**ASW 20
Technical Note
No. 16**

*Alexander Schleicher*
*Segelflugzeugbau*
*6416 Poppenhausen*

## Issue II

**Subject:** Installation of a front towing hook.

**Affected gliders:** ASW 20, all model variants.

**Compliance:** None; optional equipment on request.

**Reason:** For export into some countries where almost exclusively aerotows are performed, the installation of a forward towing hook is required which must be fitted clearly in front of the C.G.

**Action:**

1. According to drawing 201.11.S8 the following parts are made and installed:
   201.11.0057
   201.11.0058
   201.11.0127.

   The trim bellcrank must be bent according to drawing 201.49.0020 so that it cannot interfere with the tow hook.
   Only the TOST tow hook E 75, P/N 60.230/1, model DFS, must be used; the tow hook must be installed 15 mm (0,59 in) left off the fuselage center line in order to get enough clearance from the trim spring.

2. With the installation of a front tow hook the Flight and Maintenance Manual is supplemented by including:
   pages 23a and 38a for the ASW 20,
   pages 26a and 42a for the ASW 20 L,
   and pages 33a and 59a for the ASW 20 B, BL, C, and CL.

**Material:** See drawings.

**Weight & balance:** By the installation of the tow hook the mass of the non-lift producing structural parts is increased by about 1 kg (2,205 lbs) and the empty mass C.G. is shifted forwards by about 5 mm (0,2 in).
Therefore, a weight & balance procedure is necessary after the installation of a front tow hook.



E. Steinweller, Fulda
„Safir-Normdruck" 09 6181 83

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**No. 16**

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*6416 Poppenhausen*

## Issue II

Notes:

1. For this TN no.16 supplementary static and flight test substantiation was done (see ASW 20 B Substantiation, page 7569 and following pages). The substantiation for the greatest mass of all ASW 20-variants includes all other ASW 20s with lower all-up weights.
2. The installation of the front tow hook according to this TN must only be done by the manufacturer or by a licensed repair station and must be certified in the glider's logbook and the inspection papers.
3. The amendments to the Manual must be documented on the respective page of the Flight and Maintenance Manual (page 4 "Amendments to the Manual" for the ASW 20 and ASW 20 L; page 1 and 2 "Index of corrections" for the ASW 20 B, BL, C, and CL).
4. This TN, issue II, replaces the previous TN no.16 dated 05.09.83.

Poppenhausen, June 28, 1984

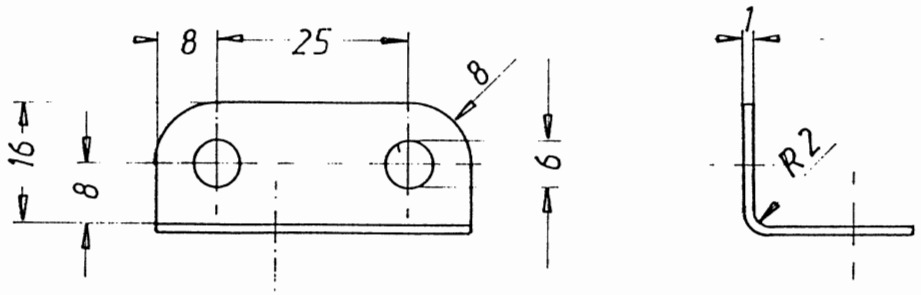
ALEXANDER SCHLEICHER
GmbH & Co.

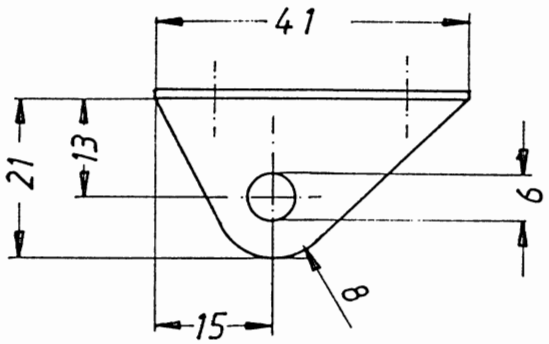
Gerhard Waibel
Gerhard Waibel.

