BY ORDER OF THE COMMANDER
RAMSTEIN AIR BASE (USAFE)

RAMSTEIN AIR BASE INSTRUCTION
21-101

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Maintenance

AIRCRAFT AND EQUIPMENT
MAINTENANCE MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air Space Maintenance*. It establishes procedures and provides policy to implement the Foreign Object Damage (FOD) and Dropped Object Prevention (DOP) Programs, establishes the local call signs for maintenance Land Mobile Radio (LMR) networks, establishes policies and procedures governing aircraft maintenance practices at the group level, establishes procedures and responsibilities for Functional Check Flights (FCFs), Operational Check Flights (OCFs), and High-Speed Taxi Checks on all assigned aircraft, establishes procedures for the control and management of tools/equipment used on the flight line and in aircraft/aerospace equipment maintenance industrial areas for Ramstein Air Base (AB), 496th Air Base Squadron(ABS), Moron AB, and 424th ABS, Chievres AB. It will be utilized in conjunction with Air Force Instruction (AFI) 21-101, *Aircraft and Equipment Maintenance Management* and its supplements. This instruction applies to all United States Air Forces in Europe-United States Air Forces Africa squadrons, units, detachments, temporary duty organizations, support squadrons, contractors and personnel who maintain aircraft, associated equipment, or have access to the flightline or maintenance areas assigned to Ramstein Air Base. Tenant units should comply with this instruction to the maximum extent possible. This Publication applies to all members of the USAF, USSF, Air Force Reserve, ANG, or the Civil Air Patrol if the conditions of the preceding statement are met. When this instruction conflicts with direction from a tenant unit's chain of command, tenant units will follow guidance from their HHQ, Wing, or Group. ***Note:*** Contract Field Teams (CFT) under contractual obligations will comply with this instruction. If conflicts exist between the contract technical order of specification and this instruction, the provisions of the contract technical order of specification will prevail. Supplements

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SUMMARY OF CHANGES

This document has been substantially edited and needs to be completely reviewed.

Chapter 1

MANAGEMENT PHILOSOPHY AND POLICY

1.1. Duty Shifts and Rest Periods.

1.2. The duty day begins when personnel report for duty, includes time spent in deployment processing lines, in-transit, training, and administrative duties and ends when they are released by their supervisors. Duty days should include 1 hour a day for meal breaks and 4.5 hours distributed evenly across 3 duty days for physical fitness training (PT). Senior Non-Commissioned Officer (SNCOs) may revoke PT time for mission needs but must inform the Squadron Commander (Sq/CC) of such decisions.

1.2.1. All Units will ensure that at least one officer or SNCO is on duty, across all on-duty shifts.

1.3. Special duty day requirements may arise, most commonly for Maintenance Recovery Teams (MRTs) and Flying Crew Chiefs (FCCs). MRT leads may approve duty day extensions to 12 hours but must request extensions beyond 12 hours from the aircraft commander (AC) or Maintenance Group Commander (MXG/CC). FCCs will comply with instructions in DAFI 21-101, section 11.20. It is worth restating that "Maximum shifts under normal conditions are 12 hours. The AC is the decision authority for extended shifts; extensions should only be approved for exceptional circumstances. FCCs will not be required to work longer than 16 hours in any 24-hour period."

1.4. Communications.

1.4.1. Cell phones and other personal electronic devices (e.g., tablets, pagers, etc.) possessed on the flight line or in maintenance work areas will only be used for official/authorized business. Cell phones will not be used while actively performing maintenance. This restriction does not apply to personnel performing maintenance management duties (e.g., Pro Super, Expediter, etc.), or official duties while TDY.

1.5. Technical Assistance Request (TAR)/Maintenance Assistance Request (MAR) submission:

1.5.1. The work center responsible for the repair of the discrepancy will draft the TAR/MAR, routing it to their respective production section and squadron maintenance supervision for approval and forwarding to Quality Assurance (QA). QA will review the draft TAR/MAR and submit it into AIRCAT. Any TAR/MAR with incorrect or incomplete data will be returned to the originating production section for corrections.

1.5.2. TAR/MAR submitted and dispositioned in AIRCAT will be distributed to the following individuals/organizations:

1.5.2.1. 86 MXG CC/Deputy Commander (CD)/CCC

1.5.2.2. 86 MXG/QA Inspectors Box

1.5.2.3. 86 MXG/Air Force Engineering and Technical Service (AFETS)

1.5.2.4. 86 MXG/Maintenance Operations (MXO), 86 MXG/Maintenance Operation Plans & Scheduling (MXOS), 86 MXG/Maintenance Operation Center (MXOC)

1.5.2.5. 86 Aircraft Maintenance Squadron (AMXS)/CC, 86 AMXS/Section NCOIC (MXA), 86 AMXS/Section Chief (MXAA), 86 AMXS/Lead Production Superintendent (MXAAP)

1.5.2.6. 86 MXS/CC, 86 MXS/Production Superintendent (Pro Super), 86 MXS/Production Superintendent (MXM)

1.5.2.7. All approved aircraft specific, or fleet wide TARs that require periodic inspection or maintenance, awaiting Depot work or parts, or limit aircraft performance will be included in the front of the 781A. If there are new/reoccurring inspection criteria required, coordinate with Plans, Scheduling and Documentation (PS&D) to have inspection job input into the Maintenance Information System (MIS) and annotated in the 781 series aircraft forms. The discrepancy must contain the TAR/MAR control number and the original discrepancy Job Control Number (JCN) that drove the TAR/MAR. When the TAR/MAR maintenance is no longer required, the work center completing the maintenance will remove the TAR/MAR from the 781 series forms binder, and clear all jobs from MIS and aircraft forms. Once TAR/MAR is completed and no longer required per TAR/MAR, contact PS&D to have item removed from the MIS.

1.6. Foreign Object Damage (FOD).

1.6.1. Program Objective. All personnel will exercise FOD prevention procedures in the vicinity area of and on the flightline at all times in order to prevent damage to aircraft, personnel and equipment. Commanders and supervisors, at all levels, are responsible for implementing procedures of the instruction as they pertain to their assigned duties.

1.6.2. Foreign Object Damage. Foreign object damage is defined as any damage to an aircraft engine, aircraft system, equipment or tire caused by an external foreign object(s), which may or may not degrade the required safety and/or operational characteristics of the engine, aircraft system, or tire. Common causes of FOD are poor housekeeping, improper maintenance practices and aircraft taxiway/ramp deterioration. Continual training, awareness, and discipline are all important elements of an effective FOD/DOP Program. The overall program objective is “ZERO FOD and Dropped Object (DO)” mishaps.

Chapter 2

GENERAL RESPONSIBILITIES FOR COMMANDERS AND KEY LEADERS

2.1. Flight Commander/Flight Chief or Aircraft Maintenance Unit (AMU) OIC/Chief.

2.1.1. Ensure Air Force Technical Order (AFTO) Form 244 supervisory reviews are completed every 180 days. The AFTO Form 244 will be reviewed for completeness and currency with data entered into G081, TCMax, or applicable MIS to ensure all information is current and matches in accordance with (IAW) Technical Order (T.O.) 00-20-1 **para 7.6.4**.

2.1.2. Provide highly qualified maintenance technicians to serve as maintenance instructors assigned to the 86 MXG Maintenance Training Section (MTS), 3 months prior to the outgoing instructor's DEROS or PCA for turnover. In addition to the MTS Chief interview, all instructor candidates will also be interviewed by the MXO OIC prior to being hired.

Chapter 3

AIRCRAFT MAINTENANCE SQUADRON (AMXS)

3.1. Aircraft Section Dedicated Crew Chief (DCC) Program.

3.1.1. 86 AMXS will manage a DCC program. The main objective for this program is to instill pride in ownership. The program will directly assign maintenance personnel to each aircraft to provide continuity/accuracy of aircraft forms, scheduled maintenance, and improve aircraft appearance.

3.1.1.1. Any individual assigned to the 86 AMXS, Aircraft or Specialist section, can be assigned as a DCC/Assistant Dedicated Crew Chief (ADCC). ADCCs, when possible, will be directly supervised by their assigned DCC. Selected DCC/ADCCs will be appointed in writing by the 86 AMXS/CC.

3.1.1.1.1. DCC/ADCCs may personalize items on their assigned aircraft (I.E. navigators table, doors, panels or install flags). Personalization must be professional and non-offensive. DCC's must receive approval from AMU OIC/Superintendent before personalizing any aircraft or equipment.

3.1.1.2. DCC's Names shall be stenciled in 2 and a ½ lettering IAW USAFEAFRICA21-105 table 2.4.

3.1.2. DCC Program Manager

3.1.2.1. DCC Program Managers are appointed by the 86 AMXS/CC to oversee the DCC program and are the focal point for any DCC/ADCC maintenance related issues.

3.1.2.2. DCC Program Manager Responsibilities include:

3.1.2.3. Evaluate and manage assigned and prospective DCC/ADCCs.

3.1.2.4. Mentor assigned DCC/ADCCs to improve overall fleet health and appearance.

3.1.2.5. DCC/ADCC Responsibilities:

3.2. Aircraft Acceptance.

3.2.1. Accomplish an acceptance inspection within 5 duty days of on-station arrival anytime an aircraft is returned from Programmed Depot Maintenance (PDM), or upon arrival of new aircraft. Acceptance inspections will consist of Combined Preflight/Postflight (BPO/PR) inspection and checklists. The checklists are located on the QA SharePoint: **https://usaf.dps.mil/:f:/r/sites/86_MXG/Shared%20Documents/MXQ?csf=1&web=1&e=2qVHWM**

3.2.1.1. Submit deficiencies discovered during arrival inspections into the Joint Deficiency Reporting System (JDRS) computer program within 30 days.

3.2.1.2. Accomplish an Aircraft Document Review (ADR) in conjunction with an acceptance inspection.

3.2.1.3. Coordinate the upload/installation of all equipment (to include -21, Electronic Counter Measures (ECM) and Integrated Avionics) removed prior to PDM input. Complete -21 inventory using AF Form 4076, Aircraft -21 Inventory Sheet.

3.3. Support Section.

3.3.1. -21 Support Function Responsibilities:

3.3.1.1. AF Form 4076 Aircraft -21 Equipment Inventory will be used to document the inventory of -21 equipment and other assigned equipment installed on aircraft assigned or possessed by AMXS.

3.3.1.2. Schedule and perform aircraft inventories IAW AF Form 4076 every 30 calendar days.

3.3.1.3. AMXS/Aircraft Support Flight (MXAS) -21 will ensure maintenance, control, and storage of assigned -21 equipment IAW DAFI 21-101 para. 3.11.3.

3.3.1.4. All -21 equipment and any other assigned equipment removed or installed on aircraft will be documented on AF Form 4076 for accountability.

3.3.1.5. The -21 support function is not responsible for on-equipment maintenance.

3.3.1.6. If required items are installed/removed that may affect Weight and Balance(W&B), see **paragraph 6.3.2.4** of this instruction.

Chapter 4

MAINTENANCE SQUADRON (MXS)

4.1. Aerospace Ground Equipment (AGE) Flight.

4.1.1. The user is responsible for draining Hazardous Material (HAZMAT) from Hydromites, oil carts, and fuel bowsers before returning to AGE.

4.1.2. The user is responsible for towing LOX Carts, Hydromites and Fuel bowsers.

4.2. Fabrication Flight.

4.2.1. Fabrication Flight CC/Chief Responsibilities.

4.2.1.1. Ensure that personnel from the Structural Maintenance and Metals Technology Sections input all repairs to any primary 11XXX or 13XXX coded assembly or component into the Inspection, Corrosion and Repair Reporting (ICARR) program.

4.2.1.2. Ensure Non-Destructive Inspection (NDI) section accomplishes all required Aircraft Structural Integrity Program (ASIP) inspections and document both negative and positive findings in the ICARR segment of the AIRCAT database one example being lower wing spar inspections.

Chapter 5

MAINTENANCE OPERATIONS

5.1. Maintenance Operations (MO).

5.1.1. MOC responsibilities:

5.1.1.1. Make applicable updates in G081 when notified of an aircraft status change at a non-G081 capable location.

5.1.1.2. Report Mission Design Series (MDS), tail number, status (FMC/PMC/NMC), Estimated Time In Commission (ETIC) if applicable, and conditions limiting aircraft operations (for PMC/NMC only) for on-station and off-station aircraft to 603 AMD.

5.1.1.3. Inform Command Post of C2 data, (e.g., aircraft status, ETIC, servicing data, parking location) and discrepancies that affect the status of the aircraft when G081 cannot be updated in a timely manner, or if G081 is unavailable. Once G081 becomes available, the MOC will check G081 to ensure it was updated through the GDSS/G081 broker interface.

5.1.1.4. Maintenance Operation Center (MOC) will follow noise abatement and engine run procedures IAW RABI 13-204, Airfield Operations.

5.1.1.5. The MOC will monitor all activity associated with ramp and parking area construction.

5.1.1.6. The MOC will input and review MIS data to coordinate use of maintenance resources, track all maintenance and services on possessed/transient C-130 aircraft and related support equipment, and track accomplishment of scheduled and unscheduled maintenance.

5.1.1.7. Enter aircraft arrival and departure data to include transient C-130 aircraft on Air Mobility Command (AMC) missions.

5.1.1.8. Open and close work orders (not including taking time) for shops unable to utilize G081 due to flightline ops tempo or off station MIS access limitations. Exception: When an aircraft is undergoing a scheduled inspection or fuel cell repair, the appropriate agency will handle all work orders in the MIS.

5.1.2. The MOC Non-Commissioned Officer In Charge (NCOIC)/SUPT will:

5.1.2.1. Appoint a MOC controller as (Personal Wireless Communications System Management) PWCS custodian. Custodians will be accountable for lost or damaged radios. This individual will also serve as the Point of Contact (POC) for 86 CS/SCOT office, which can be contacted at 480-5137. Operational Security (OPSEC) procedures outlined in AFI 10-701, and Communications Security (COMSEC) outlined in AFI 33-201v1 will be observed at all times.

5.1.3. Maintenance Management Analysis (MMA) Section

5.1.3.1. G081 managers will conduct quarterly reviews at all levels. If a user has been deleted from the system, the DD Form 2875 will be marked with the date and will be moved to the archived folder.

5.1.3.2. Personnel who require access to specialized screens (i.e. 9006, 9010, 9119) must have a signed appointment letter. If you require access to training screens, your letter must be signed by the Training Section Chief. Access keys will be given to individuals named on an appointment letter containing access requested, individual's name, rank, G081 work center mnemonic, office

symbol, and duty phone. If there are any changes, a new letter must be accomplished. All appointment letters will be maintained by 86 MXG/MXOA.

5.1.3.3. Individuals who do not use the system for a 30-day period will have their access suspended by the system. The system will automatically delete user IDs that have not accessed the system for 45 days. If a user is deleted from the system and the DD Form 2875 on file is older than 1 year, a new form will be accomplished.

5.1.3.4. During non-duty hours, G081 problems may be reported to the MMA office via 86 MXG/MXOA e-mail address. For after duty hours help with critical G081 problems, the G081 Functional Assistance Office (FAO) can be contacted at DSN: 312-339-5600.

5.1.3.5. MMA is the focal point for Data Integrity Team (DIT). DIT will consist of one primary and one alternate monitor from each documenting work center in the 86 AMXS and 86 MXS. An appointment letter for DIT monitors will follow the master letter from Analysis and will be kept on file in the MMA office.

5.1.3.6. DIT meetings will be held quarterly and led by MMA. At a minimum one DIT member from each section will be in attendance.

5.1.3.7. **(MXG only)** Shift supervisor and user will use screen 9154 to perform daily supervisory review of all documented MDC, identify errors in documentation, correct errors once they have been identified, and unflag identified errors using the ‘supervisor' option. MDC for the current day, plus three days back, will be available for review by supervisors. DIT monitor will use screen 9153 to perform reviews of all documented Maintenance Data Collection (MDC) within a specified time range, identify errors in reviewed documentation, correct errors once they have been identified and unflag identified errors. MDC will be available for review no sooner than 5 days back from the current day to allow time for shop supervisors to perform their reviews on screen 9154. DIT members will be able to review a full 7 days back from that date.

5.1.4. PS&D Responsibilities.

5.1.4.1. PS&D will:

5.1.4.1.1. Ensure all aircraft and installed components requiring historical records according to the applicable 1C-130J-6, **Chapter 4**, **para 4.1**, and TO 00-20-1, Chapter 9, have an automated history record established in G081.

5.1.4.2. AMXS/AMU Dedicated Scheduler will:

5.1.4.2.1. Ensure letter Check inspections are published in the weekly schedule.

5.1.4.3. Data Documentation.

5.1.4.3.1. At a minimum, the AMU will deliver forms to PS&D weekly (No Later Than (NLT) Friday). Forms delivered by the AMU will be reviewed and filed NLT 1 duty day after delivery. Once delivered, the forms will be reviewed and filed NLT two duty days after delivery. Missing Letters will be sent out NLT one duty day after discovery.

5.1.4.3.2. Check dates listed on forms for accuracy. All forms should begin and end with an overlapping date. If a set of forms begins 1 Jan and ends on 10 Jan, the next set of forms should begin on 10 Jan. Ensure pages are numbered correctly. If pages are numbered incorrectly, inform AMU personnel, and return forms for correction.

5.1.4.3.3. The missing forms letter will be endorsed by the Airframe, Powerplant General (APG) and Specialist Section chiefs, and AMU Maintenance Supervision in place of the forms not received. If the missing forms letter has not been endorsed by the Section Chiefs and AMU Maintenance Supervision within 5 duty days, PS&D will annotate and file the missing forms letter accordingly with a Memorandum for Record (MFR) stating reason it was not signed.

5.1.4.3.4. Inspect aircraft jacket files annually (to include decentralized records) IAW DAFI 21-101 para 14.2, using the locally developed checklist (Master Part Number/Serial Number Verification Workbook).

5.1.4.3.5. PS&D will inspect all agencies annually who maintain decentralized records to include Fuel Cell, NDI, Engine Management (EM), and QA. Records will be checked for accuracy and validity. The owning agency maintaining decentralized records will be responsible for inspecting, documenting, and filing records as required. Document decentralized inspection on an AF Form 2411. PS&D will accomplish the following:

5.1.4.3.6. Ensure a file has been established for each assigned aircraft. Each work center will develop a format or filing system (i.e., jacket files, binders, etc.) for maintaining records. All files need to be standardized within each individual work center.

5.1.4.3.7. Verify engine and component reviews have been performed and documented in the automated history and on the AF Form 2411.

5.1.4.3.8. For inspection of fuel cell records, review fuel tank AFTO Forms 95. Fuel cell records will be maintained on hard copy Forms 95 due to G081 system limits. All applicable fuel cell SIs are documented with type inspection, completion date, inspector name, and employee number.

5.1.4.3.9. Inspect NDI records to ensure there is a file for each assigned aircraft. Verify film is maintained for aircraft that have had an x-ray accomplished.

5.1.4.3.10. Weight and Balance (W&B) records will be maintained in the QA office. Ensure each W&B folder contains a chart A, chart C, and a form B. Review the chart C for current W&B date or current recertification date.

5.1.4.3.11. A new G081 AHE 95 text file will be ran annually and filed in the Aircraft Jacket File review. Ensure a copy of the historical documents is printed or saved on CD/DVD and sent with the aircraft or components when transferred.

5.1.4.3.12. Back up the jacket file to the 86 MXG Share Drive (during Annual review).

5.1.4.4. PS&D will run the ADR in Global Reach: **https://amclg.csd.disa.mil/fex.aspx?fex=/ibi_apps/WFServlet?IBIF_ex=acft_doc_rev_selector**

5.1.4.4.1. G081 products 8005, 8027, 8035, 67081 via 9058 (or 8110), and 9188 will form the basis of the automated system ADR package when Global Reach is not available and will be printed by PS&D.

5.1.4.4.2. Highlight the items that are missing so the crew chief can make required corrections. After the crew chief has completed the required actions in G081, attach a corrected copy of the 67081 or online screen 8110 to the Document Review package.

5.1.4.4.3. Review checklist to verify the crew chief has completed the required steps.

5.1.4.4.4. Notify EM when ADRs are in-work.

5.1.4.4.5. Ensure all open JCNs in the aircraft forms reflect in G081.

5.1.4.4.6. Validate document numbers listed on the 781A and 781K.

5.1.4.4.7. Replace the old package with the current one and file the checklist in jacket file upon completion.

5.1.4.4.8. AMU APG Section Chief and Pro Super:

5.1.4.4.8.1. Ensure forms have been reviewed prior to PS&D.

5.1.4.4.8.2. Review all delayed discrepancies to ensure discrepancies are being worked or have backorder status.

5.1.4.4.8.3. Check for completeness, accuracy, and serviceability of the aircraft forms.

5.1.4.5. PS&D will schedule Pre-Dock meetings one day prior to start of the inspection. Pre-dock packages should be prepared and forwarded to the dock chief NLT 1 day prior to the first day of the inspection. PS&D will annotate the 2410. EM will forward a configuration serial verification sheet to PS&D to be given to the Inspection Dock Chief during the Pre-Dock.

5.1.4.5.1. EM validates all engine inspections and time change requirements. EM will review and list all known engine Time Compliance Technical Orders (TCTOs), Time Compliance Inspections (TCI), Special Inspections (SI) and other major requirements to be accomplished during the inspection and forward them to PS&D to annotate on the 2410. EM will forward a configuration serial verification sheet to PS&D to be given to the Dock Boss during the Pre-Dock.

5.1.4.5.2. PS&D will schedule applicable workable TCTOs if parts/kits are available.

5.1.4.5.3. PS&D will ensure the serial number verification sheet is given to the Inspection Dock Chief during the pre-dock meeting. The completed S/N verification sheet will be returned to PS&D after QA has verified (and stamped) all information is correct. If S/N is not available/unreadable, document on sheet. There will be no post dock until the S/N verification sheet is complete and correct. When completed sign, date, and file in aircraft jacket file.

5.1.4.5.4. PS&D will keep a copy of the 67081 or online screen 8110 with the inspection package.

5.1.4.6. Hold post-dock meetings NLT 1 duty day after completion of scheduled inspection.

5.1.4.6.1. EM will validate completion of all engines, propeller, and component TCTOs, TCIs, and SIs.

5.1.4.6.2. After validation of the work package, attendees will sign the AF Form 2410. All applicable products, including the document review, are filed in the aircraft jacket file, to include the completed AF Form 2410 with signatures.

5.1.4.7. MIS (G081/IMDS) extended downtime (more than 48 hours).

5.1.4.7.1. The manual JCN listing is broken down in **Attachment 4**.

5.1.4.7.2. In the event G081 becomes unavailable, manual documentation will take place. Aircraft forms and manual updates to printed products will be used in place of G081 to verify Maintenance Scheduling Effectiveness (MSE). Note: Manual updates to printed products will be required in the event the G081 is unavailable for an extended period.

5.1.4.7.3. Use Global Reach to download the Dash-6 into an excel product on a weekly basis for review. Once sorted, save a copy to the PS&D SharePoint site. Use this product if G081 is down for extended downtime.

5.1.4.7.4. In the event the G081 becomes unavailable, annotate compliance of SIs or TCIs in ink. For SIs, document date completed and new due date. For TCIs, document DOI/DOM (if applicable), date completed, new due date, and new part/serial number using the latest Dash 6.

5.1.4.7.5. Update TCTO products at least once a month to monitor completion. G081 screen 8023 will be printed and placed in each TCTO folder. As changes occur while G081 is unavailable, update current copy manually in ink. Annotate compliance date or status change date and correct status code.

5.1.4.7.6. Use the latest printed product to track due SIs, TCIs, and TCTOs.

5.1.4.7.7. Transcribe all manual updates made to SI, TCI, and TCTO products to ensure accurate data is reflected in the G081 system when the G081 becomes available.

5.1.4.8. Aerospace Vehicle and Equipment Mishap Response Procedures:

5.1.4.8.1. Immediately secure the aircraft jacket file upon notification by the impoundment official or QA representative.

5.1.4.8.2. Contact NDI, EM, QA, Fuel Cell and Debrief (if applicable) for decentralized records and annotate names of the persons contacted on the PS&D Impoundment Checklist. Ensure they are informed that records need to be properly secured and marked.

5.1.4.8.3. Comply with any additional records management actions as directed by the impoundment officials (i.e., seizing decentralized records).

5.1.4.9. Configuration, TCTO, SI and TCI Management.

5.1.4.9.1. As need arises (such as Dash-6 changes), request the HQ AMC C-130J Aircraft System Manager make updates.

5.1.4.9.2. Validate required configuration items using G081 batch product 67081 or online screen 8110.

5.1.4.10. Crew Chiefs/Maintenance work centers will:

5.1.4.10.1. Contact PS&D ASAP when configuration management assistance is required.

5.1.4.10.2. Review screen 8110 with PS&D and identify applicable out-of-configuration conditions during Letter Check inspections, ADRs, and transfer/acceptance of aircraft.

5.1.4.10.3. Ensure entries are made in aircraft forms reflecting the out-of-configuration conditions.

5.1.4.10.4. Ensure the responsible work center verifies and corrects out-of-configuration conditions during Letter Check inspections, ADR, and transfer/acceptance of aircraft.

5.1.4.10.5. Ensure the corrected serial number verification sheet is stamped by QA and then given to PS&D prior to the post dock.

5.1.4.11. Load all equipment to the TCTO in G081 with the proper status code.

5.1.4.11.1. Assign a job control number to all workable TCTOs.

5.1.4.11.2. Conduct meeting for Immediate, Urgent, and Safety TCTOs within 24 hours of the date received. For ROUTINE action TCTOs, conduct meeting within 72 hours of receipt. Meetings are conducted in a timely manner to maximize use of prescribed expiration periods.

5.1.4.11.3. Produce a TCTO matrix/chart status slide to be shown once a week during the afternoon Production meeting.

5.1.4.11.4. Request extensions for TCTOs that cannot be completed prior to the grounding date. Follow procedures outlined in T.O. 00-5-15. Review TCTO for contact information.

5.1.4.11.5. Upon completion of a TCTO, print a G081 report and move TCTO folder to an inactive file.

5.1.4.11.6. An extension waiver is submitted to the HQ USAFE system manager when required. Maintain a copy of extension letters in the jacket file until the affected item is replaced.

5.1.4.12. TCI narratives and frequencies are loaded into G081 by HQ AMC, Scott Air Force Base (AFB) IL. Once narratives have been loaded by HQ AMC, attach all applicable items to the inspection record.

5.1.4.13. Create a JCN when requisitioning CAD/PAD items 6 months prior to due date with munitions due to customs delays. Non-CAD/PAD and life sustaining items will be ordered 45-60 days prior to due date through the Flight Service Center.

5.1.4.14. Ensure all significant data, 107 TAR/MARs received back from engineers, and aircraft incidents are entered into G081 AHE. All major maintenance accomplishments (Depot, Contract Field Team (CFT), Depot Field Team (DFT), etc.) will be recorded on an AFTO Form 95 or automated historical record. DFT/CFT will forward a certificate of completion to PS&D. G081 will be updated to reflect work completed. Scan and file the certificate of completion in the aircraft jacket file.

