

Gegenstand Installation von Winglets
Subject *Installation of Winglets*

Betroffen: alle ASW 24, ASW 24 B und ASW 24 E, LBA Geräte-Nr. 366 und LBA Geräte-Nr. 859
Applicability *all ASW 24, ASW 24 B and ASW 24 E, LBA TCDS 366 and LBA TCDS859*

Dringlichkeit: Keine, Nachrüstung auf Wunsch
Urgency *None, optional modification*

Klassifizierung Erhebliche Änderung
Classification *Major Change*

Vorgang zur Leistungsverbesserung können ca. 0,5 m hohe Winglets nachgerüstet werden.
Reason *for performance enhancement new designed 0,5m Winglets can be retrofitted*

Maßnahmen Anbau von Winglets gemäß „Arbeits- und Prüfanweisung ASW 24 0,5m Winglet“
Action

Die folgenden Handbuchseiten sind durch Seiten mit gleicher Seitenzahl auszutauschen und im Berichtigungsstand der Handbücher einzutragen:

ASW 24 / ASW 24 B:

Sofern nicht bereits gemäß TM 6 erfolgt, im Flughandbuch die Seiten: 0.5, 4.2, 4.4, 4.6, 4.12 bis 4.14, 4.20, 4.21 und 8.3, im Wartungshandbuch die Seiten 0.5, 2.35, 6.3 und 7.4 durch Seiten mit dem Änderungsvermerk "TM 6 / 18.08.92 Juw".

Im Flughandbuch die Seiten 0.4 und 1.4 und im Wartungshandbuch die Seiten 0.4, 1.2 und 1.4 durch Seiten mit dem Änderungsvermerk "TM 13 / 20.03.07 sr/mg".

ASW 24 E:

Sofern nicht bereits gemäß TM 4 erfolgt, im Flughandbuch die Seiten: 0.5, 4.5, 4.9, 4.11, 4.17, 4.33 bis 4.35, 4.43, 4.45 und 8.4, im Wartungshandbuch die Seiten 0.5, 2.45, 6.3 und 7.4 durch Seiten mit dem Änderungsvermerk "TM 4 / 09.09.92 Juw".

Im Flughandbuch die Seiten 0.4 und 1.4 und im Wartungshandbuch die Seiten 0.4, 1.3 und 1.5 durch Seiten mit dem Änderungsvermerk "TM 8 / 20.03.07 sr/mg".

Installation of Winglets according to "Installation- and Inspection Instruction ASW 24 0,5m Winglets"
The following manual pages must be exchanged for new pages with the same page no. and the exchange must be documented in the record of revisions in the manuals:

ASW 24 / ASW 24 B:

If not already accomplished according to Tech.-Note 6 the Flight Manual pages 0.5, 4.2, 4.4, 4.6, 4.12 to 4.14, 4.20, 4.21 and 8.3 and the Maintenance Manual pages 0.5, 2.35, 6.3 and 7.4 against pages with reference "TN 6 / 18.08.92 Juw".

The Flight Manual pages 0.4 and 1.4 and the Maintenance Manual pages 0.4, 1.2 and 1.4 against pages with reference "TN13 / 20.03.07 sr/mg".

ASW 24 E:

If not already accomplished according to Tech.-Note 4 the Flight Manual pages 0.5, 4.5, 4.9, 4.11, 4.17, 4.33 to 4.35, 4.43, 4.45 and 8.4 and the Maintenance Manual pages 0.5, 2.45, 6.3 and 7.4 against pages with reference "TN 4 / 09.09.92 Juw".

The Flight Manual pages 0.4 and 1.4 and the Maintenance Manual pages 0.4, 1.2 and 1.4 against pages with reference "TN13 / 20.03.07 sr/mg".

Material und Zeichnungen siehe Arbeits- und Prüfanweisung
Material/Drawings *according to Installation and Inspection Instructions*

Masse und Schwerpunktlage Der Einfluss ist zu überprüfen
Weight&Balance *Weight&Balance has to be checked*

Hinweise

Notes

Die Maßnahmen sind von einem Instandhaltungsbetrieb mit entsprechender Berechtigung durchzuführen und von einem dazu berechtigten Prüfer zu prüfen und im Bordbuch sowie in den Prüfunterlagen zu bescheinigen. Der Austausch der Handbuchseiten kann von dem Luftfahrzeughalter durchgeführt werden.

The actions can be accomplished in an approved maintenance organisation and the accomplishment of this modification must be certified by a licensed inspector in the gliders inspection documents and in the gliders logbook. The supplement of the flight and maintenance manual can be accomplished by the owner/operator.

Poppenhausen, den 20.03.2007

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i.A.
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Installation- and Inspection Instruction ASW 24 0,5m Winglets

The installation of winglets according to Technical Note ASW 24 TN 13 / ASW 24E TN 8 is permissible, as long as the requirements of the section "Inspection of winglets and attachment" in the lower part of this document are met. In this document winglets of the type M&H are described as an example. Differing variants of attachments are permissible. Production and installation is to be inspected according to the section "Inspection of winglets and attachment" below.

- The winglets are either obtained semi-manufactured, or – if molds and laminating scheme are available – produced beforehand.

The blade of the winglet has a height of about 50cm and a surface of about 0,06m². The skins are produced from epoxy resin and carbon fibre fabric as listed in the repair manual of Alexander Schleicher.

If the winglets consist only of the hollow shells without shear web, it may be advisable to foam the lower part of the winglet with PU pour-and-set foam. The total mass of the blank winglet may not exceed 700g.



- Align the spar stub tube (100mm behind leading edge of the root rib, perpendicular to the root rib).
- Glue the tube into a 12mm thick piece of laminated wood with thickened resin, and glue the wood into the winglet as root rib.
- Glue a lift pin into the root rib.
- Post cure the winglet according to the resin specification.
- Finish the winglets (preparing the surface, filling, sanding, painting) after having properly adopted and aligned the winglet.
- In the wing: Remove the inner skin, sandwich core and spar up to 8mm from the section plane.
- Align the winglets and glue in the seating for the spar stub tube.
- Fill the gap between seating and spar with thickened resin, and laminate two layers carbon fibre fabric (200g/m²) onto the seating and 2cm onto the wing skin.
- Glue in a 10mm piece of laminated wood for holding the lift pin bushing.
- Glue in a plywood rib with a thickness of 4-6mm.
- Glue the lift pin bushing into the wing rib.
- Post cure the wing in the area of the winglet junction and the winglet (15h at 50°C)



Inspection of winglets and attachment

Design and construction are to be tested through a final load test:

- The winglets are to be loaded at their tip by a load of 22,5 daN, in the following directions: against and in flight direction, as well as perpendicular to the blade of the winglet. The load is to be imposed for 3s. After removing the load, no permanent deformation may remain. The load test may be done at room temperature. The winglet blade can be assumed as sufficiently stiff, if it is made from carbon fibre.

The winglets comply with the design data, if they fulfil the following requirements:

- The total mass of one winglet including wing to winglet junction and fittings may not exceed 800g. The length of the winglets may not exceed 53cm.
- Chord length at the lower end about 140mm, chord length at the tip about 70mm. Sweep of the 25% chord line max 30°. The rearmost position of the trailing edge is defined by the wing trailing edge at the junction and the winglet sweep.
- The span with winglets installed must be within 15 m (+3 cm / -3 cm).