

**BY ORDER OF THE COMMANDER
RAMSTEIN AIR BASE**

RAMSTEIN AIR BASE INSTRUCTION 21-103



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Maintenance

CORROSION CONTROL PROGRAM

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This operating instruction is required by Air Mobility Command Instruction (AMCI) 21-119, *Corrosion Control Program*, paragraph 6.3. It implements Air Force Policy Directive (AFPD) 21-1, *Managing Aerospace Equipment Maintenance*, and Air Force Instruction (AFI) 21-105, *Air and Space Equipment Structural Maintenance*, Air mobility command Instruction (AMCI) 21-119, *Corrosion Control Program*. This instruction establishes procedures and policies for aircraft and aerospace ground equipment (AGE) corrosion programs. It provides guidance and direction for an effective corrosion prevention, treatment, and management program. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFM) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afrims/afrims/rims.cfm>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional's chain of command.

1. Program Objective. Establish aerospace paint touch-up and scoring requirements based on the scoring process and overall coating deterioration. Enforce local unit marking requirements and identify aircraft paint identification placard size, shape, and information requirements. All maintenance personnel are responsible for identifying potentially corroded structures and components, and documenting them in the appropriate forms. The Aircraft Structural Maintenance (ASM), Corrosion Control Section Chief, evaluates corrosion discrepancies to determine proper treatment or repair, and performs Wing Corrosion Manager (WCM) duties.

2. Corrosion. Corrosion is defined as a physicochemical interaction between a material and its environment which results in changes in the properties of the material and which may often lead to impairment of the function of the material, the environment, or the technical system of which these form a part. Common causes of corrosion are engineering/design flaws, unauthorized use of chemicals, and environmental elements. Continual training and awareness are important elements of an effective Corrosion Control and Prevention Program.

3. Responsibilities.

3.1. The 86th Airlift Wing (AW), WCM has overall responsibility for corrosion prevention and control program/capabilities of the flight line, contract maintenance, and support shops, and acts as a liaison/technical advisor for the 86 AW. Additionally, the WCM is responsible for inspecting, documenting, tracking, and maintaining the corrosion prevention and protective coating condition of assigned aircraft. The WCM will:

3.1.1. Prioritize aircraft maintenance paint requirements and provide 86th Maintenance Operations Squadron (86 MOS), Plans, Scheduling and Documentation (PS&D) section with prioritized inputs.

3.1.2. Accomplish a paint score and corrosion control inspection for aircraft returning from programmed depot maintenance (PDM) or command transfer prior to the aircraft's first scheduled home-station flight.

3.1.3. Provide assistance to and serve as point of contact for all external units to develop their own corrosion control programs for their assets.

3.1.4. Ensure operations conducted within corrosion control facilities comply with established safety and occupational health practices and procedures.

3.1.5. Establish and chair a local corrosion prevention working group to maintain the wing corrosion management program. Working groups will meet quarterly.

3.1.6. Provide a current copy of the Qualified Products Listing (QPL) for mil-spec approved cleaners for assigned aircraft and equipment every 6 months to Aircraft Maintenance Squadron (AMXS) and Maintenance Squadron (MXS) maintenance, supervision, flight chiefs, aircraft wash rack, and support sections.

4. Aircraft Scoring and Ranking Procedures.

4.1. Paint scoring will be accomplished during post-wash corrosion inspection after scheduled 180-day aircraft wash cycle, all transfers, upon return from PDM, and on aircraft returning from off-station training and deployments or when operated in "unimproved runway" conditions. All major external components will be installed to provide an accurate assessment of the overall paint condition.

4.2. Aircraft are prioritized utilizing categories (CAT) I thru V based on the severity of paint deterioration. Once categorized, the aircraft are identified on the paint schedule with the required paint time and minimum cure time estimates. **NOTE:** All paint cure times are established when the heating system is operating at a minimum temperature of 75 degrees Fahrenheit in accordance with (IAW) Technical Order (TO) 1-1-8, Application and Removal of Organic Coatings.

4.2.1. CAT I ranking indicates a negligible condition not requiring maintenance.

4.2.2. CAT II ranking indicates a correctable condition with SEMPEN paint pens, minor spraying, and/or brush touch-up, usually limited to leading edges or exposed composites/metal materials. This pertains to areas less than 9 square feet.

