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Maintenance

FABRICATION PROGRAM

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(Brig Gen Roy-Alan C. Agustin)

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This instruction implements policy guidance in Air Force Policy Directive (AFPD) 21-1, *Managing Aerospace Equipment Maintenance* and Air Force Instruction (AFI) 20-114, *Air and Space Equipment Structural Management.* This instruction provides guidance and direction necessary to direct and develop an effective corrosion prevention and control program. This instruction applies to USAFE-AFAFRICA and all assigned tenant units. This instruction does not apply to the Air Force Reserve Command (AFRC) or Air National Guard (ANG), nor their units. Supplements will not lessen the requirements nor change the basic content or intent of this instruction. Process supplements in accordance with (IAW) AFI 33-360, *Publications and Forms Management*. 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 Forms 847 from field through the appropriate functional chain of command to HQ USAFE-AFAFRICA, Unit 3050 Box 105 APO, AE 09094-0105. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items using the AF Form 847, *Recommendation for Change of Publication*, to HQ USAFE-AFAFRICA/A4M. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Disposition Schedule. Contact supporting records managers as required. See **Attachment 1** and **Attachment 2** for a

glossary of references and supporting information. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force

SUMMARY OF CHANGES

Previous editions of this publication were identified as Combat Air Forces (CAF) and /or Mobility Air Forces (MAF), applicable to multiple MAJCOMs. Please see applicability statement in the opening paragraph.

Chapter 1

AIRCRAFT METALS TECHNOLOGY (AMT) PROGRAM (2A7X1)

1.1. HQ USAFE-AFAFRICA/A4M AMT Functional Responsibilities .

1.1.1. Manage the AMT program and perform the following responsibilities for command.

1.1.1.1. Manage the welder certification program IAW TO 00-25-252, *Aeronautical Equipment Welding*, and this instruction.

1.1.1.2. Develop and coordinates command policy and procedures for AMT functions.

1.1.1.3. Coordinate intra-command 2A7X1 equipment transfers.

1.1.1.4. Coordinate on and approve Technical Order (TO) Publication Change Requests (PCR) and Source Maintenance and Recoverability Code reviews applicable to the MT community.

1.1.1.5. Support the Air Force Metals Technology Office (MTO) by participating in MTO equipment evaluations, field surveys, MTO Integrated Process Teams (IPT), MTO Product Improvement Teams (PIT), Air Force MTO managers' meetings/working groups and advisory board meetings.

1.1.1.6. Serve as the MAJCOM voting authority during Utilization and Training Workshops (U&TW).

1.2. Fabrication Flight Chief Responsibilities. The Fabrication Flight Chief will:

1.2.1. Ensure journeymen are weld certified NLT 12 months after award of 5-skill level (individuals that PCS from another MAJCOM that did not have the same requirements will be certified within 6-months of assignment). **(T-2).**

Chapter 2

NONDESTRUCTIVE INSPECTION (NDI) PROGRAM (2A7X2)

2.1. HQ USAFE-AFAFRICA/A4M NDI Functional Responsibilities.

2.1.1. Manage the NDI and Oil Analysis Program (OAP) program and perform the following responsibilities for command.

2.1.1.1. Support the Air Force NDI Office by participating in NDI equipment evaluations, field surveys, NDI IPT, NDI PIT, Air Force NDI managers' meetings/working groups and advisory board meetings.

2.1.1.2. Develop and coordinates command policy and procedures for NDI and OAP functions.

2.1.1.3. Coordinate intra-command 2A7X2 equipment transfers.

2.1.1.4. Coordinate and approve on TO PCR and Source Maintenance and Recoverability Code reviews applicable to the NDI community.

2.1.1.5. Serve as the MAJCOM voting authority during U&TW.

2.2. MXG/CC Responsibilities. The MXG/CC will:

2.2.1. Establish and maintain an effective qualification and certification program for civilian NDI technicians in accordance with National Aerospace Standard (NAS) 410 and the NDI written practice.

2.2.2. The MXG/CC or designated representative will serve as the NAS 410 certifying authority for granting of NAS 410 certification of civilian NDI technicians. **(T-2).**

Chapter 3

AIRCRAFT STRUCTURAL MAINTENANCE (ASM) (2A7X3) AND CORROSION CONTROL PROGRAM

3.1. HQ USAFE-AFAFRICA/A4M ASM Responsibilities.

3.1.1. Manage the ASM program and perform the following responsibilities for command.

3.1.1.1. Serve as the Command Corrosion Control Manager.

3.1.1.2. Support Air Force Corrosion Control Prevention Executive by participating in working groups, advisory boards and providing corrosion data for the annual corrosion report.

3.1.1.3. Support Air Force Corrosion Prevention and Control Office (AFCPCO) by participating in equipment evaluations, corrosion program managers meetings, advisory boards, executive council meetings, and field surveys.

3.1.1.3.1. Coordinate with the AFCPCO in selection and accomplishment of command Corrosion Survey at a minimum of every 5 years.

