

**BY ORDER OF THE COMMANDER
482D FIGHTER WING**

**482d FIGHTER WING INSTRUCTION
21-105**



21 AUGUST 2018

Maintenance

**COMPOSITE TOOL KIT (CTK) AND
EQUIPMENT MANAGEMENT
PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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OPR: 482 MXG/MXQ

Certified by: 482 MXG/CC
(Colonel Charlene N. Nelson)

Supersedes: 482FWI 21-105,
6 July 2017

Pages: 11

This 482d Fighter Wing Instruction (482 FWI) implements procedures from Air Force Instruction (AFI) 21-101, Air Force Reserve Command Supplement 1 (AFRC Sup1), *Aircraft and Equipment Maintenance Management*. It assigns responsibilities, directs action and prescribes procedures to control tools, equipment, and electronic devices from all wing agencies dispatching to aircraft parking/runway/taxi areas and aircraft maintenance areas within the 482d Fighter Wing (482 FW) and its subordinate functions. It establishes responsibilities, standardized procedures and locations for the 482d Maintenance Group (482 MXG). Commanders and supervisors are responsible for ensuring personnel comply with the provisions of this instruction. It applies to all personnel assigned to the 482 FW. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using Air Force Form 847 (AF Form 847), *Recommendation for Change of Publication*; route AF Form 847 from the field through the appropriate functional's chain of command. 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 the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afrims/afrims/rims.cfm>.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed due to AFI 21-101 revision.

1. Composite Tool Kit (CTK) Security, Control, and Accountability.

1.1. Security:

1.1.1. Dispatched CTK's are inventoried and locked when left unattended. Tools shall be placed back in the appropriate inlays when unattended or when the job is complete.

1.1.1.1. Small items, equipment items and non-combustible Petroleum, Oil, Lubricants (POL) that present a Foreign Object (FO) hazard and can fit inside the CTK shall be stored in the CTK when left unattended.

1.1.1.2. Large items such as the fuel wrap around hose, tire jack cart or large tools that do not fit inside the CTK shall be placed neatly next to or on top of the CTK. Items that are capable of being locked shall be locked.

1.1.1.3. Large oversize equipment and combustible POL can also be stored on a roll around carts. However, the cart must be secured to an aircraft grounding point with a lanyard and lock when left unattended on the flight line unless the cart has brakes.

1.1.1.4. In all cases, the above equipment shall be turned in no later than the end of the shift.

1.1.1.5. Aircraft test equipment that is connected to the aircraft can be left connected. However, it must be written up in the aircraft forms. Furthermore, any open lines or connectors must have suitable protective devices installed. In addition, test equipment must not be left connected unattended overnight unless approved by the 482 MXG/CC.

1.1.1.6. Personnel are permitted to leave their COMM cord and head set connected to the aircraft unattended, if the aircraft is scheduled to fly within the next thirty minutes. Otherwise, the equipment will be stored in the CTK.

1.1.1.7. All dispatchable CTKs will have a FOD container/pouch.

1.1.1.8. Electronic devices and Electronic Tools (e-tools) must be locked and/or secured when left unattended.

1.1.2. In-shop CTK's must remain locked when not in use unless they are stored in a location that is constantly manned or secured. When a work center is not large enough to facilitate a manned tool room, the shop supervisor is responsible for an itemized inventory of all tools and equipment at the beginning and end of each shift.

1.2. Control: Store CTK's, tools, electronic devices, e-tools and equipment in a designated location for positive control and ease of inventory. Personnel are responsible for control of the CTK and equipment they sign out.

1.2.1. 482 FW agencies shall control CTK's, tools, electronic devices, e-tools and equipment and that are dispatched to 482FW aircraft parking/runway/taxi areas and all maintenance areas IAW AFI 21-101, AFRC SUP and this instruction.

1.2.2. All e-tools will only be issued to personnel who have signed the AF Form 4433 (USAF Unclassified Wireless Mobile Device User Agreement).

