

Administrative Changes to MAXWELLA F21-101, *Test Measurement and Diagnostic Equipment (TMDE) Handling and Use*

OPR: 42 OSS/MAQ

Change references to “42 CONS/LGCM” to “42 OSS/MAQ” throughout.

Change OPR from “42 CONS/LGCM” to “42 OSS/MAQ.”

Change Certifying Official from “42 CONS/CC (Lt Col Cedric Wilson)” to “42 MSG/CC (Col Donald R. Lewis).”

Paragraph 2.1.4: Replace “Quality Assurance Evaluator (QAE)” with “Contracting Officer Representative (COR)” and “DSN 596-5397” with “DSN 574-9469.”

Paragraph 2.7: Replace “QAE” with “COR.”

Paragraph 2.11: Replace “42 OSF/PMEL” with “42 OSS/PMEL.”

Attachment 1, *Abbreviations and Acronyms*: Add “COR—Contracting Officer Representative” and delete “QAE—Quality Assurance Evaluator.”

26 January 2017

**BY ORDER OF THE COMMANDER
42D AIR BASE WING (AETC)**

MAXWELL AFB INSTRUCTION 21-101

9 DECEMBER 2004

Incorporating Change 1, 12 MAY 2011

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Maintenance



**TEST MEASUREMENT AND DIAGNOSTIC
EQUIPMENT (TMDE) HANDLING AND USE**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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OPR: 42 CONS/LGCM

Certified by: 42 CONS/CC
(Lt Col Cedric Wilson)

Pages: 5

This instruction implements AFI 21-101/AETC Supplement 1, Aerospace Equipment Maintenance Management. It prescribes Test Measurement and Diagnostic Equipment (TMDE) handling, mission essential/emergency calibration, processing, customer procedures, and Time Compliance Technical Order (TCTO) procedures. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 37-123, Management of Records, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) (available at <https://webrims.amc.af.mil>). This instruction applies to all Precision Measurement Equipment Laboratory (PMEL) customers.

SUMMARY OF CHANGES

This interim change: updates the OPR and Certifying Authority, hours of operation, publication titles, and office symbols; removes references no longer applicable to the program; adds commercial contact numbers; and updates guidance for TMDE Coordinators.

1. Terms Explained. TMDE are devices used to maintain, evaluate, measure, calibrate, test, inspect, diagnose, or otherwise examine materials, supplies, equipment, and systems to identify or isolate actual potential malfunction, or decide if they meet operational specifications established in technical documents.

1.1. There are three types of TMDE that may or may not require calibration by the Precision Measurement Equipment Laboratory (PMEL):

1.1.1. Mission Equipment. Part of operational ground or airborne systems.

1.1.2. Support Equipment (SE). A broad category of equipment and tools used to verify and maintain mission equipment. Support equipment can include equipment used to verify the operation of other support equipment.

1.1.3. Non-TMDE. SE not meeting the TMDE definition. This equipment does not require calibration and is the responsibility of the user.

2. Responsibilities. Commanders and supervisors of all activities owning and using TMDE requiring calibration are responsible to ensure TMDE is not used unless it has been calibrated.

2.1. The 42 ABW PMEL will coordinate identification of a user's TMDE requirements. The PMEL is located at Gunter Annex (Bldg 1513), 725 McDonald Street, 36114-3011. Hours of operation are from 0700 to 1600, Monday through Friday, normal government holidays excluded. Hours for pick-up and drop off of TMDE are 0700-1100. Pick-up and drop off of test equipment may be done later if coordinated with the scheduler in advance. Points of contact are:

2.1.1. Scheduling: DSN 596-3999, Comm. 334-416-3999

2.1.2. PMEL Manager: DSN 596-3998, Comm. 334-416-3998

2.1.3. PMEL Quality Assurance (PQA): DSN 596-3999, Comm. 334-416-3999

2.1.4. Quality Assurance Evaluator (QAE) (Government): DSN 596-5397

2.2. Scheduling is the focal point on all matters pertaining to the support of TMDE. Scheduling will research TMDE to determine if it is Mission Equipment, SE or non-TMDE.

2.3. Each owner (user) of TMDE needs to bring the item to the PMEL Scheduler for calibration determination. (Calling ahead to set an appointment is the preferable method). The following information should be provided to the Scheduler to assist in this determination:

2.3.1. Part number of TMDE item in question.

2.3.2. Federal Stock Number (FSN) of item, if known.

2.3.3. Serial number on item. If no serial number can be located, Scheduling will assign one.

2.3.4. Information concerning any accessories that are required to operate the item

2.3.5. Information on whether the item is part of an airborne system or an operational ground support system (i.e. F-16, F-15, PATEC, etc).

2.4. Transportation of TMDE to/from the PMEL is the **owner's** responsibility. For TMDE that cannot be transported to the PMEL, call Scheduling to coordinate inspection of the item. The following procedures for transporting TMDE, although not all inclusive, should be followed.

2.4.1. TMDE should be handled as "delicate instruments."

2.4.2. External cords, cables, accessories, and special connectors shall be secured to the case before movement.

2.4.3. All unmated connectors shall be kept covered with moisture-proof caps. Unmated connectors on TMDE that contain circuitry susceptible to ESD damage shall be covered

with conductive caps (TO 00-25-234, *General Shop Practice Requirements for the Repair, Maint and Test of Electrical Equipment (ATOS)*, paragraph 7.5d(12)(d)).

