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AIR COMBAT COMMAND**



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It implements policy guidance in Air Force Policy Directive (AFPD) 21-1, *Managing Aerospace Equipment Maintenance*, and Air Force Instruction (AFI) 21-105, *Aerospace Equipment Structural Maintenance*, and AFI 21-124, *Air Force Oil Analysis Program (OAP)*. This instruction provides guidance and direction necessary to develop an effective, Aircraft Metals Technology Program, Nondestructive Inspection Program, Aircraft Structural Maintenance Program, and Survival Equipment Program. ACC tenant units shall comply with areas of this instruction that apply to their operation. This instruction does not apply to Air National Guard (ANG) or Air Force Reserve Command (AFRC) units and members. All ACC Maintenance Squadrons (MXS) and Equipment Maintenance Squadrons (EMS) with Fabrication Flights or any of the sections in this instruction shall maintain a current copy of this instruction. Send comments and suggested improvements on AF Form 847, **Recommendation for Change of Publication**, through channels to HQ ACC/LGMS, 216 Hunting Ave, Langley AFB, Virginia 23665.

This interim change outlines the requirement to perform F-22 Signature Assessment System (SAS) and aircraft Outer Mold Line (OML) Audits and added **Attachment 4**, F-22 Outer Mold

Line Audit. Ensure all records created as a result of processes in this document are maintained in accordance with (IAW) AFMAN 37-123 (to be AFMAN 33-363), Management of Records, and are disposed of IAW the AF Records Disposition Schedule (RDS) located at <https://afrims.amc.af.mil>. Contact supporting record managers as required. A bar (|) indicates a revision from the previous edition.

(SHAWAFB) ACCI 21-105, 13 May 2003, Incorporating Change 1, 9 April 2007, is supplemented as follows: This supplement implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*, and Air Force Instruction 21-105, *Air Space and Equipment Structural Maintenance*. It prescribes policies and procedures governing the Fabrication Program and Shaw Air Force Base’s role as a member of the Combat Air Forces. It provides essential guidance and procedures necessary to develop an effective Aircraft Metals Technology Program, Nondestructive Inspection Program, Aircraft Structural Maintenance Program and Survival Equipment Program, at the base level. Ensure that 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 (IAW) Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at [https://www.my.af.mil/gcss-af61a/afrims/afrims.cfm](https://www.my.af.mil/gcss-af61a/afrims/afrims/rims.cfm). Contact supporting records managers as required. 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 to (20 MXG/MXQ), (527 Killian Ave), Shaw AFB, SC 29152-5044; route through your appropriate functional chain of command.

SUMMARY OF CHANGES

(SHAWAFB) This document has been substantially revised and must be completely reviewed. Major changes include paragraphs 3.7.2.1 through 3.9.10., procedures for aircraft washes and 3.14.8.3.1 through 3.14.8.3.1.7., description of travel pod paint scheme.

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Chapter 1

AIRCRAFT METALS TECHNOLOGY PROGRAM

1.1. Purpose of Aircraft Metals Technology (AFSC 2A7X1). Supports aircraft maintenance, aircraft support equipment maintenance through the manufacture and repair of aircraft components/parts and support equipment parts. Manufactures, reworks, welds, cuts, brazes, forges, solders, and assembles metals and machined parts in the fabrication of metal parts and components. Aircraft Metals Technology also supports aircraft maintenance by removing faulty hardware from aircraft and inspecting aircraft parts for wear using calipers, gauges and micrometers. Utilizes blueprints to fabricate aircraft parts, tools, fixtures and miscellaneous items. The manufacturing and repairing is accomplished by forming raw stock using milling machines, lathes, tool and cutter grinder, drill presses, surface grinders, radial arm drill presses and various pneumatic hand tools. In addition to these processes, parts are manufactured and repaired using heat treatment along with fusion welding using tungsten inert gas, metallic inert gas, shield arc, oxy/acetylene and plasma arc cutting. Maintains shop equipment by performing preventative maintenance and other required maintenance on shop equipment.

1.2. HQ ACC/LGM Responsibilities.

1.2.1. Manages the command Aircraft Metals Technology Program.

1.2.2. Designates a senior NCO to manage the program and perform the following responsibilities:

1.2.3. Manages the Aircraft Metals Technology career field for ACC.

1.2.4. Manages the ACC welder certification program IAW T.O. 00-25-252 and this instruction.

1.2.5. Approves all intra-command Aircraft Metals Technology TDY manning assistance requests.

1.2.6. Develops and coordinates ACC policy and procedures for Aircraft Metals Technology functions.

1.3. Maintenance Group Commander Responsibilities.

1.3.1. Certifying official for unit level welding examination. May designate responsibility to the welder's Squadron Maintenance Operations Officer/ Superintendent.

1.4. Maintenance Squadron Commander Responsibilities.

1.4.1. Ensures funding is available for Aircraft Metals Technology personnel who will be certified at an Air Logistics Center (ALC) to perform welding operations.

1.5. Fabrication Flight Chief Responsibilities.

1.5.1. Ensures all assigned journeyman and craftsman assigned to the Aircraft Metals Technology Section are certified IAW T.O. 00-25-252, *Certification of Military Aircraft, Missile & Support Equipment Welders*, to perform welding operations in each metal group.

1.5.1.1. (Added-SHAWAFB) Ensures a local welding certification program and procedures are developed and individual certification results are maintained.

1.5.2. Determines if welders should be qualified by an ALC or locally. If this is going to be done at an ALC, ensures funding is forecasted.

1.6. Aircraft Metals Technology Section Chief Responsibilities.

1.6.1. Certifies Aircraft Metals Technology personnel on specified qualification groups in paragraph 1.4.1 and maintains certification for all assigned journeyman and craftsman.

1.6.2. Coordinates requests for an ALC or other qualified organization to qualify welders. If qualification and certification is accomplished locally, coordinates the certification requirements with the NDI section to ensure x-ray capability exists.

1.6.3. The welder's supervisor responsible for completing DD Form 2757 (welding examination record), block 20 and 20a must be a 7-level Aircraft Metals Technology technician with current certification in all metal groups.

Chapter 2

NONDESTRUCTIVE INSPECTION PROGRAM

2.1. Purpose of Nondestructive Inspection (NDI) and Oil Analysis Program (OAP) (AFSC 2A7X2).

2.1.1. NDI is a group of inspection methods used to investigate the quality, integrity, properties and dimensions of materials and components without damaging or impairing their serviceability. These inspection methods primarily are liquid fluorescent penetrant, magnetic particle, eddy current, ultrasonic and radiographic. NDI extends the life of aircraft, engines and related support equipment by detecting defects, i.e., cracks, voids, delaminations and foreign objects.

2.1.2. The OAP is used to measure and evaluate internal engine wear metal by interpreting oil analysis results. The engine condition is assessed based on the diagnosis of the probable source of the wear metal. Based on this assessment, the OAP Laboratory makes a maintenance or operational recommendation to the user. The OAP is an essential part of aircraft maintenance because it helps determine the condition of aircraft engines.

2.2. HQ ACC/LGM Responsibilities.

2.2.1. Manage the command NDI and Oil Analysis Program.

2.2.2. Designate a senior NCO to manage the program and perform the following responsibilities:

2.2.2.1. Manage the NDI career field for ACC.

2.2.2.2. Support the Air Force NDI Program Office by participating in NDI equipment evaluations, field surveys, NDI Integrated Process Teams (IPT), NDI Product Improvement Teams (PIT), Air Force NDI managers meetings/working groups and advisory board meetings.

2.2.2.3. Approve all intra-command NDI TDY manning assistance requests.

2.2.2.4. Develop and coordinate ACC policy and procedures for NDI and OAP functions.

2.3. Wing Commanders Responsibilities.

2.3.1. Ensures an effective NDI and Oil Analysis Program is maintained.

2.4. Maintenance Squadron Commander Responsibilities.

2.4.1. Ensures only properly trained personnel with AFSC 2A7X2 operate NDI equipment and perform NDI.

2.4.2. Ensures visual inspections are not performed by NDI personnel unless specifically called for by technical orders.

2.5. NDI Section Chief Responsibilities.

2.5.1. Organizes, directs and manages the Wing NDI Program IAW T.O. 33B-1-1 and other applicable directives.

- 2.5.2. Ensures all NDI equipment required to perform NDI on assigned weapon systems and support equipment is available and operational.
- 2.5.3. Ensures the following environmental controls are maintained where radiographic film is stored and where the OAP spectrometers are operated:
 - 2.5.3.1. Temperature should be below 75 degrees F.
 - 2.5.3.2. Humidity below 50 percent.
- 2.5.4. Ensures NDI personnel do not make serviceability determinations of materials and components except when directed to do so by specific directives.
- 2.5.5. Ensures accurate oil analysis data is distributed to the central Air Force database monthly.
- 2.5.6. Ensures all deployable spectrometers are properly secured and protected before being deployed out of the OAP Laboratory.
- 2.5.7. Performs and documents daily standardization checks IAW applicable technical data on all assigned spectrometers every duty day except three duty days prior to deployments for that specific spectrometer deploying and three duty days after receipt of the spectrometer returning from a deployment.
- 2.5.8. Ensures all assigned spectrometers are left in standby mode when not being used except when unit is being prepared for deployment or other required movement outside the NDI/OAP facility and during transportation to new location.
- 2.5.9. Develops a local checklist IAW T.O. 00-5-1 to use for analyzing correlation samples.
- 2.5.10. Ensures all assigned oil analysis spectrometers are Joint Oil Analysis Program (JOAP) approved and certified IAW TO 33-1-37-1.
- 2.5.11. Requests contractor repair through the Air Force Oil Analysis Program Office whenever an oil analysis spectrometer cannot be repaired locally or is out of service due to maintenance for more than 24 hours.
- 2.5.12. Complies with contingency operations in TO 33-1-37-2 when no back up oil analysis spectrometer is available locally.

Chapter 3

AIRCRAFT STRUCTURAL MAINTENANCE AND CORROSION CONTROL PROGRAM

3.1. Purpose of Aircraft Structural Maintenance (ASM) (AFSC 2A7X3). This chapter assigns responsibilities and establishes policies/procedures for implementing and maintaining the aircraft structural maintenance and corrosion control program for aircraft, aerospace ground equipment (AGE), communications, electronics and meteorological (CEM) equipment and other end items relative to the functions of Air Combat Command.

3.1.1. Aircraft Structural Maintenance incorporates design, repair and fabrication of metal, fiberglass, plastic and composite structures for aircraft. Corrosion identification, prevention and treatment procedures as well as removal and application of Radar Absorbing Material (RAM) are also integral components of ASM. All aspects of ASM are geared towards maintaining the structural integrity and Low Observable systems at the organizational and intermediate levels.

3.1.2. Corrosion control programs shall be oriented towards the prevention and control of corrosion through frequent cleaning, corrosion inspection and early detection, application of proper treatment materials/procedures, and maintenance painting. Frequent cleaning has proven to be the most effective means of preventing corrosion. Maintenance painting is defined for field purposes as spot painting, sectionalized painting, and complete scuff sand and overcoat.

3.2. HQ ACC/LGM Responsibilities.

3.2.1. Manage the command's aircraft structural maintenance (ASM) and corrosion control program.

3.2.2. Designate a senior NCO to manage the program and perform the following responsibilities:

3.2.2.1. Manage the Aircraft Structural Maintenance career field for ACC.

3.2.2.2. Represent ACC at assigned weapon systems corrosion prevention advisory boards (CPAB), AF/DOD corrosion conferences and field surveys.

3.2.2.3. Approve all intra-command ASM TDY manning assistance requests.

3.2.2.4. Develop and coordinates ACC policy and procedures for ASM functions.

3.2.2.5. Represent ACC at 2A7X3 utilization and training workshops.

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

3.3. Wing Commander Responsibilities.

3.3.1. Approves all aircraft paint waiver requests before submittal to HQ ACC/LGM.

3.3.2. Determines organization responsible for management of aircraft wash facility.

3.4. Maintenance Group Commander Responsibilities.

3.4.1. Establishes and maintains an effective corrosion prevention and control program.

3.4.2. Ensures adequate facilities, equipment, manpower, material and funding are available to support a sound corrosion prevention and control program. The minimum requirements are:

3.4.2.1. Providing a facility for maintenance painting assigned aircraft on a year round basis.

3.4.2.2. Ensuring requirements outlined in AFI 32-1024, *Standard Facility Requirements* are met for support equipment (SE) and aircraft small parts. This capability can be incorporated in the aircraft corrosion control facility if space permits.

3.4.2.3. Ensuring facility control technology meets local, state and federal Environmental Protection Agency requirements in conjunction with current National Emission Standards for Hazardous Air Pollutants (NESHAP).

3.4.3. Ensuring adequate wash rack facilities are available to wash aircraft on a year round basis. This requirement can be satisfied with any one or more of the following:

3.4.3.1. A specially designed corrosion control facility completely enclosed, heated with environmentally controlled ventilation and waste disposal systems, and equipped with all utilities necessary for accomplishing all facets of aircraft corrosion control.

3.4.3.2. An environmentally compliant enclosed or covered wash rack.

3.4.3.2.1. An outside wash rack may be used on an interim basis when weather conditions permit and when approved by Base Civil Engineer.

3.4.4. Appoints key personnel to the following positions to ensure corrosion prevention and control measures are effective for the entire wing:

3.4.4.1. Appoints a Wing Corrosion Program Manager to ensure all facets of corrosion prevention are being conducted throughout the wing.

3.4.4.1.1. **(Added-SHAWAFB)** The Equipment Maintenance Squadron (EMS) Structural Maintenance Superintendent is designated as the 20th Fighter Wing Corrosion Control Manager.

3.4.4.2. Appoints an aircraft wash rack facility manager to ensure proper cleaning materials, equipment and supplies are maintained in accordance with applicable technical orders, AFI 21-101 and ACC supplements.

3.4.5. Ensures ASM trainees have an opportunity to obtain proficiency in all aspects of their career field associated with assigned weapon systems.

3.4.6. Ensures frequency of wash/rinse cycles are maintained IAW T.O. 1-1-691, and revised as necessary based on changes in mission and location.

3.4.6.1. Report any aircraft wash overdue more than 30 days with an official memo to HQ ACC/LGM not later than seven days after the 30-day overdue date. When aircraft are located in severe corrosion environments the overdue wash reporting requirement is 15 days. Within this memo, include reason for overdue and corrective action taken to prevent further occurrences.

3.4.6.2. **(Added-SHAWAFB)** Schedule aircraft for wash prior to aircraft paint (full recoat and touch-up repairs).