1.3. Accountability:

1.3.1. All 482 MXG CTK's shall be marked with a nine-digit EID as identified in [Attachment 2](#).

1.3.2. TC-Max generated form or AFRC Form 175, *Broken/Missing/Removed Tools and Equipment*, will be used in conjunction with a TC-MAX entry for all CTKs. Maintain the form in the CTK.

2. Inventory.

2.1. Annual. All tools and equipment are completely inventoried at least annually or when the CTK custodian changes. The purpose of this inventory is to perform a comprehensive inspection of all tools and equipment and is more extensive than the daily beginning and end of shift inventory. The CTK custodian/alternate performs the annual inventory. When CTK custodians change, the outgoing and incoming custodians perform the inventory together. CTK custodians shall maintain a Master Inventory Listing (MIL) for each type of kit assigned to the work center. The listings shall be updated annually and when the CTK custodian changes to ensure MIL accuracy. MILs shall be signed by the applicable flight Officer in Charge (OIC), Non-commissioned Officer in Charge (NCOIC), Flight or Section Chief.

2.1.1. The annual inventory shall consist of:

2.1.1.1. Ensuring the MIL in the CTK matches the MIL in TC-MAX. This also applies to Support Equipment (SE) with accessories.

2.1.1.2. Ensuring the MIL matches the contents of the CTK or SE.

2.1.1.3. Local manufactured tools are identified on the MIL.

2.1.1.4. All tools are identified on the MIL with minimum name and size.

2.1.1.5. All Equipment Identification Designators (EID) are correct.

2.1.1.6. Inspect all tools and equipment IAW applicable tech data or manufacturer manual. Replace or remove unserviceable tools and document in TC MAX or MAJCOM/local form.

2.1.1.7. All tools and equipment are clean and serviceable.

2.1.1.8. No F.O. in the CTK or SE.

2.1.1.9. All tools/equipment properly fit in the foam inlay, (if used).

2.1.1.10. All required forms are present and documentation is correct.

2.2. Prior to use inventory shall consist of:

2.2.1. All tools are in the CTK and are serviceable.

2.2.2. All SE accessories are accounted for and inside the container.

2.2.3. Torque wrenches are set to the lowest setting.

2.2.4. No F.O. is in the CTK or SE.

2.2.5. AFRC Form 177, *Consolidated Tool Kit Inventory and Control Log* and AFRC Form 175, *Missing/Removed Tools and Equipment*, documentation is complete and current.

3. Procedures for Warranted Tool Management.

3.1. Warranty tool program procedures outlined in AFI 21-101, AFRC SUP 1 paragraph 8.2.3.2 shall be followed.

3.2. Owning section supervisor or tool room facility shall retain tool/equipment warranty documents.

3.3. Warranted tools and equipment shall not be modified if such modification voids the warranty.

3.4. Unserviceable warranty tools will be tagged with a DD Form 1500 series tag, and will be physically segregated from other unserviceable tools/serviceable warranty tools.

4. Procedures for Control and Management of Replacement/Expendable Tools, Consumables and HAZMAT Items Contained in CTK's.

4.1. All consumables that are on bench stock and are included in a CTK will only be issued by tool room personnel or the supervisor.

4.2. Expendable hand tools, (apexes, blades, grinding wheels etc.) that are included in a CTK shall only be issued by tool room personnel or the supervisor.

4.3. Replacement/Spare/Expendable Tool Control: All replacement/spare/expendable tools shall be inventoried and documented quarterly in TC-MAX, (if used) or a MAJCOM/local form.

4.4. The CTK EID shall be etched on larger consumable items such as spools of safety wire. Smaller items such as pin hole plugs, splices, split pins, etc., shall be placed in a container or holder with the CTK EID and quantity marked on the outside of the container by etching, marking with permanent marker or labeling tape.

4.5. Upon return to the tool room, each container shall be refilled to the specified quantity. If adequate consumables are not available for replacement, the quantity missing shall be annotated as missing on AFRC Form 175.