3.1.1.3.2. Represent command at assigned weapon systems Corrosion Prevention Advisory Boards (CPAB), AF/DoD corrosion conferences, and field surveys.

3.1.1.3.3. Advocate USAFE-AFAFRICA maintenance unit attendance and active participation at weapon system-specific CPABs.

3.1.1.4. Develop and coordinates command policy and procedures for ASM functions.

3.1.1.5. Represent command at 2A7X3 utilization and training workshops. Provide corrosion and structural input to career field managers in all maintenance AFSCs.

3.1.1.5.1. Forecast and ensure scheduling of 2A7X3 supplemental training.

3.1.1.6. Coordinate intra-command 2A7X3 equipment transfers.

3.1.1.7. Coordinate and approve on TO, PCR, and Source Maintenance and Recoverability Code reviews applicable to the ASM community.

3.1.1.8. Serve as the MAJCOM voting authority during U&TW.

3.2. Wing Commander (WG/CC) Responsibilities. WG/CC will:

3.2.1. Review and approve all aircraft paint/marking waiver requests prior to submission to HQ USAFE-AFAFRICA/A4M.

3.2.2. Review all commander's aircraft marking requests prior to submission to HQ USAFE-AFAFRICA/A4M.

3.3. Maintenance Group Commander (MXG/CC) Responsibilities . MXG/CC will:

3.3.1. Ensure the Wing Corrosion Program Manager is of the AFSC 2A773, 2A775, 2A790, or civilian equivalent.

3.3.2. Request approval for any aircraft wash overdue to the weapon specific aircraft System Program Director (SPD) and MAJCOM Corrosion Program Manager IAW T.O's. 1-1-691,

00-25-107, or equivalent process/system. Units will forward a copy of completed requests, approved or disapproved, to the Air Force Corrosion Office, AFLCMC/EZPT-CPCO (send to **afcorr@us.af.mil**) and courtesy copy the MAJCOM Corrosion Program Manager (send to **usafea4ma.a4ma@us.af.mil**)

3.4. Wing Corrosion Program Manager Responsibilities . The Wing Corrosion Program Manager will:

3.4.1. Serve as the point of contact for corrosion prevention and control between the MXG and HQ USAFE-AFAFRICA/A4M.

3.4.2. Ensure only Qualified Product List (QPL) and/or the Qualified Product Database (QPD) authorized wash agents are utilized for overall and spot washes. Use of unapproved commercial or household/janitorial cleaners is strictly prohibited.

3.4.3. In conjunction with the local Supply/Hazmart pharmacy, ensure only products from QPLs/QPDs approved for aircraft/aerospace equipment are being used.

3.4.4. Ensure coating system scoring and maintenance is accomplished IAW **paragraph 4.2.2.**, of this instruction.

3.4.5. Ensure unit's corrosion related training courses are administered as intended by HQ USAFE-AFAFRICA.

3.4.6. Will review and coordinate on all Aircraft naming, commander's aircraft marking, nose art, and marking waiver requests. Records will be maintained at MXG Plans, Scheduling, and Documentation (PS&D).

3.5. Wash Rack Facility Manager Responsibilities. The Wash Rack Facility Manager will:

3.5.1. Ensure fall protection is properly maintained IAW manufacturer's instructions and AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, to allow coverage of all surface areas of aircraft during washing operations.

3.5.2. Procure personal protective equipment used during wash process. Maintains wash rack facilities and equipment in serviceable condition (i.e., water hoses, pumps, air hoses, powered wash equipment, SE, Personal Protective Equipment (PPE), etc.). This may not apply to units utilizing wash contracts.

3.5.3. Develop a local safety briefings/checklist for wash crew and/or supervisors explaining hazards associated with wash rack operations.

3.6. Wash Crew Supervisor Responsibilities. The Wash Crew Supervisor will:

3.6.1. Ensure proper safety equipment, PPE and cleaning materials are serviceable and properly used IAW AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*.

3.6.2. Ensure that fall protection is serviceable and inspected prior to use IAW AFI 91-203, *Air Force Consolidated Occupational Safety Instruction.*

3.6.3. Inspect all wash rack equipment for serviceability (i.e. water hoses, pumps, air hoses, powered wash equipment, SE, etc.) prior to use.

3.7. Corrosion Prevention and Control Training.

3.7.1. All aircraft maintenance personnel will receive general corrosion prevention and identification refresher training at least annually, and receive local and unique corrosion awareness training. Training will be a combination of Interactive Multimedia Instruction (IMI) and local and unique corrosion awareness training developed by the Wing Corrosion Manager. IMI Training will consist of the Corrosion Control Familiarization Course 1 downloadable from **https://www.youtube.com/watch?v=EHMW0_iKzPs**. Video can also be found on the Air Force Corrosion Prevention and Control Office (AFCPCO) website at **https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t88B4F00B441D422B014427477A10019B&channelPageId=s6925EC133EFE0FB5E044080020E329A9**. AFSC 2A7X3 (structural maintenance) personnel and/or equivalent are exempt from periodic corrosion familiarization training. Enroute personnel must accomplish the IMI but are exempt from the supplemental training. **(T-2).**

3.7.2. If group block training method is used, supplemental training is conducted by the corrosion manager or designated representative holding a primary AFSC of 2A7X3 or 2A790. If block or refresher training is done on an individual basis, the supplemental training should be self-supporting.