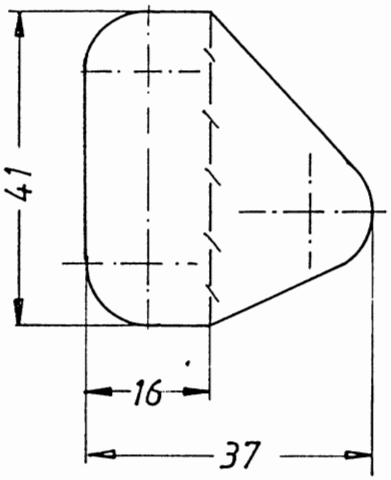
The German original of this Technical Note has been approved by the LBA under the date of July 3, 1984, and has been signed by Mr. SCHMALJOHANN.
The translation into English of this TN has been done by best knowledge and judgement. In any case of doubt the German original is authoritative.



E. Steinweller, Fulda
„Safir-Narmdruck" 09 6181 83



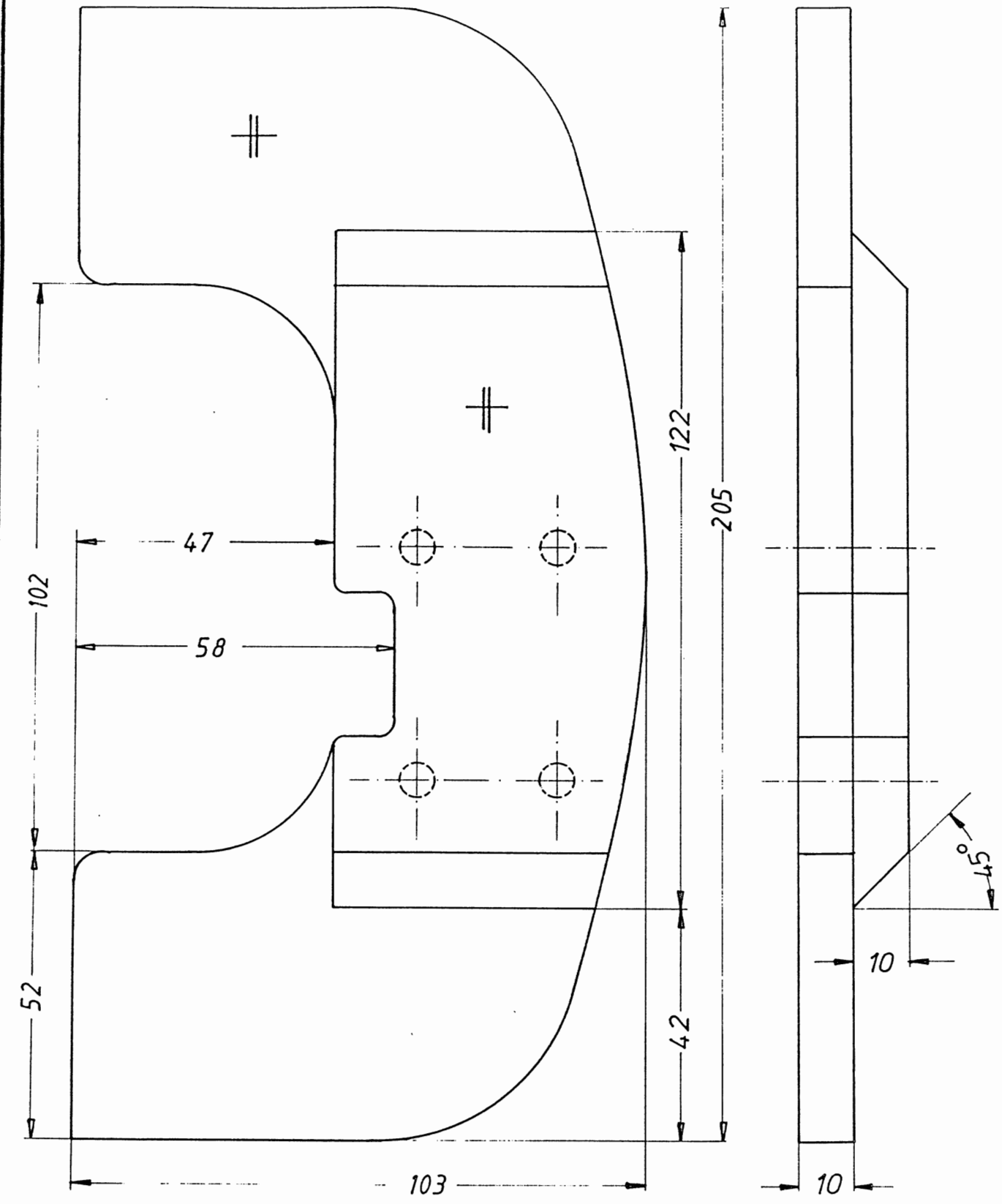




Ob.: grau lackiert

Mat.: 1.7214.4 / 1.7734.4

1 Stück und
