Subject: Turbulators (Zig-Zag-tapes) for winglets, horizontal and vertical tail planes

Serial number applicability: All ASW 28-18, 28-18E

Reason: Modern profile sections as used for high performance sailplanes are designed in such a way, that they do not perform in an optimum kind when no turbulators are installed. Therefore all ASW 28 are equipped with turbulators in serial condition.

Action: According to the positions given in drawings of Fig. 1 through 3 Zig-Zag-Tapes of the specified kind are attached to the inboard surface of the winglets, on upper and lower surface of the horizontal tail planes and on both sides of the vertical tail.

NOTE: All glue areas must be dried and cleaned from dust and grease as good as possible!

To check the prepared glue areas, a transparent tape is glued to the area and removed again to check for remaining white dust and for good stick of the glue.

When applying the Zig-Zag-tapes to the surfaces the leading edges of the tapes must not be pressed down and the edges must not be rounded, as otherwise the aerodynamic effect of the turbulators may be impaired.

Material:

<table>
<thead>
<tr>
<th>Winglet inner surface</th>
<th>Horizontal Tail upper surface</th>
<th>Horizontal Tail lower surface</th>
<th>Fin left &amp; right</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x</td>
<td>1 x</td>
<td>2 x</td>
<td>2 x</td>
</tr>
<tr>
<td>0,5 m</td>
<td>2,8 m</td>
<td>1,35 m</td>
<td>1,0 m</td>
</tr>
</tbody>
</table>

Zig-Zag-Tape 60°, 12 mm wide, t = 0,52 mm, ZA = 7 mm

The material can be ordered from Alexander Schleicher GmbH & Co., Phone: ++49 (0)6658-890 or -8929, FAX ++49 (0)6658-8940, or e-mail: info@alexander-schleicher.de

Notes: The action can be accomplished by a competent person.

In the case that performance measurements other kinds or positions of turbulators could be recommended, this Maintenance Instruction will be changed or amended.

The ASW 28 wings is equipped with an internal plenum channel. NACA - Intakes as well as blow holes, which act as a (blow) turbulators are installed at the lower surface of the wings.

Re-installation of the Zig-Zag-Tapes in the area of the NACA-Intakes and between outboard aileron and wing tip on the lower wing surface are given in Maintenance Instruction A.

Poppenhausen, May 14, 2004

Alexander Schleicher
GmbH & Co.

by order

(Michael Greiner)
Fig. 1 - Horizontal Tail

- Oberseite / upper surface
  - 56 mm / 2.3 in.
- Unterseite / lower surface
  - 50 mm / 2 in.
  - 50 mm / 2 in.
  - 58 mm / 2.3 in.
  - 45 mm / 1.8 in.

Fig. 2 - Fin

- 25 mm / ~ 1 in.
- 114 mm / 4.5 in.
- 124 mm / 4.9 in.
- 50 mm / 2 in.

Fig. 3a - Winglet, inner surface

- Zick-Zack-Band auf Oberseite / Z-Z-tape on upper surface:
  - Mittellinie bei 50% / centre line on 50%
  - Hinterkante 55% von Nase / trailing edge of tape 55% from nose

Fig. 3b - Winglet, inner surface, optional Zig-Zag-tap position

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