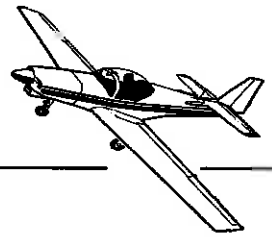
SLINGSBY AVIATION



Service Bulletin

S.B. No: 164

Title: **HOFFMANN SERVICE LETTER 61-12-04 SL E4B INTRODUCTION OF LEADING EDGE EROSION FILM**

Classification: This Service Bulletin has been classified by SAL as Recommended

Compliance: During next repair or overhaul if applicable

Applicability: T67M, T67M-MkII, T67M200, T67M260 and T67M260-T3A

Attached is Hoffmann Propeller Service Letter 61-12-04 SLE4B which is reported in its entirety.

Any further information or components required to comply with this Bulletin should be obtained from Hoffmann Propeller.

Approved by: For and on behalf of SLINGSBY AVIATION LIMITED	Date: 8th Dec. 99.	Issue 1
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ISSUED 09 DEC 1999

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HOFFMANN PROPELLER

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Service Letter E4B

12 July 1999 / Sp

Supersedes 61-12-04 SL E4A dated June 11, 1996

1.1 Effectivity

All HOFFMANN Propellers

Modification designation: **none**
Minor modification

Compliance: Optional

1.2 Reason

Introduction of leading edge erosion film.

3M No. 8671-2

1.3 Description

On customer request, HOFFMANN Propeller GmbH & Co KG provides an additional leading edge erosion film for all propeller blades.

1.4 Approval

The design data contained in this Service Letter has been APPROVED under the authority of LBA Design Organisation Approval No. I-EC 2.

1.5 Manpower

20 min per blade

1.6 Material - cost and availability

The new leading edge erosion film can be applied on the blades on request. Material and price information are issued in section 3 of this Service Letter.

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1.7 Tooling

Not affected.

1.8 Weight and Balance

The modification shall be carried out only on all blades of a propeller

1.9 Electrical Load Data

Not affected.

1.10 Software Accomplishment Summary

Not affected

1.11 References

All HOFFMANN Propeller Repair-, Overhaul- and Owners Manuals according to Service Advisory 61-10-06 SA E1.

1.12 Other Publications

None

1.13 Family Tree Chart of Modification Relationships

Not Applicable.

1.14 Interchangeability or Intermixability of Parts

Blades with erosion film and blades without erosion film shall not be intermixed on one propeller.

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2 Accomplishment Instructions

NOTE

Erosion film **can** be applied when air and application temperatures are above +60°F (16°C).

2.1 Erosion Film Removal

2.1.1 Mask an approximately one-inch-wide band with masking tape (3.15) along the leading edge adjacent to the existing erosion film (3.1)

2.1.2 Carefully lift edge of erosion film and gradually peel away from blade.

WARNING

Methyl Ethyl Ketone (MEK) and Isopropylalcohol are flammable and toxic. Avoid eye and skin contact or breathing of vapors. Eye and skin protection is required. Use only with adequate ventilation. Keep away from open flames or other sources of ignition.

2.1.3 Remove all residual adhesive from blade by wiping with a clean cloth dampened with MEK (3.14).

2.2 Erosion film installation

NOTE

Prepare surfaces for application of clear erosion film (3.1) within 2 hours of actual application.

2.2.1 Cut erosion film (3.1) to adequate length according to section 3.2.

2.2.2 At new application mask an approximately one-inch-wide band with masking tape (3.15) along the leading edge where the erosion film should be applied to.

2.2.3 Saturate a clean cotton cloth with a petroleum distillate based cleaner such as (3.3) and wipe the substrate surface.

2.2.4 Wipe the surface as above except with isopropyl alcohol (3.5).

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2.2.5 Dry with lint free cloth before the solvent evaporates from the surface.

2.2.6 Specific application surfaces such as polyurethan paint surfaces optionally can be prepared as follows:

> **NOTE**
>
> Paint must be fully cured before applying erosion film. (Minimum 24hrs. @ 72°F)

2.2.6.1 Sand with 400 sandpaper (3.13) and follow with Scotchbrite abrasive pad (3.12)

2.2.6.2 Thoroughly wipe with isopropyl alcohol (3.5) until there is no trace of paint residue.

2.2.6.3 Dry with lint free cloth before the solvent evaporates from the surface.

2.2.7 Remove protective paper backing from the erosion film (3.1)

> **NOTE**
>
> Avoid stretching and twisting of the erosion film to avoid wrinkling.

2.2.7 Dry application method (standard)

2.2.7.1 Apply promoter (3.4) to masked blade leading edge surface using the minimum amount necessary to achieve complete coverage.

2.2.7.2 Position erosion film (3.1) over (but not contacting) leading edge of the blade.

2.2.7.3 Center film along leading edge of blade and press outboard end of film firmly onto blade on blade leading edge. Then pull film tight and press inboard end of film firmly onto blade leading edge.

2.2.7.4 Push film down firmly on blade leading edge with roller (3.6) or plastic applicator (3.7)

2.2.7.5 Using hands only, and starting at the outboard end of the film, press film firmly onto blade, working from blade leading edge toward trailing edge until entire film is pressed onto blade. Then, using roller (3.6) or plastic applicator (3.7) and same sequence as used with hands, roll film down firmly to drive out air bubbles.