1 Stück spiegelbildlich

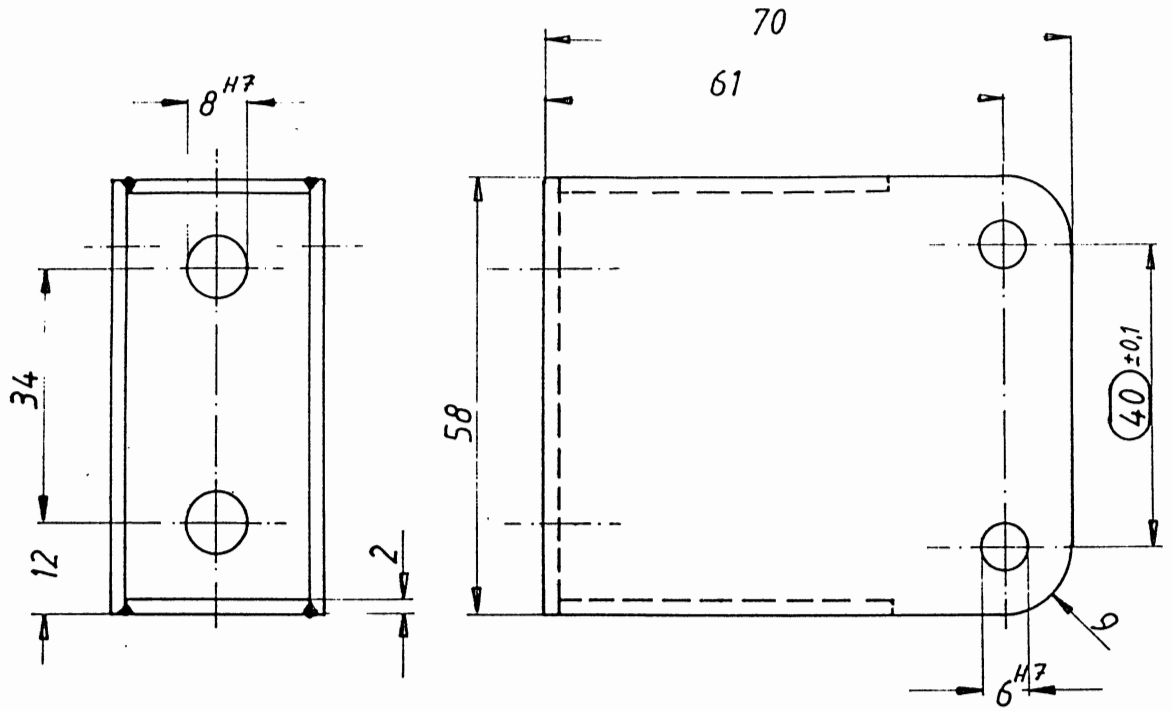
| | | | | | Datum | Name | Typ | Benennung | Maßst. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Bearb. | 25.08.83 | | ASW 20 B | Winkel II für FS-Kupplung TM-Nr. 16 | 1:1 |
| | | | | Geprü. | | | | | |
| | | | | Norm | | | | | |
| | | | | A. Schleicher Segelflugzeugbau 6416 Poppenhausen | | | Zeichnungsnummer L- 314 201. 11. 0058 | | Blatt Bl. |
| Zust. | Änderung | Datum | Na. | Urspr. | | | Ers. f. | Ers. d. | |

