

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

RAMSTEIN AIR BASE INSTRUCTION 21-102



16 JULY 2013

Certified Current on 8 March 2016

Maintenance

**FOREIGN OBJECT DAMAGE (FOD) AND
DROPPED OBJECT (DO) PREVENTION
PROGRAM**

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ACCESSIBILITY: Publications and forms are available on the e-Publishing website at www.e-publishing.af.mil for downloading or ordering.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: 86 MXG/QA

Certified by: 86 MXG/CC (Col Fike)

Pages: 27

Supersedes: RAMSTEINABI21-102,
22 December 2010

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 for Ramstein Air Base, 496th Air Base Squadron, Moron Air Base, and 424th Air Base Squadron, Chievres Air Base. 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 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. **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. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s through publications/forms managers. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afirms/afirms/>.

SUMMARY OF CHANGES

This interim change changes the requirement for certain aspects of the base Foreign Object Damage and Dropped Object Prevention Program Instruction.

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1. Program Objective. All personnel will exercise prevention procedures in the vicinity 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.

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 DO” mishaps.*

3. Wing FOD Prevention Program Manager Responsibilities.

3.1. Wing FOD Prevention Manager responsibilities.

3.1.1. The 86 AW/CV is the wing FOD prevention manager and the dropped object program manager. He/she has overall responsibility for these programs.

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

3.1.3. The 86 AW/CV will appoint a qualified individual as the DOP program monitor.

3.2. Wing FOD Prevention Monitor Responsibilities.

3.2.1. Manage the FOD Prevention Program in conjunction with AFI 21-101 and associated supplements.

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

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

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

3.2.5. 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.

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

3.2.5.2. Annotate inspection information in locally generated spreadsheets.

3.2.6. Develop and manage the FOD prevention awards program.

3.2.7. Analyze program areas that require additional management emphasis.

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

3.2.9. 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, MXG/CC or MXG/CD.

3.3. Squadron Commander Responsibilities.

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

Table 1. Organizations with FOD Prevention Program

86th Maintenance Group/Quality Assurance	86th Munitions Squadron
86th Maintenance Squadron	86th Materiel Maintenance Squadron
86th Aircraft Maintenance Squadron	37th Airlift Squadron
86th Maintenance Operations Squadron	424th Air Base Squadron*
86th Aeromedical Evacuation Squadron	76th Airlift Squadron
86th Operations Support Squadron	435th Air Mobility Squadron
86th Security Forces Squadron	496th Air Base Squadron*
86th Civil Engineer Group	721st Aircraft Maintenance Squadron
86th Logistics Readiness Squadron	721st Aerial Port Squadron
86th Vehicle Readiness Squadron	786th Civil Engineer Squadron
86th Communications Squadron	886th Fire Department
<p>NOTE 1: The MXG/MXW CC will chair the meeting in the absence of the WG/Center CV. 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).</p> <p>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.</p>	

3.3.2. 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.

3.3.3. 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 Aircraft Maintenance Unit (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 3 for dropped object self prevention program self assessment guide.

3.3.4. Ensure maximum participation in daily FOD walks.

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

3.4. Squadron FOD Prevention Monitor Responsibilities.

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

3.4.1.1. 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.

3.4.1.1.1. 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.

3.4.1.2. 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.

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

3.4.2.1. *Current* 86 AW FOD/DOP Contacts.

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

3.4.2.3. Reference to where FOD/DOP publications (e.g. AFI 21-101_AMCSUP_I, RABI 21-102) can be found.

3.4.2.4. FOD prevention inspection log.

3.4.2.5. FOD prevention training log.

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

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

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

3.4.3. 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:

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

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

3.4.3.3. 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.

3.4.3.4. Quarterly winning FOD prevention poster.

3.4.3.5. Current FOD Flash.

3.4.4. Assist the wing FOD monitor when requested.

4. Program Meetings.

4.1. 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.

5. Civil Engineer Group.

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

5.2. 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.

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

5.4. 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 civil engineer group.

5.5. 86th Civil Engineer Group FOD Prevention Officer will ensure all civilian contracted construction workers are briefed on FOD prevention procedures when working on or around the flightline.

6. Vehicle Readiness Squadron.

6.1. 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.

6.2. 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.

7. Maintenance Operations Center.

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

7.2. 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...)

8. Operations Support Squadron/Airfield Manager.

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

8.2. Request sweepers be dispatched as required.

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

8.4. 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.