5.1.4.15. PS&D Responsibilities for gaining aircraft:

5.1.4.15.1. Coordinate with losing base for SI, TCI, and TCTO data. Aircraft accepted from operational units should have at least 50% time remaining on Letter Check inspections. If there are open TCTOs on aircraft or equipment, kits should be shipped from the losing organization.

5.1.4.15.2. Notify the AVDO and base engine manager of gain time reflected on the 781. The AVDO will accept the aircraft in the G081 and notify HQ USAFE AVDO by message. The base engine manager will receive installed engines in G081. (BT (non-possessed) time can be authorized for acceptance on a case by case basis and must be approved by the HQ USAFE AVDO).

5.1.4.15.3. Conduct a full jacket file review to ensure accuracy of records. Annotate the AF Form 2411 to document compliance. Distribute/return all decentralized records to the maintaining agency.

5.1.4.15.4. Provide a copy of the AF Form 2692 to -21 equipment monitors for inventory purposes. Contact the losing base if there are any discrepancies. Return a verified copy of the AF Form 2692 to the losing organization.

5.1.4.15.5. Review all SIs, TCIs, and TCTOs for input into G081.

5.1.4.15.6. Once Letter Check due dates are established, flow aircraft into Letter Check schedule.

5.1.4.15.7. Concurrent with the arrival inspection, verify completion of all depot-level TCTOs.

5.1.4.15.8. Notify QA of all PDM returns or transfer aircraft and have the W&B records included in the depot/transfer forms packages.

5.1.4.15.9. Store completed arrival checklists, listed in **paragraph 3.8.3**, in the applicable aircraft jacket file along with the 781A's containing the arrival inspection discrepancy.

5.1.4.16. EM Section.

5.1.4.16.1. EM will:

5.1.4.16.1.1. Notify HQ USAFE Command Engine Manager (CEM) of incidents such as compressor shifts, FOD, fire or impoundments. This requirement serves as notification for the CEM to notify USAFE leadership of incidents and to assist in making appropriate decisions.

5.1.4.16.1.2. Provide a detailed account of the event NLT the next duty day.

5.1.4.16.1.3. Annotate history of any of the aforementioned reportable incidents in AFTO 95s or automated MIS.

5.1.4.16.1.4. Ensure serial number verification inspections are accomplished on all engines during acceptance inspections and aircraft Letter Checks. Ensure inspections are documented on Master PNSN Verification Workbook.

5.1.4.16.1.5. Monitor all cannibalization (CANN)'s and other supply actions on assigned propulsion assets. Ensure serially controlled component changes are documented and updated in MIS.

5.1.4.17. The SRAN engine manager will:

5.1.4.17.1. Act as the sole 86 MXG POC to interface with HQ USAFE for all EM documentation and off-station reporting issues for stock record account numbers (SRAN) FJ5612 and FJ5613.

5.1.4.17.2. 86 AMXS/MXA will appoint a Deployed Engine Manager (DEM) at least 3 duty days prior to departure for deployments where no centralized EM personnel are assigned. The assigned DEM will report to the EM section for training and a continuity package before departure.

5.1.4.17.3. Send out annual training slides via e-mail to all affected personnel who report engine status and manage engine documentation/scheduling. A memorandum will be attached to the email that users will print, sign, and return to EM indicating they have reviewed the annual training.

5.1.4.17.4. Upon direction from HQ/CEM, engines will be prepared and shipped with the coordination of the Rolls Royce representative, Outbound Cargo, and Vehicle Operations.

5.1.4.17.5. Generate a DD Form 1348-1A, Issue Release/Receipt Document.

5.1.4.17.6. Produce an AMC IMT 1033, Shippers Declaration for Dangerous Goods only if SRAN EM is Hazardous Declaration qualified.

5.1.4.17.7. Set up an appointment time with Outbound Cargo to place placards on the engine. NOTE: Appointments/pick-up times are coordinated by the SRAN EM with TMO. SRAN EM will coordinate with AMXS Specialist Section/MXS for an escort to TMO.

5.1.4.17.8. Ensure the engine/component change sheet MXGFC 14-01 is filled out accurately and completed immediately following engine, propeller, or serially controlled component changes, and e-mail the change sheets to the EM office.

5.1.4.18. Maintenance and FHP Planning Cycle.

5.1.4.18.1. Use Global Reach to download the Dash-6 into excel product on a weekly basis for review. Build the weekly maintenance schedule listing with all applicable due inspections SIs, TCIs, TCTOs and DDs.

5.1.4.18.2. At the beginning of each duty day, scheduled maintenance is reviewed for completion as listed in the published weekly schedule. Any maintenance not completed by 0001 of the next duty day will be counted as a MSE deviation. Maintenance actions listed on AF IMT 2410 (or local product) for the purpose of major maintenance will not be counted towards MSE. Only the major maintenance action will be calculated for MSE.

5.1.4.18.3. G081 screen 8070 is used to validate completed maintenance. For incomplete maintenance, AMXS supervision is contacted for justification.

5.1.4.18.4. All MSE deviations are reviewed daily at the morning production meeting.

5.1.4.18.5. MSE is reported to MMA weekly during the morning production meeting.

Chapter 6

QUALITY ASSURANCE (QA

6.1. Quality Assurance OIC/Superintendent (QA OIC/SUPT) Responsibilities:

6.2. QA Chief Inspector Responsibilities.

6.2.1. The current In-Process Inspection (IPI) listing is located on the QA SharePoint: **https://usaf.dps.mil/sites/86_MXG/Shared%20Documents/Forms/AllItems.aspx?ga=1&id=%2Fsites%2F86%5FMXG%2FShared%20Documents%2FMXQ%2FPROGRAMS%2FIPI&viewid=4875e9c5%2D8bf6%2D45b2%2Db1b2%2D21908a90c0fd**.

6.2.2. Aircraft forms binders will be maintained IAW TO 00-20-1, paragraph 5.32, AFI 21-101 USAFE AFAFRICA SUP para. 6.4.10. and this instruction. A sufficient amount of spare forms will be maintained in the binder at all times. See **Attachment 5**.

6.2.3. Maintenance Standardization and Evaluation Program (MSEP).

6.2.4. MXG/MXQ supervision will ensure a non-rated personnel evaluation is accomplished on 50 percent of the MQTP course graduates within 90 days of their Course Graduation Date (CGD) to provide feedback to the MTS on overall effectiveness of those courses. Results of the graduation assessments will be retained in the QA LEAP program unless otherwise noted and utilized as feedback for potential course improvements.

6.2.5. MQTP will forward a list consisting of student names, employee numbers, and CGD to the MXG/MXQ supervision office within 48 hours of CGD.

6.3. QA Product Improvement Programs (PIP).

6.3.1. Forward final DRs to the submitter and squadron supervision for review.

6.3.2. QA will ensure the MTS is included on the distribution listing for all QA DR's. The MTS will review reports monthly and identify deficiencies that can be remedied through formal courses, on the job training, or MTS training sessions.

6.4. Technical Order Distribution Office (TODO).

6.4.1. The OPR will review Local Work Cards (LWC) or Local Checklists (LCL) whenever source reference data changes, or at a minimum, annually. The TODO Manager will notify the OPRs whenever there is a change, or the product is up for biannual review. The OPR will check the product for accuracy and the need for further use. Locally prepared work cards and checklists formalize and control procedures that are unique to a base, and which do not apply or are not suitable for all TO users.

6.4.1.1. Guidance for publication and control of LCLs and LWCs:

6.4.1.1.1. When conducting a review and no changes have been made, the OPR will submit an AF Form 673, Air Force (AF) Publication/Form Action Request, with the OPR's signature to the TODO.

6.4.1.1.2. The TODO will rescind local data, using the LCL and LWC Index, if review extends 30 days past annual review date, or date notified by the TODO, to conduct a review. If this happens, the OPR will re-coordinate local data for approval.

6.4.1.2. OPR procedures for initiating a LCL or LWC:

6.4.1.2.1. Contact the TODO for an assigned control number (e.g., LCL-86MXG-01 or LWC-86MXG-02).

6.4.1.2.2. Prepare a title page including an assigned local TO number, title of local TO, signature block of group commander (GP/CC), date, OPR, posting instructions (if applicable) and issue date of the local document.

6.4.1.2.3. Prepare a List of Effective Pages (LEP) that is numbered "A" listing all affected pages and former changes.

6.4.1.2.4. List the supporting or referring technical data on the title page, or the LEP.

6.4.1.2.5. All pages of the local checklist or work card will be numbered with the local TO number.

6.4.1.2.6. Prepare an AF Form 1768, Staff Summary Sheet (SSS), 86th Airlift Wing Electronic Staff Summary Sheet (ESSS), or Task Management Tool (TMT) for coordination. Indicate number of copies required and for whom.

6.4.1.2.7. Coordinate with maintenance supervision (flight chief, MOO and SQ/CC) for review. SQ/CC will forward to MXG/QA for review. MXG/QA will forward to MXG/CC for review and signature. MXG/CC will be the final approval authority.

6.4.1.2.8. Submit the draft LCL or LWC and the AF Form 1768, SSS, or 86th Airlift Wing ESSS, or TMT tasker to 86th MXG/QA/TODO.

6.4.1.3. OPR procedures for changing a LCL or LWC.

6.4.1.3.1. Notify the TODO that a change is required to the LCL or LWC.

6.4.1.3.2. Prepare the LCL or LWC with appropriate changes. Ensure the title page, LEP, and changed pages reflect all changes.

6.4.1.3.3. Prepare an AF Form 1768, SSS, or 86 MXG ESSS for coordination. Coordinate with maintenance supervision (flight chief, MOO and SQ/CC) for review. SQ/CC will forward to MXG/QA for review. MXG/QA will forward to MXG/CC for review and signature. MXG/CC will be the final approval authority.

6.4.1.3.4. Submit the draft LCL or LWC and the AF Form 1768, SSS, or 86 MXG ESSS to 86 MXG/QA/TODO.

6.4.1.4. 86 MXG/QA/TODO responsibilities:

6.4.1.4.1. The TODO will stamp the TO title page to reflect validation and file the document with other LCLs or LWCs.

6.4.1.4.2. The TODO will update the LCL and LWC index and the ETIMS database and will then distribute the local technical data to applicable accounts.

6.5. W&B Program.

6.5.1. Perform W&B calculations and ensure handbooks and Automated W&B System are updated.

6.5.2. All aircraft W&B data and changes must be recorded in each aircraft's W&B record and maintained in supplemental handbooks to ensure W&B documents are accurate for flight.

6.5.3. Supplemental handbooks will be maintained in an aluminum binder or equivalent and located in the storage compartment at the crew entry door or the galley storage area.

6.5.4. Personnel removing or installing permanently installed equipment requiring a W&B computation IAW TO 1-1B-50 (e.g., -21, alternate mission equipment, life support equipment, TCTOs, and local modifications) will ensure a red X for the W&B requirement is entered into the aircraft AFTO 781A prior to the start of maintenance.

6.5.5. To ensure information is readily available to Quality Assurance personnel, Pro Supers/Expediters will notify MOC prior to the removal or installation of permanent equipment requiring W&B computations. The following information will be provided:

6.5.5.1. Reason for W&B.

6.5.5.2. Aircraft tail number.

6.5.5.3. ETIC and next scheduled flight.

6.5.6. When maintenance causing the W&B computation is completed, Pro Supers will notify MOC that the aircraft is ready for QA. Pro Supers will also ensure the aircraft forms are on the aircraft and ready for QA to expedite completion of the W&B. MOC will notify and pass on required information to QA or the stand-by inspector of the W&B requirement to allow QA preparation time to avoid unnecessary delays due to W&B.

6.5.7. PS&D will coordinate W&B related information with QA for all TCTOs, Service Bulletins, acceptance and transfer inspections, modifications, and Letter Check Inspections. QA will assess if W&B will be required following completion. If a W&B is required, PS&D will load a JCN in G081.

6.5.8. All newly assigned aircraft will require a complete inventory and W&B calculations performed prior to the first flight. Pro Supers will ensure MOC is notified prior to the start of the arrival inspection and provide information in **paragraph 6.3.2.5**.

6.5.9. Aircraft equipment not included in the aircraft weight (e.g., cargo winch and armor configurations) is documented on DD Form 365-4 (W&B Clearance Form F) by flight crews. This action does not require QA notification.

6.5.10. A complete aircraft inventory will be conducted for Weight and Balance during every aircraft C-check, or when permanent changes are made to form 4076.

Chapter 7

IMPOUNDMENT PROCEDURES

7.1. Impoundment Authorities.

7.1.1. Transferring and additional impoundment official

7.1.2. In the event impounded aircraft or equipment requires 24-hour coverage, an additional/alternate Impound Official may be appointed with Impound Authority approval. Every effort will be made to maintain positive control and continuity.

7.1.3. Any change or transfer of Impound Officials must be approved by the MXG/CC or MXG/CD.

7.2. Impoundment Procedures.

7.2.1. Impound Officials coordinate a meeting with QA to obtain the Impound Officials book, sign out Impoundment Kit and receive an impoundment briefing.

7.2.1.1. Begin aircraft/equipment Impound Official's Checklist (86MXGFC-08). The checklist can be found in the Impound Officials book and the QA SharePoint. NOTE: All items on the checklist are mandatory.

7.2.1.2. For potential safety related incidents, remove the cockpit voice recorder/flight data recorder from the aircraft, and have an AFTO Form 350, Repairable Item Processing Tag, attached, stating in red, "From impounded aircraft, special processing required." If necessary, forward to 86 Airlift Wing (AW) Safety Office for further investigation.

7.2.1.3. When a safety investigation is being conducted, report corrective actions to the 86 AW Safety Office.

7.2.1.4. Aircraft/ Equipment Impound Release Procedures.

7.2.1.4.1. Impound Official impoundment release responsibilities:

7.2.1.4.1.1. Ensure any parts removed from impounded aircraft/equipment for causes associated with the impoundment have an AFTO Form 350, Repairable Item Processing Tag, attached with the statement, "From impounded aircraft, special processing required," in red pen or pencil. Annotate the original discrepancy that warranted the impoundment, and any other information discovered during troubleshooting on the tag.

7.2.1.4.1.2. Ensure that all PQDRs are turned in to the Product Improvement Manager (located in the QA office).

7.2.1.4.1.3. Ensure an AFTO Form 22, as required, is submitted to correct any technical deficiencies.

7.2.1.4.1.4. Review all corrective actions and documentation supporting the decision to release the aircraft/equipment from impoundment.

7.2.1.4.1.5. Review all aircraft/equipment forms for proper documentation and operational checks. If errors are discovered, return forms to appropriate work center for corrections. Once satisfied with the documentation, enter the following statement in the corrective action block of the Impoundment Official review discrepancy, "Forms review C/W IAW RABI 21-101,

CHAPTER 7 para 7.2.1.10.” Refer to the original discrepancy in the corrective action block of the impoundment AFTO Form 781A, or AFTO Form 244/245 for equipment, and sign the inspected by block.

7.2.1.4.1.6. Transferring impoundment from aircraft to equipment. When an aircraft is impounded and the major subsystem causing the impoundment is removed from the aircraft (e.g. landing gear, engine, test equipment, etc.), the impoundment will be cleared IAW DAFI 21-101 paragraph. 7.2.1.4. of this instruction. A new JCN will be assigned, and the major subsystem will be impounded. Impoundment placard and worksheet will be placed in clear view on the major subsystem. The Engine/Equipment/Test Cell Impoundment Form (86MXGFC-09) will be used to transfer the impoundment to the defective major subsystem or equipment item. At this time the impoundment will be transferred to the associated organization, where a new Impound Official may be assigned. This form will also replace the AFTO Form 781A, or AFTO Form 244/245 for equipment to document the discrepancy and corrective action of the defective/damaged major subsystem.

7.2.1.4.1.7. Every effort to maintain the integrity of the investigation must be made by keeping whole components, or combinations together, as required (e.g., engine/prop for suspected FOD). As items are cleared during the investigation, progressively remove, release, and transfer the impoundment.

7.2.1.4.1.8. Brief the Impound Release Authority on the corrective actions. The briefing shall include the following:

7.2.1.4.1.8.1. Condition(s) resulting in impoundment.

7.2.1.4.1.8.2. Findings.

7.2.1.4.1.8.3. Actions taken to correct condition(s).

7.2.1.4.1.8.4. Cost estimate required to correct condition(s).

7.2.1.4.1.8.5. Actions taken to prevent reoccurrences.

7.2.1.4.1.8.6. Any additional recommendations.

7.2.1.4.1.8.7. TO references supporting investigation.

7.2.1.4.1.9. Ensure all items on the Impound Official's Checklist (86MXGFC-08) are completed and returned to QA for historical filing.

7.2.2. QA impoundment release responsibilities:

7.2.2.1. Review all corrective actions and documentation supporting the decision to release the aircraft/equipment from impoundment.

7.2.2.2. Review all aircraft/equipment forms with the Impoundment Official for proper documentation and operational checks, or necessary corrections. Once satisfied with the documentation, enter the following statement in the corrective action block of the QA Review discrepancy: "Forms review C/W IAW RABI 21-101, Ch. 7 para. 7.2.2.1.” Refer to the original discrepancy in the corrective action block and sign the “Inspected by” block.

7.2.2.3. Fill out the corrective action block of the impoundment discrepancy with the following statement: "Investigation complete, all corrective actions have been reviewed, aircraft released

IAW DAFI 21-101, Ch. 7 para. 7.2.2." Refer to the original discrepancy in the corrective action block of the impoundment discrepancy.

Chapter 8

TOOL AND EQUIPMENT MANAGEMENT

8.1. For non-dispatchable CTKs, support equipment, and special tools, the Master Inventory Listing (MIL) resides within TCMax. A MIL is not required to be printed and signed for non-dispatchable items.

8.1.1. TCMax Program. Only the approved version of TCMax will be used for accountability and control of tools and equipment, in accordance with IAW DAFI 21-101, paragraph 8.1.

8.1.2. Tools, technical orders, equipment, etc. that are loaded in TCMax will have all inspections listed, along with applicable items, in accordance with specific item guidance.

8.1.3. CTK and/or equipment may be turned over at locations other than the support section during sortie surges or extensive maintenance. Only the on-duty production superintendent or equivalent, or above may approve these turnovers. Keep transfers to a minimum. However, when transfers do occur, the person relinquishing control of and the one assuming control of the CTK will perform an inventory of the CTK in the presence of an E-6 or above. Use an AF Form 1297, Temporary Issue Receipt, to issue the CTK/equipment to the next person. The E-6 or above witnessing the transfer and both personnel (issuer and receiver) initial the hand receipt. The person relinquishing control of the CTK/equipment will ensure the hand receipt is immediately delivered to the Support Section. Support Section personnel will make the appropriate changes in TCMax and Support Section will keep this hand receipt until the CTK/equipment returns to Support. These turnovers will be treated as if the CTKs were being turned in or signed out at the Support Section.

8.1.4. The issue/turn-in of CTKs to the Support Section will include the CTK and the key. If a CTK folder is used for the CTK, it will also be accountable. The 86 MXG Form 140, Composite Tool Kit (CTK) Inventory and Control Log (sign in/out form), will be used for CTKs not transported in and out of the Support Section. This form will be provided by the CTK custodians and used to sign in and out CTKs by the users. When the old form is full, a new form will be placed in the CTK binder, and the old form will be maintained in the Support Section until at least three entries are created on the new form.

8.1.5. All contents of non-dispatchable CTKs will be listed in TCMax. All contents of dispatchable CTKs, equipment, or tools with multiple pieces will be listed in TCMax and on the MIL.

8.1.6. Engine blade blending blue dye will be controlled in TCMax in the same manner as dispatchable Hazardous Material (HAZMAT) items.

8.1.7. CTK procedures also apply to tools/equipment outside the Support Section (e.g., trailers, vehicles, CTKs sub-located to different work centers, on floor, etc).

8.1.7.1. The keys and the CTK folder (if applicable) will be signed in and out of the TCMax as one, symbolizing a full CTK. When signing out through TCMax, the individual will sign out the whole CTK and receive the folder (if applicable). The 86 MXG Form 140 will be used to sign open and close CTKs as described in **paragraph 8.1.4**.

8.1.7.2. Owners are responsible for inspections and replacement of tools for tools/CTKs that are permanently sub-located to another organization/work center. It is the owning Support Section's responsibility to control these items in TCMax and to issue and receive them on a daily basis.

8.1.7.3. Spill Recovery Units, Environmental Protection Agency (EPA) Trailers, and Hazardous Waste Accumulation points that contain safety/Personnel Protective Equipment will be marked with the owning squadron designation (86 MXS, 86 AMXS, etc.) and one of the following: office symbol, accumulation site, or trailer number. An equipment content listing will be kept with spill kits and consumed items will be documented. All kits will be sealed and inventoried/inspected for serviceability annually. This inspection will be documented.

8.1.7.4. Each Support Section will have an entry control roster listing personnel authorized for entry without an escort. This letter will be approved, as a minimum, by the NCOIC of Support Section. QA inspectors are authorized unescorted entry into CTK controlled areas to perform required inspections.

8.1.7.5. The markings and shadow location for tools no longer required will be removed to reflect the tool/item is no longer considered part of the CTK. Cutouts will be plugged to illustrate that no items are missing and will be secured to prevent loss and potential Foreign Objects (FO) entering these areas. Shadowing/outlining of permanently removed tools will be painted over or thoroughly marked over. For permanently removed tools, TCMax will be updated to show deletion. For dispatchable CTKs, equipment, or tools with multiple pieces, a new MIL will be printed.

8.1.7.6. Consumable/expendable hand tools (razor blades, acid brushes, wire brushes, plastic pin insertion/extraction tools, syringes, sanding/cutting and wire brush attachments) that are not maintained in a CTK will be accounted for at the completion of each maintenance task.

8.2. CTK LAYOUT/SETUP. Proper marking and layout of CTKs is critical to accountability and tool control. CTKs will be laid out/set up as follows:

8.2.1. The custodian will ensure all toolboxes/equipment are etched/permanently marked with an Equipment Identification Designator (EID). Etchings and/or markings must be clear and legible. The first four digits are contained in **Attachment 11**. The unit establishes the remaining five characters IAW DAFI 21-101, paragraph 8.6.1.3.

8.2.1.1. CTK items (e.g. keys, locks, and tie down straps), if not permanently attached, are considered part of the CTK and must be marked with EID and identified on the MIL. All items will be identified on the MIL.

8.2.1.2. Flight line dispatchable CTKs and equipment items will have reflector tape or reflective material installed in order to show the size and shape of the item during reduced visibility. The item will be visible from all angles.

8.2.1.3. Outlines for hanging items will be marked with the same intent as shadowing.

8.2.1.4. All flight line dispatchable CTKs (toolboxes) will contain a FOD container specifically marked with the letters "FOD" in contrasting colors. The container will not be a plastic bag. If the container is not permanently attached it will be marked with CTK EID and will be listed on the CTK’s MIL. Contents of FOD containers will be properly disposed of prior to turn-in. CTKs that are restricted to in-shop use only are not required to have FOD containers; however, all CTKs will be kept free of FOD at all times.

8.3. INSPECTIONS. Thorough inspections/inventories are vital to tool accountability and maintaining serviceability of tools/equipment. The following procedures/requirements apply:

8.3.1. Flight Chiefs and OICs will ensure CTKs, spare tool bins HAZMAT Lockers, and Individual Issue Bins (IIB) will be inspected annually. The annual inspection will be documented in TCMax. At a minimum, the following items will be inspected:

8.3.1.1. Legibility of etchings and required markings. Double etchings (multiple different etchings) are not authorized. Spare tools will have no etchings/markings until put into service. If a tool is removed from a CTK and will be used as a spare tool, then all etchings/markings will be removed as long as it is in spare tool status.

8.3.1.2. Condition of tools.

8.3.1.3. Existence of corrosion.

8.3.1.4. Presence of any foreign objects.

8.3.1.5. Condition/currency of any tech data in the CTK.

8.3.1.6. MIL will be checked against the CTK/dispatchable equipment MIL and TCMax to ensure accuracy.

8.3.1.7. Inspect tool/equipment IAW specific T.O.

8.3.1.8. Check for overdue calibration.

8.3.1.9. Ensure all sets contain the proper number of items (as identified on container).

8.3.1.10. In addition to the prior to use inspection, the explosion-proof lanterns and extension lights will be inspected per T.O. 35F5-1-2, Explosive-Proof Lanterns and Extension Light Assemblies, paragraph **1-3**.

8.3.1.11. Shelf-life dates.

8.3.1.12. Containers or cabinet for damage or leakage.

8.3.1.13. For sub-located CTKs, the Support Section or designated CTK custodian is responsible for all major inspections.

8.3.1.14. Infrequently used CTK/kits and CTK/kits placed in storage.

8.3.1.15. Storage is defined as a CTK not projected for use within the standard inspection cycle.

8.3.1.16. Infrequently used CTK or CTK placed in storage can be sealed so that the CTK cannot be opened without breaking the seal (computer label sticker, lead seal, etc.). Annotate the seal with the signature of the individual performing the tool count, date completed, and next inventory date (not to exceed the annual inspection date). Inspection criteria will be the same as defined in **paragraphs 8.3.1** of this instruction.

8.4. MOBILITY TOOLS (Accountability, Control, and Inspection). Units will use the mobility function of TCMax as prescribed by DAFI 21-101, paragraph 8.5.1.3 and 8.5.5.7

8.4.1. Mobility CTKs will receive annual inspections and once completed, will be sealed so that the CTK cannot be opened without breaking the seal (computer label sticker, lead seal, etc.). Annotate the seal (if possible) or tag with the signature of the individual performing the tool count/inspection, date c/w, and next inventory date (not to exceed 1 year). Inspection criteria will be the same as defined in paragraph **8.3.1.1** through **8.3.1.12** of this instruction and tracked in TCMax.

8.4.2. Mobility CTKs should only be used for actual or simulated deployments. The deployed custodian will be responsible for all CTKs at the deployed site. The Support Section or deployed section supervisor will provide a secure area for storing mobility CTKs.

8.5. SPECIAL PURPOSE TOOLS. IAW DAFI 21-101 para 8.5.1.2.2., units will develop procedures for control of Crashed, Damaged or Disabled Aircraft Recovery (CDDAR) equipment permanently stored/located in trailers or vehicles. CDDAR tools/equipment will be properly marked and controlled in TCMAX. Ensure these items are inspected IAW all applicable Technical Orders, manuals, AFI and this instruction, to include items stored and or located in vehicles.

8.6. WARRANTED TOOL MANAGEMENT. IAW DAFI 21-101, paragraph 8.2.3., warranted tool management procedures are as follows:

8.6.1. Warranted tools that are assigned to a CTK will be controlled IAW DAFI 21-101 para 8.2.3.1 and this guidance.

8.6.2. Warranted tools not assigned to a CTK will be controlled as spare tools IAW DAFI 21-101 and this guidance.

8.6.3. Broken warranty tools.

8.6.3.1. Broken warranty tools will be removed from service IAW **paragraph 8.8** of this instruction.

8.6.3.2. Warranty tools will be segregated from non-warranty tools and tracked by the CTK custodian to ensure proper identification and control.

