BY ORDER OF THE COMMANDER
WARNER ROBINS AIR LOGISTICS COMPLEX

WARNER ROBINS AIR LOGISTICS COMPLEX INSTRUCTION 21-127

30 MARCH 2026

Maintenance

DEPOT MAINTENANCE PLANT MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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

RELEASABILITY: There are no releasability restrictions on this publication

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OPR: 402MXSS/MXDSM

Certified by: 402MXSG/CL (William R. Broach)

Supersedes: WR-ALCI21-127, 20 October 2020

Pages: 23

This instruction aligns with Department of the Air Force Policy Directive (DAFPD) 21-1, *Maintenance of Military Materiel*, and implements Air Force Materiel Command Instruction 21-100, Volume 3, Air Force Sustainment Center Supplement (AFMCI 21-100V3_AFSCSUP), and Air Force Instruction 23-101_Air Force Materiel Command Supplement (AFI 23-101_AFMCSUP). It establishes the 402d Maintenance Support Group (402 MXSG) procedures to support Consolidated Sustainment Activity Group–Maintenance (CSAG-M) funded activities and organizations for processing requests for technical installations, preventive maintenance (PM), predictive maintenance, and repair of industrial plant equipment (IPE), and non-real properties. This instruction applies to all CSAG-M-funded activities and organizations initiating requests of 402 MXSG. Furthermore, this instruction establishes procedures for the management of tools, expendables, consumables, and other items or materials utilized in the 802d Maintenance Support Squadron (802 MXSS) Laboratory Production Flight, Physical Sciences Laboratories. Report errors, suggest revisions, and recommend corrective action about this instruction to the office of primary responsibility (OPR) using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Product*; route DAF Forms 847 from the group/staff office through the appropriate functional chain of command. This publication may be supplemented at any level, but all direct supplements must be routed to the OPR of this publication for coordination prior to certification and approval. Waiver requests will be submitted using DAF Form 679, *Air Force Publication Compliance Item Waiver Request/Approval*, or via electronic mail (e-mail) or memorandum if the form is unavailable. Requests for waivers must come through the chain of command from the commander or civilian director of the maintenance group or staff office seeking

relief from compliance. Waiver requests must be submitted to the OPR; waiver authority has not been delegated. This publication is exempt from tiering pursuant to Department of the Air Force Instruction (DAFI) 90-160, *Publications and Forms Management*. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFMCI 21-100V3_AFSCSUP, *Depot Maintenance Production Support* and Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System Records Disposition Schedule. 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 (AF). See **Attachment 1** for glossary of references and supporting information.

SUMMARY OF CHANGES

This publication, which implements AFMCI 21-100V3_AFSCSUP, has been substantially revised and requires a thorough review. New forms (WR-ALC Forms 60, *Asset Disposition Checklist,* WR-ALC Form 61*, Electrical Checklist,* WR-ALC Form 62, *Welding Checklist,* WR-ALC Form 63, *Warehouse Material Return Worksheet, and* WR-ALC 64, *Project Submission Checklist)* were created, and WR-ALC Form 37 (*Preventive Maintenance Action Request)* was revised. Furthermore, a chapter was established for the 802d Maintenance Support Squadron Laboratory Production Flight (802 MXSS/MXDTA) detailing procedures for the management of tools, expendables, consumables, and other items or materials.

1. General.

1.1. Technical Installations.

1.1.1. Technical installation work requires extensive design, planning, and/or non-bench stock material. This work is scheduled and implemented in an orderly manner to ensure the best use of 402 MXSG resources. 402 MXSG accepts requests for technical installation work only from an organization's engineering branch, process support branch, or group/staff office if the organization has no engineering branch. Submit all requests for project work orders in writing.

1.1.2. Project work orders are defined as those requests requiring extensive repair and/or modification to existing equipment or facilities, or those requiring specialized tools, equipment, and/or personnel. Base Civil Engineering (BCE) is responsible for maintaining real property, roads and grounds, real property installed equipment (RPIE), and utilities. Real property facilities and equipment are defined as lands, buildings, structures, utility systems, improvements, and appurtenances as accounted for in real property records. 402 MXSG provides a focal point for requesting and monitoring BCE support of industrial real property facilities and equipment. If the project work order impacts real property or RPIE, any resulting in NexGen request, AF Form 332, *Base Civil Engineer Work Request*, must be reviewed by the 78th Air Base Wing Civil Engineering Group (78 CEG).

1.2. Material Categories.

1.2.1. Recurring/Common Usage Items. Frequently used, normally stock listed, and/or commercially readily available maintained as bench stock with established stock levels, for example, plumbing, hardware, and electrical supplies.

1.2.2. Nonrecurring/Common Usage Items. Infrequent use, nonrecurring basis, with depot supply stock level or available commercially. 402 MXSG does not maintain bench stock for these items, unless needed and available. Special levels will be established for those items in bench stock/insurance.

1.2.3. Recurring/Peculiar Items. Used frequently, though not normally stock listed and may not be readily available commercially; for example, peculiar equipment or machine items which must be replaced often (due to high percentage of failure rate). If local vendors can supply these items within an acceptable lead time, 402 MXSG will not maintain a stock level. However, if items must be immediately available and lead time is not acceptable, 402 MXSG will maintain items in bench stock as insurance items.

1.2.4. Nonrecurring/Peculiar Items. Seldom used, normally stock listed and commercial availability is questionable. Requirements are generated on an un-programmed basis, and occurrences of failure are difficult to forecast. It is not economically feasible to stock these items.

1.2.5. Insurance Items. Obsolete, hard to obtain, high dollar, or long lead time items. Insurance items are used in support of equipment repair by the 402d Maintenance Support Squadron (402 MXSS). Items will be identified by the equipment specialist and/or shop personnel and will be maintained within the material area. If shop personnel identify new insurance items, the equipment specialist must be notified to establish proper equipment identification and procedures. Insurance items no longer required for use on equipment will be identified to material personnel for appropriate disposal. Material personnel must check with the equipment specialist before any action is taken on insurance items with locations.

