
	AIRCRAFT OPERATIONS CENTER NOAA Office of Marine and Aviation Operations	CATEGORY	VERSION	
		221	3.0	
	EFFECTIVE DATE		February 1, 2014	
	AUTHORIZED BY:  CAPT, NOAA		PREVIOUS VERSION DATE	
	CAPT Harris B. Halverson II, NOAA Commanding Officer, Aircraft Operations Center		September 1, 2012	
		REVIEW DATE		
		February 1, 2016		
		RESPONSIBLE		
		Chief, Maintenance Branch		

POLICY 221-13

TOOL CONTROL AND ACCOUNTABILITY POLICY

1. PURPOSE

- 1.1 The primary objective of a tool control policy is to substantially reduce or eliminate aircraft accidents or incidents, including possible loss of life or damage to equipment, caused by the improper accountability of tools. This policy establishes Aircraft Operations Center procedures for the control and accountability of tools, consumables, miscellaneous parts, in, on, and around Hangar 5, MacDill Air Force Base, Florida, deployed NOAA aircraft, and prepositioned NOAA aircraft, i.e. Snow Survey, Remote Sensing Division, and West Coast Otter Operations.

2. DEFINITIONS AND ACRONYMS

- AMB Aircraft Maintenance Branch
- AOC Aircraft Operations Center
- Consumables Expendable supplies not conducive to one of the marking methods in Section 4.1. Examples include: issued work apparel, glue, paint, sealant, rags, sandpaper, brushes, applicators, etc.
- FOD Foreign Object Damage.
- Miscellaneous Parts Supplies frequently used that are not conducive to one of the marking methods in Section 4.1. Examples include: rivets, washers, fasteners, drill bits, apex tips, wire, mechanical pencils, pens, etc.
- NOAA National Oceanic and Atmospheric Administration.
- PMEL/Calibrated Tool Monitor The individual designated to monitor the serviceability, calibration, and accountability of Precision Measuring Equipment Laboratory\Calibrated Tools.
- Personal Equipment Items individuals carry on a regular basis (government issued or not) that pose a similar hazard as aircraft tools if lost on the aircraft. Examples include: flashlights, pocket size multi-tools, pocket knives, etc.

- QA Quality Assurance.
- SEB Science and Engineering Branch.
- Tool Box Monitor/Alternate The individual(s) assigned to each toolbox that is/are responsible for accountability, serviceability and ordering of replacement tools.

3. RESPONSIBILITIES

- 3.1 It is the responsibility of *all AOC personnel*, especially those directly involved with aircraft operations maintenance and instrumentation, to ensure that tool control practices and accountability guidelines are accomplished in accordance with this policy.
- 3.2 QA is the primary point of contact for program inquiries and has audit responsibility for the program. QA will conduct random audits of toolboxes and PMEL at least quarterly to ensure the serviceability and accountability of tools. These audits will also verify there are no unauthorized items in the toolboxes and PMEL is calibrated. QA will ensure an electronic master list of all AOC toolboxes and designated Tool Box Monitors is kept on the AOC Share Point, or other mutually agreed upon location.
- 3.3 SEB and AMB Branch Chiefs will designate Tool Box Monitors and PMEL Monitors for their respective Branches.
- 3.4 Supervisors will inspect all inventoried toolboxes and PMEL at least annually to ensure tools are serviceable, accountable and calibrated. QA and/or the designated Tool Box Monitor shall accompany the supervisor. The status of this inspection will be reported to QA.
- 3.5 The Toolbox Monitor is responsible for the serviceability and accountability of assigned tools. Tool Box Monitors shall maintain a master list of their toolboxes and contents. Inventories shall be maintained in each box. Tool Box Monitors shall provide QA with a copy of toolbox inventories and changes as they occur.
- 3.6 The PMEL monitor(s) are responsible for the calibration, serviceability and accountability of assigned PMEL. The monitor(s) shall run the calibrated tool report once per month to ensure proper tracking. The monitor(s) and senior technician(s) shall ensure deployed tools and equipment have appropriate calibration dates to last the entire deployment.
- 3.7 Visiting personnel (i.e. scientists, engineers, technicians, and contractors) that are required to work on NOAA aircraft shall have an AOC Sponsor. The Sponsor will be designated by the appropriate Branch Chief. For aircraft not at MacDill AFB, and considered "in-the-field," the Aircraft Commander (AC) or their designee will serve as the Sponsor.
- 3.8 The Sponsor will provide copies of both this policy and the AOC FOD policy as early as possible prior to their beginning work on NOAA aircraft and will assist and monitor the visiting personnel to ensure their compliance. The Sponsor shall ensure visiting personnel have a complete inventory of acceptably marked tools. All tools shall be accounted for prior to any work commencing on NOAA aircraft, at the beginning and end of daily work shifts, ground or flight tests and at the completion of all work. Visitors/contractors who bring their own tools shall be briefed on AOC tool control policies and shall not use tools on an aircraft unless in compliance with these procedures.
- 3.9 Any maintenance, alteration or preventative maintenance, including Instructions for Continuous Airworthiness (ICA), where the technical data requires a set value (i.e. 27-29 volts, 1400-1500 lbs, 10-20 ohms, 32 psi, etc) shall require the use of a calibrated tool or test equipment. Tools must be calibrated to National Institute of Standards and Technology (NIST) or equivalent standard. Reference tools shall be marked "FOR REFERENCE ONLY."