8.7. LOST TOOL PROCEDURES. IAW DAFI 21-101, paragraph 8.9., 86 AW lost tool procedures are as follows:

8.7.1. The individual that discovers a missing tool will notify the expediter/production superintendent or equivalent who in turn will immediately notify the Operations Officer, Production Superintendent, Flight OIC/Chief, Support Section, Maintenance Operation Control (MOC) (86 AW MOC will notify 721 AMXS MOC for any lost tools that could possibly have an impact on 721 AMXS operations or ramp), and QA. Upon notification of a lost tool/item, the affected production superintendent will initiate a thorough search. If an aircraft/equipment is involved and the search has not resulted in the recovery of the lost tool within 1 hour, contact an impound authority for aircraft/equipment impoundment decision. Impoundment for lost tools will be at the discretion of the impound authority. If the suspected lost tool is on a taxiing or flying aircraft, immediately notify MOC to initiate actions for potential aircraft recall.

8.7.1.1. The 86 MXG Form 145, Lost Tool/Object Report, must be used to document all lost tools. This form will be initiated by the person with custodial responsibility of the lost tool within 1 hour of initial identification that a tool is lost. QA will assign a local control number, which will be annotated on the upper right-hand corner of the form. Once QA issues a control number, the 86 MXG Form 145 must be completed even if the tool has been found.

8.7.1.2. The lost tool form must be routed through proper channels within 3 duty days and provided to QA.

8.7.1.3. QA will review the completed form for accuracy and provide the original to the 86 AW FOD Monitor. A copy will be maintained by the CTK custodian/responsible authority of item and

kept for 1 year. When the lost tool is found, the respective unit will inform QA who will in-turn inform the 86 AW FOD Monitor.

8.7.1.4. The tool room shift supervisor and the individual who signed for the CTK will ensure the missing tool is annotated on the MIL for dispatchable CTKs, equipment, or tools with multiple pieces and updated in TCMax.

8.8. BROKEN TOOLS. In order to standardize and clarify broken tool procedures, the following guidance will be followed:

8.8.1. Unserviceable/removed tools. The user will account for all pieces of the broken tool and take them to the CTK custodian or Support Section. If the tool cannot be immediately replaced, the CTK custodian or Support Section personnel will document the MIL for dispatchable CTKs, equipment, or tools with multiple pieces and update TCMax. As a minimum, annotate the MIL with "B/R" (broken and removed), the date broken, and employee number.

8.8.2. Serviceable damaged tools. When a tool is damaged but can still perform its designed function, the tool may be retained. Tool serviceability will be determined by appropriate technical orders or manufacturers guidance/manuals. Unsafe tools will NOT be used. At a minimum, the missing pieces/components of damaged tools will be documented on the MIL/in TCMax for dispatchable CTKs, equipment, or tools with multiple pieces and in TCMax also annotate the date damaged and employee number.

8.9. TOOL REPLACEMENT. Tool replacement procedures will be followed in order to establish tool procurement.

8.9.1. Broken/unserviceable tools will not be stored in the same drawers as spare/serviceable tools.

8.9.1.1. RAG CONTROL PROCEDURES. The following procedures will be followed in order to prevent FOD and ensure proper control/accountability of rags:

8.9.1.2. Positive accountability of rags and rag control is required. Marking or identifying each rag with a CTK number is not necessary. To ensure standardization, rags will be uniform in size and color and will be issued in groups of 5 each in a prepackaged container. The container will be marked with number of items contained. The container will be counted as one of the items. Mark container with 9-digit EID.

8.9.1.3. An inventory will be conducted upon receipt of rags from a contracted cleaning service.

8.9.1.4. Operational/dispatchable rags will be inventoried at every shift turnover.

8.9.1.5. Bulk stored rags (those not in Support Section for dispatch or operational use) will be secured for control and be loaded in TCMax as a spare tool for accountability.

8.10. TECHNICAL ORDER CONTROL PROCEDURES. Technical orders must be accounted for as any other tool or piece of equipment to prevent FOD and lost assets.

8.10.1. Technical orders that may be dispatched to the flight line will be controlled in TCMax and meet all of the requirements established by this instruction.

8.10.1.1. Technical orders that will not be dispatched to the flight line are not required to be loaded in TCMax.

8.11. OTHER UNITS AT RAMSTEIN AB, TO INCLUDE DEPOT TEAMS, FACTORY REPRESENTATIVES, CONTRACTED FIELD TEAMS (CFT), AND TDY OR DEPLOYED UNITS TOOL/TOOL KIT CONTROL.

8.11.1. MXG/CC will establish procedures for depot teams, factory representatives, and CFTs when working on equipment within the unit. The following procedures apply to anyone that brings tools onto the flight line to perform maintenance on aircraft, equipment, or vehicles or anyone that performs maintenance on equipment or vehicles that have the potential of entering the flight line.

8.11.1.1. Ensure guidance contains lost tool procedures. At minimum, the procedures will ensure MOC is notified (721 AMXS MOC will be notified for tools lost on Ramp 5 while 86 AW MOC will be notified for tools lost on all other ramps and taxiways).

8.11.1.2. Ensure guidance directs 86 AW FOD monitor to be notified of lost tool and the lost tool report is turned in within 3 days of incident.

8.11.1.3. When using 86 MXG assigned tools/equipment, comply with all requirements of this instruction.

8.11.1.4. When using tools not assigned to 86 MXG, comply with the minimum requirements listed below.

8.11.1.5. Have a listing (or MIL equivalent) of each CTK/kit identifying components.

8.11.1.6. Secure CTK/equipment when left unattended.

8.11.1.7. Inventory each CTK/kit at the beginning and end of each shift, as well as at the completion of each maintenance task.

8.11.1.8. Personal tools will not be used on the flight line, in aircraft or in aerospace equipment industrial areas.

8.12. AIRCREW & LIFE SUPPORT TOOL/TOOL KIT CONTROL. Tools used on the aircraft or the flight line by the 37 Airlift Squadron and the 86th Operations Support Squadron will be included in a CTK, properly etched per **Attachment 11** and positively controlled. The owning organizations will draft tool control/accountability procedures which will include accounting for each CTK at the beginning and end of each flight. If a CTK is not sealed, an inventory of said CTK will be accomplished at the beginning and end of each flight, as well as at the completion of each maintenance task.

8.13. Locally Manufactured, Developed, or Modified Tools and Equipment.

8.13.1. The 86 MXG/CC, CD or SEL are designated as local manufacture (LM) representatives/approval authority. Additionally, their role is to prevent abuse of the LM process. For any items coded as FM in technical data, the appropriate fabricating element will be the approval authority. Exception: IAW DAFI21-101 para 8.7.1. and Para. 8.7.3.1.1.1. MMHE focal point drawings are already approved AF wide at a unit level and thus the LM procedures do not apply.

8.13.1.1. All tools/equipment that require local manufacturing, and are not listed in applicable TO's, will be approved using the 86 MXG Form 869, Local Manufacture Request. The 86 MXG Form 869 will be generated by the user/requester and must be coordinates with all designated agencies outlined on the form. When there is a LM tool called in a TO, but no picture, drawing,

blueprint, or drawn visual example is specified, the tool shall be added to the LM tool form for MXG/CC or equivalent signature.

8.13.1.2. Requester will coordinate with the appropriate fabricating section to determine the materials required to manufacture the item, obtain any parts/materials not normally stocked by the primary work center (e.g. Metals Technology/Structural Maintenance, etc.), provide AFTO 350 tags, complete appropriate MIS documentation, and sample, if required. For items requiring multiple section processing, requester will identify all sections that have action in the LM process for requested item on the AFTO Form 350.

8.13.1.3. Once tool/equipment has been returned to the requester, the memorandum (**Attachment 6**) will be completed with all required data and signed. The 86 MXG Form 869, and memorandum will be filed and tracked in a LM binder or digitally for the life of the tool/equipment as proof of approval. A copy of the 86 MXG Form 869, and the memorandum will be routed to the QA office within five duty days of tool/equipment completion.

Chapter 9

ADDITIONAL MAINTENANCE REQUIREMENTS AND PROGRAMS

9.1. Red Ball Maintenance.

9.1.1. The MOC will enter a JCN, per **Attachment 4**, into MIS and the AMU Expediter/Pro Super will forward all required information to applicable work center(s) and ensure job is entered in the applicable aircraft forms.

9.1.2. When the Red Ball is completed, the Expediter/Pro Super will inform MOC of the maintenance repair actions for MOC to clear the discrepancy against the aircraft using G081 screen 9010 and selecting "C" [Close Job] option so the aircraft can be released for flight.

9.1.3. The Expediter/Pro Super will ensure proper forms documentation is completed and will ensure aircraft is released for flight. The AFTO Form 781A will be documented when any part is removed from the aircraft. The technician clearing the discrepancy will take time for the discrepancy in G081 prior to the end of the duty day.

9.1.4. In the event that the MIS is down, the MOC will provide a JCN per **Attachment 4**.

9.1.5. MIS entry of Red Ball maintenance actions must be accomplished as soon as the MIS becomes operable.

9.1.6. Foreign Object Damage Prevention Program.

9.1.7. Aircraft covers will be removed no earlier than 4 hours before crew show.

9.1.8. Aircraft Structural Integrity Program (ASIP)

9.1.9. A QA representative will be appointed as ASIP Officer and will monitor ASIP data IAW DAFI 21-101, Chapter 11.10 and TO 1C-130-101, Chapter 4.

9.2. Debrief section responsibilities include:

9.2.1. The collection of data and submittal of ASIP aircraft usage into AIRCAT.

9.2.2. Assist in the deployment of laptops to perform downloads off station.

9.2.3. Coordinate with applicable work centers to review data.

9.2.4. Review data for errors.

9.2.5. Reconcile missing data in AIRCAT.

9.2.6. Training ASIP monitors for Deployments.

9.2.7. Route memorandum for record identifying Deployed ASIP monitor to ASIP Officer after completion of training.

9.2.8. Flying Crew Chiefs will collect aircraft usage data and coordinate with Debrief for data processing.

9.2.9. When the capability exists, ASIP aircraft usage data will be collected and submitted while deployed or at home station IAW DAFI 21-101, para. 11.10. When the capability does not exist, ASIP aircraft data will be submitted no later than the end of the next duty day after arrival to home station.

9.2.10. Procedures outlined in TO 1C-130-101, Chapter 3 will be used for collecting and submitting aircraft usage data while deployed and at home station.

9.3. Cannibalization (CANN) Program.

9.3.1. MOC will create all CANN jobs in the MIS.

9.3.2. For all 86 AW possessed aircraft CANN actions, SNCOs and officers will be the CANN Authority. For all AGE CANN actions, the AGE Flight Chief or AGE Pro Super will be the CANN Authority. The MXG/CC or designee will be the CA for any CANN action from 86 AW possessed aircraft to a non-86 AW possessed aircraft. For all 86 AW contracted aircraft, the appropriate contractor will approve and track CANN's.

9.4. Cold Weather Hangar Door Policy.

9.4.1. Doors will be closed and remain closed anytime temperatures are expected to drop below 32°F. Open only when aircraft are physically moved in or out of a hangar. The intent is to prevent damage to water and fire suppression systems due to exposure to extreme cold temperatures. Production Superintendents may direct that the doors remain open to accommodate operational or other wing requirements, by exception.

9.5. (MXG only) Mobile Crane Operation and Training Qualification Program.

9.5.1. A comprehensive crane operation and qualification program will be developed and strictly enforced to prevent safety mishaps and potential loss of life. All maintenance personnel authorized to operate cranes will be trained and qualified. 86 MXG is responsible for developing and maintaining a formal crane training course and test materials. The 86 MXG/CC is responsible for ensuring each squadron develops and manages an effective crane operation training program.

9.5.2. The 86 AMXS will serve as the focal point for the management of the Mobile Crane Operation Training and Qualification Program.

9.5.3. Prior to entering mobile crane operation training, ensure personnel meet the following requirements:

9.5.4. All requirements in Air Force Manual (AFMAN) 91-203, Air Force Occupational Safety, Fire and Health Standards, will be met prior to certification as a crane operator.

9.5.5. Be a minimum of SrA with a minimum five-skill level. The 86 MXG/CC may designate contractors in writing to operate cranes.

9.5.6. Certifiers. Individuals selected as certifiers will hold the rank of SSgt or above and must be qualified IAW 86 MXG Mobile Crane Operation Training and Qualification Program.

9.5.7. Crane qualification will consist of hands-on driving sessions, as well as a performance and written test. Eight hours of instruction will be conducted ending with a written examination. Thirty hours of practical instruction will be conducted where students will properly operate the crane, followed by a practical examination.

9.5.8. Crane operation qualification tests are controlled items and will be handled IAW AFI 36-2650, Maintenance Training, and will be administered by certified personnel only.

9.5.9. Training time may vary depending on individual student's ability and how fast they learn the required task. Former training and practical experience will also be taken into consideration.

9.5.10. Personnel failing the written or practical examination will receive additional instruction before being re-tested.

9.5.11. After a second test failure, the individual will be removed from the program. The Squadron OIC or Superintendent must authorize personnel to re-enter the program. Individuals may be required to complete initial qualification training again.

9.5.12. Documentation. Personnel qualified to operate cranes will be documented in the MIS and entered on the SCR.

9.5.13. Personnel must be re-qualified every 12 months by performing an on-equipment practical evaluation. Note: Annual re-qualification training will consist of a review of crane safety and operation as well as successfully completing an on-equipment practical examination. At a minimum, the practical examination will consist of crane inspection, setting up a crane, calculating weight limits using a load chart, leveling a crane, and successfully accomplishing a pick and carry.

9.6. Tow Team Supervisor Certification Program.

9.6.1. A comprehensive Tow Team Supervisor Certification program will be developed and strictly enforced to prevent safety mishaps and potential loss of life. The 86 MXG is responsible for developing a formal certification process to become a tow supervisor. The 86 MXG/CC is responsible for ensuring MXOT develops and manages an effective Tow Team Supervisor certification program.

9.6.2. The MXG or equivalent will serve as the focal point for the management of the Tow Team Supervisor Certification program.

9.6.3. Prior to entering the Tow Supervisor certification program, ensure personnel meet the following requirements:

9.6.4. Be a minimum of SrA with a minimum five-skill level AFSC 2AXXX, with a minimum of 6 months weapons systems experience. The 86 MXG/CC may designate contractors in writing to supervise tows.

9.6.5. Be qualified to operate a tow vehicle during towing operations.

9.6.6. Be qualified to operate brakes during towing operations.

9.6.7. Individuals who are qualified to supervise tows will act as certifiers.

9.6.8. Tow Team Supervisor qualification will consist of hands-on tow team supervisor sessions as well as an E-Test. Along with practical examination where the member physically supervises a tow while being evaluated by a certified tow team supervisor.

9.6.9. Tow Team Supervisor instruction will, at minimum, consist of: connecting / disconnecting the tow-bar; tow bar pre-use inspection; proper hand signals; and safety requirements relating to towing.

9.6.10. E-Tests will be administered and proctored through AMTES by members of 86 MXO/MXOT.

9.6.11. Personnel failing the E-Test or practical examination will receive additional instruction before being re-tested.

9.6.12. Tow Supervisor qualification will be documented in the MIS and entered on the SCR.

9.6.13. Personnel must be re-qualified every 12 months by re-accomplishing the Tow Team Supervisor test.

9.7. Forms/MIS Documentation.

9.7.1. Clearing CND Discrepancies Procedures:

9.7.2. When a discrepancy cannot be duplicated, the technician will document "Cannot Duplicate Malfunction" or "CND" in the corrective action block followed by all actions taken to identify the CND condition. This includes all T.O. references and fault isolation codes, as applicable. The technician performing the work will then sign the "corrected by" block and have the 7-level technician clear the CND discrepancy by signing the "inspected by" block and initial over the symbol. Exception: If the discrepancy is a Red Diagonal and the individual performing the maintenance is a qualified 7-level, then only the "corrected by" block signature is required. No Defect Noted or “NDN” will not be used as a means of circumventing CND discrepancy guidance.

9.7.3. CND conditions will be reported. DO NOT sign off CND discrepancies as reseated, tightened, cleaned, etc. When the problem cannot be duplicated, report the discrepancy as a CND and accurately report the completed maintenance actions. In some cases, it will be impossible to recreate the in-flight conditions necessary to induce failure. In-flight operational checks are recommended and may require maintenance personnel to fly with the aircraft. Document the request for an in-flight operational check in the next open AFTO 781A discrepancy block to inform the aircrew of a potential system malfunction. If a requested in-flight operational check fails, the resulting discrepancy will not be counted as a repeat or recur.

9.7.4. Clear AFTO Form 244 CND discrepancies IAW para 11.42.1.1.

9.7.5. A qualified 7-level must review corrective actions and all maintenance actions in the last 90 days using G081 screen 8070 prior to clearing the discrepancy.

9.8. Clearing Repeat/Recur Discrepancies Procedures.

9.8.1. First repeat/recurrence: Assign a qualified 7-level to clear repeat/recur discrepancies and/or equivalent civilian personnel to direct all associated maintenance actions. After the appropriate technicians have completed the "corrected by" block of the AFTO 781A, a 7-level will review the maintenance actions and aircraft forms. When the 7-level approves the corrective action, he or she will sign the "inspected by" block and initial over the symbol. All items inspected, tested, removed or replaced, and troubleshooting references, to include fault isolation codes if applicable, will be documented in the AFTO 781A and MIS. Exception: If the discrepancy is a Red Diagonal and the individual performing the maintenance is a qualified 7-level, then only the "corrected by" block signature is required.

9.8.2. Second repeat/recurrence: An all-systems Pro Super or SNCO qualified in that career field will review the discrepancy and corrective action(s). If all actions are appropriate, the Pro Super or SNCO will sign the "inspected by" block and initial over the symbol. All items inspected, tested, removed or replaced, and troubleshooting references, to include fault isolation codes if applicable, will be documented in the AFTO 781A and MIS.

9.8.3. Third or subsequent repeat/recurrence: The DO/SUPT will thoroughly review the discrepancy and all previous corrective actions. Consider forming a "Tiger Team" of highly qualified technicians to troubleshoot and correct the discrepancy. For mission-essential systems, the DO/SUPT will consider impounding the aircraft until the discrepancy has been corrected. The

DO/SUPT, or designated alternate, will sign the "inspected by" block of the AFTO 781A. All items inspected, tested, removed or replaced, and troubleshooting references, to include fault isolation codes if applicable, will be documented in the AFTO 781A and MIS.

9.8.4. Identifying and clearing Repeat/Recurring discrepancies for AGE using AFTO Form 244 or electronic version.

9.8.5. Repeat discrepancies for AGE are defined as the same discrepancy occurring within 5 operating hours for equipment with an hour meter equipped or 7 calendar days for all other ground support equipment.

9.8.6. A qualified 7-level must review corrective actions and all maintenance actions in the last 90 days using G081 screen 8066 prior to clearing the discrepancy.

9.8.7. Pro Super/Flight Chief must review all actions prior to clearing the discrepancy on the third occurrence.

9.9. Electronic Circuit Breaker (ECB) Documentation.

9.9.1. Document ECB(s) on a separate discrepancy. Enter the total number of ECB(s) and corresponding ECB numbers pulled and strapped with an applicable “NOTE”. Reference the original discrepancy IAW TO 00-20-1. For example: “Three each ECBs 201, 202, 203 pulled and strapped. NOTE: DO NOT OPERATE LANDING GEAR. See Page 3, item 2.”

9.10. Unstrapping Electronic Circuit Breaker (ECB).

9.10.1. A thorough review of the aircraft 781 series forms will be made prior to unstrapping and/or resetting any ECB(s) to ensure another discrepancy does not exist that would warrant deactivation of the affected system.

9.10.2. If another discrepancy exists that would warrant deactivation of the affected system, contact the owning work center of the applicable discrepancy for further guidance.

9.10.3. If working on a Letter Check aircraft, coordinate with the Dock Chief/MXS Pro Super prior to unstrapping ECBs in order to update the Warning Tag Book.

9.10.4. During system operational checks that require ECB(s) to be pulled or pulled and strapped, there is no extra G081/forms documentation required when the task is completed in its entirety. For example: Communication/Navigation/Identification Management System and Mission Computer operational checks all require that an ECB be strapped and then reset again within the same task.

9.11. Paperless Letter Check Documentation.

9.11.1. A warning tag filing system is authorized for use on aircraft undergoing letter check. Dock chief or their designated representative will have control of all warning tags for accountability purposes.

9.11.2. All warning tags associated with letter check will be numbered chronologically, beginning with (TAG)-001 and stored in the warning tag file. The file will remain within the aircraft maintenance facility under the control of the Dock Chief.

9.11.3. A red “X” discrepancy will be entered in MIS to cover the entire warning tag file. The discrepancy will read as follows: "WARNING TAGS INSTALLED FOR LETTER CHECK MAINT/INSP (SEE WARNING TAG FILE)” with reference back to the main Letter Check JCN.

9.12. On Wing Maintenance Documentation by Rolls Royce and Dowty Field Service Representatives (FSR).

9.12.1. If on wing maintenance is performed by a FSR and a military member while using technical orders available for military personnel use, then normal 00-20-1 procedures will be utilized to sign off the appropriate symbols. This applies to those tasks that the military technician and FSR are both qualified to perform.

9.12.2. If on wing maintenance is performed by only an FSR or an FSR with military member assistance using proprietary Rolls Royce or Dowty technical data, then it is the responsibility of the FSR to document the maintenance performed. This applies to those tasks that a military technician assists an FSR, but is not qualified on the task because it is not part of their qualification, or the technical guidance is only available to the Rolls Royce or Dowty FSR. A “RED X” will be used for this type of maintenance. The FSR will sign the “Inspected By” block and fill in the “Man Number”, “Date Corrected”, and “Corrective Action” blocks IAW TO 00-20-1.

Chapter 10

WING FOD PREVENTION PROGRAM

10.1. IAW DAFI 21-101 Para. 2.3.1 and 11.8.1 the 86 Airlift Wing Deputy Commander (AW/CD) is the wing FOD prevention manager and the dropped object program manager. He/she has overall responsibility for these programs.

10.1.1. The 86 AW/CD will appoint a qualified technical sergeant (or above), civilian equivalent, or contractor, if designated by performance work statement, as the FOD prevention monitor.

10.1.2. The 86 AW/CD will appoint a qualified individual as the DOP program monitor.

10.2. Wing FOD Prevention Monitor Responsibilities.

10.2.1. Manage the FOD Prevention Program in conjunction with DAFI 21-101 and associated supplements.

10.2.2. Organize, report, and present FOD/DOP program status at monthly and quarterly FOD/DOP briefings.

10.2.3. Report all FOD/DOP incidents and forward reports to the MAJCOM FOD Monitor as required. For 86 AW assigned aircraft; correspondence that requires distribution outside of the wing requires approval by the 86 AW/CD, or if unavailable, the MXG/CC.

10.2.4. Maintain master FOD/DO logs and archive all files and reports for a minimum of 2 years.

10.2.5. Conduct periodic spot checks of maintenance areas, aircraft, taxiways, aircraft parking spots, vehicles, hangars, access roads to the flightline, squadron FOD boards and other areas.

10.2.6. Address areas of concern to squadron commander, aircraft maintenance unit Officer in charge (OIC), and superintendent or airfield manager.

10.2.7. Annotate inspection information in locally generated spreadsheets.

10.2.8. Develop and manage the FOD prevention awards program.

10.2.9. Analyze program areas that require additional management emphasis.

10.2.10. Generate and distribute FOD prevention material to squadron FOD representatives.

10.2.11. Maintain the failure analysis service technology kit and be the point of contact of the program. The Failure Analysis Service Technology (FAST) program will be used to the maximum extent with the approval of 86 AW/SE, 86 MXG/CC or 86 MXG/CD.

10.3. Squadron Commander Responsibilities.

10.3.1. Each of the following organizations listed in **Table 1**, will be responsible to ensure an effective FOD prevention program is established.

Table 10.1. Organizations with FOD Prevention Program.

86th Maintenance Group/Quality Assurance	86th Munitions Squadron
86th Maintenance Squadron	37th Airlift Squadron
86th Aircraft Maintenance Squadron	424th ABS*
86th Maintenance Operations Squadron	76th Airlift Squadron

86th Aeromedical Evacuation Squadron	435th Air Mobility Squadron
86th Operations Support Squadron	496th ABS*
86th Security Forces Squadron	721st Aircraft Maintenance Squadron
86th Civil Engineer Squadron	721st Aerial Port Squadron
86th Logistics Readiness Squadron	786th Civil Engineer Squadron
86th Vehicle Readiness Squadron	86th Communications Squadron
NOTE 1: The MXG/CC will chair the meeting in the absence of the WG/Center CD. Minimum attendee representation is all group commanders, director(s), commanders of units with maintenance personnel, safety (Center and Base), CE, Airfield Manager, and security forces. The chairperson designates additional attendees (e.g., agencies, detachments) as required. *(Quarterly committee meeting attendance is not mandatory due to geographic separation). ***NOTE 2:*** 86 AW Safety is mandated by AFI 91-202 to monitor FOD control programs and procedures. The object is to identify trends and problem areas. Selection of the areas to be monitored depends on the available data and the needs of the organization.	

10.3.2. Each unit who drives or works on the flightline will establish and maintain an effective squadron FOD prevention program. A FOD prevention program will also be implemented at all deployed locations.

10.3.3. Each unit will assign a primary and alternate unit FOD Monitor, in writing, as the point of contact for their squadron on all FOD and DO issues. In addition, the squadrons will appoint a unit dropped object prevention monitor as point of contact for DO issues. Note: The AMU appointment letter must indicate "FOD and/or DO Representative." Additional representatives may be appointed to assist the squadron primary and alternate FOD prevention representatives. A copy of the FOD/DO appointment letter will be forwarded to the wing FOD monitor to be kept on file. See **Attachment 10** for dropped object self-prevention program self-assessment guide.

10.3.4. Ensure maximum participation in daily FOD walks.

10.3.5. Attend the 86 AW FOD quarterly FOD prevention meetings. If unable to attend, ensure his/her representative attends.

10.4. Squadron FOD Prevention Monitor Responsibilities.

10.4.1. Ensure widest dissemination of information provided by the wing FOD prevention monitor such as flashes, reports, minutes, posters, visibility boards, videos, etc.

10.4.1.1. Ensure work center specific FOD training is provided prior to newly assigned personnel performing duties on the flightline, by the supervisor and at least annually.

10.4.1.1.1. Ensure work center supervisors indoctrinate all assigned personnel on the importance of the FOD Prevention Program to the mission and ensure personnel are familiar with the policies and procedures contained in this instruction. FOD prevention training will be documented in trainee's training records or Form 55 by the trainee's supervisor.

10.4.1.2. Ensure a viable FOD prevention program is in place within the unit and conduct weekly inspections to evaluate the effectiveness of the FOD prevention program. FOD monitors will

ensure that initial training is conducted, tracked, and meets the requirements of this instruction and the unit's needs.

