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LETTRE DE SERVICE
SERVICE LETTER

N° 19

Objet Object : CORROSION : TYPE
TREATMENT
INSPECTION

Aircraft concerned : Operated in the United Kingdom : HR 100
HR 200
DR 400

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Page 1/4

Some cases of corrosion have been detected on aircraft operated in the United Kingdom. Consequently, the following recommendations should be implemented as soon as possible.

TYPE OF CORROSION

This corrosion appears on non anodized AU4G or AU4G1 sections.
Two cases are possible :

- 1) Hardly visible, filamentous type surface corrosion, in star pattern round a central point.

TREATMENT : Slightly scrape the affected area and apply the instructions of the General Note (case 1 or 2) concerning the treatment of aluminium alloys.

- 2) Deeper intumescence type corrosion, covering a large, irregular area (1 to 4 square centimeters) with a light grey deposit.

TREATMENT : Clear the corroded area with a mechanical tool and thoroughly clean the surrounding zone.
Apply the instructions of the General Note (case 3 or 4) concerning the treatment of aluminium alloys.

If necessary, fit a reinforcing section of identical material and thickness (thickness of original material : 1.5 mm), secured at each end of the affected zone by at least 5 rivets. In both planes, existing holes may be used. If no rivets are present in the second plane, holes should be drilled at a pitch of 30 to 35 mm.

- Solid rivets, 3.2 or 4 mm dia., AU4G (AU2G, AN470, AN426).

In the case of two close corroded zones, fit a new element (splice joint). Before riveting, apply chromate to all contact surfaces.



NOTE : As a preventive action, it is possible to apply an additional coat of chromate and a coat of finishing paint or, after cleaning of the sections, a coat of compound PR 1432 GP + PR 1500 (manufactured by Joints Français).

INSPECTION :

1 - HR 100 - HR 200

- a) Wing : Without disassembly : landing gears, attachments, and through inspection panels (spars, caps, angle sections).

During a major inspection : e.g. : removal of wing tip to check spars and other sections, if necessary.

- b) Fuselage : Check lower and upper longerons.
If necessary, during a major inspection, disassembly at longeron level.

HR 100/TR : The retractable landing gear facilitates inspection.

2 - DR 400

Check external fuselage reinforcing elements level with wing trailing edge (repair drawing issued 29-08-1978).

IF YOU HAVE ANY SPECIFIC PROBLEMS, PLEASE CONTACT :