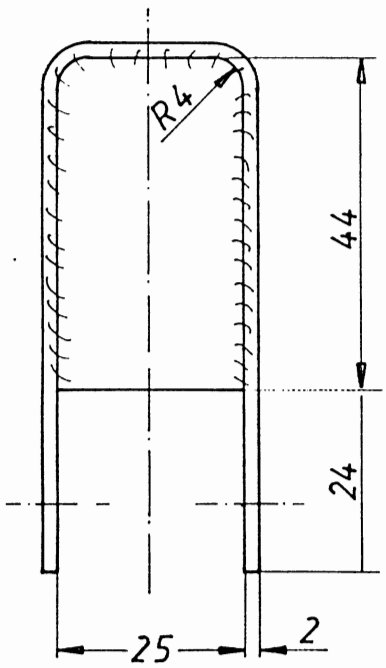



Ob.: konserviert mit Epikote 162 (100 T.) u. Epikure 113 (38 T.)

Mat.: Sph. Birke 6.1013. Zeichnung dient als Schablone

| | | | | | Datum | Name | Typ | Benennung | Maßst. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Bearb. | 02.09.83 | Juw | ASW 20 B | Spant II für FS-Kupplung TM-Nr. 16 | 1 : 1 |
| | | | | Geprü. | | | | | |
| | | | | Norm | | | | | |
| | | | | A. Schleicher Segelflugzeugbau 6416 Poppenhausen | | | Zeichnungsnummer L - 314 201. 11. 0127 | | Blatt / Bl. |
| Zust. | Änderung | Datum | Na. | Urspr. | | | Ers. f. | Ers. d. | |




| Maße ohne Toleranzangabe mittel DIN 7168 | |
|---|---|
| Längen-maß | Toleranz |
| 0,5 - 6 | ± 0,1 |
| 6 - 30 | ± 0,2 |
| 30 - 120 | ± 0,3 |
| 120 - 315 | ± 0,5 |
| 315 - 1000 | ± 0,8 |
| 1000 - 2000 | ± 1,2 |

Ob.: grau lackiert

Abwicklung ca. 161 lang

Mat.: 1.7214.4 / 1.7734.4

| | Datum | Name |
|---|---|---|
| Bearb. | 14.08.83 | Juω |
| Geprü. | | |
| Norm | | |

| Typ | Benennung | Maßst. |
|---|---|---|
| ASW 20 B | U-Bock für FS-Kupplung TM-Nr. 16 | 1:1 |

