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Maintenance of Supplies and Equipment
TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE)

***This pamphlet is the first edition.**

FOR THE COMMANDER:

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Summary. This document provide instructions and guidelines to unit Test, Measurement, and Diagnostic Equipment (TMDE) Support Coordinators regarding their roles and responsibilities, property book familiarization, TMDE accountability, enrollment requirements, and reporting procedures for implementing a solid TMDE management program.

Summary of Changes. Not applicable.

Applicability. This pamphlet applies to all Eighth Army units for the life-cycle management of Army TMDE.

Supplementation. Supplementation of this pamphlet and establishment of command and local forms are prohibited without prior approval from the Commander, Eighth Army, G4 Support Operation Division (EAGD-SO-MPP)), Unit #15236, APO AP 96205-5236.

Forms. AK forms are available at http://8tharmy.korea.army.mil/g1_ag/.

Records Management. Records created as result of processes proscribed by this pamphlet must be identified, maintained, and disposed of according to AR 25-400-2. Record titles and descriptions are available on the Army Record Information Management System website

Suggested Improvements. Users of this pamphlet are invited to send comments and suggestions for improvement on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Eighth Army, G4 Support Operation Division (EAGD-SO-MPP)), Unit #15236, APO AP 96205-5236.

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Chapter 1

Introduction

1-1. Purpose

This pamphlet is meant to serve as a guide for U.S. Army in Korea units to implement a solid Test, Measurement, and Diagnostic Equipment (TMDE) management program. Specifically, this pamphlet will provide instructions and guidelines to unit TMDE Support Coordinators regarding their roles and responsibilities, property book familiarization, TMDE accountability, enrollment requirements, and reporting procedures.

1-2. References

The following is a list of references.

- a. AR 750-43, Army Test, Measurement, and Diagnostic Equipment
- b. TB 750-25, Maintenance of Supplies and Equipment: Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Repair Support (C&RS) Program
- c. TB 43-180, Calibration and Repair Requirements for the Maintenance of Army Materiel
- d. DA Pam 750-8, The Army Maintenance Management System (TAMMS) Users Manual

1-3. Explanation of Abbreviations

Abbreviations used in this regulation are explained in the glossary.

Chapter 2

Responsibilities and Procedures for TMDE

2-1. Army wide use of TMDE and the role of calibration

a. TMDE is essential to Army maintenance because of its distinctive ability to test, adjust, synchronize, repair, and verify accuracy, safety, readiness, and information assurance of weapon platforms and equipment using highly precise measurements across the physical/dimensional, radiological, electrical, electronic, and electro-optical spectrums. Because of this, TMDE is recognized as a unique commodity of equipment that requires centralized acquisition and support considerations.

b. Calibrated TMDE used in Army maintenance replicates the precision, performance, and safety that are built into equipment during the manufacturing process. The capability of Army weapon platform mechanical systems, radios and communication devices, radar systems, targeting devices and fire control systems, missiles, and aviation platforms to operate accurately and effectively depends on the synchronization of these precise measurements against known standards.

c. The Army uses calibration equipment and sets as the transfer mechanism to reflect national and international standards in our TMDE and ultimately weapon platforms, and to ensure standards are consistently maintained.

d. The Army chain of custody for these standards begins at the National Institute of Standards and Technology (NIST) and the Army Primary Standards Laboratory (APSL) at U. S. Army TMDE Activity (USATA). Because of this critical requirement, materiel acquisition will not be

accomplished without carefully reviewing existing capability and coordinating with the U.S. Army Training and Doctrine Command (TRADOC), USATA, and the product manager TMDE for calibration and repair support requirements early in the acquisition life cycle.

2-2. Customer Technical and Logistics Assistance

a. All units and activities with TMDE problems of any type are encouraged to raise these issues with the local TMDE Support Activity (TSA). The supporting TSA is responsible for providing calibration and repair support (C&RS).

b. TSAs at all levels must work closely with AMC Logistic Assistance Officers (LAOs) or local TMDE coordinators and/or owners and users of TMDE to coordinate the resolution of TMDE problems and issues. Every effort will be made to satisfy the customer's request for assistance at the local level. If issues cannot be resolvable locally, the supporting TSA will address the request for assistance to their parent TSA.

2-3. Levels of Calibration

There are four levels of TMDE calibrations: "P" – Primary, "S" – Secondary, "T" – Transfer, "F" – Owner/User. TB 43-180 will indicate the level at which each item is calibrated/repared. All items will go through the supporting TSA regardless of level indicated.

a. P – The letter "P" indicates support responsibility is assigned to the APSL (*Army Primary Standards Laboratory*) or by the closest support activity that has the appropriate "P" level support capability.

b. S – The letter "S" identifies those items of TMDE which are to be supported by the ACL (*Army Calibrations Laboratory*) or by the closest support activity that has the appropriate "S" level support capability.

c. T – The letter "T" identifies those items of TMDE which are to be supported by the ATST (*Army TMDE Support Team*) or TMDE Support Center (TSC).

d. F – The letter of "F" identifies those TMDE-SP items which are to be supported by the item owner or Field/Sustainment units. It is also an entry to reflect items

2-4. Traceability, Organizations, and General Information

a. Traceability of Measurements: The DA TMDE C&RS program ensures that measurements are traceable to the national standards held by the NIST, the U. S. Naval Observatory (for time and frequency measurement standards), and consensus standards. Measurements are traceable using standards whose values have known relationships to the national standards. These known relationships can be achieved by an unbroken chain of comparison with higher level standards, the use of physical constants and construction, derivation from other basic standards, ratio measurements, or combinations of the above. Traceability of measurement accuracy may be provided by secondary transfer, secondary reference, or primary standards, or even directly to NIST depending on the accuracy requirements of the owner/user. The U. S. Army Primary Standards Laboratory (USAPSL) and TMDE support activities (TSAs) have been established worldwide to provide C&RS for U. S. Army TMDE and in doing so ensures traceability of measurements.

b. TMDE Organizations

(1) Department of the Army Level

(a) U.S. Army TMDE Activity (USATA) has the primary organizational responsibility of regulating the TMDE calibration and repair mission for the Army, other Department of Defense (DOD) claimants, and thousands of reimbursable customers. USATA provides measurement traceability to the international system of units. USATA's TMDE calibration support mission is the keystone of the Army diagnostic and maintenance program. They ensure TMDE reliability by ensuring accurate interval setting. They perform this mission with a team of over 600 professionals stationed on three continents, ten countries and 56 different support activities around the globe. Their metrology and calibration support mission in the Army is vital to the defense of our nation. They are essential in helping to ensure that Army weapons systems are maintained mission-ready and capable. After all, the safety of Army personnel and systems throughout the world depends on accurate and reliable measurements.

(b) The U. S. Army Primary Standards Laboratory (USAPSL), located at Redstone Arsenal, AL, provides the highest level of measurement support in the Army. TMDE requiring this level of support is identified as primary "P" level in TB 43-180. This level of support is generally limited to selected calibration standards at lower level calibration facilities but may also include customer TMDE that is beyond the support capability of lower level TSAs. The USAPSL receives calibration service from the NIST for selected U.S. Army primary reference standards. Utilizing a nucleus of the NIST calibration standards, fundamental physical constants, NIST measurement assurance program and measurement error analysis, the USAPSL maintains its measurement capability and provides verification of the validity of its calibrations. The USAPSL provides C&RS for selected calibration standards in area calibration laboratories (ACL) and for TMDE which requires the USAPSL level of support. All standards requiring NIST support is coordinated with the Commander, U. S. Army Aviation and Missile Command, ATTN: AMSAM-TMD, Redstone Arsenal, AL 35898-5400.

(2) Korea

(a) TMDE Region Pacific provides Test, Measurement, and Diagnostic Equipment calibration and repair support in the Pacific theater. Their mission is to provide the Army with test, measurement and diagnostic equipment calibration and repair support; and to ensure that the measurements made with calibrated TMDE are traceable to national standards of measurements. TMDE Region Pacific is headquartered in South Korea at Camp Carroll with subordinate units located in Seoul, South Korea and Camp Zama, Japan. TMDE Region Pacific consists of a secondary reference laboratory, three transfer level laboratories, a nuclear counting and radiac calibration laboratory, and a Small Arms and Ammunition Gauge (SAAG) lab. They are conveniently located near all their Army customers throughout their mission support area. They provide a courier service to pick up and drop off equipment to selected customers. TMDE Region Pacific provides secondary reference support and contingency support to four deployable military calibration teams as well as all U.S. Army customers in Korea and Japan.

(b) There are currently four TMDE ATSTs located on the Korean peninsula. Two are assigned to the 61st Maintenance Company, 194th CSSB, 501st SBDE on Camp Casey supporting Area I and two ATSTs are assigned to the 520th Maintenance Company, 194th CSSB, 501st SBDE on Camp Humphrey's supporting Area III. Each team consists of approximately seven soldiers for a combined total of fourteen soldiers supporting Area I and fourteen soldiers supporting Area III.

(c) Areas II is supported by a civilian TSC (TMDE Support Center) located on Camp Coiner. Area IV is supported by a TSC located on Camp Carroll. Both of these civilian teams fall under USATA and are directly controlled by TMDE Region Pacific.

c. General Information

(1) Calibration Forms, Labels and Tags. The following is list of applicable DA Forms and reports used to track and manage the calibration program.

(a) DA Label 80 – Required to be on all TMDE items (unless a DA Label 163 is used) IAW TB 750-25. If the DA Label 80 is removed or falls off then the calibration is VOID and the item must be returned to the TSA for verification

(b) DA Label 163 – Identifies a Special or Limited calibration in which there are special considerations and/or limitations that must be adhered to by the owner/user.

(c) DA Form 1687 – A signature card signed by the unit commander designating the actions that unit personnel are authorized to take when dealing with the TSA. This must accompanied by current assumption of command orders and must be updated annually or as unit commander changes.

(d) DA Form 7372 – Used as the official document for recording TMDE C&RS actions and signatures. This form is comparable to the DA Form 2407, but is not replaced by.

Note: *If TMDE is calibrated together "as a pair/set/kit" subsequently all TMDE shall have a calibration label attached indicating companion Serial Numbers and/or Report of Calibration identifier at time of calibration as shown in block 4 of affixed calibration label. If TMDE is fixed together and cannot be disconnected without invalidating the calibration then only one (1) calibration label is required to reflect calibration status of that pair/set/kit and the like of TMDE.*

(2) Instrument Master Record File (IMRF). The data file that contains identifying information about instruments that require cyclic calibration and/or repair. It is the TMDE Support Coordinator's responsibility to ensure the accuracy of their units IMRF. *NOTE: This is also referred to as the unit master listing.*

(3) Administrative Storage

(a) Administrative Storage is the placement of instruments in a limited care & preservation status for periods of time.

- Only 25% of TMDE can be placed in administrative storage. (AR 750-1, Par e)
- A 6 month review is required (AR 750-1, Par d (3))
- All items must be fully operational before being placed in administrative storage.
- The storage must be maintained at a location separate from the working area.

(b) Instruments that are placed in administrative storage do not require periodic calibration IAW calibration intervals specified in TB 43-180. Such instruments are removed from the recall schedule but retained in the instrument master record file (IMRF) and identified as "Calibrate Before Use" (CBU). There is a requirement to conduct a review of the circumstances that require use of administrative storage IAW AR 750-1, Par 8-11. This is normally a function of the property book officer (PBO). In the case of TMDE, the TMDE Support Coordinator will also review the need for administrative storage. Administrative storage condition requirements can be found in the applicable technical manual (TM) or manufacturer's manual.

(c) When instruments are placed in administrative storage, controls must be established to assure that all calibration records and labels properly reflect the change in status. An instrument identified as CNR, with a properly affixed and annotated DA Label 80 overprinted CNR, does not require any further identification or action other than an operational check before it is placed in administrative storage. Attention must be given to those items requiring calibration. If these items are to be placed in an administrative storage status, the DA Label 80 must be overprinted CBU and the IMRF updated accordingly.

(4) C&RS Listing. Each organization that provides TMDE C&RS is required to supply the owner/user with information about C&RS provided. The information to be supplied must be available from the data on DA Form 7372. As a minimum, the supporting organization will provide the owner/user with a list of instruments requiring calibration, and delinquent instruments that were scheduled for calibration but not presented.

