BY ORDER OF THE COMMANDER AIR FORCE MATERIEL COMMAND

THE MAKER MAKERIEL COMMEND

DEPARTMENT OF THE AIR FORCE INSTRUCTION 21-101

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AIR FORCE RESEARCH LABORATORY (AFRL) LOGISTICS MAINTENANCE MANAGEMENT

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This addendum implements Department of the Air Force (DAFI) 21-101 Air Force Materiel Command (AFMC) Supplement, *Aircraft and Equipment Maintenance Management*. This publication provides the minimum basic logistics and maintenance-related program requirements for the Air Force Research Laboratory (AFRL) and for any AFRL organization supporting both, Regular Air Force and United States Space Force. It applies to Air Force Reserve Command (AFRC) units when assigned or associated with AFMC. It does not apply to the Air National Guard or the United States Space Force. This addendum applies to the Regular Air Force and to the Air Force Reserve Command units when assigned or associated with AFMC. It does not apply to Air Force Reserve Command units when assigned or associated with AFMC. It does not apply to Air National Guard Bureau. AFRL is not organized under the standard DAFI 21-101 Wing Organization concept in accordance with (IAW) Air Force Instruction (AFI) 38-101, *Air Force Organization*, and requires supplemental guidance. This publication applies to all AFRL personnel who perform, plan, schedule, evaluate, supervise or manage research, manufacturing, test, development, and integration laboratories and work centers. AFMC Non-Standard Organizations (NSO) require approval to deviate (applicability, variance, and/or differences in organizational placement of responsibilities/processes) from DAFI 21-101, *Aircraft and Equipment Maintenance*

Management, and DAFI 21-101 AFMC Supplement. AFRL has been identified as an NSO IAW with DAFI 21-101 AFMC Supplement and is authorized by AF/A4LM to deviate from the processes and procedures in DAFI 21-101 and DAFI 21-101 AFMC Supplement. AFRL personnel will comply with this Addendum only, not DAFI 21-101 and DAFI 21-101 AFMC Supplement. This Addendum scopes AFRL's requirements in meeting the intent of the parent AFI and AFMC Supplement based on its unique mission. Organizations that implement processes that were not identified as applicable in this Addendum or gain those functions will follow the guidance in DAFI 21-101 and DAFI 21-101 AFMC Sup or submit a deviation in the form of a waiver request. All contractor requirements contained within this Addendum must be contained within the contract/grant/agreement to be enforceable. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFI 33-322, Records Management and Information Governance Program, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). This publication may be supplemented at any level, but all direct Supplements must be routed to the Office of Primary Responsibility (OPR) of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-2") number following the compliance statement. The waiver approval authority for non-tiered requirements throughout this instruction is the publication Approving Official. See Department of the Air Force Manual (DAFMAN) 90-161, Publishing Processes and Procedures, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items via regular mail to HQ AFMC/A4M, 4375 Chidlaw Road, Suite C117, Wright Patterson AFB OH 45433, or e-mail to AFMC.A4M.Workflow@us.af.mil. Email the waiver request using a completed DAF Form 679, Air Force Publication Compliance Item Waiver Request/Approval (or equivalent information). Refer recommended changes and questions about this publication to the OPR using the DAF Form 847, Recommendation for Change of Publication; route DAF Forms 847 from the field through the appropriate functional chain of command. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This revision clarifies and implements two initiatives; first to provide guidance enabling AFRL to publish implementing guidance to this Addendum in publication series 61-Scientific, Research, and Development (para 4.1) and second to add an optional/scalable implementation of an Annual Quality Assurance (QA) Tool/Equipment Process Inspection, see para 6.1.4 and Attachment 4, ANNUAL QA TOOL/EQUIPMENT PROCESS INSPECTION. Additionally, it updates policy references.

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MANAGEMENT PHILOSOPHY AND APPLICABILITY

1.1. Overview. This Addendum was constructed to establish procedures for AFRL. AFRL will provide guidance and may use additional management procedures not specifically prohibited by this instruction, any technical order (TO), or other applicable instruction. Supervisors at all levels are responsible to ensure this directive is fully implemented. In the event of a conflict between this instruction and TOs, see TO 00-5-1, *AF Technical Order System*, paragraph 1.3.1 for TO precedence.

1.2. Logistic Maintenance Cyber Discipline. Cyber Security Protection and Discipline is vital. The 17 series publications and system(s) technical orders establish guidance implementing daily/periodic cyber mitigation processes for Electronic Tools (eTools). For the purpose of this Addendum, eTools are portable electronic devices (e.g., laptop computer, tablets, hand held device) that operate in a disconnected mode and/or, are certified to inter-operate on Air Force (AF) networks, are mission critical because they are the primary method for viewing electronic technical publications, and in some cases are used to exchange maintenance data with approved Maintenance Information Systems (MIS) at the point of maintenance. Note: eTools does not include electronic devices and test equipment issued and configuration managed by a system Program Manager (PM). Improper procurement, sustainment, and use of eTools poses a significant cyber risk to AF systems. Protocols have been identified as a critical element in mitigating emerging cyber threats. The intent is to reduce cyber risk and assigns responsibilities that provide the best possible opportunity for success for achieving mission assurance in cyber threat environments.

COMPLIANCE TERMINOLOGY

2.1. Definitions. For the purpose of this instruction, the following definitions apply:

- 2.1.1. Shall, Must, Will Indicate mandatory requirements.
- 2.1.2. *Should* Indicates a preferred method of accomplishment.
- 2.1.3. May Indicates an acceptable or suggested means of accomplishment.

WAIVERS

3.1. Addendum waivers. Any policy waivers to this addendum shall be processed IAW higher headquarters directives and waiver requests will be submitted IAW DAFMAN 90-161. DAFMAN 90-161 waiver authority tiers do not apply to Technical Orders see TO 00-5-1.

POLICY DEVELOPMENT

4.1. Policy Development. At a minimum, AFRL will publish specific policy guidance (e.g. Supplement/Addendum, Operating Instruction(s) (OIs) in the appropriate publication series to include publication series 61-Scientific, Research, and Development, as required for the programs outlined in this instruction. (**T-2**)

LOGISTICS/MAINTENANCE PROGRAMS

5.1. Logistics/Maintenance Program Responsibilities. Establish written policy if responsibilities differ from a standard organizational structure. Indicate the responsibilities for key leaders involved in their logistics/maintenance activities. At a minimum, establish responsibilities for the following positions: (T-2)

- 5.1.1. AFRL Director of Staff (AFRL/DS).
- 5.1.2. AFRL Center Logistics Manager (CLM) (AFRL/DSO).
- 5.1.3. Detachment Commanders.
- 5.1.4. Commanders/Technology Directors
- 5.1.5. Technology Directorates (TDs)/Wing Logistics Managers. (T-2)
- 5.1.6. Division Chiefs. (T-2)
- 5.1.7. Branch Chief/Section Chiefs. (T-2)
- 5.1.8. Logistics Operations (LOG OPS) Personnel.
- 5.1.9. Operator or User.
- 5.1.10. Training Aid Aircraft (TAA) Manager.

