0 General

0.1 Manual amendments

No.	Page	Description	Date
1	0.5, 0.6, 4.14-4.16 diagrams 7, 11, 12	Manual revision TN 413/2	September 2003

0.2 List of effective pages (continued)

Section	page	issued	replaced/	replaced/	replaced/
3	3.1	March 2002			
	3.2	"			
	3.3	"			
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4	4.1	March 2002			
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	4.12	"			
	4.13	"			
	4.14	"	Sept. 2003		
	4.15	"	Sept. 2003		
	4.16	"	Sept. 2003		
	4.17	"			
5	5.1	March 2002			
	5.2	"			
6	6.1	March 2002			
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	6.3	"			
7	7.1	March 2002			
8	8.1	March 2002			
9	9.1	March 2002			

0.2 List of effective pages (continued)

diagram	issued	replaced/	replaced/	replaced/
1	Nov. 2001			
2	Nov. 2001			
3	Nov. 2001			
4	Nov. 2001			
5	Nov. 2001			
6	Nov. 2001			
7	Nov. 2001	Sept. 2003		
8	Nov. 2001			
9	Nov. 2001			
10	Nov. 2001			
11	Nov. 2001	Sept. 2003		
12	Nov. 2001	Sept. 2003		
5EP34	25.01.90			
5EP50	17.12.98			
5V18	14.10.94			
10FW2	5.10.99			

4.7 Control surface seals and turbulators

Materials see section 8.

Note: To minimise the friction of the seals, the trailing edge of the seals should be chamfered. Apply a fine grinding paper (e.g. 400 grit) between sealing and control surface and move it up and down in spanwise direction to sand the trailing edge of the sealing.

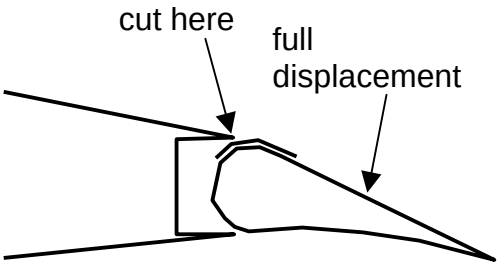
Warning: Use only original materials see section 8. Otherwise the function of the sealings is not guaranteed. Sealings which are too loose may cause control surface flutter.

4.7.1 Ailerons

To remove an aileron carefully break away the fairing from the control surface horn at the aileron and unscrew the horn.

4.7.1.1 Upper surface

The sealing is installed in a groove at the trailing edge of the wing.
Curved Mylar seal is glued into the groove with film tape at the leading edge of the sealing. PVC tape is glued over the sealing to cover the gap between wing and sealing. The leading edge of the PVC tape shall be 5 mm (1/5 in.) in front of this gap.
To reduce the friction as far as possible a 38 mm (1.7 in.) wide selfadhesive Teflon coated glass fabric is glued on the upper side of the aileron see sketch.
Prior to removing the old fabric, mark its trailing edge with pencil on the aileron surface. The fabric must be installed so that the sealing slides always on the fabric.
Cutting the front of the fabric is easiest if the sealings are not installed.
Insert the aileron and use full displacement. Cut the front end of the fabric with a sharp knife along the wing trailing edge see sketch.



With the sealing installed, you have to measure the position of the front end. Cut it off by hand with the aileron removed from the wing.
Cut away the Teflon glass fabric at the edges of the cut-outs for the aileron hinges.