3.4.7. Ensures Plans, Scheduling & Documentation sections schedule aircraft washes through Core Automated Maintenance System (CAMS).

3.5. Wing Corrosion Program Manager Responsibilities.

3.5.1. The wing corrosion program manager is the wing clearinghouse for all aircraft and support equipment cleaning, corrosion and organic coatings related information and taskings.

3.5.2. Ensures creation of a wing supplement to this instruction to include, but not limited to the following:

3.5.2.1. Local corrosion prevention training requirements.

3.5.2.1.1. **(Added-SHAWAFB)** All maintenance personnel will attend initial corrosion prevention and familiarization training within 90 days of assignment and annually thereafter, for refresher training.

3.5.2.1.2. **(Added-SHAWAFB)** Aircraft structural maintenance specialists, staff and unit administration personnel are exempt from this training requirement.

3.5.2.2. NAF, Wing, OG and Fighter/Bomber Squadron commander aircraft designation and marking requirements of identified aircraft.

3.5.2.2.1. **(Added-SHAWAFB)** The Ninth Air Force (NAF) commander's aircraft will be marked with blue and white "9th Air Force" tail flash, shadowed unit identification markings, 6" aircraft tail number. The Wing Commander's and Operations Group Commander's aircraft will be marked with multi-squadron tail flash, shadowed unit identification markings, and 6" aircraft tail number. The fighter squadron commander's aircraft will be marked with applicable squadron tail flash (see Para. 3.5.2.3.1.), shadowed unit identification markings, and 6" aircraft tail number. Additionally, the NAF commander's aircraft left intake will be marked with 9th Air Force emblem encircled with subordinate unit emblems and the wing and OG commanders' aircraft will have each fighter squadron patch applied to the left side of the engine intake.

3.5.2.3. Local unit marking requirements e.g. tail stripes, crew names, nose art (if approved), etc,

3.5.2.3.1. **(Added-SHAWAFB)** 55th Fighter Squadron tail flash consists of a blue and white checkerboard pattern with "55" and dice logo centered on the flash. 77th Fighter Squadron tail flash consists of red background, white "GAMBLERS" marking in between two fanned card hands. The fanned cards will be in the order of: 7 of clubs, 7 of diamonds, Ace of spades, 7 of hearts and 7 of spades on top. The fanned cards also will be surrounded by a "spade" symbol to lower left and a "club" symbol to the upper right. The 79th Fighter Squadron tail flash consists of a solid tiger stripe pattern only. Aircrew and crew chief names will be produced with the "Verve Mod" font, 1.75" in height, 30 degree italicized slant and not exceeding 28" in length.

3.5.2.4. Travel pod care responsibilities, marking and disposition.

3.5.2.4.1. **(Added-SHAWAFB)** Responsible Aircraft Maintenance Units (AMUs) will perform routine corrosion and maintenance inspections on all assigned travel pods on a monthly basis.

3.5.2.4.2. **(Added-SHAWAFB)** Travel pods requiring complete re-paint will be painted by Aircraft Structural Maintenance personnel only. For planning and scheduling purposes, no more than six travel pods (two per squadron) will be painted each month.

3.5.2.5. Aircraft paint identification placard size, shape and information requirements.

3.5.2.5.1. **(Added-SHAWAFB)** Aircraft paint identification placard will be stenciled on the right aft strake not to exceed 6 inches by 6 inches in size. The design will be of a state (South Carolina) outline with approved caricature/image/mascot which represents the 20 EMS Structural Maintenance Element. It will be of a subdued color to match other aircraft markings. Approval will be in writing and authorized by the 20 FW/CC. Current approval letters will be maintained by the Wing Corrosion Control Manager.

3.5.3. Ensures corrosion inspections are accomplished during each phase/periodic inspection for aircraft and equipment assigned.

3.5.4. Ensures corrosion prevention and treatment procedures are performed within technical order requirements.

3.5.4.1. **(Added-SHAWAFB)** 20 EMS Corrosion Control Element will develop and maintain currency of post-wash corrosion inspection worksheets for each aircraft assigned. Inspection worksheets will be reviewed/referenced prior to each paint/coating repair and subsequent evaluations.

3.5.4.1.1. **(Added-SHAWAFB)** An aircraft structural maintenance craftsman, or trained and designated individual, will perform the post-wash inspections and document its completion in the "corrected by" block of the AFTO Form 781A, *Maintenance Discrepancy and Work Document*.

3.5.4.1.2. **(Added-SHAWAFB)** Aircraft structural maintenance will perform corrosion inspections on assigned aircraft during phase inspections.

3.5.5. Ensures only authorized chemical cleaning materials and corrosion removal methods are used and that Material Safety Data Sheets are available for each chemical used.

3.5.6. Ensures required equipment is obtained for an efficient and effective corrosion prevention and control program.

3.5.7. Trains AMXS squadrons' wash crew supervisor(s) in all aspects of aircraft wash and develops local checklists.

3.5.7.1. **(Added-SHAWAFB)** See 1F-16-23 series tech order for aircraft washes checklist procedures.

3.5.8. Provides a current copy of the Qualified Products Listing (QPL) for Mil-Spec approved cleaners for assigned aircraft and equipment every six (6) months to unit supervision, aircraft wash rack, support sections, EMS, CMS, and/or MXS Flight Chiefs. The QPL identifies qualified products within a particular Mil-spec and are the only approved

materials for use on Air Force aircraft, subsystems and support equipment. Products not listed on the QPL are unauthorized and will not be used unless specific guidance is given in weapon system specific technical data. Information and search capabilities for QPLs may be located at the Air Force Corrosion Prevention and Control Office web site: <https://afcpco.robins.af.mil/>.

3.5.8.1. **(Added-SHAWAFB)** At a minimum, reviews Qualified Products Listing (QPL) requirements quarterly with AMU supervision, EMS and Component Maintenance Squadron (CMS) Flight supervision to ensure only approved products are being utilized. Provides QPL updates as required and disseminates information via email.

3.5.9. Enforces the use of approved coating materials and cleaning compounds as determined by SA-ALC/SFTT for cleaning compounds and Air Force Research Laboratory (AFRL/MLSA) for coating materials.

3.5.9.1. **(Added-SHAWAFB)** When observed, notifies EMS and Aircraft Maintenance Squadron (AMXS) supervision when non-approved cleaning compounds/tools are being utilized on aircraft/equipment protective coatings. AMXS supervision will coordinate with applicable AMU to determine cause for unauthorized use and provide findings to Wing Corrosion Control Manager. Findings will be routed through Quality Assurance (QA) and forwarded to the MXG/CC.

3.5.9.2. **(Added-SHAWAFB)** Ensures all Pacer-Gem coated aircraft are washed using approved Type III Regel cleaner, brushes, scrubbers and procedures designated for use with this type of coating system.

3.5.10. Reports corrosion program deficiencies through proper channels, as required.

3.5.11. Ensures unit's corrosion related training courses are administered as intended by the MAJCOM. An initial interactive course with annual refresher training as the minimum. Local corrosion training programs may be initiated as deemed necessary due to local corrosive environment, weapon system corrosion susceptibility and forward operating environments.

3.5.12. Determines the adequacy of corrosion control work cards for assigned equipment based on mission and location.

3.5.12.1. **(Added-SHAWAFB)** At least annually, reviews corrosion control work cards with owning activity for all equipment being monitored under the Wing Corrosion Control program.

3.6. Aircraft Structural Maintenance (ASM) Section Chief Responsibilities.

3.6.1. Ensures ASM personnel receive pre-placement, special purpose, periodic and termination occupational physicals as deemed necessary by local Medical Group Aero medical Services IAW AFI 48-145.

3.6.2. Ensures no other maintenance is accomplished on the aircraft or equipment during corrosion prevention treatment when hazardous/toxic materials are in use, which requires the use of, specialized personal protective equipment. In the event specialized respiratory protection equipment is required, personnel will be properly fitted for the equipment and trained in its use IAW AFOSH Std 48-137, *Respiratory Protection Program*.

3.6.3. Provides Environmental, Occupational Safety, Fire Prevention, Health and Hazard Communication training to all personnel as required by AFI 91-301 and AFOSH Std 161-21. Also, ensures that required training is documented in appropriate training records.

3.6.4. Ensures Bioenvironmental services conduct initial baseline comprehensive evaluations and provide annual follow-ups to determine adequacy of work center controls for occupational hazards. Maintains records of this survey in the work center.

3.6.5. Forecasts funding to attend and participate in applicable Corrosion Prevention Advisory Boards (CPABs) and other corrosion/structural related programs/meetings.

3.6.6. Submits CPAB agenda items to HQ ACC/LGMS ASM Manager.

3.6.7. Ensures deficiency reports (DR) are accomplished as necessary IAW T.O. 00-35D-54.

3.6.8. Serves as the ASM technical assistant to the Group Commanders and Command ASM Manager.

3.6.9. Ensures the required number and size of fire extinguishers are available and serviceable.

3.6.10. Ensures grounding points are inspected and approved IAW T.O. 00-25-172.

3.6.11. Requests depot assistance IAW T.O. 00-25-107 through the ACC weapon system manager with an information copy to HQ ACC/LGMS when corrosion treatment/repairs exceed technical order limits.

3.7. Aircraft Maintenance Operations Officer Responsibilities.

3.7.1. Ensures frequency-of-cleaning/wash cycles are established for assigned aircraft to maximize corrosion prevention. Monitors aircraft wash schedules to eliminate overdue washes. In no case will unit wash cycles exceed the maximum wash cycles listed in T.O. 1-1-691.

3.7.2. Appoints an experienced/qualified wash crew supervisor, 5-level or above. The wash rack supervisor will be trained by a 7-level aircraft structural maintenance technician and training documented in the wash rack supervisor's training record.

3.7.2.1. **(Added-SHAWAFB)** Selects a wash crew supervisor as required for wash crew assembly, wash training/training documentation and wash operations.

3.7.2.2. **(Added-SHAWAFB)** The wash crew supervisor should be a 7-level for the purpose of inspections and clearing red Xs.

3.7.3. Provides a task trained and qualified aircraft wash crew, to include as a minimum, a dedicated crew chief and/or assistant dedicated crew chief and ensures availability of personnel protective equipment within the work center.

3.7.3.1. **(Added-SHAWAFB)** The wash crew will receive training from the wash crew supervisor if not already trained and documented the training in Training Business Area (TBA).

3.8. Wash Rack Facility Manager Responsibilities.

3.8.1. Ensures the required number and size of fire extinguishers are available and serviceable.

- 3.8.2. Ensures grounding points are inspected and approved IAW T.O. 00-25-172.
- 3.8.3. Ensures fall protection lifeline cables are installed when required and properly maintained IAW AFOSH Stds 91-501 and 91-100.
- 3.8.4. Ensures aircraft wash rack has at least two approved cleaners IAW T.O. 1-1-691 and properly used, to include proper mix ratio and the correct cleaner for each area cleaned.
- 3.8.5. Ensures wash rack facility and surrounding area is kept clean and properly maintained.
- 3.8.5.1. **(Added-SHAWAFB)** The wash rack facility manager and the wash crew supervisor will inspect the wash area for cleanliness and equipment availability/serviceability and document discrepancies on the pre/post wash area and equipment acceptance sheet signed by each supervisor.
- 3.8.6. Maintains all wash rack equipment in serviceable condition, i.e., water hoses, pumps, air hoses, powered wash equipment, support equipment, etc.
- 3.8.7. **(Added-SHAWAFB)** Ensures that Pacer-Gem wash equipment and processes are separated from normal polyurethane wash equipment and processes.
- 3.8.7.1. **(Added-SHAWAFB)** Ensures that Spot 4 of the wash rack is reserved for Pacer-Gem aircraft only. All other aircraft will be washed on Spots 1, 2, and 3. One fire bottle must be positioned per two aircraft.
- 3.8.8. **(Added-SHAWAFB)** Ensures entries are made in the AFTO Form 781A for required wash prior to wash beginning. Wash actions will not be initiated until this entry is made.
- 3.8.9. **(Added-SHAWAFB)** Notify Maintenance Operations Center (MOC) of wash completion and ensures Integrated Maintenance Data System (IMDS) is cleared before releasing the aircraft to the applicable AMU. Clears 781A preprinted entries and IMDS for the post wash cleanliness and corrosion inspection. Places an IMDS screen 380 showing the wash cleared in the 781 forms binder prior to notifying MOC of wash completion.

3.9. Wash Crew Supervisor Responsibilities.

- 3.9.1. Provides daily safety briefings explaining hazards associated with wash rack operations.
- 3.9.2. Ensures aircraft wash crews are task trained and qualified.
- 3.9.3. Ensures proper safety equipment, personal protective equipment and cleaning materials are serviceable and properly used IAW AFOSH Stds 91-501 and 91-100.
- 3.9.3.1. **(Added-SHAWAFB)** Ensures the wash crews document the Wash Crew Equipment Issue, Safety and Security Briefing Checklist prior to accomplishing any wash operations.
- 3.9.4. Enters the requirement for wash, performs cleanliness inspection, signs the wash completion and enters the lubrication requirement in the AFTO Form 781A, **Maintenance Discrepancy and Work Document**.
- 3.9.5. Ensures that fall protection is serviceable, and used when required (Reference AFOSH Stds 91-501 and 91-100).

3.9.6. Ensures aircraft are properly grounded IAW T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*.

3.9.7. Inspects all wash rack equipment for serviceability, i.e., water hoses, pumps, air hoses, powered wash equipment, support equipment, etc prior to use.

3.9.8. Ensures wash rack facility and surrounding area is clean before and after use.

3.9.8.1. **(Added-SHAWAFB)** Completes the area inspection with the wash rack facility manager and signs the pre/post wash area acceptance sheet.

3.9.9. **(Added-SHAWAFB)** Works at their normal duty location until needed for a scheduled wash.

3.9.10. **(Added-SHAWAFB)** Ensures the wash crew is at their required place of duty for scheduled washes.

3.10. Quality Assurance Responsibilities.

3.10.1. Frequently spot-check aircraft for cleanliness and lubrication after wash.

3.10.2. Monitors the use of approved coating materials and cleaning compounds as determined by SA-ALC/SFTT for cleaning compounds and AFRL/MLSA for coating materials.

3.10.2.1. **(Added-SHAWAFB)** When determined that unapproved cleaning compounds have been used on aircraft/equipment, the Wing Corrosion Control Manager will be notified and provided specifics on the unauthorized occurrence. Provide aircraft/equipment serial number and area subjected to unapproved compounds. QA and Wing Corrosion Control Manager will determine if damage to coating system or equipment item has occurred and if repairs are required.