A. Schleicher
Segelflugzeugbau
6416 Poppenhausen

Zeichnungsnummer L-314
201. 11. 0057

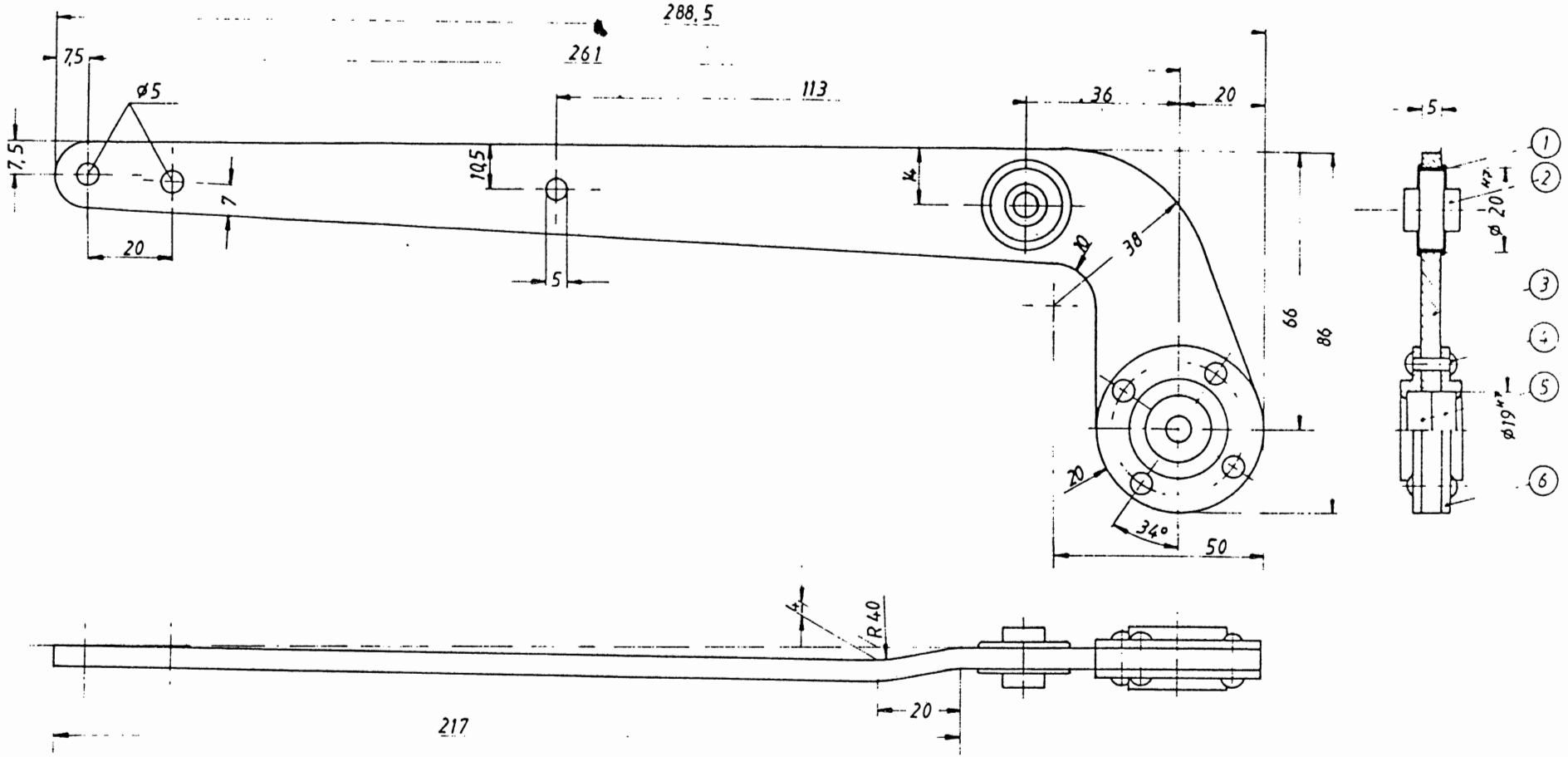
Blatt Bl.

| Zust. | Änderung | Datum | Na. |
|---|---|---|---|

Urspr.

Ers. f.

Ers. d.