Any maintenance task where a reference only measurement is needed (i.e. voltage from point to point, continuity of a circuit, etc.) does not require a calibrated tool.

4. HAND TOOL CONTROL AND ACCOUNTABILITY

- 4.1 Tools shall be marked in an acceptable manner that allows for easy identification of the source. There are numerous acceptable aviation industry methods to mark and account for tools, including:
- a. Etching
 - b. Color Coding
 - c. Universal Product Code (UPC) Bar Code
 - d. Shadow Boards
 - e. Shadow-Boxing
 - f. Special Canvas Layouts With Tool Pockets
 - g. Tool Counters
 - h. Chits
 - i. Tool Tags
 - j. Consolidated Tool Kits
 - k. Employee Numbers/Phone Extension
 - l. Employee Name
 - m. RFID (Radio Frequency Identification) Systems, etc.
- 4.2 NOAA personnel shall only use government issued tools as a means of accomplishing work. Personal tools are prohibited on or around aircraft. Contractors may use their own tools in accordance with section 3.8. Personal equipment such as flashlights and multi-tools (i.e. Gerber/ Leatherman) are the only equipment authorized to be carried on an individual basis. This equipment shall be marked with the individual's last name, initials, or other unique identifier.
- 4.3 All tools, and their respective toolboxes, intended for use in, on, or around aircraft shall be accounted for and permanently marked for identification to indicate the toolbox to which they are assigned.
- NOTE: There may be infrequent occasions that require a "unique tool" from a non-AOC source to be used on NOAA aircraft. In this case, the tool(s) shall be appropriately marked and the assigned AOC Sponsor shall retain full accountability.**
- 4.4 Tools not intended for use in, on, or around NOAA aircraft (such as SEB shop areas,) do not fall entirely under this policy. These toolboxes and storage areas shall be labeled as "shop use only." Tools contained within shall not be removed from the shop area nor used on NOAA aircraft.
- 4.5 All tools must be accounted for at the beginning and end of daily work shifts, ground or flight tests and at the completion of work. Tools will be returned to the appropriate toolbox and the box secured before leaving the work area. Tools will NOT be left unattended in the aircraft except for short periods of time such as breaks, lunch, etc.
- 4.6 Tool boxes installed on aircraft shall be inventoried and accounted for prior to engine start.

5. CALIBRATED TOOLS AND TEST EQUIPMENT

- 5.1 Tools or equipment requiring calibration/certification in accordance with 14 CFR 43.13 shall be calibrated through the MacDill AFB PMEL, appropriate vendor, or qualified AOC personnel. Standard equipment used for calibrating other tools may not be used for maintenance, only to calibrate other tools.