5.2. Special Certification (SC) Documentation. AFRL will establish SC documentation to identify personnel authorized to perform the special certification requirements. The Division Chief is not required to be on the SC Document by virtue of their position as the SC approval authority. The Division Chief may delegate to the Branch Chief level. The SC documentation will identify personnel authorized to: (T-2)

5.2.1. Clear Red X conditions (i.e., aircraft/support equipment, etc.). Identify systems or Air Force Specialty Code (AFSC) (or equivalent) in which authorized to clear Red X conditions. **(T-2)**

5.2.2. Sign Test Measurement and Diagnostic Equipment (TMDE) limited certification labels. **(T-2)**

5.2.3. Clear Red X when a lost tool/item cannot be found in Foreign Object Damage (FOD) Critical Areas. Approved by Division Chief. (**T-2**)

5.3. Equipment Maintenance. Maintenance and calibration of support equipment must meet the requirements of TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy and Procedures*; Air Force Manual (AFMAN) 21-113, *Air Force Metrology and Calibration (AFMETCAL) Management*; TO 00-20-14, *Air Force Metrology and Calibration Program*; TO 34-1-3, *Machinery and Shop Equipment*; TO 33K-1-72, *USAF Calibration and Measurement Summary and Work Unit Code Manual for Test System Support Equipment (SE) located at Air Force Research Laboratories (AFRL SITES)*, equipment specific TOs and owner's manuals; host unit instructions and local supplements.

5.3.1. Exception: Locally purchased and non-stock listed laboratory support equipment with a cost of \$5,000 or greater must follow the requirements in **paragraph 5.3**. Equipment

Maintenance; and those valued below the \$5,000 threshold, AFRL will develop a risk/costbased analysis process to determine periodic and/or preventative maintenance requirements.

5.4. Electrostatic Discharge (ESD) Program. TDs working on items that meet ESD criteria as defined in TO 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance, and Test of Electrical Equipment*, must comply with TO 00-25-234 requirements.

5.5. Explosive Safety and Security of Explosives. TDs working with, handling or storing explosive items must comply with DAFI 31-101, *Integrated Defense*; Department of Defence Manual (DoDM) 5100.76 *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*; Defense Explosives Safety Regulation (DESR) 6055.09_AFMAN 91-201, *Explosives Safety Standards*; AFMAN 21-200, *Munitions and Missile Maintenance Management;* DAFMAN 21-201, *Munitions Management,* and applicable host unit instructions.

5.6. Safety. AFRL will comply with applicable safety guidance. e.g., DAFI 91-202, *The US Air Force Mishap Prevention Program*, AFI 48-127, *Occupational Noise and Hearing Conservation Program*, AFI 48-137, *Respiratory Protection Program*, AFI 48-139, *Laser and Optical Radiation Protection Program*, AFI 48-131, *Thermal Stress Program*, AFI 90-821, *Hazard Communication (HAZCOM) Program*, DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards*, and applicable host unit instructions. (**T-2**)

5.7. Tool and Equipment Management. AFRL will develop procedures for accountability and management of tools and equipment used near flight/flight assets or flight/flight hardware and laboratory unique equipment that would be damaged by Foreign Objects (FO), for example, windtunnels. Separate procedures from this section may be developed for tools and equipment that are not used in these areas. As a minimum, guidance will address the following: (**T-2**)

5.7.1. Roles and responsibilities of key personnel involved in managing the tool accountability program in FO critical and non-critical areas. (**T-2**)

5.7.1.1. Standardized procedures for security and accountability of tools and equipment. **(T-2)**

5.7.1.2. Inventory requirements. As a minimum, Tool Custodians must conduct and document a comprehensive annual inventory of all tools and equipment. (**T-2**).

5.7.1.3. Government owned tools warranty program management, if tools are under warranty. (T-2)

5.7.1.3.1. Procedures to procure tools using the Blanket Purchasing Agreement wherever applicable. (**T-2**) See AFMC Hand Tools Strategic Sourcing Ordering Guide at: <u>https://org2.eis.af.mil/sites/22208/A4M/Hand_Tools/Forms/AllItems.aspx</u>

5.7.1.4. Procedures for accountability and management of replacement, expendable, and consumable hand tools, and other items contained in Composite Tool Kit (CTKs) and/or Individual Tool Kits (ITKs). (**T-2**)

5.7.1.5. Procedures for transfer of tools contained in CTKs/ITKs at the job site (on-site transfers). CTKs are not normally passed from one individual to another at the job site; however, mission needs occasionally require this action to occur. Ensure tool accountability and control is maintained when transfer occurs between the individuals. (T-2)

5.7.1.6. Procedures and responsibilities for situations where two or more work centers operate a single tool room/support section, or when work centers elect to distribute CTKs or peculiar support/test equipment to decentralized locations. (**T-2**)

5.7.1.7. Procedures for controlled access to tool rooms. (T-2)

5.7.1.8. Procedures for sign-out/sign-in inventories of CTKs/ITKs when used. (Daily). (**T-2**)

5.7.1.8.1. Exception: AFRL TDs at Kirtland AFB are authorized annual open/close interval. (T-2).

5.7.1.9. Procedures to train personnel on the tool accountability program requirements. **(T-2)**

5.7.1.10. Procedures to control individually issued tools. Individually issued tools will be limited to mini-flashlights, Leatherman type multi-tools and inspection mirrors. Personal tools are not authorized. **(T-2)**

5.7.1.11. Procedures to manage spare tools. (T-2)

5.7.1.12. Procedures for lost or missing tools to reduce the potential for FOD and help create a safe work environment. (**T-2**) Note: FO non-critical area establish procedures to document missing, broken or removed tools/items. AFMC Form 61, *Missing/Removed Tools and Equipment*, is optional. (**T-2**)

5.7.2. Specific roles and responsibilities of key personnel involved in managing the tool accountability program in a FO critical area only. (**T-2**)

5.7.2.1. Procedures to document missing, broken or removed tools/items. TDs will document missing, broken or removed tools/items on AFMC Form 61. (**T-2**)

5.7.2.2. Procedures to assign and control Event Identification Description/Equipment Identification Designator (EID) for CTKs/ITKs, equipment, and individual tools. (**T-2**)

5.7.2.3. All units must permanently mark their tools with the assigned EID. Etching will be the preferred method to mark tools; however, any method that ensures the EID is not easily removed will be sufficient. Small tools (such as drill bits, allen wrenches, apexes, jewelers screwdrivers, etc.) and/or items that cannot be etched will be maintained in a container marked with the EID along with the number of tools it contains and identified as such on the inventory list.

5.7.2.4. For equipment identification marking requirements see AFI 23-101, *Air Force Material Management*.

5.7.2.5. Procedures to manage locally manufactured, developed, or modified tools and equipment. (**T-2**)

5.7.3. Procedures and responsibilities for situations where two or more work centers operate a single tool room/support section, or when work centers elect to distribute CTKs or peculiar support/test equipment to decentralized locations. **(T-2)**

5.7.3.1. Procedures for access to tool rooms. (**T-2**)

5.7.4. Procedures for sign-out/sign-in inventories of CTKs/ITKs when used. The not to exceed open/close interval is quarterly. (**T-2**)

5.7.4.1. Exception: AFRL TDs at Kirtland AFB are authorized annual open/close interval. (**T-2**)

5.7.5. Procedures to train personnel on the tool accountability program requirements. (T-2)

5.7.6. Procedures to control individually issued tools. Individually issued tools will be limited to mini-flashlights, Leatherman type multi-tools and inspection mirrors. Personal tools are not authorized. (T-2)

5.7.7. Procedures to manage spare tools. (T-2)

5.8. Foreign Object Damage Prevention Program. FOD is any damage to an aircraft, engine, aircraft system, component, tire, munitions, or Support Equipment (SE) caused by a FO which may or may not degrade the required safety and/or operational characteristics of the aforementioned items.