3.11. Aerospace Ground Equipment (AGE) Flight Chief Responsibilities.

3.11.1. Ensures an effective corrosion control program is established and enforced for assigned equipment.

3.11.1.1. **(Added-SHAWAFB)** Ensures periodic inspections of Aerospace Ground Equipment (AGE) includes wash procedures with approved cleaners as listed on the QPL and corrosion control inspections.

3.11.2. Develops and implements a tracking system to prioritize complete paint for AGE equipment based on a “worst is first” principle.

3.11.2.1. **(Added-SHAWAFB)** Monitors the corrosion status of each piece of AGE and provides a monthly report to Wing Corrosion Control Manager.

3.11.2.2. **(Added-SHAWAFB)** Determines which AGE units require painting and ensures they are scheduled for paint on monthly basis, (one week per month). For planning and scheduling purposed, it is recommended to paint 10 pieces of AGE per month.

3.11.3. Ensures CAMS is used to schedule and document AGE painting.

3.11.4. Ensures maintenance, servicing and inspection activity personnel are oriented to corrosion prevention and control.

3.11.5. Ensures powered and non-powered AGE is cleaned, thoroughly inspected, and touched-up as necessary during each periodic inspection with the appropriate, approved materials.

3.11.5.1. (Added-SHAWAFB) Is responsible for paint preparation (masking), minor touch-up, and stenciling on all AGE equipment after repaint.

3.11.6. Enforces the proper use of approved cleaning compounds IAW 35-1-3, 35-1-12 and the Qualified Products Listings (QPL). Obtains QPLs from wing corrosion control manager every 6 months and uses them in conjunction with applicable T.O.s to verify all compounds on-hand are authorized for use on designated equipment.

3.11.7. Schedules work beyond AGE work center capability into the appropriate fabrication work center.

3.11.8. Ensures tone-down procedures are followed as described in paragraph 3.15.1 of this instruction.

3.12. Maintenance Training Flight Chief Responsibilities.

3.12.1. Provides all maintenance personnel that come in contact with aircraft and aerospace ground equipment, regardless of AFSC (excluding 2A7X3), with corrosion prevention/control initial and recurring training. Ensures newly assigned personnel receive initial corrosion prevention/control training during the maintenance orientation program (reference ACCI 36-2251 and AFI 21-101). Ensures recurring training is conducted annually.

3.12.2. Units are encouraged to develop and implement a unit specific corrosion prevention and control training program in addition to requirements outlined in 3.12.1 of this instruction. This program may be necessary due to local environmental severity, weapon system susceptibility and/or mission needs at other operating locations.

3.12.3. Training curriculum shall include but not be limited to:

3.12.3.1. Corrosion identification procedures and techniques.

3.12.3.2. Familiarization with aircraft/equipment corrosion prone areas.

3.12.3.3. Reporting and documentation procedures for identified corrosion.

3.12.3.4. Removal and treatment of minor corrosion.

3.12.3.5. Proper use of cleaning compounds.

3.13. Unit Corrosion Control Program Requirements.

3.13.1. Owning activities shall wash and clean their aircraft and support equipment.

3.13.2. Wing Corrosion Program Manager and/or ASM personnel will assist the owning activities in their corrosion prevention efforts by accomplishing scheduled corrosion inspections on aircraft, support and test equipment.

3.13.3. Aircraft Structural Maintenance personnel only shall perform aircraft inspection work cards specified for accomplishment by Aircraft Structural Maintenance in the -6 T.O. All maintenance personnel, regardless of AFSC, shall examine each part removed and inspect the inside of all exposed areas for corrosion. Avionics maintenance personnel shall

inspect the electrical connectors of avionics line replaceable units (LRUs), inside equipment drawers, and so forth, for corrosion. All deficiencies noted during these inspections will be appropriately documented. When corrosion discrepancies are discovered that may affect aircraft structural integrity or safety of flight/operation or are beyond the using organization's capability to evaluate/repair, an aircraft structural maintenance specialist will be requested.

3.13.4. Maintenance personnel who remove/install aircraft panels and doors must ensure seals are serviceable and sealant applied to panels and fasteners as specified in applicable aircraft technical orders.

3.13.5. Maintenance personnel shall report all corrosion deficiencies through the CAMS 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.

3.13.6. **(Added-SHAWAFB)** 20 MOS Plans and Scheduling will coordinate, at least monthly, all aircraft paint requirements through the Wing Corrosion Control Manager and effectively schedule coating repairs based on a "worst-is-first" scenario and prioritize coating repairs based on mission requirements.

3.13.7. **(Added-SHAWAFB)** All coating evaluations of aircraft, Alternate Mission Equipment (AME), AGE, external fuel tanks, Electronic Counter Measure (ECM) pods and munitions trailers are rated on a scale of 1 to 5, with 5 being the worst condition based on coating failure and appearance. MXG goal is to maintain 80 percent of each end item at category 1 or 2.

3.13.8. **(Added-SHAWAFB)** Wing Corrosion Control Manager will maintain status on fleet health and provide weekly status to Flight and Squadron supervision.

3.13.9. **(Added-SHAWAFB)** All aircraft paint/coating repairs/requirements will be accomplished only in approved corrosion control facilities. Exception: 20 CES/CEV and Bio-Environmental must authorize/concur with all paint repairs to include static aircraft being conducted outside of approved facilities. All requests must first be coordinated through the Wing Corrosion Control Manager.

3.13.10. **(Added-SHAWAFB)** Immediately upon aircraft full paint spraying operations within the corrosion control facility, notify EMS maintenance production supervisor of start date/time. EMS supervision will notify AMU, QA and MOC. The aircraft status will change to Non Mission Capable (NMC) at this time, aircraft is due weight and balance before flight. Immediately after any aircraft spray paint operations have halted, notify EMS supervision with start date/time of cure and calculate the final fly cure date/time.

3.13.11. **(Added-SHAWAFB)** Any aircraft full paint will require aircraft weight and balance IAW T.O. 1F-16CM-5-2. Wing Corrosion Control Manager will ensure applicable aircraft forms are annotated after full paint and QA is notified. Aircraft paint touch ups/inlet lip repairs do not require weight and balance.

3.13.12. **(Added-SHAWAFB)** Aircraft maintenance will not normally be performed on any aircraft within the aircraft paint facility during preparation for or undergoing coating repairs. MXG/CC approval is required prior to interrupting booth operations to perform maintenance on an aircraft within the paint facility.

3.13.13. **(Added-SHAWAFB)** Designated crew chief and aircrew stencils will normally be produced on a weekly basis only. Exceptions include: short-notice VIP or cross-country taskings or when directed by 20 EMS Maintenance Operations Officer/Superintendent. AMUs will provide a job control number (JCN) and IMDS snapshot to corrosion control personnel for all stencil requirements.

3.13.14. **(Added-SHAWAFB)** AMU and phase maintenance personnel are authorized to perform minor paint touch-up on all unpainted screw and fastener heads only. Only "Sempens" of the proper color will be used. Information on the use of and how to obtain Sempens will be provided by the Wing Corrosion Control Manager.

3.13.15. **(Added-SHAWAFB)** Armament Systems Flight Chief Responsibilities

3.13.15.1. **(Added-SHAWAFB)** Ensures only approved cleaners as listed on the QPL are used on AME and that corrosion control inspections are completed.

3.13.15.2. **(Added-SHAWAFB)** Monitors the corrosion status of each piece of AME and provides a monthly report to Wing Corrosion Control Manager.

3.13.15.3. **(Added-SHAWAFB)** Ensures AME is scheduled for paint on a "worst-is-first" basis and determines which units require re-painting. For planning and scheduling purposes, it is recommended to paint 40 units per month.

3.13.15.4. **(Added-SHAWAFB)** Is responsible for paint preparation (masking), minor touch-up, and stenciling on all AME after repaint.

3.13.16. **(Added-SHAWAFB)** Munitions Flight Chief Responsibilities.

3.13.16.1. **(Added-SHAWAFB)** Ensures only approved cleaners as listed on QPL are used on munitions trailers and that corrosion control inspections are completed.

3.13.16.2. **(Added-SHAWAFB)** Monitors the corrosion status of munitions trailers and provides a monthly report to Wing Corrosion Control Manager.

3.13.16.3. **(Added-SHAWAFB)** Ensures munitions trailers are scheduled for paint on a "worst-is-first" basis and determine which units require re-paint.

3.13.17. **(Added-SHAWAFB)** 20 CMS Responsibilities.

3.13.17.1. **(Added-SHAWAFB)** Ensures only approved cleaners as listed on QPL are used on ECM pods and that corrosion control inspections are completed.

3.13.17.2. **(Added-SHAWAFB)** Monitors the corrosion status of ECM pods and provides a monthly report to Wing Corrosion Control Manager.

3.13.17.3. **(Added-SHAWAFB)** Ensures ECM pods are scheduled for paint on a "worst-is-first" basis and determine which units require re-painting.

3.13.18. **(Added-SHAWAFB)** 20 AMXS Responsibilities.

3.13.18.1. **(Added-SHAWAFB)** Ensures only approved cleaners as listed on QPL are used on external fuel tanks and that corrosion control inspections are completed.

3.13.18.2. **(Added-SHAWAFB)** Monitors the corrosion status of external fuel tanks and provide a monthly report to Wing Corrosion Control Manager.

3.13.18.3. (Added-SHAWAFB) AMUs will ensure fuel tanks are scheduled for paint on a "worst-is-first" basis and determine which units require re-painting.

3.14. Aerospace Vehicle Coating and Marking Requirements. This section implements the policies outlined in AFI 21-105, *Aerospace Equipment Structural Maintenance*, and provides guidance for applying command approved, non-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 TO 1-1-8 and the applicable aircraft technical order.

3.14.1. **Advanced Performance Coating.** Advanced Performance Coating (APC) is the preferred topcoat unless mandated otherwise IAW weapon system specific technical data. This preferred coating system includes the appropriate Mil-PRF-23377 primer for bare metal uncovered during preparation, non-chromated tie coat material and an approved APC topcoat.

3.14.2. **Coating System Scoring and Maintenance.** All ACC units are required to score aircraft coating systems to determine frequency of topcoat application. Fighter units should plan to scuff sand and overcoat the entire aircraft between depot cycles as necessary. Many fighter aircraft will require a complete overcoat at 36 months, but some may only require touch-up. All aircraft painting will be scheduled on a worst first basis to maintain coating system integrity and aircraft appearance. All aircraft coating systems except B-2, F-117 and F-22 will be evaluated/rated every 6 months for appearance/coating system integrity using applicable technical data or a locally developed system. The aircraft must be washed and clean prior to paint scoring. Supervisors will use ratings to determine corrosion treatment/paint scheduling priority. Units are required to adopt maintenance-painting techniques (i.e., spot painting and sectionalized painting as stated in T.O. 1-1-8) to maintain aircraft corrosion protection and appearance between overcoats. Partial painting "sections" of the aircraft will help reduce the effects of mottling and mismatch. Units should rotate Commander's aircraft to prevent excessive paint build-up from too frequent over coating. Fully over coated aircraft will be documented in CAMS and the individual aircraft AFTO Form 95 for tracking purposes. Large aircraft units should rely on spot maintenance painting and sectionalized painting between depot cycles to maintain the coating system integrity.

3.14.3. **Aircraft Markings.** Aircraft markings will be applied to aircraft as specifically authorized by HQ ACC, this instruction, T.O. 1-1-8, or the applicable aircraft technical order. Low observable aircraft markings not currently approved necessitates a waiver from HQ ACC/LGMS with System Program Directorate (SPD) approval due to strict survivability analysis requirements. Aircraft inputs to depot will be marked IAW with Air Force directives and this instruction only, unless otherwise approved by HQ ACC/LGM. HQ ACC/LGMS is the point of contact for aircraft painting and markings. HQ ACC/LGMS is also the point of contact for all AF unit designation markings. This listing can be found in [Attachment 3](#) of this instruction. 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.

3.14.3.1. **Stenciling.** Markings may be applied using stencils. Refer to T.O. 1-1-8 to determine the compatibility of stenciling paints, paint finishes and decal applications.

3.14.3.2. **Command Insignia.** The application of the command insignia on aircraft is mandatory. The insignia will be applied to both sides of the vertical stabilizer unless

otherwise specified. Fighter type aircraft will use full color insignias and large aircraft (B-52, B-1, etc.) will use subdued insignias unless otherwise specified in [Attachment 2](#). Size and location of command insignias by MDS are specified in [Attachment 2](#).

3.14.3.3. Organizational Insignia. The application of wing insignia is mandatory. The insignia will be applied to both sides of the forward 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 for large aircraft and full color for fighter aircraft unless otherwise specified in [Attachment 2](#).

3.14.3.4. Distinctive Unit Aircraft Identification Marking. The application of the unit designator is mandatory for all ACC aircraft unless otherwise directed. HQ ACC/LGMS is the office of primary responsibility (OPR) for the assignment of unit designators. The primary factor used to determine appointment of unit designators is the aircraft/unit assignment location. TO 1-1-8 or the applicable aircraft TO will provide color restrictions for the unit designator. The unit designator will be applied in accordance with guidelines in [Attachment 2](#) of this instruction.

3.14.3.5. Tail Stripe. Tail stripes are applied as a wing option, used to identify aircraft operation squadrons. Each operations squadron will have a tail stripe unique to that squadron. 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. The width will not exceed 9 inches on fighter type aircraft and 15 inches on large aircraft. The stripe may be any color or pattern, and may contain a logo. On aircraft bearing the American Flag the tail stripe must be solid in color and will not contain any logo, name, or lettering. 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.

3.14.3.6. Aircrew And Crew Chief Names. Aircrew and crew chief/assistant names must be applied to all command aircraft, but must be removed prior to deployment from home station in direct combat zones or when participating in contingencies that may subject aircraft to hostile fire abroad.. Application of nicknames, punctuation, and/or call signs is not permitted. Style and size of letters are a unit option but will not exceed 3 inches in height. All aircraft in the wing will be standard with the exception of the designated Commander's aircraft, which may have different lettering but will not exceed 3 inches in height. 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.

3.14.3.7. Commander's Aircraft Markings. Commander's aircraft referred to in this instruction are those designated as Numbered Air Force (NAF), Wing, OG and commanders of flying squadrons (Bomber/Fighter). The NAF Commander may select one Wing within the command to have an aircraft specifically marked. It will be the only aircraft authorized so marked. Commanders are authorized only one aircraft each to be marked with standardized commander type markings. The following are markings authorized for use on Commander aircraft:

3.14.3.7.1. Wing and/or NAF insignias on the right forward fuselage and a collage of assigned flight/operations squadron insignias on the left forward fuselage.