3.7.3. The corrosion manager, in conjunction with the unit maintenance-training manager, develops formal classroom training curriculum. As a minimum, the curriculum will include: **(T-2).**

3.7.3.1. Corrosion identification procedures and techniques using the most current available Air Force aircraft corrosion visual training aids and information.

3.7.3.2. Identification of corrosion prone areas on unit specific weapon systems and equipment.

3.7.3.3. Reporting and documentation procedures for identified corrosion.

3.7.3.4. Importance of proper selection and use of sealants, Corrosion Prevention Compounds, and lubricants.

3.7.3.5. Proper selection and use of all cleaning materials.

3.7.4. The corrosion manager periodically updates training material and information with the assistance of the unit maintenance-training manager and information gained from CPABs and corrosion manager's conferences.

3.7.5. Periodic corrosion training does not replace normal on-the-job training requirements in any career field.

3.8. Unit Corrosion Control Program Requirements .

3.8.1. Maintenance personnel shall report all corrosion deficiencies through the applicable MIS IAW 00-20 series technical orders. Accurate documentation of maintenance actions in support of the corrosion control program is essential to support future manning, equipment requirements, training and parts/material procurement requirements.

3.8.2. ICARR-3D Reporting (C-130 users). NDI, ASM and QA personnel shall use the Inspection, Crack/Corrosion And Repair Reporting (ICARR-3D) software to make inputs to the Automated Inspection, Repair, Corrosion, and Aircraft Tracking (AIRCAT) database for

all NDI directed by technical orders; cracks and corrosion exceeding blending limits of Structural Repair Manual; and structural repairs IAW 1C-130A-6/1C-130J-6. Corrosion within blending limits of the Structural Repair Manual shall not be documented. This is an Aircraft Structural Integrity Program (ASIP) requirement. See **https://c130aircat.robins.af.mil/** for program instructions and information on ICARR-3D. Report all C-130 discrepancies in ICARR-3D.

3.9. Aerospace Ground Equipment (AGE) Flight Responsibilities .

3.9.1. Dedicated squadron identification markings will not exceed a 2-inch by 6-inch area below two field numbers if the equipment area permits.

3.9.2. Locally devised field numbers will be black.

3.9.3. Interior areas of AGE exposed during operation will be toned down to match exterior painted surfaces.

3.9.4. AGE arriving on base and requiring tone down will be scheduled for paint within 90 days of receipt, and completed within 24 months.

Chapter 4

AIRCRAFT CORROSION PREVENTION AND CONTROL PROGRAM

4.1. General Policy .

4.1.1. Maintain aircraft paint scheme, markings, and decals IAW T.O.s 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment,* and 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-aerospace Equipment*, applicable weapon specific TO's, and this instruction.

4.1.2. Do not apply unauthorized decals or markings to aircraft. HQ USAFE-AFAFRICA/A4M is the approval authority for deviations from the instructions. Once submissions are approved by the WG/CC, submit drawings, photos or paintings for approval to HQ USAFE-AFAFRICA/A4M.

4.1.3. Aircraft transferring from other commands should comply with USAFE-AFAFRICA instructions within 90 days after transfer.

4.1.4. Markings, warnings, and decals shall be legible and distinct.

4.1.5. Corrosion Prevention Advisory Board (CPAB). CPAB requirements for aircraft units will be fulfilled through the annual aircraft/helicopter CPABs. Submit CPAB action items to the Command Fabrication Functional. Action items may be submitted throughout the year and must focus on structural integrity, extended service life, and improved repair techniques for the weapon system.

4.1.6. Aircraft coatings. Repair deteriorated aircraft coatings and areas of corrosion when discovered in order to provide continued surface protection. Protect metals unable to receive a primer with an approved coating such as corrosion preventative compound.

4.2. Aerospace Vehicle Coating and Marking Requirements .

4.2.1. This section provides guidance for applying command approved, non-United States Air Force (USAF) standard aircraft coatings and markings as authorized in T.O. 1-1-8. Paint schemes/configurations and USAF standard aircraft markings will be applied in accordance with T.O. 1-1-8 and the applicable aircraft technical order and drawings. **(T-1).**

4.2.2. Coating System Scoring and Maintenance. All USAFE-AFAFRICA units are required to score aircraft coating systems at least annually and/or when effected by adverse conditions for appearance/coating system integrity using applicable technical data or a locally developed system. **(T-3).** Supervisors will use rating to determine corrosion treatment/paint scheduling priority. Units are required to adopt maintenance-painting techniques stated in T.O. 1-1-8 to maintain aircraft corrosion protection between overcoats. **(T-1).** Partial painting "sections" of the aircraft will help reduce the effects of mottling and mismatch. Fully over coated aircraft will be documented in the MIS and the individual aircraft AFTO Form 95, Significant Historical Data, for tracking purposes. All aircraft units should rely on spot maintenance painting and sectionalized painting between depot cycles to maintain the coating system integrity.