2.2.8 Wet application method (only for big surfaces > 6 inch wide and >30 inch long or for unusual surfaces)

2.2.8.1 Flood adhesive side of the erosion film with wetting solution (3.11)

2.2.8.2 Thoroughly spray application surface with wetting solution (3.11)

2.2.8.3 Position erosion film (3.1) and spray wetting solution (3.11) on film surface (prevents

squeegee from sticking).

2.2.8.4 Squeegee from top of film to bottom firmly on blade leading edge with roller (3.6) or plastic applicator (3.7)

2.2.8.5 Dry entire area with rag (3.2).

2.2.8.6 Allow applied erosion film (3.1) to dwell for at least 12hrs. Resqueegee and remove blisters if present.

2.2.8 Airbubbles can be removed by using a pin (3.8) to open the bubble through the erosion film and rolling out the airbubble.

2.3 After installation the erosion film is subjected to the following criteria

2.3.1 No voids within one-eight inch from the edge of film.

2.3.2 No voids (air bubbles) larger then 0.1 inch.

2.3.3 No lifting of the edge of the film.

2.3.4 No visual mechanical damage (i.e. rips, tears, cuts, etc.)

2.3.5 Scuff marks and a milky appearance are acceptable.

3 Material Information

3.1 Parts list

Item	P/No.	P/No.	Supplier
3.1	Erosion tape	8671-2	3M
3.2	Clean lint free cotton rags	-	local
3.3	Cleaner	8984 39198S	3M DuPont
3.4	Promoter 86 Primer	86	3M
3.5	Isopropyl alcohol	-	local
3.6	Rubber roller (1.5 inch)	-	local
3.7	Plastic Applicator (orange or clear) or equivalent	PA-1 -	3M local

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Item	P/No.	P/No.	Supplier
3.8	Razor blade safety knife	-	local
3.9	Pin	-	local
	For wet application method		
3.10	Spray bottle 1 pint (1/2ltr.)	-	local
3.11	Wetting Solution (1 pint)	see below	local
	For wet application method		
3.12	Scotchbrite abrasive pad (maroon) or equivalent	7447 -	3M local
3.13	400 grit sandpaper or equivalent	-	local
3.14	Methyl Ethyl Ketone (MEK)	-	local
3.15	Masking Tape (one-inch-wide)	232 -	3M local

Wetting solution - 1 pint (1/2 ltr.)

25% Isopropyl alcohol

75% Water

4 drops of liquid dishwashing detergent (such as Lux, Joy, Ivory liquid detergents, etc.) / pint.

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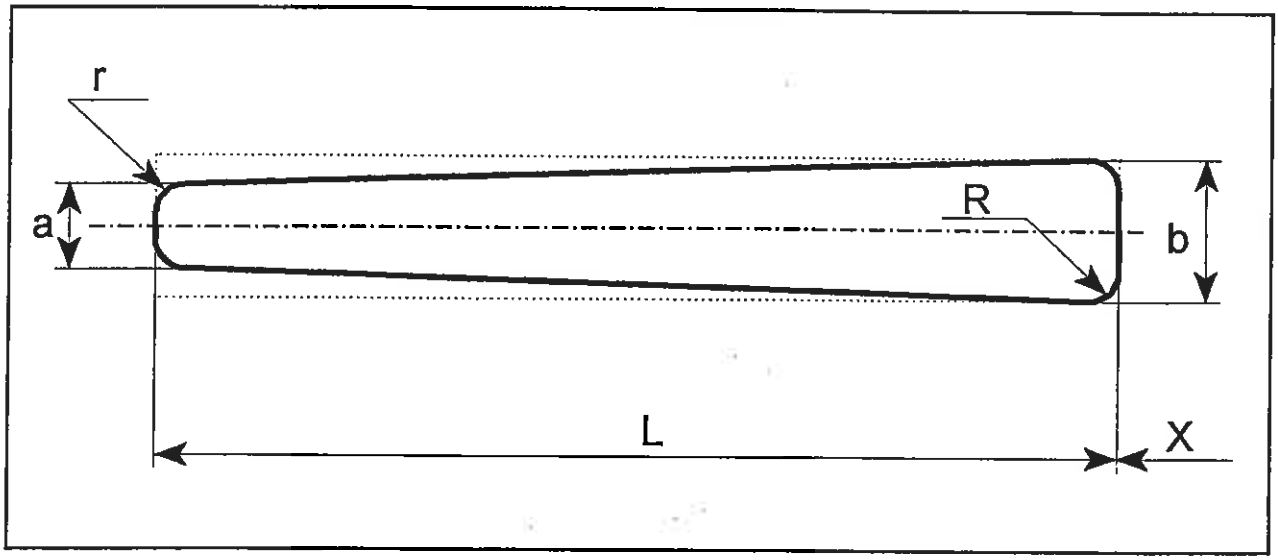
3.2 Erosion film preparation and dimensions



Blade model	L [mm]	a [mm]	b [mm]	R [mm]	r [mm]	Distance X from blade ferrule to erosion film [mm]
160BT	505	25	50	12	12	170
160T	535	30	50	12	12	170
160T-10	450	30	50	12	12	170
170FQ	550	40	50	12	12	180
180DT	580	50	50	12	12	170
180CB, 180DU, 180R	600	25	50	12	12	160