

TB 750-25

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DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

**MAINTENANCE OF
SUPPLIES AND EQUIPMENT**

**ARMY TEST, MEASUREMENT, AND
DIAGNOSTIC EQUIPMENT
(TMDE)**

**CALIBRATION AND REPAIR SUPPORT
(C&RS)**

PROGRAM

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**HEADQUARTERS, DEPARTMENT OF THE ARMY
1 MARCH 1997**

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DEPARTMENT OF THE ARMY
WASHINGTON, DC, 12 NOVEMBER 1999

Maintenance of Supplies and Equipment
Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and
Repair Support (C&RS)
Program

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**Maintenance of Supplies and Equipment
Army Test, Measurement, and Diagnostic Equipment (TMDE)
Calibration and Repair Support (C&RS)
Program**

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CHAPTER I

INTRODUCTION

1-1. Purpose. This technical bulletin (TB) provides guidance, procedures, and general information applicable to the Army TMDE C&RS program. Specifically, this TB provides detailed information and instructions concerning the procedures and controls for ensuring accurate and traceable measurements, and prescribes required forms and records in accomplishing C&RS functions. It also provides general instructions on how to obtain TMDE support and technical assistance. This TB supports the Army policy as set forth in AR 750-43, Army Test, Measurement, and Diagnostic Equipment Program.

1-2. General. Army policy assigns the management, command and control, of the Department of the Army TMDE C&RS program to Headquarters, U. S. Army Materiel Command (AMC). The Commander AMC designated the U. S. Army Test, Measurement, and Diagnostic Equipment Activity (USATA), an element of the U. S. Army Aviation and Missile Command, the responsibility of executing the DA TMDE C&RS program.

1-3. Geographic Mission Areas. The USATA provides worldwide C&RS for general purpose TMDE (TMDE-GP) and selected special purpose TMDE (TMDE-SP). The USATA also provides command and control, staff coordination, and management of Continental United States (CONUS) and Outside the Continental United States (OCONUS) assigned TMDE support activities (TSA). The CONUS is divided into three geographical regions (Region 1, 2, and 3) from which TMDE C&RS is provided. Regions Europe and Pacific provide OCONUS support. One active duty military company provides worldwide C&RS throughout CONUS and OCONUS in support of wartime and peacetime missions.

1-4. TMDE Support to the Army National Guard (ARNG). As an exception to the centrally-managed Army TMDE support structure, the ARNG Combined Support Maintenance Shops (CSMS) have TMDE support missions for selected items designated in TB 43-180 as "T" and "S" level. The TMDE support responsibilities of the ARNG CSMS are determined by the capabilities authorized to each CSMS for its TMDE support mission. All TMDE support beyond the CSMS capability will be provided by the appropriate Army TSA. Details of USATA TMDE C&RS to the ARNG is generally stipulated in an interservice support agreement, or memorandum of understanding, between the ARNG and the AMC proponent activity.

1-5. TMDE Support to the Army Reserves (USAR). USAR units receive TMDE C&RS as set forth in AR 750-43, this TB, and other TMDE regulatory guidance as required. The Logistics Division, DAAR-LO, Office of the Chief, Army Reserve, has overall responsibility for TMDE C&RS support for all USAR units. Details of USATA TMDE

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C&RS to the Army Reserve are generally stipulated in an interservice support agreement, or memorandum of understanding, between the USAR and the AMC proponent activity.

1-6. DS/GS/AVIM Organizations

a. DS/GS/AVIM units provide organic and supported units with TMDE C&RS in accordance with TB 43-180. Such units ensure that repaired special purpose TMDE is calibrated after repairs are accomplished.

b. DS/GS/AVIM units performing TMDE-SP C&RS compiles and maintains instrument master record files (IMRF) for supported TMDE-SP, which may be provided by their TSA. Using the IMRF, DS/GS/AVIM organizations develop schedules for providing TMDE-SP calibration service for supported units. They provide those units with at least a 30-day advance notice identifying the TMDE-SP which are scheduled for calibration and the location where service will be provided.

1-7. Customer Technical and Logistics Assistance

a. All units and activities with TMDE problems of any type are encouraged to bring them to the attention of the local TSA responsible for supporting their TMDE. The supporting TSA is responsible for providing C&RS, to include assistance in obtaining a solution to the TMDE problem.

b. TSAs at all levels must work closely with AMC Logistic Assistance Officers (LAO) 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 are not resolvable locally, the supporting TSA will address the request for assistance to their parent TSA.