4.3. Aircraft Markings . Aircraft markings will be applied to aircraft as specifically authorized by this instruction, T.O. 1-1-8, or the applicable aircraft technical orders. **(T-3).** Aircraft inputs to

depot will be marked IAW with Air Force directives and this instruction only, unless otherwise approved by HQ USAFE-AFAFRICA/A4M. All aircraft markings and basic paint schemes will be maintained intact, legible and distinct in color. Command standardization of markings by mission design series (MDS) is of primary concern. HQ USAFE-AFAFRICA specific requirements are located in **Attachment 2**.

4.3.1. Command Insignia. The application of the command insignia on aircraft is mandatory. **(T-2).** The insignia will be applied to the outboard sides of vertical stabilizers unless otherwise specified in the applicable aircraft T.O.s. **(T-2).** All aircraft will use subdued insignias unless otherwise specified in **Attachment 2**. **(T-2).** Size and location of command insignias by MDS are specified in **Attachment 2**.

4.3.2. Organizational Insignia The application of wing insignia is mandatory. **(T-3).** The insignia will be applied to both sides of the forward (FWD) fuselage. The operational squadron insignia may be applied on the left side in place of the wing insignia. Wing and squadron insignias will be the same color scheme as the command insignia, i.e., subdued or full color. **(T-3).**

4.3.3. Distinctive Unit Aircraft Identification Marking. The application of the unit designator is mandatory for USAFE-AFAFRICA aircraft unless otherwise directed. HQ USAFE-AFAFRICA/A4M is the (OPR) for the assignment of unit designators. **(T-2).** The primary factor used to determine appointment of unit designators is the aircraft/unit assignment location. T.O. 1-1-8, or the applicable aircraft TO, will provide color restrictions and location for the unit designator. The unit identifier will be applied in accordance with guidelines in **Attachment 2** of this instruction, or applicable aircraft T.O.s. **(T-3).**

4.3.4. Tail stripes are applied as a wing option, used to identify aircraft operation squadrons. When applied, the use of the same tail stripe by two or more squadrons within a wing is not permitted. The tail stripe will be applied at the upper portion of the vertical stabilizer, and must be in the form of a straight stripe. **(T-3).** The width will not exceed 9 inches on fighter and small reconnaissance type aircraft, 15 inches on large aircraft. The stripe may be any color or pattern, and may contain a logo, name, or lettering. On aircraft bearing the American Flag, the tail stripe must be solid in color and will not contain any logo, name, or lettering. **(T-3).** On aircraft with multiple vertical stabilizers, the tail stripe may be of either a wrap-around style on both vertical stabilizers or applied to the outboard sides of each vertical stabilizer. Units will not repaint tail stripes during deployed operations. **(T-3).** Once deployed, aircraft will retain their original paint configurations, unless otherwise directed by AFCENT/CC

4.3.5. Tail Markings: See **Attachment 2** & **Attachment 3**.

4.3.6. Aircrew and Crew Chief Names (Optional). Aircrew/Crew Chief names may be applied to all command aircraft. Crew Chief/assistant(s) names shall be applied to all aircraft assigned to units with an established Dedicated Crew Chief (DCC) program. All names must be removed IAW T.O. 1-1-8 prior to deployment from home station in direct combat zones or when participating in contingencies that may subject aircraft to hostile fire abroad. **(T-3).** Application of nicknames, punctuation, and/or call signs is not permitted. **(T-3).** A background block for pilot/crew chief names may be used. The block should be in contrasting color to the section of the aircraft where applied. To further an MDS theme, block may be preceded by a design depicting the MDS i.e., F-15 eagle head, F-16 falcon

head, etc. The name block should give a subdued appearance and may be other than rectangular in shape.

4.3.7. Commander's Aircraft Markings. All commanders' aircraft markings will be reviewed for approval by HQ USAFE-AFAFRICA/A4M prior to being applied to aircraft. **(T-2).** Requests will be submitted in memorandum format with digital photos attached. When applied, digital photographs will be submitted to HQ USAFE-AFAFRICA/A4M for review and file. Commander's aircraft referred to in this instruction are those designated as Numbered Air Force (NAF), Wing, Operations Group (OG) and commanders of flying squadrons (Bomber/Fighter/Reconnaissance). The NAF Commander may select one wing within the command to have an aircraft specifically marked. **(T-2).** It will be the only aircraft authorized so marked. Commanders are authorized to designate one aircraft each to be marked with standardized commander type markings, refer to **Attachment 2** for specific markings. Unit identifier and radio call numbers will remain on vertical stabilizers as depicted in applicable T.O. and this USAFE-AFAFRICA policy. **(T-2).**

4.3.7.1. Wing and/or NAF insignias. The wing and/or NAF insignias will be applied on the right forward fuselage and a collage of assigned flight/operations squadron insignias will be applied on the left forward fuselage. **(T-3).**

