Corrosion Removal Techniques

There are many different corrosion removal techniques available to help eliminate corrosion, each tailored to a certain classification and extent of the damage. Once the type of damage has been determined, you can choose the proper removal technique, abrasive method, and treatment tools that fit your specific aircraft needs.

Corrosion on cargo door

Prior to beginning any corrosion removal technique, make sure you have the appropriate safety equipment with all necessary eye, skin, and/or respiratory protection.

Hand Corrosion Removal Techniques

Hand removal techniques are most applicable for less extensive damage, such as cases of light corrosion. These techniques are also particularly useful for oddly shaped parts, tubing, or other equipment that sticks out from a more uniform surface.

- **Abrasive Paper & Mats**: Typically supplied with silicon carbide or aluminum oxide abrasive particles, abrasive paper and mats are best used where it may be difficult to access corrosion with power tools or where very little corrosion must be removed.
- **Wire Brushes**: In the case of aluminum, brushes with aluminum or stainless-steel bristles can be used to remove heavy corrosion deposits. Short, small-diameter bristles are ideal for quickly removing heavy corrosion without damaging the base material.
- **Abrasive Wool**: Abrasive wool is typically used to remove lighter corrosion deposits. The wool comes in aluminum, steel, and stainless-steel, and the type of wool must match the base material.

- **Scrapers**: Scrapers may be used to remove an initial layer of heavy corrosion; however, care must be taken not to damage the base material, especially softer materials such as Aluminum. Aluminum, plastic, and carbide-tipped scrapers can be used on aluminum, whereas carbide-tipped and steel scrapers can be used on steel.
- **Pumice Powder**: Only effective on softer materials and typically used where very low material removal rates are required, pumice powder is mixed with water and is rubbed onto the surface with a cloth.

Powered Corrosion Removal Techniques

Powered tools are used to address more extreme corrosion or damage over larger areas. The main advantage of these mechanized methods is the speed with which they can cover large surface areas.

- **Rotary File**: This tool can remove significant amounts of material in a short period of time, though it should only be used in the most extreme cases by experienced technicians.
- **Abrasive Blast Media**: Abrasive media is ideal for heavily corroded areas and is supplied in aluminum oxide and glass beads. Aluminum oxide is only suited for ferrous metals and titanium alloys, whereas glass beads are suitable for all materials.
- **Radial Bristle Disc**: This can be used to remove stubborn corrosion; however, it is only recommended for use on aluminum, high-strength steel, titanium, and magnesium alloys, as radial brushes can cause damage to other materials.
- **Flap Wheel**: These can be used to remove minimal amounts of material, but extra care must be taken as incorrect use can result in large material removal rates.

Corrosion on a beam

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