CHAPTER 2

CALIBRATION AND REPAIR SUPPORT

2-1. General. This chapter provides information concerning the traceability of measurements and general procedures concerning TMDE C&RS.

2-2. Traceability of Measurements

a. The DA TMDE C&RS program assures that measurements are traceable to the national standards held by the National Institute of Standards and Technology (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 (TSA) have been established worldwide to provide C&RS for U. S. Army TMDE, and in doing so ensures traceability of 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 TSA's. 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.

2-3 TMDE Support

a. The TSA is a generic term used to identify TMDE support organizations providing C&RS. It includes TMDE support centers (TSC), area calibration laboratories (ACL), TMDE maintenance companies, and their subordinate organizational elements, such as mobile area TMDE support teams (ATST).

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b. Owners/users receive C&RS support from their supporting TSA. Army direct support (DS), general support (GS), and aviation intermediate maintenance (AVIM) units provide C&RS for special purpose TMDE (TMDE-SP) identified in TB 43-180. Selected items of TMDE-SP may be supported by a TSA when capabilities exist and there is a written agreement between the owner/user and the TSA.

c. TMDE requiring C&RS must be transported by the owner/user to their TSA unless directed to do differently by the TSA. When the local support organization is not capable of providing C&RS, the TMDE will be evacuated as directed by the parent TSA. The TSA is responsible for providing or obtaining the necessary C&RS and notifying the owner/user of items awaiting pickup. When the size or the construction of the TMDE precludes movement, a mobile ATST is dispatched to the TMDE owner/user site.

d. TMDE and/or standards requiring "S" or "P" level support will be transported by the owner/user to their local TSA who will evacuate the item for C&RS.

e. TMDE requiring manufacturer's calibration or repair will be arranged by the supporting TSA.

f. RADIAC support may be obtained IAW section VI, chapter 3.

g. Calibration and repair support for Army fielded TMDE is identified in TB 43-180. Calibration requirements will be established only when TMDE accuracy must be continuously maintained and where the lack of calibration (out-of-tolerance TMDE) can adversely affect system operations, end item performance, or safety.

h. The calibration procedures listed in TB 43-180 are valid for all calibrations and shall be used. The use of procedures other than those referenced in TB 43-180 are not authorized, unless approved by the USATA through the submission of a DA Form 3758-R (Calibration and Repair Requirements Worksheet)*. Manufacturers' manuals and DOD procedures, to include U. S. Air Force Technical Orders (TO), Naval Air Systems Command (NAVAIR), and Government Industry Data Exchange Program (GIDEP) are considered approved calibration procedures. The approved maintenance manual is also listed in TB 43-180. When there is no approved calibration procedure available for an item of TMDE presented for calibration, it is the responsibility of the supporting TSA to use their chain of command to contact USATA Engineering, Acquisition, and Logistics Directorate, for assistance in locating an approved calibration procedure. If there is no approved calibration procedure available, it is the responsibility of the supporting TSA to develop a calibration procedure that verifies the required accuracies and parameters of that item. The locally developed procedure must be approved in writing by the calibration laboratory/team chief. A copy of each locally developed procedure will be forwarded to the USATA Engineering, Acquisition, and Logistics Directorate for review.
Approved

calibration procedures refer to published documents that identify the technical specifications of an instrument to be calibrated, the required measurement standards and accuracies, and the detailed technical procedure to be used to perform a calibration.

* A copy of DA Form 3758-R is available at the back of this Technical Bulletin. It will be locally reproduced on 8 1/2 x 11-inch paper. It is approved for electronic generation.

2-4 Instruments not Listed in TB 43-180

a. When instruments not listed in TB 43-180 are presented for C&RS, the following actions are taken:

(1) 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.

(2) 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.

2-5 Calibration Forms, Labels and Tags. DA Label 80 (U. S. Army Calibration Instrument), DA Label 163 (U. S. Army Limited or Special Calibration Label), and DA Form 2417 (U. S. Army Calibration System Rejected Instrument) will be used by all activities providing C&RS. All TMDE and calibration standards will have either a DA Label 80, DA Label 163, or DA Form 2417 affixed to it. This action provides visual indication of calibration status. Preparation, use, and overprinting instructions are contained in appendix C. U. S. Army elements receiving C&RS from another DOD agency will assure that the appropriate label or tag is affixed to the instrument. Labels used by the U. S. Air Force, U. S. Marines, and U. S. Navy are recognized by the U. S. Army. Items that have been supported by DOD or contractor may have DA Labels 80 affixed to them, but the DOD or contractor labels must also remain affixed to the items. Only DA Label 80, DA Label 163, or DA Form 2417 will be used for those items with system code H05.