4.6. The individual that signs the CTK in/out is responsible for full accountability of all consumables.

5. Procedures for the transfer of CTK's at the Job Site.

5.1. When a CTK is exchanged at the job site is approved, the AFRC Form 177 is maintained in the CTK and the inventory is checked by both individuals and tool room personnel.

5.2. The incoming individual shall sign the AFRC Form 177, accepting responsibility for the CTK contents.

6. The Series/Block of CTK Identification Numbers. All CTK identification numbers shall be assigned by QA. See [Attachment 2](#) for assigned CTK identification numbers.

7. Procedures for Control of Personal Protection Equipment (PPE). PPE (ear defenders, reflective belts etc.) shall be controlled by one of the two procedures listed below:

7.1. PPE shall be marked with a CTK EID, kept within a CTK and shall be controlled as a tool.

7.2. PPE issued to individuals shall be kept, maintained, and controlled by the person issued the item. As a minimum, this PPE shall be marked with the World-Wide Identification code (WWID) of the individuals assigned work center and their employee number. The initial issue shall be recorded in TC-MAX, (if used) or AF Form 1297, *Temporary Issue Receipt*.

8. Rag Control Procedures.

8.1. Use bulk ordered non-uniform lint free rags or uniform size rags to facilitate control procedures.

8.2. Secure all clean and dirty rag containers to ensure no unauthorized access.

8.3. Sign-out required number of rags to all users in TC-MAX, if used or MAJCOM/local form.

8.4. Verify accurate rag count upon return and verify the quantity in TC-MAX.

8.5. Follow lost tool procedures, if a rag is lost.

8.6. Hydrazine Response trailers shall have rags bundled in quantities to allow expedient accountability without hindering emergency actions. All rags must be accounted for prior to replenishing trailers.

8.7. 482 MXG Deployments:

8.7.1. Rags for deployments shall be bundled in the same quantities as home-station and the same rag size requirements shall be maintained.

8.7.2. The deployed CTK custodian shall sign rags in/out on an AFRC Form 177 if TC-MAX is unavailable.

8.7.3. If a rag is lost, home-station lost tool procedures shall be followed unless procedures are provided at deployed location.

9. Personnel Authorized to Procure Tools. Squadron Commanders shall identify by letter, personnel authorized to procure tools.

10. Local Manufactured Tools and Equipment Controls . See 482 MXG Operating Instruction (OI) 23-101, *Local Manufacture* for local manufacture of tools and equipment.

11. Tool Control Procedures for Depot Teams, Factory Representatives, and Contract Field Teams Working on Equipment within the Unit. Depot teams, factory representatives, and contract field teams shall show full accountability for tools in accordance with the applicable portion of the contract or will comply with this publication. A listing of CTK numbers or other means of tool identification will be coordinated with 482 MXG/MXQ.

12. Procedures and Responsibilities Where Two or More Work Centers Operate a Single Tool Room/Support Elect to Distribute CTK's to a Decentralized Location.

12.1. Procedures: The Non-Commissioned Officer In Charge (NCOIC) of the Tool Room/Support Section shall provide a secure area to store CTK's, tools, equipment and

Technical Orders, Personal Protection Equipment (PPE), bench and operating stock, consumables and chemicals needed to support flight-line or back shop maintenance and generation activities. The Flight/Section Chiefs shall coordinate with the Tool Room/Support Section NCOIC on the CTK's, tools, equipment and Technical Orders, PPE, bench and operating stock, consumables and chemicals they need to have stored in the tool room or within the work center.

12.2. Responsibilities:

12.2.1. Flight/Section Chiefs are responsible to:

12.2.1.1. Manage CTK's, tools and equipment stored in the tool room or within the work center.

12.2.1.2. Ensure the MIL is accurate for each CTK and test equipment item requiring an MIL.

12.2.1.3. Ensure periodic and scheduled inspections of CTK's and equipment are accomplished to include forms documentation.

12.2.1.4. Inform Tool Room/Support Section of needed PPE, consumables, chemicals, bench and operating stock.

12.2.1.5. Ensure the turn-in inventory is thorough so as to be sure there are no broken/missing tools and no FOD in the CTK and equipment.