4.3.7.2. Highlighting of unit designator. All highlighting will be done in contrasting gray, black or white as long as it meets primary basecoat gloss requirements (i.e., gloss, camouflage or gunship). All unit designators and radio call numbers will remain on vertical stabilizers or as depicted in applicable technical orders. Additional guidance for each airframe can be found in **Attachment 2**. **(T-3).**

4.3.7.3. Wing Commanders must approve the markings, and digital photographs must be provided to HQ USAFE-AFAFRICA/A4MA for review and file prior to being applied to aircraft. All photo requirements may be met by a high quality digital photograph. All USAFE-AFAFRICA units must submit one full length (landscape orientation) of the commander's aircraft each time a marking change occurs to HQ USAFE-AFAFRICA/A4M for review and file. Units will provide photos of unique markings for all local option changes authorized by this instruction (e.g., tail stripe/name block design and/or color changes, paint data placard, etc.) to HQ USAFE-AFAFRICA/A4M for review and file. The use of a power point slide presentation is standard format.

4.3.7.4. Anniversary markings. This policy is provided to allow latitude for application of anniversary logo markings to the forward fuselage of Wing Commander Aircraft only. When applied, markings will not exceed 24" X 24", interfere with required aircraft markings, or exceed anniversary period (1-year maximum). (T-3). Extensions to the 1-year anniversary period will not be granted. State flags and logos other than anniversary type are not considered unit unique markings and are not authorized. (T-2).

4.3.7.5. Naming of aircraft. This policy is provided to allow for application of the unique aircraft naming on Wing Commander aircraft only. **(T-2).** This includes markings previously considered unit unique and are community related/appreciation types such as "Spirit of," "City of" and "State of". Naming aircraft is a tradition designed to commemorate or honor individuals, geographic locations, or events either for the support provided the Air Force on a long-term basis, or because of its significance to Air Force history or heritage. Recommendations must include a proposed name, aircraft tail

number, and detailed justification for the proposed design/name. Size of marking is limited to 24 sq. inches for fighter type aircraft, 36 sq. inches for large aircraft. **(T-3).** Subdued color needs to be considered for certain type and mission of aircraft. USAFE-AFARICA Public Affairs (PA) is designated as the clearinghouse for all requests to name USAFE aircraft and must ultimately be approved by AF/CV. **(T-1).** Route requests through wing PA to HQ USAFE-AFAFRICA/A4M.

4.3.8. Nose Numbers Aircraft nose numbers shall be in block or Helvetica letters, not to exceed four digits. **(T-3).** The paint material(s) used to apply nose numbers shall have the same gloss or subdued requirement as the base aircraft coating.

4.3.9. Unique Unit Markings. See **Attachment 2**.

4.3.10. Aircraft Travel Pods. Travel pods will be painted the same color and tone as the aircraft with no additional markings. **(T-3).** Units with multicolor aircraft will select primary color of the aircraft for the travel pod. Travel pods designated for commanders may contain the position and name of the individual and appropriate insignia. Lettering will not exceed 6 inches in height; will be of contrasting color and font style consistent with lettering already on aircraft. **(T-3).**

4.3.11. External Fuel Tanks. External fuel tanks shall be painted the same color and tone as existing aircraft coating. An identification marking may be placed on the tank for tracking purposes. **(T-3).**

4.3.12. Alternate Mission Equipment (AME). AME will be painted IAW specific technical data. When such data does not exist, units will coordinate with the applicable item manager and HQ USAFE-AFAFRICA/A4M before changing paint schemes.

4.3.13. Paint Identification Placard. The paint identification placard is a mandatory marking. Wing Commanders may approve a unique placard design, i.e., eagle head, falcon head, or state outline. **(T-3).** The placard must not exceed 8 inches by 8 inches in size and will match the color of the original/existing placard.

4.3.14. Competition Aircraft. Competitions will be considered "come as you are" and no waivers will be granted. "Come as you are" is defined as no special effort, painting, or additional markings applied to enhance or improve the overall appearance of the aircraft. This includes polishing of titanium, using commander type markings, etc.

4.3.15. Aerial Victory Marking. Fighter aircraft awarded a verified aerial victory are authorized to display a 6-inch green star with a 1/2 inch black border located just below and centered on the pilot’s name block. The type of aircraft shot down shall be stenciled inside the star in 1/2 inch white lettering. For aircraft with multiple aerial victories, a star is authorized for each aircraft shot down. No other victory markings are authorized. **(T-2).**

4.3.16. Gun Ports. Gun Ports will be painted in flat black paint, with the exception of aircraft painted with Hav-Glass.

4.3.17. Bird Of Prey Silhouette**.** Bird of prey silhouettes are authorized on F-15 and F- 16 aircraft as a unit option, but must be standardized within a wing by MDS. No waiver is required to apply bird of prey silhouettes, but a photograph must be submitted to HQ USAFE-AFAFRICA/A4M for review and file. The following guidelines apply:

4.3.18.1. F-15 Aircraft. The silhouette will be placed on the insides of the vertical stabilizers. They will not exceed 24 inches in height and must be applied in a contrasting gray color.

