COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance.* This Instruction extends the guidance of Air Force Instruction (AFI) 21- 101_AFRCSUP, *Aerospace and Equipment Maintenance Management,* Technical Order (T.O.). 32-1-101, *Maintenance and Care of Hand Tools and Measuring Tools,* T.O. 1C-17A-3-4, *Structural Repair Nacelles and Pylons,* and T.O. 00-20-2, *Maintenance Data Documentation*. This 452d Air Mobility Wing Instruction provides guidance on Tool Accountability Procedures and the Composite Tool Kit (CTK) Program. This Air Mobility Wing Instruction is applicable to all personnel assigned to the 452d Air Mobility Wing. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication;* route Air Force Form 847s from the field through Major Command (MAJCOM) publications/forms managers. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records,* and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Scheduled (RDS) located at **https://www.my.af.mil/gessaf61a/afrims/afrims/**. 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. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3"), number following the compliance statement. See DAFI 33-360, Publications and Forms Management, 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 requestor's commander for non-tiered compliance items.

SUMMARY OF CHANGES

Added **Paragraph 6.6.1** Small tools/items are considered to be tools/items where etching will not fit within approximately .4" length by .25" height area.

1. Responsibilities.

1.1. Tool control is the responsibility of all personnel of the 452d Air Mobility Wing. Commanders will ensure compliance with this directive.

2. Policies.

2.1. Squadrons will establish a tool control program in accordance with (IAW) this AMWI and AFI21-101_AFRCSUP_I, Aircraft and Equipment Maintenance Management, Chapter 10. Units with specific, published tool control guidance will follow those directives, provided the intent of this instruction for inventory, lost tool notification, and control and accountability is achieved.

3. Procedures.

3.1. Each squadron will ensure primary and alternate tool control custodians are designated in writing for applicable sections and flights that use tools during everyday operation. Supply contractor personnel, 452d Civil Engineering Squadron's Power Production Shop, Vehicle Maintenance Flight, Aircrew Flight Equipment (AFE) and all aircraft maintenance organizations). These custodians will be responsible for the operation of the tool control program in their respective areas. Technical Orders (TOs), checklists, job guides, aircraft G files and laptops used for electronic and digital TOs are part of the tool control program when taken to the airfield job site and for all aircraft maintenance operations. When removed from the immediate file area, TOs and/or digital technical order system (DTOS) laptops will be checked using the Tool Accountable System (TAS), AF Form 1297, Temporary Issue Hand Receipt, or AF Form 614, Charge Out Record, when TAS is not available.

3.2. Tool Pouches: Canvas or other non-metallic tool pouches are authorized. If used, tool pouches will be part of the CTK and marked accordingly. Personnel may remove tools from a properly inventoried CTK and place them in a tool pouch. A complete CTK inventory will be accomplished as often as necessary. Return the tools to their shadowed positions prior to turn in. During intake maintenance procedures, all tools that are used will be kept in a cloth/canvass tool pouch except when in use. Tools will not be placed/stored on the protective intake mat.

3.3. Foreign Object Damage (FOD) Pouches: FOD Pouches will be made available for use with every dispatchable toolbox. FOD pouches that are included in the dispatchable kit will be shadowed or attached to the CTK and will be included on the inventory list.

3.4. Reflective Tape: Fire extinguishers and all hazardous obstacles on or adjacent to the flight line shall be marked with reflective material. This tape will be of sufficient size and length to ensure visibility during hours of darkness.

3.5. CTKs used strictly in an off-equipment environment, non-dispatchable, may be left open for all personnel to use during a shift. The CTK will be inventoried whenever opened or closed.

3.6. Keys will be controlled in the same manner as CTKs.

4. Tool Storage Facility/Tool Room.

4.1. A controlled area within a work center designated for storage and issue of tools and equipment.

4.2. Limited quantities of spare/replacement tools are authorized to be retained within the work center's tool control area. Each work center will maintain a current inventory of the type, quantity and location of spare/replacement tools. A documented inventory of these tools and equipment will be accomplished quarterly. Spare/replacement tools will not be etched. The work center will ensure strict control of spare/replacement tools.

4.3. Expendable and consumable tools/items used to perform aircraft maintenance and not included in a CTK will be controlled as required. Regardless of condition, these items will be returned to the tool control custodian for FOD control purposes. Proper disposal will be conducted by the tool control custodian.