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

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

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

9. Operations Support Squadron/Current Operations.

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

10. Maintenance Operations Squadron.

10.1. Maintenance training flight, MOS/MXOT, incorporates FOD/DO prevention training for maintenance personnel during annual maintenance training.

11. Initial Training.

11.1. 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.

11.2. 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)

11.3. 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.

11.4. 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:

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

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

12. General FOD Prevention.

12.1. 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.

12.2. 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.

12.3. 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.

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

12.4.1. 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.

12.5. 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.

12.5.1. 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.

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

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

12.8. 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.

12.9. 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.

12.10. On aircraft, uninstalled engines, Line Replaceable Unit, Support Equipment, Aerospace ground 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, VTR 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 AFI 21-101, paragraph 10.4.2.1.

13. Clothing/Reflective Belts Requirements/Restrictions.

13.1. 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.

13.1.1. 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.

13.2. Do not attach or wear any items (pens, pencils, whistles, etc.) on the armband or flightline access badge holder unless it was intended to hold these items.

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

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

13.5. During inclement weather, darkness or periods of reduced visibility all personnel working/operating on the flightline are required to wear a reflective belt. Security forces personnel armed to provide security on the flightline are exempt from this requirement. In accordance with (IAW) AFI 21-101_ AMC_SUP1 (paragraph 10.2.1.8.)

14. Housekeeping.

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

14.2. 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.

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

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

15. Daily Operations.

15.1. 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.

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

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

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

16. FOD Prevention Walks.

16.1. FOD walks will be performed twice week at a minimum (Preferably Tuesday and Thursday). When possible, 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. Maximum participation that will cover all aircraft taxiways, aircraft movement and parking areas, aprons, AGE sub-pools and shelter entrances. Personnel should be evenly spaced to provide effective coverage. 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.

16.2. Maintenance crews will perform complete FOD walks in their local areas (i.e. 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.

16.3. Squadrons will ensure FOD walks are complied with and an NCO or equivalent appointed to lead each FOD walk. If multiple areas of responsibilities, alternate monitors will be appointed to ensure FOD walks are properly performed.

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

16.4. 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.

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

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

Table 2. FOD Walk Assigned Flightline/Ramp Areas of Responsibilities.

86 AMXS	Ramp area 1 and -21 Hangar area
76 AMU	Ramp 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
86 VRS	Vehicle maintenance pad adjacent to ramp 5
721 AMXS	Ramp 5: Spots 10-16, 21-28, Ramp 8 (HC)
721 APS	Ramp 5: Spot 3-9, 17-20, T1, T2

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

17. Rivet Replacement.

17.1. 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.

17.2. Structural maintenance shops will utilize a local sheet metal instruction checklist approved by Quality Assurance (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.

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

18. Aircraft/Flightline Environment.

18.1. 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.

18.2. Make every effort to eliminate foreign objects in and around aircraft, protective aircraft shelters (PAS), hangars, maintenance facilities, access routes, taxiways, and runways.

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

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

18.5. 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 AFI 21-101, AFI 21-101_AMCSUP_I, and T.O. 00-20-1. Then they must initiate a lost tool report.

18.6. 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.

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

18.8. 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.

18.9. 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.

18.10. 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.

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

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

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

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

18.15. If available, throttle covers will be installed prior to any non-time critical, or routine maintenance being performed on the flight deck. In this case maintenance on the flight deck is defined as any maintenance that requires removal of hardware or parts on the physical flight deck itself. Throttle covers will be installed at all times during isochronal inspection and Home Station Check inspections unless a maintenance task dictates movement of throttles and condition levers, or if access is needed to an area and the covers make that area inaccessible. Covers will be used at all times as a FOD preventative measure and not all-inclusive to maintenance task.

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

19.1. 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.

19.2. Covers (e.g., engine inlet, pitot tube(s), throttle quadrant cover, 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. 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.

19.3. 721 AMXS/Transit alert aircraft will follow Mission Design Series, specific technical data, and applicable AFI's 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.

19.4. **(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.

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

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

20.1. Install and secure panels forward of the intake using all associated hardware. The only exceptions are when aircraft technical order or local directives outline procedures for troubleshooting and when performing maintenance, which requires forward door access.

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

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

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

20.5. During engine runs and prior to aircraft taxiing, all aircraft covers will be stowed, firmly secured, or removed from the run-up area to prevent ingestion. On uninstalled engines, inlet covers will be used at all times.

21. Ice FOD Conditions/Notifications.

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

22. Tool/Equipment Accountability/Composite Tool Kit (CTK).

22.1. 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.