10.4.2. Develop and ensure a FOD prevention continuity binder or equivalent is available to all personnel and consists of the following:

10.4.2.1. Current 86 AW FOD/DOP Contacts.

10.4.2.2. Squadron and 86 AW FOD/DOP representative appointment letter.

10.4.2.3. Reference to where FOD/DOP publications (e.g., DAFI 21-101, AFI 21-101 USAFE-AFAFRICA SUP) can be found.

10.4.2.4. FOD prevention inspection log.

10.4.2.5. FOD prevention training log.

10.4.2.6. All lost tool reports (maintain for 2 years).

10.4.2.7. Dropped object reports (maintain for 2 years).

10.4.2.8. Foreign object damage reports (maintain for 2 years).

10.4.3. FOD bulletin boards will be maintained by each section, work center, or facility that performs on-/off-equipment maintenance or operates in the flightline area during primary or support functions. The placement of the FOD bulletin board will be at the discretion of the facilities manager but is to be located in a place of high visibility to increase individual awareness of FOD prevention. FOD awareness information may be incorporated on safety bulletin boards if a separate board is not feasible. If there are multiple shops within close proximity, then maintain a common FOD bulletin board in a common area. The FOD bulletin board is the responsibility of the owning squadron/AMU/flight/shop and will be kept current on a monthly basis and when required. FOD bulletin board required contents are, but are not limited to:

10.4.3.1. The wing FOD monitor appointment letter and 86 AW FOD Prevention Key Personnel.

10.4.3.2. Squadron or AMU FOD/DOP representative appointment letter.

10.4.3.3. Quarterly minutes. A reference may be posted to where the minutes may be obtained or read. Meeting minutes may be located in the squadron continuity book.

10.4.3.4. Quarterly winning FOD prevention poster.

10.4.3.5. Current FOD Flash.

10.4.4. Assist the wing FOD monitor when requested.

10.5. Program Meetings.

10.5.1. FOD meeting attendance is mandatory for the squadron primary or alternate FOD monitor. If the squadron primary or alternate is unable to attend, a representative will be appointed to attend.

10.6. 86th Civil Engineer Group (CEG).

10.6.1. Provide powered sweepers upon request for aircraft parking ramps, taxiways, runways, flightline access roads, and other areas of the airfield.

10.6.2. Ensure recently swept areas are FOD free upon completion of sweeping operations to ensure the actions have not created a FOD hazard, such as broken bristles or broken taxiway lights.

10.6.3. Provide monthly serviceability status of sweepers and hourly usage to the wing FOD monitor for inclusion in the monthly/quarterly FOD statistics.

10.6.4. Provide assistance and technical advice to the wing FOD monitor and wing FOD committee for pavement repairs, airfield construction, and other functions that fall under the CEG.

10.6.5. 86th CEG FOD Prevention Officer will ensure all civilian contracted construction workers are briefed on FOD prevention procedures when working on or around the flightline.

10.7. 86th Vehicle Readiness Squadron.

10.7.1. When vehicles are picked up by the owning unit, Vehicle Control Officers (VCOs) or their designated representatives ensure the vehicle is inspected along with the customer service representative. If there are discrepancies, such as trash, debris, tools, in the vehicle, it will be noted/removed at that time.

10.7.2. Accounting for items that belong in vehicles that transit the flightline is the responsibility of the owning unit. Vehicle Readiness Squadron (VRS) does not account for items stored in the vehicle, only the vehicle itself.

10.8. Maintenance Operations Center.

10.8.1. Notify the wing FOD monitor and wing safety of any occurrence involving FOD or dropped objects.

10.8.2. Log and monitor communication of weekly FOD walks, FOD & DOP incidents, and lost tools within each respective area of responsibilities. (86th MOS/MOC, 721st MOC, etc.…)

10.9. Operations Support Squadron/Airfield Manager.

10.9.1. Conduct daily FOD checks of the primary takeoff, landing, and taxi surfaces before the start of flying activities.

10.9.2. Request sweepers be dispatched as required.

10.9.3. Notify the wing FOD program monitor of any changes in airfield conditions that may cause a potential FOD hazard.

10.9.4. Ensure the number of individuals authorized to operate Privately Owned Vehicles (POV) on the flightline are held to a minimum and are briefed on FOD prevention.

10.9.5. Ensure positive control of engineering or contractor personnel working on the airfield and inspect these areas during daily airfield inspections.

10.9.6. Forward copies of hazards/discrepancies identified in airfield inspections to the appropriate agencies upon request.

10.9.7. Upon request from the wing FOD monitor, provide status of all airfield repair and construction projects affecting aircraft operation areas.

10.10. Operations Support Squadron/Current Operations.

10.10.1. Provide a monthly summary of flying hours and landing for all assigned aircraft to wing FOD monitor for inclusion in quarterly FOD statistics.

10.11. Maintenance Operations Flight.

10.11.1. Maintenance Training flight, MXO/MXOT, incorporates FOD/DO prevention training for maintenance personnel during annual maintenance training.

10.12. Initial Training.

10.12.1. The squadron FOD representative/work center supervisor gives all newly assigned personnel an initial FOD awareness briefing before performing duties on the flightline or in maintenance areas. At a minimum, training consists of the items listed in this instruction.

10.12.2. This briefing will include the following: Common causes of FOD, squadron policies, hardware and tool control policies and individual responsibility to prevent FOD. The briefing will also include operation of vehicles in flightline areas, control of personal items, equipment, consumables, and housekeeping. (Clean as you go)

10.12.3. Task Training. Ensure FOD prevention training is part of all task training. Values of good workmanship, discipline and integrity will be stressed. A quality product is FOD free.

10.12.4. Aircraft Structural Repair Training. A 7-level red X qualified aircraft structural repair technician shall be the certifying official for engine intake structural maintenance. Task training and certification will be documented in the member's training record. Training should include:

10.12.4.1. Procedures required to properly cover engine intakes and other areas where FOD may migrate. Procedures may vary depending on aircraft type.

10.12.4.2. Hardware control, tool control, and housekeeping. Also include aircraft forms documentation, documentation of the aircraft intake maintenance checklist, other applicable documents.

10.13. General FOD Prevention.

10.13.1. FOD prevention is the responsibility of all personnel who work and/or operate in/around aircraft and flightline environments. If you see FOD - pick it up.

10.13.2. All flightline users will request sweepers when it is unreasonable to pick up debris found on the flightline by hand. To report and request a sweeper, when necessary, contact MOC or the wing FOD monitor for the request.

10.13.3. All areas where aircraft are towed, taxied, or parked; shops and maintenance areas where equipment or components are worked on; and entry points to the flightline will be kept free of foreign objects.

10.13.4. Eliminate FOD potential before working on aircraft, engines, and other components. These safety measures are critical before any maintenance around aircraft intake/exhaust areas.

10.13.4.1. Install intake plugs, or tape and barrier paper prior to performing maintenance in or around engine intakes. Ensure engine inlet run-up screens and anti-personnel guards are used if available.

10.13.5. FOD containers will be available when maintenance is performed on aircraft. FOD pouches/bags contained within a Composite Tool Kit (CTK) are considered suitable FOD containers.

10.13.5.1. Do not stow trash/foreign objects in toolboxes. FOD bags will be dispatched with flightline toolboxes. FOD bags will not be permanently attached to toolboxes. Inspect and empty the FOD bag upon signing the toolbox in to CTK.

10.13.6. While performing maintenance actions, personnel will keep their areas clean and FOD free (clean as you go).

10.13.7. Inventory and account for all tools, hardware, equipment, and devices used for performing the job at the start and completion of each task.

10.13.8. During FOD removal procedures use vacuums when cleaning debris from aircraft, engine, or components. Compressed air will be used as a last resort to blow/remove FOD at a 7-level's discretion. Every effort will be made to control the debris from entering other areas.

10.13.9. Presence of valve caps for Support Equipment tires. Valve stems will be protected by a valve cap. Metal caps will not be used unless directed by technical order.

10.13.10. On aircraft, uninstalled engines, Line Replaceable Unit, Support Equipment, AGE, Test Equipment, and Special tools/items: Openings, ports, lines, hoses, electrical connections, and ducts will be properly plugged, covered, or capped to prevent FO from entering the systems. Items that are actively being disconnected, installed, and/or removed will be capped in accordance with technical data or at completion of the task. At no time will items, (e.g., aircraft forms binders, name tapes, checklists, tools.), be placed in or on engine intakes. Note: Does not apply to technicians performing inlet maintenance, inspections and blade blending requiring lights, files, or other tools inside aircraft inlets. Inventory all items IAW DAFI 21-101, paragraph 11.8.3.1.3.

10.14. Clothing/Reflective Belts Requirements/Restrictions.

10.14.1. All flightline areas are designated no-hat areas. These areas are inside the fence line of the northeast, southeast, and southwest areas, all ramps, taxiways, and end-of-runway areas.

10.14.1.1. During cold weather, the winter stocking cap, and flyer‘s helmet (bunny cap) are authorized to be worn in no-hat areas. However, remain alert to operating engines.

10.14.2. Do not attach or wear any items (pens, pencils, whistles, etc.) on armband or flightline access badge holder unless it is intended to hold/be able to secure these items.

10.14.3. Restricted area badges will be secured with a cord or plastic armband.

10.14.4. During exercises, do not wear helmets within 50 feet of aircraft operating engines. Helmets required to perform Night Vision Goggles operations are authorized.

10.14.5. During inclement weather, darkness or periods of reduced visibility all personnel working/operating on the flightline are required to wear a reflective belt. Note: Personnel whose job requires them to perform some function in the traffic/flightline environment shall be provided reflective equipment to enhance their visibility, except as previously stated for Security Forces In accordance with DAFMAN 91-203 paragraph 14.3.14.2.

10.15. Housekeeping.

10.15.1. Implement and enforce the "Clean as You Go" concept while performing maintenance.

10.15.2. Protective aircraft shelters, hangars, maintenance areas, flightline parking areas, aircraft, and maintenance facilities will be kept Foreign Object (FO) free. The organization that uses the hangar will be responsible for ensuring it is FO free.

10.15.3. An organization performing maintenance in a hangar/parking spot will accomplish a FOD walk immediately following the removal of aircraft.

10.15.4. Empty all trash receptacles/containers when full. Trash should not be overflowing the trashcan.

10.16. Daily Operations.

10.16.1. Daily operations involve inspection, care, and maintenance of ramps, hangars, taxiways, and runways. To eliminate FOD, develop a comprehensive, scheduled maintenance system using sweepers and frequent inspections.

10.16.2. Users will inspect all Aerospace Ground Equipment used in and around aircraft for FOD before and after use/movement.

10.16.3. Aircraft Maintenance contractors are required to follow all FOD prevention directed by contract agreement and all parent company policies.

10.16.4. Contractors are responsible for removing debris during and after construction. This includes roadways and hangars in the construction area.

10.17. FOD Prevention Walks.

10.17.1. FOD walks will be performed twice a week as determined by squadron requirements and deconflicted with the days flying schedule. FOD walks should be performed before the beginning of the day's flying operations, and each unit will notify their respective maintenance operations center at the start and end of the FOD walks. FOD walk area of responsibility covers all aircraft taxiways, aircraft movement and parking areas, aprons, AGE sub-pools and shelter entrances. At the discretion of FOD walk supervisor, personnel will periodically stop to re-form an even line. FOD walks may be postponed due to inclement weather at the discretion of the squadron commander or squadron operations officer. The 86 AW FOD monitor will be notified if a FOD walk is to be postponed or if it will not be performed Tuesday or Thursday. Postponed FOD Walks must be made-up as soon as possible. The FOD Boss or towable sweeper may be used in lieu of one FOD walk per week when ramp conditions deem the FOD Boss effective. A FOD walk will be performed if the FOD Boss is not used. Examples of poor conditions that would deem the FOD Boss ineffective include, but are not limited to: ice covered, snow covered, or wet.

10.17.1.1. FOD walks will be led by a TSgt at minimum. If there are multiple areas of responsibilities, alternate monitors will be appointed to ensure FOD walks are properly performed. The FOD walk leader will ensure maximum participation, personnel maintain a side-by-side formation, and all members maintain an even spacing between themselves.

10.17.1.2. Movement will be at a slow pace and in an even line, paying special attention to equipment, grounding points, expansion joints, and cracks in pavement.

10.17.1.3. Upon request, representation from all base squadrons may be utilized to augment FOD walks.

10.17.2. Maintenance crews will perform complete FOD walks in their local areas (i.e., Protective Aircraft Shelters (PAS) and PAS apron, 25 feet in front of inlets and around aircraft) before any engine start. Ramp 8, due to its location, will be inspected approximately 30 minutes prior to aircraft arrival and departure.

10.17.3. Squadrons will ensure FOD walks are complied with in their Assigned areas.

10.17.3.1. Assigned areas, which have multiple Squadrons will share the area responsibilities.

10.17.4. Squadron FOD monitors will ensure that all relevant foreign objects discovered during FOD walks are reported to wing FOD monitor for trend tracking purposes. Items should be marked with date and area discovered.

10.17.5. FOD walks should be performed after high winds or after heavy rains on ramps adjacent to wooded areas if excessive debris is noted.

10.17.6. The Wing FOD Monitor and Alternate FOD Monitors are the points of contact for planning and execution of mass FOD walks.

Table 10.2. FOD Walk Assigned Flightline/Ramp Areas of Responsibilities.

86 AMXS	Ramp area 1 and -21 Hangar area Ramp
76 AMU	area 4 and 7
76 AS	Ramp 7
37 AMU	Ramp area 1
37 AS	Ramp area 2
86 MXS	Ramp area 2 and 3
Transit Alert	Ramp area 3 and 4
86 OSS	Ramp area 4
86 AES	Ramp area 4
86 LRS/POL	POL Parking pad adjacent to Ramp 3 Vehicle
86 VRS	maintenance pad adjacent to ramp 5 Ramp 5:
721 AMXS	Spots 10-16, 21-28, Ramp 8 (HC)
721 APS	Ramp 5: Spot 3-9, 17-20, T1, T2

10.17.7. Ramp 8 will be FOD walked prior to aircraft launch or recovery.

10.18. Rivet Replacement.

10.18.1. When repair or rivet replacement is required on the exterior of the intake, a 7-level structural maintenance craftsman will determine if there is a possible migratory path from the area of maintenance to the inside of the intake.

10.18.2. Structural maintenance shops will utilize a local sheet metal instruction checklist approved by QA. All parts and pieces installed and removed from the aircraft will be documented and verified by a 7-level. The checklist will be legible and completed on the jobsite and turned into the wing FOD monitor within 24 hours of repair completion.

10.18.3. Rivet guns that have stem catch bags will have stem catch bags installed.

10.19. Aircraft/Flightline Environment.

10.19.1. It is the responsibility of all personnel to implement FOD prevention techniques during all aspects of maintenance, flight operations, and supporting requirements while performing functions on the flightline. Implement the following preventive measures while performing maintenance on the aircraft/flightline.

10.19.2. Make every effort to eliminate foreign objects in and around aircraft, PAS, hangars, maintenance facilities, access routes, taxiways, and runways.

10.19.3. Keep all grounding points clean of debris at all times.

10.19.4. Never place aircraft forms, binders, or other foreign objects in or around aircraft intakes.

10.19.5. Aircrew members must account for all equipment and personal items before and after each flight. If items are identified as missing, aircrew will conduct an immediate search of the flight deck/cargo compartments. If the item is not recovered, the aircrew must ensure that the proper documentation is annotated on the AFTO Form 781A Maintenance Discrepancy and Work Document, as prescribed by DAFI 21-101, AFI 21-101 AMC SUP, and T.O. 00-20-1. Then they must initiate a lost tool report.

10.19.6. Use extreme care during ground engine runs. The operator and ground crew will stay alert during ground operations to ensure the intake and exhaust area is free of foreign objects.

10.19.7. Ensure all panels, doors, and components removed from the aircraft are properly capped, marked and stored in racks or bins when available.

10.19.8. All panels, doors, and component hardware removed from the aircraft will be placed in marked hardware bags and attached to the item or aircraft as appropriate. As a minimum, hardware bags will be marked with the aircraft tail number, component nomenclature, and amount of hardware.

10.19.9. Before closing any access doors or panels, and after each job completion, the technician will perform a FOD inspection and perform a tool/hardware accountability check.

10.19.10. Launch, recovery, and hot pit crews are responsible for keeping their operating areas free of debris. Perform a FOD walk before aircraft operations and after aircraft movement. Continually police these areas for foreign objects.

10.19.11. Immediately report any damaged pavement on those areas to the Airfield Manager, Maintenance Operations Center, or the wing FOD Manager.

10.19.12. Utilize the FOD BOSS* to the maximum extent within the areas of the aircraft maintenance units.

10.19.13. No glass drink/dining containers will be authorized on the flightline or in vehicles on the flightline.

10.19.14. All personnel will ensure personal items are secured and accounted for to prevent FOD. Items will not be left unsecured on the flightline.

10.19.15. To prevent FOD incidents all care should be taken when performing maintenance in the flight deck around the throttle quadrant or FOD critical areas to prevent objects from being able to fall into the throttle quadrant. Technicians should make every effort to eliminate potential FOD hazards in critical areas when maintenance is being performed (i.e., hardware bags, barrier paper, Throttle Quadrant covers).

10.20. Engine/Aircraft Intake/Exhaust Maintenance/Inspections.

10.20.1. Intake coveralls (bunny suit) will be worn when entering engine intakes for inspection or maintenance. Ensure coveralls are in good repair and worn properly. Before donning coveralls remove loose items from your person to include items in uniform pockets.

10.20.2. Covers (e.g., engine inlet, pitot tube(s), and any other protective covers) will not be removed prior to flight until an engine intake and exhaust inspection is accomplished and will be

installed within 1 hour following engine shutdown or upon completion of the -6 Inspection, whichever comes first.(Exception: Quick turns Scheduled to take off 4 hours after landing do not need plugs and cover's installed.) Engine inlet covers will be installed prior to any maintenance performed on the engine/propeller forward of the engine firewall. All covers will be inspected after any severe weather condition to ensure serviceability and inventory. These requirements are also applicable to all training aircraft.

10.20.3. 721 AMXS/Transit alert aircraft will follow Mission Design Series, specific technical data, and applicable AFIs for installation/removal of engine inlet/exhaust covers. If instructions of installation /removal of engine inlet/exhaust of covers are absent the guidelines in this operating instruction will take precedence.

10.20.4. **(C-130J/ AE2100D3 only)** . Engine blade damage. Upon discovery of blade damage, annotate AFTO form 781A, Maintenance Discrepancy and Work Document on a red diagonal. A propulsion 7-Level (2A671) or field level engineering expert will determine if the damage is outside the limits identified in the applicable job guide or technical data. Blade blending is not authorized on the AE2100D3 engines.

10.20.5. Conduct inventory of consolidated tool kits (CTK) after intake/exhaust maintenance and before aircraft engine start.

10.21. Aircraft/Engine Run. Prior to engine motoring/start:

10.21.1. Install and secure panels forward of the intake using all associated hardware. Exception: When aircraft technical order or local directives outline procedures for troubleshooting and when performing maintenance, which requires forward door access.

10.21.2. Account for all fasteners and ensure they do not present a FOD hazard.

10.21.3. Ensure run-up area is free of FO and secure or remove loose equipment (maintenance stands, support equipment, toolboxes, etc.) from the aircraft danger area.

10.21.4. Ensure the ground and surfaces where maintenance of aircraft and AGE are free of objects that could cause damage by engine ingestion or exhaust/propeller blast.

10.21.5. On uninstalled engines, inlet covers will be used at all times.

10.22. Ice FOD Conditions/Notifications.

10.22.1. If ice forms during idle runs, the ground observer will notify the operator to shut down the engine.

10.23. Tool/Equipment Accountability/ CTK.

10.23.1. Tools/equipment will be accounted for prior to use on flightline and will not be stored or carried in pockets while working on aircraft or equipment. All tools should be carried and stored in a tool tray or soft tool bag. Do not place tools in a position that would cause damage to aircraft/engine surfaces or injury to personnel.

10.23.2. It is recommended that diagonal cutters, side cutters, safety wire pliers, and similar pliers have the jaws either potted with room temperature vulcanized rubber or equipped with jaw pads from the manufacturer. Check pliers after each use to ensure all FOD is removed from the pliers and discarded.

10.23.3. Procedures for issue and control of personal protective equipment (e.g., ear protectors, reflective belts, headsets). Mark tools or equipment that a work center assigns/issues to an individual.

10.23.4. Allow personal issue equipment when an individual PCS/PCA's, identify personal issue equipment (e.g., ear defenders, reflective belts, etc.) mark these items IAW AFI 21-101 USAFE AFAFRICA SUP para 8.2.8. Markings are not required on personally issued clothing. Equipment previously identified with last name, unit, and employee number do not need to be re-marked or replaced solely to comply with new marking requirements.

10.24. Hardware Control.

10.24.1. Scrounge bags or excess hardware storage collection are not authorized.

10.24.2. Strictly control all hardware and expendable items. These items will be limited to the amount necessary to accomplish the specific task. Under no circumstances will these items exceed the amount that can be accounted for. Bench stocks will be strictly controlled and monitored in a controlled access area to prevent personnel from taking excess quantities into work areas.

10.24.3. Issue bench stock items on a "take what you need" basis to the maximum extent possible. Return excess hardware to the proper bench stock location.

10.24.4. Ensure mobile bench stocks do not present a FOD hazard.

10.25. Aircraft Cockpits and Flight Decks Foreign Object Responsibilities/Procedures.

10.25.1. Flight deck FOD inspections. A flight deck FOD prevention inspection will be accomplished. Pay particular attention to foreign, loose, or missing items (light lenses, covers, bulbs, and hardware) on all instrument, control, and circuit breaker panels. Areas around seat tracks, flight control inputs, and openings in the throttle quadrant and floor.

10.25.2. Notify maintenance supervision, MOC, and quality assurance upon discovery of a lost tool/item. If impoundment official deems necessary, they will begin the impoundment paperwork. Enter a "Red-X" in the AFTO Form 781A stating "Possible Foreign Object on flight deck" (and a short description of the foreign object)". Search all flight deck areas to ensure the item did not migrate during flight or maintenance. Remove components in the immediate area of the lost item as necessary to facilitate search. Note: 721 AMXS will follow established procedures in their applicable OIs.

10.26. Vehicles.

10.26.1. Vehicle operators will adhere to all airfield signs and notifications.

10.26.2. All vehicle operators entering the flightline will perform FOD inspections at designated FOD checks.

10.26.3. All vehicles using the flightline, including POVs, are subject to FOD inspections.

10.26.4. Vehicles must be free of litter, rocks, or other debris including tires, engine compartments, and the interior/exterior of the cab.

10.26.5. All vehicles normally operating on the flightline must be equipped with secured and lidded FO containers or a FO bag. Vehicle operators will ensure vehicles are kept FOD free at all times. FOD containers and any debris will be emptied/removed and the end of every shift or in conjunction with vehicle serviceability/functional checks and when full. Annotate the FOD

container on the vehicle inspection form as an additional item. Note: The requirement to label FOD containers with “FOD” in 2-inch letters.

10.26.6. Recommend vehicle keys be secured to a highly visible streamer (i.e., Red “Removed Before Flight” Streamer). Keys may have a locally manufactured 3”x5” sheet metal identification plate. The streamer and/or identification plate will be properly marked to indicate vehicle registration number.

10.26.7. Additional equipment for vehicles (i.e., ice scraper, extension cords, flashlights) will be marked with the vehicle registration number and annotated on the vehicle inspection form. Note: 721 AMOG have the option to mark vehicle chalks with the unit in lieu of the vehicle registration number.

10.26.8. Fire extinguishers that are carried on vehicles/equipment that operate on the flightline must have the extinguisher marked with the vehicle registration number and will have the safety pull-pin attached to the extinguisher by lanyard. Note: 721 AMOG have the option to mark vehicle chalks with the unit in lieu of the vehicle registration number.

10.26.9. All vehicles operating on the flightline should only be driven on clean, paved surfaces. If driving through debris is unavoidable, operators will stop immediately after passing completely through the debris and inspect tires for FO.

10.26.9.1. All Vehicles will perform a FOD check prior to entering flight-line areas (Exception: emergency response vehicles, responding to an emergency). Vehicle engines will be shut off and parking brakes will be set during tire FOD checks, unless a qualified driver remains in the driver’s seat. If driving through debris is unavoidable, operators will stop immediately after passing completely through the debris and inspect tires for FO.

10.26.9.2. At a minimum, a FOD check will consist of the following:

10.26.9.2.1. Inspection of vehicle tires (pull forward to check tire in contact with pavement). Remove foreign materials (e.g., rocks, gravel, etc.) as applicable.

10.26.9.2.2. A visual check to ensure all external vehicle components are secured. Secure any/all items loaded on payload vehicle, including all tie down device loose ends such as chains, ropes, packaging or other item that may become dislodged during movement while on the airfield.

10.26.9.2.3. A thorough walk around of the vehicle to check for damaged, loose, or worn parts. In accordance with DAFI 21-101 paragraph 11.8.3.15, the requirement for vehicle operators to stop and perform a visual FOD inspection on all equipment and tires prior to entering the flightline. Note: Mitchell Avenue crossing taxiway Delta between the 86 AW HQ building and the fire department building 2303 have been waived for visual FOD inspection but with stipulations. Construction type vehicles and vehicles that leave the paved surface are required to complete FOD check regardless the type of vehicle.

10.26.10. Vehicle operators should use the nearest entry control point or route that crosses the least amount of taxiways to reach their appropriate parking areas/work centers. All vehicles will come to a complete stop before proceeding across any FOD checkpoint or active taxiway. After checking for aircraft/vehicles, proceed across while checking the driving lanes for FOD. If FOD is discovered, vehicle operators will safely stop their vehicle and pick up/remove it from the pavement. If debris is more than can be picked up, notify airfield management.

10.26.11. All vehicles normally operating on the flightline will be equipped with a FOD pick and secured/lidded FO containers or a FO bag. Vehicles that merely cross the flightline near the tower are not required to have FOD bags/picks. Utilize the FOD pick to dislodge FO from vehicle tires. Dispose of the FOD in the vehicle FOD bag.

10.26.12. Pintle hook pins of all types will be secured by cable and swedge or chain to the pintle hook. Safety wire will not be used to secure pins. Pins will be installed in pintle hook at all times.

10.27. Lost Tools.

10.27.1. If the item cannot be located within 60 minutes: notify Quality Assurance, initiate locally generated Lost Tool/item Report and annotate AFTO Form 781A with a "Red-X" and a description of the situation and search procedure used. Squadrons will provide a copy of the report to the 86 AW FOD monitor. Reports may be submitted via fax, email, or a copy may be hand carried to the wing FOD monitor. Notify the production superintendent who will ensure the work center supervisor, CTK custodian, MOC, QA and all appropriate levels of supervision are notified. Forward a copy of the report to QA within 5 duty days. 721 AMXS and 721 APS will use procedures outlined by AMC. 86 MUNS and 86 MMS will follow procedures outlined in DAFI 21-101, AFMAN 21-200 and applicable supplements.

10.27.2. Utilize all resources available in searching for a lost item. Searching may require component removal, de-paneling, nondestructive inspection, and borescope inspection.

10.27.3. Non-aircraft maintenance personnel will maintain control of all items while operating on the airfield. If an item becomes lost or cannot be accounted for, notify the MOC and Airfield Management immediately. Provide a description of the item lost and the areas traveled while on the airfield. The airfield manager will coordinate a search effort and notify the MXG/CC or equivalent for tenet units of the incident and the results of the search.