4.4. In aircraft maintenance and AFE work centers, shop towels and rags are not disposable or consumable and will be controlled as tools and replaced on a one-for-one basis. Other work centers working anywhere within the boundary of the airfield will utilize a locally developed means of positive rag control.

4.5. Issued personal protective equipment (i.e., headsets, ear defenders, reflective belts, etc.) will be identified with a Tool Accountability System (TAS) / TCMax identifier. Aircrew personal protective equipment will be marked and controlled IAW technical orders and 452d Operations Group instructions. Units will determine applicable accountability and turn-in requirements. All items will be accounted for prior to entry into and departure from an aircraft.

4.6. Warranty Tools: The CTK custodian(s) control warranty tools by identifying warranty tools, ensuring broken or damaged warranty tools are isolated from other broken or damaged tools, and guaranteeing they remain under strict control until these tools are replaced or exchanged.

4.7. When a depot team, factory representative or Contract Field Team (CFT) performs maintenance on equipment within the 452d Maintenance Group, they will follow this instruction and AFI 21-101_AFRC_Sup I, Aerospace Equipment and Maintenance Management, **Chapter 10** for tool accountability. If the contractor or team has not made provisions for tool control and accountability, the team leader/supervisor will coordinate with the Quality Assurance (QA) office to develop a program. The guidelines developed will be put into letter form, signed by the team leader/supervisor and routed to the 452 Maintenance Group Commander for approval. The team leader/supervisor and the QA office will maintain a copy of this letter for the duration of the team's stay.

4.8. Crash Recovery Team Tools: Crash Recovery falls under the same controls as all other maintenance sections.

4.9. Mobility Kits: Mobility kits will be inventoried every 24 months or prior to Air and Space Expeditionary Force (AEF) or other programmed deployment vulnerability periods.

5. Aircraft Maintenance and Aircrew Flight Equipment Tool Identification and Location.

5.1. Units assigned or attached to the 452d Maintenance Group and the 452d Operations Support Squadron (OSS) AFE will mark their tools with the standard nine-digit Equipment Identification Designator (EID) consisting of numbers and letters of which the first four characters will be a unique World Wide Identification (WWID) code. Conspicuously etch, stamp or mark each assigned tool room, CTKs, tools, special equipment and dispatchable equipment with the tool kit identifying number (IAW AFI 21-101, Chapter 10, Para 10.5).

5.2. All padlocks and keys that are used to secure tool kits will be etched with the appropriate WWID and included on the inventory.

5.3. All kits and toolboxes will be marked with easy to read letters and numbers that are visible when boxes are closed and locked. Additionally, all toolboxes that are used on the flight line will have reflective tape installed in such a way that it is visible from all four sides.

6. Marking and Tool Identification using TAS/Tool Control Max.

6.1. All non-maintenance units can mark their tools with the standard EID and utilize the AF-approved TAS/TCMax provided they contact the 452 MXG Quality Assurance office for assignment of the third and fourth character for shop identification. Contractors and Most Efficient Organization (MEOs) are not required to use the EID until the contract requires the use of TAS/TCMax.

6.2. The first two letters of the WWID in the EID for units within the 452 Air Mobility Wing are U4.

6.3. The third and fourth characters designate the unit or shop. (See **Attachment 2**)

6.4. The unit establishes the remaining five characters (any combination of numbers/letters) for CTKs, tools, and dispatchable equipment identification.

6.5. Tools will be marked with the most current EID. All previous CTK identifiers will either be removed or marked out (this does not include Precision Measurement Equipment Laboratory (PMEL) markings.)

6.6. Small tools or items that cannot be marked as described above (such as drill bits, Allen wrench sets, apexes, etc.) are to be maintained in a container marked with the WWID and an identifying character(s) that ties the tool back to the CTK along with the number of tools contained and an accurate description of those tools. The container is counted as one of the items.

6.6.1. Small tools/items are considered to be tools/items where etching will not fit within approximately .4" length by .25" height area.

7. Marking and Tool Numbering/Equipment Identification System for all Non-Maintenance Work Centers.

7.1. All kits and toolboxes will be marked with easy to read letters and numbers that are visible when boxes are closed or locked. Additionally, all toolboxes that are used on the flight line will have reflective tape installed in such a way that it is visible from all four sides.