2-6 Instrument Master Record File (IMRF). Each activity providing C&RS shall establish and maintain an IMRF. The IMRF for DS/GS/AVIM units is maintained by the supporting TSA if the DS/GS/AVIM unit has no organic management information system (MIS) capability. The DA Form 7372 (TMDE Calibration and Repair Data) will be used as the basic source document for establishing and updating records in the IMRF. DA Form 7372 is available as an electronic form. The IMRF identifies those instruments that require C&RS, those that are in storage (CBU), and those that are in the category of "calibration not required" (CNR).

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2-7 Administrative Storage

a. Administrative storage of TMDE is the placement of instruments in a limited care and preservation status for periods of time. 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 443. This is normally a function of the property book officer (PBO). In the case of TMDE, the TMDE support coordinator should also review the need for administrative storage. Administrative storage condition requirements can be found in the applicable technical manual (TM) or manufacturer's manual.

b. 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. All items of equipment must be fully operational before being placed in administrative storage.

2-8 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.

2-9 Limited 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, written request is furnished to the supporting activity by the owner/user and will remain on file until rescinded in writing.

CHAPTER 3 OPERATING PROCEDURES

Section I. SCHEDULING, RECORDING, AND REPORTING CALIBRATION AND REPAIR ACTIONS

3-1. General

a. This section prescribes the procedures to be used for:

- (1) Scheduling, recording, and reporting calibration actions.
- (2) Recording and reporting repair actions.
- (3) Recording and reporting instrument status.

b. The DA Form 7372, will be used by all TSAs. Instructions for filling out DA Form 7372 is at appendix D.

3-2. Procedures

a. All TSAs will maintain in a current status the following TIMMS files:

(1) An IMRF containing all instruments which require calibration and/or repair support (to include CNR/CBU items) by the activity.

(2) A unit identification code (UIC) master file of all instrument owners supported by the activity. In automated reporting systems, all owner UICs and scheduler UICs entered on the data form will be validated against this file.

(3) A status file on each instrument currently being processed by the activity.

b. All instrument owners will be provided the following data at least monthly or when requested:

(1) Projected items list identifying each instrument in the IMRF that is scheduled for calibration that month. The list will indicate the date that calibration is scheduled. The USAPSL, TSAs, and DS/GS/AVIM units will provide at least a 30-day advance notice.

(2) A delinquent items list that identifies all instruments in the IMRF where the calibration due dates have expired, and the instruments have not been received by the TSA for calibration.

c. The TMDE master listing of owner's instruments in the IMRF will be provided to all instrument owners quarterly.

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d. There are additional data products available to the TMDE support coordinator upon request. They include:

- (1) Status list by OUIIC/distribution code.
- (2) Items awaiting pickup.
- (3) IMRF delinquency report.
- (4) UIC lists.
- (5) TEMOD in OUIIC/distribution code sequence.

e. A preprinted or hand scribed DA Form 7372 will remain with each instrument received for calibration or repair until the supporting activity has made final disposition (returned to customer). Changes in instrument status will be recorded in accordance with instructions in appendix D.

f. Each supporting calibration and repair activity forwards weekly completed actions, through the TIMMS reporting procedures, to the Commander, U. S. Army Aviation and Missile Command, ATTN: AMSAM-TMD-MI, Redstone Arsenal, AL 35898-5400.

g. The delinquent list will not include items in administrative storage.

h. The following reports are to be distributed to the TMDE support coordinators:

(1) The IMRF for TMDE-SP support by DS/GS/AVIM units may be maintained by the support TSA if the DS/GS-AMIM has no organic MIS capabilities. The accuracy of these files rests with the TMDE owner/user, who 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/DS/GS/AMIM as changes, additions, or deletions in the IMRF inventory occur. The IMRF must contain all TMDE. The IMRF is normally distributed quarterly.

(2) 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.

(3) 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.

i. 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.

Section II. CALIBRATION OF NUCLEAR WEAPONS SUPPORT EQUIPMENT

3-3. General. Support of nuclear weapons TMDE is the same as any other TMDE, except as required by Appendix C, paragraph C-7e. The U.S. Army Industrial Operations Command (IOC) evaluates all nuclear weapons TMDE entering into the U. S. Army inventory. Calibration and repair requirements and the effect of calibration of the TMDE on nuclear weapons reliability is determined by the IOC and the USATA. Calibration procedures are developed depending on the critical or non-critical status of the TMDE.