22.2. 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.

22.3. 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.

22.4. Allow personal issue equipment when an individual PCS/PCAs, identify personal issue equipment (e.g., ear defenders, reflective belts, etc.) with minimum first initial, last name, and last four of the individuals social security number. The individual's employee number may be used in lieu of the last four of the individuals SSN. 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.

23. Hardware Control.

23.1. Scrounge bags or excess hardware storage collection are NOT authorized.

23.2. 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.

23.3. 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.

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

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

24.1. 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.

24.2. Notify maintenance supervision, Maintenance Operation Center (MOC), and quality assurance upon discovery of a lost tool/item. Impoundment official 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 OI's.

25. Vehicles.

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

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

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

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

25.5. 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.

25.6. 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.

25.7. 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 chocks with the unit in lieu of the vehicle registration number.

25.8. 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 chocks with the unit in lieu of the vehicle registration number.

25.9. 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.

25.9.1. All Vehicles will perform a FOD check prior to entering flight-line areas with the exception of 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.

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

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

25.9.2.2. 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.

25.9.2.3. A thorough walk around of the vehicle to check for damaged, loose, or worn parts. **Note:** In accordance with AFI 21-101, the Wing CV may waive paragraph 14.19.2.17, 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.

25.10. 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.

25.11. 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.

25.12. 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.

26. Lost Tools.

26.1. 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 AFI 21-101 and AFI 21-200, with applicable supplement.

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

26.3. 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.

27. Reporting/Investigation.

27.1. 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 2*. For dropped object reporting the minimum requirements in *attachment 3* 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.*

27.2. 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.

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

27.4. 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.

27.5. 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.

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

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

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

27.8.1. 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.

27.8.2. 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.

27.8.3. 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.

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

27.10. 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.

27.11. 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.

27.12. 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.

27.13. 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.

27.14. 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.

28. FOD Prevention Incentive Program.

28.1. 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:

28.2. 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.

28.3. 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.

28.4. 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.

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

29. The 86 AW Squadron FOD Prevention Award.

29.1. 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 in to consideration when selecting an award winner:

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

29.1.2. FOD Poster of the Quarter submissions.

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

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

29.2. 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/CV.

CHARLES K. HYDE Brigadier General, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1, *Air and Space Maintenance*, 25 Feb 2008

AFI 13-213, *Airfield Driving*, 1 June 2011

RABI 21-501, *Tool, Equipment and Technical Order Control Procedures*, 27 April 2012

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

AFI 91-204, *Safety Investigation and Reports*, 24 Sep 2008

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 26 July 2010

AFI 21-101_AMCSUP_1, *Aircraft and Equipment Maintenance Management*, 11 February 2011

AFI 21-200, *Munitions and Missile Maintenance Management*, 13 November 2009

TO 33B-1-1WA-I, *Nondestructive Inspection*, 15 September 2010

TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedure*, 15 June 2011

TO 1-1A-15, *General Maintenance Instruction for Support Equipment (SE)*, 07 June 2010

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

Prescribed Forms

None

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

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

AF Form 55, *Employee Safety and Health Record*

Abbreviations and Acronyms

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRIMS—Air Force Records Information Management System

AGE—Aerospace Ground Equipment

AMC—Air Mobility Command

AMU—Aircraft Maintenance Unit

AMOG—Air Mobility Operations Group

AMXS—Aircraft Maintenance Squadron
AW/CV—Wing Vice Commander
CE—Civil Engineering
CFT—Contract Field Teams
CTK—Consolidated Tool Kit
DO—Dropped Object
DOP—Dropped Object Prevention
EM—Engine Management
EMS—Equipment Maintenance Squadron
FAST—Failure Analysis Service Technology
FO—Foreign Object
FOD—Foreign Object Damage
GP—Group
GP/CC—Group Commander
HSC—Home Station Check
IAW—In Accordance With
ISO—Isochronal Inspection
LRS—Logistics Readiness Squadron
LRU—Line Replaceable Unit
MAJCOM—Major Command
MDS—Mission Design Series
MOC—Maintenance Operations Center
MOS—Maintenance Operations Squadron
MUNS—Munitions Squadron
MX—Maintenance
MXG—Maintenance Group
MXS—Maintenance Squadron
NDI—Non-Destructive Inspection
NVG—Night Vision Goggles
OI—Operating Instruction
OIC—Officer in Charge
OPR—Office of Primary Responsibility