1.3. Security.

1.3.1. 402d Maintenance Support Group Material Management (402 MXSG/MXDPM):

1.3.1.1. Will ensure materials are secure at all times.

1.3.1.2. Only issues materials to individuals with a valid work order identifying the project or work order number, noun, national stock number (NSN) and/or part number, quantity, and name of individual receiving materials.

1.3.1.3. Ensures all entrances to material storage areas, building 321, and material storage yard are secured.

1.3.2. Only authorized personnel are allowed unescorted access to the material storage area. Authorized personnel include all 402 MXSS supervisors, 402d MXSG Engineering Branch (402 MXSG/MXDE) engineers/technicians, and 402d MXSS Production Support A (402 MXSS/MXDXA) personnel (planners/equipment specialists/schedulers). All other personnel must be escorted to gain entry into the area.

2. Procedures.

2.1. This paragraph establishes procedures for all CSAG-M product groups when requesting support from 402 MXSG for technical installation projects, preventive and predictive maintenance, and repair of depot maintenance non-real property facilities and equipment.

2.2. Project Work Order Procedures for 402 MXSS and 402 MXSG/MXDE:

2.2.1. Review and ensure:

2.2.1.1. Each request is feasible and completely justified IAW AFMCI 21-100V3_AFSCSUP, chapter 5.

2.2.1.2. The description of work is accurate and specific.

2.2.1.3. The request includes the urgency of need/work priority and the impact on production if the work is not approved.

2.2.1.4. The project work orders do not overlap or duplicate other project work orders.

2.2.1.5. The project work order requests are submitted in writing or electronically via Facility Equipment Maintenance (FEM) Project Service Request.

2.2.2. Attach drawings, sketches, and required data per the WR-ALC Form 64 for design, planning, and work performance and forward electronically to the 402 MXSG Project Workflow for review by the Industrial Board Working Group (IBWG).

2.2.3. The 78th Civil Engineering Group Environmental Sustainment Section (78 CEG/CEIER) reviews project work order requests prior to design start to determine possible environmental impact and the need for completion of DAF Form 813, *Request for Environmental Impact Analysis*. Any project that is reviewed by 78 CEG/CEIER must have a DAF Form 813 accompanying the project work order prior to start of design so environmental concerns are recognized.

2.3. WR-ALC Customer PM Request Procedures.

2.3.1. Submits a FEM Service Request for a new asset with an electronic copy attached or indicates on the Service Request that a hard copy of all technical data will be provided to 402 MXSS/MXDXA. Technical data at a minimum will include an operational, maintenance, and parts manual.

2.3.2. Review PM instructions to ensure they are clear, accurate, and meet the requirements of the PM program.

2.3.3. Sign the coordination copy of the PM instruction and return it to 402 MXSS/MXDXA.

2.3.4. Must notify 402 MXSS/MXDXA, in writing, prior to modifying, relocating, or turning in/decommissioning equipment.

2.4. WR-ALC Customer Service Work Orders (Corrective Maintenance (CM)) Procedures.

2.4.1. Report to the 402 MXSS Maintenance and/or Installation Section any problems or abnormalities with IPE, including equipment identification, if applicable, using the FEM. (**https://fem.robins.af.mil**). If FEM is not available, contact 402 MXSS/MXDXA schedulers.

2.4.2. Provide detailed status of equipment (such as operating improperly, completely down), priority (1-5), and if it is routine or a line-stoppage situation.

2.4.3. Provide type of problem so appropriate skills may be dispatched to repair the equipment.

2.4.4. Print and attach a completed copy of "IPE Work Request" from FEM on equipment requiring CM.

2.4.5. Supervisors, work leaders, their alternates, engineers, or facility managers are authorized to report line-stoppage work orders.

2.5. General Operator Maintenance (OM) Procedures. Applies to IPE to ensure serviceability and safety of the equipment prior to use. This does not apply to equipment with specific OM listed on Air Force Sustainment Center (AFSC) Form 306, *Preventive Maintenance Instructions*, or equivalent.

2.5.1. Visually inspect equipment for defects, cleanliness, and proper operation.

2.5.2. Perform operational check of equipment.

2.5.3. Observe equipment for any malfunction during operation.

2.5.4. Check lubrication levels for proper quantity.

2.5.5. Report any abnormalities using FEM; if FEM is not available, contact 402 MXSS/MXDXA schedulers.

3. Industrial Board Working Group (IBWG).

3.1. Purpose. The purpose of the IBWG is to review project work orders, validate any request IAW AFMCI 21-100 V3, chapter 5, identify and assign work determined by planned hours per month and supportability established for the product groups, and discuss/resolve issues/concerns on project work orders currently in work.

3.2. Membership. The membership is comprised of 402d Maintenance Support Squadron Production Support A (402 MXSS/MXDXA) Flight Chief (chair), 402d Maintenance Support Squadron Services B (402 MXSS/MXDVB) Flight Chief, 402d Maintenance Support Squadron Services A (402MXSS/ MXDVA) Flight Chief, 402d Maintenance Support Group Project Engineering Section (402 MXSG/MXDEJ) Project Engineering Section Chief, lead project engineer (or their designated alternates), project engineer (representative) and requesting engineer from each of the CSAG-M product groups. The 402 MXSS/MXDXA Lead Planner will schedule required attendees from outside of 402 MXSS. Industrial engineering technicians/planners and schedulers, or production personnel can attend the IBWG meeting to serve only as subject matter experts.

3.3. Frequency. At a minimum, bi-weekly meetings will be held.

3.4. Voting. Three voting members constitute a quorum and majority vote prevails.

3.5. Members. Only one board member per organization votes on actions before the board; however, others may attend meetings.

