BY ORDER OF THE COMMANDER
OKLAHOMA CITY AIR LOGISTICS COMPLEX

OKLAHOMA CITY AIR LOGISTICS COMPLEX INSTRUCTION 21-105

22 MAY 2026

Maintenance

IDENTIFICATION OF METAL USED IN THE MANUFACTURING PROCESSES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements and extends the guidance of Air Force Materiel Command Instruction 21-100 Volume 2_Air Force Sustainment Center and Oklahoma City Air Logistics Complex Supplements (AFMCI 21-100V2_AFSCSUP_OC-ALCSUP), *Depot Maintenance Production* procedures governing identification of metal material responsibilities within the Oklahoma City Air Logistics Complex (OC-ALC). This instruction establishes procedures and responsibilities for submission of metals used in manufacturing processes to the 76th Maintenance Support Squadron Physical Sciences Flight, Analytical Chemistry Section (76 MXSS/MXDTA) for chemical analysis. This instruction applies to the 76th Aircraft Maintenance Group (76 AMXG), the 76th Propulsion Maintenance Group (76 PMXG), the 76th Commodities Maintenance Group (76 CMXG), and 76 MXSS/MXDTA. This publication may be supplemented at any level, but all supplements must be routed to the office of primary responsibility (OPR) for coordination prior to certification and approval. Refer recommended changes and questions about this publication to the OPR using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Product*; route DAF Forms 847 through the appropriate functional chain of command. Requests for waivers must be submitted to the OPR listed above for consideration and approval. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Instruction 33-322, *Records Management and Information Governance Program*, and disposed of IAW the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System or as required by Title V operating permit. 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.

SUMMARY OF CHANGES

This instruction has been substantially revised and must be completely reviewed. Major changes include updates to office symbols, forms, and references.

Chapter 1

OVERVIEW

1.1. Scope. This instruction covers definitions, references, and responsibilities for metals categorized under Federal Supply Classes (FSCs) 9500, 4700, and 3439 used in manufacturing processes.

1.2. Objective. The primary objective of this instruction is to standardize the management, tracking, and responsibility assignments for manufacturing metals to ensure material integrity, reduce operational waste, and maintain mission readiness.

Chapter 2

DEFINITIONS

2.1. Identification Marking Methods: One of three methods permitted by technical order (TO) 42D-1-3, *Method of Identifying Steel, Aluminum, and Copper Alloys in Air Force Stock*, for the identification of metal stock material. These methods in order of preference are:

2.1.1. Stencil Marking.

2.1.2. Color Code Marking.

2.1.3. Metal Die Code Stamping.

2.2. Stencil Marking: Permanent marking using a sheet of plastic or cardboard, in which the alloy identification has been cut so that ink or paint applied to the sheet will reproduce the identification on the metal surface. TO 42D-1-3 states that this is the preferred method of applying a marking. This method may also require periodic reapplication on materials subject to oxidation (i.e., rust).

2.3. Color Code Marking: Marking in which a series of color bands represent numbers and letters to denote material composition, temper, physical condition, and/or surface condition. IAW TO 42D-1-3, paragraph 2-5, colored cellophane or plastic tapes may be used in lieu of paints only when the metal and tape will not be exposed to oils and/or sunlight.

2.4. Metal Die Code Stamping: A set of engraved metal pieces used for impressing numbers and letters denoting the composition, temper, and specification onto the metal item. TO 42D-1-3 states that this method must only be used where facilities are not available or size will not permit the application of one of the other methods.

2.5. Permanent Marking: Physical item marking such that it will not rub off or be otherwise effaced by contact incident to normal handling, exposure to the elements, shipment, and storage.

Chapter 3

ROLES AND RESPONSIBILITIES

3.1. Production Maintenance Groups (76 AMXG, 76 PMXG, and 76 CMXG) will:

3.1.1. Ensure Production, Shop Service Center (SSC), and Weapon System Support Center (WSSC) personnel inspect all metal stock for proper identification markings upon receipt. If a package is correctly identified but individual items are unmarked, receiving personnel will mark each item immediately.