(5) Limited/Special use TMDE. When TMDE is used exclusively in applications which do not require the full range of the instrument's specifications, the owner/user shall request calibration of only those parameters, ranges, and/or accuracies required. The final decision rests with the owner/user. This option is particularly suitable to TMDE for which only limited functions or ranges are used, and which does not involve adjustment, alignment, acceptance or rejection of materiel/equipment; i.e., circuit continuity checks, presence of voltage, wave forms, etc. In such cases, the DA Label 163 will be used to identify the limited use. Authority to exercise this option will be limited to supervisory levels. When this option is elected, the item must meet the 10/20 Army maintenance standard and a written request is furnished to the supporting activity by the owner/user and will remain on file until rescinded in writing IAW AR 750-1.

(a) Special Use Calibration is used when a piece of TMDE is calibrated in a way that is contrary to the normal calibration standard. An example would be a torque wrench, which is normally calibrated for CLOCKWISE use, being calibrated for COUNTER-CLOCKWISE use in order to fulfill a specific mission. It is important for the owner/user to understand and adhere to the special calibration.

(b) Limited Use Calibration applies to TMDE items that are serviceable in all aspects except for what is denoted on the DA Label 163. When an item is labeled for "Limited Use", the TMDE Support Coordinator is required to sign Block 8 on the DA Label 163. It is recommended that the coordinator should then require the owner/user to sign, and maintain, a log declaring that they understand the limits of the equipment.

(6) Condition Coding

(a) Occasions will arise where you will have to turn-in TMDE to the appropriate source for disposition and further have it removed from the master list. Prior to this, you will have to have the equipment "Condition Coded". These items are categorized as follows:

- Excess equipment
- Obsolete equipment
- Damaged equipment

(b) Once the TMDE has been turned-in or laterally transferred the turn-in document can be submitted to have the item(s) removed from the master list.

(7) Void Over-stamping: If deemed necessary, the calibration coordinator can void a TMDE item to avoid misuse of expired equipment.

(8) Calibrate Before Use (CBU)

(a) All items with a CBU overprint stamp are required to be stored separately from other TMDE to prevent accidental use.

(b) When TMDE is held in storage, it will require a CBU overprint stamp.

(c) The item must not be used until recalibrated and a valid DA Label 80 is affixed.

(d) The calibration coordinator will:

- Sign Block 4.
 - Enter calendar date in Block 1.
 - Enter Serial Number in Block 5.
- *NOTE: Remove any previous calibration labels.*

(9) Calibration Not Required (CNR)

(a) CNR over printing is required for instruments that do not require calibration because of its use, but is still supported by the TSA. Refer to TB 43-180 for items designated as CNR.

(b) The CNR overprinted label can be obtained from the supporting TSA. The calibration coordinator will:

- Sign Block 4.
 - Enter Calendar date in Block 1.
 - Enter Serial Number in Block 5.
- *NOTE: Remove any previous calibration labels.*

(c) Identifying an instrument as CNR does not relieve the owner or user of its organizational responsibility or from obtaining repair support when the TMDE is unserviceable. CNR items will still require preventive maintenance when scheduled.

2-5. TMDE Support Coordinator Requirements

a. TMDE Support Coordinators will be appointed in writing at the Division, Brigade, Battalion, and company levels. Each level has to appoint two coordinators; one primary and one alternate.

b. Appointment orders will state that the soldier is being appointed as the "TMDE Support Coordinator" and include the soldier's DEROS date.

c. TMDE Support Coordinators are required to receive TMDE Support Coordinator training at their local TMDE Support Activity (TSA) and maintain a copy of their training certificate of completion as well as their appointment orders.

d. New coordinators will be appointed NLT 30 days prior to the departure of the outgoing coordinator. The appointment orders for the new coordinator will be forwarded to the next higher level coordinator.

2-6. Supervisory Roles and Responsibilities

a. Mission

(1) The TMDE Support Coordinator is the point of contact and key person for all matters pertaining to TMDE support for their unit. Each coordinator will be assigned responsibility for and delegated authority to monitor the unit's TMDE program.

(2) The organizational structure of certain activities/units may require different or specific requirements. Each unit will develop a directive concerning their TMDE program and will be organized as required to accomplish its specific mission.

(3) The program objective of TMDE owner/user's delinquency rate (failure to submit for required support) is two percent or below. Units that fail to obtain the required performance objective for two consecutive months, will be required to reply by endorsement with the reason why and corrective action taken to prevent further occurrences.

b. Major Subordinate Command (MSC) G-4/S-4 will:

(1) Ensure that TMDE Support Coordinators are appointed in writing for all levels to include Division, Brigade, Battalion, and Company.

(2) Ensure that all coordinators attend the TMDE Support Coordinator's Course at their supporting TSA/TMDE lab IAW TB 750-25.

(3) Receive and monitor progress reports from subordinate TMDE managers on TMDE statistics on a monthly basis. The following is a recommended list of metrics to track: number of items enrolled, number of items added, number of items removed, and number of delinquent.

(4) Report aggregated TMDE statistics during the MSC Materiel Management Readiness Review (MMRR).

(5) Ensure subordinate coordinators comply with training requirements IAW TB 750-25.

(6) Ensure compliance with applicable TM's and SOP's.

(7) Maintain appointment orders and training certificates for all subordinate TMDE support coordinators.

(8) Monitor new equipment fieldings for items requiring calibration; add to unit IMRF as necessary.

(9) Develop a system to track all subordinate TMDE support coordinators to ensure that all required training is received and that the coordinators are assigned and on appointment orders.

(10) Establish/maintain an SOP for the management and control of TMDE assets IAW AR 750-43 and AK PAM 750-25.

(11) Conduct regular inspections/evaluations of subordinate unit's TMDE programs using the checklist in Appendix F.

(12) Track the delinquency rate of subordinate units to ensure that it is maintained at two percent or below.

(13) Collect all subordinate replies by endorsement, investigate delinquencies and provide support to subordinate units as required.

c. Brigade/Battalion TMDE Manager will:

(1) Track and monitor subordinate level TMDE reports and send statistics to higher.

(2) Provide assistance to subordinate level coordinators/managers.

(3) Ensure subordinate coordinators comply with training requirements IAW TB 750-25.

(4) Monitor and provide oversight to ensure that subordinate managers are properly tracking incoming and outgoing equipment in order to verify that items are being properly added or removed from the IMRF as necessary.

(5) Ensure compliance with applicable TM's and SOP's.

(6) Monitor new equipment fieldings for potential calibrated items; add to unit IMRF as necessary.

(7) Establish an SOP for the management and control of TMDE assets IAW AR 750-43 and AK PAM 750-43.

(8) Maintain appointment orders and training certificates for all subordinate units TMDE support coordinators.

(9) Track the delinquency rate of subordinate units to ensure that it is maintained at two percent or below.

(10) Investigate delinquencies and provide support to subordinate units as required.

(11) Forward all replies by endorsement to the next higher level of command.

d. Commander's, 1SGs, and Supervisors will:

(1) Ensure that the TMDE support coordinator is appointed in writing and receives all necessary training at the local TSA.

(2) Ensure that unit TMDE support coordinator changeover allows duty overlap to minimize duty disruption.

(3) Forward a copy of the appointment orders and training certificates to the TMDE coordinator at the next higher level of command.

(4) Forward, to the supporting TSA, a copy of the appointment orders for the TMDE support coordinator, DA Form 1687 (signature card), and the commander's appointment orders.

(5) Establish an SOP for the management and control of TMDE assets IAW AR 750-43 and AK PAM 750-43.

(6) Set, and enforce, deadlines for the accomplishment of the 100 percent periodic TMDE inventory IAW TB 750-25.

(7) Ensure that if the unit's delinquency rate is above two percent for two consecutive months, a reply by endorsement is forwarded to higher containing the reason why and corrective action taken to prevent further occurrences.

2-7. TMDE Support Coordinator Roles and Responsibilities

a. Initial Guidance for TMDE support coordinators: The TMDE support coordinator is the liaison between the TSA and the owning units. The TMDE support coordinator will attend a calibration coordinator course at first available date. In order to be a successful a coordinator will adhere to the following:

(1) Build a TMDE binder (paper or electronic). The binder should include:

(a) DA Form 1687 giving the coordinator authority to turn-in and pick-up TMDE equipment. This should also be on file with the TSA.

(b) Assumption of Command orders for signature authority of 1687 (Commander/Det. Commander). This should also be on file with the TSA.

(c) Calibration coordinator certificate.

(d) Additional duty appointment orders appointing coordinator(s) as primary and secondary calibration coordinator. This will also be on file with the TSA.

(e) Master list no more than 90 days old.

(f) 30 Day projected list.

(g) TMDE External SOP.

(h) Up to date regulatory guidance (AR 750-43, TB 750-25, TB 43-180).

(i) Any memorandums making changes to IMRF.

(2) View portals or resource web pages periodically (ask local TSA for website address). When websites are not available contact TSA every week to ensure no changes have been made to the status of owning unit's equipment.

(3) Appointments for turn-in should be scheduled 10 days in advance of equipment due date.

(4) Pick-up equipment within 10 days of calibration completion notification.

(5) Request status of equipment in writing for item(s) that are over 30 days calibration or repair and again at 60 days, 90 days, etc.

(6) Conduct periodic TMDE layouts to ensure unit equipment is on master list.

(7) Perform 100% IMRF scrub once a quarter. TMDE will print and provide a master List that is to be scrubbed for accuracy. If changes are needed they will be annotated on the master List and then signed by the Commander.

b. The organizational structure of different activities may require the TMDE calibration coordinator to perform other duties, but there are certain specific requirements for this duty which are listed below. This list is not necessarily all inclusive.

(1) Serves as the unit's central point of contact for matters concerning TMDE calibration and repair support.

(2) Develops/implements SOP(s) for identification and control of TMDE requiring calibration and repair support.

(3) Assures compliance with AR 750-43, DA PAM 738-750, TB 43-180, command regulations, local SOP(s), and the supporting TSA's external SOP(s).

(4) Reviews the IMRF to ensure that all authorized TMDE is contained therein and that the listed information is correct.

(5) Monitors projected item list to make certain that TMDE is submitted for calibration service IAW the published schedule. When necessary, arranges for unscheduled calibration support.

(6) Monitors delinquent items list. Initiates action to obtain calibration service for the delinquent items.

(7) Assures that all organizational maintenance has been performed on TMDE submitted for support, and that all required accessories and manuals are provided with the TMDE.

(8) Ensures that TMDE not listed in TB 43-180 is reported IAW appendix B.

(9) Maintains a record of all items in administrative storage by nomenclature, model, and serial number. Ensures that the equipment is operational and the affixed DA Label 80 has been over stamped CBU IAW appendix C. Notifies the supporting TSA, in writing, what TMDE has been placed in administrative storage so that these items may be removed from the cyclic calibration schedule. Ensures that a designated administrative storage area is established for locating CBU items. Constant monitoring of the TMDE inventory is required to achieve maximum effectiveness. Items that are seldom used should be placed in storage. Items never used should be turned in to supply and deleted from the owner's property book.

c. The following checklist is applicable to TMDE users and TMDE support coordinators for compliance with regulatory requirements of the TMDE support program:

(1) Is a physical inventory conducted to verify the types and quantities of TMDE on-hand that require calibration and/or repair?

- (2) Have the property books and hand receipts been reviewed to determine calibration/repair requirements for the TMDE therein?
- (3) Is TB 43-180 used as a guide to establish calibration requirements and intervals?
- (4) Are all TMDE changes, additions, and deletions identified to the supporting TSA as they occur?
- (5) Does the TMDE owner/user present his TMDE for calibration in accordance with the schedule provided by the support TSA?
- (6) Are projected items lists provided by the supporting facility? Are they reviewed for accuracy?
- (7) Are delinquent items lists (TMDE not presented for scheduled calibration) reviewed and corrective action taken?
- (8) When there is doubt about the accuracy of TMDE, is action taken to request unscheduled calibration?
- (9) Does the instrument user perform required organizational maintenance on instruments designated as CNR?
- (10) Has an operator/organizational maintenance program for TMDE been established?
- (11) Is operator/organizational maintenance performed as prescribed by equipment maintenance manuals?
- (12) Does TMDE in use have a current DA Label 80 or DA Label 163 affixed and properly annotated?
- (13) When a calibration test report (a report that is produced by the TMDE test equipment verifying the accuracy of the calibrated item) is required for an item, is the calibration report number entered instead of the technician's name?
- (14) Are DA Labels only used by facilities with an authorized calibration mission?
- (15) When DA Labels cannot be affixed to an instrument or its container, are card or book files maintained with the labels affixed to a card or page?
- (16) Is TMDE that was provided a limited calibration identified with a DA Label 163?
- (17) Are the DA Labels 163 signed by the supervisor who approved the limited use?
- (18) For instruments that do not require calibration, are DA Label 80s overprinted CNR, annotated properly, and affixed to the instruments?
- (19) Are controls implemented for the control and use of CNR overprinted labels?
- (20) Is storage adequately justified based on foreseeable applications of the TMDE placed in storage?