3.6. Project Work Order Listings. The chair ensures weekly project work order listings are provided to each member by the Planning Section.

3.7. IBWG. The IBWG requires site visits to ensure all members are familiar with the project work order location, current use, proposals, etc., and thereby make knowledgeable decisions. If a satisfactory decision cannot be made and the requesting organization desires, the board refers the issue to 402 MXSS/MXDVA, 402 MXSS/MXDVB, 402 MXSS/MXDXA, and 402 MXSG/MXDEJ, in turn, for a final decision.

4. Project Work Order Requests.

4.1. If request meets the criteria for 402 MXSS/MXDVB or 402 MXSS/MXDVA work IAW AFMCI 21-100V3_AFSCSUP, chapter 5, it is provided to the installation project engineer (402 MXSG/MXDEJ) to load new project work order request into FEM.

4.2. If request does not meet the criteria for 402 MXSS/MXDVB work IAW AFMCI 21-100V3_AFSCSUP, chapter 5, it will be returned to the requester stating the reason for disapproval. If the request is for real property work, the requester will be instructed to send the request with a DAF Form 813 to 78 CEG/CEIER prior to forwarding the package to the 78 CEG.

5. Engineering Branch (402 MXSG/MXDE).

5.1. Project Engineering:

5.1.1. Reviews each project work order request to ensure information is complete and adequate to design the project work order. Completes project design, drawings, and specifications.

5.1.2. Ensures all technical data required for installation and maintenance is included; for example, installation data, maintenance instructions (PM and repair), operating procedures, parts breakdown, suggested spare parts list, schematic diagram, etc.

5.1.3. During and after completion of the design, coordinates with the project work order planner and appropriate shop supervisor to discuss requirements, design, and material. Notifies requesting organization OPR of coordination/acceptance of the final project design. Obtains coordination/acceptance from the requester prior to release to the material purchasing phase.

5.1.4. Determines type and quantity of non-standard material required to complete each project work order; reviews the FEM inventory list as the first source for material requirements. Documents requirements on the materials list of the design drawings.

5.1.5. Verifies the need and approves additional material requirements identified by the project planner and/or appropriate shop to complete a project work order.

5.1.6. Obtains Air Force Materiel Command (AFMC) Form 299, *Safety, Fire, and Health Review,* coordination of the applicable ground safety office WR-ALC Safety Office and 78th Air Base Wing Safety, 78th CEG Fire Emergency Services (78 CEG/CEXF), 78th Aerospace Medicine Squadron Bioenvironmental Engineering, and 78 CEG/CEIER.

5.1.7. When the completed AFSC Form 305, *Plant Management Work Order*, or 402 MXSG/MXDVB FEM generated work order is received, reviews work for completeness and verifies customer satisfaction. Submits the engineering review document to the scheduler (402 MXSS/MXDXA).

5.1.8. Submits a FEM Service Request for a new asset with an electronic copy attached or indicates on the Service Request that a hard copy of all technical data will be provided to 402 MXSS/MXDXA. Technical data at a minimum will include an operational, maintenance, and parts manual.

5.1.9. Establishes a file in FEM for each new project work order; updates as required, adds all files and documents to FEM as attachments.

5.1.10. Prepares a project work order jacket file.

5.2. Equipment Engineering:

5.2.1. Provides engineering support to all WR-ALC customers and 402 MXSS/MXDVA shop personnel to resolve equipment malfunctions and enhance IPE operations.

5.2.2. Provides oversight of the CM of industrial equipment to include troubleshooting; reverse engineering; generation of service contracts; coordination of contractors, shops, and affected organizations; and design modification to return equipment to operational status, improve safety, and provide modifications/upgrades to IPE.

5.2.3. Manages the predictive maintenance program for IPE and supporting infrastructure. Maintains a database of critical equipment and infrastructure surveys, which enables replacement of industrial equipment components before failure occurs and reduces operational costs.

5.2.4. Provides oversight and execution of proactive maintenance program with a focus on reliability centered maintenance efforts. This includes defined techniques and processes such as total productive maintenance, preventive maintenance optimization, and bad-actor analysis to increase reliability and availability on affected equipment.

5.2.5. Provides maintenance-specific input to customers to assist in the procurement process of new equipment.

5.2.6. Provides maintenance input to industrial area process improvement events as requested.

5.2.7. Notify the using organization, in writing, that the equipment cannot be repaired if no substitute part is available and all practical means of repair have been attempted.

5.3. Infrastructure Planning.

5.3.1. Oversees infrastructure plans and strategy for WR-ALC.

5.3.2. Serves as advocate for the WR-ALC military construction (MILCON) program. Assist groups with development of requirements document, project brochure, and design reviews. Interfaces with BCE military construction programmer. Answers headquarters (HQ) AFMC inquiries relating to MILCON matters.

5.3.3. Serves as program manager for the WR-ALC maintenance and repair program. Develops program based upon requirements from the groups and gains program approval from WR-ALC leadership. Monitors program execution and interfaces with BCE personnel, as necessary, to ensure each group's requirements are met.

5.3.4. Serves as program manager for the WR-ALC Capital Investment Program to procure equipment with the goal of establishing a capability for reinvestment/modernization in the WR-ALC infrastructure. Develops program based upon requirements from the groups and gains program approval from WR-ALC leadership. Monitors program execution and interfaces with appropriate personnel, as necessary, to ensure each group's requirements are met. Interacts with HQ AFMC infrastructure team members, as necessary, to address equipment concerns.

5.3.5. Serves as Complex point of contact (POC) for space utilization requirements and capacity. Address space requirements for new workloads and workload shifts. Calculates and answers capacity inquiries from HQ AFMC.