3.1.2. Reject any metal stock from the SSC or WSSC lacking positive identification. Personnel must inspect all bench stock for proper identification before use. Production will mark excess material IAW TO 42D-1-3 and either return it to the SSC/WSSC or secure it in the material handling area. If material cannot be fully identified, personnel must send a sample to the 76 MXSS/MXDTA for analysis before issue, use, or storage.

3.1.3. Submit representative material samples (at least 1-inch long by 1-inch wide by 1/4-inch thick, or stock thickness for sheet metal) to 76 MXSS/MXDTA for analysis when: non-conformance is suspected; the material's special criteria on the drawing is questioned; or the drawing specifically requires metallurgical/chemical analysis. Planning organizations will use approved Maintenance Information Systems (MIS) for the most current forms and to schedule, track, and document material analysis.

3.1.4. Complete an OC-ALC Form 238, *Move Item Support*, or an Air Force Sustainment Center (AFSC) Form 137, *Routed Order (Proj Dir)*, for each sample submitted. The form must include the requesting organization's Job Order Number (JON). Personnel must individually bag samples from different metal stock pieces with their own completed forms. Multiple samples in one bag will be treated as a single analysis request. Requesting organizations will deliver samples to 76 MXSS/MXDTA, Building 3001, Post 2J-68.

3.1.5. Ensure personnel immediately replace missing identification markings on material cut from stock using one of the three methods specified in TO 42D-1-3.

3.1.6. Tag material with Department of Defense (DD) Form 1575, *Suspended Tag-Material*, when laboratory analysis confirms the material is misidentified or unsuitable for use. Personnel will return the material to the supplier for credit or replacement.

3.2. 76 MXSS/MXDTA will:

3.2.1. Perform chemical analysis of each sample of metal stock material submitted by a production division to make positive identification.

3.2.2. Prepare a written laboratory report in memorandum format with the proper identification of the metal stock material and notify the customer when report is completed. A completed copy of AFSC Form 137 will be attached. Requesting organization will pick up report and sample from the 76 MXSS/MXDTA, Building 3001, Post 2J-63. When priority testing is requested, the 76 MXSS/MXDTA will telephone requesting organization when report is ready for pickup. Reports will be mailed using base distribution upon request.

LINDSAY C. DROZ
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Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFMCI21-100V2_AFSCSUP_OC-ALCSUP, *Depot Maintenance Production,* 27 March 2026

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

TO 42D-1-3, *Method of Identifying Steel, Aluminum, and Copper Alloys in Air Force Stock,* 15 October 2012

76 MXSGOI 61-200, *Quality Instructions for Chemical Testing Functions*, 18 January 2023

Prescribed Forms

None

Adopted Forms

DD Form 1575, *Suspended Tag-Material*

DAF Form 847*, Recommendation for change of Product*

AFSC Form 137, *Routed Order (Proj Dir)*

OC-ALC Form 238, *Move Item Support*

Abbreviations and Acronyms

76 AMXG—76th Aircraft Maintenance Group

76 CMXG—76th Commodities Maintenance Group

76 MXSG—76th Maintenance Support Group

76 MXSG/CL—76th Maintenance Support Group/Civilian Leader

76 MXSS—76th Maintenance Support Squadron

76 MXSS/MXDTA—76th Maintenance Support Squadron Physical Sciences Flight, Analytical Chemistry Section

76 PMXG—76th Propulsion Maintenance Group

AFI—Air Force Instruction

AFSC—Air Force Sustainment Center

AFSCSUP—Air Force Sustainment Center Supplement

AFMCI—Air Force Materiel Command Instruction

DAF—Department of the Air Force

DD—Department of Defense

FSC—Federal Supply Class

JON—Job Order Number

IAW—In Accordance With

MIS—Maintenance Information Systems

OC-ALC—Oklahoma City Air Logistics Complex

OC-ALCI—Oklahoma City Air Logistics Complex Instruction

OC-ALCSUP—Oklahoma City Air Logistics Complex Supplement

OPR—Office of Primary Responsibility

SSC—Shop Service Center

TO—Technical Order

WSSC—Weapon System Support Center

Terms

Production Maintenance Groups—76 AMXG, 76 PMXG, and 76 CMXG