(21) Are storage conditions (environmental, accessibility, etc.) adequate for instruments in this status?

(22) Are instruments designated for storage removed from the work area?

(23) Is the storage area segregated from the work area?

(24) Are items being placed in CBU status in an operational condition, and the supporting TSA notified of the status change?

(25) Are instruments held in storage with DA Label 80 overprinted CBU identified as such in the IMRF?

(26) Are instruments held in storage removed from the cyclic calibration projected items list?

(27) When TMDE is removed from storage (CBU), is it submitted for calibration prior to being used?

(28) When instruments are turned in as excess, are controls established by the unit's equipment manager for proper coding of TMDE?

d. TMDE Support Activity (TSA): TMDE Support Coordinator Training

(1) The successful implementation of the TMDE support program depends, to a large extent, upon unit/installation TMDE support coordinators. Thus, it is imperative that appropriate and adequate training is made available to TMDE support coordinators Korea wide.

(2) TSAs are required to provide the appropriate TMDE Support Coordinator training to their supported units. TSAs will ensure training packages and assistance are provided to all TMDE support coordinators. Training will, at a minimum, cover the topics listed in Appendix G.

2-8. Periodic Inventory Guidance

a. Periodic 100% TMDE inventories will be conducted IAW TB 750-25.

(1) Inventories will be conducted by the section OIC/NCOIC because of their familiarity with the equipment they own, but the TMDE Support Coordinator will provide oversight and guidance as needed.

(2) Coordinate with the chain of command to ensure the inventory has their full support.

(3) Schedule the inventory well in advance to ensure that all sections have ample time to prepare.

(4) Ensure that all sections have copies of the current master listing and TB 43-180.

(5) Sections will conduct a detailed inventory of all items within their area of responsibility for anything that Tests, Measures, or Diagnoses. Potential TMDE will be looked up in TB 43-180 to verify the need for calibration.

(6) Once an item is identified as requiring calibration, it will then be compared to the master list to see if it is currently being tracked by the TSA.

(7) TMDE not on the master list will be added.

(8) TMDE on the master list, but not found during the inventory will be a candidate for removal from the master list.

b. Sections will provide the following to their TMDE Support Coordinator.

(1) A list of items that need to be added to the master list.

(2) A list of items that need to be removed from the master list.

(3) Any potential TMDE found that that is not listed in TB 43-180.

c. TMDE that requires code-out will be submitted to the TSA, after which the Coordinator will turn the TMDE, along with the code-out paperwork provided by the TSA, into the supply system.

d. Take the consolidate inventory results to the supporting TSA to ensure that the IMRF is adjusted to reflect the results of the inventory. Also ensure that the "Work Center" field on the master List is filled in so an item of TMDE can be easily traced back to the owning section.

2-9. Documentation for TMDE Support Coordinators

a. TMDE Support Coordinators are required to maintain the following documentation:

(1) Current signature cards (DA 1687 signed within the last calendar year), assumption of command orders for the "current" company/detachment commander, and additional duty appointment orders appointing the individual as the "TMDE Support Coordinator". These documents will also be kept on file at supporting TSA.

(2) File copies of all TMDE documentation, i.e. Memorandum for Deletion, Memorandum for Addition, or any other documentation that produces a change in the unit master List (IMRF).

(3) Unit TMDE SOP

(4) TSA External SOP

(5) AR 750-43

(6) TB 750-25

(7) DA Pam 750-8

b. Status reports may be obtained from the supporting TSA as required. These reports will indicate the latest status of owner/user TMDE in support channels. All instrument owners will be provided the following data at least monthly or when requested:

(1) Projected items list indicates what items are due calibration during the following month. The list is used by the TMDE owner to plan and manage the submission of TMDE for calibration. The supporting TSA uses the list to plan and manage the calibration workload. There must be

coordination between the owning unit and the TSA as to the exact date, time, and number of items for submission. The projected items list is distributed monthly, except for mobile TSAs which provide the list on an as needed basis.

(2) Delinquent items list indicate those items of TMDE that were not submitted for calibration within the scheduled timeframe. They require calibration and will not be used. This list is a management tool used to determine the owner/user's compliance with the TMDE support program. The delinquent items list is distributed monthly.

(3) The IMRF (master listing) contains a list of every piece of TMDE enrolled into the C&RS program owned by a given UIC. It shows the calibration interval, calibration due date, as well as other administrative data. The IMRF will be updated and maintained by the supporting TSA. However, the accuracy of these files rests with the TMDE owner/user, which must initially provide accurate information and thereafter review master lists and projected items lists for accuracy, and initiate corrective action when necessary. The TMDE owner/user must advise the supporting TSA as changes, additions, or deletions in the IMRF inventory occur. The IMRF must contain all TMDE. The IMRF is normally distributed quarterly. (can be sorted by: due date, last action date, serial number, model number, NSN, ID code, and work center)

NOTE: *TMDE monitor/coordinators shall maintain twelve (12) month of reports/files listed in paragraph 2(a-c) above to assist in determining the accuracy of information provided to the supporting TSA/Field/Sustainment unit.*

c. There are additional reports available to the TMDE support coordinator upon request to the TSA. (All reports are in PDF, the program used by calibration labs do not produce these reports in any other format.) They include:

(1) Delinquency by Scheduler – a list of units, by UIC, that provides the number of TMDE that is enrolled, number of equipment that is delinquent, and the individual units' delinquency rate.

(2) Awaiting Pickup – contains a list of items that are ready to be picked up by the TMDE Support Coordinator.

(3) In-Shop – a list of all equipment that has been turned in for C&RS and the status of the equipment.

(4) Monthly Listing – a report if action current and completed on a specific UIC.

(5) Management Report – a weekly report that is done the first working day of every week that shows: calibration hours for the week prior, back-log, TAT (turn-around-time), readiness rate for the area supported, delinquency rate for area supported, number of jobs completed, number of jobs received, and number of jobs in each status. (this report reflects the previous week and the numbers are accumulated from Monday to Sunday)

(6) CBU List – a list of items that are currently in the status of "Calibrate before Use" (CBU). Can be separated by UIC.

(7) CNR List – a list of items that "Calibration Not Required" (CNR)

2-10. Instruments not listed in TB 43-180

When instruments not listed in TB 43-180 are presented for TMDE Support Activity, the following actions are taken:

a. A DA Form 3758-R is completed and submitted by the TMDE owner/user to the supporting TSA IAW appendix B. The TSA may assist the TMDE owner/user in completing the DA Form 3758-R. The DA Form 3758-R is kept on file at the TSA until the item is listed in TB 43-180, or until the requirement no longer exists. The TSA forwards a copy of the DA Form 3758-R to the USATA Engineering, Acquisition, and Logistics Directorate.

b. The TSA performs C&RS on the instrument once a DA Form 3758-R is submitted and procedures identified or developed. If the TSA does not have the C&RS capability support will be arranged by the TSA from another source.

2-11. Commercial Calibration and Repair

a. This section is applicable to all TMDE owners, users, and USATA elements that receive TMDE services from commercial sources.

b. Procedures:

(1) When a contractor is performing calibration and repair support services which are the same as the mission of USATA support organizations, the contract will be written to contain the same regulatory controls as those which apply to the Army. Calibration and repair support services contracts to be performed in government facilities with government standards will specify adherence to AR 750-43 and TB 750-25. Contracts for calibration and repair support which provide for performance at the contractor's facility using their own standards must specify, as a minimum, adherence to ANS/ISO/IEC 17025:2005 (or later).

(2) Commercial contractors providing calibration support for Army TMDE must maintain a calibration system which conforms to ANS/ISO/IEC 17025:2005 (or later). Documentation must be kept on file attesting to the date and by whom the audit was performed.

(3) Army TMDE calibrated by a contractor must be calibrated at intervals established IAW TB 43-180 or DA Form 3758-R.

c. Within Korea there are certain items of TMDE which cannot be calibrated by the Area labs due to a lack of available "standards" and may be taken to local Korea facilities for calibration. Examples of such items are, but not limited to: Tektronix VM700T Video Measurement Set, Tektronix TV1350 Television Demodulator, and the Tektronix TSG-170A NTSC Television Generator.

d. When these items require calibration, units will coordinate drop of times with commercial calibration facility. Additional, units will pay the commercial calibration facility for the calibration and/or repair procedure using an IMPAC credit card.

➤ **POC information is as follows:**

Samsung Institute of Calibration & Technology
POC: Jin Ha Back - Assistant Manager/ Electrical Department
83-2 Yeongchon-ri, Dongtan-myeon, Hwaseong-si Gyeonggi-do, Korea
Direct No. 82-31-379-5111/ Main No. 82-31-379-5114
Mobile 82-10-8812-5077/ Fax 82-31-379-5115
Email: jinha.back@sict.co.kr
Website: www.sict.co.kr

e. Units will always make initial contact with their supporting TSA prior to scheduling for commercial calibration.

2-12. Small Arms and Ammunition Gauges

a. The owners/users will contact their local calibration scheduling activity (Scheduling Unit Identification Code (SUIC)) for support instructions for inspection and calibration of gauges.

(1) For any small arms and ammunition gauges not identified in the owner/user IMRF, a DA Form 3758-R will be completed and submitted by the owner/user to the supporting organization in accordance with appendix B.

(2) Small arms and ammunition gauges are entered into the IMRF. Scheduling and reporting of the inspection and calibration of these gauges are the same as for any other TMDE using the DA Form 7372.

(3) Inspection/calibration intervals are established by the owner/user, however, inspection/calibration intervals must not exceed 360 days for small arms gauges and 720 days for ammunition gauges. This period begins with the date of issue entered on the DA Form 3023 (figs. D-1 and D-2). DA Form 3023 (Gauge Record) is used in lieu of DA Label 80.

(4) Listings of drawings, technical data files, and calibration procedures used to support the inspection and calibration of gauges are maintained by the activity that performs the calibration. Calibration of gauges accomplished in-house are reported to the local TMDE support activity.

b. Small arms and ammunition gauges are supported as follows:

(1) Gauges subjected to unusual conditions, i.e., damage, rust, excessive wear, etc., must be recalibrated prior to further use.

(2) Ammunition gauges from all installations requiring calibration are submitted to their local scheduling calibration activity (SUIC) 15 days prior to the scheduled due date, or at any time the number of passes is exceeded. DA Form 3023 will accompany each gauge. In the event that the original DA Form 3023 (the one which accompanied the gauge at the time of receipt) has been lost by the owning unit, a new DA Form 3023 must be filled out to the extent possible relative to owning unit identification, date of receipt (if possible), and any other pertinent data that is available before sending in the gauge. The SUIC will then forward gauges to the performing calibration activity (Performing Unit Identification Code (PUIC)). Gauges which have intervals of 180 days or 2 years are shipped only if they have been used. If a gauge has not been used since the last calibration and shows no signs of damage or deterioration, the owner/user will notify the scheduling calibration activity (SUIC) 30 days prior to the due date. The SUIC processes the DA Form 7372 (for the gauge), annotated as appropriate, to reflect the new due date (180 days or 2 years, whichever is applicable). The following statement is entered in the remarks block of the DA Form 7372: "Item has not been used since last calibration." The owner/user annotates the remarks block (front of form) of the DA Form 3023 with the new date and a statement reflecting the action taken. If at the end of the extended due date the gauge has still not been used, it must be submitted to the scheduling calibration activity (SUIC) for calibration.

NOTE: As an exception to 2-b above, all gauges received by a performing calibration activity (PUIC) for calibration will be serviced.