5.3.6. Serves as Complex POC for technology programs. Answers numerous technology-related taskings from HQ AFMC and Air Force Sustainment Center Engineering – Robins (AFSC/EN-R). Requests and consolidates group technology requirements, ranks, and advocates for them with AFSC/EN-R and HQ AFMC.

5.3.7. Provides facilities engineering services to WR-ALC as required.

6. 402 MXSS.

6.1. Scheduling.

6.1.1. Schedules work to appropriate shop. Provides a copy of the following documents to the appropriate shop supervisor when project work orders are scheduled for input to their shops: letter of request; AFSC Form 305 or computer-generated equivalent; Applicable checklists; and engineering drawings/sketches. If required, provides the equipment specialist (402 MXSS/MXDXA) a copy of the AFSC Form 305, or computer-generated equivalent, and places the work package in the "In Work" file.

6.1.2. Coordinates 402 MXSS/MXDVA and 402 MXSS/MXDVB shop activities with other affected organizations to ensure the work order is completed in a timely and efficient manner.

6.1.3. Prepares and distributes status reports, historical data, and backlog information, as required.

6.1.4. Generates engineering review status within FEM to notify the engineering project manager (402 MXSG/MXDEJ) of project upon completion of work by 402 MXSS/MXDVB shops and the submittal of completed computer-generated AFSC Form 305 by scheduling for engineer review and coordination. Project confirmation is provided after review and project is closed. Files a copy of the closed project work order folder in the closed file.

6.2. Planning.

6.2.1. Prepares, updates, and distributes status reports as required.

6.2.2. Reviews each project work order request package to ensure all information is complete and accurate. Loads requirement into FEM for assignment of the project work order control number and assigns priority based on resource availability.

6.2.3. Plans the project work order when the work package is received from 402 MXSS/MXDE. Reviews and compare project work order requirements with the completed project work order design and material requirements. Coordinates and discusses related concerns with the project engineer and shop supervisor, as necessary.

6.2.3.1. Accomplishes preplanning actions upon receipt of new project work orders.

6.2.3.2. Initiate the required checklist for each equipment item. Provides the equipment specialist (402 MXSS/MXDXA) a copy and files a copy in the work package.

6.2.3.3. Places the WR-ALC Form 60 with the work order document for project work orders requiring electrical work, if required.

6.2.3.4. Places the WR-ALC Form 61with the work order document for project work orders requiring electrical work, if required.

6.2.3.5. Places the WR-ALC Form 62 with the work order document for project work orders requiring welding, if required.

6.2.4. Develops the bill of material (BOM) by craft and updates FEM status. 402 MXSG/MXDPM Project monitor will verify material availability and order as applicable.

6.2.5. Determines skills and hours required, including the Equipment Specialist. Prepares an AFSC Form 305 or computer-generated equivalent, sequencing skills (including support work required from other organizations such as BCE, contractors, etc.).

6.2.6. Notifies the 402 MXSG/MXDEJ project engineer if problems arise with materials specified for project work orders.

6.2.7. Reviews the inventory list with 402 MXSG/MXDEJ and 402 MXSS/MXDXA and determines which items will be retained and returned to stock for future needs and requirements.

6.2.8. Identifies the material, providing as much information as possible. The description must include size, type, color, and manufacture part number, manufacturer's address, correct manufacture code, project work order number, priority, complete description or items, and source of availability, if applicable.

6.2.9. Coordinates with the requesting organization POC and/or engineer to identify substitute materials if the required materials are unavailable, the order is cancelled, or other problems arise.

7. PM Process (402 MXSS/MXDXA Equipment Specialist).

7.1. PM Instructions. Receives a FEM Service Request for a new asset with an electronic copy attached or indicates on the service request that a hard copy of all technical data will be provided 402 MXSS/MXDXA. Technical data at a minimum will include an operational, maintenance, and parts manual.

7.1.1. Assigns equipment identification number for depot industrial plant equipment Depot Industrial Plant Equipment/ Industrial Plant Equipment (DIPE/IPE) requiring scheduled PM, i.e., WRXXXXXX, all digits are unique to each piece of equipment.

7.1.2. Assigns equipment identification for DIPE/IPE classified as repair only, i.e., RPXXXXX, all digits are unique to each piece of equipment, IAW Technical Order (TO) 34-1-3, *Inspection and Maintenance Machinery and Shop Equipment*, for items costing more than $2,000.

7.1.3. Establishes and maintains electronic historical records in FEM on all equipment in the PM program.

7.1.4. For 402 MXSG maintained equipment, the 402 MXSG equipment specialists will prepare PM instructions which will be reflected on FEM generated/computer equivalent work order with the exception of OM which will be reflected on AFSC Form 306, *Preventative Maintenance Instructions*.

7.1.5. Routes new and updated PM instructions through 402 MXSS/MXDVA, the requesting organization's engineer for review, comments, and coordination.

7.1.6. Coordinates completed OM instructions with 402 MXSS/MXDVA to be attached to the equipment if applicable and/or provided by the customer.

7.1.7. Prepares and forwards a Bench Stock Material Request for PM material for critical equipment to 402 MXSG/MXDPM using manufacturer's recommendations and practicable input.

7.2. Enters and determines PM requirements into FEM.

7.2.1. Schedules and monitors the inspection of lifting devices/personnel restraints IAW WR-ALCI 91-202, *Lifting Devices, Restraints, and Personnel Safety Equipment.* Updates FEM and follows up on delinquent actions.

7.3. Unavailable Parts or Equipment. If equipment or machine repair parts are not available through procurement or local manufacture, coordinates with the 402d Maintenance Support Group Equipment Support Section (402 MXSG/MXDEQ) to identify a suitable substitute or alternate means of repair.