- 5.2 Tools requiring calibration shall be marked accordingly by the MacDill AFB PMEL, appropriate vendor or AOC personnel. Markings should include, at a minimum and to the greatest extent possible; Date Calibrated, Date Next Due, and Name of Agency performing the calibration. Tools and equipment not requiring calibration that are similar in appearance to tools and equipment requiring calibration should be marked "FOR REFERENCE ONLY" or in another suitable manner. These reference only tools and equipment may not be used to make return to service or airworthiness determinations of an aircraft, engine, propeller, or appliance.
- 5.3 Tools that require calibration/certification and are assigned to an aircraft tool box or hangar tool box shall be calibrated/certified.
- 5.4 Personnel shall verify the calibration date is current prior to using a calibrated tool or equipment
- 5.5 Personnel shall insure that currently calibrated tools are used when required as specified in 14CFR 43.13(a).
- 5.6 In the case where no manufacturer's repair, maintenance, structural, instruction manual, or an ICA exist, Federal Aviation Administration (FAA) Advisory Circular 43.13-1B should be utilized as a reference for the methods, techniques and practices acceptable to the Administrator of the FAA.

6. LOST OR FOUND TOOL PROCEDURES

- 6.1 Any time a tool or personal equipment is lost on or around an aircraft; all activity in the affected shall cease area, and a search shall be initiated.
- 6.2 If the tool cannot be located after a preliminary search, the following procedures will be followed:
- Immediately notify the Chief AMB, Chief Technical Section, Production Controller (PC), QA or the AC.
 - A grounding discrepancy shall be entered into the aircraft maintenance and discrepancy logbooks and the Aircraft Logs data management system with the following statement: "Tool (name and number), from tool box (name or number) is missing and a preliminary search has failed to locate the tool."
- 6.3 Aircraft in the affected area will remain grounded until the tool is located, or it is determined that the tool is not located in the aircraft. Only an Airframe and Powerplant (A&P) licensed mechanic is authorized to return an aircraft to service once a lost tool is either found or reasonably assured it is not on the aircraft after an exhaustive search.
- NOTE: The A&P is also required to notify either the Chief AMB or PC that he is returning the aircraft to service. If the mechanic is a non-NOAA personnel, the AC is required to inform the Chief AMB or PC in all cases.**
- 6.4 A Lost or Found Tool Report and Checklist (attached) shall be completed and forwarded to QA within five business days if the preliminary search determines a lost tool exists. This sheet will be used for statistical record keeping purposes only.
- 6.5 A found tool shall be routed to QA, who will take custody and initiate the Lost or Found Tool Report and Checklist for identification and tracking purposes.

Lost or Found Tool Report & Checklist													
Report Completed By:			<i>Print Name:</i> _____										
Date & Time of Lost or Found Tool:			DATE:				TIME:						
Aircraft ID Number:													
Description of Lost or Found Tool:													
Tool Box ID:													
Entry made in Aircraft Forms:				DATE:				PAGE:				BLOCK:	
Action(s) Taken:													
Results of Search:													
Aircraft Released By:													
Date & Time of Release:			DATE:				TIME:						
Report Filed By:													

Record of Changes/Revisions

This policy is a living document that is reviewed annually at a minimum and changed as required to reflect changes in Federal policy and/or organizational strategic goals and objectives. Modifications made to this document are recorded in the Change/Revision Record below. This record shall be maintained throughout the life of the document.

Change / Revision Record			
Version No.	Date	Section	DESCRIPTION OF CHANGE
3.0	Feb 1, 2014	6.2.b.	Add 'and the Aircraft Logs data management system'
3.0	Feb 1, 2014	2.	Definition AMB, replace 'Aviation' with 'Aircraft'
2.0	Sep 1, 2012	3.2	Update
2.0	Sep 1, 2012	3.6	Update
2.0	Sep 1, 2012	3.9	Add Section 3.9
2.0	Sep 1, 2012	5.1	Update
2.0	Sep 1, 2012	5.2	Update
2.0	Sep 1, 2012	5.3-5.6	Add Sections 5.3, 5.4, 5.5 and 5.6 added
2.0	Sep 1, 2012	6.3	Update
1.0	Nov 1, 2011	All	Initial Policy