5.8.1. There are two categories of FO areas: critical and non-critical. FO critical areas are areas where aerospace/spacelift maintenance, testing, and operations are performed (e.g., jet/rocket engine maintenance, fuel cell maintenance, wind tunnels, major sub-assembly maintenance, and support equipment maintenance). Non-critical FO areas are all other areas not defined previously. AFRL shall identify and document FO critical areas. (**T-2**)

5.8.2. HQ AFMC/A4M is the OPR for the AFMC FOD Prevention Program.

5.8.3. AFRL FO critical and non-critical areas:

5.8.3.1. AFRL FO critical areas shall:

5.8.3.1.1. Appoint a FOD Prevention Program Manager and post their name in a prominent place within each applicable unit on a locally developed visual aid. (**T-2**)

5.8.3.1.2. Ensure the organization FOD Prevention Program Manager provides an initial FOD report via the HQ AFMC/A4M Propulsion Management SharePoint site: <u>https://usaf.dps.mil/teams/22355/Lists/24%20hr%20Notification/Allitemsg.aspx</u> within 24 hours of occurrence. A follow up report will be required every 45 days until closeout.

5.8.3.1.3. Ensure the organization FOD Prevention Program Manager provides a final FOD report via the HQ AFMC/A4M Propulsion Management SharePoint site: <u>https://usaf.dps.mil/teams/22355/Lists/24%20hr%20Notification/Allitemsg.aspx</u> within two duty days of completing the FOD investigation and collecting all data, Reports shall be maintained for a minimum of 24 months (may be electronic).

5.8.3.1.4. AFRL Tenant units may follow a host base's FOD Program as long as the tenant unit's Local OI specifies the requirement to follow the host base's program. The tenant unit is still required to appoint a FOD Program Manager to act as the unit's focal point for FOD related issues and must submit FOD Reports and a monthly IAW the requirements outlined above. (**T-2**)

5.8.3.1.5. Develop and implement detailed guidance and procedures to supplement the Command FOD Prevention Program in this addendum. Directives shall outline

organizational responsibilities for airfield, runways, taxiways, parking ramps, and outside maintenance areas. As a minimum, the FOD Prevention Program must address the following: (**T-2**)

5.8.3.1.5.1. All openings, ports, lines, hoses, electrical connections, and ducts on aircraft, engines, munitions, missiles, drones, space systems, support equipment, Aerospace Ground Equipment (AGE), trainers, or components shall be capped or plugged to prevent FO from entering these systems IAW applicable technical data.

5.8.3.1.5.2. A standardized flightline clothing policy to include addressing the wearing of hats, berets, wigs, hairpieces, badges, passes, etc. aimed at FOD prevention. Climate and safety shall be considered. (**T-2**)

5.8.3.1.5.3. Elimination of FOs in aircraft prior to flight. (T-2)

5.8.3.1.5.4. Vehicle operators shall stop and perform a visual FOD inspection on all vehicles, vehicle tires, open cargo areas, and towed equipment prior to entering the runway, taxiway, airfield, or other areas as directed by DAFI 13-213, *Airfield Driving*, and the organizations FOD Prevention Program.

5.8.3.1.5.5. When inspecting tires, ensure a roll-over check is completed to ensure the entire surface is inspected for FOD including the unseen area in contact with the pavement. (**T-2**)

5.8.3.1.5.6. Vehicle operators departing the paved surface shall perform a FOD inspection on all equipment and vehicle tires immediately upon re-entering the paved surface of runways, taxiways, airfield, and aircraft parking ramps areas. **(T-2)**

5.8.3.1.5.7. A locally manufactured tool for removing debris from tire treads is authorized for use and shall be identified to the vehicle by using the vehicle identification number. (T-2)

5.8.3.1.5.8. All flightline grounding points shall be kept clean of debris and should be a high interest item for FOD walks. (**T-2**)

5.8.3.1.5.9. Grounding wires shall have two screws securing the cable to the grounding clip. Screws shall be coated with a thread locking compound and covered with Room Temperature Vulcanizing (RTV) sealant to prevent them from backing out. Unused screws shall be removed. (**T-2**).

5.8.3.1.5.10. FOD walks/sweeps are mandatory within areas designated as FO critical areas. Local OIs shall outline frequency and areas of responsibility for each participating organization. (**T-2**)

5.8.3.1.5.11. FOD walks shall be accomplished prior to towing aircraft through low potential FO areas to ensure damage does not occur to aircraft tires. (**T-2**)

5.8.3.1.5.12. Develop and implement a FOD awareness and prevention training program. At a minimum, the training program must address the following: (**T-2**)

5.8.3.1.5.12.1. Standardized training documentation requirements. (T-2)

5.8.3.1.5.12.2. FOD awareness and prevention practices. (T-2)

5.8.3.1.5.12.3. Initial FOD training. Supervisors shall ensure newcomers who work in or transit FOD critical areas (other than designated walk areas) are trained on work center specific FOD awareness and prevention practices prior to starting work in their assigned work area. Ensure individuals who are assigned temporary duty (TDY), transferred, or loaned from other units receive work center FOD training prior to beginning work in their area. (**T-2**)

5.8.3.1.5.12.4. Annual FOD training (required in FO critical area). Supervisors shall ensure personnel receive annual FOD awareness and prevention training. **(T-2)**

5.8.3.1.6. Investigate each FOD incident to determine the precise cause and ensure positive corrective action is accomplished. FOD incidents are classified as preventable and non-preventable. (**T-2**)

5.8.3.1.6.1. FOD incidents are considered preventable except when:

5.8.3.1.6.1.1. Caused by natural environment or wildlife. This includes hail, ice, animals, insects, sand, and birds. Report this type of damage IAW DAFI 91-204 *Safety Investigations and Reports*.

5.8.3.1.6.1.2. Caused by internal engine materiel failure, as long as damage is confined to the engine.

5.8.3.1.6.1.3. Caused by materiel failure of an aircraft/equipment component if the component failure is reported as a Deficiency Report (DR) using the combined mishap DR reporting procedures of DAFI 91-204 and TO 00-35D-54, USAF Deficiency Reporting, Investigation, and Resolution.

5.8.3.1.7. Consult TO 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment*, and aircraft specific TOs for bird strike clean up procedures; and DAFMAN 91-223, *Aviation Safety Investigations and Reports*, for bird strike reporting procedures.

5.8.3.2. FO non-critical areas shall:

5.8.3.2.1. Develop and implement a FOD awareness and prevention training program. Those TDs/Wing that are Tenant organizations may elect to follow Host-Base FO procedures if established.

5.9. Safety and Mishap Prevention Procedures.

5.9.1. All AFRL research test activity is subject to DAFI 91-202, to include DAFI 91-202_AFMCSUP, *The US Air Force Mishap Prevention Program* and AFRL Supplemental guidance. Air Force Research Laboratories Instruction (AFRLI) 61-103, *AFRL Research Test Review, Approval, and Oversight*, DAFI 91-204, and DAFI 91-204 AFMCSUP, *Safety Investigations and Reports*.

5.10. Forms. Use TO 34-1-3, TO 00-20-1, and TO 00-20-14 to determine required forms along with form documentation requirements. Additional requirement, above and beyond the TO, will be addressed in unit policy directives.

5.10.1. Exception: Locally purchased and non-stock listed laboratory support equipment with a cost of \$5,000 or greater must follow the requirements in **paragraph 5.10**. Forms for those

valued below the \$5,000 threshold, AFRL will develop maintenance documentation requirements for cost effective management or could adopt a current enterprise maintenance data collection system and/or process.