7.4. Ensure PM instructions identify necessary tasks and material for maintenance and repair.

7.5. Evaluates and updates PM instructions upon receiving PM Optimization reports provided by the 402 MXSS/MXDVA and 402 MXSS/MXDVB maintenance technicians, customer process engineering and 402 MXSG/MXDE engineering and during PM reviews or TPM events.

7.6. Completes form(s) necessary to obtain required hazardous material for DIPE/IPE assets managed under the PM program.

8. Work Order Control Scheduler (402 MXSS/MXDXA).

8.1. Requests for work orders are initiated through FEM. If system is down, phone Defense Switched Network (DSN) 468-8865/8848 for repair of unserviceable equipment/safety issues from unit/resource control center supervisor, facility engineer, and 402 MXSS/MXDVA shop personnel.

8.2. Forwards work order requests to the 402 MXSS/MXDVA and 402 MXSS/MXDVB shop. Immediately notify the appropriate 402 MXSS/MXDVA shop by e-mail or phone of emergency and safety service order requests.

8.2.1. Generates PM work orders and provides 402 MXSS/MXDVA a PM work schedule. Reviews delinquent PM listing with shop supervisors and scheduler, identifies negative trends which may impact production, and advises 402 MXSS/MXDVA of potential problem areas.

9. Material Management Unit (402 MXSG/MXDPM).

9.1. Inventory Managers

9.1.1. Add new FEM inventory items, IAW **Attachment 2**, New Item Entry Standardization Outline, when applicable.

9.1.2. Performs in-depth research of material requirements as outlined in BOM for project work orders and/or applicable material requests to identify NSN. If NSNs cannot be identified for the material requirement, research and locate appropriate sources for material and/or service acquisition. Prepare and store the required documentation as outlined by applicable acquisition regulatory guidance.

9.1.3. Communicate with engineers, planners, schedulers, and shops as necessary when conducting research to ensure correct parts and/or material are procured.

9.1.4. Generates purchase order (PO) by line item for all acquisitions related to BOM or work orders material requests to adequately track all orders and ensure accurate cost accounting. Updates estimated delivery dates as applicable for each PO line item.

9.1.5. Inventory manager(s) and/or production controller(s) validate accuracy of PO line items upon receipt. Project material will be stored in designated bins/locations until 100% supportable.

9.2. Project Material Monitor.

9.2.1. Reviews and compares BOM listing against available stocked material. Annotates BOM for issuance or order as needed.

9.2.2. Reviews BOM line items for appropriate description to include size, type, color, and manufacture part number, manufacturer's address, correct manufacture code, project work order number, priority, complete description or items, and source of availability, as applicable. Correct discrepancies as appropriate.

9.2.3. Issues, segregates, and stores project BOM material in designated bins or locations throughout the warehouse for storage until execution.

9.2.4. Forwards annotated BOM with order needs outlined for inventory manager acquisition.

9.2.5. Annotates project numbers on BOM and maintains one copy in project folder in designated project BOM cabinet.

9.2.6. Follows up with scheduler (402 MXSG/MXDXA) on FEM generated notifications of project work order supportability when necessary.

9.2.7. Does not use material received for an assigned project work order number to support another project work order (cannibalization) without written approval of 402 MXSS/MXDXA. 402 MXSS/MXDXA (Planning) includes this letter in the master project work order folder.

9.2.8. Ensure the individual signs DAF Form 1297, *Temporary Issue Receipt*, or applicable BOM. Will not issue any materials to any individual outside 402 MXSS/MXDVA and 402 MXSS/MXDVB, except as approved by 402 MXSS/MXDXA.

9.2.9. Coordinate with 402 MXSS/MXDVA, 402 MXSS/MXDVB, 402 MXSS/MXDXA, and 402 MXSG/MXDE on review and determination of residual material for retention or Defense Reutilization Marketing Service (DRMS), formally the Defense Reutilization and Marketing Office (DRMO). Identify and schedule material for turn-in to the DRMS.

9.2.10. Ensure all residual material has been annotated on WR-ALC Form 63 or BOM and is segregated/identified as "serviceable" or "unserviceable." All material will be identified by noun, NSN or part number, quantity, and project work order number for the end item. Residual material will be returned from project work orders both physically and in FEM after identification to ensure accountability of material transactions.

9.3. Inventory Managers and Production Controllers (402 MXSG/MXDPM).

9.3.1. Control and store common usage and insurance items ordered on a planned basis according to AFMCI 21-100V3_AFSCSUP, chapter 5, which outlines responsibilities and procedures for establishing, managing, and replenishing bench stock materials.

9.3.2. Verify accuracy of work control documents and ensure individuals sign for material on the appropriate material receipt documents. Issue each line item from FEM to its respective work order. If materials are issued to individuals or organizations other than 402 MXSS/MXDVA and 402 MXSS/MXDVB, obtain 402 MXSS/MXDXA approval and request form.

9.3.3. Conduct routine/random inventories at least monthly using material management computer system inventory reports. Inventory results will be analyzed and retained by the material control function to identify and implement corrective actions in accordance with local procedures. When discrepancies are identified, determine origin of inaccuracy, and correct each discrepancy as appropriate. If deemed significant, a report of survey will be initiated to account for missing material and adjustments will be made accordingly.

9.3.4. Ensure serviceable residual bench stock is returned in FEM and physically returned to its proper bin location.

9.4. Shelf-Life Material Requirements. Shelf-life item control is performed as follows:

9.4.1. Material personnel will ensure age control and cured-dated material is stored, updated, and purged as required.

9.4.2. Material personnel will physically check on a routine basis (weekly, monthly, etc.) to ensure shelf-life material is current, properly marked, and stored correctly.

9.4.3. Age-dated material must have the age control date, either the manufacturer or expiration date indicated on each container at all times.

9.4.4. If indirect material items become over-aged or if the expiration date cannot be determined, material will be removed from issuable stock. Item must be lab-tested for shelf-life extension or disposed of IAW applicable environmental regulations.