4.2.3. CAT III ranking indicates a condition that may include sectionalized painting of wing leading edges, flaps, or areas over 9 square feet, but not more than 30 square feet.

4.2.4. CAT IV ranking indicates a condition requiring complete repaint of major components involving most zones.

4.2.5. CAT V ranking indicates an aircraft requiring complete repaint of major components involving most zones and large areas of the fuselage.

5. Protective Coating Maintenance.

5.1. Maintenance painting is defined as the application of coatings to aerospace equipment where the existing coating system is deteriorated or missing. Maintenance painting must be kept to a minimum and must comply with federal, state, local, and host nation environmental regulations. Maintenance painting of aircraft accomplished solely for cosmetic purposes is discouraged due to adverse environmental impact, coating thickness restrictions, and weight and balance issues.

5.2. Aircraft configuration is determined by structural maintenance technicians. The aircraft will be hangared with sufficient drying time to allow the skin surface to warm to at least 60 degrees Fahrenheit. This time will vary depending on air temperature and relative humidity.

5.2.1. Maintenance painting is accomplished from seam-to-seam, and will be masked at the edges. Where a seam is not reasonably accessible, a “simulated” seam may be created. No unmasked spray touch-up is authorized.

5.2.2. Atomized spray, paint brushing, rolling, and SEMPEN paint pens are the only authorized methods for paint application. SEMPEN paint pens and paintbrush application methods are the preferred means of “touching-up” minor scratches and fastener heads. Single-component aerosol paint cans are not authorized and will not be used to touch-up any type of defect on aircraft or support equipment (SE).

5.2.3. Paint cure times are critical to the effectiveness of the final coating. After painting, allow aircraft to cure in a dust-free climate and temperature controlled facility for a sufficient time prior to placing in service. Ideal aircraft paint cure is at 75 degrees Fahrenheit and 50% relative humidity or higher. In the absence of accelerated curing at 75 degrees Fahrenheit at 50% relative humidity, the aircraft shall not be flown for at least 72 hours after painting, dependent on size and area painted. All cure times should meet requirements per TO 1-1-8. Aircraft freshly painted need to air dry and off-gas for a minimum of 12 hours before technicians can perform other types of maintenance or subject the aircraft to inclement weather.

5.3. Aircraft assigned to the 86 AW are completely repainted at Warner Robins Air Logistics Center (WR-ALC) Depot. The identification placard size and shape is predetermined by the servicing Depot.

6. AGE Corrosion Control Program (ACCP).

6.1. Fabrication and AGE flights will determine the appropriate flow and manpower for the painting of SE. Equipment will be painted on a “worst-first” basis.

6.2. SE Categories and Quantities:

6.2.1. CAT I indicates a condition that requires minimal touch-up or no work at all.

6.2.2. CAT II indicates a condition requiring partial paint touch-up or scuff and repaint of SE. Prior to paint application, the location or severity of corrosion determines the necessity for its removal from the unit. Unit downtime in this category should be minimized.

6.2.3. CAT III indicates a condition that requires plastic media blasting (PMB) and full paint compliance is needed for SE identified under this category. Complete tear down of the unit may be necessary when full paint is required. The size of unit and complexity of tear down will determine required downtime.

6.3. Periodic inspections will be performed throughout the process to ensure proper materials and coating application are used IAW TO 1-1-8.

6.4. Responsibilities.

6.4.1. The ACCP is designed to aide 86 MXS AGE Flight personnel to properly identify and update CAT priorities during equipment inspections.

6.4.2. The AGE flight will provide SE requiring painting to Fabrication Flight weekly (7 days). The 7 day process starts Monday morning of that week to allow surface preparation and paint application during the normal duty schedule and cure over the weekend. The point of contact (POC) within the Fabrication Flight is ASM. The ASM section will be given a copy of AGE scheduled for paint monthly. If additional equipment requires paint, Fabrication Flight will be contacted to fit additional units into the established AGE paint schedule.

6.4.3. The Fabrication Flight will procure, monitor and store the media/paint supplies to ensure sufficient quantities are available to successfully prepare and paint equipment in the ACCP.