3.14.3.7.2. Highlighting of unit designator and tail number. All highlighting will be done in contrasting gray, black or white as long as it meets primary basecoat gloss requirements e.g. gloss, camouflage or gunship. All unit designators and radio call numbers will remain on vertical stabilizers as depicted in applicable technical orders.

3.14.3.7.3. **Unit unique markings.** This policy is provided to allow latitude for application of anniversary logo markings to Wing Commander aircraft. When applied, anniversary markings will not interfere with required aircraft markings and must be removed immediately after the anniversary period (1-year maximum). Waivers are not required for unit unique markings, however, Wing Commanders must approve the markings, and photographs must be provided to HQ ACC/LGMS for review and file. State flags and logos other than anniversary type are not considered unit unique markings. ACC/CC has designated ACC/PA as the clearinghouse for all requests to name ACC aircraft and must ultimately be approved by AF/CV. 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, suggested aircraft and tail number, and detailed justification for the proposed name. Contact your wing Public Affairs office for details.

3.14.3.8. **Aircraft Travel Pods.** Travel pods will be painted in gloss paint the same color as the aircraft with no additional markings. Units with multicolor aircraft should select one primary color of the aircraft for the travel pod. Travel pods designated for commanders may be any color and may contain the position and name of the individual and appropriate insignia. Lettering may be of any color and style, but shall not exceed 6 inches in height. ACC demonstration teams have the option to paint travel pods gloss black and apply unique markings. The left side of pod will contain unit insignia and name and team emblem and name. The right side will contain the ACC insignia, the words Air Combat Command Demonstration Team and NAF insignia, if warranted. Commander and demonstration team travel pod paint scheme, final marking sizes, and placements will be approved by the WG/CC and documented within local unit operating instruction.

3.14.3.8.1. **(Added-SHAWAFB)** One each travel pod and ladder for the 9 AF/CC, 20 FW/CC, 20 OG/CC, 55 FS/CC, 77 FS/CC, and 79 FS/CC aircraft will have its own distinct paint scheme and will represent each organization to which it belongs. Viper East Demo Team will have three modified travel pods; one for each aircraft, all ladders are standardized on all three aircraft. Names and ranks of Commanders/Crew Chiefs are subject to change without additional approval. For standardization on the travel pods the door side is called right side opposite is left side, when looking at the door, forward is left and aft is right.

3.14.3.8.1.1. **(Added-SHAWAFB)** 9th Air Force Commanders travel pod is

Blue with white wings stretching nearly the entire length of both sides. The door has the commander's rank, name, and call sign or nickname as applicable; it also has Commander 9th Air Force Shaw AFB, SC. On top of the pod is an ACC patch and 9th Air Force patch and the Commanders rank located forward and aft between the wing tips. On the left centered in the wing is a 9th Air Force circular 9 patch. The ladder is white with a desert camouflage pattern with the commander's rank centered down both legs. From top to bottom the steps of the ladder have commanders rank and name, 9th Air Force, squadron patches, United States Air Forces Central (USAFCENT), and squadron patches. Hand rail is polished aluminum.

3.14.3.8.1.2. **(Added-SHAWAFB)** 20th Fighter Wing Commanders travel pod is blue and white checker board forward, red in the middle and orange and black tiger striped aft. The door has the commander's rank, name, and call sign or nickname as applicable; it also has Commander 20th Fighter Wing Shaw AFB, SC. On top of the pod is a white rectangle with an ACC patch and Victory by Valor patch with the three squadron patches below. 20 Fighter Wing is centered on the left side. The crew ladder is white, with the following on each step from top to bottom, the commander's rank and name, blue yellow and red nebular line, 55th checkerboard with patch, 77th red with patch and 79th tiger stripes with patch, and a chrome stripe. The top seat and arms are trimmed in chrome. The top seat also has F-16 mural picture. Each leg has Victory By Valor centered on a waiving banner.

3.14.3.8.1.3. **(Added-SHAWAFB)** 20th Operation Group Commander travel pod is painted the same as the 20th Fighter Wing Commanders pod except for the following differences. The door has Operations Group commanders rank, name, and call sign or nickname as applicable; it also has Commander 20th Operations Group Shaw AFB, SC. The top has an ACC and Victory By Valor patch. The left side has a squadron patch centered in each squadrons respective paint scheme. Both nose cones are polished aluminum. The ladder is white with the following on each step starting at the top; 55th checkerboard with patch, 77th red with patch and 79th tiger stripes with patch and a blue yellow and red nebular line. Both legs contain each squadrons paint scheme corresponding to each step. The arms are trimmed with chrome. The Commanders rank and name is on the seat and a Victory By valor Patch on the top step.

3.14.3.8.1.4. **(Added-SHAWAFB)** 55th Fighter Squadron Commanders travel pod is blue and white with silver shadowing checkerboard on both ends up to main body which is solid blue. The door has the squadron commanders rank name and call sign or nickname as applicable; it also has Commander 55th Fighter Squadron. The right side has a 55th squadron and Victory By Valor patches. The lug plate is outlined by a silver line. The top has a 55 on the forward and aft portion of the main body. There are shooter dice with trailing flames on the left side. The ladder is white with blue checkerboard on each step and on the legs. The seat has a moon, F-16, Air Force symbol, and 55th patch mural. The top step contains the same info as the travel pod door. The Fighting Fifty Fifth is on top of both arms.

3.14.3.8.1.5. **(Added-SHAWAFB)** 77th Fighter Squadron Commanders travel pod is black at both ends and fades to red in the center. 77th Fighter Squadron, Commanders rank name and call sign or nickname as applicable; and Commander is located on the door. The right side has a Victory By Valor patch, the 77th squadron patch, World's Greatest, and Gamblers Big Red Machine. The left side has All Aces No Jokers, two fanned card hands and green Mig-29 star. The ladder is black fading to red and back to black. The top step has the commander's name and rank, the next step has the crew chief rank and name. Fanned cards are on left arm. Gamblers down left leg and All Aces No Jokers on right leg. The Big Red Machine on seat. Victory By Valor and 77th patches on top step. Hand rail is polished aluminum. Tail number and green Mig-29 stars on front of top step. All steps have a card suit on the front of both sides.

3.14.3.8.1.6. **(Added-SHAWAFB)** 79th Fighter Squadron Commander travel pod is orange on top fading to yellow on bottom with black tiger stripes. The door has the commanders rank, name, call sign or nickname as applicable; and Commander 79th Fighter Squadron. 79th Fighter Squadron and tiger is on the left side. The top has an ACC patch and memorials to two fallen squadron members. The right side has a Victory By Valor and 79th Patch on either side of the door. The ladder is orange fading to white. The commander's name is on seat front, seat top has a tiger breaking through picture. Tiger Meet Of Americas 2005 is on the top step. 79th Fighter Squadron going down both legs. Both arms have a tiger head and paw graphics.

3.14.3.8.1.7. **(Added-SHAWAFB)** Viper East Demo Team commanders pod is black with yellow, fading to orange, fading to red flames on front. Door has rank, name, call sign or nickname as applicable; and Commander Viper East Demo Shaw AFB, SC. USAF Heritage Aircraft and Viper East patch is on the right side. The Air Force Symbol, ACC patch and Viper East is located on left. A snake head graphic is on top. The second travel pod is black with ghost flames. Viper East Demo and USAF Heritage Flight patch on right side. Viper East Demo and ACC patch is on left side. The third travel pod is green on top fading to gold with 9 black diamonds on top. Right side has USAF Heritage Aircraft, ACC patch, Viper East Patch and Viper East Demo Team, and snake head. Left side has green yellow and black break through snake graphic, Air Force Symbol and Viper East Demo Team. The ladders for all three aircraft are identical; they are black with Viper East Demo Team running down the front of the steps. A Victory By Valor patch and Viper East running down the legs. The seat has ACC patch cradled in the Air Force symbol. Viper East patch is on the top step. Any deviations to this paint scheme will be accomplished by an off base paint facility using approved materials procured by Demo Team Squadron funds. The paint scheme must be approved in writing by the Wing Commander before being painted. Approval letters will be maintained by the Demo Team.

3.14.3.9. **External Fuel Tanks.** External fuel tanks shall be painted the same color and tone as existing aircraft coating. A 2 inch marking (centered on lugs) is optional for tracking purposes.

3.14.3.10. **Paint Identification Placard.** The paint identification block is a mandatory marking. The block may be of a unique design, i.e., eagle head, falcon head, or state outline but must not exceed 6 inches by 6 inches in size and will match the color of other markings on the aircraft. Waiver requests are not required for this item, however, Wing Commander approval is required, and photographs of the design must be provided to HQ ACC/LGMS for review and file.

3.14.3.11. **FAC Aircraft.** Due to the nature of the Predator RQ-1 mission as a low level, hostile fire zone reconnaissance aircraft; the Command/Organizational/Squadron insignia must be marked in toned down colors. Flat black silhouettes may be used to fulfill the subdued requirement.

3.14.3.12. **Nose Numbers.** Aircraft tail numbers shall be in block or Helvetica letters, not to exceed four digits. Specific location and size for each different type aircraft is contained in [Attachment 2](#). The paint material(s) used to apply nose numbers shall have the same gloss requirement as the base aircraft coating.

3.14.3.13. **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 ACC/LGMS for review and file. The following guidelines apply:

3.14.3.13.1. **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.

3.14.3.13.2. **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.

3.14.3.14. **Gun Ports.** Gun ports will be painted in flat black paint.

3.14.3.15. **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 more than one aerial victory, a star is authorized for each aircraft shot down. No other victory markings are authorized.

3.14.3.16. **Bomber Combat Marking.** Designated bomber aircraft with a successful weapons release in combat operations are authorized to display a conventional bomb and/or CALCM silhouette on that aircraft. These markings will be applied in contrasting shades that conform to the basic aircraft camouflage requirements. B-1, B-2 and B-52 combat marking configurations are located in [Attachment 2](#) of this instruction.

3.14.3.17. **Nose Art.** For purposes of clarification, "nose art" shall be the term used to identify specialized artwork applied to any area of the aircraft. Nose art is only authorized on B-52, -135, B-1 and -130 aircraft. The only exception to this policy is application of the AF approved "Let's Roll" nose art design. In addition to Thunderbird and MAJCOM demonstration aircraft, wing commanders may designate one aircraft within the wing to apply "Let's Roll" design. The aircraft selected is at the wing commander's discretion. Waivers for fighter and other aircraft will not be entertained.

Placement of nose art is authorized on the left side of the aircraft only. Authorized nose art is limited to 3 feet by 3 feet in size and shall:

3.14.3.17.1. Be distinctive, symbolic and designed in good taste.

3.14.3.17.2. Enhance unit pride.

3.14.3.17.3. Be gender neutral.

3.14.3.17.4. Match gloss requirements of the basic paint scheme, i.e., aircraft with flat camouflage schemes require application of nose art in flat colors.

3.14.3.17.5. All designs will be reviewed and approved by the Wing Commander. Photographs of all approved designs will be submitted to HQ ACC/LGM for review and file. World War II nose art that meets the above criteria may be used. Cartoon-type characters may be used; however, the unit will be responsible for all copyright issues. Removal of nose art prior to deployment will be at the discretion of the Wing Commander.

3.14.3.18. **Competition Aircraft.** Units participating in competitions such as William Tell, Gunsmoke, etc, will follow the guidelines established in competition rules for aircraft appearance. Competitions should 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.

3.14.3.19. **Aircraft Transfer.** The following markings must be removed prior to formal transfer of aircraft to other units or MAJCOMs (aircraft retiring to AMARC need not have any markings removed).

3.14.3.19.1. Organizational insignias.

3.14.3.19.2. Unit designator.

3.14.3.19.3. Tail stripe.

3.14.3.19.4. Aircrew and crew chief names.

3.14.3.19.5. Unit unique markings.

3.14.3.19.6. Nose art may be retained if gaining unit agrees.

3.14.3.20. **Waivers.** Wing Commanders must submit waiver requests to HQ ACC/LGM for coordination to obtain HQ ACC/LG approval/disapproval. Waivers that are in violation of aircraft technical data will not be accepted. Waiver requests must include the following:

3.14.3.20.1. Clear statement of present procedure/markings.

3.14.3.20.2. Clear statement of proposed change.

3.14.3.20.3. Justification to include historical significance, if applicable.

3.14.3.20.4. Photographs: Two 8" by 10" or equivalent digital color photographs, one of present marking and one of requested change.

3.14.3.21. **Photo Requirements.** All photo requirements may be met by 8 x 10 color or digital equivalent. All ACC units must submit one full length (landscape orientation) of the Wing Commander's aircraft each time a marking change occurs to HQ ACC/LGMS for review and file.

3.14.3.21.1. Units shall provide photos of unique markings for all local option changes authorized by this instruction (i.e., tail stripe/name block design and/or color changes, paint data placard, bird of prey silhouettes, nose art, etc.) to HQ ACC/LGMS for review and file.

3.14.3.22. **(Added-SHAWAFB)** Crew Entry Ladders requiring complete re-paint will be painted by Aircraft Structural Maintenance personnel only. For planning and scheduling purposes, no more than six ladders (two per squadron) will be painted each month. All ladders must be routed through the sheet metal shop for repair before being painted.

3.15. Tone Down.

3.15.1. **Aerospace Ground Equipment (AGE).** Polyurethane paint system Mil-PRF-23377, Chromated Epoxy Primer, Tie Coat and Mil-C-85285 high solid, low VOC paint, color number 24052 is the approved topcoat paint system for AGE.

3.15.1.1. When feasible, equipment will be completely stripped and properly prepared IAW TOs 1-1-8 and 35-1-3 before applying polyurethane coatings.

3.15.1.2. Minimum reflectorizing requirements will be IAW T.O. 35-1-3. Black subdued reflectorized tape will be used in lieu of white when left optional by T.O. 35-1-3.

3.15.1.3. Safety/danger/warning markings will be nonreflective red.

3.15.1.4. Caution markings will be nonreflective black.

3.15.1.5. Informational markings will be nonreflective black and be kept to a minimum.

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

3.15.1.7. Fuel designation markings will be 1-inch nonreflective black letters on the filler cap or most conspicuous area adjacent to the filler cap.

3.15.1.8. Locally devised field numbers will be black.

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

3.15.1.10. AGE arriving on base and requiring tone down will be painted within 60 days of receipt.

3.15.2. **Vehicles.** Tone down, painting and marking of registered/nonregistered vehicles will be accomplished IAW T.O. 36-1-3.