10.28. Reporting/Investigation.

10.28.1. All incidents of FOD/DO must be reported and investigated. A locally developed worksheet may be used for reporting. For FOD reporting local worksheets must contain at minimum, information contained in **Attachment 8**. For dropped object reporting the minimum requirements in **Attachment 9** will be used. Note: Initial dropped object report will be made to the Lead Command within 24 hrs. of occurrence. Final DOPP report will be made to Lead Command in 3 duty days.

10.28.2. Upon discovery of a FOD/DO, cease operations in the affected area of the aircraft/engine and notify the flightline expeditor/supervisor and the MOC.

10.28.3. MOC will notify QA, wing FOD monitor, and wing safety of the incident.

10.28.4. MOC will notify wing safety of all bird strikes. Maintenance/aircrew personnel will collect and place any existing bird remains in a plastic bag and turn into wing safety.

10.28.5. For installed engine FOD, enter a "Red-X" in the AFTO Form 781A with the discrepancy, "Suspected/Actual FOD to Engine #." Notify MOC, stop all maintenance on the affected engine, and do not continue until authorized by the 86 MXG/CC or designated representative with concurrence of the Safety Investigation Office, wing FOD monitor, or QA. Note: 721 AMXS will follow established procedures outlined in their applicable operation instructions.

10.28.6. For an engine bird strike, enter a "Red-X" in the AFTO Form 781A with the discrepancy, "Suspected/Actual Bird Strike Damage to Engine #."

10.28.7. Perform a hardware accountability inspection on the applicable aircraft, engine and components receiving FOD or suspected FOD damage.

10.28.8. The following paragraphs (27.8.1-27.8.3) pertains to 86 AW assigned aircraft:

10.28.8.1. If confirmed engine FOD, the appropriate impound authority will impound the engine and propeller and notify the MXG/CC, OG/CC or their representative of the incident. The aircraft should only be impounded if the FOD damage is not isolated to the engine. The propeller will remain impounded until Safety determines that it can be released with concurrence of the impoundment official and or the impoundment authority.

10.28.8.2. Once it has been determined the damage is limited to the engine, the engine with propeller assembly may be removed with the authorization of the 86 MXG/CC or designated representative with concurrence of the Safety Investigation Office, wing FOD monitor, or QA.

10.28.8.3. The impoundment official will develop an off equipment work package to document all maintenance and investigation findings discovered during inspection. The impoundment release authority will annotate on a locally generated form or in the daily summary record stating: "Investigation Complete. All corrective actions have been reviewed. Propeller/Engine released." The release authority will sign the inspected by with a minimum signature and employee number and initial over the symbol.

10.29. QA will secure the aircraft forms or engine work package for review.

10.30. The Wing FOD monitor will initiate a FOD report and forward it to the AMC FOD manager within 24 hours of the incident. 721 AMXS FOD monitor will initiate reportable FOD report and forward to AMC FOD manager.

10.30.1. With engine specialist assistance, the wing FOD monitor will inspect the damaged engine to determine if FOD entered the intake or material failure occurred internally. If there is no evidence of material failure, the aircraft and/or engine will be impounded.

10.30.2. The impoundment official or other investigating office will interview personnel involved and take written statements, as necessary, of any recent action on the aircraft or engine to help determine the cause of FOD.

10.30.3. The impoundment official or other investigating office will also inspect the aircraft and/or engine and associated equipment for missing hardware, panel, etc. to help determine the cause of the damage. Inspection areas should include, but not be limited to, cockpit areas, areas forward of the intakes, nose and main wheel well areas, top of the aircraft, shelter, aprons and taxiways.

10.30.4. The chief of safety appoints an investigation officer for reportable FOD events under the provisions of AFI 91-204, Safety Investigation Reports, and controls all aspects of the investigation. The wing FOD monitor with QA assistance investigates FOD events not reportable under the provisions of AFI 91-204 with the assistance of engine specialists and/or propulsion flight.

10.31. FOD Prevention Incentive Program.

10.31.1. The purpose of the wing's FOD prevention incentive program is to recognize personnel for their participation in the prevention of FOD and to promote FOD prevention awareness. All awards are subject to change due to availability of gifts, sponsors, and adjustments implemented to the program. The awards are as follows:

10.31.2. The Golden Bolt Award. The golden bolt will be placed monthly throughout the flightline and off-equipment areas. The placement of the bolt will be rotated through areas of responsibility to allow each participating squadron the opportunity to find the bolt at least once during the year.

10.31.3. The FOD Poster of the Quarter Award. All personnel assigned to participating units may submit FOD posters. The poster must promote a strong FOD prevention message which may be hand-drawn or computer generated on 8½" x 11" white paper. If aircraft are depicted on the poster, they must be of the type locally assigned. Squadron FOD committee members will vote on the winning poster. Computer generated designs are acceptable and will be submitted along with the graphical file on disc or via e-mail. The designer of the winning poster will be recognized at the quarterly FOD meeting.

10.31.4. The FOD Finder of the Quarter Award. Selections for this award are based on nominations submitted by supervisors, through their squadron FOD Monitors or alternates. Individuals submitted must have demonstrated exceptional FOD awareness and contributions to the FOD prevention programs. If multiple submissions are made at the squadron level, the unit FOD representative will select the most deserving candidate for submission. Nominations will be in letter format with one nominee per letter. Nominations may be sent via, e-mail or FAX, or hand carried to the wing FOD monitor. Nomination letters must contain the nominee's name, rank, organization, date of event, and a brief narrative. Nominations must be received by the wing FOD monitor prior to the last duty day of the quarter. The winner will be chosen by FOD committee members by vote.

10.31.5. FOD Unit of the Quarter. Plaque will be awarded to the unit achieving highest level of FOD prevention/awareness.

10.31.6. The 86 AW Squadron FOD Prevention Award.

10.31.6.1. This award is based on the fiscal year calendar. It is awarded to the squadron that most significantly contributes to FOD awareness and prevention throughout the year. The following criteria will be taken into consideration when selecting an award winner:

10.31.6.1.1. The number of FOD Finder of the Quarter nominations.

10.31.6.1.2. FOD Poster of the Quarter submissions.

10.31.6.1.3. Significant foreign objects turned in to wing FOD monitor (may be photographs).

10.31.6.1.4. Wing FOD monitor inspections pass rate (i.e. housekeeping, FOD walk follow-ups, vehicle, FOD board, etc.).

10.32. The winning squadron will receive the 86 AW FOD plaque. The plaque will be presented during the last fiscal year quarterly FOD briefing by the 86 AW/CD.

Chapter 11

FCFS, OCFS, AND HIGH-SPEED TAXI CHECKS

11.1. FCFs, OCFs, and high-speed taxi checks are performed to ensure aircraft are safe for flight and capable of performing assigned missions. FCFs are not flown when the airworthiness of the aircraft can be determined by maintenance operational checks prescribed by a technical directive. The three-part FCF briefer checklist (**Attachment 1**) is not part of any regulation and is maintained in the 86 MXG/QA FCF continuity book. This checklist will be the official checklist used by QA and Quality Assurance Representatives (QAR) for all functional check flights, as required by DAFI 21-101, Para 6.12.2.1. Upon notification of a FCF, OCF or high-speed taxi check, the owning aircraft maintenance unit will ensure the following steps are completed.

11.1.1. All check flights (on-site, transient or off-station) will be accomplished using home station procedures and FCF checklists parts **1-3** (**Attachment 1**).

11.1.2. Ensure all aircraft systems are fully operational or will not affect the high-speed taxi check or check flight profile.

11.1.3. Refuel the aircraft to the predetermined ramp load or as required by check flight profile. To minimize brake and tire wear while performing high-speed taxi checks ensure the aircraft is configured with the minimum amount of fuel required.

11.1.4. Ensure the aircraft is prepared for flight.

11.1.5. Configure the cargo compartment as required for check flight profile.

11.1.6. The aircraft forms will be transcribed prior to taxi check or flight. All applicable forms, to include active, transcribed and the original grounding discrepancies, must be available for review by QA/QAR. Enter a concise statement explaining the requirement for the FCF, OCF or high-speed taxi check in the 781A Maintenance Discrepancy and Work Document.

11.1.7. Bring the transcribed forms and the active set of forms to QA/QAR for the scheduled aircrew briefing/review.

11.2. The 86 AMXS Maintenance Operations Officer (MOO) or designated representative, in conjunction with 86 MXS MOO or designated representative as required, will notify QA/QAR and applicable airlift squadron central scheduling of all FCFs or high-speed taxi checks at least 72 hours prior to flight. The appropriate flight scheduler and squadron should plan all FCF missions and high-speed taxi checks 72 hours in advance. This will ensure FCF mission requirements are met and a FCF qualified aircrew can be scheduled for the mission. OCFs will follow the same planning requirements. Notification less than 72 hours prior to flight must be made due to valid operational mission requirements and/or unforeseen circumstances. 86 OG/CC is the approval authority for 86 AW FCFs. See **Attachment 2**for requirements to determine if a FCF is required.

11.3. QA/QAR Responsibilities:

11.3.1. Upon notification of any FCF, OCF or high-speed taxi requirement, the following steps will be taken:

11.3.2. All check flights (on-site, transient or off-station) will be accomplished using home station procedures and FCF checklists parts **1-3** (**Attachment 1**).

11.3.3. Prepare the FCF Briefer Checklist.

11.3.4. Review the aircraft forms for maintenance accuracy and completed documentation. Ensure a concise statement of the reason for the FCF, OCF or high-speed taxi check is in the 781A's.

11.3.5. Prepare a MDS specific -6CF-1, Acceptance and/or Functional Check Flight Procedures. Consult the Production Superintendent and applicable maintenance specialist to verify the systems/areas causing the FCF condition then highlight the applicable systems/areas requiring FCF on the applicable checklist for the check flight mission.

11.3.6. When the aircrew arrives for the briefing, inform them of the reason for the check and annotate the briefing in the next open block on the AF Form 2400, Functional Check Flight Log. Ensure the aircrew is aware of any open discrepancies in the 781A's (e.g., in-flight operational checks, in-flight negative torque checks, etc.).

11.4. High-Speed Taxi Check Requirements:

11.4.1. High-speed taxi checks are applicable to C-130 aircraft only. High-speed taxi checks require a FCF qualified crew.

11.4.2. The aircraft commander will sign, date, and enter the time that the high-speed taxi check was completed in the 781A's.

11.5. Check Flight Completion:

11.5.1. Upon completion of the check flight, QA/QAR will meet with the check flight aircrew at Maintenance Debrief Section and accomplish the following steps:

11.5.2. Retrieve the FCF checklist from the aircrew.

11.5.3. Deliver the checklist to the 86 MXO PS&D Section to be included in the aircraft jacket file as a permanent record.

11.5.4. If the aircraft fails the check flight and is not released, 86 AMXS or 86 MXS, as required, will coordinate with the MOC and the respective flying squadron's central scheduling desk to schedule the next flight attempt.

11.5.5. When the check flight aircraft is released, QA/QAR will complete all documentation on the AF Form 2400 or the computer automated FCF Log as required. This will serve as a permanent record for deficiency or trend analysis.

Chapter 12

AIRCRAFT HANGARING

12.1. 86 MXG Hangaring Checklist (LCL-86MXG-002) will be used to hangar aircraft in hangars 1, 2, 3 and building 2018 (Dual Bay). A new checklist will be accomplished each time an aircraft is towed into a hangar.

12.1.1. The 86 MXG Hangaring Checklist (LCL-86MXG-002) is available digitally on the QA SharePoint site at: **https://usaf.dps.mil/:f:/r/sites/86_MXG/Shared%20Documents/MXQ?csf=1&web=1&e=2qVHWM**

12.1.1.1. A copy of the completed checklist will be placed in front of the forms binder, on a fixed hangar placard or given to the Dock Chief for ISO aircraft.

12.2. C-21/C-37/C-40 aircraft will utilize company specific checklists that meet all MXG criteria. A new checklist will be accomplished each time an aircraft is towed into a hangar.

12.2.1. Upon completion of tow into/out of the hangar, the completed checklist will be given to the site supervisor or site lead for review.

12.3. Emergency evacuation procedures located on Attachment 6, will be posted on all hangar doors and exits.

Chapter 13

CONTROL, HANDLING, AND TRANSPORTING OF MUNITIONS AND EXPLOSIVES-LOADED C-130J AIRCRAFT. (86 AW ONLY)

13.1. Roles and Responsibilities.

13.1.1. All 86 MXG, 86 OG, and 86 LRG personnel involved in the handling and transporting of munitions and handling of explosives-loaded C-130J aircraft will:

13.1.1.1. Understand the mishap notification and emergency action procedures addressed in **paragraph 13.2**.

13.1.1.2. Will be trained IAW DESR5066.09_AFMAN91-201

13.1.2. The Avionics Section will:

13.1.2.1. Contact 86th Munitions Squadron (MUNS) Munitions Control, in coordination with the 86 AMXS Production Superintendent, to request transportation of chaff and flare munitions to/from the aircraft or to/from the 86 AMXS ARMAG.

13.1.2.1.1. The 86 AMXS ARMAG is referred to as ‘ARMAG’ throughout the rest of this publication.

13.1.2.2. Maintain the master key for the ARMAG.

13.1.2.2.1. An ARMAG key will be maintained by the 86 AMXS Consolidated Tool Kit (CTK) Section for issue to load crews.

13.1.3. The qualified chaff and flare load crew will:

13.1.3.1. Transport and handle munitions to/from aircraft and to/from the ARMAG.

13.1.3.2. Store munitions in and issue munitions out of the ARMAG.

13.1.3.2.1. Ensure chaff and flare loads stored in the ARMAG are organized and identified by a load number on the canister and verify munitions issued to an aircraft have the same load number.

13.1.3.2.2. Update 86 MUNS Munitions Control on ARMAG inventory changes. For instance, when a chaff and flare load is issued to an aircraft, or a new chaff and flare load is stored.

13.1.3.2.3. Notify the 86th MOC when the status of the ARMAG changes from Empty to Loaded or Loaded to Empty.

13.1.3.3. Upload and download chaff and flare munitions on C-130J aircraft.

13.1.4. The Electrical and Environmental shop

13.1.5. The 86 AMXS Production Superintendent will:

13.1.5.1. Determine aircraft chaff and flare load requirements using the Global Decision Support System (GDSS) and the flying schedule.

13.1.5.2. Coordinate with the Avionics section and 86 MUNS Munitions Control to ensure chaff and flare loads are available for aircraft uploading and determine if upcoming downloaded munitions can be stored in the ARMAG or require pickup.

13.1.5.2.1. If munitions are not available for issue from the ARMAG, coordinate with 86 MUNS to ensure munitions will be ready for delivery to the aircraft or ARMAG at the appropriate time.

13.1.5.3. Coordinate with chaff and flare load crews to complete stray voltage, uploading, and downloading procedures.

13.1.5.3.1. If possible, when 86 MUNS must deliver chaff and flare munitions directly to the aircraft, coordinate with load crews to start stray voltage checks two hours prior to magazine delivery time.

13.1.6. The 86 MOC will:

13.1.6.1. Receive mishap and emergency notifications involving explosives and alert the appropriate parties discussed in **paragraph 13.2**.

13.1.6.2. Update the Fire Department on the status of the ARMAG, either Empty or Loaded, and the Hazard Class/Division (HC/D) of the explosives in the ARMAG.

13.1.6.3. Notify Security Forces and the Fire Department when explosive operations (e.g. chaff and flare upload/download) has started and finished.

13.1.6.3.1. Base operations must be notified when an upload/download is completed.

13.1.7. The 86 MUNS will:

13.1.7.1. Transport chaff and flare munitions.

13.1.7.2. Store munitions in the ARMAG and maintain an inventory.

13.1.7.2.1. 86 MUNS will maintain a key to the ARMAG.

13.1.7.3. Organize and identify munition magazines and canisters using load numbers.

13.2. Mishap Notification and Emergency Action.

13.2.1. Mishap Notification Procedures

13.2.1.1. When a mishap occurs involving explosives (i.e., fire, un-commanded launch, hung flare, or unknown condition) immediately notify 86 MOC, 86 AMXS Production Superintendent, and Additional Duty Weapon Safety Representatives.

13.2.1.2. 86 MOC will notify the Command Post, Fire Department, Explosive Ordnance Disposal (EOD), Base Operations, Security Forces, 86 AW Weapons Safety, and Munitions Control.

13.2.2. Emergency Actions

13.2.2.1. If fire is involved:

13.2.2.1.1. All non-essential personnel must be evacuated to the withdrawal distance in accordance with **Table 13.2** using the highest hazard class involved in the mishap.

13.2.2.1.2. Notify 86 MOC with the aircraft tail number, location, type and quantity of explosives involved, and the fire symbol. MOC will notify the Fire Department.

13.2.2.1.3. If possible, remove all munitions not engulfed in flames from the area.

13.2.2.1.4. If munitions become engulfed in flames, record the time, stop fighting the fire, and evacuate to the withdrawal distance in accordance with **Table 13.2** using the highest hazard class involved in the mishap.

13.2.2.2. If an un-commanded launch of munitions occurs:

13.2.2.2.1. Once the aircraft is cleared and upon arrival to final parking, 86 AMXS chaff and flare load qualified personnel will ensure safety pins are installed and aircraft power is off prior to downloading aircraft chaff and flare munitions. Once munitions are downloaded IAW T.O. 1C-130J-33-1-2 or T.O. 1C-130J-33-1-2CL-1, the aircraft is considered safe, and cargo can be downloaded.

13.2.2.3. If a hung flare or unknown condition exists:

13.2.2.3.1. The Owning production section will notify 86 MOC. Once 86 MOC is notified, they will contact Command Post who will notify EOD, 86 AW Weapons Safety, and the Fire Department for response to the applicable aircraft. 86 MOC will also notify 86 MXG/Quality Assurance (QA), the 86 AMXS Production Superintendent, and Munitions Control.

13.2.2.3.2. Engines will be shut down immediately, and the aircraft will be chocked.

13.2.2.3.3. Aircrew and all non-essential personnel will evacuate to the withdrawal distance IAW **Table 13.2** using the highest hazard class involved in the mishap.

13.2.2.3.4. EOD will secure the area around the aircraft and download the hung munitions.

13.2.2.3.5. The aircraft will then be towed to an aircraft parking spot.

Table 13.1. Fire Division Hazards and Actions.

Fire Div.	Materials	Hazard	Action / Remarks
3*	HD 1.3	Mass fire, minor blast of fragment	1. May be fought if explosive is not directly involved. 2. If White Phosphorus (WP) munitions are involved, smoke is liberated: a. WP munitions may explode. b. Immerse Phosphorus in water of continuous spray with water. 3. For fires involving Hexachloroethane and incendiaries, use dry sand or dry powder in the early stages. 4. For fire involving pyrotechnics and magnesium incendiaries: a. Protect adjacent facilities and equipment. b. Do not use carbon dioxide, Halon extinguishers, or water on or near munitions. c. Allow magnesium to cool unless upon flammable material. In this case, use a

				2-inch layer of dry sand or powder on the floor and rake the burning material onto this layer and re-smother.
4*	HD 1.4	Moderate fire, no significant blast / fragments	1. Fight these fires. 2. Expect minor explosions and hot fragments.	

*Typical C-130J Munitions Characteristics

Table 13.2. Fire Division Hazards and Actions continued.

Fire Div.	HC/D	Noun	New / lbs.	Max Qty	Withdrawal Distance
3	1.3 / G	M206 Flare	0.2848	128	600 ft.
4	1.4 / G	MJU-50 / B Flare	0.0008	120	300 ft.
4	1.4 / G	MJU-64 / B Flare	0.0008	112	300 ft.
4		MJU-66 Flare	0.0008	112	300 ft.
4		RR-170 Chaff	0.0008	180	300 ft.
4		RR-180 Chaff	0.00045	180	300 ft.

NOTE

MSCL 331:
1.4 = 0.17096 NEW Total per Load

MSCL 333:
1.4 = 0.26696 NEW Total per Load

1.3 = 36.4544 NEW Total per Load NOTE 1. Chaff cartridges are class / division 1.4 only when the BBU-35 / B squib is installed. 2. Max quantity varies based on the maximum munitions to be loaded IAW the Mobility Standard Countermeasures Load (MSCL) for the C-130J. 3. MSCL are subject to change.

13.3. Procedures for Transporting Munitions.

13.3.1. The 86 MXG does not transport munitions off base.

13.3.2. Munitions will be transported and protected IAW DESR6055.09_AFMAN91-201. The two-person concept will be used to the maximum extent possible during transport of munitions; however, single person transport is authorized by qualified individuals.

13.3.3. Munitions will be transported directly to and from the affected aircraft and the ARMAG only by qualified individuals.

13.3.3.1. Individuals qualified to transport munitions via vehicle will complete the training prescribed by their unit Additional duty weapons safety Representative. These qualifications will be tracked through G081.

13.3.3.1.1. For chaff and flare all individuals involved in upload/download operations shall accomplish the training dictated by their unit Weapons Task Qualification Manager (WTQM) and the following course codes are tracked G081

13.3.3.1.1.1. C130 000110 – Ale 47 Chaff/Flare Load Qualification

13.3.3.1.1.2. C130 000200 – C-130 WTQC

13.3.3.1.1.3. ACFT 000008 – WTQM Weapons Task Qual MGR

13.3.3.1.2. Local Training prescribed in DAFI21-101 Para. 11.31.5 and DESR6055.09_AFMAN91-201 V1.E6.12.1.1. once reviewed and approved by 86 AW Weapons Safety will be posted on the 86 AW Weapons Safety SharePoint at: **https://usaf.dps.mil/sites/86WSA/SE/Shared%20Documents/Forms/ADWSR%20Program.aspx?ga=1&id=%2Fsites%2F86WSA%2FSE%2FShared%20Documents%2FWeapons%2FUnit%20Programs&viewid=99bb086f%2D6b86%2D4777%2D9d6c%2D30102764b51a**

13.3.3.1.3. Individuals Qualified to transport Munitions will have the following training tracked in G081.

13.3.3.1.3.1. Safe 000536 – ACFT EXPLOSIVE SAFETY AWARENESS TRAINING

13.3.3.1.3.2. Safe 000538 – INIT/RECUR EXPLSV SAFETY(HNDLG)TRNG

13.3.4. 86 AMXS personnel are only authorized to transport munitions directly to the ARMAG from Ramps 1 and 2, directly to Ramps 1 and 2 from the ARMAG, and between aircraft on Ramps 1 and 2. 86 AMXS personnel will not transport munitions off of Taxiway Delta.

13.3.4.1. The ARMAG is located just outside the northwest Entry Control Point (ECP) of Ramp 1.

13.3.5. When transporting munitions, the appropriate explosives placard will be displayed on all four sides of the vehicle containing the munitions.

13.3.6. Passengers will not occupy the area where munitions are located during transport.

13.3.7. A minimum of two 2A:10BC fire extinguishers must be in the transport vehicle, one in the cab and one in the cargo area, during the movement of munitions.

13.3.8. Munitions will only be transported in munitions containers approved by applicable technical data.

13.3.8.1. Stacking canisters containing munitions should be avoided, but, if necessary, ensure containers are stacked evenly and properly secured.

13.3.9. Tie-down straps will be used to secure munitions containers to the transport vehicle during movement.

13.3.10. Munitions transport vehicles will be chocked during loading or unloading of munitions.

13.3.10.1. Munitions transport vehicles will be chocked when parked and the driver is not behind the wheel.

13.4. Procedures for Storing, Handling, and Issuing Munitions involving the ARMAG.

13.4.1. Storage:

13.4.1.1. Storing chaff and flare munitions in the ARMAG is authorized for 86 AMXS load crews.

13.4.1.2. The ARMAG will be used to temporarily store small amounts of aircraft countermeasure chaff, flares, and HC/D 1.3 and 1.4 subcomponents for the 86 AMXS outside of the base munitions' storage area. The following explosive limitations will be observed:

13.4.1.2.1. HC/D 1.4: 480 lbs. NEW

13.4.1.2.2. HC/D 1.3: 480 lbs. NEW

13.4.1.2.3. HC/D 1.2: 0 lbs. NEW

13.4.1.2.4. HC/D 1.1: 0 lbs. NEW

13.4.1.3. The ARMAG is approved for and will be utilized as a temporary storage structure for chaff/flare loads after 86 MUNS normal duty hours to include weekends and holidays.

13.4.1.4. The ARMAG is not a licensed facility and does not require an AF IMT 2047, Explosives Facility License.

13.4.1.5. In the event the ARMAG contains any amount exceeding normal day-to-day operations (7 or more aircraft loads), contact MOC, at 480-2091, and have them notify 86 MUNS Munitions Control, at 480-2088 or 480-2808 for removal of excess loads.

13.4.1.5.1. In the event of contingency operations or if dictated by mission requirements, this limit can be waived by the 86 AMXS Production Superintendent.

13.4.2. Issue/Re-Issue munitions for upload:

13.4.2.1. 86 AMXS load crews are authorized to issue/re-issue munitions from the ARMAG.

13.4.2.2. Munitions with expenditures or serviceability defects will not be issued/re-issued.

13.4.2.3. All personnel storing munitions in or issuing munitions from the ARMAG will annotate the MXG Form 1401, ARMAG Monthly Storage/Issue Activity Log, located on the inside of the ARMAG door.

13.4.2.3.1. Following any aircraft munitions load movement, load supervisors must ensure an AF IMT 2434, Munitions Configuration and Expenditure Document is completed with the load number, MSCL, and aircraft tail number and filed on the 86 MUNS/Avionics Chaff and Flare SharePoint site: **https://usaf.dps.mil/sites/86MUNS/LGWP/LGWPA/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2F86MUNS%2FLGWP%2FLGWPA%2FShared%20Documents%2FCCN%20Page%2F2434s&p=true&ga=1**

13.4.3. Handling:

13.4.3.1. Munitions moved between the ARMAG and Ramps 1 and 2 via a non-motorized pushcart will be considered handling rather than transporting.

13.4.3.1.1. The use of the non-motorized pushcart for munitions movement will be limited to movements between aircraft, between the ARMAG and aircraft, and times when the designated munitions transport vehicle is unavailable.

13.4.3.1.2. 86 AMXS personnel are only authorized to handle munitions directly to the ARMAG from Ramps 1 and 2, directly to Ramps 1 and 2 from the ARMAG, and between aircraft on Ramps 1 and 2. 86 AMXS personnel will not handle munitions off of Taxiway Delta.

13.4.3.2. Unless otherwise directed by the Base Fire Chief, provide a minimum of two serviceable (2A:10BC) fire extinguishers, suitable for the hazards involved, for immediate use at any location where munitions are being handled. For example, one mounted to the non-motorized pushcart and at the location.

13.4.3.3. A minimum of two pushcart wheels will have brakes locked during loading or unloading of munitions.

13.4.3.4. Munitions handled with the non-motorized pushcart will be secured to ensure fall prevention.

13.4.3.4.1. If the pushcart does not have an integral fall prevention system such as in a wire caged cart, tie-down straps are required.

13.4.3.5. Munitions will not be left on the pushcart unattended. Load crew members must accompany the cart until munitions are uploaded on the aircraft or stored in the ARMAG.

13.5. Uploading and Downloading Chaff and Flare Munitions.

13.5.1. Munitions loading operations will not be solely performed for exercise purposes (i.e., exercise evaluations, unless required for real world missions).