(3) At the time of required re-inspection/recalibration, the responsible individual sends the gauge(s) and the associated DA Form(s) 3023 to the appropriate inspection/calibration support activity. It is mandatory that the associated DA Form 3023 accompany each gauge when it is turned in for re-inspection/recalibration. In the event that the original DA Form 3023 (the one which accompanied the gauge at the time of receipt) has been lost by the using unit, a new DA Form 3023 must be obtained, filled out to the extent possible relative to using unit identification, date of receipt (if possible), and any other pertinent data that is available before sending in the gauge.

c. Gauges must be marked with a serial number for identification purposes.

(1) Method of such marking is optional. However, marking method utilized (paint, etching, tag, etc.) must not be applied on the critical gauge surface or in a manner which will degrade gauge function or damage critical gauge surfaces.

(2) Each user, upon receipt of new replacement gauge(s), shall determine that a DA Form 3023 accompanies each gauge and has all pertinent information entered thereon. If this form does not accompany each gauge, those gauges without forms shall be immediately returned to the issuing supply depot, accompanied by SF 368 (Product Quality Deficiency Report), for replacement. Instructions for completing SF 368 are in DA PAM 738-750, paragraph 11-3.

(3) When each gauge is received by the using activity and found acceptable, the responsible owner/user enters the date of receipt and identity of the receiving unit on the reverse side of the associated DA Form 3023 in the columns entitled "date issued" and "issued to," respectively. The owner/user retains the form as an inventory control file.

d. For gauges found to be unserviceable, the authorized inspection/calibration TMDE support activity:

(1) Annotates on the DA Form 3023 by stamping UNSERVICEABLE with the date and technician's name in the block titled - Actual Gauge Dimensions.

(2) Immediately returns the DA Form 3023 to the submitter/owner to notify them of this action. This will allow the owner a basis for requisitioning a replacement gauge through normal supply channels.

(3) Authorized inspection/calibration installation or facility must dispose of any gauge found to be unserviceable to ensure that the unserviceable gauge will not reenter the supply system.

e. Gauges that are equipped with a wear check, or master gauge, shall be inspected by the user as frequently as deemed necessary by the application of the furnished standard. Such inspections need not be recorded on the DA Form 3023. When such inspection indicates an unserviceable condition, complete gauge and standard will be turned in for condition confirmation and disposal. However, such wear checks or master gauges must be calibrated at intervals not to exceed 12 months.

f. The gauges should be cleaned with solvent (MIL-C-372) or with a clean, dry cloth. After cleaning, the gauges should be preserved using light oil. Type P-9 of specification VV-L-800C is recommended; if not available, any clean, light oil may be used.

g. The gauges should be wrapped with VC1 treated paper (MIL-3420). If it is not available, any clean, dry packaging paper may be used. Tape the paper in place. Do not put tape (PPP-T-76C) on the gauge. After wrapping, the gauges must be carefully cushioned. Cushioning material

may be plastic (PPP-C-795) or cellulose (PPP-C-843). Used cushioning material may be reused if it is clean and dry. Place the wrapped, cushioned gauge into a fiberboard box (PPP-B-636J) of appropriate size. Add more cushioning material if necessary to make a tight pack. Tape the box closed. Paper tape (PPP-T-76C) is strong enough, but better tapes can be used.

h. Regular military identification marking required by MIL-STD-129M must be applied to each package. This marking includes NSN or part number, quantity, and unit of issue.

i. Groups of gauges may be shipped under one document and identified as "multipack" when appropriate. The shipping document will contain the following note: "These gauges are to be checked for accuracy and returned, if serviceable, to this unit." If multipack procedure is utilized, a packing list (type optional, DD Form 1750 Packing List) shall accompany the shipment with sufficient copies for use as control documents by both shipper and recipient.

j. Each supply depot responsible for issuing small arms and ammunition precision measuring equipment and/or gauges must ensure the following at the time of shipment:

(1) Each gauge will have a DA Form 3023 filled out.

(2) The DA Form 3023 contains a Defense Contract Management Command (DCMC) stamp in the lower right portion of the large center block.

(3) The gauge and form are packaged in accordance with the appropriate packaging data sheet.

k. Gauges received at user level without a DA Form 3023 will be returned to the issuing depot. The supply depot:

l. Replaces the deficient gauge with another, properly identified, certified, and accompanied by its appropriate DA Form 3023.

m. Forwards the deficient gauge and a DA Form 3023 to the appropriate inspection or calibration facility for verification and return for placement in depot stores.

n. For gauges that do not have model numbers, drawing numbers will be used.

o. Directions for completing DA Form 3023 are located in appendix E.

2-13. TMDE Code-out Procedures

a. This section will cover handling procedures for TMDE marked for "Code-Out". It is important that the correct steps be followed to ensure that unserviceable TMDE is not used for tests, measurements, or repairs. Failure to follow these procedures could result in damage to government equipment and/or the injury/death of personnel.

b. TMDE is marked for Code-out because either 1) The TMDE Support Coordinator brought the item in for Code-out because the item is obviously damaged beyond repair, i.e. a torque wrench broken in half. 2) The item was brought to the TSA for normal C&RS and the technician determined that the item could not be successfully calibrated to standard and deemed that a code-out was necessary.

c. Once a TMDE item is determined to be unserviceable the technician annotates on the DA Form 7372 by stamping UNSERVICEABLE with the date and technician's name.

d. The customer is notified of the action after which the item is picked up from the lab.

e. The customer then takes the TMDE, with the DA Form 7372 attached, and turns the item into the supply system. This must be accomplished within 30 days from the date the equipment is coded out.

f. The final action required is for the TMDE Support Coordinator is to bring a memorandum, signed by the company commander, back to the TSA denoting which TMDE items have been turned in. The purpose of this memorandum is for the commander to request the items contained within be removed from that unit's master listing (IMRF).

2-14. Calibration of Medical X-Ray Equipment

a. General

(1) The U.S. Army Medical Department (AMEDD) health care program relies on calibrated TMDE to verify the accuracy of medical x-ray equipment used in the diagnosis and treatment of patients in the program.

(2) This section deals specifically with the following three categories of medical x-ray TMDE used in support of hospital x-ray machines:

(a) X-ray high voltage instruments consist basically of a bipolar high voltage divider with associated shunts and are used to verify peak anode and cathode voltage and anode and filament current of x-ray generators under test. Examples of these types of instruments (although not limited to these manufacturers) are the Machlett Laboratories Dynalyzer, Models Y-1A, II, and III, and the General Electric High Voltage Bleeder.

(b) X-ray radiation probe consists of an ionization chamber type radiation transducer which produces a frequency dependent output pulse train proportional to radiation intensity. Examples of these probes (although not limited to these manufacturers) are the Dynalyzer II and III radiation probe or the Victoreen model 660.

(c) General and special purpose measurement instrumentation instruments are used to monitor the outputs from x-ray high voltage instruments and probes. The TMDE in this category are basically voltmeters, counters, and oscilloscopes. The Dynalyzer II display unit is an example of a self-contained instrument capable of providing full x-ray voltage unit readout.

b. Procedures

(1) X-ray high voltage instruments will be calibrated and repaired by the USAPSL. To facilitate this task a float of Dynalyzer II and III high voltage instruments has been established at the USAPSL. The float is used to ensure the AMEDD units have calibrated instruments continuously available. USATA controls the float and recall system by shipping a calibrated instrument to AMEDD units. To assure the maintenance of an effective operational float system, responsible AMEDD units must ship their instruments to USATA within 24 hours after receipt of calibrated instruments from USATA.

(a) X-ray high voltage instruments such as the Dynalyzer II and Dynalyzer III models will be calibrated and repaired by the USAPSL with a recommended calibration interval of 360 days. Other similar models that cannot be supported by the USAPSL will be shipped to the manufacturer after customer approval.

(b) For all other makes or models, the original unit will be returned to the customer upon completion of calibration by USAPSL.

(2) X-ray radiation probes are calibrated and repaired by the USAPSL Nucleonics Laboratory. Other TMDE associated with medical x-ray equipment is supported in accordance with TB 43-180.

(3) The Surgeon General periodically reviews all calibration and repair requirements and the effect of calibration in the AMEDD health care program.

Appendix A References

The following documents, forms, and labels are prescribed, referenced or used in conjunction with this technical bulletin:

Section I. Required Publications

AR 220-1, Unit Status Reporting

AR 710-2, Supply Policy Below the National Level

AR 735-11-2, Reporting of Supply Discrepancies

AR 750-1, Army Materiel Maintenance Policy

AR 750-43, Army Test, Measurement, and Diagnostic Equipment

DA PAM 710-2-1, Using Unit Supply System, Manual Procedures

DA PAM 710-2-2, Supply Support Activity Supply System Manual Procedures

DA PAM 750-8, The Army Maintenance Management System

TB 43-180, Calibration and Repair Requirements for the Maintenance of Army Materiel

TB 9-6665-285-24, Army Calibration Program for RADIAC Instrumentation

TB 9-4931-537-24, Calibration Procedures for Cross-Checks, Intercomparisons, and Visual Inspections

SB 708-43, Cataloging Handbook H4/H8 Commercial and Government Entity (GAUGE) Sections C&D

SB 708-48, Cataloging Handbook H4/H8 Commercial and Government Entity (GAUGE) Sections A&B

MIL-STD-129, Military Identification Markings

MIL-STD-45662A, Calibration System Requirements

FED LOG Federal Logistics Information System

Section II. Related Publications

This section contains no entries.

Section III. Prescribed Forms and Labels

DA Form 2417, U. S. Army Calibration System Rejected Instrument

DA Form 3023, Gauge Record

DA Form 3758-R, Calibration and Repair Requirement Worksheet

DA Form 7372, TMDE Calibration and Repair Data

DA Label 80, U. S. Army Calibrated Instrument

DA Label 163, U. S. Army Limited or Special Calibration

Section IV. Referenced Forms

DA Form 2028, Recommended Changes to Publications and Blank Forms

DA Form 2765-1, Request for Issue or Turn-in

DD Form 1348-6, DOD Single Line Item Requisition System Document (Manual Long-Form)

DD Form 1750, Packing List

SF Form 368, Product Quality Deficiency Report

Appendix B

Identification of Calibration and Repair Requirements

B-1. Purpose

This appendix provides instructions for using, completing, and processing DA Form 3758-R, Calibration and Repair Requirements Worksheet.

B-2. Applicability

This appendix is applicable to:

- a. Commands/agencies assigned materiel management responsibilities for TMDE used to provide maintenance support for the Army.
- b. TSAs that provide TMDE C&RS.
- c. Units that provide C&RS for TMDE-SP.
- d. TMDE owners/users.
- e. The USATA for instruments used to provide C&RS for TMDE and processing of DA Form 3758-R.

B-3. Use of DA Form 3758-R (Fig. B-1)

a. All Army organizations must identify their TMDE calibration and repair requirements to the USATA for inclusion in TB 43-180 to ensure subsequent C&RS. This form also provides the USATA with information relative to changes or deletions of previously identified calibration requirements listed in TB 43-180.

b. The form allows Army organizations to provide calibration and repair requirements information about an instrument not listed in TB 43-180. Disposition will be in accordance with paragraph B-5. USATA will identify and incorporate in TB 43-180 the calibration and repair requirements of instruments in the calibration standards sets used by TSAs. Preparation will be in accordance with paragraph B-4.

NOTE: Refer to AR 750-43 for policies and responsibilities applicable to identification of calibration and repair requirements by TMDE materiel managers.

B-4. Preparation of DA Form 3758-R (Fig. B-1)

This form is divided into a header (Control and Address) and two sections. Section A is applicable to the instrument and its support application. Section B is applicable to calibration and repair support of the instrument. When DA Form 3758-R is submitted as a change to, or deletion of an existing requirement in TB 43-180, only blocks 8, 9, 11, 14, 24, and 26a - d are required to be completed. Entries in blocks should be in accordance with the following:

- a. Control and address blocks.
 - (1) Block 1 - Local Control No. Entered by the requesting unit/activity.
 - (2) Block 2 - USATA Control No. Entered by the USATA.

(3) Blocks 3, 4, 5, 6, 7 - TO, FROM, INFO, POC and TELEPHONE. Entered by the requesting unit/activity (include the ZIP Code, DSN and commercial telephone numbers if available).

b. Section A - Instrument Identification-Application. Section A will be completed as follows:

(1) Block 8 - JETDS Designator or Manufacturer and Model Number. Enter the JETDS designator of the instrument (e.g., AN/URM-98). When the instrument does not have a JETDS designator, enter the responsible manufacturer's code and model number.