3.15.3. **Test Equipment/CTKs.** Tone down of test equipment, CTKs and like equipment will be determined by the aircraft gloss requirement, i.e., unit with aircraft having gloss finishes may apply gloss finishes to their test equipment and CTKs. If the aircraft assigned

have a requirement for flat finishes, then all test equipment and CTKs designed for on-equipment application will be toned down in flat colors.

3.15.3.1. To prevent obscuring of instructions and possible damage to components, only exteriors of test equipment boxes will be toned down.

3.15.3.2. Test equipment and CTKs used outside the shop environment will be toned down, i.e., gray, olive drab, brown, black or forest green. A camouflage pattern incorporating a combination of these colors may be used.

3.15.3.3. Equipment not removed from back shops need not be toned down i.e., test equipment, test benches, and mockups.

3.15.3.4. Warranted CTKs. Name brand tool boxes received from base supply with corrosion service life warranties will not be painted solely to change color (this will void the manufacturer's warranty unnecessarily). The exception to this policy is if this equipment is deployed to support combat coded units with flat aircraft finishes.

3.15.4. Tactical Air Control System (TACS) Equipment Requirements. TACS shelters, vehicles, and support equipment will be camouflage pattern painted using chemical agent resistant coating (CARC) IAW T.O. 36-1-171 and vehicle markings IAW T.O. 36-1-3.

3.15.4.1. TACS shelters, vehicles and support equipment will be pattern painted in a three-color camouflage scheme IAW T.O. 36-1-161 and authorized equipment specific technical guidance.

3.15.4.2. Reflective tape, signs, and decals will not be applied.

3.15.4.3. Fabric or inflatable shelters will not be painted in accordance with this instruction.

3.15.4.4. Mobilizers can be toned down in the solid complementary colors of desert sand or forest green.

3.15.5. 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 ACC/LGMS before changing paint schemes.

3.16. Communications-Electronics-Meteorological (CEM) Activities Responsibilities.

3.16.1. CEM Squadron Commander Responsibilities.

3.16.1.1. Ensures a local Corrosion Prevention and Control Program (CPCP) is established for ground CEM equipment, stressing prevention and control of corrosion through equipment cleanliness, timely detection, and maintenance of protective finishes.

3.16.1.2. Appoints a member of Quality Assurance as the unit CPCP functional manager.

3.16.1.3. Ensures an adequate corrosion prevention and training program is in place for initial and recurring training.

3.16.1.4. Establishes support as necessary with host Maintenance Squadron and Base Civil Engineer (BCE).

3.16.2. CEM CPCP Functional Manager Responsibilities.

- 3.16.2.1. Obtains corrosion control treatment beyond the unit's capability from the BCE, vehicle maintenance shop, maintenance organizations, avionics maintenance shop, or respective Air Logistics Center (ALC).
- 3.16.2.2. Ensures corrosion prevention or treatment actions are taken and documented on all equipment and systems under their control.
- 3.16.2.3. Procures needed materials for prevention and treatment of corrosion within each work center. A locally fabricated corrosion control kit may be used. The unit CPCP functional manager and work center supervisor can determine Kit contents.
- 3.16.2.4. Ensures all maintenance personnel receive training on CPCP. The training depth will be based on the local environment and particular equipment involved.
- 3.16.2.5. Reports all unresolved problems, through channels, to HQ ACC/LGMS for assistance. When project material is involved, send information copies to EID/ISQ.
- 3.16.2.6. Works closely with BCE for support of the unit CPCP. **NOTE:** Support coverage should consider RPIE, vehicles and sheltered equipment (including van interior and exteriors, undercarriages and mobilizers) and equipment in storage awaiting project installation.
- 3.16.2.7. Ensures each work center adequately adheres to and participates in the unit CPCP. Periodically evaluates the effectiveness of each work center's CPCP.
- 3.16.2.8. Ensures oil-based coating is applied to all ground connections that are not environmentally controlled IAW T.O. 1-1-689 and T.O. 31-10-24 and MIL Std 188-124. This coating will not be applied on ground terminals of shelters and vans.
- 3.16.2.9. Ensures minimum quantities of reference publications are available to accommodate unit's needs.
- 3.16.3. Intercontinental Ballistic Missile (ICBM) Support Activities Responsibilities.
 - 3.16.3.1. Fabricates corrosion control kits. T.O. 21M-LGM30F-101, LGM30 *Weapon System Corrosion Control and Treatment*, and T.O. 1-1-691 can be used to identify required materials and tools.
 - 3.16.3.2. Ensures electrical surge arrestor (ESA) rooms are inspected periodically.
 - 3.16.3.3. Ensures each maintenance team entering a Minuteman launch control facility (LCF) or launch facility (LF) ESA room for either scheduled or unscheduled maintenance inspects the entire ESA room for corrosion, housekeeping, water intrusion and water drainage. Noted discrepancies will be corrected within the capability of the team. Reports and document uncorrected corrosion problems.
 - 3.16.3.4. Ensures the prime responsibilities for ESA are performed in these areas:
 - 3.16.3.4.1. CE equipment and alarm cables and circuits.
 - 3.16.3.4.2. Watertight conduit seals on all circuits used for CE equipment circuits.
 - 3.16.3.4.3. ESA modules, module frames, and frame bus bars.
 - 3.16.3.4.4. Cable splice cases, pressure lines, and pressure sensing lines.

NOTE: The base civil engineer (BCE) must be contacted for maintenance on conduits used with CE equipment circuits classified as real property (RP), real property installed equipment (RPIE), and assigned ICBM RPIE.

3.16.3.5. Ensures maintenance production work center personnel inspect assigned vehicles (includes trucks, vans, mobilizers, trenchers, tractors, back hoes, cable plows, and trailers) for corrosion. Ensures discrepancies are reported to the unit vehicle control official on AF Form 1800, **Operator's Inspection Guide and Trouble Report**.

3.16.4. **Real Property Installed Equipment Requirements.** BCE has maintenance responsibility for all CE equipment categorized as RPIE IAW AFI 32-9005, *Real Property Accountability and Reporting*. The operation and maintenance of power plants by CE personnel include corrosion control painting IAW AFI 32-1062, *Electrical Power Plants and Generators*. Painting categorized as organizational level responsibility will be accomplished IAW local policy. Assistance should be from BCE when corrosion control maintenance exceeds the unit's capability.

3.16.5. **CEM Training Programs.**

3.16.5.1. Qualification training.

3.16.5.1.1. Initial subject knowledge will cover background knowledge of the causes, removal, control, and prevention of corrosion. This training will be required upon initial assignment to the unit and refresher training every 2 years.

3.16.5.1.2. The unit CPCP functional manager may exempt work centers from using part or all of quality training packages (QTP) covering corrosion control and prevention where career development course material adequately covers all module subjects contained in the QTP.

3.16.5.2. Follow-on training will be conducted when new techniques are developed to identify, remove, or treat corrosion encountered by the unit. The unit CPCP functional manager, maintenance support personnel, and supervisors must be alert for applicable follow-on training subjects and cross feeds which may appear in technical orders, WR-ALC RP 400-1 (Corrosion Summary), or other publications procurable through the unit publications personnel.

3.16.5.3. Local job qualification standards will consist of performance tasks to identify, remove, and treat all types of corrosion encountered or anticipated by the work center.

Chapter 4

SURVIVAL EQUIPMENT PROGRAM

4.1. Purpose of Survival Equipment (AFSC 2A7X4). Survival Equipment supports aircraft maintenance, aircrew, Pararescue, Combat Control, and Survival, Evasion, Resistance, and Escape (SERE), through the inspection, repair, modification, and packing of integrated personnel and drogue parachute systems, personnel and deceleration parachutes, flotation equipment, protective equipment, life support equipment, emergency evacuation systems and associated subsystems.

4.2. HQ ACC/LGM Responsibilities.

4.2.1. Manages the command Survival Equipment Program.

4.2.2. Designates a senior NCO to manage the program and perform the following responsibilities:

4.2.2.1. Support the Air Force Survival Equipment Program by participating in systems continuous improvement process (CIP) working groups and MAJCOM executive working groups.

4.2.2.2. Approve all intra-command Survival Equipment TDY manning assistance requests.

4.2.2.3. Develop and coordinate ACC policy and procedures for Survival Equipment functions.

4.2.2.4. Serves as Command Control Point (CCP) for 412A Systems related to Survival Equipment.

4.2.2.5. Evaluate suggestions, technical order improvements, and reports such as hazard and product deficiencies that pertain to survival equipment.

4.3. Maintenance Group Commander Responsibilities.

4.3.1. Ensure personnel are qualified on assigned systems/weapon systems.

4.3.2. Determines whether Survival Equipment Section or Aircraft Electrical and Environmental Systems Section will inspect, refill, overhaul and replace CO2 cylinders.

4.4. Fabrication Flight Chief Responsibilities.

4.4.1. Ensure funding is forecasted for various system training and worldwide/command survival equipment working groups.

4.4.2. Ensure Survival Equipment personnel are not assigned sewing projects or other local manufacture jobs that interfere with their primary survival equipment duties.

4.4.3. Coordinates with the base Pararescue and SERE Superintendent for policy and local procedures in support of the personnel parachute program.

4.4.4. Ensure rotation plan is developed to ensure survival equipment personnel are trained and remain qualified on all survival equipment functions.

4.4.5. Ensure inspection interval/time change waivers are submitted IAW T.O. 00-5-1.

4.5. Survival Equipment Section Chief Responsibilities.

4.5.1. Maintain accurate copies of AFTO Form 392, **Parachute Repack Inspection and Component Record**, on ACES II Drogue Parachutes, and reference copies on ACES II Personnel Recovery Parachutes. **NOTE:** Computer software may be used in lieu of AFTO Form 392.

4.5.2. Develops and ensures IPI's are performed by current and qualified personnel in AFSC 2A7X4. IPI's will be documented on a locally developed form with the inspector's initials and coordinated with local QA for inclusion in the wing IPI list. This form will be maintained in the Survival Equipment Section until the next repack or aircraft transfer, whichever comes first.

4.5.3. Maintains a two-person concept when servicing parachute recovery systems to include at least one certified survival equipment technician and one IPI certified 7-level. The qualified survival equipment technician will accomplish the complete inspection, repack, and repair of the recovery parachute system. The IPI certified 7-level will be present during the accomplishment of the IPI tasks associated with the parachute recovery system. Only the person(s) performing the inspection, repack, and repair will annotate the parachute logs and records. The IPI inspector will annotate the appropriate locally developed IPI checklist.

4.5.4. Establishes a 6-month recurring training program on infrequently maintained systems (i.e., ACES II drogue chute) to ensure proficiency levels are maintained.

4.5.5. Develops rotation schedule to ensure all assigned technicians are trained and remain proficient in all survival equipment sections within the shop (flotation section, personnel recovery/troop parachute section, deceleration/cargo parachute section, and fabrication section).

4.5.6. Ensures access is restricted in the parachute shop/section to personnel directly involved in the parachute packing operations. This is to prevent any tampering, damage and or contaminates getting onto the parachute assemblies.

4.5.7. Ensures assigned personnel attend initial and annual egress familiarization training on all aircraft containing explosive egress systems.

4.5.8. Coordinates with Aircrew Life Support and Parachutist Sections to obtain a monthly schedule of equipment requiring inspections.

4.5.9. Ensures -21 equipment is not stored in the Survival Equipment Sections. Owing workcenters are responsible for storing and maintaining their equipment.

4.5.10. Ensures compliance with AFI 11-410, *Personal Parachute Operations*. The complete inspection, repair and repack will be accomplished by Survival Equipment Personnel. Routine 30-day inspections along with the tracking and scheduling of equipment inspections are the responsibility of the owning workcenter.

4.5.11. Ensures the capability exists to inspect, clean, repair and package aircraft thermal curtains and thermal radiation barriers. Survival Equipment is also responsible for the installation, removal and replacement of thermal curtains in the B-52.

4.5.12. Develops and coordinates a workcenter specific local explosive safety program through Wing Safety.

- 4.5.13. Ensures hazardous materials are controlled in accordance with state and local laws.
- 4.5.14. Ensures only qualified repairs and modifications are performed on flight clothing and equipment IAW applicable technical orders. **NOTE:** Flight clothing is classified as individual equipment; therefore, the owning individuals are responsible for sewing on rank and Velcro as required by AFI 36-2903.
- 4.5.15. Documents and updates time changes, inspections and repacks in CAMS for equipment identified in aircraft -6 technical orders.
- 4.5.16. Reviews CAMS screen 380 for overdue scheduled events IAW AFI 21-101, ACC Sup 1.
- 4.5.17. Ensures technical orders are current and personnel are briefed on all supplements and changes.
- 4.5.18. Ensures workcenter meets prescribed working environmental conditions for personnel safety.
- 4.5.19. Represents workcenter on all activities that require the use of Survival Equipment Personnel expertise, i.e., TCTO scheduling, maintenance meetings, etc.
- 4.5.20. Performs final quality checks on all completed equipment using the routine inspection criteria in the applicable technical orders.
- 4.5.21. Maintains mobility containers to deploy personnel in support of life support operations deployed to bare base locations in excess of 60 days.
- 4.5.22. Initially assembles and periodically repairs anti-exposure coveralls as required. Requisitions and replaces only unserviceable component parts.
- 4.5.23. Ensures parts requisitioned, not to include any time change components, are ordered with a FAD code equivalent to the unit being supported.
- 4.5.24. Establishes special stock levels in supply to support the repair and replacement of individual equipment components.
- 4.5.25. Ensures the capability for storage of explosive items contained in aircrew life support equipment required during equipment maintenance, for which survival equipment is the performing workcenter, exists.
- 4.5.26. Attends the quarterly Wing Aircrew Protection Working Group Meeting.

4.6. (Added-SHAWAFB) Forms (Prescribed and Adopted).

- 4.6.1. **(Added-SHAWAFB)** Prescribed Forms. No prescribed forms are implemented by this publication.
- 4.6.2. **(Added-SHAWAFB)** Adopted Forms.

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

AF Form 847, *Recommendation for Change of Publication*

HAL M. HORNBURG, General, USAF
Commander

(SHAWAFB)

JOSEPH T. GUASTELLA, JR., Colonel, USAF
Commander

ATTACHMENT 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

In addition to required/recommended publications, each Section will maintain publications for possessed equipment IAW T.O. 00-5-1, *AF Technical Order System*.

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

T.O. 00-25-252, *Certification of Military Aircraft, Missile & Support Equipment Welders*

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

T.O. 1-1-689, *Avionics Cleaning and Corrosion Prevention/Control*

T.O. 1-1-691, *Aircraft Weapons Systems Cleaning and Corrosion Control*

T.O. 21M-LGM30F-101, *LGM30 Weapon System Corrosion Control and Treatment (mandatory for units with ICBM support mission)*

T.O. 31R-10-5, *Antenna Systems, Maintenance, Repair and Testing*

T.O. 31-10-24, *Communication Systems Grounding, Bonding and Shielding*

T.O. 32-1-101, *Use and Care of Hand Tools and Measuring Tools*

T.O. 33B-1-1, *Nondestructive Inspection Methods*

T.O. 33-1-37-1/2/3, *Joint Oil Analysis Program Manual*

T.O. 4W-1-61, *Maintenance and Overhaul Instructions All Type Aircraft Wheels*

T.O. 35-1-3, *Painting of Aerospace Ground Equipment*

T.O. 35E4-1-162, *Field and Depot Maintenance Instruction Tactical Shelter*

T.O. 42A-1-1, *Safety, Fire Precaution and Health Promotion Aspects of Painting, Doping and Paint Removal*

AFI 11-410, (<http://www.e-publishing.af.mil/pubfiles/af/11/afi11-410/afi11-410.pdf>), *Personnel Parachute Operations*

AFI 21-101, (<http://www.e-publishing.af.mil/pubfiles/af/21/afi21-101/afi21-101.pdf>), *Aerospace Equipment Maintenance Management*

AFI 21-105, (<http://www.e-publishing.af.mil/pubfiles/af/21/afi21-105/afi21-105.pdf>), *Aerospace Equipment Structural Maintenance*

AFI 21-124, (<http://www.e-publishing.af.mil/pubfiles/af/21/afi21-124/afi21-124.pdf>), *Air Force Oil Analysis Program*

AFI 36-2903, (<http://www.e-publishing.af.mil/pubfiles/af/36/afi36-2903/afi36-2903.pdf>), *Dress and Personal Appearance of Air Force Personnel*

AFI 48-145, (<http://www.e-publishing.af.mil/pubfiles/af/48/afi48-145/afi48-145.pdf>), *Occupational Health Program*

AFI 91-301, (<http://www.e-publishing.af.mil/pubfiles/af/91/afi91-301/afi91-301.pdf>),
*Air Force Occupational and Environmental Safety, Fire Protection and Health (AFOSH)
Program*

AFI 21-101, ACC Sup 1,
(https://wwwmil.acc.af.mil/accpubs/pubs/21series/AFI21-101_ACCSUP1.pdf),
Aerospace Equipment Maintenance Management

AFOSH Std 48-137, *Respiratory Protection Program*

AFOSH Std 91-100, *Flight Line-Ground Operations and Activities*

AFOSH Std 91-110, *Nondestructive Inspection and Oil Analysis Program*

AFOSH Std 91-501, *Air Force Consolidated Occupational Safety Standard*

AFOSH Std 161-2, *Industrial Ventilation*

AFOSH Std 161-17, *Standardized Occupational Health Program*

AFOSH Std 161-21, *Hazard Communication Program*

Attachment 1 (SHAWAFB)**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION***References (Added)*

(SHAWAFB) AFMAN 33-363, *Management of Records*, 1 March 2008

(SHAWAFB) AFPD 21-1, *Air and Space Maintenance*, 25 February 2003

Abbreviations and Acronyms (Added)

(SHAWAFB) AGE— Aerospace Ground Equipment

(SHAWAFB) AME— Alternate Mission Equipment

(SHAWAFB) AFPD— Air Force Policy Directive

(SHAWAFB) AFMAN— Air Force Manual

(SHAWAFB) AFRIMS— Air Force Records Information Management System

(SHAWAFB) AMUs— Aircraft Maintenance Units

(SHAWAFB) AMXS— Aircraft Maintenance Squadron

(SHAWAFB) CMS— Component Maintenance Squadron

(SHAWAFB) ECM— Electronic Counter Measures

(SHAWAFB) EMS— Equipment Maintenance Squadron

(SHAWAFB) IAW— In Accordance With

(SHAWAFB) IMDS— Integrated Maintenance Data System

(SHAWAFB) JCN— Job Control Number

(SHAWAFB) MOC— Maintenance Operations Center

(SHAWAFB) NAF— Ninth Air Force

(SHAWAFB) NMC— Non Mission Capable

(SHAWAFB) OPR— Office of Primary Responsibility

(SHAWAFB) QA— Quality Assurance

(SHAWAFB) QPL— Qualified Products Listing

(SHAWAFB) RDS— Records Disposition Schedule

(SHAWAFB) TBA— Training Business Area

(SHAWAFB) USAFCENT— United States Air Forces Central

Attachment 2

MARKING SPECIFICATIONS

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A/OA-10**Non-combat coded**

ACC COMMAND INSIGNIA: 18 inches (full color)

Vertical: 10 inches below bottom edge of rudder cap left and right.

ORGANIZATIONAL INSIGNIA: 18 inches (full color)

Left side: Above panel F-18 and aft of panel F-44.

Right side: Above panel F-79 and aft of panel F-105.

UNIT DESIGNATOR: 12 inches

Vertical: Lower edge 3 inches above tail numbers.

Horizontal: Centered on vertical stabilizer.

PILOT AND CREW CHIEF NAMES:

Pilot on left side under windscreen beginning at FS 188.92.

Crew chief just under pilot's name. Assistant crew chief name just under crew chief name.

NOSE NUMBER: 6 inches (gray color number 36375)

Last three/four digits of tail number on both sides of aircraft nose.

Combat Coded

COMMAND INSIGNIA: 18 inches (subdued)

Vertical: 10 inches below bottom edge of rudder cap left and right.

Horizontal: Centered above unit designator.

ORGANIZATIONAL INSIGNIA: 18 inches (subdued)

Left side: Above panel F-18 and aft of panel F-44.

Right side: Above panel F-79 and panel F-105.

UNIT DESIGNATOR: 12 inches

Vertical: Lower edge 3 inches above tail numbers.

Horizontal: Centered on vertical stabilizer.

PILOT AND CREW CHIEF NAMES:

Pilot on left under windscreen beginning at FS 188.92.

Crew chief just under pilot's name.

Assistant crew chief name under crew chief name.

NOSE NUMBER: 6 inches (black)

Three digits of tail number on both sides of the aircraft nose.

B-1**COMMAND INSIGNIA:** 24 inches (subdued)

Located 11 inches down from the tail stripe, top of patch 38 inches in from tail leading edge and 36 inches in from leading edge of rudder on both sides.

ORGANIZATIONAL INSIGNIA: 24 inches (subdued)

Located 6 inches below and centered on the OSO/DSO windows.

UNIT DESIGNATOR: 30 inches

Located 7 inches down from command insignia. On right side of tail, trailing edge of first letter will lay along a vertical line from center of sword in command insignia. On left side of tail, trailing edge of second letter in unit designator will lay along a vertical line from center of sword in command insignia.

PILOT/AIRCREW/CREW CHIEF NAMES:

Pilot/aircrew: Centered on forward escape hatch side window.

Crew chief/assistant: Left nose gear door, centered.

NOSE NUMBERS:

Last three/four digits of tail number, 3 inches in height, on nose gear strut, both sides.

COMBAT MARKINGS:

Bomb markings will be located on the right portion of the left nose gear door exterior. These markings will consist of a 5-inch bomb silhouette applied in a row not to exceed 10 in each row. Once 10 silhouettes are achieved a single bomb silhouette with the number "10" will represent a row.

B-2

ACC COMMAND INSIGNIA: 24 inches (subdued)

Located on left side at FS 304.5 (center of crest), with crest bottom at WL 167.2.

ORGANIZATIONAL INSIGNIA: 24 inches (subdued)

Located on right side of aircraft at FS 304.5 (center of crest), crest bottom at WL 167.2.

UNIT DESIGNATOR: 16 inches (subdued) 30-degree negative slant

Top of unit designator to be 15 inches from top of main landing gear door, 50 inches from extreme aft end of door.

AIRCRAFT NAME: (all measurements to top of letters)

“SPIRIT” located: 10.5 inches from top of main landing gear door, 57 inches from extreme forward of door in 8 inch block letters with a 30 degree negative slant.

“OF” located: 19.5 inches down from top of main landing gear door, centered underneath the “SPIRIT” in 6 inch block letters with a 30 degree negative slant.

“STATE/CITY” located: 26.5 inches from top of main landing gear door, centered beneath the “SPIRIT” in 8 inch block letters with a 30 degree negative slant.

TAIL STRIPE: The tail stripes will be 18 feet long by 11.25 inches high from leading edge to trailing edge of main landing gear doors.

PILOT/AIRCREW/CREW CHIEF NAMES: (all measurements to top of letters)

Pilot: The word “PILOT” is centered on left half of nose gear door 8 inches from the top of the door in 1.75-inch letters. The pilot’s name is centered below the word “PILOT,” 13.5 inches from the top of the door.

Mission Commander: The word “MISSION COMMANDER” is centered on right half of nose gear door, 8 inches from top of door in 1.75-inch letters. The mission commander’s name is centered below “Mission Commander,” 13.5 inches from the top of the door.

Crew Chief/Assistant: The letters “DCC” are centered on nose gear door, 26 inches from top of door, 1.75-inch letters. The crew chief’s name is centered 1 inch below “DCC” also in 1.75-inch letters. The letters “ADCC” are centered 1 inch below the crew chief name in 1.75-inch letters and the assistant crew chiefs are centered below with 1 inch spacing from “ADCC,” also in 1.75-inch letters.

NOSE NUMBERS: Last five digits of tail number, 6 inches in height, 12 inches from bottom of nose gear door and centered.

COMBAT MARKINGS:

May apply a single bomb/CALCM silhouette on the exterior of the nose landing gear door. These silhouettes will contain the combat operation acronym, “OEF” embedded in the center of the marking.

B-52

COMMAND INSIGNIA: 24 inches (subdued)

Vertical: Top of insignia will be located 41 1/2 inches below tail stripe. Leading edge of insignia will be 62 inches in from leading edge of tail on both sides of tail. Bottom point/tip of insignia will be located on center seam of main spar line.

ORGANIZATIONAL INSIGNIA: 24 inches (subdued)

Right side: On forward fuselage, center of insignia at B.S. 218.7 and W.L.187.5.

Left side: On forward fuselage, center of insignia at B.S. 218.7 and W.L.187.5.

UNIT DESIGNATOR: 42 inches

Left side: Top of unit designator located 36 inches below box antenna. The trailing edge of the second letter is on a vertical line down from the tip of the command insignia, using the sword in the insignia as a line up reference.

Right side: Top of unit designator located 36 inches below box antenna. The trailing edge of the first letter will be in a vertical line from the tip of the command insignia, using the sword in the insignia as a line up reference.

PILOT/AIRCREW/CREW CHIEF NAMES:

Pilot/aircrew: Centered under pilot's window.

Crew chief/assistant: Block is 15 inches by 36 inches. Block is located on BS 261.00 and WL 139.00.

NOSE NUMBERS: Last four digits, 12 inches in height, located immediately aft of BS 236.30 and centered on WL 187.5.

COMBAT MARKINGS:

Bomb markings will be enclosed in a 27-inch by 27-inch, 1-inch bordered area with the left edge at FS 117.20 bottom edge on WL 139. A conventional bomb or CALCM silhouette may be displayed in the box for each combat sortie flown with a successful weapons release. The CALCM marking will be a maximum of 10 inches and the conventional bomb silhouette a maximum of 5 inches. Once the box is full, an existing column of CALCM/Bombs will be removed and replaced with a single CALCM/Bomb silhouette containing a number 10 at the top of the applicable row.

C-21A

AMERICAN FLAG: 39 inches from base of vertical stabilizer. Flag painted at an angle so bottom leading edge is 10 inches from the leading edge seam and top leading edge is 5 inches from the leading edge seam.

ACC COMMAND INSIGNIA: 10 inch (full color)

Vertical: Top of insignia 2.5 inches below lower left aft corner of windshield frame.

Horizontal: Left side fuselage forward of entry door with the leading edge of the top of insignia aligning the aft corner of the windshield frame.

ORGANIZATIONAL INSIGNIA: 10 inch (full color)

Placed in identical location of Command Insignia on right side of aircraft.

UNIT DESIGNATOR: 10 inch (Black)

Vertical: 21.5 inches from base of vertical stabilizer. Top of unit designator is located 6 inches below the bottom of the American flag.

Horizontal: 20.5 inches aft of leading edge seam on vertical stabilizer. Furthest leading edge point of letter flush with VOR antennae.

NOSE NUMBERS: Last three tail numbers 3 inches high. 1 1/4 inch from lower forward corner of door and over 1 1/4 inch.

TAIL NUMBERS: 8 inches (Black)

Vertical: 9 inches from base of vertical stabilizer

Horizontal: 16 inches forward of rudder trailing edge for last digit in tail number. Left and Right.

NATIONAL STAR: 18 inch Diameter

Vertical: 18 inches aft of outboard engine nacelle leading edge.

Horizontal: Centered on the nacelle for height.

C-27

AMERICAN FLAG: 18 inches high by 36 inches wide

Top of flag is located 18 inches below VOR antenna and centered.

ACC COMMAND INSIGNIA: 24 inches (Black Silhouette)

Located on both sides of vertical stabilizer. Top of insignia is 12 inches below the bottom of the American Flag with the leading edge of insignia crest 28 inches from leading edge of vertical stabilizer.

ORGANIZATIONAL INSIGNIA: 24 inches

Located on both sides of aircraft fuselage. Top of insignia is 11.5 inches below aircraft centerline and centered between frames 11 and 12.

UNIT DESIGNATOR: 24 inches

Top of unit designator located 12 inches below command insignia. Forward most portion of insignia crest located 24.4 inches from leading edge of vertical stabilizer.

NOSE NUMBERS: 6: (Black)

Located on both sides of aircraft nose with top of marking 24 inches below the centerline of the aircraft. The forward most edge of marking will start 73.7 inches forward of the aft crew entry door.

CREW CHIEF NAMES: 2 inches high (Black)

Place the crew chief name within a name block with the trailing edge along the upper portion of the leading edge of the crew entry door.

RADIO CALL NUMBERS: 18 inches (Black):

Top of call numbers located 12 inches below unit designator. Forward most edge of call number is located 33 inches from leading edge of vertical stabilizer.

C/EC/HC/MC-130

ACC COMMAND INSIGNIA: 30 inches (subdued)

Vertical: Bottom of command insignia is located at vertical stabilizer station 111.0.

Horizontal: Centered on FS 1090.0.

ORGANIZATIONAL INSIGNIA: 30 inches (subdued)

Insignia will be placed on the fuselage, the bottom of the insignia will be centered on WL 190.0. The insignia will be centered on FS 270.0.

UNIT DESIGNATOR: 36 inches

Vertical: Bottom of unit designator is located at vertical stabilizer station 63.0.

Horizontal: Centered between FS 1068.0 and 1122.0.

RADIO CALL NUMBER: 15 inches

Vertical: Bottom of radio call number is located at vertical stabilizer station 36.0.

Horizontal: Centered between FS 1068.0 and 1122.0.

PILOT AND CREW CHIEF/ASSISTANT NAMES:

Vertical: Bottom of crew box on WL 175.0.

Horizontal: Between FS 175.0 and FS 210.0.

EC/RC/WC/OC-135

ACC COMMAND INSIGNIA: 24 inches (Full Color)

Vertical: 1 inch forward of center of pilot/copilot #2 window.

Horizontal: 11 inches below lowest part of sill.

ORGANIZATIONAL INSIGNIA: 18 inches (Full color)

Left side of forward fuselage, 2 inches above the crew chief block, centered on the crew chief block.

UNIT DESIGNATOR: 36 inches (Full color)

Left Side: Designator will begin 20 inches in from leading edge.

Right Side: Designator will end 20 inches in from leading edge.

PILOT AND CREW CHIEF/ASSISTANT NAMES:

Flight crew names: 2 inches below blue stripe, beginning straight below the lower forward corner of the left and right #3 windows. 2-inch Helvetica medium, 30-degree forward slant on left side, 30-degree aft slant on right side. The words "AIRCRAFT COMMANDER" with the individuals name centered below it on the left side, and the word "PILOT" with the individuals name centered below it on the right side. Optional below the Pilot name the word "NAVIGATOR" with individual's name centered below it.

Crew chief/assistant names in 18-inch by 36-inch block, 10 inches aft of crew entry door, top of block flush with top of door.

NOSE NUMBER: Last four digits of tail number

EC-135: 8 inch white letters.

Left side: Located 7 inches forward and 8 inches above the crew entry door.

Right side: Located resting on WL 208.5 beginning at FS 225.

RC-135: 8 inch white letters.

Left side: Located 8 inches above and centered on crew entry chute.

Right side: Located resting on WL 208, centered on FS 287.

E-3

AMERICAN FLAG: 31.5 inches high by 60 inches long

Applied to both sides of the vertical stabilizer. The top of the American flag is located at Fin Station 210.15 with the forward top corner of each flag resting on the vertical stabilizer leading edge seam.

ACC COMMAND INSIGNIA: 18 inches (full color)

Centered 12 inches fwd Sta 259.5. Top of insignia 40 inches above Stringer 19 on co-pilot's side.

WING ORGANIZATIONAL INSIGNIA: 18 inches (full color)

Centered 12 inches fwd Sta 259.5. Top of insignia 40 inches above Stringer 19 on pilot's side.

RESERVE COMMAND INSIGNIA: 18 inches (full color)--COMACC waiver

Centered 30 inches fwd of Sta 259.5. Lower point resting on Stringer 19 on co-pilot's side.

RESERVE ORGANIZATIONAL INSIGNIA: 18 inches (full color)--COMACC waiver.

Centered 30 inches fwd of Sta 259.5. Lower point resting on Stringer 19 on pilot's side.

UNIT DESIGNATOR: 24 inches (Gloss Black)

Left side: Located 7 inches above the radio call number with the top corner of the first letter at the leading edge seam.

Right side: Located 7 inches above the radio call number with the top corner of the last letter at the leading edge seam.

PILOT AND CREW CHIEF/ASSISTANT NAMES:

Pilot, Mission Crew Commander (MCC), Dedicated Crew Chief (DCC) and Assistant Dedicated Crew Chief (ADCC) names will be mounted to a standard size plaque and affixed to interior body station 294.5.

Titles: WING CMDR, OG CMDR, SQDN CMDR, ACFT CMDR, MCC, DCC, and ADCC

NOSE NUMBERS: 6-inch (Gloss Black)

Last four digits of tail number on left and right nose gear door.

E-4B

Due to the mission of the E-4B, no command markings will be applied to the aircraft.

F-15

ACC COMMAND INSIGNIA: 18 inches (full color)

Vertical: Bottom of insignia 18 inches above unit designator

Horizontal: Aft edge of insignia of FS 806.5.

ORGANIZATIONAL INSIGNIA: 18 inches (full color)

Vertical: Bottom of insignia on WL 100.0.

Horizontal: Forward edge of insignia on FS 458.0.

UNIT DESIGNATOR: 24 inches

NOTE: Unit designator and tail numbers will be black, color #37038 for Mod Eagle scheme.

Vertical: Top of letters even with top of rudder.

Horizontal: Leading edge of first letter on FS 760.0.

PILOT AND CREW CHIEF NAMES:

Pilot centered below left windscreen frame and crew chief and assistant crew chief names centered below right windscreen frame.

NOSE NUMBER: 4 inches

Last three/four digits of tail number vertically on left and right side of the nose gear door or on the aircraft nose 1 inch below the EWWS antenna with the last number ending 1 inch from radome.

F-16

COMMAND INSIGNIA: 18 inches (full color)

Vertical: 7 inches below tail stripe.

Horizontal: Centered on vertical stab, excluding rudder measurement.

ORGANIZATIONAL INSIGNIA: 10 inches (full color)

Vertical: Top of insignia 11 inches below fuselage/intake splitter vane.

Horizontal: Leading edge 52 inches aft of intake duct lip.

UNIT DESIGNATOR: 18 inches

Vertical: Bottom of letters at WL 158.0.

Horizontal: Leading edge of first letter on FS 482.07.

PILOT AND CREW CHIEF NAMES:

Pilot name on left canopy rail.

Crew chief name on right canopy rail.

Assistant crew chief name on inside of nose 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.

F/A-22

ACC INSIGNIA: 18 inches (silhouette - contrasting shade of gray)

Vertical: Top of insignia applied 50.3 inches below top of vertical stabilizer.

Horizontal: Centered on trailing edge aft unit designator letter.

WING INSIGNIA: 18 inches (silhouette - contrasting shade of gray)

Vertical: Centered between chine and bottom of the intake.

Horizontal: Centered between leading edge of right intake lip and right weapons bay.

SQUADRON INSIGNIA: 18 inches (silhouette - contrasting shade of gray)

Vertical: Centered between chine and bottom of the intake.

Horizontal: Centered between leading edge of left intake lip and left weapons bay.

UNIT DESIGNATOR: 24 inches

Unit designator and tail numbers will be applied in a contrasting shade of gray.

Vertical: Bottom of letters applied 96.1 inches below top of vertical stabilizer.

Horizontal: Bottom leading edge of first letter is applied 28.8 inches aft of vertical stabilizer leading edge.

TAIL STRIPE: 6 inches

Any design applied in contrasting shades of gray applied to the upper most elements on both sides of the vertical stabilizers.

PILOT AND CREW CHIEF NAMES: 1.75 inches (contrasting shades of gray)

Pilot: Justified to forward edge of left nose landing gear door.

Crew Chief: Justified to forward edge of right nose landing gear door.

NOSE NUMBER: 4 inches (contrasting shade of gray)

Last three/four digits applied vertically above left and right avionics bay panels (4135 & 4165). The number will begin three inches in front of the forward most portion of the formation light and centered vertically with the formation light.

F-117

COMMAND INSIGNIA: 10 inches (subdued gray)

Vertical: 2 inches below bottom of tail stripe.

Horizontal: Centered on rudder contour break.

ORGANIZATIONAL INSIGNIA: 18 inches (subdued gray)

Left and right side: Located on side of intake panel, 67 1/2 inches behind FS 108 and 13 inches above wing to body line, measured from bottom tip of insignia.

UNIT DESIGNATOR: 12 inches (subdued gray)

Vertical: 3 inches below bottom tip of command insignia.

Horizontal: Centered on rudder contour break.

PILOT AND CREW CHIEF NAMES: (subdued gray):

Pilot: Name centered on left canopy rail (1.75 inch lettering).

Crew Chief: Dedicated crew chief name centered on right canopy rail (1.75 inch lettering).

Assistant Crew Chief: Names justified left on nose gear door (1.75 inch lettering).

NOSE NUMBER: 4 inch

Last three digits on lower portion of nose landing gear strut.

Radio Call Number: 8 inches (Subdued gray).

Vertical: 3 inches below unit designator.

Horizontal: Centered on rudder contour break.

AF: 3.6 inches high, left justified.

Year: 3.6 inches high, left justified below AF.

HH-60

COMMAND COLOR SCHEME: European one paint scheme only

HELICOPTER ROTOR MARKINGS: All helicopter rotor markings will be in accordance with T.O. 1-1-8 and applicable weapons system technical data.

ACC COMMAND INSIGNIA: 10 inches (subdued)

Left side: 11 inches below WL 319.633 centered.

Right side: 7 inches below WL 319.633 centered.

ORGANIZATIONAL INSIGNIA: 10 inches (subdued)

Wing: On right cargo door 8 inches below forward window, centered.

Squadron: On left cargo door, 8 inches below forward window, centered.

UNIT DESIGNATOR: 9 inches

Left side: Positioned 21.5 inches below WL 319.633, centered.

Right side: Positioned 19 inches below WL 319.633, centered.

PILOT/AIRCREW/CREW CHIEF NAMES:

Pilot: Right door, 2.5 inches below window, centered.

Copilot: Left door, 2.5 inches below window, centered.

Crew chief/assistant: Crew chief, right cargo door, 3.1 inches below and centered on forward window.

Assistant: Left cargo door, 3.1 inches below and centered on forward window.

KC-135**COMMAND INSIGNIA:** 24 inches (subdued)

On both sides of tail, command insignia will be located 24 inches below tail stripe and 17 inches in from leading edge of tail.

ORGANIZATIONAL INSIGNIA: 24 inches (subdued)

Left side of forward fuselage: 2 inches above the crew chief block, centered on the crew chief block.

UNIT DESIGNATOR: 36 inches

Left Side: Located 24 inches down from bottom of command insignia. Last letter of designator will end 17 inches in from leading edge of tail.

Right Side: Located 24 inches down from bottom of command insignia. Last letter of designator will end 17 inches in from leading edge of tail.

PILOT AND CREW CHIEF NAMES:

Pilot/aircrew: Centered under the pilots side window

Crew chief/assistant names in 18 inch by 36 inch block, 6-10 inches aft of crew entry door, top of block flush with top of door.

NOSE NUMBERS:

Last three/four digits of tail number, 6 inches in height, On left side, located starting at station 277.0 and at WL 200.0. On right side, located starting on station 203.6 and WL 200.0.

T-38

COMMAND INSIGNIA: 10 inches (full color)

Vertical: Top of insignia 4 inches below anti-collision light.

Horizontal: Centered on line with trailing edge of anti-collision light.

ORGANIZATIONAL INSIGNIA: 10 inches (subdued/CTP, full color AT-38)

Vertical: Centered on 3 o'clock position (left) and 9 o'clock position (right).

Horizontal: Center of insignia 24 inches aft of intake lower opening.

UNIT DESIGNATOR: 12 inches

Vertical: 4 inches below command insignia.

Horizontal: Leading edge of first letter centered on command insignia.

PILOT AND CREW CHIEF NAMES:

Pilot: Name centered on left forward canopy rail.

Crew Chief: Name centered on left aft canopy rail.

Assistant Crew Chief centered on right aft canopy rail.

NOSE NUMBER: 4 inches

Last three/four digits of the tail number horizontally on both sides of nose gear door.

UNIQUE PAINT SCHEME:

Companion Trainer Program T-38 aircraft are authorized a gloss gray paint scheme, federal stock code number 16099.

U-2

COMMAND INSIGNIA: 15 inches (flat red silhouette)

Top of insignia located 14 inches below the bottom of the tail stripe, the trailing edge of the insignia 11 inches in from the leading edge of the rudder.

ORGANIZATIONAL INSIGNIA:

No organizational insignia will be placed on the U-2 aircraft.

UNIT DESIGNATOR: 15 inches (flat red)

Located 14 inches below the command insignia. On the right side of the tail, the unit designator will start 7 inches in from the leading edge of the rudder. On the left side of the tail, the unit designator will end 7 inches from the leading edge of the rudder.

PILOT AND CREW CHIEF NAMES:

Pilot, Crew chief and assistant names centered below the right canopy frame.

NOSE NUMBERS: 6 inches (flat red)

Last three digits centered on main landing gear door in front of the door composite area.

NOTE: National star markings are not applied due to geopolitical reasons per ACC/LGRR. Command insignias and unit designators shall be removed from all U-2 aircraft prior to transfer to Detachment 1.

Predator RQ-1L

ACC COMMAND INSIGNIA: 10 inches (subdued).

Vertical: Top of insignia 6-inches below top-edge of tail plane exterior surface.

Horizontal: Centered between tail plane leading and trailing edges perpendicular to tail plane trailing edge.

ORGANIZATIONAL INSIGNIA: 10 inches (subdued)

Vertical: Bottom edge of insignia 4.5 inches above chine line right side of fwd fuselage.

Horizontal: Centered between leading edge of wing and aft edge of front avionics bay access hatch.

UNIT DESIGNATOR: (WA) 10 inches (flat black)

Centered vertical and horizontal on tail planes outboard surfaces leveled perpendicular to tail plane trailing edge.

SQUADRON INSIGNIA/PATCH: 10 inches (subdued)

Vertical: Bottom edge of insignia 4.5 inches above chine line left side of fwd fuselage.

Horizontal: Centered between leading edge of wing and aft edge of forward avionics bay access hatch.

AIR FORCE CHEVRON: 8 inches (subdued)

Fuselage placement: Located on left and right sides of aft fuselage.

Vertical: 6 inches above chine line.

Horizontal: 54 inches forward of tail plane leading edge.

Wing placement: Located on top of left wing and bottom of right wing.

Placement: Centered on chord line 8 feet from wing tip.

Alignment: Parallel to the main wing spar line.

TAIL STRIPE: 6 inches wide

Located on left and right tail planes, wrapped completely around tail planes.

Vertical: Top edge of stripe 75 inches below top edge of installed tail plane

Alignment: Perpendicular to tail plane trailing edge

CREW NAMES: 1.75-inch block letters (flat black)

PILOT: Located on left side of forward fuselage

Vertical: 1 inch below front avionics bay access hatch

Horizontal: Centered between aft and forward edges of front avionics bay access hatch

Example: PILOT CAPT JOHN SMITH

SENSOR OPERATOR NAME (SO): Located on left side of forward fuselage

Vertical: 3.25 inches below front avionics bay access hatch (0.5 inch below pilot name).

Horizontal: Left edge aligned with left edge of pilot name or centered under pilot name, whichever presents the most professional appearance based on individual name lengths

Example: SO SSGT JANE DOE

DEDICATED CREW CHIEF (DCC): Located on right side of forward fuselage

Vertical: 1 inch below front avionics bay access hatch

Horizontal: Centered between aft and forward edges of front avionics bay access hatch

Example: DCC SSGT JOHN SMITH

ASSISTANT DEDICATED CREW CHIEF (ADCC): Located on right side of forward fuselage

Vertical: 3.25 inches below front avionics bay access hatch (0.5 inch below DCC name)

Horizontal: Left edge aligned with left edge of DCC name or centered under DCC name, whichever presents the most professional appearance based on individual name lengths

Example: ADCC SRA JANE DOE

TAIL NUMBER: 1.6 inch block letters AF over 1.6 inch numbers (year designator) followed by 4 inch numbers (last three numbers in aircraft serial number) (Flat black)

Located on the left and right sides of the aft fuselage

Left side vertical: 2 inches below upper edge of rear avionics bay access hatch

Left side horizontal: 1 inch forward of engine air inlet

Right side vertical: 1 inch above network junction access hatch

Right side horizontal: 4 inches forward of lower engine cowling

Alignment: Parallel to the fuselage chime line

PROPELLER TIP BLADE: 4-inch band around blade tip (flat yellow)

ATTACHMENT 3

COMPOSITE LISTING OF DISTINCTIVE UNIT AIRCRAFT IDENTIFICATION MARKINGS

Table A3.1. Composite Listing of Distinctive Unit Aircraft Identification Markings.

CODE	AIRCRAFT	UNIT/ LOCATION/ COMMAND
AC	F-16C/D	177 FW Atlantic City NJ (ANG)
AF	C-150; T-41; UV-18; TG-3; TG-4; TG-7; TG-9; TG-11	34 TRW USAF Academy CO
AK	F-16C/D; A/OA-10A	354 FW Eielson AFB Alaska (PACAF)
	F-15C/D/E; C-130H; C-12J	3 WG Elmendorf AFB, AK (PACAF)
AL	F-16C/D	187 FW Dannelly Field AL
AN	C-130H; HH-60G; HC-130N	176 WG Kulis ANGB AK (ANG)
AV	F-16C/D	31 FW Aviano AB Italy (USAFE)
AZ	F-16A/B/C/D	162 FW Tucson IAP AZ
BB	U-2S, TU-2S; T-38A	9 RW Beale AFB, CA (ACC)
BC	A-/OA-10A	110 FW W. K. Kellogg Airport MI (ANG)
BD	A-/OA-10A, B-52H	917 WG Barksdale AFB, LA (AFRES)
CA	HH-60G; HC-130P	129 RQW Moffett Federal Airfield CA (ANG)
CB	T-37B; T-38A; T-1A	14 FTW Columbus AFB MS (AETC)
CC	F-16C/D	27 FW Cannon AFB NM (ACC)
CI	C-130E	146 AW Channel Islands ANGB CA (ANG)

CO	F-16C/D	140 FW Buckley ANGB CO (ANG)
CT	A-/OA-10A	103 FW Bradley IAP CT (ANG)
DC	F-16C/D	113 WG Andrews AFB MD (ANG)
DE	C-130H	166 AW New Castle County Airport, DE (ANG)
DM	A-/OA-10A; EC-130E/H	355 WG Davis-Monthan AFB AZ (ACC)
DR	HH-60G	305 RQS Davis-Monthan AFB AZ (AFRES)
DY	B-1B	7 BW Dyess AFB TX (ACC)
ED	Various	412 TW Edwards AFB CA (AFMC)
EF	F-16C/D	147 FW Ellington Field, TX (ANG)
EG	F-15C/D	33 FW Eglin AFB FL (ACC)
EL	B-1B	28 BW Ellsworth AFB SD (ACC)
EN	T-37B; T-38A; AT-38B	80 FTW Sheppard AFB TX (AETC)
ET	F-15A/B/C/D/E; 16A/B/C/D; A-10A; UH-1N	F-46 TW Eglin AFB FL (AFMC)
FC	UH-1N	336 TG Fairchild AFB WA (AETC)
FE	UH-1N	90 SPW F.E. Warren AFB WY (AFSPC)
FF	F-15C/D; F/A-22	1 FW Langley AFB VA (ACC)
FL	HC-130P/N; HH-60G; C-130E	920 RQG Patrick AFB FL (AFRES)
FM	F-16C/D	482 FW Homestead ARS FL (AFRES)

FS	F-16C/D	188 FW Fort Smith MAP AR (ANG)
FT	A/OA-10	23 FG Pope AFB NC (ACC)
FW	F-16C/D	122 FW Fort Wayne IAP IN (ANG)
GA	B-1B	116 BW Robins AFB GA (ANG)
HA	F-16C/D	185 FW Sioux Gateway Airport IA (ANG)
HD	QF-4	53 WEG Holloman AFB NM
HH	C-130H, F-15A/B, KC-135R	154 WG Hickam AFB HI (ANG)
HI	F-16C/D	419 FW Hill AFB UT (AFRES)
HL	F-16C/D	388 FW Hill AFB UT (ACC)
HO	F-117A; T-38A;	49 FW Holloman AFB NM (ACC);
	F-4E	Luftwaffe RTU, Holloman AFB NM
HT	AT-38B; C-12J; F-15	46 TG Holloman AFB NM (AFMC)
HV	UH-1N	30 SPW Vandenberg AFB CA (AFSPC)
ID	A-/OA-10A; C-130E	124 WG Boise ID (ANG)
IL	C-130E	182 AW Greater Peoria Airport IL (ANG)
IS	HH-60G	85 GP NAS Keflavik Iceland (ACC)
JZ	F-15A/B	159 FW NAS JRB New Orleans LA (ANG)
KC	A/OA-10A	442 FW Whiteman AFB MO (AFRES)
LA	B-52H	2 BW Barksdale AFB LA (ACC)

LD	Various	IAAFA, Lackland AFB TX (AETC)
LI	HC-130P/N; HH-60G	106 RQW F.S. Gabreski Airport NY (ANG)
LN	F-15C/D/E	48 FW RAF Lakenheath UK (USAFE)
LR	F-16C/D	944 FW Luke AFB AZ (AFRES)
MA	A-/OA-10A	104 FW Barnes MAP MA (ANG)
	F-15A/B	102 FW, Otis ANGB MA (ANG)
MD	A-/OA-10A	175 WG Baltimore MD (ANG)
MI	F-16A/B, C-130E	127 WG Selfridge ANGB MI (ANG)
MK	C-130H	440 AW General Mitchell IAP/ARS WI (AFRES)
MM	UH-1N	341 SPW Malmstrom AFB MT (AFSPC)
MN	C-130H F-16A/B	133 AW Minneapolis-St. Paul IAP/ARS MN (ANG) 148 FW Duluth IAP MN (ANG)
MO	KC-135R; F-15C/D/E; F-16C/D; B-1B	366 WG Mountain Home AFB ID (ACC)
MT	B-52H UH-1N	5 BW Minot AFB ND (ACC); 91 SPW Minot AFB ND (AFSPC)
MY	F-16C/D, C-130E; HC-130P; HH-60G	347 WG Moody AFB GA (ACC);
	AT-38B, T-6A	479 FTG Moody AFB GA (AETC)
NC	C-130H	145 AG Charlotte IAP NC (ANG)

NM	F-16C/D	150 FW Kirtland AFB NM (ANG)
NO	A-/OA-10A	926 FW NAS JRB New Orleans LA (AFRES)
NV	C-130E	152 AW Reno NV (ANG)
NY	F-16C/D	174 FW Syracuse Hancock IAP NY (ANG)
OF	RC-/TC-/OC-/WC-/EC-135	55 WG Offutt AFB NE (ACC)
OH	F-16C/D	178 FW Springfield-Beckley MAP, OH (ANG);
	F-16C/D	180 FW Toledo Express Airport OH (ANG)
	C-130H	179 AG Mansfield Lahm Airport OH (ANG)
OK	E-3B/C; TC-18E	552 ACW Tinker AFB OK (ACC);
	F-16C/D	138 FW Tulsa OK (ANG)
	C-130H	137 AW Will Rogers World Airport OK (ANG)
OS	A/OA-10A, F-16C/D, C-12	51FW Osan AB South Korea (PACAF)
OT	F-15C/D/E, F-16C/D	53 WG - 85 TES Eglin AFB FL (ACC)
	A-10A, F-15C/D/E, F-16C/D, HH-60G, F/A-22	53 WG - 422 TES Nellis AFB NV (ACC)
	F-117	Det 1, 53 WEG Holloman AFB NM (ACC)
PA	A-/OA-10A	111 FW Willow Grove ARS PA (AFRES)
PD	HC-130P, HH-60G, C-130E	939 RQW Portland IAP OR (AFRES)
PR	C-130E	156 AW Puerto Rico IAP Puerto Rico (ANG)

RA	T-1A, T-6A, T-37B, T-38A, AT-38B, T-43A	12 FTW Randolph AFB TX (AETC)
RI	C-130E	143 AW Quonset State Airport RI (ANG)
RS	C-130E	86 AW Ramstein AB Germany (USAFE)
SA	F-16C/D	149 FW Kelly AFB TX (ANG)
SC	F-16C/D	169 FW McEntire ANGB SC (ANG)
SD	F-16C/D	114 FW Joe Foss Field SD (ANG)
SI	F-16C/D	183 FW Capital MAP IL (ANG)
SJ	F-15E	4 FW Seymour Johnson AFB NC (ACC)
SL	F-15A/B	131 FW Lambert-St Louis IAP MO (ANG)
SP	A-/OA-10A, F-16C/D	52 FW Spangdahlem AB Germany (USAFE)
ST	Various	82 TW Sheppard AFB TX (AETC)
SW	F-16C/D	20 FW Shaw AFB SC (ACC)
TD	QF-4	53 WEG Tyndall AFB FL
TH	F-16C/D	181 FW Hulman Regional Airport IN (ANG)
TX	F-16C	301 FW NAS Fort Worth JRB Carswell Field TX
TY	F-15C/D; F/A-22	325 FW Tyndall AFB FL (AETC)
VA	F-16C/D	192 FW Richmond IAP VA (ANG)
VN	T-37B, T-38A, T-1A	71 FTW Vance AFB OK (AETC)

WA	A-10A, F-15C/D/E, F-16C/D, HH-60G, RQ-1L	57 WG Nellis AFB NV (ACC)
WE	E-9A	53 WEG Tyndall AFB FL (ACC)
WG	C-130E	913 AW Willow Grove ARS PA (AFRES)
WI	F-16C/D	115 FW Truax Field WI (ANG)
WM	B-2A, T-38A	509 BW Whiteman AFB MO (ACC)
WP	F-16C/D	8 FW Kunsan AB South Korea (PACAF)
WR	E-8C, TE-8A	93 ACW Robins AFB GA (ACC)
WV	C-130H	167 AW Eastern West Virginia Regional Airport/Shepherd Field WV (ANG)
WW	F-16C/D	35 FW Misawa AB Japan (PACAF)
WY	C-130H	153 AW Cheyenne MAP WY (ANG)
XL	T-37B, T-1A, T-38A	47 FTW Laughlin AFB TX (AETC)
XP	C-130H	139 AW Rosecrans Memorial Airport MO (ANG)
YJ	C-21A, C-130E/H, UH-1N	374 AW Yokota AB Japan (PACAF)
ZZ	F-15C/D, E-3B, KC-135R, HH-60G	18 WG Kadena AB Japan (PACAF)

Attachment 4**F-22 OUTER MOLD LINE AUDIT**

A4.1. (ADDED) Aircraft Structural Maintenance (ASM) personnel will perform an F-22 Signature Assessment System (SAS) and aircraft Outer Mold Line (OML) audit to correlate aircraft damage markings with defects in the SAS. A minimum of one audit per aircraft will be completed each year by a Low Observable (LO) Section Supervisor proficient in OML inspection. Scheduling aircraft for this audit will be accomplished during the monthly/weekly shared resource scheduling meeting. All errors found during the audit must be accurately reflected in Integrated Maintenance Information System (IMIS)/SAS and briefed to all LO section personnel. Units must establish a local SAS management policy that outlines the frequency of audits/QA evaluations necessary to ensure SAS data is accurate. Note: There is an unacceptable risk to aircraft radar cross section/aircraft survivability from substandard maintenance and/or inaccurate signature assessment system data inputs. A variety of aircraft structural maintenance proficiency levels are performing LO maintenance and we must verify that all work is completed IAW technical order data and documented properly in SAS.

A4.2. (ADDED) The following equipment is required to perform SAS margin audit:

- A4.2.1. (ADDED) Militope or Portable Maintenance Aid (PMA)
- A4.2.2. (ADDED) Sharpie
- A4.2.3. (ADDED) Pen or pencil
- A4.2.4. (ADDED) Fuselage station butline chart
- A4.2.5. (ADDED) Roll of tape (blue 3M 2090)
- A4.2.6. (ADDED) Booties

A4.3. (ADDED) Steps to perform aircraft SAS margin audits:

- A4.3.1. (ADDED) Annotate aircraft margin for reference
- A4.3.2. (ADDED) Access priority screen
- A4.3.3. (ADDED) Highlight or circle all Logistics Control Numbers (LCNs) that are detailed in the priority screen on the LCN chart. Stand-alone LCNs are also annotated. Ensure seam filler LCNs are also annotated.
- A4.3.4. (ADDED) Access historical screen and compare each damage input of every highlighted/circled LCN with what is on the aircraft. If any differences in size, pay particular attention to existing damage for extended growth, if fuselage station or butt-line station are found, use the edit feature to correct and annotate action in supplemental data. Mark damage with a piece of blue 3M 2090 tape. This will make the following OML inspection easier.
- A4.3.5. (ADDED) If damage is not found on aircraft but reside in the historical, annotate for removal later. This scenario can be common due to previous facilitate other maintenance or repair actions.
- A4.3.6. (ADDED) Remove the LCNs that do not have associated damage on the aircraft by a brush/roll repair.

A4.3.7. **(ADDED)** Annotate any damage found and also any marked damage that does not have the blue 3M 2090 tape on them. Sometimes damage is marked but does not get input into SAS. Input any new damage and any non-inputted damage found.