10. Shop Functions (402 MXSS, MXDVA, MXDVB).

10.1. Accomplishes CM, PM, and Project Work Orders. Coordinates problems pertaining to scheduling non-availability of repair parts to the scheduler that represents 402 MXSS/MXDVA and 402 MXSS/MXDVB. Coordinates non-availability of PM instructions/required parts or modifications to instructions with equipment specialist assigned to the PM function (402 MXSS/MXDXA).

10.2. CM. Accomplishes CM work orders IAW the work order/equipment priorities and availability of personnel.

10.2.1. Uses work order as authorization to pick up required material from material warehouse (402 MXSG/MXDPM). Ensures all pertinent information is provided on the document. If 402 MXSS/MXDVA and 402 MXSS/MXDVB personnel require additional material while dispatched on a work order and are unable to return to building 321 with the appropriate document to obtain the material, their shop supervisor may hand carry a shop file copy of the document to the warehouse to pick up materials.

10.2.2. Annotates the required materials for CM work order on an industrial services material request form and returns it to 402 MXSG/MXDPM.

10.2.3. Requests engineering support, as needed, for repair of production equipment.

10.3. Preventive Maintenance (PM). Accomplishes PM IAW scheduled PM actions determined by 402 MXSS/MXDXA scheduler.

10.3.1. Input work order into FEM or notify the supervisor/work leader if equipment requiring repair is discovered during a PM inspection.

10.4. Project Work Orders. Accomplishes project work order workload according to projects assigned by scheduler and availability of personnel.

10.4.1. Reports any material discrepancies related to BOM to 402 MXSG/MXDPM.

10.4.2. When project work order is complete, returns residual material to 402 MXSG/MXDPM, and identifies it as "serviceable" or "unserviceable." Includes the NSN, part number, noun, quantity, type, and project work order number prior to returning the material to 402 MXSG/MXDPM.

10.4.3. Coordinates with the project engineer, as necessary and as requested by 402 MXSS/MXDXA (Planning), related concerns on project work order requirements, design, material, or changes thereto.

10.4.4. Completes and submits applicable checklists to 402 MXSS/MXDXA.

10.5. Ensure all residual work order material being returned to the warehouse has been annotated on WR-ALC Form 63 or BOM as applicable.

10.6. Inputs actual hours, log entries, and status of equipment by craft/skill into FEM.

10.7. Reviews items frequently ordered and recommend 402 MXSS/MXDXA to add them to bench stock.

10.8. Returns all applicable tech data (including engineering drawings) to 402 MXSS/MXDXA at completion of project work order.

11. 802MXSS/MXDTA.

11.1. **Purpose.** This chapter establishes procedures for management of tools, expendables, consumables and other items or materials utilized in the 802 MXSS/MXDTA. The purpose of these procedures is to ensure efficient use of resources, minimize waste, and maintain accountability. This instruction applies to all 802 MXSS/MXDTA personnel working in laboratories, including technicians, engineers, scientists, and support staff.

11.2. **Overview.**

11.2.1. The Physical Science Laboratories within 802 MXSS/MXDTA must remain agile and flexible to support aircraft mishap investigations and other urgent testing needs. This requires maintaining a variety of support stock to provide custom test services when timely purchasing is not possible.

11.2.2. The laboratories perform highly customized work to support both planned and unplanned mission requirements. Stored items enable a rapid response to mission needs requiring immediate testing, thereby preventing delays in providing mission partners with critical data to resolve mission readiness issues.

11.2.3. Unlike 402 MXSS and other production squadrons within WR-ALC, 802 MXSS labs do not have a dedicated material management section for maintaining storage areas and inventories. Therefore, inventory management is performed by direct labor staff during downtime or following project completion. Testing services are generally prioritized over organization and cleanup efforts. Overhead job order numbers are used to document these activities.

11.3. **Material Categories.**

11.3.1. Laboratory Support Stock. Laboratory support stock comprises material ordered for projects in the prototype lab and engineering test lab to support special testing and first article testing.

11.3.1.1. Support stock is used to create test, research and developmental support items such as (but not limited to) test fixtures, test setups, pneumatic controls, and strain gauge setups.

11.3.1.1.1. Nonrecurring/Peculiar Support Stock. These are seldom used, normally stock listed, and commercial availability is questionable. Requirements are generated on an unprogrammed basis for non-standard testing. Stock numbers may not be available for single items.

11.3.1.1.2. Recurring/Peculiar Stock. Used frequently, though not normally stock listed and may not be readily available commercially; for example, peculiar equipment or machine items which must be replaced often (due to high percentage of failure rate). If local vendors can supply these items within an acceptable lead time, 802 MXXS labs will not maintain a stock level. However, if items must be immediately available and lead time is not acceptable, 802 MXSS will maintain items in stock as insurance items.

11.3.1.1.3. The wide variety of these items prohibit distinct storage locations for each item. While individual storage space may not be available for every unique item, they will be maintained by general description to the greatest extent possible (e.g. ball valves, plumbing fittings, air hose, low voltage wire, tubing, etc.)

11.3.1.2. The planner will collaborate with laboratory personnel to determine the required support stock or expendable materials based on the customer's quotation.

11.3.1.3. Stock is acquired through various channels, including AF supply system, government purchase card, or third-party contracts, such as Fourth-Party Logistics Provider.

11.3.1.4. Following project completion, the planner and laboratory personnel will determine which items to retain for future needs, and which items should be scrapped or sent to DRMO.

11.3.1.5. To benefit the warfighter with faster execution of mission essential testing, some excess supply may be stored to support the special engineering test functions. Cut stock material or unaltered stock kept for this purpose will be kept neat and organized using best housekeeping practices and labeled appropriately.