(2) Block 9 - National Stock No./Part No. Enter the NSN assigned to the instrument. If no NSN is assigned, enter the part number under which the instrument was acquired. If there is neither an NSN or part number, enter the applicable Federal

(3) Supply Class. NOTE: TMDE materiel managers must enter an NSN or part number.

(4) Block 10 - Line Item Number. Enter the official line item number of the instrument as it is listed in the MTOE/TDA or FEDLOG. When a line item number is not assigned and the instrument is a part of a system, set, kit, or outfit, enter PO (part of) and the line item number of the system, set, kit, or outfit.

(5) Block 11 - Nomenclature. Enter the noun nomenclature of the item (e.g., oscilloscope, signal generator, etc.) as identified in the supply catalog or appropriate property book.

(6) Blocks 12a and b - Military Publication and date. Enter the number and the date of the military publication (TM, TB, NAVAIR, TO, etc.) used to accomplish maintenance.

(7) Blocks 13a and b - Commercial Publication and date. When the military publication is not available, enter the commercial publication and its date used to accomplish maintenance.

(8) Block 14 - System/End Item Supported. Enter the military designator or nomenclature of the system/end item that the instrument is used to support.

(9) Block 15 - TMDE Type. Check SP (special purpose) block if the item is designed for support of, and is functionally restricted to, only one system or end item; otherwise, check GP (general purpose) block.

(10) Blocks 16a-c - Instrument Specifications. Block 16a - Enter the parameters that denote the capabilities of the instrument (resistance, voltage, frequency, etc.).

(11) Block 16b - Enter the range of each parameter (0-100 M Ω , 0-1 V, 10-20 MHz, etc.).

(12) Block 16c-Enter the accuracy of each range of each parameter. Entries in blocks 16a-c may be omitted if the specification sheet for the instrument is attached (attachment of specification sheet is preferred), in this case enter in block 16a "See Attached."

(13) Blocks 17a-d - Quantity fielded. When this form is completed by materiel managers prior to fielding of a system, enter the number planned for delivery to each theater (a-d).

c. Section B - Calibration Support Capability. Section B will be completed as follows:

(1) Blocks 18a through 19d are to be completed by the TMDE support coordinator in cooperation with the chief of the C&RS organization.

(2) Blocks 20, 21, 23 and 24 are to be completed by the USATA.

(3) Block 20a-b - Select appropriate box that indicates the responsibility and calibration repair.

(4) Block 21 - Enter the manual used to accomplish calibration, (e.g., TB, TM, or manufacture's manual).

(5) Block 23 - Enter calibration interval as indicated in TB 43-180, or as determined by the TSA.

(6) Block 24 - Select the block that indicates the action as related to TB 43-180.

(7) Block 22 - System code should be completed by the owner/user initiating the form.

(8) Block 25 - Remarks as appropriate.

(9) Blocks 26a through 26d are to be completed by the individual initiating the form.

B-5. Disposition

a. DA Form 3758-R for new instruments to be added to TB 43-180 is submitted by: Army organizations, materiel managers, and by the owner/user. The DA Form 3758-R, along with a copy of the appropriate technical or manufacturer's manual, will be submitted through the supporting TSA to the Commander, U. S. Army Aviation and Missile Command, ATTN: AMSAM-TMD-EP, Redstone Arsenal, AL 35898-5400. The USATA furnishes a copy of the DA Form 3758-R to the appropriate materiel manager. The USATA returns a copy of the DA Form 3758-R, through the supporting TSA, to the submitting organization stating what action has been taken.

b. R&D, P&P, T&E, or depot maintenance activities submits DA Form 3758-R, or a memorandum, through their TSA directly to the USATA. A copy of the DA Form 3758-R, or the memorandum, is kept on file by the supporting activity until the owner/user changes the requirements of that TMDE.

c. TSAs will maintain on file all DA Forms 3758-R until any portion of section A and/or B changes, or until the item is removed from the Army inventory.

CALIBRATION AND REPAIR REQUIREMENTS WORK SHEET For use of this form, see TB 750-25; the proponent agency is USAMC		1. LOCAL CONTROL NO. 1-96	2. USATA CONTROL NO. A-996
3. TO Commander U.S. Army Aviation & Missile Command ATTN: AMSMI-TMDE-EP Redstone Arsenal, AL 35898-5400		4. FROM (Include ZIP Code) Commander HQ & Co A, 702d Maint BN APO 96224	
5. INFO Commander HQ Eighth United States Army ATTN: EAGD-MS-MRAD APO AP96205-0009		6. POC Joe Smith	
		7. TELEPHONE DSN: 748-2888	
SECTION A - INSTRUMENT IDENTIFICATION - APPLICATION			
8. JETDS DESIGNATOR OR MFGR AND MODEL NO. HP(29480) 5440A	9. NATIONAL STOCK NO./PART NO. 6625-01-232-4218	10. LINE ITEM NO. Z26952	
11. NOMENCLATURE OSCILLOSCOPE	12a. MILITARY PUBLICATION NONE	12b. DATE N/A	
13a. COMMERCIAL PUBLICATION HP 05440A	13b. DATE JAN 1968	14. SYSTEM/END ITEM SUPPORTED TOW/COBRA	
15. TMDE TYPE: <input checked="" type="checkbox"/> GP <input type="checkbox"/> SP	16. INSTRUMENT SPECIFICATIONS a. PARAMETER See Attached b. RANGE c. ACCURACY	17. QUANTITY FIELD (By Theater) a. CONUS b. EUROPE c. FAR EAST d. U.S. ARMY SOUTH	
SECTION B - CALIBRATION SUPPORT CAPABILITY			
18a. CALIBRATION CAPABILITY IS ON HAND AND CALIBRATION IS BEING ACCOMPLISHED EVERY _____ DAYS USING CALIBRATION PROCEDURE		<input type="checkbox"/> c. CALIBRATION CAPABILITY IS NOT ON HAND. <input checked="" type="checkbox"/> d. INSTRUMENT IS NOT BEING CALIBRATED. <input type="checkbox"/> e. INSTRUMENT IS BEING CALIBRATED EVERY _____ DAYS.	
b. BY:		f. BY: Joe Smith	
19a. TYPED NAME AND GRADE OR TITLE JOHN DOE, CW2 Maint Officer		b. TELEPHONE DSN: 748-9654	
c. SIGNATURE 		d. DATE 11 DEC 1996	
20. RESPONSIBILITY a. CALIBRATION: <input type="checkbox"/> P (USAPSL) <input type="checkbox"/> S (ACL) <input checked="" type="checkbox"/> T (ATST/TSC) <input type="checkbox"/> F (DS/GS) b. REPAIR: <input type="checkbox"/> P (USAPSL) <input type="checkbox"/> S (ACL) <input checked="" type="checkbox"/> T (ATST/TSC) <input type="checkbox"/> F (DS/GS)			
21. CALIBRATION PROCEDURE Manufacturer Manual	22. SYSTEM CODE A65	23. CALIBRATION INTERVAL 360	
24. TB 43-180 ACTION: <input checked="" type="checkbox"/> ADD - NEW ITEM <input type="checkbox"/> DELETE <input type="checkbox"/> ADD - NEW APPLICATION <input type="checkbox"/> CHANGE			
25. REMARKS			
26a. TYPED NAME AND GRADE OR TITLE JAMES BROWN, TMDE Support Coordinator		b. TELEPHONE DSN: 748-8231	
c. SIGNATURE 		d. DATE 12 DEC 1996	
DA FORM 3758-R, DEC 86		DA FORM 3758, NOV 79, IS OBSOLETE	

Figure B-1. Sample of completed DA Form 3758-R

Appendix C

Uses and Preparation of DA Calibration Labels and Forms

C-1. Purpose

This appendix provides instructions and procedures for the use and preparation of the U.S. Army Calibrated Instrument (DA Label 80), the U.S. Army Limited or Special Calibration (DA Label 163), and the U.S. Army Calibration System Rejected Instrument (DA Form 2417).

C-2. Applicability

This appendix is applicable to instrument owners/users, TSAs, and the USAPSL.

C-3. General

Elements of all Army activities that provide TMDE support will use the DA Label 80, DA Label 163, and DA Form 2417. Overprinting of DA Labels 80 and 163 is authorized in accordance with paragraph C-7 below.

C-4. U.S. Army Calibrated Instrument Label (DA Label 80, Figure C-1)

NOTE: Figure C-1 is depicted several times larger than the actual DA Label 80.

a. Uses:

(1) Verifies that the instrument was calibrated to the specifications listed in an approved calibration procedure or specifications stated on the calibration report identified in block 4.

(2) Indicates that with normal care in handling and use during the calibration interval (indicated by the date calibrated and the date calibration is void), the operating characteristics of the instrument will have an acceptable probability of remaining within the specified tolerances listed in the approved calibration procedure for the instrument, or uncertainties given on the calibration report identified in block 4.

b. Preparation. The individual who accomplishes calibration of an instrument will complete a DA Label 80 as follows:

(1) Block 1 - Date Calibrated. Enter the calendar date that calibration was completed.

(2) Block 2 - Calibrated. The activity which performs the calibration service will be identified by entering the activity's UIC.

NOTE: A rubber stamp may be used to identify the calibration activity (block 2) and the calibrator (block 4).

(3) Block 3 - Calibration Void. Enter the calendar date on which the calibration will expire. This date must be based on the interval in TB 43-180, paragraph 4-k, or the interval requested on DA Form 3758-R, or by memorandum for TSCs. When a calibration interval other than calendar days is used for an instrument, enter the appropriate interval, i.e., 1,000 passes, 2,000 hours, etc.

(4) Block 4 - Name/Report No. The individual who accomplishes calibration will be identified, or when a calibration test report is required and provided for use with the instrument, enter the test report number. When two or more individuals accomplish calibration, only one individual will be identified.

(5) Block 5 - Identification No. Enter the serial number assigned to the instrument by the manufacturer or the JETDS number listed in TB 43-180. Use the JETDS serial number when both

are provided. If a serial number has not been assigned by the manufacturer enter a locally assigned number (owner/user generated through the property book officer) in block 5. Enter the serial number exactly as shown on the instrument data plate or stamping to include leading zeros, slashes, dashes, etc. Use the last 10 characters of the serial number.

(6) Block 6 - Owner. Enter the instrument owner's UIC.

NOTE: Blocks 1 through 6 must contain the above data on each DA Label 80 of calibrated TMDE. Additional data is entered as deemed necessary, but it should not obscure or contradict the required data.

US ARMY CALIBRATED INSTRUMENT	
<i>(TB 750-25)</i>	
1. DATE CALBR 21 NOV 96	2. CALBR BY W I P L A A
3. CALBR VOID 16 NOV 97	4. NAME/REPORT NO. J. Smith
5. IDENTIFICATION NO. 3495	6. OWNER W C A L A A
DA LABEL 80, 1 DEC 77	REPLACES EDITION OF 1 JAN 70, WHICH IS OBSOLETE
Figure C-1. Sample of completed DA Label 80.	

C-5. U.S. Army Limited or Special Calibration Label (DA Label 163, Figure C-2)

NOTE: Figure C-2 is depicted larger than the actual DA Label 163.

a. Uses:

(1) Verifies that the instrument received a limited calibration, in that certain parameters or ranges (identified on the label) required repair and could not be calibrated, or certain parameters and/or ranges were not calibrated, or certain parameters and/or ranges were calibrated to less stringent tolerances than those specified in the approved calibration procedures.

(2) Verifies that the instrument received a special calibration in that certain parameters or ranges (identified on the label) were calibrated to more stringent tolerances than those specified in the approved calibration procedure and the label serving as a calibration report. Written request is required from owner of the item.

(3) Indicates that with normal care in handling and use during the calibration interval (indicated by the date calibrated and the date calibration is void) the special calibration of the instrument will have an acceptable probability of remaining within the special calibration tolerances.

b. Preparation. The individual who accomplishes the limited or special calibration of an instrument will complete DA Label 163. Entries in blocks 1 through 6 will be the same as outlined in paragraph C-4b above for DA Label 80. Entries in blocks 7 and 8 will be as follows:

(1) DA Label 163 for limited calibration (fig. C-2).

(a) Block 7 - Line out (obliterate) the words "Special Calibration." Do not line out (obliterate) the words "Limited Calibration - Do Not Use."