Section III. CALIBRATION OF MEDICAL X-RAY EQUIPMENT

3-4. General

a. 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.

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

(1) 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.

(2) 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.

(3) 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.

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3-5. Procedures

a. 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.

(1) Dynalyzer II and III high voltage instruments are handled on an exchange basis.

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

b. X-ray radiation probes are calibrated and repaired by the Nucleonic Laboratory. Other TMDE associated with medical xray equipment is supported in accordance with TB 43-180.

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

Section IV. COMMERCIAL CALIBRATION AND REPAIR

3-6. General. This section is applicable to all TMDE owners, users, and USATA elements that receive TMDE services from commercial sources.

3-7. Procedures

a. 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 this pamphlet. 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 ANSNI Z540.1-94.

b. Commercial contractors providing calibration support for Army TMDE must maintain a calibration system which conforms to ANSNI Z540.1-94. Army activities electing to use calibration services from a commercial source (contractor) are responsible for obtaining an audit of the contractor's calibration system. A statement from the contractor attesting to compliance with the standard is not acceptable. Documentation must be kept on file attesting to the date and by whom the audit was performed.

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

Section V. RESPONSIBILITIES OF TMDE SUPPORT COORDINATORS

3-8. General

a. This section provides information and instructions for TMDE support coordinators and outlines their responsibilities. It provides guidance and acquaints TMDE support coordinators with the procedures required to enable them to monitor their units' implementation of the Army TMDE support program.

b. The TMDE support coordinator is the key person for all matters pertaining to TMDE support for their unit. In accordance with AR 750-43, the installation/command TMDE support coordinator will be assigned the responsibility to monitor the TMDE support program. The TMDE support coordinator is the owner/user's primary contact for all TMDE matters and should establish and maintain a good working relationship with the TSA.

3-9. TMDE Support Coordinator Training

a. 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 Army wide.

b. A CD-ROM based TMDE support coordinator training program is available to all TSAs. The training program may be used in conjunction with appropriate local directives and SOPs to form a customized training package for local coordinators. TSAs will ensure training packages and assistance are provided to all TMDE support coordinators.

3-10. TMDE Support Coordinator's Duties

a. The organizational structure of different activities may require the TMDE support 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 units 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.

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(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.

b. 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?

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(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 report 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?

Section VI. RADIAC Support

3-11. General. Support for RADIAC meters, including dosimeters, is provided in TB 9-6665-285-15, Radiation, Indication, and Computation (RADIAC) Meters.

Section VII. CROSS-CHECKS, INTERCOMPARISONS, AND VISUAL INSPECTIONS

3-12. General. Guidance for performing cross-checks, intercomparisons, and visual inspections is outlined in TB 9-4931-537-35, Calibration Procedure for Cross-Checks, Intercomparisons, and Visual Inspections.

Section VIII. FREQUENCY AND TIME MEASUREMENTS

3-13. General. Support for frequency and time measurements is provided in TB 9-4931-539-35, Frequency and Time Measurements.

Section IX. SMALL ARMS AND AMMUNITION GAGES

3-14. General. The owners/users contact their local calibration activity for instructions on where to send their gages for inspection and calibration.

a. For any small arms and ammunition gages 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.

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

c. Inspection/calibration intervals are established by the owner/user. This period begins with the date of receipt entered on the DA Form 3023 (fig. E-1). DA Form 3023 (Gage Record) is used in lieu of DA Label 80.

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

e. Small arms and ammunition gages are supported as follows:

(1) Inspection/calibration intervals must not exceed 360 days for small arms gages and 720 days for ammunition gages. Gages subjected to unusual conditions, i.e., damage, rust, excessive wear, etc., must be recalibrated prior to further use.

(2) Ammunition gages from CONUS installations and Alaska requiring calibration are shipped to the supporting activity 15 days prior to scheduled due date, or at any time the number of passes is exceeded. DA Form 3023 will accompany each gage. Gages which have intervals of 180 days or 2 years are shipped only if they have been used. If a gage has not been used since the last calibration and shows no signs of damage or deterioration, the owner/user will notify the supporting activity 30 days prior to the due date. The supporting activity processes the DA Form 7372 (for the gage), 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 gage has still not been used, it must be shipped to the support activity for calibration.

(3) At the time of required reinspection/recalibration, the responsible individual sends the gage(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 gage when it is turned in for reinspection/recalibration. In the event that the original DA Form 3023 (the one which accompanied the gage 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 gage.