6.4.4. The AGE Flight will have primary responsibility for the preparation of SE for paint. This includes transportation, teardown, forms, and documentation. The AGE Flight will stencil, apply reflective tape, provide mobility placards, and reassemble SE after being painted. AGE Flight personnel will not perform the paint process.

6.4.5. The AGE Flight will conduct a 100% corrosion inspection on all SE. Each piece will receive a corrosion category rating of I, II, or III which will be documented in the Equipment Inspection Database. AGE Flight will re-inspect SE during semi-annual/annual inspections and make required rating changes. AGE Flight has overall responsibility for inspecting, documenting, tracking, and refurbishing AGE.

7. Aircraft Markings for assigned C-130s.

7.1. The following specifications are to be applied to 86 AW assigned aircraft.

7.2. Tail flash markings will be 11-3/8 inches tall, gloss white stripe with 4 inch blue squares (27 total per side), oriented in a diamond pattern. The top of the tail flash will be at vertical stabilizer station 257. The tail flash will extend from the leading edge of the vertical stabilizer to the trailing edge of the rudder.

7.3. Tail numbers will be 15 inches in height and comply with Air Mobility Command (AMC) standard five digit configuration. The "RS" will be military block lettering 36 inches high. The top edge of the lettering will be 99 inches above WL 285 and centered. The top of the U.S Flag will be 178 inches from WL 285 and centered.

7.4. The 86th Airlift Wing insignia will be located on the left side of fuselage and comply with AMC standards for unit patches and applies to the wing command designated aircraft only. The USAFE insignia patch will comply with AMC standards. The "LET'S ROLL" decal will be applied to the designated command aircraft only and comply with AMC standards.

7.5. Nose numbers will comply with AMC standards, except wing command aircraft 86 AW, 86 Operations Group (OG) and 37 Airlift Squadron (AS).

7.6. Command Aircraft (86 AW, 86 OG and 37 AS) will have the unit designator centered 6 inches below the aircraft tail number on the vertical stabilizer. These markings will be 15 inches in height and flat black in color. The "RS", tail numbers and nose numbers will be shadowed and unit designator ("86 AW, OG and 37 AS"), on the tail will be highlighted (shadowed) in gloss white. All shadows will be applied in a "down and aft" orientation and a width of 25% of the letter stroke.

7.7. Aircrew and Crew Chief Names.

7.7.1. Aircrew/crew chief personnel names will be applied as instructed. Pilot names applied to 86 AW aircraft will use their given name. An individual's first name can be either the given proper name (William, Robert, James, etc.) or the more familiar, shorter form of the proper name (Bill, Bob, Jim, etc.). Pilot and crew chief names will be 2-inch flat black Zapfchanc font lettering. Painted or peel and stick lettering is acceptable. Command designated aircraft pilot names will be shadowed with gloss white. Designated commander's aircraft names will be centered on FS 124 with the bottom of the name located at WL 233. Dedicated Crew Chief (DCC) and Assistant Dedicated Crew Chief (ADCC) names will be centered between FS 212 and FS 240 above the crew entrance door opening. The lower edge of the ADCC name will be located 4 inches above the crew entrance door opening, with the DCC name 2 inches above the ADCC. All DCC/ADCC names will have rank, first name initial and last name. Descriptive, go-by names/nicknames/call signs like (Maverick, Goose, Iceman, etc.) will not be applied to 86 AW assigned aircraft.

MARK C. DILLON, Brig Gen, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AMCI 21-119, *Corrosion Control Program*, 03 November 2003

AFPD 21-1, *Managing Aerospace Equipment Maintenance*, 25 February 2003

AFI 21-105, *Air and Space Equipment Structural Maintenance*, 1 June 1999

T.O. 1-1-8, *Application and Removal of Organic Coatings*, 6 June 2011

Prescribed Forms:

None

Adopted Forms:

AF Form 847, *Recommendation for Change of Publication*, 22 September 2009

Abbreviations and Acronyms

AGE—Aerospace Ground Equipment

AW/CV—Wing Vice Commander

CE—Civil Engineering

CTK—Consolidated Tool Kit

DO—Dropped Object

EM—Engine Management

EMS—Equipment Maintenance Squadron

FAST—Failure Analysis Service Technology

FOD—Foreign Object Damage

IAW—In Accordance With

MOC—Maintenance Operations Center

MOS—Maintenance Operations Squadron