5.11. Ground Instructional Trainer Aircraft (GITA). This section applies to all AFRL units that utilize GITA/TAA. The Group/CC or equivalent has overall responsibility for maintenance of assigned GITA/TAA and will ensure requirements of this section are implemented. Permanently assigned GITA are those aircraft that are not maintained in airworthy condition. Active Inventory GITA are maintained in system/subsystem operational condition for purposes of maintenance training and normally carried in possession codes as outlined in DAFI 21-103, *Equipment inventory, Status and Utilization Reporting*. Assignment coding is IAW AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*. Inactive Inventory GITA are permanently grounded for use in personnel training. This section does not apply to Aircraft Battle Damage Repair (ABDR) training aircraft. ABDR training aircraft are managed by Air Force Sustainment Center USAF Aircraft Battle Damage Repair Office (AFSC/LZD (i.e., ABDR Program Office). This chapter does not apply to training equipment maintained by Contracted Logistics Support (CLS) contracts administered by commands other than Air Education and Training Command (AETC). (**T-2**)

5.11.1. Temporarily Grounded Active Inventory Aircraft Used as GITA. Temporarily grounded Active Inventory aircraft are subject to recall to the active fleet. **(T-2)**

5.11.1.1. Only those items requested by the Weapon System PM are considered for removal. If the item does not affect training and if approved by Group/CC, the part will be removed and turned in as per the Group/CC's (or equivalent) instructions. (**T-2**)

5.11.1.2. Units are responsible for storing uninstalled or removed equipment that is not required for training. (**T-2**)

5.11.2. Permanently Grounded GITA (Inactive Inventory). Permanently grounded aircraft are those declared excess to future operations or flying requirements by higher headquarters. Aircraft in this category will be re-designated by the addition of the prefix "G" to the basic Mission Design Series (MDS). (**T-2**)

5.11.2.1. TAA are considered Permanently Grounded GITA (Inactive Inventory). Aircraft in this category, at a minimum, require an aircraft fuselage that was previously in the AF inventory as an aircraft. TAAs will be re-designated by the addition of the prefix "T" to the basic MDS. (**T-2**)

5.11.2.1.1. Assigned aircraft are not maintained in airworthy condition, and only the system/subsystem (e.g. doors, ramp, lights. etc.) required for the specific training requirements will be maintained in operational condition for purposes of required maintenance/organizational training. (T-2)

5.11.2.1.2. Aircraft used for maintenance training are not terminated from the AF inventory IAW AFI 16-402. TAA requests for use by non-maintenance AFSC functions require coordination through Air Force Life Cycle Management Center (AFLCMC) Weapon System PM and HQ AFMC.

5.11.2.1.3. Questions about the designation of an aircraft used for training should be directed to the AFMC Aerospace Vehicle Distribution Officer (AVDO) at AFMC.A4M.Workflow@us.af.mil. (T-2)

5.11.2.2. Permanently grounded missiles retain their original MDS without a prefix, if applicable.

5.11.2.3. Upon assignment of a permanently grounded GITA/TAA, the Group/CC or equivalent will e-mail HQ AFMC/A4M to coordinate "save list" requirements identified by the applicable PM. (**T-2**)

5.11.2.3.1. "Save list" items removed will be turned into Logistics Readiness Squadron (LRS) for shipment. (T-2)

5.11.2.3.2. If an item on the "save list" is not removed, the reason for not removing it will be annotated and coordinated with HQ AFMC/A4M. (**T-2**)

5.11.2.3.3. If items on the "save list" are required for training and an unserviceable item will suffice, units will coordinate with HQ AFMC/A4M for receipt of the unserviceable item(s). (T-2)

5.11.2.3.4. All unserviceable items furnished by the 448^{th} Supply Chain Management Wing will be marked/identified as "unserviceable" in a conspicuous manner (e.g., Red X or Red dot system). (**T-2**)

5.11.3. Major Command (MAJCOM) Responsibilities. AFMC units are not required to use a MIS for permanently grounded GITA records management.

5.11.3.1. HQ AFMC/A4M will coordinate "save list" requirements/changes with the applicable PMs.

5.11.4. Group/CC Responsibilities. Group/CC or equivalent will:

5.11.4.1. Develop an installation publication or supplement to define the scope of training functions for GITA/TAA use, functional responsibility for funding, operations, maintenance, and records management. (**T-2**)

5.11.4.2. Ensure maintenance support of GITA/TAA used for training. Units that do not have organic maintenance capability will establish a Support Agreement (SA) or Memorandum of Agreement (MOA) assigning maintenance responsibility for GITA/TAA training use. (**T-2**)

5.11.4.2.1. GITA maintenance includes on- and off-equipment maintenance of active systems and subsystems and necessary actions to maintain the aircraft in a safe and presentable condition.

5.11.4.2.2. TAA requires minimal maintenance on systems/subsystems used to meet training requirements and should be maintained in a safe and presentable condition.

5.11.4.2.3. Determine which system and subsystem are required to support the training. Consider present, future, and cross-utilization of systems when making determinations. These systems will be maintained in the same configuration as operational equipment. (T-2)

5.11.4.2.4. Ensure explosive components are removed that are not required to support training requirements.

5.11.4.2.5. Place retained systems and subsystems not currently being used for training into extended storage IAW applicable technical data.

5.11.4.2.6. Ensure standard maintenance practices regarding inspection appearance, cleanliness, occupational safety, and prevention of corrosion are met. Corrosion control procedures are outlined in TO 1-1-691.

5.11.4.2.7. Develop and prepare inspection technical data check lists for use in inspecting the condition and safety of equipment before use and ensure inspections are performed.

5.11.4.2.7.1. Prior-to-use inspections will be conducted by the using organization employing a tailored weapon system pre-/post-dock checklist. (**T-2**)

5.11.4.2.7.2. Conduct periodic maintenance inspections using a tailored work deck. (**T-2**)

5.11.4.2.8. Prepare a separate memorandum for each GITA/TAA, addressed to the appropriate PM for the aircraft and inform them of the systems and subsystems that will be maintained in operational configuration. (T-2)

5.11.4.2.8.1. When changes in requirements occur, initiate a new memorandum.

5.11.4.2.8.2. Ensures copies of all GITA/TAA memorandums are forwarded to the MAJCOM AVDO at HQ AFMC/A4M. (Subject: Attention MAJCOM AVDO) (**T-2**)

5.11.4.2.9. Air and space vehicle inventory will be reported IAW DAFI 21-103 as required for ground trainers. Aircraft used for ground trainers are exempt from status and utilization reporting.

5.11.4.2.10. Maintenance actions will be documented IAW TO 00-20-1. (T-2)

5.11.4.2.10.1. Owning units not having maintenance capability will establish MOAs or Memorandum Of Understandings with organizations which can provide maintenance support. (**T-2**)

5.11.4.2.10.2. Air Force Technical Order (AFTO) Form 781, Arms Aircrew/Mission Flight Data Document, AFTO Form 781A, Maintenance Discrepancy and Work Document, AFTO Form 781F, Aerospace Vehicle identification Document, AFTO Form 781H, Aerospace Vehicle Flight Status and Maintenance Document, and AFTO Form 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document are mandatory for trainers in the 6930 Federal Stock Class (FSC). GP/CCs has the option to use of any 781 series forms with other FSC trainers.

5.11.4.2.10.3. The PM's save list may affects maintenance requirements and documentation. The 711th Human Performance Wing will document applicable maintenance on AFTO Form 781A.

