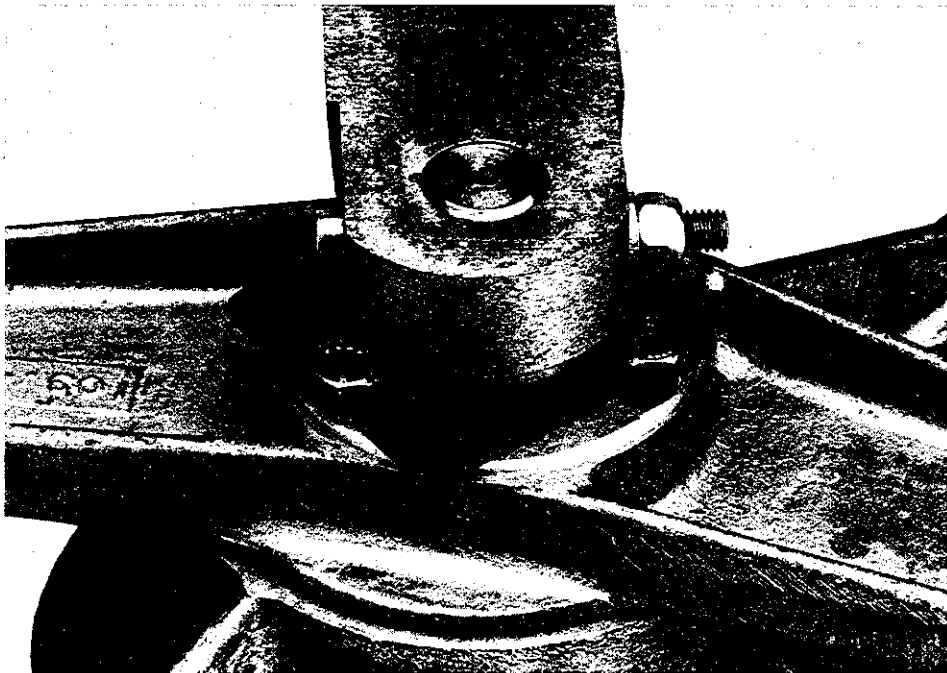


Picture 2:
Lower airbrake lever shown with sheet metal lock, 2 fastening screws with 2 lugs bent upwards.

6. Now fix the second lock sheet to the upper aileron lever (Nr. 103-4221.01) as shown on Pict. 3 and 4. To insert part easily, bend the plate in a spiral. It is advisable to use a small hammer. Otherwise, proceed as in section 5.
7. Now, make sure that there is no touch between airbrake and aileron lever, moving the spider. If necessary, shorten or bend the lugs a little.
8. Refit the spider. Insert both lower levers without the rods through the gap in the fuselage structure, the four legs in place again; Insert the hexagonal screws (M6 x 40) and a washer from above, use a new nut with washer. Underneath put screw on. (Pict. 5)



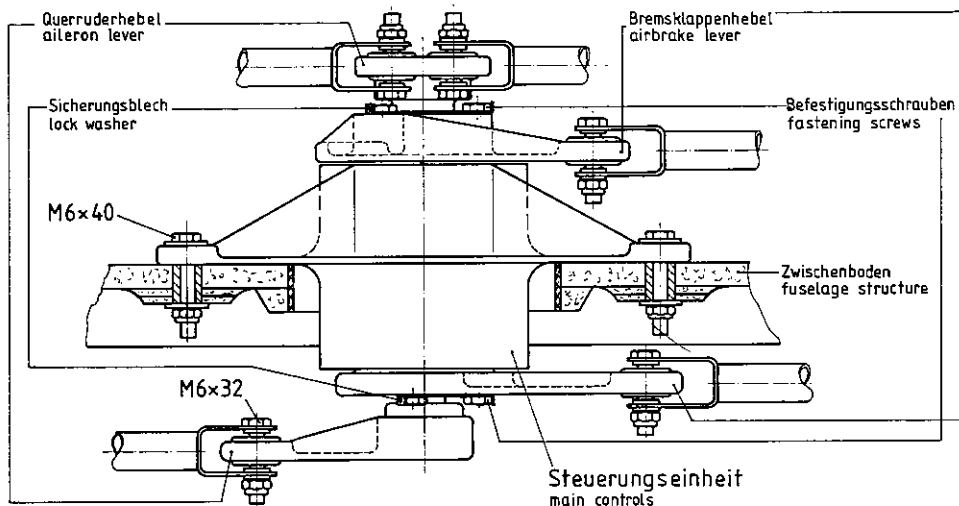
Picture 3:



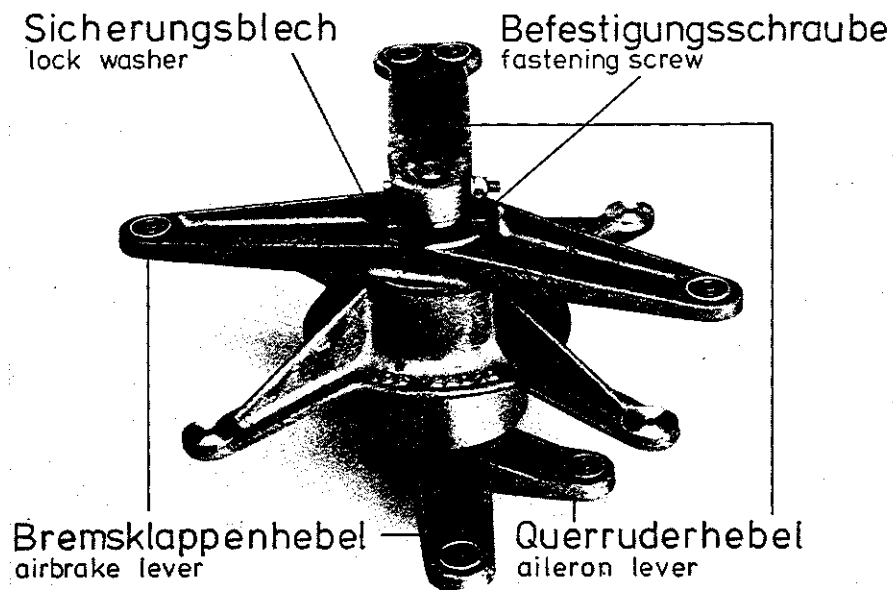
Picture 4:

Upper air brake lever with sheet metal lock. Also seen here: 1 screw with 1 lug bent upwards, 1 screw with 2 lugs bent upwards.

9. Connect the rods again with the main control unit. The aileron rod on the right fuselage side to the shorter lower lever. The air brake rod on the left fuselage side to the longer lever above (Pict. 1 and 5). Insert the hexagonal screws into the forks and put on the screws with washer and new nut.
10. After the repair, make sure again that all concerned parts and screws are properly fixed; check also that the aileron and air brake levers and pushrods move freely around the spider.
11. Assemble the plane, refit seat and canopy, connect all controls. Check the controls once again carefully, especially that the deflection is functional and even, left and right. After normally performing the repair, no trimming of the controls is necessary.



Picture 5:



Picture 6

View of the main control unit (upper lever shown without push-rods).

Material:

For your plane will be delivered according to TM 103-6:

- 2 Sheet metal locks N° 103-4220.14
- 6 Nuts M6 LN 9348.

Recommended tools:

- 2 Fork Keys (SW 10 mm)
- 1 medium-size Screwdriver
- 1 small Hammer
- 1 electric torch

München, 21. 6. 1979
Western Germany

gez.: i. A. Dipl. Ing. H. Wilser