(b) Block 7a - Parameter/value. Enter the parameters, ranges or values that were not calibrated, are inoperative, or are out of tolerance. Ranges or values not listed on DA Label 163 must be calibrated to tolerances specified in the approved calibration procedures.

(c) Block 7b - Tolerance/Uncertain. When parameters, ranges or values have not been calibrated, enter "NOT CALIBR." For parameters, ranges, or values that are out of tolerance, enter out-of-tolerance values or percentage of accuracy's. For parameters, ranges, or values that are not operative, enter "INOPERATIVE."

NOTE: An instrument requiring repair will continue to receive a cyclic limited calibration until repair is accomplished if it has functions that are operable. Ensure that repaired TMDE is calibrated after repairs are accomplished. The parts required to accomplish repair will be requisitioned and the requisition/ document number or work order number entered along the bottom line of blocks 7a and 7b before the item is returned to the owner/user.

(d) Block 8 - Authentication. The supervisor/commander (or designated alternate) of the instrument owner signs this block indicating the instrument limitations are known.

(2) DA Label 163 for special calibration (fig C-3). When an instrument is calibrated to more stringent specifications other than those listed in the approved calibration procedure, to a specific value(s), or IAW a locally developed procedure, entries will be as follows:

(a) Block 7 - Line out (obliterate) the words "Limited Use - Do Not Use." Do not line out (obliterate) the words "Special Calibration - Corrections Are."

(b) Block 7a - Parameter/Value. Enter the parameters, ranges, or values that were calibrated to accuracy's or tolerances other than those specified in the approved calibration procedure.

(c) Block 7b - Tolerance/Uncertain. Enter the tolerance or uncertain that applies to the parameters or value that was corrected. This entry must be on line with the parameter/value.

NOTE: When all parameters, ranges, values, and uncertainties cannot be entered in blocks 7a and 7b, a correction chart or test report must be provided. The number of the test report must be entered in block 4 and the words "See Report" must be entered in blocks 7a and 7b.

(d) Block 8 - Authentication. The immediate supervisor (or a designated alternate) of the technician performing a calibration will sign his/her name in this block, attesting that the data entered thereon is an accurate statement of the calibration results, and the item is released for use. This label will not be affixed to the instrument without an authenticating signature.

US ARMY LIMITED OR SPECIAL CALIBRATION (TB 750-25)	
1. DATE CALBR 21 NOV 96	2. CALBR BY WIPLAA
3. CALBR VOID 22 MAR 97	4. NAME/REPORT NO. B. Brown
5. IDENTIFICATION NO. B0123556	6. OWNER W45901
7. LIMITED CALBR - DO NOT USE: SPECIAL CALBR - CORRECTIONS ARE:	
a. PARAMETER/VALUE Above 18 GHz	b. TOLERANCE/ UNCERTAIN NOT Calibrated
8. AUTHENTICATION CNS B. William	
DA LABEL 163, 1 Dec 77	

Figure C-2. Sample of completed DA Label 163 (Limited Calibration).

US ARMY LIMITED OR SPECIAL CALIBRATION (TB 750-25)	
1. DATE CALBR 21 NOV 96	2. CALBR BY WIPLAA
3. CALBR VOID 22 MAR 97	4. NAME/REPORT NO. J. Jones
5. IDENTIFICATION NO. B05679	6. OWNER WKAYAA
7. LIMITED CALBR - DO NOT USE: SPECIAL CALBR - CORRECTIONS ARE:	
a. PARAMETER/VALUE .5 GHz, 2 GHz 5 GHz, 10 GHz ONLY	b. TOLERANCE/ UNCERTAIN +2% of reading
8. AUTHENTICATION J. Anderson	
DA LABEL 163, 1 Dec 77	

Figure C-3. Sample of completed DA Label 163 (Special Calibration).

C-6. Rejected Instrument Tag (DA Form 2417, Figure C-4)

a. This tag will be used to identify an instrument which is:

- (1) Unserviceable and is turned in for repair, or is awaiting repair and/or repair parts.
- (2) Determined to be not economically repairable.

NOTE: *The use of this tag does not eliminate the need for the owner/user to complete and attach a DA Form 7372 to instruments turned in for calibration or repair. TSAs may use DA Form 7372 in lieu of DA Form 2417.*

b. Preparation. The calibration and repair technician who determines that an instrument is unserviceable and must await repair, or must be evacuated for repair, will complete DA Form 2417 (fig C-4) as follows:

(1) Block 1 - Date rejected. Enter the calendar date the instrument was determined to be unserviceable.

(2) Block 2 - Rejected by. When determined to be unserviceable during the calibration process, enter the calibration activity UIC. A rubber stamp may be used for this purpose.

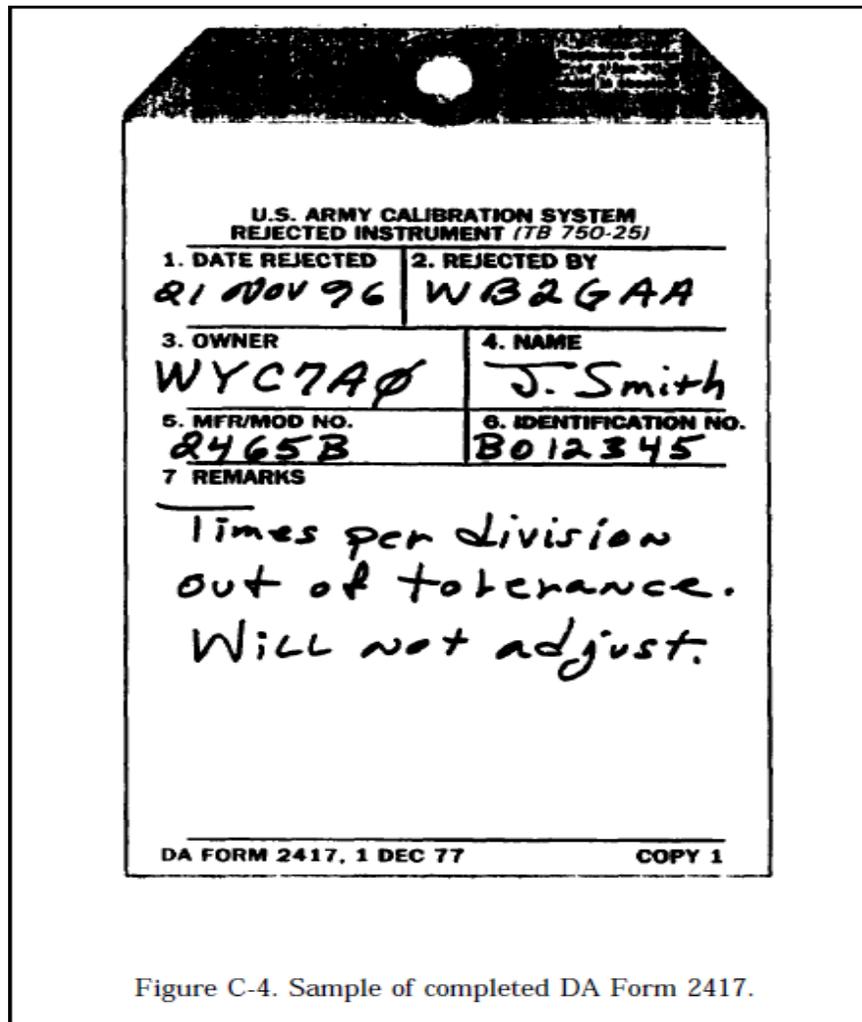
(3) Block 3 - Owner. Enter the UIC of the owner/user.

(4) Block 4 - Name. Enter technician name.

(5) Block 5 - Mfr/Model (manufacturer and model). Enter the instrument manufacturer's identification code (or name) and model number or, when the JETDS designator is identified on the instrument, enter the JETDS designator.

(6) Block 6 - Identification No. Enter the serial number assigned to the instrument by the manufacturer or the JETDS number listed in TB 43-180. Use the JETDS serial number when both are provided. If a serial number has not been assigned by the manufacturer enter a locally assigned number (owner/user generated through the property book officer) in block 6. Enter the serial number exactly as shown on the instrument data plate or stamping, to include leading zeros, slashes, dashes, etc. Use the last 10 characters of the serial number.

(7) Block 7 - Remarks. Enter the symptom(s), malfunction, or condition that caused the instrument to be designated as unserviceable. When the instrument is evacuated for repair, sufficient details should be provided in order to assist the repair technician in diagnosing and correcting the trouble.



C-7. Overprinting DA Labels 80 and 163

Overprinting of DA Labels 80 and 163 will be controlled by the TMDE support coordinator or the designated alternate. Overprinting may be accomplished with a rubber stamp, or by hand printing. When using a rubber stamp, approximately 12mm (1/2 inch) letters with a thin outline overprint is recommended. Overprinting is authorized as follows:

NOTE: For illustration purposes of overprinted DA Labels 80 and 163, only the DA Label 80 will be depicted with overprinting in figures C-5, C-6, C-7, C-8, C-9, and C-10.

a. Void (fig. C-5). Calibration of an instrument may become doubtful for many reasons. When the accuracy of an instrument is uncertain, it will not be used. To avoid the use of instruments with doubtful accuracy, unserviceable instrument, or when the calibration void date has been exceeded prior to submission for calibration, the existing DA Label 80 or DA Label 163 shall be overprinted with the word "VOID". When the instrument is submitted for scheduled calibration, the need to overprint VOID is eliminated.

b. Calibration Not Required (CNR), (fig. C-6). CNR overprinting is applicable for an instrument that does not require calibration, or an instrument that requires calibration, but due to its application, calibration is not required. For example, CNR could be applied to a tube tester, a dial indicator gauge used only as a null indicator, an instrument used for non-precision testing, or measuring, or instruments used for indicating devices only, etc. When an instrument is designated as being CNR, a CNR overprinted DA Label 80 will be signed in block 4 and affixed to the item by the TMDE support coordinator/designated alternate or the supporting activity lab/team chief. Blocks 1 and 5 will be completed. Any previous calibration labels will be removed. Identifying an instrument as CNR does not relieve the owner/user of its organizational maintenance responsibilities, or from obtaining repair support when the item is unserviceable. CNR labels will be replaced whenever they become illegible or status of the instrument changes.

c. Calibrate Before Use (CBU), (fig. C-7). CBU overprinting is applicable to some instruments held in storage. CBU will be overprinted on a new DA Label 80 and affixed to the instrument at the time it is placed in storage. The TMDE support coordinator or designated alternate signs block 4 of a new DA Label 80, overprinting it CBU. Enter appropriate information in block 1 and block 5, then affix the DA Label 80 to the instrument being placed in storage. Instrumentation with a CBU overprinted label must not be used. When the instrument is required for use, it must be calibrated, the CBU label removed, and a new DA Label 80 or 163 (completed as prescribed in this appendix) will be affixed to the instrument. CBU labels will be replaced whenever they become illegible or status changes.

d. Training Aid (TNG), (fig. C-8). TNG overprinting is applicable to instruments that are used in school training courses that do not require calibration (see AR 750-43). It only applies to instruments that will not adversely affect training efficiency, safety, or damage to equipment if the instrument is not calibrated. When an out-of-tolerance instrument will adversely affect safety, training efficiency, or possibly cause damage to equipment, overprinting TNG is not authorized. Training aid instruments do not receive scheduled cycle calibration support, but calibration support may be obtained on an "as required basis. Identifying an instrument as a training aid does not relieve the owner/user of organizational maintenance responsibilities or from obtaining repair support when it is unserviceable. The TMDE support coordinator, or designated alternate, will sign block 4 of the DA Label 80 and overprint it TNG, enter appropriate information in block 1 and block 5, then affix the DA Label 80 to the instrument that is designated as a training aid. The school commandant must approve the designation of training aid to instruments used in the schools training courses. TNG labels will be replaced whenever they become illegible or the status of the instrument changes.

e. Nuclear Weapons (HO5), (fig. C-9). HO5 overprinting is applicable to all nuclear weapons TMDE. HO5 will be overprinted on a DA Label 80 or DA Label 163 and affixed to the instrument at the time it is calibrated.

f. Extended Interval (EI), (fig. C-10). EI overprinting on DA Label 80 or DA Label 163 is applicable to any TMDE calibrated at authorized intervals greater than the interval specified by TB 43-180, IAW AR 750-43.