OSS—Operations Support Squadron

PAS—Protective Aircraft Shelter

PBA—Propulsion Business Area

POV—Privately Owned Vehicle

POL—Petroleum, Oil, and Lubricants

PPE—Personal Protective Equipment

RDS—Records Disposition Schedule

SE—Support Equipment

SSN—Social Security Number

QA—Quality Assurance

VCO—Vehicle Control Officer

VRS—Vehicle Readiness Squadron

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

FOREIGN OBJECTDAMAGE (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 to Prevent Recurrence:

Parts Cost: Labor Cost: Total Cost:

Additional Comments (if necessary):

<Sign>

FOD Monitor, <Unit Designation>

Attachment 3**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 -- example, 301FW-060501).
2. MDS.
3. Type mission and mission profile.
4. Aircraft tail number.
5. Owning organization and base.
6. Origin of sortie.
7. Date of incident and discovery location (if different than origin of sortie).
8. Geographical location of object, if known.
9. Item, noun, and description (use information from the applicable aircraft -4 series TOs).
10. TO, figure, and index.
11. Part number.
12. Correct WUC (full five-digit) or Logistics/Maintenance Control Number (full seven-digit).
13. Last PH, PE, PDM, HSC, or ISO inspection.
14. Last maintenance performed in the area and date.
15. Investigation findings (cause).
16. Costs in dollars to repair or replace dropped object and any collateral aircraft damage as appropriate and cost in man-hours to repair.
17. Actions to prevent recurrence.
18. DR Control Number (if submitted).
19. Unit POC information.
20. Other pertinent information.

<Sign>

DOP Monitor, <Unit Designation>

Attachment 4

DROPPED OBJECT PROGRAM SELF-ASSESSMENT GUIDE

1. Is the wing/unit monitor designated by letter?
2. Is the appointment letter current?
3. Is the wing/unit dropped object monitor maintaining a current continuity book?
4. Are dropped object investigation worksheets being turned in to MXG/QA within 24 hours of each incident?
5. Are one-time inspections being initiated as required?
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?
7. Are individuals reporting dropped objects in a timely manner to the expeditor and dropped object monitor?
8. Are Product Quality Deficiency Reports being initiated when material failure is the expected cause of a dropped object incident?

Attachment 5

WORLDWIDE (WW) IDENTIFICATION (ID) LISTING

A5.1. 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.

<u>86th Airlift Wing Units</u>	
<u>86th Maintenance Group Units</u>	
86th Maintenance Squadron	
Maintenance Flight	RF8A
Fabrication	RF8F
Propulsion	RF8P
Accessories	RF8C
TMDE	RF8D
AGE	RF8G
Transit Alert	RF8T
ISO	RF8M
86th Aircraft Maintenance Squadron	
37th Aircraft Maintenance Unit	
Support Section	RF3M
76th Aircraft Maintenance Unit	
Maintenance	RF7M
86th Maintenance Operations Squadron	
MTF	RFTR
86th Maintenance Group Quality Assurance	
QA	RF8Q
<u>86th Operations Group Units</u>	
37th Airlift Squadron	
Loadmasters (Aircrew)	RF3D
86th Operations Support Section	
Life Support	RF3L
424th Air Base Squadron	
Maintenance/ TA	RF8U
Support	RF8S
496th Air Base Squadron	
Maintenance/ TA	

*WORLDWIDE (WW) IDENTIFICATION (ID) LISTING***86th Logistics Readiness Group****86th Materiel Maintenance Squadron**

Armament	RFMW
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86th Vehicle Readiness Squadron

Vehicle Maintenance	RF8V
Aerial port Vehicle Maintenance	RFAV
	(non-TAS ID 101VM)

86th Logistics Readiness Squadron

Fuels Compliance	RF8L
Aerial Delivery Section	RF8Z

86th Munitions Squadron

Munitions	RF8W
	RF8R

86th Mission Support Group**86th Communications Squadron**

Infrastructure Branch	RF4I
Customer Support Branch	RF4S
Airfield Systems	RF4A
Transmissions Systems	RF4T

Ramstein Air Base Tenant Units**721st Aircraft Maintenance Squadron**

Support Section	RFAM
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721st Aerial Port Squadron

ATSEV	721 APS/TRQ001
Cargo Processing	721 APS/TRKC001
Special Handling	721 APS/TRKS001
Ramp Services	721 APS/TRK001
Passenger Services	721 APS/TRP001
Fleet Services	721 APS/TRF001
TRO Flight	721 APS/TRO001

435th Air Mobility Squadron RFSX

DET 1 AETC	RFTR
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