

# REPAIR - SMOOTH FINISH OF HIGH SPEED AIRCRAFT

## INTRODUCTION

1 The surface of high speed aircraft is smooth metal, unpainted except for markings. This surface serves as an efficient aerodynamic surface, allowing maximum speeds to be reached, and has an attractive appearance when maintained in accordance with EO 50-10A-2A "Aircraft Cleaning - External".

2 The common causes of damage to aircraft surfaces are as follows:-

- ✓ (a) Walking in boots or nailed shoes on upper surfaces.
- ✓ (b) Failure to cover surfaces with mats during servicing operations.
- ✓ (c) Dropping tools on surfaces.
- ✓ (d) Clumsy use of ladders.
- (e) Fouling surfaces with guns, ammunition boxes, bomb carriers, etc. when arming the aircraft.
- ✓ (f) Rubbing against surfaces with buckles, buttons and metal fittings of parachute harness.
- (g) Cleaning and polishing with rags containing buttons or metal fasteners.
- (h) Chipping ice from aircraft surfaces.

## NOTE

The purpose of this instruction is to restore damaged surfaces to their original aerodynamic smoothness and to reduce stress corrosion and other corrosion which develop in the presence of surface dents and scratches.

## CLEANING OF DAMAGED AREAS

3 Paint, if present, must be thoroughly

stripped with paint remover to Specification 1-GP-78. All areas must be thoroughly cleaned by hand with mops, rags and brushes in accordance with EO 05-10A-2A.

## REPAIR OF DAMAGE

4 Ridges raised by scratches are removed by wet or dry sanding with Ref. 29/1870 abrasive paper, waterproof (grit 280C).

5 Scratches and dents are to be cleaned and degreased with paint thinner before filling. The surfaces must be thoroughly dry before proceeding. Presstite metal putty 217.5 \*distributed by Railway Power and Engineering Corp., or EC 1035\* manufactured by Minnesota Mining and Manufacturing of Canada Ltd., London, Ont., is used to fill the scratches and dents found in the following surface areas:-

- (a) Leading edges and upper and lower surfaces of mainplanes back to distance equal to one third of the chord.
- (b) Tailplane as for (a).
- (c) Fins as for (a).
- (d) Ailerons: leading edges only.
- (e) Any surface area: for improved appearance. This wing filler is applied with a putty knife in thin coats (a minimum of 4 layers) to allow the solvent to evaporate. Allow 3 hours drying between coats. The fill when complete and dry should be slightly higher than the metal surface. The repair is then rubbed down and feathered to the surface contour by wet sanding with Ref. 29/1870 abrasive paper, using plenty of water.

6 Refinishing, if required, is performed by etching, priming and lacquering.

\*Because of a short shelf life of ninety days this material is not stocked but must be purchased LPO by units as required.