(4) Gages must be marked with a serial number for identification purposes. Method of such marking is optional. However, marking method utilized (paint, etching,

tag, etc.) must not be applied on the critical gage surface or in a manner which will degrade gage function or damage critical gage surfaces.

(5) Each user, upon receipt of new replacement gage(s), shall determine that a DA Form 3023 accompanies each gage and has all pertinent information entered thereon. If this form does not accompany each gage, those gages 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.

(6) When each gage 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.

(7) For gages found to be unserviceable, the authorized inspection/calibration TMDE support activity:

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

(b) 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 gage through normal supply channels.

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

(8) The electrical output tester, PN 7142554, NSN 1055-00-714-2554, is calibrated using normal Army calibration and recording procedures. DA Form 3023 should not accompany this equipment nor shall the maintenance of this form be required.

(9) Gages that are equipped with a wear check, or master gage, 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 gage and standard will be turned in for condition confirmation and disposal. However, such wear checks or master gages must be calibrated at intervals not to exceed 12 months.

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

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(11) The gages 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 gage. After wrapping, the gages 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 gage 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.

(12) 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.

(13) Groups of gages may be shipped under one document and identified as "multipack" when appropriate. The shipping document should contain the following note: "These gages 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.

(14) Each supply depot responsible for issuing small arms and ammunition precision measuring equipment and/or gages must ensure the following at the time of shipment:

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

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

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

(15) Gages received at user level without a DA Form 3023 will be returned to the issuing depot. The supply depot:

(a) Replaces the deficient gage with another, properly identified, certified, and accompanied by its appropriate DA Form 3023.

(b) Forwards the deficient gage and a DA Form 3023 to the appropriate inspection or calibration facility for verification and return for placement in depot stores.

(16) For gages that do not have model numbers, drawing numbers will be used.

(17) Directions for completing DA Form 3023 are located in appendix E.

**Section X. TMDE SUPPORT FOR RESEARCH AND DEVELOPMENT (R&D),
PRODUCTION AND PROCUREMENT (P&P), TEST AND EVALUATION
(T&E), AND DEPOT MAINTENANCE ORGANIZATIONS**

3-15. General. This section provides guidance for support of TMDE used in R&D, P&P, T&E, depot maintenance organizations, and for the USATA TSAs that have a primary mission of supporting these organizations.

3-16. Identification of TMDE Support Requirements

a. The identification of a TMDE support requirement involves several actions on the part of the TMDE owner/user in conjunction with the installation/command TMDE support coordinator and the TSA. C&RS requirements for instruments used in R&D, P&P, T&E, and depot maintenance organization applications; will be established by the owner. TB 43-180 is used only as a guide.

b. Support requirements are identified to the TSA by the owner/user and include, as a minimum, the identification of the instrument, specifications, initial interval, performance accuracy required, and manufacturer's manual. Intervals are based on the instrument's performance data and accuracy requirements of the application. The level of support is determined by the USATA based on the owner/user accuracy requirements and existing support capabilities.

c. The TMDE used by R&D, P&P, T&E, and depot maintenance organizations may not be listed in Army publications. The only record of these items is the IMRF maintained by the TSA. This record consists primarily of workload data and does not include instrument specifications or the support accuracy requirements. This data must be provided to the TSA on DA Form 3758-R, or memorandum. The memorandum must contain the same basic data elements required on the DA Form 3758-R.

3-17. Calibration Procedures/Techniques

a. The TSAs that support R&D, P&P, T&E, and depot maintenance organizations will establish and maintain a file of calibration procedures that identifies instrument specifications, support requirements accuracy, and the techniques necessary to satisfy the owner/user's application. The file may contain documents published by the Department of the Army, Navy, Air Force, NIST, other government/commercial agencies, and manufacturer's manuals. The development and publication of a local procedure will

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be initiated by the TSA only after it has been determined that a published procedure is not available.

b. Access to Government Industry Data Exchange Program (GIDEP) procedures is through the USATA (AMSAM-TMD-E) if local access is not available.

3-18. Support for Collocated Army Organizations. The TSAs that support R&D, P&P, T&E, and depot maintenance organizations will also provide TMDE support for field Army units located on the same installation. Support of these units will be in strict compliance with the intervals and procedures outlined in TB 43-180 and this TB. Field Army unit requirements that cannot be supported will be referred to the appropriate TSA.