5.11.4.2.10.4. TAA no longer on PM's save list affects maintenance requirements

and documentation. Maintenance performed is for enhancing training and day-today upkeep will be established in local procedural guidance. (**T-2**)

5.11.4.2.11. Ensure timely completion of Time Compliance Technical Order (TCTOs) on systems designated for configuration management and proper configuration status accounting is maintained.

5.11.4.2.11.1. Accomplish TCTOs on systems not designated for configuration management as required to ensure safety of operation or as directed by the PM.

5.11.4.2.11.2. TCTOs are not maintained on TAA.

5.11.4.2.12. Ensure proper coordination and documentation of parts removed from training aircraft are accomplished as follows:

5.11.4.2.12.1. When an item is removed or replaced, supervisors will ensure this action is documented in the aircraft forms. (**T-2**) Include the authority for removal (e.g., message number, telecon, letters, and dates) and condition of installed/replacement items.

5.11.4.2.12.2. When the limited save list actions have been done, a copy of the completed list will be forwarded to the appropriate PM and the local documentation function which will be added to the TAA historical record. (**T-2**)

5.11.4.2.12.3. For (Active Inventory) GITA only, weight and balance (W&B) handbook requirements will be maintained IAW TO 1-1B-50, *Joint Service Technical Manual Organizational, Intermediate and Depot Maintenance Aircraft Weight and Balance*, and applicable -5 series TOs.

5.11.4.2.12.4. Operating and maintenance technical data will be readily accessible whenever the GITA/TAA is in use or undergoing inspection.

5.11.4.2.12.5. Group/CC will designate a GITA/TAA Manager as an additional duty. (**T-2**)

5.11.4.2.12.5.1. The GITA/TAA Manager must be qualified to operate GITA/TAA systems and appropriate support equipment to conduct GITA/TAA maintenance. (**T-2**)

5.11.4.2.12.5.2. The GITA/TAA Manager will accomplish and/or coordinate maintenance actions for the GITA/TAA and ensure GITA/TAA documentation is accurate and complete. **(T-2)**

5.11.4.2.13. For equipment designated as trainers, only the systems required for technical training (or those required to ensure safety or system integrity) need to be maintained. **Note:** This does not apply to "temporarily" grounded aircraft, operational equipment, or systems on loan from MAJCOMs or program office.

5.11.5. Technical Data Applicability.

5.11.5.1. Operational systems on GITA/TAA are maintained IAW applicable technical data. The specific policy governing the use and modification of technical data is contained in TO 00-5-1.

5.11.5.1.1. Some systems may be operated and maintained with original contractor data because formal technical data was never developed and/or the contractor data was never assigned a TO number.

5.11.5.2. Inspection and lubrication requirements may be adjusted to correspond with training requirements and equipment usage and to prevent over or under inspection.

5.11.5.3. When significant savings may be achieved, the commander or contract project manager must request deviations or changes to technical data requirements, including substitution of materiel from the weapon system program manager.

5.11.5.3.1. If deviations are approved, the unit will retain approved deviations/changes in the GITA historical records. (**T-2**) In all cases, safety or design function must not be compromised.

5.11.5.4. TCTOs. The QA function or other designated agency will be responsible for determining applicability of TCTOs for GITAs. (**T-2**) TCTO upgrades are not required on TAA.

QUALITY ASSURANCE (QA)

6.1. Quality Assurance (QA). AFRL will establish Logistics QA policy. At a minimum, the policy must: (**T-2**)

6.1.1. Address the roles and responsibilities of key personnel involved in the QA Program to include, as applicable, the CC, CV, Logistics Manager, site QA Superintendent, and site QA inspectors roles. (**T-2**)

6.1.2. The Hiring Authority process to ensure civilian and/or military QA inspectors have the proper experience in the functional area/position to be filled. (**T-2**)

6.1.3. Development of QA training plan with the following minimum training requirements:

6.1.3.1. AFRL/DSO will establish minimum QA training course requirements to provide a framework for new QA employees. (**T-2**)

6.1.3.2. Complete an Evaluators Proficiency Evaluation (EPE) within 60 days of job assignment, prior to performing QA evaluations. Track EPE completion in QA database. **(T-2)**

6.1.4. Establish a Logistics Standardization and Evaluation Program (LSEP). **Exception:** The Technology Directorate/Wing/Site Commander may fully implement or scale the implementation of an Annual QA Tool/Equipment Process Inspection per Attachment 4 where the risk level is determined to be acceptable. AFRL managed technology programs that involve an operational aerospace vehicle (i.e. flight test) will receive more frequent QA Tool/Equipment Process Inspections (e.g. daily, weekly, monthly) based on the program's risk analysis. (**T-2**)

6.1.4.1. Requirements for conducting Special Inspection (SI), EPE, Detected Safety Violation (DSV), Technical Data Violation (TDV), and Unsatisfactory Condition Reports (UCR), if applicable. See Attachment 3 for LSEP scoring model. Any variations to Attachment 3 will be defined in local OI. (**T-2**)

6.1.4.2. A process to develop an Evaluation and Inspection (E&I) plan. The E&I plan must provide monthly E&I criteria to ensure leadership has a reasonable representation of the compliance status of their maintenance programs. (**T-2**)

6.1.4.2.1. The E&I plan identifies areas, types and number of inspections and evaluations to be conducted. It contains Routine Inspection List (RIL), the Key Task List (KTL), if applicable, and other pertinent evaluation and inspection information. **(T-2)**

6.1.4.2.2. RIL. A list of tasks that are subject to evaluation on a routine basis. QA will work in concert with the unit leadership (In coordination with HQ AFRL/DSO) to create the RIL and coordinate with maintenance related program managers for inputs/suggested changes to the list. (**T-2**)

6.1.4.2.3. KTL. A list that contains tasks that are complex, have been or have the potential to be problems, or high interest areas that require inspection. QA will work in concert with the unit leadership (In coordination with HQ AFRL/DSO) to create KTLs

as applicable and coordinate with maintenance related program managers for inputs/suggested changes to the list. Review and update the list, at a minimum, every two years. **(T-2)**

6.1.4.3. A process to establish and adjust Acceptable Quality Levels (AQLs). (T-2)

6.1.4.3.1. An AQL denotes the maximum allowable number of minor deficiencies that a RIL task, process, or product may be assessed for the task to still be rated "Pass." **(T-2)**

6.1.4.3.2. Exceeding the established AQL results in a "Fail" rating. (T-2)

6.1.4.3.3. A major deficiency results in a "Fail" rating. (T-2)

6.1.4.3.4. The AQL is derived/revised from QA performance-based data. AQLs will be determined based on trends associated with the evaluation/inspection process. Adjustments to AQLs are reviewed, at a minimum, annually with the appropriate leadership before being adjusted accordingly. (**T-2**)

6.1.4.3.5. AQLs for work center tasks will be published in the E&I plan. (T-2)

6.1.4.4. A QA management information system (Command approved database) to maintain LSEP data. (**T-2**)

6.1.4.5. Establishment of a requirement for the QA office to publish a monthly/quarterly LSEP summary to advise appropriate senior leadership on quality of the site logistics activities. (**T-2**)

6.1.5. QA office process to review submitted electronic TO Recommended Change (RC) process through the Enhanced Technical Information Management System (ETIMS), for Suffiency/Accuracy and sign in the Product Improvement Manager (or equivalent) block before formal submission.