13.5.2. All aircraft parking locations on Ramps 1 and 2 at Ramstein AB are authorized for uploading/downloading Aircraft Defensive Systems (ADS) munitions, IAW RABI 13-204, Airfield Operations and Quantity Distance Safety Submission (QDSS), USAFE-Ramstein-09-S001 through S010 (Ramps1 &2).

13.5.3. Designated spots on Ramp 1 have been evaluated and approved as Explosive Cargo Aircraft Parking Areas (ECAPA's), IAW RABI 13-204, Airfield Operations and QDSS, USAFE-Ramstein-09-S001 through S005 (Ramp 1 ESPs).

13.5.4. Vehicles and equipment directly involved with the upload/download operation will be kept at a distance of 25 feet from the operation site. Vehicles not involved with the upload/download operation will keep a minimum distance of 50 feet from the operation site.

13.5.5. Chaff and flare upload/download operations on the C-130J aircraft will only be conducted by a qualified load crew, requiring a minimum of two load qualified technicians.

13.5.5.1. The Load Crew will:

13.5.5.1.1. Document a munitions upload and/or munitions download in aircraft forms under a red diagonal on the AFTO Form 781A.

13.5.5.1.1.1. Refer to T.O. 1C-130J-33-1-2 or T.O. 1C-130J-33-1-2CL-1 for step-by-step stray voltage, uploading, and downloading procedures.

13.5.5.1.2. Secure the immediate area and remain vigilant throughout the explosive operations to ensure non-essential personnel do not enter the upload/download site.

13.5.5.1.3. PERSONNEL LIMITS: 1 Supervisor, 4 Workers, and 4 Casuals (e.g., inspectors, personnel in training, and 86 MUNS personnel).

13.5.5.1.4. Maintain situational awareness to ensure changes in flight line operations do not present a safety hazard to continued upload/download operations, see **paragraph 13.5.5.2.2**. The maintenance expediter will ensure these conflictions do not occur and notify the load supervisor if upload/download operations must suspend to facilitate higher priority maintenance.

13.5.5.1.5. Notify MOC of an upload/download operation prior to starting.

13.5.5.2. Document the quantity and type of munitions payload uploaded on or downloaded from the aircraft on the aircraft armament placard and AFTO Form 781A Info-Note page.

13.5.5.2.1. NOT USED.

13.5.5.2.1.1. Each munitions type uploaded and polled (e.g., M-206, MJU-64B, MJU-50 and RR-180) will not have more than 10% of the uploaded inventory mis-polling, as indicated in Table **13-3** as an example.

13.5.5.2.2. Notify MOC when the upload/download is complete and verify the 86 AMXS Production Superintendent acknowledges.

13.5.5.3. The Load Supervisor will:

13.5.5.3.1. Conduct a safety briefing in accordance with T.O. 1C-130J-33-1-2CL-1 pg. 1-1, CMDS Briefing Requirements or T.O. 1C-130J-33-1-2 pgs. vii, 1-1, 1-2.

13.5.5.3.1.1. All personnel involved in the explosive operations must be present for the crew safety brief.

13.5.5.3.1.2. At least one copy of this instruction is required at the munition's upload/download site.

13.5.5.3.1.3. Be familiar With DESR6055.09_AFMAN91-201 para: V1.E6.12.1.2.-V1.E6.12.1.4. requirements.

13.5.5.3.2. Ensure that the loading/Unloading location is authorized with an explosives site plan.

13.5.5.3.3. Cease/suspend chaff and flare uploading/downloading when the following maintenance operations are being conducted within 100 feet:

13.5.5.3.3.1. Liquid Oxygen (LOX) servicing.

13.5.5.3.3.2. Refueling/Defueling.

13.5.5.3.3.3. Aircraft engine runs below maximum power.

13.5.5.3.3.3.1. Uploading/downloading will cease/suspend when maximum power engine runs are conducted within 300 feet of the upload/download site.

Table 13.3. Example C-130J MSCL XXX Payload & Minimum Counts.

Munitions Payload Display	CNI-MU	Defensive Systems	Page CMDS	Inventory
	FL	CH	O1	O2
MSCL XXX – Full Load	120	240	60	120
MSCL XXX – Minimum Count	108	216	54	108

13.6. Fire bottle squibs procedures.

13.6.1. Additional Duty weapons safety Representatives will work with Environmental and electrical shops that utilize fire bottles squibs to produce local guidance on Fire bottle squib safety and MX procedures.

13.6.2. This guidance will be prepared and published IAW DESR6055.09_afman91-201 V1.E6.12.

Chapter 14

MXG CALL SIGNS AND LAND MOBILE RADIO PROGRAM

14.1. IAW DAFI 21-101, Para. 5.2.1.12. it is required to establish the local call signs for maintenance LMR networks . See **Attachment 12**.

14.2. Custodians are responsible for the availability and serviceability of LMR and related equipment. Operators/custodians will be accountable for lost or damaged radios.

14.3. Radios not in use will be controlled in CTKs or other secure areas for sections that do not have CTKs. OPSEC procedures outlined in AFI 10-701 and COMSEC outlined in AFMAN 17-1302-O will be observed at all times.

14.4. The superintendent of the MOC will appoint a MOC individual as MXG radio liaison to serve as POC for the 86 CS/SCOT. The 86 CS/SCOT office can be contacted at DSN 480-5137.

14.5. MOC responsibilities:

14.5.1. Manage LMR network operations to ensure smooth information flow.

14.5.2. Monitor radio communications to ensure radio discipline and OPSEC/COMSEC adherence.

Chapter 15

CRASHED, DAMAGED OR DISABLED AIRCRAFT RECOVERY (CDDAR) PROGRAM.

15.1. The below guidance applies to all 86th AW, geographically separated and tenant units by establishing responsibilities and procedure for the recovery of CDDAR on the active runway, adjoining taxiways or immediate vicinity as required by wing mission plans and local host-tenant agreements. It implements applicable aircraft -2 and -3 Technical Orders (TO), TO 00-105E-9, Aerospace Emergency Rescue and Mishap Response Information and the Installation Emergency Management Plan (IEMP) 10-2.

15.2. Responsibilities.

15.2.1. The overall CDDAR program is delegated to the 86th Maintenance Squadron (MXS). In the event of an incident/accident Repair and Reclamation (R&R) will provide general crash recovery equipment, support, and a crash recovery team at the direction of the Incident Commander (IC), or the CDDAR Team Chief.

15.3. 86 MXS Maintenance Flight will:

15.3.1. Maintain crash recovery equipment with an inventory of specialized crash recovery tools, equipment, and current technical orders to meet expected crash recovery operations as listed in **Attachment 15**. CDDAR equipment is stored an Ramstein AB in Building 2210.

15.3.2. Provide personnel required to perform CDDAR operations IAW 00-80C-1 para. 2.3.4. to include team positions and duties listed in **Attachment 14**.

15.3.3. Provide primary and alternate CDDAR Team Chiefs. Primary and alternate CDDAR Team Chiefs will be designated at time of emergency.

15.3.4. In Flight-Emergency (IFE) response: Coordinate applicable tow teams as required. Depending on which runway the IFE aircraft is landing on, the following locations will be used for pre-positioning of the tow team:

15.3.4.1. 86 AMXS: Ramp 1, 2, & 7.

15.3.4.2. 721 AMXS: Ramp 5

15.3.4.3. Transient Alert: Ramp 3 & 4

15.3.4.4. OSA Support: Ramp 2 & 7

15.4. R&R Section will:

15.4.1. Manage the CDDAR program and ensure personnel are trained in recovery operation.

15.4.2. Conduct Crash Recovery Team (CRT) member training. Selected personnel will be trained for emergency and nonstandard towing procedures, standard and nonstandard aircraft lifting procedures, aircraft jacking, wear of Personal Protective Equipment (PPE), and broken and fire-damaged composite material containment, handling, and disposal.

15.4.3. Establish a crash recovery and composite material handling training program. CDDAR personnel to include geographical separated units will accomplish annual training on Ramstein

AB's assigned MDS aircraft. Actual aircraft emergencies can be substituted for the required training.

15.4.4. Ensure CRT members are respirator fit tested by Bioenvironmental Engineering (BIO) and receive annual recertification.

15.4.5. Maintain current recall roster of all CRT personnel.

15.4.6. Provide a CRT as required to conduct CDDAR operations IAW applicable aircraft technical orders and local checklists.

15.4.7. Respond to all aircraft barrier engagements with the assistance of 86 MXS Transient Alert.

15.4.8. Crash recovery personnel maintain a recall roster for standby capability. 86 MXS Pro Super will maintain a copy and recall crash recovery personnel if there is not sufficient coverage.

15.5. The CDDAR Team Chief will:

15.5.1. Provide IC with a roster of CRT personnel.

15.5.2. Be responsible for ensuring the aircraft is moved to the predetermined location, safely and expeditiously, using all resources available.

15.5.3. Maintain complete control of the aircraft and the removal procedures until it is moved to a predetermined location.

15.5.4. Maintain a continuity binder containing at a minimum, PPE guidelines, crash recovery checklists, event logs, equipment, and tool inventories and other requirements listed in T.O. 00-80C-1 **Para 2.3.5**.

15.5.5. Perform crash recovery equipment serviceability inspections before and after each exercise and use.

15.5.6. Perform inventory of all applicable equipment and expendable items before and after each exercise and use.

15.5.7. Be prepared to provide equipment and personnel to assist with emergency tows.

15.5.8. Contact 86 MXS supervision to ensure applicable 86 AW organizations, tenant units, and geographically separated units participate in CDDAR exercises and training.

15.6. {86 MXS AGE Flight will maintain and deliver serviceable AGE required to perform CDDAR operations.

15.7. Support.

15.7.1. 86 AW units will provide manpower and/or equipment, as required, to support the CRT. The following units will provide MDS specific manpower and/or equipment for training and crash recovery, as required by the IC or CDDAR Team Chief:

15.7.2. 86 AMXS will support aircraft crash recovery as directed by the IC or CDDAR Team Chief through the following actions:

15.7.2.1. Provide maintenance representatives and/or manpower to provide technical advice relative to safety, operation, or environmental hazards, when requested by the IC or CDDAR Team Chief.

15.7.2.2. Respond to aircraft IFEs by assembling a tow team. In the event an aircraft without structural damage requires removal from the active runway, to include IFE situations, hot brakes, blown or flat tires, see flight line Quick Reaction Checklist 1, 2, 7, and 9.

15.7.2.3. Request assistance from 86 MXS for any emergency tow when additional equipment and/or personnel are required.

15.7.2.4. Provide defuel assistance for 86 AW assigned aircraft when requested by the IC or CDDAR Team Chief.

15.7.2.5. Coordinate with the Contracting Officer Representative for incidents involving assigned C-21 and C-37 aircraft.

15.7.3. 86 MXS Transient Alert will assist base crash recovery, fire department and EOD response teams on emergencies involving transient aircraft as directed by the IC or CDDAR Team Chief, to include barrier re-certifications, hot brake inspections, and assembling emergency tow teams.

15.7.4. The 86 MXG MOC will:

15.7.4.1. Notify 86 MXS and 86 AMXS during IFE barrier engagement and hot brake conditions. Primary notification is by 86 OSS/OSAA (Airfield Management) via the secondary crash net. If R&R cannot be reached after normal duty hours, contact 86 MXS Maintenance Supervision to determine CRT response recall.

15.7.4.2. Assist the IC or CDDAR Team Chief by coordinating with other units and/or agencies as required.

15.7.5. 86 MXG QA will:

15.7.5.1. Ensure all aircraft AFTO Form 781 series documentation/historical records, servicing equipment, and personal training records are impounded upon notification of an accident/mishap to Ramstein AB assigned aircraft.

15.7.5.2. Inform MOC and Analysis to lock out (isolate) the MIS on the affected aircraft.

15.7.5.3. Coordinate with transient aircraft home station QA to ensure the applicable MIS is locked out (isolated) on the affected aircraft.

15.7.5.4. Assist in calculating weight and balance of aircraft if required.

15.7.6. The 721 AMXS will:

15.7.6.1. Provide minimum team of 10 people, for training and recovery of AMC aircraft (i.e., C-5, C-17, KC-10, KC-135, 747B, MD-11, etc.) and assist crash recovery operations with crew chief and specialist support.

15.7.6.2. Provide tow team and tow vehicle as required per AMC/USAFE Command to Command Agreement, to support the CRT.

15.7.6.3. Provide defuel assistance for AMC aircraft when requested by the CDDAR Team Chief.

15.7.6.4. Take charge of all emergency tow situations in the event an aircraft without structural damage requires removal from the active runway, to include IFE situations, hot brakes, blown or flat tires.

15.7.6.5. Respond to AMC aircraft IFEs by assembling a tow team. The tow team will standby for further direction from first responders via 721 AMXS/MOC.

15.7.7. The 721 AMXS MOC will:

15.7.7.1. Notify the appropriate headquarters and owning organization after initial response by the CRT. In the event a wide-bodied aircraft becomes disabled at Ramstein AB, the 721 AMXS will notify 618 TACC/XOCL Scott AFB, Illinois DSN 312-779-0363 and request assistance (if necessary).

15.7.7.2. Coordinate with the incident aircraft's home station to ensure all aircraft AFTO Form 781 series documentation/historical records, servicing equipment, and personal training records are impounded upon notification of an accident/mishap.

15.7.8. The 721st Aerial Port Squadron (APS) Contract Officer Representative (721 APS/TROO), DSN 479-4408, will coordinate with the on-station operations handling agent and owning airline for recovery assistance of civilian aircraft.

15.7.9. 86th CEG will provide emergency response actions IAW the IEMP 10-2 for incidents in the Kaiserslautern Military Community and will assist where feasible at Morón AB, Chievres AB, and Lajes Field. At Lajes Field, 65 Air Base Group (ABG) Civil Engineering Squadron will be the lead for CE emergency response actions.

15.7.10. 569 USFPS will provide Security Forces personnel to secure mishap scene and the wreckage assembly point, as directed by the IC should the incident occur/spread outside of Ramstein AB perimeter. If an incident occurs within the Ramstein AB perimeter, the 86 SFS will provide Security Forces personnel to secure the mishap scene and the wreckage assembly point.

15.7.11. 86th Vehicle Readiness Squadron (VRS) will:

15.7.11.1. Provide necessary equipment, as needed, to transport CDDAR support equipment to the crash site, as well as transport wreckage to the wreckage assembly point. Depending on the mishap site conditions, an all-terrain forklift may also be required.

15.7.11.2. Provide maintenance support to heavy equipment participating in the recovery operation, as directed by the IC.

15.7.12. The 86th Logistics Readiness Squadron (LRS) will provide on-scene fuel servicing of recovery support equipment, to include AGE and heavy equipment.

15.7.12.1. In accordance with AFI 23-201, the fuels flight will maintain an aircraft crash sample kit and will respond to any request from the IC to draw samples. Sampling and sample submission will be accomplished IAW TO 42B-1-1.

15.7.12.2. Request for fuel support will be coordinated though Fuels Service Center, DSN 480-5821/5822.

15.8. General Procedures.

15.8.1. All accident response agencies will be notified according to the IEMP 10-2. Upon declaration of a potential or actual major aircraft accident on the runway or off base, including water recovery, the following sequence of events will occur:

15.8.2. Upon notification of an aircraft mishap requiring recovery of a damaged or disabled aircraft the 86 MXG/MOC will:

15.8.2.1. Notify 86 MXS Maintenance Supervision of the requirement to recall and assemble the CRT at a designated point.

15.8.2.2. Ensure the first maintenance responders to the aircraft pull the cockpit voice recorder circuit breakers if aircraft is deemed safe by the IC.

15.8.2.3. Upon request of the IC or maintenance, contact the transient aircraft home base and request TO guidance for aircraft recovery options.

15.8.2.4. The IC will coordinate with MOC to dispatch the CRT via a designated safe route to the accident scene.

15.8.2.5. In the event that an aircraft recovery requires movement of cargo by normal or alternate, contact 721 APS/TROCA at DSN 479-4361.

15.8.3. 86 MXS Maintenance Supervision will execute the CDDAR team recall procedures and pass along all known information.

15.8.4. The CDDAR Team Chief will:

15.8.4.1. Assemble CRT at a designated meeting area with immediate response equipment.

15.8.4.2. Notify MOC of assembly completion time.

15.8.4.3. Brief the CRT on the situation, possibility of human remains and importance of not touching or disturbing human remains or aircraft wreckage, as well as all known safety hazards.

15.8.4.4. Monitor the designated crash net, review safety procedures and aircraft TOs, and stand by until requested by the IC to proceed to the accident scene.

15.8.4.5. Respond to the accident scene when requested, obtaining approval from IC or safety representative to confirm with Bioenvironmental Engineering to ensure the area is safe for entry.

15.8.4.6. Obtain verification from the IC and Explosive Ordnance Disposal (EOD) representative that all explosive items have been made safe or removed as applicable.

15.8.4.7. Assess site with IC, configure aircraft and begin recovery/removal action.

15.8.5. Designated individuals from the mishap aircraft organization will ensure the following ground handling procedures are complied with:

15.8.5.1. Disconnect batteries.

15.8.5.2. Drain oil/fuel from tanks if required.

15.8.5.3. Remove liquid oxygen if required.

15.8.6. Upon Command Post notification of an aircraft mishap requiring recovery of a damaged or disabled aircraft the 86 AW/PA will:

15.8.6.1. Generate and employ 24/7 PA operations with one daytime Visual Information Documentation (VIDOC) team and one nighttime VIDOC team to capture/process Visual Information (VI) assets in support of (ISO) on-scene commander; VI imagery will also be use ISO follow-on AIB/SIB actions.

15.8.6.2. Generate and employ 24/7 PA operations ISO media requests, Request to Query (RTQ) and facilitating media events based on 86 AW/CC intent and objectives for informing external publics.

15.8.6.3. Monitor all public communication channels and educate internal/external audiences through command information campaign via all PA channels.

15.8.6.4. Serve as the principle point of contact for command information and media issues.

15.8.6.5. Act as the primary release authority of information regarding incident messages and themes to internal/external audiences.

15.8.7. When responding to a disabled aircraft with hot brakes and/or barrier engagement, the CDDAR Team Chief will coordinate with the base fire department and/or RABI 13-204, Airfield Operations, paragraph 5.6.. Hot Brake Area and Procedures to ensure the aircraft is in a safe condition before proceeding with removal procedures.

15.8.7.1. The aircraft will sit for a minimum of 30 minutes to allow adequate time for brakes to cool down.

15.8.7.2. All personnel will approach the aircraft from a forward or aft direction until the brakes have cooled.

15.8.8. Crash Recovery operations in difficult to reach areas will be coordinated though the IC and Emergency Operations Center (EOC). Several base resources may be needed to ensure the appropriate equipment and/or personnel can be taken to the crash site in a timely manner.

15.8.9. All personnel entering the crash site will wear proper PPE in accordance with the site safety and health plan. Units are responsible to provide their personnel with proper PPE. Note: Recovery and removal of aircraft parts will be IAW AFI 91-204, Safety Investigations Reports to ensure preservation of evidence for safety and/or accident investigation boards.

15.9. Geographically Separated Units.

15.9.1. The 496th ABS at Morón AB and the 424th ABS at Chievres AB fall under the responsibility of the 86th Operations Group (OG). Each location will maintain CDDAR capabilities, which may be supplemented by 86 MXS assets when necessary.

15.9.2. The 496 ABS Crash Recovery Program is contractor operated. The objective remains to safely recover a limited number of fighter aircraft damaged or disabled from airfield operating areas in minimum time while avoiding or limiting secondary damage to the aircraft or airfield. See Morón AB Operation Instruction 21-2 for detailed operations of the CDDAR program. If the situation exceeds local capabilities at Morón AB, the 496th ABS will contact the 86 AW/Command Post (CP) to request additional resources/support. The 86 AW/CP, in turn, will contact USAFE/A4 for further coordination of assets and personnel.

15.9.3. Chievres AB/CP will contact the 86 AW/CP to request resources/support. The 86 AW/CP, in turn, will contact USAFE/A4 for further coordination of assets and personnel.

15.9.4. The 65th ABG, Lajes Field, will maintain an operating instruction for detailed operations of the CDDAR program. The 65 ABG's CDDAR objective remains to safely recover damaged or disabled aircraft from airfield operating areas in minimum time while avoiding or limiting secondary damage to the aircraft or airfield.

15.9.4.1. The single runway at Lajes Field is the island's only transportation node from mid Sept to mid-May. The 65 ABG will maintain the equipment necessary for the recovery of all US fighter and mobility aircraft.

15.9.4.2. If the situation exceeds local capabilities at Lajes Field, the 65 ABG will contact the 86 AW/CP to request additional resources/support. The 86 AW/CP, in turn, will contact USAFE/A4 for further coordination of assets and personnel.

15.9.5. 86 MXS Maintenance Flight will respond to aircraft mishaps at Morón AB, Chievres AB, and Lajes Field when all local capability has been exhausted and a USAFE/A4 tasking exists.

Chapter 16

GROUND INSTRUCTIONAL TRAINER AIRCRAFT (GITA) UTILIZATION AND MANAGEMENT

16.1. All personnel.

16.1.1. All units assigned to Ramstein AB are authorized to utilize Ground Instructional Trainer Aircraft (GITA) to conduct maintenance training on C-130 aircraft. Using organizations are responsible for proper documentation of aircraft records and returning the aircraft to its original configuration and capability when training is concluded.

16.1.2. Discrepancies discovered during training, and within the scope of the AFSC using the aircraft, must be annotated in the aircraft 781 forms and MIS. The using unit is responsible for repairing the discrepancy to ensure continued aircraft availability. Discrepancies found beyond the scope of the using AFSC must be properly documented and coordinated to the 86 AMXS/MXAA Lead Production Superintendent to ensure timely repair.

16.1.3. Only personnel trained and qualified on C-130 aircraft systems, as identified by their training records, are authorized to perform system maintenance.

16.1.4. Ensure instructions outlined in USAFE-AFAFRICA and RAB supplemented AFI 21-101 are followed when working on GITA.

16.2. 86 MXG/MXOT serves as the OPR for maintaining GITA and will be appointed by 86 MXG/CC.

16.2.1. Responsible for GITA maintenance, inspections, and handling. GITA manager will be familiar with AFI 21-101 in relation to GITA aircraft and will be responsible for ensuring maintenance requirements are met. The GITA manager will also ensure a C-130-21 inventory and aircraft wash and lube are accomplished every 365 days. Lost tools/items will be reported IAW AFI 21-101.

16.2.2. Perform a comprehensive inspection of the fuselage and wings for damage, leaks, and loose or missing screws/fasteners and hardware. This inspection will be accomplished by the 5th day of every month. Pay special attention, during inspections to open aircraft cavities and wells to ensure birds, bees or other species have not nested. A 781A entry will be entered to document inspection.

16.2.3. Ensure all mandatory functional systems established in **para 16.7.1** of this instruction are maintained to mission capable status. Track functionality of these subsystems and ensure discovered discrepancies are repaired in a timely manner.

16.2.4. Notify and coordinate with the appropriate squadron when maintenance support is required. Discrepancies degrading the status of the systems/subsystems will be repaired in a timely manner to ensure continued system availability.

16.2.5. Responsible for scheduling and ensuring training requests are met.

16.3. 86 MXS will ensure a thorough corrosion inspection and CPC application is accomplished every 365 days. Accomplish aircraft paint scoring and touch-up, as necessary, to prevent corrosion. Pay special attention to open aircraft cavities and wells to ensure birds, bees or other species have not nested.

16.4. {86 MXG/MXOS.

16.4.1. Establish a schedule for GITA use among using organizations. Manage and track TCTOs, TCIs, and SI progress associated with GITA to ensure continued safe operation of training systems. Track scheduled inspections such as 90-day forms review, annual QA aircraft assessment, 365-day wash & lube, and 365-day corrosion inspection & CPC application.

16.4.2. Status reporting is not required on permanently assigned GITA IAW AFI 21-103. Carry temporarily grounded (active) GITA in possession code "TJ" and permanently grounded (inactive) GITA in possession code "TX" IAW AFI 16-402.

16.5. MXG/MXQ will:

16.5.1. Will ensure weight and balance requirements and documentation are maintained IAW TO 1-1B-50 and C-130.

16.5.2. Conduct an annual non-rated assessment of GITA to ascertain the overall condition of systems identified in 16.7.1. and condition of aircraft in relation to aircraft forms.

16.6. Scheduling GITA Use:

16.6.1. 86 MXG/MXOS & 86 MXG/MXOT will be the points-of-contact for use of the GITA aircraft for training.

16.6.1.1. To ensure maximum availability, all requests to use the aircraft must be established by the 20th day of the preceding month.

16.6.1.2. Requests after the 20th will be handled on an individual basis with priority given to those who meet the scheduling deadline.

16.6.2. Time will be established to ensure **Attachment 1** inspection items, TCTOs, TCIs and SIs are met.

16.7. Maintaining the GITA:

16.7.1. The following systems/subsystems must be maintained to mission capable status to ensure the safety and training viability of the using units:

16.7.1.1. Body Hydraulics Systems

16.7.1.2. AC/DC power supply/distribution

16.7.1.3. Aircraft Interphone System

16.7.1.4. Landing gear

16.7.1.5. Interior Lighting System

16.7.2. Maintain aircraft AFTO Forms 781 and the MIS IAW DAFI 21-101 and TO 00-20-1.

16.7.2.1. Unless scheduled forms maintenance is being performed, forms will be kept on the aircraft.

16.7.2.2. Aircraft forms will be transcribed on a as needed basis and in conjunction with the scheduled document review.

16.7.2.3. Pulled forms will be kept at 86 MXG/MXOP, PS&D for a period of two years. Due to the lengthy duration of assigned GITA aircraft, a log of pulled forms maintained by PS&D will be

maintained to ensure pulled forms are not lost or missing. If at any time, pulled forms are discovered missing, involved personnel will make extensive attempts to recover the forms. If the forms are permanently lost, place a letter in the aircraft jacket file explaining the extent of the search (endorsed, at a minimum, by the MXO Superintendent or Operations Officer).

16.8. Cannibalization (CANN).

16.8.1. All CANN requests must be approved by the 86 MXG/CC or 86 MXG/CD. After 86 MXG approval, requests will be forwarded the Program Office for approval.