4.3.18.2. F-16 Aircraft. The silhouette can be placed anywhere on the aircraft as long as it does not interfere with standard required markings. The silhouette will not exceed 18 inches in height and must be applied in a contrasting gray color.

4.3.19. Aircraft Transfer.

4.3.19.1. The following markings must be removed prior to formal transfer of aircraft to other units or MAJCOMs (aircraft retiring to AMARG need not have any markings removed). Deviations from transfer requirements are authorized provided the gaining and losing units reach a mutual agreement.

4.3.19.2. Organizational insignias.

4.3.19.3. Unit identifier.

4.3.19.4. Tail stripe.

4.3.19.5. Aircrew and crew chief names.

4.3.19.6. Unit unique markings.

4.3.19.7. Nose art.

4.3.20. Waivers. Wing Commanders must submit waiver requests for non-standard markings to HQ USAFE-AFAFRICA/A4M for approval/disapproval. Waivers that are in violation of aircraft technical orders, commanders aircraft marking or nose art marking policy outlined in this instruction, will not be accepted. Waiver requests will be in memorandum format and must include the following:

4.3.20.1. Clear statement of present procedure/marking.

4.3.20.2. Clear statement of proposed change.

4.3.20.3. Justification to include historical significance, if applicable.

4.3.20.4. Photographs: Two high-quality digital color photographs, one of present marking and one of requested change. The use of a power point slide presentation is standard format.

ROY-ALAN C. AGUSTIN
Brigadier General, USAF
Director of Logistics, Engineering and Force Protection

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 21-101, *Aerospace Equipment Maintenance Management,* 21 May 2015

AFI 20-114, *Air and Space Equipment Structural Maintenance,* 7 Jun 2011

AFI 21-124, *Oil Analysis Program,* 12 Jan 2017

AFI 32-1024, *Standard Facility Requirements,* 14 Jul 2011

AFI 33-360, *Publications and Forms Management*, 25 Sep 2013

AFI 91-203, *Air Force Consolidated Occupational Safety Instruction,* 15 Jun 2012

AFI 48-137, *Respiratory Protection Program,* 15 Jul 2014

AFMAN 32-1084, *Facility Requirements,* 26 Feb 2016

AFMAN 33-363, *Management of Records,* 01 Mar 2008

T.O. 00-5-1, *AF Technical Order System,* 01 Oct 2014

T.O. 00-25-107, *Maintenance Assistance,* 01 Oct 2015

T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding,* 13 Mar 2017

T.O. 00-25-252, *Aeronautical Equipment Welders,* 01 Sept 2009

T.O. 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment,* 12 Aug 2016

T.O. 1-1-689-3, *Cleaning and Corrosion Control Volume III Avionics and Electronics,* 16 Apr 2014

T.O. 1-1-690, *General Advanced Composite Repair Processes Manual,* 08 Nov 2016

T.O. 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment,* 20 Feb 2016

T.O. 35-1-3, *Corrosion Prevention and Control, Cleaning, Painting and Marking USAF Support Equipment (SE),* 23 Jul 16

Unified Facilities Criteria 4-211-02, *Aircraft Corrosion and Paint Facilities*, 01 Dec 2012

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

AFTO Form 781A, *Maintenance Discrepancy and Work Document*

AFTO Form 95, *Significant Historical Data*

DD Form 2757, *Welding Examination Record*, June 1997

Abbreviations and Acronyms

AFCENT—Air Force Central Command

AFCPCO— Air Force Corrosion Prevention and Control Office

AFI— Air Force Instruction

AFMAN—Air Force Manual

AFPD— Air Force Policy Directive

AFSC—Air Force Specialty Code

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

AIRCAT— Automated Inspection, Repair, Corrosion, and Aircraft Tracking

AMARG—Aerospace Maintenance and Regeneration Group

AMC—Air Mobility Command

AME—Alternate Mission Equipment

AMT—Aircraft Metals Technology

ASIP—Aircraft Structural Integrity Program

ASM—Aircraft Structural Maintenance

CAF—Combat Air Forces

CAFI—Combat Air Force Instruction

CC—Commander

CCPE—Corrosion Control Prevention Executive

CPAB—Corrosion Prevention Advisory Board

DCC— Dedicated Crew Chief

DoD—Department of Defense

EWWS—Electronic Warfare Warning System

FGS—Final Governing Standards

FS— Fuselage Station

FW— Fighter Wing

FWD— Forward

HQ—Headquarters

IAW— In Accordance With

ICARR—Inspection, Crack/Corrosion, and Repair Reporting

IMI—Interactive Multimedia Instruction

IPT—Integrated Process Teams

MAF—Mobility Air Forces

MAFI—Mobility Air Force Instruction

MAJCOM— Major Command

MDS—Mission Design Series

MIS—Maintenance Information System

MTO—Metals Technology Office

MXG—Maintenance Group

NAF—Numbered Air Force

NAS 410—National Aerospace Standard Certification & Qualification of Nondestructive Test Personnel