7.2. Mobility toolboxes: Units with mobility boxes will follow the same identification procedures as outlined in this instruction and have the weight and cubic inches applied on each end of the box IAW AFI 10-403, Deployment Planning and Execution.

8. **Hazardous Materials.**

8.1. Rag and Disposable Glove Control.

8.1.1. Marking or identifying each rag or disposable glove with a CTK number is not necessary. However, rags/disposable gloves will be controlled like any other dispatchable tool; therefore, tool rooms and work sections will issue and receive rags/disposable gloves on a one for-one basis. These items may also be issued in pre-packaged containers with the number of rags/disposable gloves marked on the outside of the container.

8.1.2. Units will ensure rags and gloves with hazardous waste are separated from reusable rags.

9. **Missing/Lost Item/Tool Procedures.**

9.1. Any item lost or discovered missing in the aircraft maintenance complex, airfield operating area, or on aircraft can cause foreign object damage to the aircraft. It is imperative that all items lost or missing in these areas be immediately reported. It is especially important to report personally issued equipment items such as Personal Protective Equipment (PPE), aircrew flying and non-flying gear, and special duty equipment that is not controlled IAW this AMWI.

9.2. IMMEDIATELY upon discovering a missing item or tool, the person identifying the missing or lost item or tool will search the immediate work area and contact the Maintenance Operations Center (MOC) at DSN 447-5258 or COMM 655-5258.

9.2.1. 452d Mission Support Group and 452d Operations Group personnel (except AFE): If the missing tool/item is not found after the initial search (within 30 minutes) and was lost in the aircraft maintenance complex or in the vicinity of the aircraft operating areas:

9.2.1.1. The individual who identifies the missing item will notify their immediate supervisor and tool control custodian or monitor.

9.2.1.2. After a thorough search is completed and the tool or item is found, the Air Force Reserve Command Form 174, Lost Tool/Object Report, will be closed out by the appropriate supervision level and immediately forwarded or e-mailed to the 452MXG/QA.

9.2.1.3. If the item is not found, the AFRC Form 174 will not be closed out. The tool control custodian will maintain the original on file and forward a copy to 452 MXG/QA. These forms will remain active until the item is found. When the item is found, the original form will be completed and closed, then forwarded to 452 MXG/QA for filing and accountability.

9.2.1.4. All closed reports for found items will remain on file for a period of 1 year after the close out date.

9.2.2. 452d Maintenance Group personnel and Aircrew Flight Equipment:

9.2.2.1. The person identifying the missing or lost item or tool will notify the expeditor, production superintendent or equivalent immediately. If not found after completing the initial search (within 30 minutes), initiate an Air Force Reserve Command Form 174 and notify the MOC for a Job Control Number.

9.2.2.2. Include a description of the lost item, the TAS EID number marked on the item, and the vicinity or last known location where the item was seen or used. Notify MOC of the red "X" entry. The 452 MXG/CC will determine if impoundment is required on a case-by-case basis.

9.2.2.3. QA must perform a last search prior to signing off the aircraft forms if an item or tool cannot be found.

9.2.2.4. If the item is not found, the AFRC Form 174 will not be closed out. The tool control custodian will maintain the original on file and forward a copy to 452 MXG/QA. These forms will remain active until the item is found. When the item is found, the original form will be completed and closed, then forwarded to 452 MXG/QA for filing and accountability.

9.3. If an aircraft is taxiing or in flight and the individual who was performing maintenance on the aircraft discovers an item is lost or missing, accomplish the following:

9.3.1. Immediately notify the MOC by the quickest means possible, providing a description of the lost item, the vicinity (if known) of the missing item and the aircraft systems potentially affected.

9.3.2. The MOC will coordinate with the 452 MXG/CC or designated representative and the appropriate maintenance supervision (Aircraft Maintenance Squadron/Maintenance Squadron/Aerial Refueling Squadron) to make a determination as to whether the aircraft needs to return to March Air Reserve Base or point of origin. The MOC will relay this information to the 452d Command Post.

9.4. Upon notification of a lost/missing tool/item, MOC will:

9.4.1. Log the information for the lost/missing item in the Lost/Missing Tool/Item Log.

9.4.2. Assign a control number for the lost tool report and pass it to the tool control custodian and 452 MXG/QA. Control number will consist of 452AMW-12(Year)-11(Month)-28(Two digit number restarting each month; i.e., 452AMW121128).

