

SECTION 12. PLATED PARTS

6-193. CHROMIUM AND NICKEL-PLATED PARTS. Nickel and chromium platings are used extensively as protective and wear-resistant coatings over high-strength steel parts (landing gear journals, shock strut pistons, etc.). Chromium and nickel plate provide protection by forming a somewhat impervious physical coat over the underlying base metal. When breaks occur in the surface, the protection is destroyed.

a. The amount of reworking that can be performed on chromium and nickel-plated components is limited.

b. The rework should consist of light buffing to remove corrosion products and produce the required smoothness. The buffing should not take the plating below the minimum allowable thickness.

c. Whenever a chromium or nickel-plated component requires buffing, coat the area with a corrosion-preventive compound, if possible.

d. When buffing exceeds the minimum thickness of the plating, or the base metal has sustained corrosive attack, the component should be removed and replaced.

e. The removed component can be restored to serviceable condition by having the old plating completely stripped and replated in accordance with acceptable methods and specifications.

6-194. CADMIUM AND ZINC-PLATED PARTS. Cadmium plating is used extensively in aircraft construction as a protective finish

over both steel and copper alloys. Protection is provided by a sacrificial process in which the cadmium is attacked rather than the underlying base material. Properly functioning cadmium surface coatings may show mottling, ranging from white to brown to black spots on their surfaces. These show the sacrificial protection being offered by the cadmium coat, and under no condition should such spotting be removed merely for appearance sake. In fact, cadmium will continue to protect even when actual breaks in the coating develop and bare steel or exposed copper surfaces appear.

a. When the breakdown of the cadmium plating occurs and the initial appearance of corrosion products on the base metal develops, some mechanical cleaning of the area may be necessary but shall be limited to removal of the corrosion products from the underlying base material.

b. Under no condition should such a coating be cleaned with a wire brush. If protection is needed, a touch-up with primer or a temporary preservative coating should be applied. Restoration of the plate coating cannot be done in the field.

c. Zinc coatings offer protection in an identical manner to cadmium, and the corrective treatment for failure is generally the same as for cadmium-plated parts. However, the amount of zinc on aircraft structures is very limited and usually does not present a maintenance problem.

6-195.—6-205. [RESERVED.]