NDI—Nondestructive Inspection

OAP—Oil Analysis Program

OG— Operations Group

OPR— Office of Primary Responsibility

PA—Public Affairs

PCR—Publication Change Request

PIT—Process Improvement Team

PS&D—Plans, Scheduling & Documentation

QPD—Qualified Products Database

QPL—Qualified Products Listings

SE—Support Equipment

SNCO—Senior Noncommissioned Officer

SPD—System Program Director

TO—Technical Order

USAF—United States Air Force

U&TW—Utilization and Training Workshop

WG—Wing

Attachment 2

AIRCRAFT MARKING SPECIFICATIONS

Table A2.1. F-15

Marking	Size	Location	Color/Finish
Command Insignia	18 inches	Vertical: Bottom of insignia 18 inches. above unit designator Horizontal: Aft edge of insignia of FS 806.5	Black
Organizational Insignia	18 inches	Vertical: Bottom of insignia on WL 100.0 Horizontal: Forward edge of insignia on FS 458.0	Black
Unit Identifier	24 inches	Vertical: Top of letters even with top of rudder. Horizontal: Leading edge of first letter on FS 760.0. Centered between the leading edge and the rudder.	Black
Unit Identifier (Commanders Flagships)	20 inches with 1 inch shadowing. Top of letter will be moved up 6 inches from top of rudder line.		
Radio Call Number	15 inches	Follow -23. T.O. references for specific location	Black. Shadowing of tail numbers is not authorized.
Pilot Name		Centered below left windscreen frame.	
DCC and Assistant DCC Block		Centered below right windscreen frame.	
Nose numbers	4 inches	Last three/four digits of tail number vertically on left and right side of nose gear door or on the aircraft nose 1 inch below the EWWS antenna with the last	

		number ending 1 inch from radome.	
F-15 UNIQUE MARKINGS Commanders Flagship: Authorized: 15 inch (Black) plus ¾ inch white shadow. Commander designation (i.e: 48 WG, 366 FW, 48 OG, 391 FS, etc.) centered vertically between unit identifier and radio call numbers, centered horizontally between leading edge of stabilizer and leading edge of rudder. Subscript letters (ie: FW, OG, FS, etc.) will be 7 inches (Black) with ¼ inch shadowing. No ―"th" subscript authorized. Shadowing of tail numbers is not authorized			

Table A2.2. F-16

Marking	Size	Location	Color/Finish
Command Insignia	18 inches	Vertical: 7 inches below tail stripe Horizontal: Centered on vertical stab, excluding rudder measurement	Subdued
Organizational Insignia	10 inches	Vertical: Top of insignia 11 inches below fuselage/intake splitter vane. Horizontal: Leading edge 52 inches aft of intake duct lip	Subdued
Unit Identifier	18 inches	Vertical: Bottom of letters at WL 158.0 Horizontal: Leading edge of first letter on FS 482.07	
Pilot Name		On left canopy rail	
DCC Block		On right canopy rail	
Assistant DCC Block		Inside of nose landing gear door.	
Nose Number	4 inches	Last three/four digits of tail number on both sides of nose gear door or centered below teardrop EWWS antenna on each side of aircraft nose.	

Table A2.3. HH-60

Marking	Size	Location	Color/Finish

Command Insignia	8 inches	Left side: 13 inches below WL 319.633 centered. Right side: 9 inches below WL 319.633 centered	Subdued
Organizational Insignia	10 inches	Wing: On right cargo door 8 inches forward window, centered Squadron: On left cargo door, 8 inches below forward window, centered.	Subdued
Unit Identifier	9 inches	Left side: Positioned 21.5 inches below WL 319.633, centered Right side: Positioned 19 inches below WL 319.633, centered	Subdued
Pilot Name		Right door, 2.5 inches below window, centered	Subdued
Aircrew Names		Left door, 2.5 inches below window, centered	Subdued
DCC Block		Right cargo door, 3.1 inches below and centered on forward window	Subdued
Assistant DCC Block		Left cargo door, 3.1 inches below and centered on forward window	Subdued
HH-60 UNIQUE COMMAND COLOR SCHEME: Gray only			
HELICOPTER ROTOR MARKINGS: All helicopter rotor markings will be in accordance with T.O. 1-1-8 and applicable weapons system technical data.			