US ARMY CALIBRATED INSTRUMENT	
(TB 750-25)	
1. DATE CALBR 7 FEB 77	2. CALBR BY W. G. H. A. A.
3. CALBR VOID 6 JUN 77	4. NAME/REPORT NO. J. S. Carter
5. IDENTIFICATION NO.	6. OWNER
DA LABEL 80, 1 DEC 77	REPLACES EDITION OF 1 JAN 70, WHICH IS OBSOLETE

Figure C-5. Sample of completed DA Label 80 overprinted "VOID"

US ARMY CALIBRATED INSTRUMENT	
(TB 750-25)	
1. DATE CALBR 10 JAN 77	2. CALBR BY C. N. R.
3. CALBR VOID	4. NAME/REPORT NO. C. Jones
5. IDENTIFICATION NO. C0005A	6. OWNER
DA LABEL 80, 1 DEC 77	REPLACES EDITION OF 1 JAN 70, WHICH IS OBSOLETE

Figure C-6. Sample of completed DA Label 80 overprinted "CNR"

US ARMY CALIBRATED INSTRUMENT	
(TB 750-25)	
1. DATE CALBR 3 JAN 98	2. CALBR BY [Signature]
3. CALBR VOID COO...	4. NAME/REPORT NO. [Signature]
5. IDENTIFICATION NO. 3479	6. OWNER
DA LABEL 80, 1 DEC 77	REPLACES EDITION OF 1 JAN 70, WHICH IS OBSOLETE

Figure C-7. Sample of completed DA Label 80 overprinted "CBU"

US ARMY CALIBRATED INSTRUMENT	
(TB 750-25)	
1. DATE CALBR 3 FEB 97	2. CALBR BY [Signature]
3. CALBR VOID	4. NAME/REPORT NO. [Signature]
5. IDENTIFICATION NO. A0045	6. OWNER
DA LABEL 80, 1 DEC 77	REPLACES EDITION OF 1 JAN 70, WHICH IS OBSOLETE

Figure C-8. Sample of completed DA Label 80 overprinted "TNG"

US ARMY CALIBRATED INSTRUMENT	
(TB 750-25)	
1. DATE CALBR 21 NOV 96	2. CALBR BY W1 PLAA
3. CALBR VOID 22 MAR 97	4. NAME/REPORT NO. S. Clark
5. IDENTIFICATION NO. 2465B000123	6. OWNER W45901
DA LABEL 80, 1 DEC 77	REPLACES EDITION OF 1 JAN 70, WHICH IS OBSOLETE

Figure C-9. Sample of completed DA Label 80 overprinted "H05"

US ARMY CALIBRATED INSTRUMENT	
(TB 750-25)	
1. DATE CALBR 21 NOV 96	2. CALBR BY W1 PLAA
3. CALBR VOID 16 NOV 97	4. NAME/REPORT NO. D. Sanders
5. IDENTIFICATION NO.	6. OWNER W45926
DA LABEL 80, 1 DEC 77	REPLACES EDITION OF 1 JAN 70, WHICH IS OBSOLETE

Figure C-10. Sample of completed DA Label 80 overprinted "EI"

C-8. Affixing of Labels and Tags

- a. A DA Label 80 or DA Label 163.

The appropriate label will be affixed to the front of the instrument whenever size permits. If it cannot be affixed to the front of the instrument, place it in as visible and conspicuous a place as possible. If instruments are easily removable from racks, the label may be affixed to the side or back.

b. When the size of an instrument prevents affixing the label to the front of the instrument, one of the following methods may be used:

- (1) The label may be affixed to a blank tag and tied to the instrument.
- (2) In the case of instruments such as gauge block sets, micrometers, weight sets, etc., the label may be affixed to the outside of the lid of the container (case).
- (3) When the label cannot be affixed to an instrument in accordance with the above, a card or book file will be maintained with the labels affixed to the cards or pages. This file will be maintained in the immediate area where the instruments are used.
- (4) Labels previously affixed to an instrument will be removed and the new label affixed.
- (5) DA Labels 80 and 163 are not required for dimensional gauges used in production or industrial operations when DA Form 3023 (Gauge Record) is maintained for the gauges IAW appendix E of this TB.

c. DA Form 2417 (U.S. ARMY Calibration System Rejected Instrument). This tag will be attached to the instrument in a visible and conspicuous place. When this tag is used, the DA Label 80, or DA Label 163 previously affixed to the instrument will be voided.

d. Disposition of DA Form 2417 is:

- (1) Copy 1 will be utilized and disposed of as determined by the local C&RS activity.
- (2) Copy 2 (red tag) will remain attached to the rejected item, and will remain so until such time the item is properly returned to service or disposed of.

Appendix D

Instructions for Completion of Gauge Record (DA Form 3023)

D-1. Each ammunition gauge procured for field service use requires the preparation of two each DA Forms 3023 (fig. D-1, D-2). One card will be maintained by the activity performing the calibration. The other card will accompany the gauge when it is returned to the owner/user. Use of automated version of the DA Form 3023 is authorized.

D-2. The gauge user completes the following on the front of each DA Form 3023 (fig. D-1):
LOCATION - Enter exact location of gauge, to include specific locations pertaining to RACK, SECTION, BIN, DRAWER, and TRAY as appropriate.

D-3. The activity performing calibration completes the following blocks on each DA Form 3023 as follows (fig. D-1):

a. GAUGE DRAWING NO - Enter basic drawing number of gauge including drawing size (e.g., E7799699).

b. TYPE - Enter full nomenclature of gauge including dimensions when they are specified as part of the nomenclature.

c. IDENTIFICATION NO - Enter complete identification or serial number. Identification or serial number includes leading zeros, slashes, dashes, etc.

d. GAUGE DRAWING REVISION - Enter revision number and date. If no revision, enter the date basic drawing was approved. At right portion of block, enter national stock number of gauge.

e. VALUE - Enter total procurement or manufacturing cost of gauge.

f. COMPONENT DRAWING NO - Enter the basic drawing number of item being measured (e.g., 8863597 for gun mach 7.62MM M60). If more space is needed use the REMARKS block, or a blank 5 X 8 card.

g. PIECE MARK NO - Enter the piece mark drawing number of items being measured (e.g., 875-1-357 for gun mach 7.62MM M60)

h. FUNCTION OF GAUGE - Enter the type of measurement gauge is designed to perform (e.g., length and profile).

i. REVISION - Enter revision of component drawing number and date of revision. If no revision has been made, enter date basic drawing was approved.

j. COMPONENT NAME - Enter nomenclature of item being measured (e.g., gun mach 7.62MM M60, M60C, M60D).

k. REQUIRED COMPONENT DIMENSION - Enter dimensions of item being measured as listed on component, or piece mark drawing.

l. ACTUAL GAUGE DIMENSIONS - When dimensions are within the required component dimension, enter the following statement: "Certified - All dimensions are within drawing requirements". Also indicate the activity that performed the certification and state "Serviceable." When actual gauge dimensions are out of required component dimensions, indicate the actual

dimensions and state "Out of required component dimensions". Also indicate the activity performing the inspection and state "Unserviceable".

m. REMARKS - Use as applicable.

n. DATE - Enter date gauge certified.

o. GAUGE CHECKER - Enter name of individual performing certification.

D-4. The activity performing certification completes the back of each DA Form 3023 (fig.D-2), except as noted:

a. RECHECK GAUGE AFTER EACH - Enter period of time, or specified number of PIECES.

b. IDENTIFICATION NO - Enter complete identification or serial number. Identification or serial number includes leading zeros, slashes, dashes, etc.

c. DATE ISSUED - Enter the date gauge is issued (DD, MM, YY). NOTE: Initial entry is provided by the activity performing the certification. Subsequent entries are also made by the owner/user for each issue/use period of gauge.

d. ISSUED TO - Enter name of recipient of gauge (installation, individual, branch, section, etc.). NOTE: Initial entry is provided by the activity performing the certification. Subsequent entries are made by the owner/user for each issue/use period of gauge.

e. GAUGE SIZE LIMIT - Enter dimensional limit of gauge when appropriate.

f. RECHECK SIZE - Enter dimensional recheck size of gauge.

g. RECHECK DATE - Enter date of recheck (DD, MM, YY).

h. RECHECK BY - Enter gauge inspector's name.

i. AMOUNT OF WEAR - Enter amount of wear of gauge (gauge limit minus recheck size) when appropriate.

j. NO. PIECES INSPECTED - Enter number of passes made during gauge issue.

NOTE: Initial entry is provided by the activity performing the certification.

k. Subsequent entries are also made by the owner/user for each issue/use period of gauge. CUMULATIVE NO PIECES INSPECTED - Total number. Initial entry is provided by the activity performing the certification. Subsequent entries are also made by the owner/user for each issue/use period of gauge.

l. REMARKS - Use as required for additional information by activity performing certification and the owner/user.

NOTE: Owners/users will contact their local TSA for assistance in determining the appropriate activity to ship small arms and ammunition gauges. The rationale for this is technical data files, drawings, and certification procedures must be available at the performing TSA.

Appendix E
Eighth Army TMDE Inspection Checklist

TMDE INSPECTION CHECKLIST

SUB-FUNCTION: Test Measurement and Diagnostic Equipment

INSPECTION ITEM AND REFERENCE COMPLY NON-COMPLY N/A

TMDE Program Documentation

- | | | | |
|--|-----|-----|-----|
| 1. Has the unit commander designated a TMDE Support Coordinator to serve as the central point of contact between the Major Subordinate Command (MSC), its subordinate units, and TMDE support providers IAW AR 750-43? | ___ | ___ | ___ |
| 2. Does the MSC TMDE Coordinator maintain the following references IAW AR 750-43 and TB 750-25? | ___ | ___ | ___ |
| a. AR 750-1, Army Materiel Maintenance Policies. | ___ | ___ | ___ |
| b. AR 750-43, Test program Set Procedures. | ___ | ___ | ___ |
| c. TB 750-25, The Army TMDE Calibration and Repair Support Program. | ___ | ___ | ___ |
| d. TB 43-180, TMDE Calibration and Repair Requirements. | ___ | ___ | ___ |
| e. DA PAM 750-8, The Army Maintenance Management System (TAMMS). | ___ | ___ | ___ |
| f. MSC Unit Maintenance SOP. | ___ | ___ | ___ |
| g. Supporting Unit's Maintenance Company (TMDE) External Operating SOP and/or Customer Handbook. | ___ | ___ | ___ |
| 3. Is a TMDE Program Continuity Book maintained by the MSC TMDE Coordinator IAW AR 750-43 and TB 750-25? | ___ | ___ | ___ |
| 4. Does the MSC TMDE Coordinator maintain current assumption of command orders for two level down subordinate unit commanders that own/submit TMDE for support IAW TB 750-25? | ___ | ___ | ___ |
| 5. Has the MSC calibration coordinator alternates attended formal TMDE coordinator training provided by the Supporting Unit's Maintenance Company (TMDE) and the Eighth U.S. Army G4 TMDE Coordinator IAW AR 750-43 and TB 750-25? Training should have occurred within 45 days of assumption of duty. | ___ | ___ | ___ |
| 6. Does the MSC maintain records of formal TMDE Coordinator/Alternate training attended by its' subordinate unit one level down for TMDE Coordinators? Training should have occurred within 45 days of assumption of duty. | ___ | ___ | ___ |