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Enc. : 1 Appendix

TREATMENT OF CORROSION ON ALUMINIUM ALLOYS

1 General

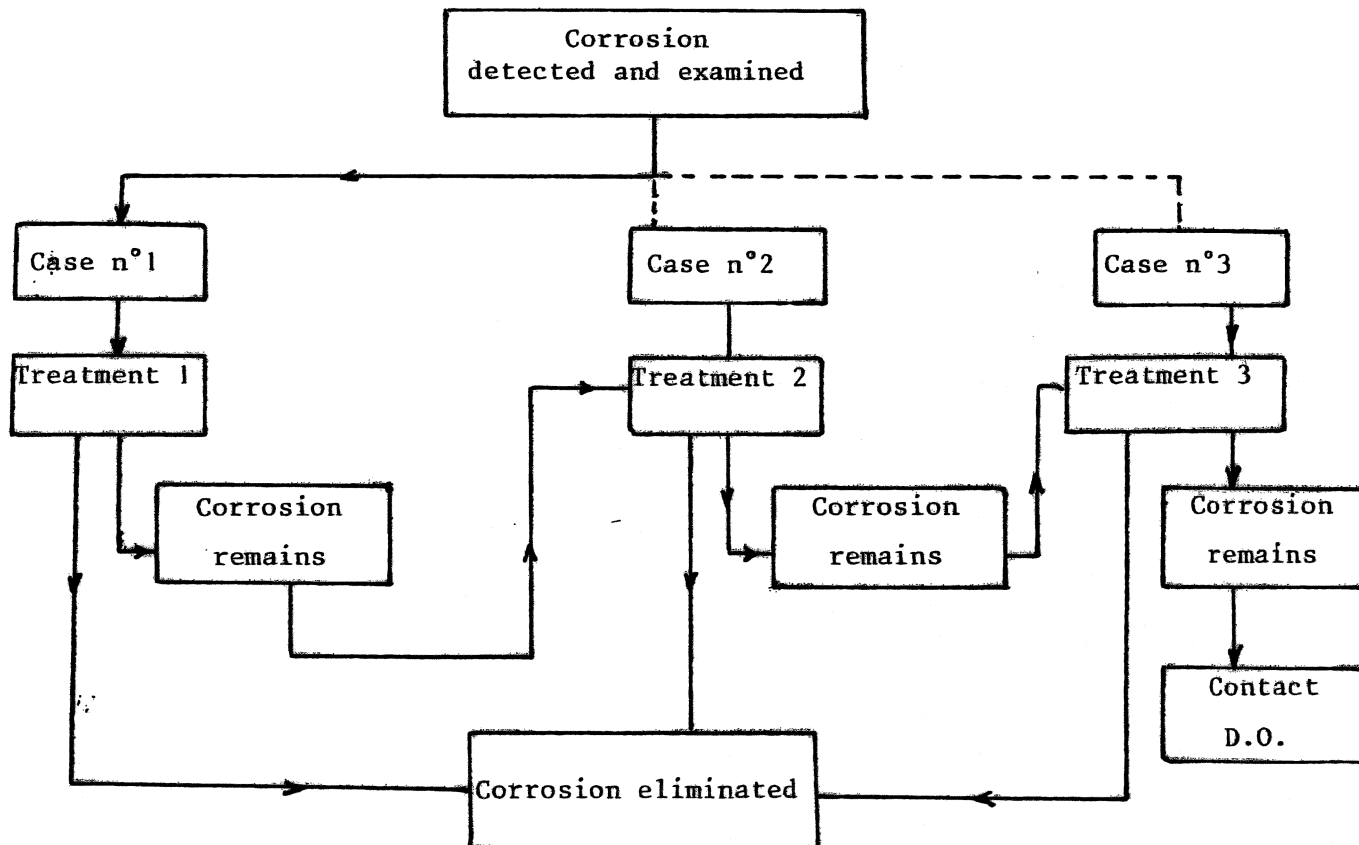
This chapter describes the actions to be taken according to the type of surface corrosion encountered. The products used must always be as mild as possible. It is forbidden to use the following products :

- Soda or potash based products,
- Some acids,
- Coarse steel wool,
- Steel wire brushes,
- Glass paper (used by hand or with a machine),
- Sand,
- Emery powder.

Chemically or mechanically acting products must never be used dry.

2 Treatment of surface corrosion

This chapter describes the procedure to be applied when corrosion is detected on an aluminium alloy product. This procedure must be carried out according to the following logic sequence :



2.1 Case n°1

Description : Superficial stains.

Treatment n°1 : Wash with a sponge or long hair nylon brush dipped in warm soapy water or water containing a wetting agent such as Teepol, Cemulsol K, or P3T 580. Rinse with clear water. Wipe with an absorbing duster (shammy-leather).

2.2 Case n°2

Description : Stains adhering stronger than in case 1 with, possibly, some light whitish powder deposits, blackened areas and, some-times, surface iridescence showing under flush lighting.

Treatment n°2 : Rub with a duster soaked in a water and wetting agent (Teepol, ..) solution and fine soft chalky abrasive such as Spanish white, Meudon white, etc... Rinse and dry as in case n°1.

2.3 Case n°3

Description : As in case n°2, but deeper, surface pitting, roughness visible with the naked eye.

NOTE : Case n°3 is limited as follows : during treatment, use a pad of fine steel wool to clear the corrosion. Check with a magnifying glass : if the corrosion is still detectable the defect is out of tolerance and the Design Office must be contacted for further action.

Treatment n°3 : Mask off the surrounding areas with adhesive paper. Clean the affected zone with a pad of fine wire wool (1), wipe with a damp sponge. On stressed panels, the amount of material removed must not exceed 8/100 mm of the nominal thickness. Clean with M.E.K. or trichlorethylene. Rub the damaged area with a pad dipped in a 50% FRAMANOL/water solution. Allow to act for 5 minutes, wipe off all runs when working on a vertical surface. Wash thoroughly with water and wipe with a damp sponge. With a sponge, apply some ALODINE 1200 solution and wait until the metal turns a golden colour. Wipe off the excess of ALODINE with a damp sponge, dry off with a clean duster.

2.4 Other cases

If the above treatments are not successful it will be necessary to contact the Design Office for further action.

(1) A damp sheet of abrasive paper (600 grade) could be used first.