6.2. AFMC Conventional Munitions Program.

6.2.1. AFMC Conventional Munitions Program. Munitions activities will be included in the QA program. Small and unique units where a full QA program is not assigned/practical will be defined in the AFRLI 61-101 Addendum C, *Logistics Programs in Support of Technology Development*. At a minimum, the following areas will be addressed:

6.2.1.1. Accountability

6.2.1.2. Storage practices, security, and safety

6.2.1.3. Inspection

6.2.1.4. Materiel handling and test equipment

6.2.1.5. Stockpile management

6.2.1.6. Training programs

6.2.1.7. Infrastructure (Lighting Protection System, grounds, and bonds)

6.2.1.8. Tool Accountability and Serviceability, CTKs, tools, and support equipment

6.2.1.9. Munitions assembly

6.3.1. Provide LSEP reports (at least quarterly) to HQ AFMC QA SharePoint or provide access to AFRL QA SharePoint

6.3.2. Provide current LSEP E&I Plan.

6.3.3. Request approval of unit QA databases.

6.3.4. Participate in the HQ AFMC Quality Assurance Working Group (QAWG) at least bimonthly. QAWG members include Unit QA Chiefs/reps. Additionally, HQ AFMC/IGI, HQ AFMC MAJCOM Functional Managers (MFMs)/Subject Matter Experts (SMEs), Contracting Officer's Representative (CORs) and designated union representatives may attend as required.

6.3.5. Attend the QAWG face-to-face technical interchange meeting every 2 years (funding permitting).

TECHNICAL DATA

7.1. TOs and TO Supplements. AFRL will ensure required TOs and TO Supplements are managed in accordance with TO 00-5-1. When a TO is not available, Commercial Off-The-Shelf (COTS) manuals, Locally Developed Procedures (LDPs), Calibration Work Instructions (CWIs) and other required technical data will be stored in the AFRL Technical Data System (TDS) to support and maintain AFRL equipment.

SUPPLY SUPPORT

8.1. Supply Support. AFRL will follow AFRLI 61-101, AFRL Equipment and other Laboratory Asset Management.

8.1.1. Manage Bench Stocks IAW DAFMAN 23-122, *Materiel Management Procedures*. Bench stock is defined as, stores of expendability, recoverability, reparability coded (ERRC) XB3 items kept on-hand in a work center to enhance maintenance productivity.

8.2. Shop Stock, Operating Stock or Work Order Residue. Units utilizing Shop Stock, Operating Stock or Work Order Residue will adhere to following guidance: (**T-2**)

8.2.1. Shop Stock. Includes gas cylinders, random length bar stock, sheet metal, plastic, fabric, electrical wire, and similar items not normally included in bench stocks. Maintain shop stock for day-to-day operations. Monitor shop stock to prevent materials from becoming excessive or outdated. Shop stock should not normally exceed 90 days usage, or the unit of issue or unit pack, whichever is greater; special consideration should be given for items no longer in production, not stock listed, or with long lead times. Shop stock can be stored near/adjacent to bench stock items, if practical, but do not mix them together. Clearly identify materials as —Shop Stock and label them with noun, national stock number or part number, unit of issue, and shelf-life, if applicable. (**T-2**)

8.2.2. Operating Stock. Includes connector dust covers, hydraulic line caps/plugs, and similar items that are normally recovered after use and re-used. Operating stock can be stored near/adjacent to bench stock items, if practical, but do not mix them together. Monitor operating stock to prevent it from becoming excessive or outdated. Retain partially used bench stock items in bench stock and not in operating stock. (**T-2**) Identify, tag, and turn in items with no forecasted use IAW AFI 23-101 and DAFMAN 23-122; special consideration should be given for items no longer in production, not stock listed, or with long lead times. (**T-2**) Clearly identify items as —Operating Stock and label them with noun, national stock number or part number (if applicable), unit of issue, and shelf-life, if applicable. (**T-2**)

8.2.3. Work Order Residue. Includes expendable bit/piece items left over from maintenance work orders or bench stock deletions. Store work order residue near/adjacent to bench stock items, if practical, but do not mix them together. Ensure excesses are consolidated for turn-in to LRS at least annually; special consideration should be given for items no longer in production, not stock listed, or with long lead times. Clearly identify items as —Work Order Residue and label them with noun, national stock number or part number, unit of issue, and shelf-life, if applicable. Control all work order residues used on or around aircraft, uninstalled engines, and AGE. (**T-2**)

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8.2.4. Units who maintain stocks that do not fit Shop, Operating Stock, or Work Order Residue requirements, and no other guidance is provided in other publication series will develop policy to ensure management oversight, review and control of their stocks.

LYLE K. DREW, Brigadier General, USAF Director of Logistics, Civil Engineering, Force Protection, and Nuclear Integration

GLOSSARY OF REFERENCES AND SUPPORTING DOCUMENTS

References

AFI 48-127, Occupational Noise and Hearing Conservation Program, 26 February 2016

AFI 48-137, Respiratory Protection Program, 12 September 2018

AFI 48-139, Laser and Optical Radiation Protection Program, 30 September 2014

AFI 90-821, Hazard Communication (HAZCOM) Program, 13 May 2019

AFMAN 21-113, Air Force Metrology and Calibration (AFMETCAL) Management, 29 April 2020

AFMAN 21-200, Munitions and Missile Maintenance Management, 9 May 2022

AFMAN 48-148, Ionizing Radiation Protection, 20 July 2020

AFRLI 61-101, AFRL Equipment and other Laboratory Asset Management, 25 July 2023

AFRLI 61-101 Addendum C, Logistics Programs in Support of Technology Development, 1 November 2023

AFRLI 61-103, AFRL Research Test Review, Approval, and Oversight, 5 October 2020

DAFI 13-213, Airfield Driving, 04 February 2020

DAFI 21-101, Aircraft and Equipment Maintenance Management, 20 December 2023

DAFI 21-101_AFMCSUP, Aircraft and Equipment Maintenance Management, 10 November 2020

DAFI 31-101, Integrated Defense, 25 March 2020

DAFI 48-151, Thermal Stress Program, 2 May 2022

DAFI 91-202, The US Air Force Mishap Prevention Program, 12 March 2020

DAFI 91-202_AFMCSUP, The US Air Force Mishap Prevention Program, 31 March 2022

DAFI 91-204, Safety Investigations and Reports, 10 May 2021

DAFI 91-204_AFMCSUP, Safety Investigations and Reports, 6 January 2022

DAFMAN 21-201, Munitions Management, 03 May 2022

DAFMAN 90-161, Publishing Processes and Procedures, 18 October 2023

DAFMAN 91-203, Air Force Occupational Safety, Fire, and Health Standards, 25 March 2022

DAFMAN 91-223, Aviation Safety Investigations and Reports, 20 September2022

DESR 6055.09_AFMAN 91-201, Explosives Safety Standards, 28 May 2020

DODM 5100.76, Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives, 5 October 2020

TO 00-20-1, Aerospace Equipment Maintenance Inspections, Documentation, Policy and Procedures, 26 September 2022

TO 00-25-234, General Shop Practice Requirements for the Repair, Maintenance, and Test of Electrical Equipment, 27 Oct 2021

TO 33K-1-72, USAF Calibration and Measurement Summary and Work Unit Code Manual for Test System Support Equipment (SE) located at Air Force Research Laboratories (AFRL SITES), 18 December 2023