<u>INSPECTION ITEM AND REFERENCE</u>	<u>COMPLY</u>	<u>NON-COMPLY</u>	<u>N/A</u>
7. Are TMDE Coordinator Appointment Orders maintained by the MSC TMDE Coordinator for one level down subordinate units IAW AR 750-43 and TB 750-25?	___	___	___
8. Have Unit Property Books and Major Hand Receipts been reviewed by the MSC one level down to determine calibration and repair support requirements of organic TMDE IAW TB 750-25?	___	___	___
Calibration and Repair Services/MSC TMDE Coordination Duties			
1. Does the MSC TMDE Coordinator review for accuracy and maintain the TMDE Management Reports provided by the Supporting Unit's Maintenance Company (TMDE) IAW AR 750-43 and TB 750-25? (Automated listings should be retained for a minimum of 2 reporting periods to facilitate trend analysis.)	___	___	___
2. Are "Special" TMDE Management Reports routinely requested from the Supporting Unit's Maintenance Company (TMDE) IAW TB 750-25 and their External SOP?	___	___	___
3. Are significant TMDE changes of subordinate units, i.e. large-scale additions/deletions (defined as plus or minus ten percent or more of a unit's TMDE Density) pre-coordinated with the MSC TMDE Coordinator and the Supporting Unit's Maintenance Company (TMDE)?	___	___	___
4. Does the MSC TMDE Coordinator ensure that subordinate units submit TMDE for service IAW AR 750-43, TB 43-180, and TB 750-25?	___	___	___
5. Is TB 43-180 used to establish and verify TMDE Calibration and Repair Requirements and to determine the proper calibration interval?	___	___	___
6. Is TMDE used with ERC A End Items also identified as ERC A on the unit's Instrument Master Record File (IMRF)?	___	___	___
Command Involvement			
1. Does the MSC's Unit Maintenance SOP address operator/organizational Maintenance Responsibilities for organic TMDE IAW AR 750-1, TB 750-43, and TB 750-25?	___	___	___
2. Has the Unit Commander identified and documented those items of TMDE that he/she considers to be "Critical", "Mission-Essential" or deserving of "Priority Calibration Support" (i.e. "Mission Stoppers") IAW Supporting Unit's Maintenance Company (TMDE) External Operating Procedures SOP?	___	___	___
3. Is the Unit Commander aware of his current TMDE Readiness and Delinquency rates? (MSC TMDE Coordinators should brief or provide summarized TMDE Reports to Unit Commanders on a monthly basis).	___	___	___
4. Are Unit TMDE Readiness Rates at or above the DA Standard of 95 percent Readiness IAW AR 750-43?	___	___	___

INSPECTION ITEM AND REFERENCE

COMPLY NON-COMPLY N/A

5. Are Unit TMDE Delinquency Rates at or below two percent of TMDE Density IAW AR 750-43?	___	___	___
6. Are periodic (semi-annual) physical inventories conducted to verify the types and quantities of TMDE on-hand IAW TB 750-25?	___	___	___
7. Are subordinate unit Delinquency Lists reviewed periodically and corrective action taken IAW TB 750-25?	___	___	___
8. Are the types of TMDE authorized by the unit TOE/TDA adequate to perform the unit's mission IAW AR 750-43?	___	___	___
9. Are Unit TMDE Operators and Technicians sufficiently trained in the use and performance of required maintenance of unit TMDE IAW AR 750-43?	___	___	___
10. Does the MSC Unit Maintenance SOP specifically address the identification, submission, and control of TMDE requiring calibration, repair or both IAW TB 43-180 and TB 750-25?	___	___	___
11. Is command emphasis placed to ensure that excess or unserviceable TMDE is processed promptly through supply channels once it has been condition coded or purged through TEMOD?	___	___	___

OVERALL RATING _____

Primary Inspector Sign and Date: _____

Appendix F

Minimum TMDE Coordinator Training Requirements

This appendix will discuss the minimum topics that will be covered in the TMDE Support Coordinator Training course. This list is not to be considered a complete list of requirements, but only the minimum topics that will be covered to provide a solid foundation for the TMDE Support Coordinator.

- a. **Introduction to Calibration** – a brief overview on the Army calibration program and the agencies involved in traceability.
- b. **Definitions** – discuss common terms and acronyms used in TMDE.
- c. **Duties and Responsibilities** – this will be an overview of the duties and responsibilities of the TMDE Support Coordinator and will give a solid understanding of all requirements.
- d. **Submission of TMDE for calibration/repair** – discuss specific procedures regarding the pick-up and turn-in of TMDE to the TSA. Include requirements for signature cards and assumption of command orders, as well as any other required forms.
- e. **Calibration Forms** - provide an overview of the forms that are involved in the TMDE management process.
- f. **Condition Coding** – discuss the requirement and process of condition coding to provide an understanding of when and why equipment is coded out.
- g. **Labels** – elaborate on the types of labels used in TMDE operations, their specific uses, and actions required on the part of the customer regarding these labels, i.e. Limited-use calibration, CBU, etc.
- h. **Administrative Storage** - provide an overview and understanding of all requirements for equipment that is to be placed in administrative storage.
- i. **Types of Reports** – discuss the reports that are available to the TMDE Support Coordinator as well as their uses and frequency of issue.

Glossary

Section I. Abbreviations

ACL	Area Calibration Laboratory
AMC	U. S. Army Materiel Command
AMEDD	U. S. Army Medical Department
ARNG	Army National Guard
ATST	Area TMDE Support Team
AVIM	aviation intermediate maintenance
C&RS	calibration and repair support
CBU	calibrate before use
CNR	calibration not required
CONUS	Continental United States
CSMS	combined support maintenance shops
DCMC	Defense Contract Management Command
DOD	Department of Defense
DODCEL	Department of Defense Consolidated Equipment List
EI	extended interval
GIDEP	Government Industry Data Exchange Program
IMRF	instrument master records file
IOC	Industrial Operations Command
ISA	interservice support agreement
JETDS	joint electronics type designator system
LOA	letter of offer or acceptance
MIS	management information system
MTOE	modification table of organization and equipment
NAVAIR	Naval Air Systems Command

NIHF	national instrument history file
NIST	National Institute of Standards and Technology
OCONUS	outside continental United States
OUIIC	owner unit identification code
PBO	property book officer
PP	production and procurement
PUIC	performing unit identification code
QA	quality assurance
RADIAC	radiation detection, indication, and computation
RD	research and development
SB	Supply Bulletin
SOP	standing operating procedure
SUIC	scheduling unit identification code
TB	technical bulletin
TDA	table of distribution and allowances
TE	test and evaluation
TIMMS	TMDE integrated materiel management system
TM	technical manual
TMDE	test, measurement, and diagnostic equipment
TMDE-GP	TMDE-general purpose
TMDE-SP	TMDE-special purpose
TNG	training aid
TO	technical order
TOE	tables of organization and equipment
TSA	TMDE Support Activity
TSC	TMDE Support Center

USAPSL	U. S. Army Primary Standards Laboratory
USAR	U. S. Army Reserve
USATA	U. S. Army TMDE Activity
USNO	U. S. Naval Observatory
UIC	unit identification code

Section II. Terms

Area TMDE Support Team - An organizational element of a TSC or TMDE support company. The ATST provides TMDE calibration and repair support in a mobile configuration. The ATST consists of TMDE C&RS equipment mounted in one or more vehicles, and staffed with TMDE support personnel (civilian or military).

Area Calibration Laboratory - An organizational element of a TSC that provides support for secondary transfer measurement standards and/or TMDE designated as requiring ACL support. The ACL consists of measurement standards, TMDE C&RS equipment, and laboratory personnel. Normally one ACL is collocated with the parent TSC.

Calibration - The comparison of a measurement system or device of unverified accuracy to a measurement system or standard of known greater accuracy to detect and correct any variation from the required performance specifications of the unverified measurement system or device.

Calibration Equipment - Measurement standards, test, measurement, and diagnostic equipment, and accessories used in performance of calibration.

Calibration Interval - The period of time that a calibrated instrument can be expected to retain its specified accuracy within a predetermined confidence level before it must be recalibrated.

Calibration Procedure - The document that identifies the technical specifications of an instrument to be calibrated, the required measurement standards, and the detailed technical procedure to be used to perform a calibration.

Calibration Requirement - The identification of an instrument that requires calibration, a statement of the instrument's specifications that must be verified (accuracies, ranges, frequencies, etc.), and the support application of the instrument.

Certification - Endorsement of reliability.

Deviation - A change from an established diagnostic operating procedure or method of operation to a different procedure or method to accomplish the required end result.

Diagnostic Equipment - Equipment used to analyze and identify electronic and physical characteristics.

Diagnostic Test - Test that isolates the fault to the level of replaceable item.

Instrument - The term used to denote both TMDE and measurement standards.

Instrument Master Record File - The data file that contains identifying information about instruments that require cyclic calibration and repair. It also contains identifying information about instruments that require repair but do not require calibration.

Interservice Support Agreement - Calibration and maintenance service performed by the organic capability of one military service (or element thereof), contractor, and other government agencies in support of another military service (or element thereof). Such action can be recurring or non-recurring in character.

Levels of Support

(1) The letter F identifies those TMDE-SP items which are to be supported by item owner.

(2) The letter T identifies those items of TMDE which are to be supported by the Area TMDE Support Team (ATST) or TMDE Support Center (TSC). ARNG may support items identified as T level.

(3) The letter S identifies those items of TMDE which are to be supported by the Army Calibration Laboratory (ACL) or by the closest support activity that has the appropriate "S" level support capability.

(4) The letter P indicates support responsibility is assigned to the APSL or by the closest support activity that has the appropriate "P", level support capability.

Manual Test - Test performed using manual equipment.

Measurement Equipment - Equipment used to observe a quantitative value or dimension.

Measurement Standard - An instrument, natural physical constant, or materiel with known performance characteristics used as a reference to establish the value and maintain accuracy of a measurement system or instrument.

Measurement System - One or more measurement standard and accessories interconnected to perform a complete measurement from the first operation to the end result.

Measurement Techniques - The technical methods derived from scientific principles that are employed in order to determine or ascertain the value of a parameter (length, mass, time, voltage, etc.).

Metrology - The science of measurement including development of standards and systems for absolute and relative measurement.

Mobile TMDE Support Team - An organizational element of a TSC that provides TMDE C&RS normally at customer sites. It consists of TMDE C&RS equipment and is staffed with TMDE support personnel. It is a functional element of the TSC when not operating in a mobile configuration.

National Instrument Historical File - A data file maintained by HQ, USATA, that contains Army wide information about C&RS actions on each instrument.

National Standard - Measurement standard maintained by NIST or the Naval observatory for time and time interval constituting the highest level of accuracy and legal basis for measurement in the United States.

Precise Time - A time requirement accurate to within 10 milliseconds. Time signifies epoch, that is the designation of an instant on a selected time scale, astronomical or atomic. It is used in the sense of time of day.

Primary Reference Standard - Measurement standards representing the highest level of measurement capability within the Army TMDE calibration and repair program which are normally used and maintained by the U.S. Army Primary Standards Laboratory (USAPSL) and Army Primary Nucleonic Laboratories.

RADIAC Meter - A portable TMDE such as Geiger counter or ionization chamber used to detect nuclear radiation and dose rate. RADIAC meters may be used to detect or measure alpha, beta, gamma, x-rays, or neutron radiation.

Repair - Restoring an item to a serviceable condition through correction of a specific failure or unserviceable condition.

Secondary Reference Standards - A set of measurement standards and accessories which are normally used in a fixed facility laboratory environment and maintained by ACLs.

Secondary Transfer Standards - A set of measurement standards and accessories which are used in a mobile or fixed configuration by ATSTs and TSCS.

Test Equipment - Equipment used to determine characteristics or values using specific procedures and/or methods to make a reference measurement.

Test, Measurement, And Diagnostic Equipment - Any system or device used to evaluate the operational condition of an end item or subsystem thereof to identify and/or isolate any actual or potential malfunction. TMDE includes diagnostic and prognostic equipment, semiautomatic and automatic test equipment (with issued software), and calibration test or measurement equipment. (NOTE: When the term TMDE is used, it refers to both TMDE-GP and TMDE-SP.)

Time Interval - The duration of a segment of time without reference to when the time interval begins or ends. The time interval may be given in seconds of time.

TMDE-General Purpose - Any TMDE that can be used without modification for support operations of more than one end item or system. Addition of external special accessories, plug-in assemblies, logic probes, attenuators (or TPSs for ATE) are not considered modifications.

TMDE-Special Purpose - Any TMDE designed specifically for support of, and functionally restricted to, one end item or system. To use this TMDE for support of another end item or system would necessitate modifications to the TMDE. Addition of external special accessories, plug-in assemblies, logic probes, attenuators (or TPS for ATE) are not considered modifications.

TMDE Support Activity (TSA) - A functional organization (personnel and equipment) specifically established to provide single source C&RS for TMDE.

TMDE Support Center - A TMDE support center established at strategic geographic locations to provide C&RS service within an assigned geographic area. TSCs operate an ACL and deploy ATSTs within the assigned geographic area. TSCs may be organized under TDAs or MTOES.

U.S. Army Primary Standards Laboratory - An organizational element of USATA that provides the Army's highest level of measurement capability. The USAPSL maintains the Army's most precise and accurate measurement standards and provides C&RS service for selected Army materiel.

Waiver - The elimination of a requirement to comply with an established operating procedure or method-of operation.