16.8.2. If CANN approval is granted, the highest backorder priority authorized is JA.

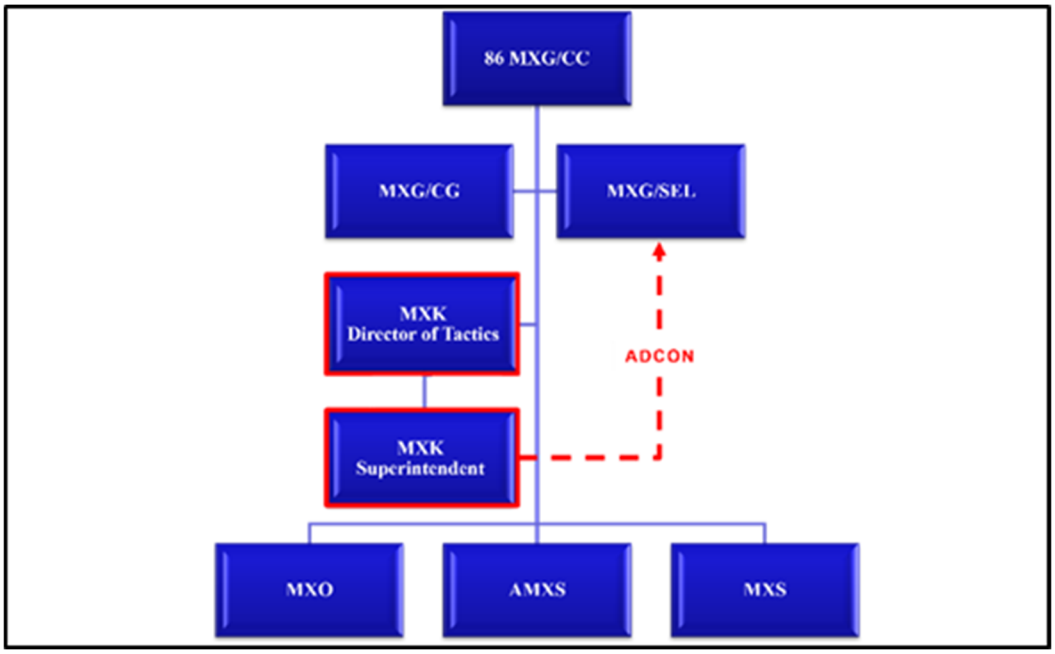
Chapter 17

MAINTENANCE TACTICS OFFICE (MXK)

17.1. General. This chapter specifies the responsibilities of the 86 MXG/MXK. The MXK will ensure the development, standardization, instruction, and dissemination of tactics, techniques, and procedures (TTP) within the MXG. Additionally, the MXK will manage and oversee the Agile Combat Employment (ACE) and Multi-capable Airmen (MCA) as applicable to aircraft maintenance. Furthermore, the MXK will provide guidance to the MXG Commander on Tier 1 Advanced Maintenance and Munitions Operations School (AMMOS) Graduate management and development. This guidance does not repeat basic responsibilities from other manuals or instructions that outline the responsibilities of an AMMOS graduate. The MXK must use all applicable manuals, instructions and local writings when developing MXK programs or processes.

17.2. Organizational Structure. The 86 MXG/CC will establish an MXK at the Group level. The MXK reports directly to the Group Commander, with additional oversight from the Deputy Commander and Senior Enlisted Leader. See **figure 17.1**.

Figure 17.1. MXK Organizational Structure.



17.3. Position Requirements. This section outlines the position requirements for members to be assigned to the Maintenance Tactics Office. At a minimum the Director of Tactics and Tactics Superintendent will:

17.4. Be able to obtain clearance for all mission-required access/clearances including, but not limited to, Top Secret/Sensitive Compartmented Information (TS/SCI) and Special Access Programs (SAP) to obtain access to the Wing Operation Plan (OPLAN), time-phased force deployment data (TPFDD), and War and Mobilization Plans (WMPs) to ensure the group is ready to fulfill all mission statements wartime taskings. The Director of Tactics and Tactics Superintendent positions are to be designated as SAR 5 on the UMD.

17.5. Not be assigned unrelated additional duties (e.g., Maintenance Operations Flight supervision or Security Manager), unless specified by the MXG/CC.

17.5.1. Director of Tactics. The Director of Tactics will be:

17.5.1.1. Captain or higher, unless specified by the MXG/CC due to manning constraints.

17.5.1.2. Tier 1 AMMOS graduate (desired)

17.5.1.3. A prior AMU OIC (desired)

17.5.2. Tactics Superintendent. The Tactics Superintendent will be:

17.5.2.1. MSgt or higher

17.5.2.2. Tier 1 AMMOS graduate (desired)

17.5.2.3. A prior Flightline Maintenance Production Superintendent with direct sortie generation experience.

17.6. MXK Responsibilities.

17.6.1. Continually review DOC statements, Operations Plans (OPLANs), and update tactical training and employment procedures.

17.6.2. Is the 86 MXG OPR for Agile Combat Employment (ACE) and Multi-Capable Airmen (MCA) programs. They will liaise with the 86 AW/ACE to ensure maintenance support and alignment with USAFE ACE doctrine and objectives.

17.6.3. Has the overall responsibility for all group tactics, techniques and procedures and guidance applicable to MXK programs.

17.6.4. May perform functions as the A4 staff, if required.

17.6.5. Integrate to the maximum intent possible with the Operations Group's (OG) Weapons and Tactics Office (OSK) and Wing ACE to ensure planning, training, and the development of TTPs is a joint effort between the OG and MXG.

17.6.6. Liaise with the 86th Airlift Wing (AW) Wing Plans (XP), 86 MXG Programs Office (MXOP), and 86 MXG Quality Assurance (QA) Office to ensure proper planning and execution of all AW exercises.

17.6.6.1. Participate in all exercise planning meetings to ensure maintenance and logistics reality is built into all AW exercise scenarios utilizing desired learning objectives and exercise injects that align MAJCOM, AW and MXG priorities.

17.6.6.2. Participate in applicable AW exercises as a Wing Inspection Team (WIT) member, upon MXG/CC approval.

17.6.7. AMMOS Coordination. MXK will serve as the primary liaison between 86 MXG and AMMOS. To accomplish this MXK must:

17.6.7.1. Advise the MXG Commander and Deputy on all Tier 1 AMMOS graduate management.

17.6.7.2. Act as OPR for wing AMMOS nomination packages and waiver requests.

17.6.7.3. Attend quarterly MXK cross talk meeting and provide updates to the field.

17.6.8. Advise senior leaders in aircraft maintenance, manpower sustainment and tactical level execution.

17.6.9. Maintain liaisons with lateral units, as necessary, to increase training effectiveness and realism using outside assets (e.g., 86 LRG, 435 CRG, etc.).

17.6.10. Provide continuity for Off Station Training (OST), support and mentorship for Officers in Charge (OIC) and SELs as required during planning, execution and redeploy phases.

17.6.11. Facilitate the development of and maintain contingency generation plans for real world taskings, named exercise, and Agile Combat Employment (ACE) scenario support as required ("Off the Shelf Plans").

17.6.12. Manage the MXG's Agile Warrior MCA program (See Agile Warrior OI).

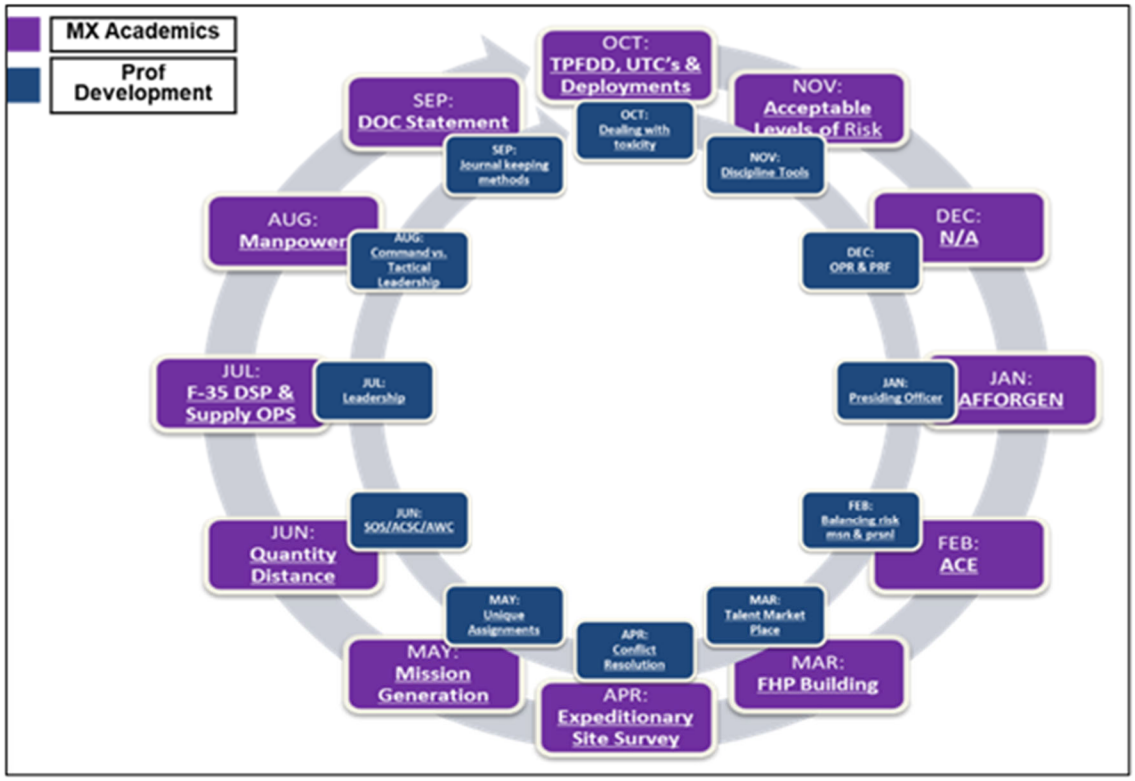
17.6.13. Officer Training Guidance. MXK will coordinate with the Deputy Group Commander and subsequent Squadron Commanders to ensure a deliberate training plan is in place for all officers still in Senior-level or below upgrade training.

17.6.14. Maintenance Academics. The MXK will develop and manage a group wide academics program with the intent of providing subject matter deep dives into TTPs, C-130J specific operations and Ramstein-oriented missions. The goal is to repeatedly build a leadership cadre of tactical experts for C-130J mission generation and sustainment while refining the MXGs ability to deploy and employ during contingency or crisis operations.

17.6.14.1. Coordinate AMMOS graduates to instruct as needed to host at minimum a bi-weekly group-level academic lesson, pending operational mission tempo and requirements.

17.6.14.2. Develop annual schedule template and reviewed quarterly to enable real world applicability. This document will be approved by MXG/CD. See **figure 17.2**.

Figure 17.2. National Academics Schedule.



17.6.14.3. Topics for academics include, but are not limited to:

17.6.14.3.1. C-130J systems and familiarization briefings

17.6.14.3.2. Professional development

17.6.14.3.3. Aircraft Maintenance TTPs

17.6.14.3.4. Current ACE guidance

17.6.14.3.5. Tabletop exercises

17.6.14.3.6. Intelligence briefings

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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AFMAN 10-2504, *Air Force Incident Management System (AFIMS) Standards and Procedures*, September 13, 2018

AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, April 5, 2019

AFMAN 17-1302-O, *COMMUNICATIONS SECURITY (COMSEC) OPERATIONS*, April 9, 2020

AFMAN 21-200, *Munitions and Missile Maintenance Management*, May 9, 2022

AFI 10-701, *Operational Security (OPSEC)*, July 24, 2019

DESR6055.09AFMAN91-201 USAFE-AFAFRICA SUP, *Explosives Safety Standards*, January 6, 2021

AFI 21-101_USAFE-AFAFRICA SUP, *Aircraft and Equipment Maintenance Management*, 16 Jan 2020

(IEMP) 10-2, *Installation Emergency Management Plan*, October 1, 2003

Plan 10-2, *Comprehensive Emergency Management Plan*, February 1, 2022

86 MXG OI 21-04, *Cannibalization Procedures*, July 15, 2013

T.O. 00-20-2, *Maintenance Data Documentation*, August 22, 2023

T.O. 00-25-254-1, *Comprehensive Engine Management System (CEMS) (D042) Engine Status, Configuration, and TCTO Reporting Procedures*, February 1, 2022

T.O. 00-85-20, *Engine Shipping Instructions*, July 1, 2022

T.O. 11A-1-33, *Handling and Maintenance of Explosive Loaded Aircraft*, October 26, 2022

T.O. 1-1B-50, *Weight and Balance*, 12 September 2023

T.O. 1C-130J-33-1-2, *Nonnuclear Munitions Loading Procedures Countermeasures Dispensing System*, July 1, 2023

T.O. 1C-130J-33-1-2CL-1, *Nonnuclear Munitions Loading Procedures*, January 1, 2022

T.O. 32-1-101, *Use and Care of Hand Tools and Measuring Tools*, July 1, 2022

T.O. 35F5-1-2, *Explosive-Proof Lanterns and Extension Light Assemblies*, January 16, 2019

T.O. 42B-1-1, *Quality Control of Fuels*, September 30, 2023

TO 00-105E-9, *Aircraft Emergency Rescue Information*, July 6, 2023

TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedure*, September 26, 2022

TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*, June 21, 2023

TO 1-1A-15, *General Maintenance Instruction for Support Equipment (SE)*, November 10, 2022

TO 33B-1-1WA-I, *Nondestructive Inspection*, April 24, 2008

Prescribed Forms:

86 MXG Form 1401, *ARMAG Monthly Storage/Issue Activity Log*

86 MXG Form 590, *Dropped Objects Investigation Checklist*

86 MXG Form 869, *Local Manufacturer Request*

86MXGFC-08, *Impoundment Official's Worksheet*

86MXGFC-09, *Impoundment Form*

AMXSFC-101, *Debrief Form*

86 MXG Form 145, *Lost Tool/Object Report*

MXGFC 14-01, *C130J Equipment Change Sheet*

86 MXG Form 140, *Composite Tool Kit (CTK) Inventory and Control Log*

Adopted Forms:

No Form Number, *86th Airlift Wing In-Process Inspection (IPI) Listing*

AF IMT 55, *Employee Safety and Health Record*

AF IMT 601, *Equipment Action Request*

AF Form 664, *Aircraft Vehicle Fuels Documentation Log*

AF Form 673, *Air Force Publication/Form Action Request*

AF IMT 797, *Job Qualification Standard Continuation*

AF Form 803, *Report of Task Evaluations*

DAF Form 847, *Recommendation for Change of Publication*

AF IMT 898, *Field Training Requirements Scheduling Document*

AF Form 1297, *Temporary Issue Receipt, 1 July 1987*

AF Form 1768, *Staff Summary Sheet (SSS)*

AF Form 2400, *Functional Check Flight Log*

AF Form 2426, *Training Request and Completion*

AF Form 4076, *Aircraft Dash 21 Equipment Inventory*

AF IMT 2005, *Issue/Turn-in Request*

AFTO Form 95, *Significant Historical Data*

AFTO IMT 244, *Industrial/Support Equipment Record*

AFTO Form 46, *Pre-positioned Life Support Equipment*

AFTO Form 349, *Maintenance Data Documentation*

AFTO Form 350, *Repairable Item Processing Tag*

AFTO Form 781, *AFORMS Aircrew/Mission Flight Data Document*

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

AFTO Form 781B, *Communication Security Equipment Record*

AFTO Form 781C, *Avionics Configuration and Load Status Document*

AFTO Form 781F, *Aerospace Vehicle Flight Report and Maintenance Document*

AFTO Form 781G, *General Mission Classification*

AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance Document*

AFTO Form 781J, *Aerospace Vehicle Engine Flight Document*

AFTO Form 781K, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection, and Delayed Discrepancy Document*

AFTO Form 781M, *Status Symbols and Functional System Codes*

AFTP Form 22, *Clinical Privileges Evaluation Summary*

DD Form 1348-1A, *Issue Release/Receipt Document*

DD Form 1348-6, *Single Line-Item Requisition System Document*

DD Form 2875*, System Authorization Access Request (SAAR)*

DD Form 365-4, *(W&B Clearance Form F)*

AMC Form 498, *Classified Equipment Installed*

AMC IMT Form 1033, *Shippers Declaration for Dangerous*

No Form Number, *Julian Date Calendar*

Oklahoma City ALC Form 529, *System Deficiency Report*

No Form Number, *Technical Assistance Request Form-107*

AF IMT 2434, *Munitions Configuration and Expenditure Document*

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

Abbreviations and Acronyms

ABG—Air Base Group

ABS—Air Base Squadron

AC—Aircraft Commander

ACE—Agile Combat Employment

ADCC—Assistant Dedicated Crew Chief

ADR—Aircraft Document Review

ADS—Aircraft Defensive Systems

AFB—Air Force Base

AFETS—Air Force Engineering and Technical Service

AFI—Air Force Instruction

AFPD—Air Force Policy Directive

AFRIMS—Air Force Records Information Management System

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

AMC—Air Mobility Command

AMMOS—Advanced Maintenance and Munitions Operations School

AMU—Aircraft Maintenance Unit

APG—Airframe, Powerplant General

APS—Aerial Port Squadron

ASIP—Aircraft Structural Integrity Program

AW—Airlift Wing

BIO—Bioenvironmental Engineering

CANN—Cannibalization

AVI—Avionics

CD—Deputy Commander

CDDAR—Crashed, Damaged or Disabled Aircraft Recovery

CFT—Contract Field Teams

CFT—Depot, Contract Field Team

CFT—Contracted Field Teams

CGD—Course Graduation Date

COMSEC—Communications Security

CP—Command Post

CRT—Crash Recovery Team

CTK—Composite Tool Kit

DCC—Dedicated Crew Chief

DEM—Deployed Engine Manager

DFT—Depot Field Team

DIT—Data Integrity Team

DOP—Dropped Object Prevention

ECAPA's—Explosive Cargo Aircraft Parking Areas

ECB—Electronic Circuit Breaker

ECM—Electronic Counter Measures

ECP—Entry Control Point

EID—Equipment Identification Designator

EM—Engine Management

EOC—Emergency Operations Center

EOD—Explosive Ordnance Disposal

ETIC—Estimated Time In Commission

FAO—Functional Assistance Office

FAST—Failure Analysis Service Technology

FCCs—Flying Crew Chiefs

FCFs—Functional Check Flights

FO—Foreign Object

FOD—Foreign Object Damage

FSR—Field Service Representatives

GDSS—Global Decision Support System

GITA—Ground Instructional Trainer Aircraft

HAZMAT—Hazardous Material

HC/D—Hazard Class/Division

IAW—In Accordance With

IC—Incident Commander

ICARR—Inspection, Corrosion and Repair Reporting

IEMP—Installation Emergency Management Plan

IFE—In Flight-Emergency

IIB—Individual Issue Bins

IPI—In-Process Inspection

JCN—Job Control Number

JDRS—Joint Deficiency Reporting System

LCL—Local Checklists

LEP—List of Effective Pages

LMR—Land Mobile Radio

LOX—Liquid Oxygen

LRS—Logistics Readiness Squadron

LWC—Local Work Cards

MAR—Maintenance Assistance Request

MDS—Mission Design Series

MFR—Memorandum for Record

MIL—Master Inventory Listing

MIS—Maintenance Information System

MMA—Maintenance Management Analysis

MO—Maintenance Operations

MOC—Maintenance Operation Center

MOC—Maintenance Operation Control

MOO—Maintenance Operations Officer

MRTs—Maintenance Recovery Teams

MSE—Maintenance Scheduling Effectiveness

MSEP—Maintenance Standardization and Evaluation Program

MTS—Maintenance Training Section

MUNS—Munitions Squadron

MXA—Section NCOIC

MXAS—Aircraft Support Flight

MXAA—Section Chief

MXAAP—Lead Production Superintendent

MXG/CC—Maintenance Group Commander

MXM—Production Superintendent

MXO—Maintenance Operations

MXOC—Maintenance Operation Center

MXOS—Maintenance Operation Plans & Scheduling

MXS—Maintenance Squadron

NCOIC—Non-Commissioned Officer In Charge

NDI—Non-Destructive Inspection

NLT—No Later Than

OCFs—Operational Check Flights

OG—Operations Group

OIC—Officer in Charge

OPLAN—Wing Operation Plan

OPR—Office of Primary Responsibility

OPSEC—Operational Security

OSK—Weapons and Tactics Office

OST—Off Station Training

PAS—Protective Aircraft Shelters

PDM—Programmed Depot Maintenance

PIP—Product Improvement Programs

POC—Point of Contact

POV—Privately Owned Vehicles

PPE—Personal Protective Equipment

PS&D—Plans, Scheduling and Documentation

PT—Physical Fitness Training

QA—Quality Assurance

QA OIC/SUPT—Quality Assurance OIC/Superintendent

QAR—Quality Assurance Representatives

QDSS—Quantity Distance Safety Submission

R&R—Repair and Reclamation

RDS—Records Disposition Schedule

RTQ—Request to Query

SAP—Special Access Programs

SI—Special Inspections

SNCOs—Senior Non-Commissioned Officer

Sq/CC—Squadron Commander

SSS—Staff Summary Sheet

T.O—Technical Order

TAR—Technical Assistance Request

TCI—Time Compliance Inspections

TCTOs—Time Compliance Technical Orders

TMT—Task Management Tool

TO—Technical Orders

TODO—Technical Order Distribution Office

TPFDD—Time-Phased Force Deployment Data

TS/SCI—Top Secret/Sensitive Compartmented Information

TTP—Tactics, Techniques, and Procedures

VCOs—Vehicle Control Officers

VI—Visual Information

VIDOC—Visual Information Documentation

VRS—Vehicle Readiness Squadron

W&B—Weight and Balance

WIT—Wing Inspection Team

WMPs—War and Mobilization Plans

WP—White Phosphorus

XP—Plans and Programs

Terms

Clean As You Go—Clean the immediate area when work cannot continue. Clean the immediate area when work debris has the potential to migrate to an out of sight or inaccessible area that could cause damage and/or give the appearance of poor workmanship. Clean the immediate area after work is completed and prior to inspection. Clean at the end of each shift. If you drop something or hear something, drop, Find It and Pick It Up***!***

Dropped Object (DO)—A dropped object is any aircraft part, component, surface, or other item lost during aircrew operations, unless intentionally jettisoned, from engine start to engine shutdown. Inadvertently released munitions or munitions released in excess of the quantity selected by the aircrew, or a multiple release, are not considered dropped objects and will be reported IAW AFI 91-204, *Safety Instruction and Reports*.

Foreign Object Damage (FOD)—Any damage attributed to a foreign object that can be expressed in physical or economic terms, which may or may not degrade the product's required safety and/or performance characteristics.

Flightline/Ramp Area—Defined as all runways, taxiways, ramps, and all concrete/asphalt areas immediately adjacent to them. All hangars, back shops, and flightline support shops will also be considered flightline areas. The flightline areas are also defined as inside the fence line of the northeast, southeast, and southwest areas, all ramps, taxiways, and end-of-runway areas.

Attachment 2

SAMPLE QA/QAR FCF/OCF BRIEFER'S CHECKLIST

A2.1. PART ONE (PREFLIGHT).

A2.1.1. Upon notification of an aircraft requiring a FCF, review the applicable aircraft –6 T.O. to ensure an FCF is required. If an FCF is not required, inform the squadron, as they may wish to perform an Operational Check Flight. For high-speed taxi, add **Attachment 3** checklist Part Two to briefing.

A2.1.2. Coordinate with the responsible work center to have all transcribed AFTO Form 781s since the last flight delivered to QA/QAR a minimum of 1 day prior to FCF. Active forms will be delivered 3 hours prior to flight.

A2.1.3. Review records to determine whether weight and balance were affected.

A2.1.4. Coordinate with the appropriate squadron aircrew scheduler to obtain the names of the FCF crew members.

A2.1.5. Review the crew members' USAFE Form 116 for currency. Ensure Letter of X's and functional check flight aircrew certification MFR match the USAFE Form 116.

A2.1.6. Initiate the applicable FCF checklist. Determine the -6 checklist sections that are required to be accomplished.

A2.1.7. Initiate the AF Form 2400, Functional Check Flight Log.

A2.1.8. Ensure a concise statement of the reason for the FCF is in the 781A's.

A2.1.9. Review all transcribed maintenance forms for accuracy and completeness. Pay particular attention to require In-Progress Inspections. For high-speed taxi checks, review for any brake or landing gear maintenance.

A2.1.10. Coordinate with the production super or contract maintenance to ensure specialists for the systems causing the FCF condition are present at the FCF briefing.

A2.1.11. Brief the crew using the FCF or high-speed taxi check aircrew briefing checklist.

A2.2. PART TWO (AIRCREW BRIEFING).

A2.2.1. "The purpose of today's FCF or OCF is to operationally check out the system(s) and to ensure the aircraft is airworthy."

A2.2.2. "Previous maintenance problems and discrepancies recorded on this aircraft are: The systems and equipment related to this check are: The aircraft AFTO Form 781A's since the last flight are here for your review."

A2.2.3. "The aircrew is responsible for completing the FCF checklist (FCFs only) and accurately documenting all new discrepancies, conditions, and problems noted during the flight. The crew will document discrepancies with as much detail as possible to enhance technician troubleshooting after the flight. After flight, ensure each crew position performing FCF checks signs the checklist in the appropriate location. If the aircraft is released from the FCF, the pilot is responsible for signing the 781A FCF discrepancy with complete results of the FCF in the corrective action block."

A2.2.4. “At this time, I’d like to review the FCF -6CF-1 checklist with you. The checklist must be returned to QA/QAR after today’s flight.”

A2.2.5. “The weight and balance was / was not affected by this maintenance. The records have/have not been reviewed. Review the Chart C prior to flight and notify QA/QAR of any problems.”

A2.2.6. “Pilot, at this time, I’d like you to brief your crew on today’s mission profile including all checks to be accomplished. Please present the checks in consecutive order. Please include a review of any unit instructions concerning FCF procedures.”

A2.2.7. “Once you return to Ramstein, please coordinate through command post what maintenance specialists you will need at debrief. I will meet you at debrief. If there are no questions, this concludes the QA portion of your briefing.”

A2.3. PART THREE (POST FLIGHT).

A2.3.1. Meet the FCF crew at debrief. Review FCF checklist and aircraft forms with the aircrew to determine if all requirements were accomplished.

A2.3.2. Determine if the aircraft will be released.

A2.3.3. If released, the pilot will annotate and sign the checklist and the FCF 781A releasing the aircraft. If not released, the crew will annotate the FCF checklist and the 781As of the condition found. Obtain the FCF checklist.

A2.3.4. If the FCF aircraft is released, forward the checklist and completed FCF 781A’s to the appropriate squadron PS&D.

A2.3.5. Annotate the AF Form 2400 with flight results.

A2.3.6. Forward a copy of AF Form 2400 to the appropriate flying squadron.

Attachment 3

SAMPLE HIGH-SPEED TAXI BRIEFER'S CHECKLIST

A3.1. PART ONE (AIRCREW BRIEFING).

A3.1.1. "The purpose of today's high-speed taxi check is to operationally check out the system(s) and to ensure the aircraft is airworthy."

A3.1.2. "Previous maintenance problems and discrepancies recorded on this aircraft are: The systems and equipment related to this check are: The aircraft AFTO Form 781A since the last flight is here for your review."

A3.1.3. "The aircrew is responsible for completing the high-speed taxi checklist and accurately documenting all new discrepancies, conditions, and problems noted during the taxi. The crew will document discrepancies with as much detail as possible to enhance technician troubleshooting after the taxi. After taxi, ensure each crew position performing taxi checks signs the checklist in the appropriate location. If the aircraft is released after the high-speed taxi check, the pilot is responsible to sign the 781A discrepancy with complete results of the taxi in the corrective action block."

A3.1.4. "The weight and balance were/were not affected by this maintenance. The records have/have not been reviewed. Review the Chart C prior to flight and notify QA of any problems."

A3.1.5. "Pilot, at this time, I'd like you to brief your crew on today's mission profile including all checks to be accomplished. Please present the checks in consecutive order. Please include a review of any unit instructions concerning high-speed taxi procedures."

A3.1.6. "Once you return to parking, please coordinate through command post what maintenance specialists you will need at debrief. I will meet you at debrief. If there are no questions, this concludes the QA portion of your briefing."