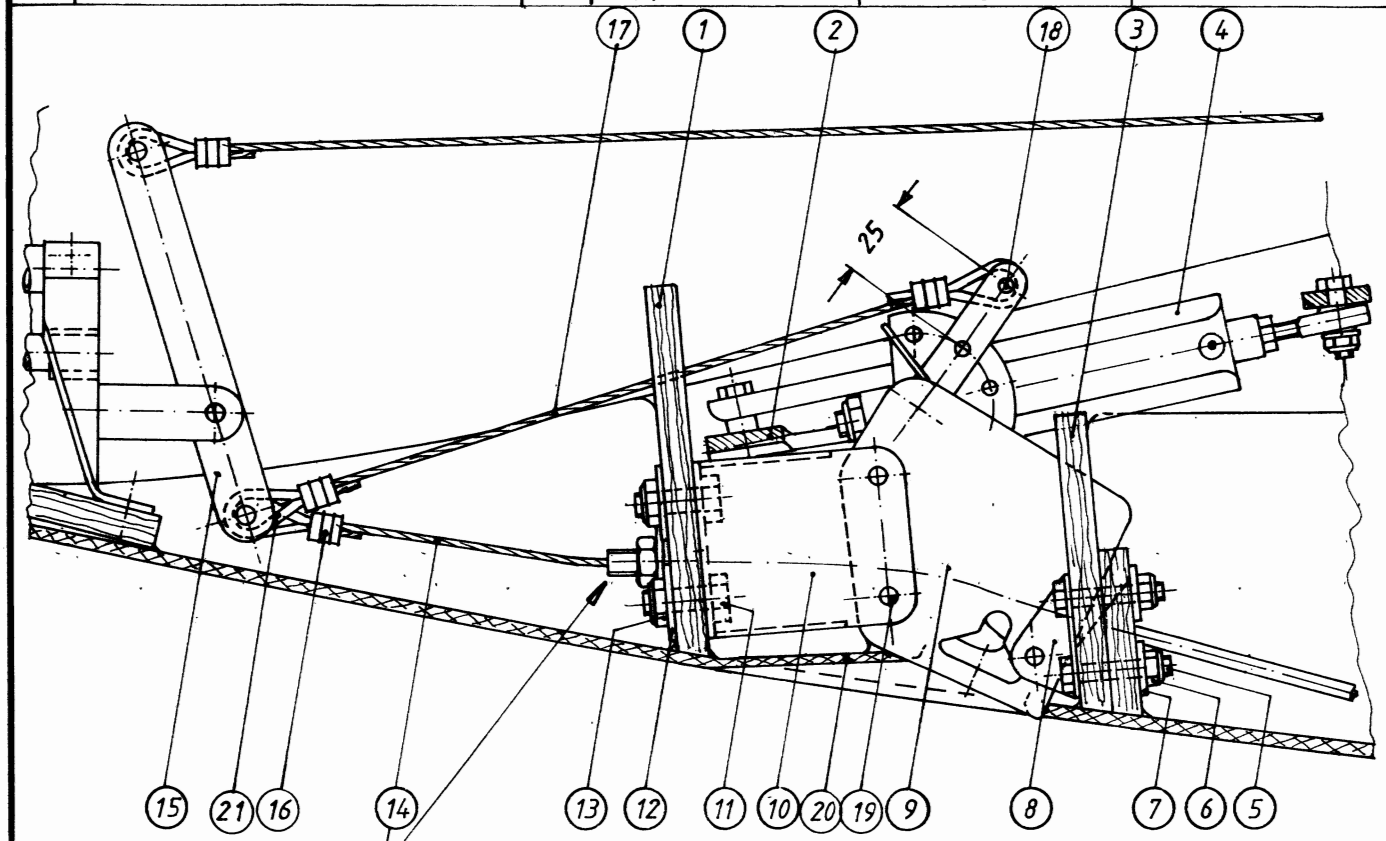



| | | | | | |
|---|---|---|---|---|---|
| 2 | Kl. Flansch | 6 | 3.1364.5 | 99 304 0007 | |
| 2 | Rillenkugellager | 5 | | 626 - 2Z | |
| 4 | Halbrundniet 3 x 13,5 | 4 | | DIN 660 - Al | |
| 1 | Hebel | 3 | 3 1364.5 | 5 x 86 x 2,89 | |
| 1 | Pendelkugellager | 2 | | 14 C 6 | |
| 1 | Nietbuchse | 1 | St 35 GN | ø 20x0,5 - 11 | |
| Stk. | Benennung | LN. Nr. | Werkstoff | Abmessung Norm- oder DIN-Nr. | Bemerkung |