Table A2.4. C-130J

Marking	Size	Location	Color/Finish
United States Flag	24 X 48 inches	Both sides of vertical stabilizer Vertical: Bottom at vertical stabilizer	Matte finish

		station 154.0 Horizontal: Centered on FS 1090.0	
Unit Designator (**Command Aircraft only**)	15 inches	Vertical: Bottom at vertical stabilizer station 14.0. Horizontal: Centered between FS 1068.0 and 1122.0	Subdued
Base Designator	36 inches	Vertical: Bottom at vertical stabilizer station 63.0 Horizontal: Centered between FS 1068.0 and 1122.0.	Subdued
Tail Numbers	15 inches	Both sides of vertical stabilizer. Vertical: Bottom of vertical stabilizer station 36.0. Horizontal: Centered between FS 1068.0 and 1122.0	37038
Nose Numbers	6 inches	Both sides of fuselage. Vertical: 3 inches above WL 200. Horizontal: Placed 6 inches aft of FS 132.	37038
Unit Identifier	6 inches	Both sides of fuselage even with forward edge of nose number	37038
DCC Block	MXG/CC discretion	Left side of fuselage only. Vertical: Above crew door at WL 195.0 Horizontal: Between FS 204.0. and 240.0	Subdued
USAFE Command Insignia	30 inches	Both sides of fuselage. Vertical: 6 inches above window on WL 195.0 Horizontal: Centered on FS 277.0	Subdued

Organizational Insignia **(Commanders Aircraft only)**	30 inches	Left side of fuselage only. Vertical: 6 inches above window on WL 195.0. Horizontal: Centered on FS 317.0.	Subdued
Note: Refer to USAF Paint Drawing # E 201122423 and Exterior Markings Drawing # 201122424 for specific J model markings. Reference Drawing #'s 9276080, 9276081 and 9276082 for legacy.			

Table A2.5. KC-135

Marking	**Size**	**Location**	**Color/Finish**
Tail band Stripes		Horizontal between WL 568.9 and WL 553.90	Vinyl decal; Three stripes 5.5 inches ea. in height. Blue, white, and red with 9 stars (5 on blue/4 on red)
Note*			
The stars represent each aircraft type the wing has operated in its history; B-17, B-47, KC-97, U-2, DC-130, CH-3, Q-147, Minuteman, and KC-135.			
Royal AF Mildenhall Station Crest	48 inches (height)	Both sides of vertical stab; 1 inch aft of leading edge seam line with upper portion of crown centered between two top stripes	Vinyl Decal full color Ref slide: #4 item B
Unit identifier (Mildenhall – "Square D")	42 inches squared	Locate 24 inches down from bottom of command insignia. Last letter of designator will end 17 inches in from leading edge of tail.	37038. 42" X 42" background, 34" white vinyl "D" centered on background.
USAFE Tail Marking	12 inches	Both sides of vertical stab; centered between stabilizer leading edge and trailing edge (not	37038

		including rudder) and 12 inches below "Square D"	
Radio Call Numbers	12 inches	Both sides of vertical stab; centered between stabilizer leading edge and trailing edge (not including rudder). Top edge of numbers is 12 inches below USAFE command code.	37038
Nose Art Marking	36 inches	Left side only; horizontally place 17.5 inches behind the nose radome. Vertically the bottom of the stencil is 23 inches below lap joint 187.	Vinyl decal: 36" X 36"
Ruddevator Markings	15 inches	"100 ARW" in white, Raphael style font lettering, with a 20 degree right slant, 2.5 inch stroke, applied on both UPPER and LOWER surfaces. Upper surface will be readable through the boom operator's window, lower surface readable by receiving aircrew.	36622
Command Emblem (USAFE)	24 inches	Right side only: centered vertically on down stroke of first "R" in U.S. Air Force next to AMC emblem	37038
Organizational Insignia	24 inches	Left side: centered vertically on down stroke of first "F" in U.S. Air Force	37038
Local Station	6 inches	Right side per T.O.	37038

Numbers		1C-135-8. Left side: Located 7 inches forward of the crew entry door, parallel with the top of the pressure door.	
Unit Identifier	6 inches	Right Side per T.O. 1C-135-8. Left side: omitted due to nose art (Nose decal has“100 ARW” on top)	37038
DCC Block	MXG/CC discretion	Positioned with top edge below fuselage skin lap joint at WL 187 and centered at body station 375	MXG/CC discretion
Nose bandit Mask	2 inch wide (Wing discretion)	2 inch wide flat black outline from BL 178.0 to WL 200.0 right and left side of fuselage, outlining the top and sides of the windscreen, windshield glare area, and lower nose radome area.	37038

Attachment 3

DISTINCTIVE UNIT IDENTIFIER REGISTRY

A3.1. Majority of MAJCOMs require assigned aircraft to hold unit identifiers as depicted in T.O. 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment.* The composite listing of distinctive unit identifiers (**Table A3.1.**), shows past and current Air Force aircraft tail unit identifiers. The responsibility for keeping the registry current falls on HQ USAFE-AFAFRICA/A4MA.

Table A3.1. COMPOSITE LISTING OF DISTINCTIVE UNIT IDENTIFIERS.

CODE	AIRCRAFT	UNIT/ LOCATION/ COMMAND
AV	F-16C/D	31 FW Aviano AB, Italy (USAFE)
D	KC-135	100 AW RAF Mildenhall, UK (USAFE)
LN	F-15C/D/E, HH-60	48 FW RAF Lakenheath, UK (USAFE)
RS	C-130J	86 AW Ramstein AB, Germany (USAFE)
SP	F-16C/D	52 FW Spangdahlem AB, Germany (USAFE)