11.3.1.6. Laboratory support stock will be segregated and stored in clearly identified designated storage locations with appropriate labels to include item description. Stock should be located as close as possible to the user for convenience. Laboratory personnel will maintain proper housekeeping of support stock. Stock that are too large may be stored in other designated areas such as the warehouse or the back lot.

11.3.2. Insurance Items. These are obsolete, one-off, hard to obtain, hard to build, high dollar or long lead time items such as custom test fixtures, spare parts for unique lab equipment, custom manifolds, etc. used in non-standard testing. They will be maintained in a neat manner and labeled (e.g., "test fixtures", or “vibration test fixtures”, etc.) as no stock number or manufacturer part number is available. These are items that are not stock-listed and were built for a specific test item but may be utilized later, even if minor alterations are needed. Discarding certain items is fiscally irresponsible due to the large expense of manufacturing them, even if there is no immediate future need.

11.3.3. Test Kitting Test Kits. The kits are built to provide a specific testing purpose and may be maintained together in one storage location. Kits may appear to contain dissimilar items but are kept together for efficiency in testing for a specific purpose. Test kits are kept together in a specific storage location, labeled properly (impact range test kit, flare testing kit, etc.) The kits are not considered comingling of material, due to their specific purpose.

11.3.4. Consumables. Items used in conjunction with tooling/equipment, yet after limited usage do not maintain their original configuration and are considered used up (Safety wire, solder, tape, sanding disks, string, chalk, etc.)

11.3.4.1. Consumables are stored in various areas throughout the laboratory, in close proximity to the work, or in longer term storage areas, such as supply rooms.

11.3.4.2. Minimal supply is kept on hand, but enough supply is maintained to prevent work stoppage from supplier shortages, yearly credit card restrictions, budget shutdowns, etc.

11.3.4.3. Consumables are tracked in a laboratory management information system or using commercial systems such as RoboCribs ®.

11.3.5. Expendables. Laboratory expendables are items that become unfit for use and must be replaced periodically (blades, drill bits, reamers, and apexes, strain gauges, etc.).

11.3.5.1. Minimal supply is kept on hand, but enough supply is kept on hand to prevent work stoppage from supplier shortages, yearly credit card restrictions, budget shutdowns, etc.

11.3.5.2. Expendables are kept in labeled drawers and/or shelving either classified by the machine/equipment supported, or by the type/general description of the items (i.e., CNC tooling, drill bits, etc.).

11.4. **Equipment and Accessories.**

11.4.1. Equipment and accessories refer to items that are controlled at the shop level, including non-custodian asset report items. These items are not controlled as tools but must be kept in a neat and orderly fashion in storage cabinets/drawers/shelves and labeled as "Shop Machinery Accessories and Attachments". Such items will be maintained in a neat and orderly fashion in a designated storage location for accountability. Different methods may be used including shadowing, bagging, segregating, etc.

11.4.2. The prototype laboratory has such items in the form of blades, arbors, chucks, gears, etc.

11.4.3. Test equipment such as environmental chambers, vibration table, and tensile testers will also have such items in the form of clamps, unique attachment bolts, special hand tools, manifolds, etc.

11.4.4. Equipment and accessories must have a designated storage location for each item (may be work areas, stations, cabinets, shelves, lockers, Vidmar™ cabinets, RoboCribs ®, etc.) and will be returned to the designated location when not in use.

11.4.5. If items are taken/used outside the work center they must be signed out/in using a general purpose, locally generated form, or electronic equivalent. They must be marked to identify the owning/responsible shop.

11.4.6. Equipment and shop machinery accessories used within the work center and in the line of sight from its designated storage location are not required to be signed out.

11.4.7. Shop equipment will be secured when not in use in designated storage locations (e.g., secured buildings, caged areas, cabinets, RoboCribs ®, etc.). Shop machinery accessories/attachments will be kept and stored in a neat and orderly fashion. At a minimum, storage cabinets and/or drawers will be labeled to identify the contents as "Shop Machinery Accessories/Attachments."

11.4.8. Supervisors will be responsible for the security of shop equipment when not in use. Individuals will be responsible for equipment that is signed out until it is returned to the owning shop. Shop accessories do not need to be secured due to equipment operation requirements.

11.5. **Physical Science Laboratory Equipment.** Physical science laboratories must designate and label storage locations for test equipment and common accessories (e.g., waveguides, attenuators, fittings, cables, adapters).

11.6. **Hazardous Communication (HAZCOM) and Chemical Hygiene Plan (CHP).**

11.6.1. Laboratories are not required to establish a work area-specific HAZCOM program but instead must develop, implement, and maintain a CHP, and ensure workers are trained on the details of the CHP in accordance with Title 29 Code of Federal Regulations, Part 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories, (29 CFR 1910.1450), referencing AFI 90-821, *Hazard Communication (HAZCOM) Program.* The requirements of labeling and laboratories are guided by 29 CFR 1910.1450 with reference to how to handle hazardous materials, storage, and labeling.

11.6.2. Laboratories may, at the discretion of qualified personnel (e.g., chemists, test engineers), utilize expired hazardous materials (HAZMAT) beyond their labeled expiration dates under the following conditions: 1) The integrity and reliability of testing procedures remain uncompromised; 2) The safety of personnel, equipment, and the environment is not at risk; 3) The material is not explicitly referenced in applicable technical orders; or 4) The HAZMAT is not incorporated into aircraft end items or critical systems. Specific examples include, but not limited to, surface cleaning with alcohol-based solutions, paint removal using chemical strippers, glassware cleaning with chromic acid, dissolving 3D printing support materials using sodium hydroxide.