2.4.4. Metal-to-metal contact between TMDE items shall be avoided unless the total instrument is contained in a protective case.

2.4.5. Use a regularly assigned and specifically configured vehicle to prevent excessive shock, vibration and exposure to the elements when transporting TMDE.

2.4.6. When in doubt, call the PMEL Scheduler concerning specific transportation requirement for your TMDE.

2.5. Items identified TMDE will have the following actions taken by Scheduling:

2.5.1. Assign a PMEL Automated Management (PAMS) ID number.

2.5.2. Affix an ID label (AFTO Form 66, **TMDE**) to item.

2.5.3. Assign an Owner Work Center(OWC) code.

2.5.4. Schedule item in PAMS for calibration.

2.6. Requests for emergency or priority calibration must be in writing (may be hand written to prevent delay) and are submitted to the PMEL Manager. Requests will not be honored unless they meet the following:

2.6.1. Emergency calibration may only be requested for TMDE where loss of life, work stoppage, or mission failure **WILL** result.

2.6.2. Priority calibration may only be requested if TMDE being unavailable **MIGHT** result in work stoppage or mission failure.

2.7. Emergency calibration requests, after normal duty hours, need to be routed through the Command Post at Ext 953-7333. Command Post will notify QAE of request, whom in turn will verify request, ensure contracting office will approve of overtime work and then notify the PMEL Manager.

2.8. PMEL Manager will coordinate delivery of emergency TMDE with customer and ensure all emergency calibrations are worked around the clock until complete. Customers requesting emergency calibration must provide PMEL Manager with 24-hour point of contact for notification/coordination actions.

2.9. Priority calibration TMDE will be placed in work within 2 hours of arrival at the PMEL. Priority calibration TMDE will only be worked during normal duty hours of the PMEL.

2.10. TMDE requiring Time Compliance Technical Order (TCTO) modifications must be identified to the Scheduler before delivery to the PMEL. Early identification of TCTO to scheduling will enable timely coordination with respective supply organizations to ensure materials are on hand to meet compliance. TCTO's will be performed only by qualified PMEL technicians. It is the customer's responsibility to return any TCTO directed materials to their respective supply organization.

2.11. Each owner of TMDE will assign a TMDE Coordinator and Alternate TMDE Coordinator by appointment letter (IAW TO 00-20-14, *AF Metrology and Calibration Program*, paragraph 3.6). A copy of the appointment letter must be sent to the Gunter PMEL

at 42 OSF/PMEL, Maxwell AFB, Gunter Annex, 725 McDonald Street (Bldg 1513), 36114-3011. As a minimum, the appointment letter must include the following (A sample appointment letter is in the TMDE Coordinator Training Guide.):

- 2.11.1. Name/Rank of primary and alternate coordinator.
 - 2.11.2. Unit of assignment.
 - 2.11.3. Office Symbol.
 - 2.11.4. Duty phone number
 - 2.11.5. OWC code.
 - 2.11.6. Shop name (i.e. Ground Radio, Egress, etc.).
 - 2.11.7. Title and signature of Commander/Superintendent.
 - 2.11.8. E-mail addresses of primary/alternate coordinator.
 - 2.11.9. Building number and physical location of TMDE.
- 2.12. Primary and Alternate TMDE Coordinator must request/attend training provided by the PMEL (IAW TO 00-20-14, paragraph 3.6). Once training is completed the coordinator must maintain a file that includes:
- 2.12.1. A current copy of the coordinator appointment letter.
 - 2.12.2. A current copy of their PMEL Master ID listing.
 - 2.12.3. A current copy of their PMEL Due Calibration Schedule.
 - 2.12.4. Test equipment hand receipts from PMEL.
 - 2.12.5. A copy of the AF IMT 2426, **Training Request and Completion**, from PMEL.
 - 2.12.6. A copy of this Wing Instruction.
 - 2.12.7. Any current customer handouts provided by this PMEL.
 - 2.12.8. Special Certification Roster (SCR) listing identifying persons designated as calibration limitation approval authority (IAW TO 00-20-14, paragraph 3.6a).
 - 2.12.9. IMTs Adopted: AF IMT 2426, **Training Request and Completion**; AFTO Form 66, **TMDE**.

JOHN A. NEUBAUER, Colonel, USAF
Commander, 42d Air Base Wing

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

ANSI/NCSL A540-1-1994

ISO 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*

AFI 21-101, *Aerospace Equipment Maintenance Management*

AFI 21-101/AETC Supplement 1, *Aerospace Equipment Maintenance Management*

TO 00-25-234, *General Shop Practice Requirements for the Repair, Maint and Test of Electrical Equip (ATOS)*

TO 00-20-14, *AF Metrology and Calibration Program*

Abbreviations and Acronyms

FSN—Federal Stock Number

ID—Identification

OWC—Owner Work Center

PAMS—PMEL Automated Management System

PMEL—Precision Measurement Equipment Laboratory

PQA—PMEL Quality Assurance

QAE—Quality Assurance Evaluator

SCR—Special Certification Roster

SE—Support Equipment

TCTO—Time Compliance Technical Order

TMDE—Test Measurement and Diagnostic Equipment