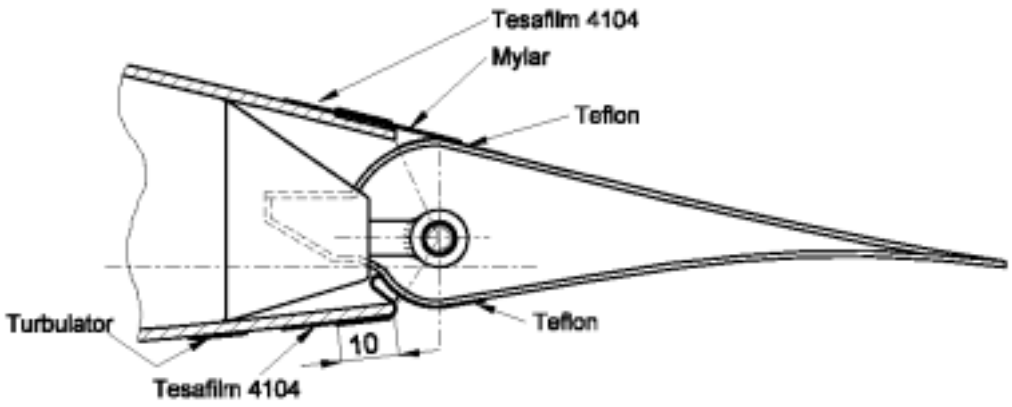
4.7.1.2 Lower surface

The ailerons are to be sealed at the lower surface with 38 mm wide Teflon-glass fabric tape. The Teflon-glass fabric tape must be glued 10 mm (.4 in.) wide to the lower wing surface. PVC tape (19mm wide) is glued over the leading edge of the sealing to protect the sealing from coming loose.

a) Removing the ailerons
   To remove the ailerons you have to remove the Teflon-glass fabric tape first. Peel off carefully so that the tape does not tear and no remains of the glue remain on the wing surface.

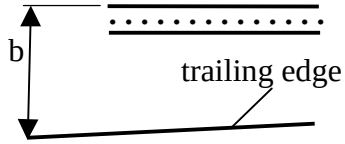
b) Reinstalling the sealing
   Remove carefully any remains of the glue. Install the aileron in the wing but don't screw on the control surface horn.
   Rotate the wing upper surface up and deflect the aileron to its max. negative displacement. Use a small brush and apply talcum powder onto the aileron leading edge. Then deflect the aileron to its max. positive displacement and remove the talcum powder from wing and aileron surface.. Clean the gluing areas with Acetone.
   Deflect the aileron to its max. negative displacement again and fix in this position e.g. with tape. Glue the Teflon glass fabric tape to the wing with 10mm overlap.
   Press the Teflon-glass fabric tape with a wooden stick into the gap between aileron and wing and press the fabric tape to the aileron surface.
   Then deflect the aileron several times in both directions. If there is still a noise which sounds like the fabric sticking to the aileron and getting loose again, you should blow compressed air into the fairings of the control linkage pushrod to distribute the talcum powder.
   Glue a PVC tape (19mm wide) over the leading edge of the sealing.

   Screw on the control surface horn, securing the bolts with Loctite 243.
   Glue the fairing again to the control surface horn with polyester resin. Apply pressure when gluing to prevent the fairings interfering.



4.7.2 Wing lower surface

Dimple tape is installed as turbulator. The leading edge of the dimple tape is located at distances b in front of the wing trailing edge.



Position	y mm	b mm
300mm from wing root	660	277
1. contour brake	3490	264
2. contour brake	6979	209
parting	8593	147
3. contour brake	9303	119
550mm outside 3. contour brake	9843	81

4.7.3 Horizontal tailplane

a) turbulators
60° zig-zag turbulators are installed on upper and lower surface.
Prior to removing the turbulators mark the positions of the turbulator leading edges with a pencil on the stabilizer surface, otherwise see table below. The dimensions a are from the turbulator leading edges up to the leading edges of the grooves at the trailing edges of the stabilizer.

Position	y mm	a mm
centre	0	81.5
inboard ends of the turbulators on the lower surface	100	80
1. contour brake	960	69,5
tip	1580	29

b) Sealings
The sealings are installed in grooves at the trailing edges of the stabilizer. Curved Mylar sealing tape is used on the upper surface and flat Mylar sealing tape is used on the lower surface. The sealings are glued into the grooves with film tape at the leading edges of the sealings. PVC tape is glued over the sealings to cover the gaps between stabilizer and sealings. The leading edges of the PVC tape shall be 5 mm (1/5 in.) in front of the gaps.