12.2.2. Tool Room/Support Section is responsible to:

12.2.2.1. Maintain established personal protective equipment (PPE), consumables, chemicals, bench and operating stock.

12.2.2.2. Ensure that a thorough visual turn-in inventory of CTK's, equipment, chemicals is complied with.

12.2.2.3. Notify owning work centers when inspections are due or equipment damage is noted.

13. Procedures to Ensure Positive Control of Response Equipment Permanently Stored/Located in Trailer or Vehicles. Vehicles and trailer mounted CTK's (mounted CTK's) will be signed out/in of TC-MAX at the beginning and end of each shift and controlled like a CTK.

14. Procedures for requiring a second party or on-duty supervisor inspection of CTKs when conditions warrant a single person shift. When only one individual is available in a work center due to leave, Temporary Duty (TDY), or any other circumstance, and there is a Flight/Section Chief on duty within the Group, the individual shall contact a Flight/Section Chief who shall verify the inventory was properly accomplished. The Flight/Section Chief shall sign the AFRC Form 177 in the sign-in block as inventoried, if he has no access to TC-MAX and secure the CTK/equipment in the tool room or a secure shop. The individual shall then notify his supervisor and MOC by e-mail that the CTK/equipment needs to be signed-in, (in TC-MAX) prior to CTK/equipment use.

15. Procedures for Tool Room Control and Management.

15.1. All 482 FW members who sign in/out tools in TC-MAX, inspect/performance CTK inventories will be task qualified.

15.2. Maintain a security of and limit access entry into the tool storage area. When no tool room personnel are available, only the Flight/Section Chiefs or shift supervisor are authorized entry and will control access to tool rooms.

16. Procedures for Pilot and Life Support Personnel that Dispatch to the Flight Line. Life Support and 482d Operations Group (OG) personnel shall follow all procedures outlined in AFI 11-301V1 AFRC SUPI for all tools and equipment brought and used on the 482 FW flightline. Use of TC-MAX is not required.

DAVID P. GARFIELD, Colonel, USAF
Commander, 482d Fighter Wing

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-301V1, *Aircrew Flight Equipment Program*, 25 February 2009, Air Force Reserve Command Supplement, 08 October 2013

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 24 Aug 2015, Air Force Reserve Command Supplement, 24 August 2015

482d FWI 21-101, *Foreign Object Damage and Dropped Object Program*, 14 July 2011

482 MXGOI 23-101, *Local Manufacture*, 16 May 2011

<https://www.my.af.mil/gcss-af61a/afrims/afrims/rims.cfm>

Adopted Forms

AF Form 673, *Air Force Publication/Form Action Request*

AF Form 847, *Recommendation for Change of Publication*

AF Form 1297, *Temporary Issue Receipt*

AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document*

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

AFRC Form 174, *Lost Tool/Object Report*

AFRC Form 175, *Broken/Missing/Removed Tools and Equipment*

AFRC Form 177, *Consolidated Tool Kit Inventory and Control Log*

Abbreviations and Acronyms

ACC—Air Combat Command

AF—Air Force

AFE—Aircrew Flight Equipment

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

AMXS—Aircraft Maintenance Squadron

CC—Commander

CTK—Consolidated Tool Kit

EID—Equipment Identifier Designators

e-Publishing—Air Force electronic publishing website (Official Publications Electronic Library)

FW—Fighter Wing

FWI—Fighter Wing Instruction

IAW—In Accordance With

MEO—Most Efficient Organization

MIL—Master Inventory Listing

MOC—Maintenance Operations Center

MOF—Maintenance Operations Flight

MOO—Maintenance Operations Officer

MXG—Maintenance Group

MXS—Maintenance Squadron

NCOIC—Non-Commissioned Officer In Charge

OIC—Officer In Charge

OG—Operations Group

OPR—Office of Primary Responsibility

PPE—Personal Protective Equipment

QA—Quality Assurance

SE—Support Equipment

TC-MAX—Tool Control Accountability System

WWID—World Wide Identification

Attachment 2

482D AIRCRAFT MAINTENANCE SQUADRON (482 AMXS) AND 482D MAINTENANCE SQUADRON (482 MXS) ASSIGNED CTK EID NUMBERS

A2.1. 482d Aircraft Maintenance Squadron (482/AMXS):

A2.1.1. APG (482 AMXS/MXAA) = U3FMAG001 thru U3FMAG150

A2.1.2. Specialist Flight (482 AMXS/MXAAS) = U3FMSP001 thru U3FMSP099

A2.1.3. Weapons Loading (482 AMXS/MXAAS) = U3FWL0001 thru USFWL0020, U3FWM0001 thru U3FWM0008, U3FWWS021 thru U3FWWS23, U3FWG0001 thru U3FWG0003, U3FWMINI1 thru U3FWMINI5, U3FWEOR01 thru U3FWEOR05, U3FWFLY01 thru U3FWFLY03, U3FWGKIT1 thru U3FWGKIT6

A2.2. Mobility Flightline Maintenance (Includes APG, Specialist Flight and Weapons)

A2.2.1. APG = U3MBAG001 thru U3MBAG099,

A2.2.2. Specialist = U3MBSP001 thru U3MBSP099,

A2.2.3. Weapons Loading = U3MBWS001 thru U3MBWS099

A2.3. 482d Maintenance Squadron (482MXS)

A2.3.1. Accessories Maintenance Flight (482MXS/MXMI):

A2.3.1.1. Fuel shop (482MXS/MXMCF) = U3FUC0001 thru U3FUC0099, and U3FUCWRMC1 & U3FUCWRMC2

A2.3.1.2. Egress shop (482MXS/MXMCG) = U3EG00001 thru U3EG00013

A2.3.1.3. Electro Environmental shop (482MXS/MXMCE) = U3ES00001 thru U3ES00009, and U3ESCTK01 & U3ESCTK02

A2.3.1.4. Hydraulic shop (482MXS/MXMCP) = U3HSCTK01 thru U3HSCTK03

A2.3.1.5. AGE Flight (482MXS/MXMG): U3AGAGE01 thru U3AGAGE10

A2.3.1.6. Armament Flight (482MXS/MXMR) - U3AF00001 thru U3AF00010

A2.3.1.7. Avionics Flight (482MXS/MXMV):

A2.3.1.8. AIS (MXMVT) = U3VTAIS01 thru U3VTAIS10 and U3VTIAIS4

A2.3.1.9. ECM (482MXS/MXMVE) = U3VECTK01 thru U3VECTK10

A2.3.1.10. Fabrication Flight (482MXS/MXMF):

A2.3.1.11. Metals Technology (482MXS/MXMFM) = U3MTCTK01 thru U3MTCTK11:

A2.3.1.12. Non-Destructive Inspection (482MXS/MXMFN) = U3ND000B1 thru U3ND000B8, U3ND000EK, and U3ND000WA

A2.3.1.13. Structural Maintenance (482MXS/MXMFR) = U3SMCTK01 thru U3SMCTK20, U3SMBIN07 and U3SMBIN10:

A2.3.1.14. Munitions Flight (482MXS/MXMW): U3AM 00001 – U3AM00035

A2.3.1.15. Maintenance Flight (482MXS/MXM)

A2.3.1.16. Crash Recovery = U3CR00001 thru U3CR00005

A2.3.1.17. Inspection Flight = U3PH00001 thru U3PH00015

A2.3.1.18. Wheel and Tire = U3WT00001 thru U3WT00005

A2.3.1.19. Propulsion Flight (482MXS/MXMP):

A2.3.1.20. U3JE00001 thru U3JE00099 and U3JECTK01 thru U3JECTK99

A2.3.1.21. 482d Maintenance Group/QUALITY ASSURANCE (482 MXG/MXQ):
U3FMQA002 – U3FMQA003, U3FM00024, U3QAWB001, U3QAWB002

A2.4. Transient Maintenance (PMI): U3TACTK01 thru U3TACTK03