9.4.3. Notify 452 MXG/QA of the lost/missing item.

9.5. When a missing item has been found, the owning work center will complete the original AFRC Form 174. Be sure to check the yes block for an item found. Forward or email a copy of the completed form to 452 MXG/Maintenance Quality Assurance.

MELISSA A. COBURN, Brigadier General, USAF
Commander, 452d Air Mobility Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1, *Air and Space Maintenance*, 1 August 2018

AFI 10-403, *Deployment Planning and Execution,* 16 January 2020

AFI 21-101_AFRC_1, *Aerospace Equipment Maintenance Management,* 29 August 2019

AFMAN 33-363, *Management of Records,* 20 July 2016

T.O. 32-1-101, *Maintenance and Care of Hand Tools and Measuring Tools,* 14 December 2019

T.O. 1C-17A-3-4, *Structural Repair Nacelles and Pylon,* 1 July 2019

T.O. 00-20-2, *Maintenance Data Documentation,* 5 September 2019

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

AF Form 1297, *Temporary Issue Hand Receipt*

AF Form 614, *Charge Out Record,*

AFTO Form 244/245, *Industrial/Support Equipment Record*

AFRC 174, *Lost Tool/Object Report*

Abbreviations and Acronyms

AF—Air Force

AEF—Air and Space Expeditionary Force

AFE—Aircrew Flight Equipment

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFTO—Air Force Technical Order

AMC—Air Mobility Command

AMW—Air Mobility Wing

AMWI—Air Mobility Wing Instruction

AMXS—Aircraft Maintenance Squadron

ANG—Air National Guard

ARB—Air Reserve Base

ARS—Aerial refueling squadron

CC—Commander

CTK—Consolidated Tool Kit

CFT—Contract Field Team

COMM—Commercial phone prefix

DTOS—Digital Technical Order System

DSN—Defense Switch Network

E—Publishing—e-Publishing website (**www.e-publishing.af.mil**)

EID—Equipment Identification Designator

FOD—Foreign Object Damage

G File—Paper Technical Orders Stored on C-17 Aircraft

HSC—Home Station Check

IAW—In Accordance With

IMT—Information Management Tool

ISO—Isochronal Inspection

MAJCOM—Major Command

MARB—March Air Reserve Base

MARBI—March Air Reserve Base Instruction

MEO—Most Efficient Organization

MOC—Maintenance Operations Center

MXG—Maintenance Group

MXS—Maintenance Squadron

MXQ—Maintenance Quality Assurance

NDI—Non-Destructive Inspection

OPR—Office of Responsibility

OSS—Operations Support Squadron

PPE—Personal Protective Equipment

PMEL—Precision Measurement Equipment Laboratory

QA—Quality Assurance

RDS—Records Disposition Schedule

TAS—Tool Accountability System

TCMax—Tool Control Max, Snap-On Corporation's registered trademark for their tool control software

T.O.—Technical Order

SSI—Satellite Services, Incorporated

U4—EID Prefix for Tools assigned to 452 AMW

WWID—World Wide Identification Code

Attachment 2

ORGANIZATIONAL CODES FOR MARCH ARB TAS/TCMAX PROGRAM

Table A2.1. Work Center CODE.

452 AMXS	AG
452 AMXS SUPPORT	AS
752 AMXS	AF
752 AMXS SUPPORT	AT
4th COMBAT CAMERA	CC
452 MXS/AGE FLIGHT	MG
452 MXS/AVIONICS FLIGHT	MV
452 MXS/MUNITIONS FLIGHT	MW
452 MXS/ELECTRO-ENVIRON SHOP	ME
452 MXS/FUEL CELL SHOP	MF
452 MXS/PNEUDRAULICS SHOP	MH
452 MXS/STRUCTURAL MAINTENANCE	MC
452 MXS/MACHINE/WELDING SHOP	MM
452 MXS/NON-DESTRUCTIVE TESTING (NDI)	MN
452 MXS/SURVIVAL SHOP	MS
452 MXS/AEROREPAIR & WHEEL/TIRE SHOP	MA
452 MXS/KC-135 ISO DOCK	MI
452 MXS/C-141/C-17 HSC SECTION	MD
452 MXS/PROPULSION SHOP	MP
452 MXS/WHEEL & TIRE SHOP	MT
452 MXG/QUALITY ASSURANCE	QA
452 CRS	CR