| | Datum | Name | Typ | Benennung | Maßst. |
|---|---|---|---|---|---|
| Bearb. | 19.8.83 | Juv | ASW 20 B | Umlenkhebel für Trimmung TM-Nr. 16 | 1:1 |
| Gepr. | | | | | |
| Norm | | | | | |
| | | | A. Schleicher Segelflugzeugbau 6418 Poppenhausen | Zeichnungsnummer L - 314 201.49.0020 | Blatt |
| Ers. f. | Änderung | Datum | Name | Urspr. | Ers. d. |

Kein Serienbau !

| | | | | | |
|---|---|---|---|---|---|
| 4 | Kausche 3 DIN L 69 | 21 | | | |
| 5 | Lagen Glasgewebe | 20 | 92140 ✕ diagonal | 250 × 250 mm | |
| 3 | 6kt Schraube M6 × 40 × 30 | 19 | | DIN 931 - 8.8 | Distanzbuchse ø8×1,5-6 99.103.5030 |
| 1 | 6kt Schraube M5 × 15 × 8 | 18 | | DIN 931 - 8.8 | |
| 1 | Flugzeugseil ø2.4 - 400 | 17 | rostfrei | LN 9389 | |
| 4 | Presshülse f. Drahtseil ø 2.5 | 16 | Kupfer verz. | NT 2826 | Fa. Lindemann |




Bowdenzug der SP-Kupplung so einstellen, daß bei Betätigung gleichzeitig beide Kupplungen vollständig öffnen !

| | | | | | |
|---|---|---|---|---|---|
| 1 | Umlenkhebel f. Kupplung | 15 | | 200. 11. 0035 | 99 000 8120 |
| 1 | Flugzeugseil ø,2 4 - 1400 | 14 | rostfrei | LN 9389 | |
| 2 | Sicherungsmutter NM 8 | 13 | | DIN 980 - 8 | |
| 2 | Scheibe ø 8,4 | 12 | | DIN 9021 - St | |
| 2 | Sechskantschraube M 8 × 25 × 14 | 11 | | DIN 931 - 8.8 | |
| 1 | U - Bock f. FS - Kupplung | 10 | | 201. 11. 0057 | |
| 1 | Tost - Bugkupplung E 75 od. E 85 | 9 | | Geräte - Nr. 60.230/1 | Antriebshebel gekürzt ! |
| 2 | Winkel II f. FS - Kupplung | 8 | | 201. 11. 0058 | |
| 4 | Scheibe ø 6,3 | 7 | | DIN 9021 - St | |
| 4 | Sicherungsmutter NM 6 | 6 | | DIN 980 - 6 | |
| 4 | Sechskantschraube M6 × 31 × 22 | 5 | | DIN 931 - 8.8 | |
| 1 | Trimmfeder, kompl. | 4 | | 201.49.1001 | |
| 1 | Spant II f. FS - Kupplung | 3 | | 201. 11. 0127 | |
| 1 | Umlenkhebel f. Trimmung | 2 | | 201. 49. 0020 | |
| 1 | Spant I f. FS - Kupplung | 1 | | 200. 11. 0115 | |

| Zust. | Änderung | Datum | Na. |
|---|---|---|---|
| 1 | Teil 16 ÷ 21 erg. | 7.9.90 | Juw |

| | Datum | Name |
|---|---|---|
| Bearb. | 02.09.83 | Juw |
| Geprü. | | |
| Norm | | |

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Segelflugzeugbau
6416 Poppenhausen

| Typ | Benennung | Maßst. |
|---|---|---|
| ASW 20 B | FS - Kupplungs - Einbau T.M.-Nr. 16 | 1:2,5 |

Zeichnungsnummer L - 314
201. 11. S 8

Blatt Bl.

Ursprung | Ers. f. | Ers. d.