Prescribed Forms

None

Adopted Forms

AFMC Form 61, Missing/Removed Tools and Equipment

AFTO Form 781, Arms Aircrew/Mission Flight Data Document

AFTO Form 781A, Maintenance Discrepancy and Work Document

AFTO Form 781F, Aerospace Vehicle identification Document

AFTO Form 781H, Aerospace Vehicle Flight Status and Maintenance Document

AFTO Form 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document

DAF Form 679, Air Force Publication Compliance Item Waiver Request/Approval

DAF Form 847, Recommendation for Change of Publication

Abbreviations and Acronyms

ABDR—Aircraft Battle Damage Repair

AETC—Air Education and Training Command

AFI—Air Force Instruction

AFLCMC—Air Force Life Cycle Management Center

AFMAN—Air Force Manual

AFMETCAL—Air Force Metrology and Calibration Program

AFMC—Air Force Materiel Command

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFRL—Air Force Research Laboratory

AFRLI—Air Force Research Laboratory Instruction

AFSC—Air Force Specialty Code

AFTO—Air Force Technical Order

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- AGE—Aerospace Ground Equipment
- AQL—Acceptable Quality Level
- AVDO—Aerospace Vehicle Distribution Officer
- CC-Commander
- CLM—Center Logistics Manager
- **CLS**—Contracted Logistics Support
- COR—Contracting Officer's Representative
- COTS—Commercial Off-The-Shelf
- **CTK**—Composite Tool Kit

CV—Vice Commander

- CWI-Calibration Work Instruction
- **DAF**—Department of the Air Force
- DAFI—Department of the Air Force Instruction

DAFMAN—Department of the Air Force Manual

DESR—Defense Explosives Safety Regulation

DoD—Department of Defense

- **DoDM**—Department of Defense Manual
- **DR**—Deficiency Report
- DS—Director of Staff
- **DSV**—Detected Safety Violation
- **E&I**—Evaluation and Inspection
- EID—Event Identification Description/Equipment Identification Designator
- **EPE**—Evaluator Proficiency Evaluation
- **ERRC**—Expendability, recoverability, reparability coded
- **ESD**—Electro-Static Discharge
- ETIMS—Enhanced Technical Information Management System
- FO—Foreign Object
- FOD—Foreign Object Damage
- FSC—Federal Stock Class
- GITA—Ground Instructional Trainer Aircraft
- GP—Group
- IAW—In Accordance With

- ITK—Individual Tool Kit
- KTL—Key Task List
- LDP—Locally Developed Procedures
- LOG OPS—Logistics Operations
- LRS-Logistics Readiness Squadron
- LSEP—Logistics Standardization and Evaluation Program
- MAJCOM—Major Commend
- MDS—Mission Design Series
- MFMs—MAJCOM Functional Managers
- MIS—Maintenance Information Systems
- MOA-Memorandum of Agreement
- NSO—Non Standard Organization
- **OI**—Operating Instruction
- **OPR**—Office of Primary Responsibility
- PA—Process Assessment
- PAC—Production Acceptance Certification
- PE—Personnel Evaluations/Periodic Inspection
- PM—Program Manager
- QA—Quality Assurance
- QAWG—Quality Assurance Working Group
- **RC**—Recommended Change
- **RDS**—Records Disposition Schedule
- **RIL**—Routine Inspection List
- **RTV**—Room Temperature Vulcanizing
- SA—Support Agreement
- SC—Special Certification
- SE—Support Equipment
- SI—Special Inspection
- SME—Subject Matter Expert
- TAA—Training Aid Aircraft
- TCTO—Time Compliance Technical Order
- TDS—Technical Data System

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TO—Technical Order
TD—Technology Directorate
TDV—Technical Data Violation
TDY—Temporary Duty
TMDE—Test Measurement and Diagnostic Equipment
TMSM—Type, Make, Series, Modification
UCR—Unsatisfactory Condition Report
W&B—Weight and Balance
Office Symbols

AF/A4LM—Air Force Maintenance Division

AFMC/A4M—Air Force Materiel Command Maintenance Division

AFMC/A4MM—Air Force Materiel Command Maintenance Management Branch

AFMC/IGI—Air Force Materiel Command Inspector General Inspections Directorate

AFRL/DS—Air Force Research Laboratory Director of Staff

AFRL/DSO—Air Force Research Laboratory Center Logistics Manager (CLM)

AFSC/LZD—Air Force Sustainment Center USAF Aircraft Battle Damage Repair Office

Terms

Detected Safety Violation—An observed unsafe act by an individual. The QA Inspector must stop the unsafe act immediately.

Evaluator Proficiency Evaluations (EPE)—An EPE is the direct evaluation of a Quality Assurance (QA) individual or any individual performing a quality/compliance assurance function in a unit.

Foreign Object Critical (FO Critical)—FO critical areas are areas where aircraft or high speed test track maintenance, testing, and operations are performed (e.g., jet engine maintenance, fuel cell maintenance, major sub-assemble maintenance, and support equipment).

Major Deficiency—A major finding is defined as a condition that would endanger personnel, jeopardize equipment or system reliability, impact safety of flight or warrant discontinuing the process or equipment operation. Any Major discrepancy will result in an automatic inspection failure.

Minor Deficiency—A minor finding is defined as an unsatisfactory condition that requires repair or correction, but does not endanger personnel, impact safety of flight, jeopardize equipment reliability or warrant discontinuing a process or equipment operation. CAT II minors shall be documented for trends, but must not be counted against the AQL.

Personnel Evaluation (PE)—A PE is an over-the-shoulder evaluation of a Production Acceptance Certification (PAC) certified mechanic/ technician or team performing a maintenance task.

Save List items—Parts (bits, pieces, assemblies) that are reclaimed from a higher assembly at the direction of the item manager concerned.

Special Certification (SC) Documentation—Management tool that provides supervisors a listing of personnel authorized to perform, evaluate, and inspect critical work.

Technical Data Violation—An observation of any person performing maintenance without the proper technical data available, available but not in use or not following the correct sequence of steps (if directed).

Unsatisfactory Condition Report—An unsafe or unsatisfactory condition, other than a DSV, chargeable to the work center supervisor. UCRs will be documented even when it is not possible to determine who created the condition.

Work Order Residue—Includes expendable bit/piece items left over from maintenance work orders or bench stock deletions.

FOREIGN OBJECT DAMAGE (FOD) REPORT FORMAT

Table A2.1. Foreign Object Damage (FOD) Report Format.

MEMORANDUM FOR		Date					
FROM: <unit designation="" offic<="" td=""><td>e Symbol> <street> <base and<="" td=""/><td>Zip Code></td></street></td></unit>	e Symbol> <street> <base and<="" td=""/><td>Zip Code></td></street>	Zip Code>					
SUBJECT: <foreign object="" report=""> . FOD program report number (unit, year, and month, followed by sequence number example, 301FW-F-060501).</foreign>							
1. Type of report: Initial/Formal	Update/Final FOD Report						
2. Date and Time of Incident:							
3. Unit and Base of Incident:							
4. Origin of Sortie:							
5. When discovered (Preflight, P	Postflight, In-Coming, Test Cell,	etc)					
6. Owning Unit, Base and MAJO	COM						
7. MDS and Tail Number (N/A f	for Test Cell incidents)						
8. Engine Type, Make, Series, M	8. Engine Type, Make, Series, Modification (TMSM)						
9. Engine Serial Number (S/N):	9. Engine Serial Number (S/N):						
10. Engine Position (If Applicab	le):						
11. Time Since Overhaul:							
12. Description of Incident:							
13. Material Failure: (Yes or No)						
14. Tech Data Deficiency: (Yes/	No)						
15. Preventable/Non-Preventable	2:						
16. Investigation Findings:	16. Investigation Findings:						
17. Action Taken to Prevent Recurrence:							
18. Parts Cost:	Labor Cost:	Total Cost:					
19. Additional Comments (if necessary):							
<sign> FOD Monitor, <unit de<="" td=""><td>signation></td><td></td></unit></sign>	signation>						

UNIT LSEP GRADING

A3.1. Unit LSEP Grading. Units must grade their LSEP evaluations using objective ratings (Outstanding, Excellent, Satisfactory, Marginal, and Unsatisfactory). The unit LSEP shall publish a final report of findings, problem areas, and recommended improvements (as required), from the evaluation for distribution and/or briefing to unit Senior Leadership and inspected organizations at least quarterly.