DAVID S. MILLER
Brigadier General
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DAFPD 21-1, *Maintenance of Military Materiel*, 21 February 2024

DAFI 90-160, *Publications and Forms Management*, 14 April 2022

AFI 23-101_AFMCSUP, *Materiel Management Policy*, 10 December 2021

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

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

AFMCI 21-100V3_AFSCSUP, *Depot Maintenance Production Support*, 22 July 2025

WR-ALCI 91-202, *Slings and Below the Hook Lifting Devices*, 13 August 2024

TO 34-1-3, *Inspection and Maintenance - Machinery and Shop Equipment,* 03 September 2025

29 CFR § 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories, 22 January 2013*

Prescribed Forms

WR-ALC Form 37, *Preventive Maintenance Action Request*

WR-ALC Form 60, *Asset Disposition Checklist*

WR-ALC Form 61, *Electrical Checklist*

WR-ALC Form 62, *Welding Checklist*

WR-ALC Form 63, *Warehouse Material Return Worksheet*

WR-ALC Form 64, *Project Submission Checklist*

FEM *Generated Service Request*

Adopted Forms

DAF Form 592, *Hot Work Permit*

DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval*

DAF Form 847, *Recommendation for Change of Product*

DAF Form 1297, *Temporary Issue Receipt*

AF Form 332, *Base Civil Engineer Work Request*

DAF Form 813, *Request for Environmental Impact Analysis*

AFMC Form 299, *Safety, Fire, and Health Review*

AFSC Form 305, *Plant Management Work Order*

AFSC Form 306, *Preventive Maintenance Instructions*

DD Form 1577, *Unserviceable (Condemned) Tag – Materiel*

DD Form 1577-2, *Unserviceable (Repairable) Tag – Materiel*

DD Form 1574, *Serviceable Tag - Materiel*

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

AFMC—Air Force Materiel Command

AFPD—Air Force Policy Directive

AFSC—Air Force Sustainment Center

AFSC/EN-R—Air Force Sustainment Center Engineering - Robins

BCE—Base Civil Engineering

BOM—Bill of Material

CM—Corrective Maintenance

CSAG-M—Consolidated Sustainment Activity Group – Maintenance

DD—Department of Defense

DIPE—Depot Industrial Plant Equipment

DRMS—Defense Reutilization Marketing Service

DSN—Defense Switched Network

FEM—Facility Equipment Maintenance

FSC—Federal Supply Codes

HQ—Headquarters

IAW—In Accordance With

IBWG—Industrial Board Working Group

IPE—Industrial Plant Equipment

MILCON—Military Construction

NSN—National Stock Number

OM—Operator Maintenance

OPR—Office of Primary Responsibility

PM—Preventive Maintenance

POC—Point of Contact

RPIE—Real Property Installed Equipment

TO—Technical Order

WR-ALC—Warner Robins Air Logistics Complex

Office Symbols

402 MXSG—402d Maintenance Support Group

402 MXSG/MXDE—402d Maintenance Support Group Engineering Branch

402 MXSG/MXDEJ—402d Maintenance Support Group Project Engineering Section

402 MXSG/MXDEQ—402d Maintenance Support Group Equipment Support Section

402 MXSG/MXDPM—402d Maintenance Support Group Material Management

402 MXSS—402d Maintenance Support Squadron

402 MXSS/MXDVA—402d Maintenance Support Squadron Services A (Maintenance)

402 MXSS/MXDVB—402d Maintenance Support Squadron Services B (Installation)

402 MXSS/MXDXA—402d Maintenance Support Squadron Production Support A

802 MXSS/MXDTA—802d Maintenance Support Squadron Laboratory Production Flight

78 CEG—78th Civil Engineering Group

78 CEG/CEIER—78th Civil Engineering Group Environmental Sustainment Section

78 CEG/CEXF—78th Civil Engineering Group Fire Emergency Services

WR-ALC/SE—Warner Robins Air Logistics Complex Safety Office

Attachment 2

NEW ITEM ENTRY STANDARDIZATION OUTLINE

Table A2.1. Facility and Equipment Maintenance (FEM) System.

New FEM Item Numbers will be added from the Item Master Screen and constructed as follows:
Applicable Four Digit Federal Supply Code (FSC) + P + Part Number
Example: 4730P185-0502
Important Notes:
The Item Number block has a 29-character limit
FSC are readily available online
Do not assume the FSC is correct for like items in FEM, verify actual FSC before adding new item
Special Characters should be limited whenever possible

The Inventory Item Description will be constructed as follows:
Noun _ Adjective (Descending Order of Importance) _ Material Composition _ Size/Capacity _ Physical Dimensions (length X width X height)

Important Notes:
The FEM Description Block has a 100-character limit
Long Descriptions are *not* searchable
Descriptor elements can be omitted but should be as inclusive as possible
Due to the effect on searches special characters should be limited to / and X
Abbreviations should be limited due to many variations and interpretations, but may be necessary due to character limits (Ex: IN, FT, SS, Mag, ALUM, Etc.)
Adjective order of importance is subjective
(_) Underscore indicates one blank space

ACTUAL FEM EXAMPLES:

Item#	Description	Location
4730P185-0502	HOLDER BLASTER NOZZLE ALUMINUM 150 PSI MAX 1 IN	C09D01
4210P516-1024	NOZZLE WATER HOSE 1 IN	C09H01
4730P11395	COUPLING NYLON QUICKSAND BLAST 3/4 IN ID	C2C03

Additional Notes:

Annotate Lot Type as “NOLOT”

Due to the effect on searches the Stock Category should always be “STK”

Primary Vendor, Manufacturer, and Part Number should be added upon initial entry

Unit of Issue should be carefully considered (Ex: EACH, CAN, BOX, GALLON, etc.)

Unit of Order should be carefully considered (Ex: CASE, BUNDLE, BOX OF 5, etc.)

Specify “Where Used” when associated with an asset (Ex: WR123456)

Once added apply to appropriate storeroom (Ex: IPE-321, IPE-321-GOLF)