A3.2. PART TWO (HIGH-SPEED TAXI).

A3.2.1. Is high-speed taxi approved by the OG and MXG Group Commanders?

A3.2.2. Review DAFI 21-101, RABI 21-109 and all applicable aircraft dash – 1, – 6CF-1, and AFI 11-2 (MDS) series instructions for guidance.

A3.2.3. Compute Take-Off/ Landing and Critical Field Length Data PRIOR to taxi.

A3.2.4. Ensure enough fuel is on board to execute a take-off, normal pattern, and landing.

A3.2.5. **CAUTION** – Multiple high-speed taxis may result in overheated brakes. Allow sufficient cooling time between each taxi check.

A3.2.6. **WARNING** – If overheated brakes occur, follow emergency procedures as required.

Attachment 4

MANUAL JOB CONTROL NUMBER (JCN) LISTING

Figure A4.1. Manual Job Control Number (JCN) Listing, Part 1.

Note: Asterisked (*) numbers are mandated by G081 (**) numbers are locally reserved.

Major Letter Check Inspection A Look	A001-A499*
Major Letter Check Inspection A Fix	A500-A999*
Major Letter Check Inspection B Look	B001-B499*
Major Letter Check Inspection B Fix	B500-B999*
Major Letter Check Inspection C Look	C001-C499*
Major Letter Check Inspection C Fix	C500-C999*
Major Letter Check Inspection D Look	D001-D499*
Major Letter Check Inspection D Fix	D500-D999*
Reserved for Future Use	1500-1599**
Reserved for Future Use	1700-1999**
Time Change Monitor (Plans and Scheduling)	1600-1699*

86 MXG

Quality Assurance	2050-2099**
Impoundment JCN	5326-5330*
G081 generated	5331-5335*
Power on Preflight	5350-5399*
Refurbishment	6500-6899*
TACC assigned JCN's VIA GDSSII	8900-8999*
Other Maintenance	2300-2399**
Quality Assurance Representative (QAR)	9301-9350**
TCTO monitor	9500-9699*
Reserved for Future Use	2421-2799**

Figure A4.2. Manual Job Control Number (JCN) Listing, Part 2.

86 AMXS	
Debrief (Inspection Packages)	3100-3199**
Debrief (Flight Discrepancies)	3900-3999**
Red Ball	3200-3299**
Aircraft Maintenance Unit (AMU)	3300-3529**
Aircraft Maintenance Unit (AMU)	4200-4299**
Support Flight	3530-3729**
Alternate Mission Equipment	3730-3779**
Consolidated Tool Kit	3780-3819**
Air Crew Training Devices	3820-3859**
CANN Actions	5200-5299*
Pneudraulics	7050-7099**
Electric and Environmental Shop	7100-7149**
Communication and Navigation Shop	7150-7199**
Guidance and Control	7200-7249**
ECM	7300-7349**
Reserved for Future Use	3860-3899**
Reserved for Future Use	4500-4799**
86 MXS	
Accessory Flight:	
Pneudraulics	5100-5149**
Electric and Environmental Shop	5150-5199**
Fuel Systems Shop	6300-6349**
Fabrication Flight:	
Metal Tech Shop	6350-6399**
Non-Destructive Inspection (NDI) Lab	6400-6449**

Figure A4.3. Manual Job Control Number (JCN) Listing, Part 3.

Structural Repair	5400-5449**
Corrosion Control	5500-5539**
Maintenance Flight:	
Aerospace Repair Shop	5600-5649**
Landing Gear Scheduled	9101-9150**
Landing Gear Unscheduled	9151-9200**
Wheel and Tire	5650-5699**
Transient Alert	5700-5799**
Engine Management:	
Engine Management	4800-4899**
AGE Flight:	
Production Control	6300-6499**
AGE Inspections	7000-7049**
AGE Maintenance	7700-7749**
AGE Servicing	7750-7799**
Test Measurement and Diagnostic Equipment Flight	
TMDE Scheduling	6900-6999**
Off-Station/Support General JCN Listing	
A8601	0101-0199**
A8602	0201-0299**
A4631	0301-0399**
A5683	0401-0499**
A5738	0501-0599**
A5740	0701-0799**
A8614	0801-0899**
A5883	0901-0999**
A4635	1001-1099**

Figure A4.4. Manual Job Control Number (JCN) Listing, Part 4.

A3176	1101-1199**
A5736	1201-1299**
A5822	1301-1399**
A5831	1401-1499**
A5840	0601-0699**

Attachment 5

STANDARDIZED AIRCRAFT FORMS BINDER

A5.1. Aircraft forms binders will be maintained IAW TO 00-20-1, paragraph 5.3.2; DAFI 21-101, and this instruction. A sufficient amount of spare forms will be maintained in the binder at all times.

A5.2. The following items will be arranged within the binder in the following order:

Figure A5.1. Binder Order.

A. AFTO Form 781F, Aerospace Vehicle Flight Report and Maintenance Document, a placard with the assigned security classification and the equipment or documents by their title or nomenclature IAW TO 00-20-1 para 3.15, attached to the front of the 781F. Option to add Dedicated Crew Chief to block 1 and Assistant Dedicated Crew Chief to block 2 is authorized.
B. AFTO Form 781B, Communication Security Equipment Record
C. AFTO Form 781, AFORMS Aircrew/Mission Flight Data Document
D. AFTO Form 781H, Aerospace Vehicle Flight Status and Maintenance Document
E. AFTO Form 781A, Maintenance Discrepancy and Work Document
F. Place dispositioned TARs in front of 781A, Maintenance Discrepancy and Work Document
G. AFTO Form 781J, Aerospace Vehicle Engine Flight Document
H. AMXSFC-101, Debrief Form 101 Sortie Recap (The last five flights)
I. AFTO Form 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection, and Delayed Discrepancy Document
J. AFTO Form 781C, Avionics Configuration and Load Status Document
K. AF Form 664, Aircraft Vehicle Fuels Documentation Log
L. Miscellaneous forms section (See next paragraph for minimum requirements)
M. AFTO Form 781M, Status Symbols and Functional System Codes
N. AFTO Form 781G, General Mission Classification

A5.3. Units may include additional items in the (M) Miscellaneous forms section. However, all unit aircraft will have the same items for standardization purposes. Minimum requirements in the miscellaneous forms section are as follows:

Figure A5.2. Minimum Requirements in The Miscellaneous Forms.

A. AFTO Form 46, Pre-positioned Life Support Equipment
B. 86th Airlift Wing In-Process Inspection (IPI) Listing
C. Julian Date Calendar
D. AF Form 4076, Aircraft Dash 21 Equipment Inventory
E. 86 MXG Form 590, Dropped Objects Investigation Checklist

A5.4. In order to extend binder life and improve appearance, units may use Five-Star or equivalent forms binders in place of traditional clear plastic.

Attachment 6

SAMPLE LOCALLY MANUFACTURE TOOL MEMORANDUM

Figure A6.1. Sample Locally Manufacture Tool Memorandum.

MEMORANDUM FOR 86 MXG/CC

FROM: _____

SUBJECT: Locally Manufactured Tool/Equipment Description, Quantity, and Location

1. This memorandum contains a colored picture, quantity, and location of the local manufactured tool presently in use at the _____ Section. The purpose of this memorandum is to aid in the identification of local manufactured tools and equipment.

A. 1 ea _____ used to _____
Located
WWID _____

PLACE PICTURE HERE

2. Direct questions and/or concerns about these locally manufactured tools to

3._____CTK Custodians @_____.

, MSgt, USAF

NCOIC, _____ Support Section

Attachment 7

EMERGENCY EVACUATION OF AIRCRAFT IN HANGARS

Figure A7.1. Emergency Evacuation of Aircraft In Hangars.

NOTE: The tow supervisor will be in charge of all emergencies. Technical data procedures will be followed without question. If the tow supervisor or coordinator is unavailable or incapacitated, a qualified person will assume the tow supervisor and/or coordinator's responsibilities.

CAUTION: Safety is paramount during any operation. Technical data procedures will be followed to the letter. Our goal is to safely remove the aircraft and evacuate personnel from the hangar while preventing damage to aircraft and injury of personnel. The aircraft will not be moved unless an actual fire has been spotted, or upon orders from the fire department.

AREA RESPONSIBILITIES

COORDINATOR:

A7.1. Determine the nature of the emergency.

A7.2. Ensure notification of MOC and inform them of emergency.

A7.3. Give one of two commands: **PREP FOR TOW** or **EVACUATE**.

NOTE: In event the aircraft is on jacks, it is highly unlikely there will be sufficient time to down jack and tow aircraft out of hangar.

NOTE: If the coordinator gives the command **EVACUATE**, all personnel will immediately leave the hangar and assemble at the applicable meeting point.

A7.4. Ensure all offices, break room, locker room, conference room, G081 room and bathrooms are clear of all personnel.

A7.5. If the **PREP FOR TOW** command is given, proceed to the nose of the aircraft and oversee the towing operation.

Attachment 8

SAMPLE FOREIGN OBJECT DAMAGE (FOD) REPORT

Figure A8.1. Sample Foreign Object Damage (FOD) Report.

Date

MEMORANDUM FOR

FROM: <Unit Designation/Office Symbol> <Street> <Base and Zip Code>

SUBJECT: <Foreign Object Report>. FOD program report number (unit, year, and month, followed by sequence number -- example, 301FW-060501).

Type of report: Initial/Formal Update/Final FOD Report
Date and Time of Incident:
Unit and Base of Incident:
Origin of Sortie:
When discovered (Preflight, Postflight, In-Coming, Test Cell, etc.)
Owning Unit, Base and MAJCOM
MDS and Tail Number (N/A for Test Cell incidents)
Engine Type, Make, Series, Modification (TMSM)
Engine S/N:
Engine Position (If Applicable):
Time Since Overhaul:
Description of Incident:
Material Failure: (Yes or No)
Tech Data Deficiency: (Yes/No)
Preventable/Non-Preventable:
Investigation Findings:
Action Taken (AT) to Prevent Recurrence:
Parts Cost: Labor Cost: Total Cost:
Additional Comments (if necessary):

<Sign>
FOD Monitor, <Unit Designation>

Attachment 9

SAMPLE DROPPED OBJECT PROGRAM (DOP) REPORTING FORMAT

Figure A9.1. Sample Dropped Object Program (DOP) Reporting Format.

Date

MEMORANDUM FOR

FROM: <Unit Designation/Office Symbol> <Street> <Base and Zip Code>

SUBJECT: <Dropped Object Report>. DOP program report number (unit, year, and month, followed by sequence number -- example, 301FW-060501).

1. DOP program report number (unit, year, and month, followed by sequence number --
2. example, 301FW-060501).
3. MDS.
4. Type mission and mission profile.
5. Aircraft tail number.
6. Owning organization and base.
7. Origin of sortie.
8. Date of incident and discovery location (if different than origin of sortie).
9. Geographical location of object, if known.
10. Item, noun, and description (use information from the applicable aircraft -4 series TOs).
11. TO, figure, and index.
12. Part number.
13. Correct WUC (full five-digit) or Logistics/Maintenance Control Number (full seven-digit).
14. Last PH, PE, PDM, HSC, or ISO inspection.
15. Last maintenance performed in the area and date.
16. Investigation findings (cause).
17. Costs in dollars to repair or replace dropped object and any collateral aircraft damage as appropriate and cost in man-hours to repair.
18. Actions to prevent recurrence.
19. DR Control Number (if submitted).
20. Unit POC information.
21. Other pertinent information.

<Sign>
DOP Monitor, <Unit Designation>

Attachment 10

SAMPLE DROPPED OBJECT PROGRAM SELF-ASSESSMENT GUIDE

A10.1. Is the wing/unit monitor designated by letter?.

A10.2. Is the appointment letter current?.

A10.3. Is the wing/unit dropped object monitor maintaining a current continuity book?.

A10.4. Are dropped object investigation worksheets being turned in to MXG/QA within 24 hours of each incident?.

A10.5. Are one-time inspections being initiated as required?.

A10.6. Is information relevant to the dropped object program being distributed to appropriate organizations and is this information being briefed to personnel at all levels?.

A10.7. Are individuals reporting dropped objects in a timely manner to the expeditor and dropped object monitor?.

A10.8. Are Product Quality Deficiency Reports being initiated when material failure is the expected cause of a dropped object incident?.

Attachment 11

WORLDWIDE (WW) IDENTIFICATION (ID) LISTING

A11.1. The following table shows the current list of WWID for units assigned to Ramstein Air. Base. The first two characters (RF) identify Ramstein Air Base. The third character of the WWID identifies the UNIT and the fourth identifies the SECTION/WORK CENTER. The section / work center establishes the remaining five characters (any combination of numbers / letters) for CTKs, tools, and dispatchable equipment identification.

Figure A11.1. Current List of WWID For Units Assigned to Ramstein Air Base, Part 1.

86th Airlift Wing Unit

86th Maintenance Group Units

86th Maintenance Squadron	
Maintenance Flight	RF8A
Crash & Recovery	RF8F
Fabrication	RF8P
Accessories	RF8C
TMDE	RF8D
AGE	RF8G
Transit Alert	RF8T
ISO	
86th Aircraft Maintenance Squadron	
Support Section	RF3M
76th Aircraft Maintenance Unit	
Maintenance	RF7M
Flight Engineer	

Figure A11.2. Current List of WWID For Units Assigned to Ramstein Air Base, Part 2.

86th Maintenance Operations Squadron	RFTR
MTF	
86th Maintenance Group Quality Assurance	RF8Q
QA	
86th Maintenance Tactics	RFAW
Agile Warrior	
86th Operations Group Units	
37th Airlift Squadron	RF3D
Loadmasters (Aircrew)	
86th Operations Support Section	RF3L
Life Support	
424th Air Base Squadron	RF8U
Maintenance/ TA	RF8S
Support (AGE)	
496th Air Base Squadron	MMLG
Maintenance/ TA	
86th Logistics Readiness Group	
86th Materiel Maintenance Squadron	RFMW
Armament	

Figure A11.3. Current List of WWID For Units Assigned to Ramstein Air Base, Part 3.

86th Vehicle Readiness Squadron	RF8V
Vehicle Maintenance	RFAV
Arial port Vehicle Maintenance (Non-TCMAX ID 101VM)	
86th Logistics Readiness Squadron	RF8L
Fuels Compliance	RF8Z
Aerial Delivery Section	
86th Munitions Squadron	RF8W
Munitions	RF8R
86th Mission Support Group	
86th Communications Squadron	RF4I
Infrastructure Branch	RF4S
Customer Support Branch	RF4A
Airfield Systems	RF4T
Transmissions Systems	
Ramstein Air Base Tenant Units	
721st Aircraft Maintenance Squadron	RFAM
Support Section	
721st Aerial Port Squadron	APS/TRQ001
ATSEV 721 APS	APS/TRKC001
Cargo Processing 721 APS	APS/TRKS001

Figure A11.4. Current List of WWID For Units Assigned to Ramstein Air Base, Part 4.

Special Handling 721 APS	APS/TRK001
Ramp Services 721 APS	APS/TRP001
Passenger Services 721 APS	APS/TRF001
Fleet Services 721 APS	APS/TRO001
TROO Flight 721 APS	
TRX Flight 721 APS	
TRO Flight 721 APS	RFTR

Attachment 12

86 MXG CALL SIGNS

Figure A12.1. {86. MXG Call Signs, Part 1.

86th Maintenance Group

Commander	Maintenance 1
Deputy Commander	Maintenance 2
Chief Enlisted Manager	Maintenance Chief
Quality Assurance	QA 1-18

86th Maintenance Operations

Maintenance Operations OIC	Dragon 1
Maintenance Operations Superintendent	Dragon 2
Maintenance Operations Center	MOC
Plans, Scheduling, and Documentation	PS&D

86th Maintenance Operations (C-20/C-21) Net 5

Quality Assurance Representative	QAR 1-2
C-20 Maintenance	LSI 1-5
C-21 Maintenance	VERTEX 1-5

86th Aircraft Maintenance Squadron (C-130) Net 3

Commander	Knight 1
Maintenance Operations Officer	Knight 2
Maintenance Superintendent	Knight Chief
Flight Commander	Herk Boss
Flight Chief	Herk Chief

Figure A12.2. {86 MXG Call Signs, Part 2.

Lead Production Superintendent	Herk Lead
Production Superintendent	Herk Super
Flight line Expediter	Herk 1
Flight line Expediter	Herk 2
Specialist Expediter	Herk 3
Contingency Use	Herk 4
Contingency Use	Herk 5
Avionics Technician	Avionics 1-3
E/E Technician	Sparky
Hydraulic Technician	Genie
Propulsion Technician	Engines
APG Section	Crew Chief Section
Specialist Section	Spec Section
Debrief	Debrief
Agile Warrior OIC/SEL	Warrior Lead
Agile Warrior Pro Super	Warrior Super
Agile Warrior Technician	Warrior 1-10
Aircraft Support Flight	
Flight Commander	Support Boss
Flight Chief	Support Chief
CTK Element	Support 1
-21 Dual Rails Element	Support 2
Supply Support	Supply
Vehicle NCO	Vehicles

Figure A12.3. {86 MXG Call Signs, Part 3.

86th Maintenance Squadron Net 5

Commander	Big Dog 1
Maintenance Operations Officer	Big Dog 2
Maintenance Superintendent	Big Dog Chief
Lead Production Superintendent	Big Dog Super
Production Superintendent	Maintenance Super

Maintenance Flight

Crash Recovery	Recovery 1
Transient Alert Dispatch	TA
Transient Alert Vehicles	TA 1-3
Transient Alert Follow-me	Follow Me
AERO Repair Base	AR Base
AERO Repair Truck	AR 1 or 2
ISO Base	ISO Base
ISO 'Backline'	ISO 1 or 2

AGE Flight

AGE NCOIC	AGE Super
AGE Dispatch	AGE Lead
AGE Ramp support drivers	AGE 1-4

Accessories Flight

Fuels Shop	Fuels Base
Fuels Technicians	Fuels 1 or 2
Electric/Environmental	Electrics 1 or 2
Hydraulics	Hydraulics

Figure A12.4. {86 MXG Call Signs, Part 4.

Flight Fabrication	
Fabrication Super	Fab 1
Structural Repair Shop	Sheet Metal Base
Structural Repair	Sheet Metal 1-2
Metals Technology	Metals Tech
Non-Destructive Inspection Shop	NDI Base
Non-Destructive Inspection Technicians	NDI
PMEL	
PMEL Truck	PMEL 1 or 2

Attachment 13

AIRCRAFT MUNITIONS EXPLOSIVE LOADING/UNLOADING PRE-TASK

Figure A13.1. Aircraft Munitions Explosive Loading/Unloading Pre-Task, Part 1.

AIRCRAFT MUNITIONS EXPLOSIVE LOADING/UNLOADING PRE-TASK

BRIEFING

Figure A13. Pre-Task Briefing

Reference:

DAFMAN 21-201	*Munitions Management*	3 May 2023
DAFMAN 91-203	*Air Force Occupational Safety, Fire, and Health Standards*	23 March 2022
AFI 91-208	*Hazards of Electromagnetic Radiation to Ordnance (HERO) Certification and Management*	24 October 2019
DESR_6055.09_AFMAN 91-201	*Explosives Safety Standards*	6 June 2020
DESR_6055.09 AFMAN 91-201 USAFE-AFAFRICA SUP	*Explosives Safety Standards*	6 January 2021
T.O. 11A-1-33	*Handling & Maintenance of Explosives-Loaded Aircraft*	
T.O. 1C-130J-33-1-2	*Non-Nuclear Munitions Loading Procedures CMDS AN/ALE-47*	
T.O. 1C-130J-33-1-2CL-1	*Non-Nuclear Munitions Loading Procedures CMDS AN/ALE-47*	

A13.1. Responsibility:

A13.1.1. The load crew supervisor will:

A13.1.1.1. Assign responsibilities as outlined in this safety briefing and applicable publications.

A13.1.1.2. Provide a safety briefing to all crewmembers, delivery teams, supervisors, and casuals prior to the start of each upload/download operation.

A13.1.1.2.1. Visitors will be briefed upon arrival and operations will cease until they depart.

A13.1.1.3. At least one copy of this instruction is required at the munition's upload / download site.

Figure A13.2. Aircraft Munitions Explosive Loading/Unloading Pre-Task, Part 2.

WARNING

Hand-held radios and cellular phones, due to their portability and mobility, pose a greater Electromagnetic Radiation (EMR) hazard to munitions than any other emitter and must be kept at least 10 feet away from electro-explosive devices (EED), or the device must be turned off if the 10-foot distance cannot be maintained.

A13.2. Pre-Task Briefing:

A13.2.1. See 1C-130J-33-1-2CL-1 pages i, ii, E-1 and E-2 for the loading procedure safety summary, and emergency procedures to include explosives limits, withdrawal distances, loading/unloading location, and emergency contacts.

A13.2.2. Operation to be performed:

A13.2.3. Evacuation assembly location:

A13.2.4. Maximum personnel limits (not to exceed cited limits):

Supervisor: 1

Workers: 4

Casuals: 4

A13.3. General Safety Guidelines:

A13.3.1. Ensure aircraft are positioned in a direction that presents the minimum hazard to personnel, buildings, and equipment in the event of an accidental firing of munitions.

A13.3.2. During adverse weather conditions (e.g., ice, slippery road surfaces, electrical storms) loading operations will be conducted IAW DESR 6055.09_AFMAN 91-201, Explosive Safety Standards, Explosive Safety Standards.

A13.3.3. A serviceable handheld radio with battery will be on hand, but no radio frequency transmissions or handheld communication devices will be operated/activated within 10 feet of exposed munitions.

A13.3.4. Loading/unloading operations shall be ceased/suspended when the following hazardous conditions exist:

A13.3.4.1. Aircraft engines are being run at maximum power within 300 feet of the aircraft being loaded.

Figure A13.3. Aircraft Munitions Explosive Loading/Unloading Pre-Task, Part 3.

A13.3.4.2. When aircraft liquid oxygen servicing, refueling/defueling operations, or sub-maximum power engine runs are conducted within 100 feet of munitions uploading/downloading.

A13.3.4.3. When lightning watch or warning is issued.

A13.3.4.4. If a lightning watch or warning is issued during a loading operation, cease the loading operation, secure all unloaded munitions inside the aircraft, and retreat to cover.

A13.3.5. Personnel will avoid wearing high static-generating materials (e.g., 100% polyester, nylon, wool, etc.) as outer garments. Gortex is acceptable for handling munitions.

A13.3.6. Loaded magazines dropped in excess of 3 feet shall be considered unserviceable.

A13.3.6.1. If any munition is dropped, it will not be loaded until it has been inspected for serviceability.

A13.3.7. Personnel will avoid unnecessarily standing in front of loaded chaff and flare dispensers.

A13.3.8. Do not breathe fumes from a burning flare.

A13.4. Emergency Actions:

A13.4.1. In case of fire, the following actions will be taken by the individuals indicated:

A13.4.1.1. Load crew supervisor or load crew members will:

A13.4.1.1.1. Notify MOC and the fire department by the most expedient method available.

A13.4.1.1.2. Evacuate all non-essential personnel.

A13.4.1.1.3. Remove all munitions not engulfed in flames.

A13.4.1.1.4. Proceed to the Entry Control Point, or most visible approach point, to signal fire fighters and direct them to the scene.

A13.4.1.2. Munitions delivery crew members will:

A13.4.1.2.1. Notify 86 MUNS Munitions Control by any means possible.

Attachment 14

MINIMAL CRASH RECOVERY TEAM POSITIONS AND DUTIES

A14.1. Crash Recovery Supervisor/Team Chief:

A14.1.1. Coordinate, lead, direct crash recovery operation, including placement of equipment.

A14.1.2. Brief safety and scenario situation/concerns.

A14.1.3. Assist agency officials in recovery method determination.

A14.1.4. Assemble information from Bioenvironmental and Fire Department officials on site hazards and brief team members.

A14.2. Inflation Bag Control Console Operator(s):

A14.2.1. Inspect, monitor and operator control console before and during lifting operation.

A14.2.2. Direct hose to inflation bag connections during inflation and deflation operations.

A14.2.3. Assist in equipment placement, removal and area clean up.

A14.2.4. Spreader beam guideline operator during crane lift.

A14.3. Observer:

A14.3.1. Monitor aircraft height/plumb bob during lifting and report back to Team Chief / Console operator.

A14.3.2. Assist in equipment placement, removal and area clean up.

A14.4. Equipment Custodian.

A14.4.1. Monitor, control and issue all dispatched crash recovery equipment.

A14.4.2. Clean, inventory and account for issued equipment/material.

A14.4.3. Assist team as needed.

A14.5. Equipment Handlers.

A14.5.1. Assist in dunnage/cribbing/jack placement.

A14.5.2. During bag lift, monitor bag/jack progress.

A14.5.3. Assist in equipment placement, removal and area clean up.

A14.5.4. Notes: (1) Requirements for C-130, C-21, C-20, C-37, C-40, or wide body aircraft will require additional members supplied by the 721 AMXS, contractors or 86 AMXS.

Attachment 15

RAMSTEIN AIR BASE CRASH RECOVERY EQUIPMENT/VEHICLE LIST

Table A15.1. Minimum Crash Recovery Equipment/Vehicle List..

Small Aircraft. (less than 75K, C-21 etc.)		Medium Aircraft (75K-200K, C-130 etc.)		Large Aircraft (>200K, C-17, KC-135 etc.)	
Qty	**Item**	**Qty**	**Item**	**Qty**	**Item**
3	Wheel Dolly	4	Tethering Kit	8	Tethering Kit
1	Spill Response Kit	1	Spill Response Kit	1	Spill Response Kit
2	Lifting sling	2	Lifting sling	2	Lifting sling
1	MC-7 Air Compressor	1	MC-7 Air Compressor	1	MC-7 Air Compressor
6	Airbag 15 Ton	8	Airbag 26 Ton	8	Airbag 26 Ton
6	Control Console	8	Control Console	8	Control Console
	Crane/ Spreader bar	1	Crane/Spreader bar	1	Crane/Spreader bar
1	Crash Trailer	1	Crash Trailer	1	Crash Trailer
1	15K Forklift	1	15K Forklift	1	15K Forklift
1	40' Low boy trailer w/tractor (vehicle ops)	1	40' Low boy trailer w/tractor (vehicle ops)	1	40' Low boy trailer w/tractor (vehicle ops)
1	4-wheel Drive, four-passenger-winch, lightbar, pintle-hook, and radio equipped truck	1	4-wheel Drive, four-passenger-winch, lightbar, pintle-hook, and radio equipped truck	1	4-wheel Drive, four-passenger-winch, lightbar, pintle-hook, and radio equipped truck
1	Aircraft tow vehicle	1	Aircraft tow vehicle	1	Aircraft tow vehicle

Notes:

1. These are minimum requirements and should not be assumed all-encompassing. (Add MDS-specific as required).
2. This list should not cause lowered Allowable Source Code requirements.

Assumptions:

1. Additional time may be required to obtain necessary equipment that is not listed.
2. Common equipment (i.e., aircraft jacks, tow bars, generator, light cart, heater) is not listed but may be required depending on conditions of the crash site.
3. Crash Recovery vehicles need to be assigned or identified in pre-plan.