A3.2. Inspections and evaluations performed (e.g., SI) will be rated —PASS/FAIL .

A3.2.1. Units will use the following five tier rating system:

A3.2.1.1. Outstanding 95-100%

A3.2.1.2. Excellent 90-94.99%

A3.2.1.3. Satisfactory 80-89.99%

A3.2.1.4. Marginal 70-79.99%

A3.2.1.5. Unsatisfactory 0-69.99%

A3.3. Ratings are calculated by. Dividing the total number of inspections passed by total completed. For example, QA inspects 10 inspections with the following results: 9 "passes" and 1 "failure." Divide the total "passes" by the total inspections (9/10=0.90) 90 percent for an "Excellent" rating.

A3.3.1. Deduct 0.5 percentage points from overall percentage grade for each TDV, DSV, and UCR. For example, a squadron earns an overall rating of 90 percent, Excellent. However, QA observed 4 TDVs and 3 DSVs. Multiply the sum (7) by 0.5 and subtract the product (3.5) from the original 90 percent. The adjusted total is 86.5 percent; therefore, the squadron is rated Satisfactory.

A3.4. A cumulative TD/Wing (or Division) score. Will be determined by dividing the TD/Wing's total number of inspections and evaluations passed by the total inspections and evaluations completed.

ANNUAL QA TOOL/EQUIPMENT PROCESS INSPECTION

A4.1. Commander: Technology Directorate/Wing/Site Commander may fully implement or scale the implementation of an Annual QA Tool/Equipment Process Inspection where the risk level is determined to be acceptable. AFRL managed technology programs that involve an operational aerospace vehicle (i.e. flight test) will receive more frequent QA Tool/Equipment Process Inspections (e.g. daily, weekly, monthly) based on the program's risk analysis.

A4.1.1. Commander may delegate logistics responsibilities down to the Integration and Operations Chief after completing the following: providing the Commander intent, and verification of risk and safety training.

A4.2. Policy and Procedures. AFRL will establish policy and procedures, at a minimum, the policy/procedures must define: (T-2)

A4.2.1. Roles and responsibilities.

A4.2.2. Training.

A4.2.3. Required inspection areas. Process Assessment (PA), PA Non Rated, Management Inspections (MI), MI Non Rated, Special Inspections (SI), SI Non Rated, Staff Assisted Visit Non Rated. (**T-2**)

A4.2.3.1. Routine Inspection List (RIL). List of tasks that are subject to evaluation on a routine basis. QA will work in concert with the unit leadership (In coordination with HQ AFRL/DSO) to create the RIL and coordinate with maintenance related program managers for inputs/suggested changes to the list. (**T-2**)

A4.2.3.2. AQL/Scoring. Grade each inspected area per the AFRL LSEP in assigning major/minor finding categories, and should be rated as "In-Compliance", "In-Compliance with Comments" or "Non-Compliant." The following definitions apply: (**T-2**)

A4.2.3.2.1. In-Compliance: Logistics program had all fundamental processes in place with few or no findings of a minor category per the LSEP.

A4.2.3.2.2. In-Compliance with Comments: Logistics program had flaws with the fundamental processes of a major or minor category per the LSEP but were not systemic or critical to the program's success.

A4.2.3.2.3. Non-Compliant: Logistics program had systemic or critical flaws that impacted the program's success; systemic major category findings were observed that reasonably would impact Science and Technology program success or would be characterized as a lack of policy compliance or understanding of the process (e.g., no tool control program established; no ESD program but ESD items were handled in the lab; Government Furnished Property not reported to Logistics Maintenance and Control Office for Defense Property Accountability System record establishment, etc.)

A4.2.4. Evaluation and Inspection (E&I) plan process. The E&I plan must provide monthly/quarterly E&I criteria to ensure leadership has a reasonable representation of their maintenance programs compliance status, see Figure A4.1 example. (T-2)

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Figure A4.1. Evaluation and Inspection Plan example.

A4.2.5. Annual Process Logistic QA Assessment Summary(s), minimum categories are: Executive Summary, that will discuss the Overall Effectiveness and Efficiency of the inspected area(s); Focus Areas; Assessment Area Rating Process; and Detailed Summary to include any Deficiencies and Recommendations, see Figure A4.2 example. (T-2)

Figure A4.2.	Annual Process	Logistic	QA Assessment Sum	mary example.
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	EPARTMENT OF THE AIR FORCE IR FORCE RESEARCH LABORATORY
	XX January 2022
MEMORANDUM FOR AFRL/RDL F	ROM:
AFRL/RVOI	
SUBJECT: RDL Annual Logistics Qua	lity Assurance Process Assessment Summary
 Executive Summary: The RVOIL and Diagnostic Equipment (TMDE), and noted in property accountability. How Focus Areas: Logistics areas listed Laser Lab (L121), B761 High-Power 1 Assessment Area Rating Process: management team an indication of pote correlate to policy deficiencies. The particular process. 	Logistics QA team conducted a review of Accountable Property, Test Measurement Id Electro-Static Discharge (ESD) programs on 21 October 2021. Strengths were ever, Major and Minor above were reviewed in B418 ELF Lab, B760 MOJAVE Lab (L115), B760 Fiber Micron Lab (Lab 2) and B761 Property accountability, to include Overall ratings were assigned to each assessment area to give the RDL ential IG reporting severity levels. Identified major and minor discrepancies socedures in the AFRL LSEP were used to assign major/minor finding categories.
4. Detailed Summary:	
a. Property Accountability:	IN-COMPLIANCE
RDL is doing a good job of managing :	accountable property. As evidence, 25 of 25 items with
Strengths: Equipment custodians are d	bing an excellent in managing RDL's accountable property
b. TMDE Calibration:	IN-COMPLIANCE
TMDE items throughout division were	well labeled and tracked per AF Technical Order requirements.
Recommendation: The RDL PMs show	ld specify which instruments require calibration in
c. ESD Prevention:	IN-COMPLIANCE W/COMMENTS
The division's ESD Program was effect	tively managed overall, however RDLE did not ensure
Deficiency: Severity: Major RDLE's B418 ESD wrist strap monitor References: TO 00-25-234, Table 7-3;	ing device (SCS, WSMonitor2, Part # 770075) was overdue calibration TO 00-20-14, paragraphs 1.2 and <u>3.8.4;</u>
Deficiency: Severity: Minor Evidence of appropriate ESD control n References: TO 00-25-234, paragraph	easures such as a humidifier, ionizer but inspections not documented on s 7.6.a and 7.7.3; and AFRLI 21-101, paragraph 5.4.4.
Recommendation: The PM for the co per AFRLI 21-101 and AF Technical C	atracted research support in B418 should ensure ESD requirements are implemented)rder requirements
Attachment: AFRL	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX