BY ORDER OF THE COMMANDER
94TH AIRLIFT WING

94TH AIRLIFT WING INSTRUCTION 21-121

10 SEPTEMBER 2014

Maintenance

COMPOSITE TOOL KIT PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction establishes procedures and assigns responsibilities to the 94th Maintenance Group Commander for maintaining an effective Composite Tool Kit (CTK) Program in accordance with AFI 21-101, *Aircraft and Equipment Maintenance Management*. The prescribing directives for this instruction are outlined in AFPD 21-1, *Air and Space Maintenance.* This instruction applies to all personnel who transport tools to the Dobbins ARB, GA flight line. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force Form (AF) AF Form 847, *Recommendation for Change of Publication*; route AF 847 from the field through the appropriate functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with the Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**. See **Attachment 1** for a glossary of references and supporting information.

SUMMARY OF CHANGES

Changes include: **paragraph 2.1** inspection was changed to inventory and added that the second party will sign in the CTK; **paragraph 7.1-7.9** Avionics work center deletion; **paragraph 6** was changed to impose a 30 minute time limit to search for a lost tool/item prior to reporting; **paragraph 11** wording was changed regarding control of locally manufactured or developed tools and equipment; **paragraph 12** was changed to define 'long term' contractors; **paragraph 19** was added to include laminated warning tag procedures.

1. RESPONSIBILITY: (Ref. AFI 21-101, paragraphs 10.2.1) The Maintenance Group Commander (MXG/CC) is the OPR for the development of wing procedures for control and management of tools/equipment used on the flight-line and aircraft/aerospace equipment maintenance industrial areas. The Squadron Maintenance Officer or Maintenance Superintendent is responsible for management of the CTK program within the squadron. Squadron Supervision, or their equivalent, is primarily responsible for the control and issue of tools and tool kits.

2. INVENTORY PROCEDURES: (Ref. AFI 21-101, paragraph 10.2.1.2 & 10.4.1.2). If an automated system is not available (such as a deployed location), sections may use the AF Form 1297, a MAJCOM, or locally approved form for accountability and control of CTKs, equipment, and tools. A beginning and end of shift (BOS/EOS) inventory of all CTKs will be accomplished and documented using TCMax. (AFRC Form 177 if TCMax is inoperative). This is simply to ensure all CTKs are accounted for. CTKs will be inventoried for content prior to being signed out. All CTKs will be inventoried prior to leaving any job site and again before being signed in. The person annotating the "IN" block is not the same as the one annotating the "OUT" block. If the CTK is dispatched for an extended period of time (to the ISO dock or TDY for example) then an AFRC Form 177 will accompany the CTK for sign-in and sign-out requirements.

2.1. In situations when only one person is assigned to the shift or work center, a second party or on duty supervisor will perform an inventory of the tool kit and sign in the CTK NLT the end of shift.

3. WARRANTED TOOLS: (Ref. AFI 21-101, paragraph 10.2.1.3) All sections that possess warranted tools will contact the appropriate local vendor (Snap-On, Grainger, etc.) for replacement of broken or damaged tools. Warranted tools may be replaced from spare tool stock; however, the warranted tool should be replaced by the appropriate vendor as soon as possible. Contacting of the vendor will be coordinated through the appropriate Flight Chief or equivalent. Note - All requests for purchasing of tools will be forwarded through the appropriate Flight Chief to the Maintenance Superintendent for approval prior to the procurement of any tool.

4. CONSUMABLE TOOLS/ITEMS: (Ref. AFI 21-101, paragraph 10.2.1.4, 10.3.1, 10.3.5, 10.3.6.3, & 10.3.6.5) Expendable hand tools (apex bits, drill bits, wire bundles, etc.) may be placed in CTKs. If placed in the CTK they will be identified with the CTK EID, be shadowed, and reflect the quantity of the bits and pieces. Consumable items (safety wire, solder, etc.) may be placed in CTKs. If placed in the CTK, they will be identified with the CTK EID, and be identified on the MIL as consumable. The CTK Custodian will be responsible for control of these items. If a tool is broken, the technician will provide the broken tool to the CTK Custodian to secure a replacement. If a replacement is not immediately available annotate the missing/removed tool log.

5. PROCEDURES FOR TRANSFER OF CTKs AT THE JOBSITE: (Ref. AFI 21-101, paragraph 10.2.1.5) If CTKs are transferred at the job site the AFRC Form 177 will be documented at the job site. The person assuming control of the CTK will inventory the CTK with the person relinquishing control. The oncoming technician will then document the "IN" box of the AFRC Form 177 (effectively signing the CTK in) and then document the "OUT" box (assuming control). TCMax will be updated to reflect the transfer as soon possible.

6. PROCEDURES FOR LOST TOOLS: (Ref. AFI 21-101, paragraph 10.2.1.6 & 10.8)

6.1. In the event an item or tool is lost, personnel will report the missing item IAW AFI 21-101 if not found within 30 minutes.

6.2. Any tools found on an aircraft and not marked as part of the CTK program (i.e. no markings) will be turned in to the Quality Assurance office (94 MXG/MXQ). MXQ will conduct an investigation to determine ownership of the tool and contact the MXG/CC, who will decide if further action is necessary. In addition, the Squadron Maintenance Officer and the Maintenance Superintendent will be notified. The Expediter/Pro Super, or equivalent, will be notified immediately of a lost tool and the initial search will begin thereafter.

6.3. If a tool/item is discovered missing after an affected aircraft has taxied, but before takeoff, the individual making the discovery will immediately notify the Maintenance Operations Center (MOC). The MOC notifies the Command Post, Pro Super, Expediter or work center supervisor, Quality Assurance, and the senior ART on duty of the missing tool/item. The Command Post will instruct the aircrew to return to the parking spot so that a search for the lost tool/item may be conducted in accordance with IAW **paragraph 6**

6.4. If a tool/item is discovered missing after an affected aircraft taken off, the individual making the discovery will immediately notify the MOC. The MOC will immediately relay all pertinent information regarding the lost tool/item to the Command Post who will then pass the information on to the Aircraft Commander. The Aircraft Commander will make the decision, based on the information given, whether or not to immediately land the aircraft so that a search for the lost tool/item may be conducted IAW **paragraph 6**. Additionally, the MOC will notify the Pro Super, Expediter or work center supervisor, Quality Assurance, and the senior ART on duty.

7. CTK AND TOOL IDENTIFICATION: (Ref. AFI 21-101, paragraph 10.2.1.7 & 10.5) CTK designations will be as follows per this maintenance operating instruction: All sections must mark their tools with the standard nine-digit Equipment Identification Designation (EID) consisting of numbers and letters of which the first four characters will be a unique World-wide Identification code (WWID). 94th Maintenance first two letters will be R9 followed by the two letter shop code, the last five can be any combination of letters and numbers i.e. (ISO tool box EID may be R9PDCTK01)

7.1. Aircraft Maintenance Squadron: R9FL

7.2. Accessories Flight: R9EN (Elec/Env Shop), R9HY (Hydraulic Shop), and R9FS (Fuel System Shop)

7.3. AGE Flight: R9AG

7.4. Fabrication Flight: R9SM (Structural), R9MT (Metal Tech), R9CS (Corrosion) and R9ND (NDI)

7.5. Propulsion Flight: R9ES

7.6. Maintenance Flight: R9PD (ISO), R9AR (CDDAR Equipment)

7.7. R9MU (Munitions Flight)

7.8. Quality Assurance: R9QA

7.9. Maintenance Operations Center (MOC): R9MO

8. INDIVIDUAL EQUIPMENT/PERSONAL PROTECTIVE EQUIPMENT (PPE): (Ref. AFI 21-101 Para 10.2.1.8) Personal protective equipment such as headsets, ear defenders, face shields, etc., issued to an individual may be maintained in personal lockers or tool rooms. As a minimum, these items are marked with a TCMax number and initial issue tracked in TCMax. In addition, PPE must be inventoried annually and the inventory will be documented in TCMax.

9. RAG CONTROL: (Ref. AFI 21-101 Para 10.2.1.9) Special control is required to prevent rags from becoming FOD. All mechanics that require rags for the performance of their jobs both in shop/dispatch will ensure they take only the estimated amount required for the job. They will return all rags to the correct containers clean/dirty (as necessary) in their own work centers at the completion of the job. Clean or soiled rags will not be permitted to lie in dispatch vehicles where they may become lost and contribute to FOD. Rags will be tracked using TCMax.

10. PROCEDURES TO LIMIT NUMBER OF PERSONNEL AUTHORIZED TO PROCURE TOOLS: (Ref. AFI 21-101 Para 10.2.1.10) See p**aragraph 3** of this Instruction.

11. LOCALLY MANUFACTURED OR DEVELOPED TOOLS AND EQUIPMENT: (Ref. AFI 21-101, paragraph 10.6) The 94 MXG Quality Assurance section will coordinate all requests for approval and use of locally manufactured or developed tools and equipment that will be used on aerospace equipment per the above reference. Users will review items and requirements biennially (every two years) for applicability and current configuration.

12. CONTROL OF TOOLS BY CONTRACTORS: (Ref. AFI 21-101, Para 10.2.1.12) Depot teams, factory representatives, contract field teams, and contractors supporting aircraft maintenance functions will use procedures for tool control in accordance with their government contract. If tool control is not covered in the contract then, as a minimum, tools will be etched or marked in some way to identify the mechanic who owns the tools. In addition, long-term contractors will be required to have all tools shadowed to highlight missing tools and make it easier to accomplish required inventories. For the purposes of this instruction, "long term" is defined as a contractor supporting aircraft maintenance functions for over 180 continuous days. For all depot teams, factory representatives, and contract field teams, the team chief is responsible for inventory of tools and inventory documentation at the end of each work shift. Lost tools will be reported to a QA representative if the tool is not immediately recovered.

13. PROCEDURES FOR SHARED CTK/DECENTRALIZED: (Ref. AFI 21-101 Para 10.2.1.13)

13.1. When a tool room is shared by two or more work centers, the tools will be sectioned off accordingly and easily identifiable as to the owning work center by the location and EID.

13.2. For decentralized CTKs, the key will be signed out in TCMax at the owning work center and an AFRC Form 177 will be documented at the decentralized location. The person signing the CTK "out" on the AFRC Form 177 will not be the same as the person signing CTK "in". A second party or on duty supervisor will perform an inspection of the tool kit NLT the end of shift and document the AFRC Form 177. The key will then be returned to the owning work center and signed back in using TCMax.

13.3. While at home station, the aircraft CTK will be treated the same as any other CTK to include inventory control procedures (i.e. beginning/end of shift inventory, etc.).

14. CONTROL OF CRASH RECOVERY TOOLS: (Ref. AFI 21-101, Para 10.2.1.14) Crash recovery tools will be treated as a separate CTK under the custodial control of the Crash Recovery Team Chief or his designated representative. All regular CTK procedures will be followed to include shadowing and etching of tools, as well as inventory and control procedures.

15. SECOND PARTY OR SUPERVISOR INSPECTION: (Ref. AFI 21-101 Para 10.2.1.15) See **paragraph 2** of this Instruction.

16. PROCEDURES FOR CONTROLLED ACCESS TO TOOL ROOMS: (Ref. AFI 21-101 Para 10.7) All tool rooms must be capable of being locked and afford protective measures such as monitoring, 24-hour coverage, or controlled key access. When all CTKs are not capable of being secured in the tool room, the NCOIC will designate a process to prevent unauthorized use or access to tools and equipment.

17. PROCEDURES TO CONTROL AIRCREW TOOLS AND LIFE SUPPORT KITS DISPATCHABLE TO THE FLIGHT LINE: (Ref. AFI 21-101 Para 10.2.1.17) Tool Control for Aircrew Tools and Life Support Kits will be managed IAW AFI 11-301V1 and AFRC Sup 1 to AFI 11-301.

18. FOREIGN OBJECT DAMAGE (FOD) PREVENTION: (Ref. AFI 21-101 Para 14.19.2.8) All dispatchable CTKs will have a FOD container attached for use during aircraft maintenance. These FOD containers will be emptied at the end of the job, prior to returning the CTK to the storage area. The individual signing the CTK back in to TCMax will ensure the FOD containers are empty.

19. LAMINATED WARNING TAGS: (Ref. T.O. 00-20-1-AFRCSUP1 Para 5.7.3.16.5.1.3) All 94 MXG laminated warning tags shall be tracked in TCMax and controlled using normal tool control procedures.

19.1. Work centers must notify the Quality Assurance office when changes are made to their laminated warning tags (i.e. add or delete tags).

BRETT J. CLARK, Colonel, USAFR
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1, *Air and Space Maintenance,* 25 February 2003

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

AFI 11-301V1, *Aircrew Flight Equipment (AFE) Program*, 25 Feb 2009

AFI 11-301V1_AFRC_I, *Aircrew Life Support Program,* 14 July 2006

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

TO 00-20-1-AFRCSUP1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures,* 28 August 2013

Adopted Forms

AF Form 847, *Recommendation for Change of Publication,* 22 September 2009

AF Form 1297, *Temporary Issue Receipt*, 1 July 1987

AFRC Form 177, *Consolidated Tool Kit Inventory and Control Log*, 1 January 2007

Abbreviations and Acronyms

94 AWI—94th Airlift Wing Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

CTK—Consolidated Tool Kit

EID—Equipment Identification Designation

FOD—Foreign Object Debris

MOC—Maintenance Operation Control

OPR—Office of Primary Responsibility

PPE—Personal Protective Equipment

QANTTAS—Quality Assurance Tracking and Trend Analysis System

RDS—Records Disposition Schedule

TAS—Tool Accountability System

WWID—World-wide Identification code

Attachment 2

BOS/EOS INVENTORY

Figure A2.1. BOS/EOS INVENTORY

FC 4420

CONSOLIDATED TOOL KIT INVENTORY AND CONTROL LOG					CTK NUMBER BOS/EOS INV.
DATE	EMPLOYEE NUMBER	TOOL NUMBER AND NOMENCLATURE	CTK/TOOL DESIGNATION	OUT TIME/SIGNATURE	IN TIME/SIGNATURE
8 Mar 98	000706	Beg. of shift Inv.			
8 Mar 98	000706	End of shift Inv			
9 MAR 98	00104	BOS INV			
9 MAR 98	00104	EOS INV			

AFHES FORM 177, NOV 83 (EF)

Attachment 3

CTK INVENTORY/SIGN-OUT/JOB SITE TRANSFER

Figure A3.1. CTK INVENTORY/SIGN-OUT/JOB SITE TRANSFER.

CONSOLIDATED TOOL KIT INVENTORY AND CONTROL LOG					CTK NUMBER F3A
DATE	EMPLOYEE NUMBER	TOOL NUMBER AND NOMENCLATURE	CTK/TOOL DESIGNATION	OUT TIME/SIGNATURE	IN TIME/SIGNATURE
7 FEB 98	01267			0800 J. Hardwick	1615 P. LaRue
11 FEB 98	00706			1100 Phil LaRue	0010 J.L. Burton

AFRES FORM 177, NOV 93 (EF)