

Subject: Installing or replacing the elastic fairing tape at the control surface gaps of aileron and elevator and optional on the rudder.

Affected: All ASK 21 B, Data Sheet No. EASA.A.221

Reason: Performance measurements with various gliders have shown that drag can be considerably reduced by a continuous transition between wing and aileron and between stabilizer and elevator respectively.

This continuous transition is achieved by means of an elastic lip seal which is applied to the wing and the stabilizer in order to bridge the actual gap between wing & aileron and stabilizer & elevator. Its curvature into which it is pre-formed ensures tight seating on the control surfaces.

It's important to ensure that the seal underneath this bridging lip seal is 100 % airtight. The control surface gaps are sealed in addition by means of a sealing/slip tape, which at the same time serves to reduce the friction of the elastic fairing tape on the aileron and elevator surfaces.

A damaged or missing sealing may cause flutter!

The additional aileron and elevator control friction generated is minimal and acceptable.

Action:

If the elastic fairing tape needs to be removed only for maintenance or repair of the control surfaces, please observe the following:

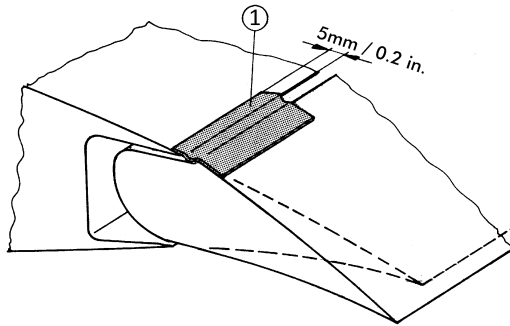
Carefully remove the old elastic fairing tape in order to avoid any delamination of the layers in this area. Remove any adhesive residue from the recessed step by means of synthetic resin thinners. With careful handling a rubber eraser pad can be very helpful.

Accomplish any required inspection, maintenance or repair work at the control surfaces themselves and / or their hinges.

All surfaces must be completely clean, dry and free from dust and grease before installing the sealing!

Cut the new elastic fairing tape and the sealing/slip tape into appropriate lengths (refer to the table under point "Material").

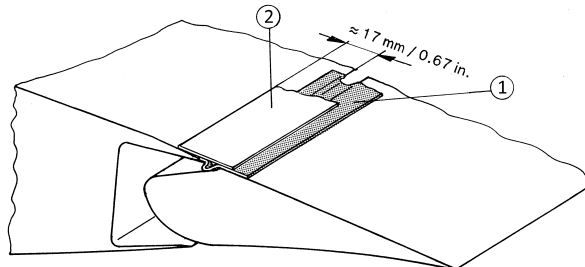
Wing and horizontal tail upper side



The sealing/slip tape (1) [3M Scotch Teflon Tape 30 mm wide] is stuck on over the gap with an overlap of 5 mm (0.2 in.) on the trailing edge of the wing respectively the stabilizer. Be careful that the sealing/slip tape lies slack over the gap. Set the aileron / elevator to maximum positive deflection, so that later the sealing/slip tape is not stretched during normal full control deflections!

The sealing/slip tape (1) must be firmly rubbed down on to the surface! Apply full deflections several times so that the sealing/slip tape (1) fits well into the gap.

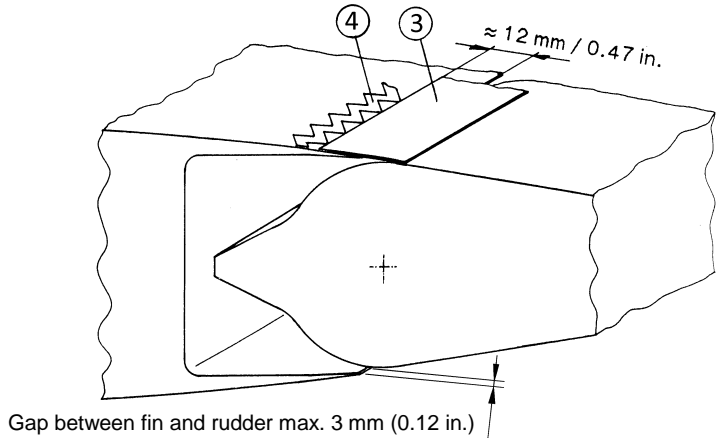
Remove the protective backing from the elastic fairing tape (2) [Mylar foil, 35-12 mm wide] and firmly stick it on at a distance of 17 mm (0.67 in.) to the trailing edge.



Press the adhesive zones of the elastic fairing tape (2) firmly down on the surface using a soft wooden block (e.g.: Balsa) or a hard rubber roller!

Vertical tail

The elastic fairing tape on the vertical tail are optional, but it can only be done in conjunction with zig-zag-tape, positioned in front of the elastic fairing tape. Installation of elastic fairing tapes has to be done, if the gap between fin and rudder is larger than 3 mm (0.12 in.). No sealing/slip tape is applied.



Remove the protective backing from the elastic fairing tape (3) [Mylar foil, 22-15 mm wide] and firmly stick it on at a distance of 12 mm (0.47 in.) to the trailing edge.

Press the adhesive zones of the elastic fairing tape (3) firmly down on the surface using a soft wooden block (e.g.: Balsa) or a hard rubber roller!

Along the leading edge of the elastic fairing tape (3), a zig-zag-tape [4] is stuck.

Instead of the plastic fairing strip (3) and the zig-zag-tape (4), a combined zig-zag and elastic fairing tape (5) may be applied.

Material:

	Wing	Horizontal Tail	Vertical Tail
(1) Sealing/slip tape 3M Scotch Teflon tape, 30 mm / 1.2" wide	2 x 2.85 m 9.35 ft	1 x 3.1 m 10.2 ft	
(2) Elastic fairing tape Mylar foil, 35-12	2 x 2.85 m 9.35 ft	1 x 3.1 m 10.2 ft	
(3) Elastic fairing tape Mylar foil, 22-15			2 x 1.25 m 4.1 ft
(4) Zig-zag-tape Mylar foil, 0.5 mm thickness, 12 mm wide			2 x 1.25 m 4.1 ft
Optionally for (3) and (4): (5) Combined tape 38-20			2 x 1.25 m 4.1 ft

The elastic fairing tapes are described with their width and the width of the adhesive film attached to it (e.g. 38 mm / 20 mm). But it is also possible that the elastic fairing tape and the adhesive film are delivered as separate items.

The material can be ordered from Alexander Schleicher.

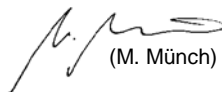
Notes:

1. This action can be accomplished by a competent person.
2. Ensure that the elastic fairing tape is in tight contact with the surfaces of the controls even when they are fully deflected. Protruding elastic fairing tapes increase the drag significantly!

Check the secure and firm adhesion of the elastic fairing tapes.

Poppenhausen, 14.09.20

ALEXANDER SCHLEICHER
GmbH & Co.



(M. Münch)