3-19. Environmental Control Requirements

a. The manufacturer's stated temperature coefficient of the measurement standard being utilized and the owner/user TMDE accuracy requirements dictate the environmental controls that must be maintained by the USATA support organization. Calibration may be performed in a specified area where the environment is controlled adequately to satisfy the required temperature coefficient.

b. Environmental control requirements for TSAs are locally developed. Local documents outlining environmental control requirements for TSAs are submitted to the USATA, for approval prior to implementation.

CHAPTER 4

QUALITY ASSURANCE (QA)

4-1. General. The QA program, in accordance with AR 750-43 and the USATA SOP 702-1, assures that a standard system for TMDE support activities providing C&RS is maintained. The QA program assures calibration and repair program compliance, measurement accuracy, technical proficiency, product quality, and customer satisfaction.

4-2. QA Inspections

a. All activities inspected will be rated as to pass or fail. At the discretion of the inspection team chief, a failing rating can result in the suspension of calibration support by the inspected activity. The functional areas subject to inspection include management, operations, RADIAC, safety, facilities, and external support. One of the following ratings are assigned to each functional area reviewed:

- (1) No Deficiencies: Functional areas meet prescribed requirements.
- (2) Deficiencies–None Failing: Performance did not meet prescribed requirements, but were corrected and verified by the inspection team.
- (3) Deficiencies–Failing, Resolution Required: Assigned when one or more findings exist which are not or cannot be corrected for verification by the inspection team.
- (4) Deficiencies– Failing; Correction Verified: Assigned when one or more findings exist, but were corrected and the corrected findings were verified by the inspection team.
- (5) Deficiencies–Failing; Reinspection Required: May be assigned when one or more critical findings exist, or the severity of a finding indicates the need for reinspection. Furthermore, a rating of "deficiencies: failing; reinspection required" may be the basis for recommending that instrument support operations be discontinued until the deficiency/deficiencies are corrected. A rating of "deficiencies–failing; reinspection required" will be assigned by the QA inspection team chief. Unresolved issues are presented to the Director, USATA, for resolution.

b. Critical Finding. Critical findings that can cause an organization to fail overall, or in a functional area, are:

- (1) Failure of an end item to meet specifications.
- (2) Loss of measurement traceability.
- (3) Significant safety or health hazard.

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(4) A deficiency that has adverse impact on combat effectiveness of a supported weapon system or organization.

(5) General lack of program discipline.

(6) Consistent failure to meet program performance goals and objectives.

c. Invalid Calibration: A calibration is considered invalid when the following exist:

(1) Through the inspection process, one or more parameters of the calibrated instrument are determined to be beyond the tolerances specified in the approved calibration procedure.

(2) A measurement standard has exceeded its calibration void date, or an out-of-tolerance standard has been used to calibrate the instrument.

d. Failing Deficiency: Failure to meet prescribed requirements that could cause the loss of capability, traceability, safety, security, or failure to perform the mission.

e. Nonfailing Deficiency: Noncompliance with prescribed requirements, but impact on activity or mission is minor.

f. Systemic Problem: An out-of-control condition pertaining to the calibration/repair program that could affect the entire region and/or USATA organization's quality, reliability, safety, or security.

4-3. Inspection Reports

a. A draft inspection report is provided to the commander/chief of the inspected activity upon completion of the inspection.

b. A formal inspection report is provided within 30 days to inspected USATA TMDE support activities, Army National Guard activities, and contractors supporting the U. S. Army calibration and repair mission. A copy of the formal report is forwarded through appropriate command channels to include: HQ AMC (AMCTM-S), USAMC Inspector General Activity (AMXIG-TID), or the National Guard Bureau (NGB-ARL-M).

c. The inspected activity is given 45 days from the date on the USATA inspection report (OCONUS 60 days) in which to reply. The written reply is forwarded through appropriate command channels to the USATA. The reply details corrective action(s) taken to resolve the inspection findings.

4-4. USATA Inspection Team Support

The commander/chief of the activity scheduled to be inspected, or their next higher headquarters should ensure:

a. Internal coordination is such that the USATA inspection team can accomplish its mission in an efficient and effective manner within the allotted time.

b. Time is made available for entrance and exit interviews with the commander/chief or a designated representative.

c. Requested documentation applicable to the activity's operations is made available to the inspection team as follows:

(1) TMDE calibration and repair mission and function statements.

(2) Organizational charts of the calibration and repair activity and, as applicable, the higher headquarters command channels.

(3) TDA, TOE, and MTOE as applicable.

(4) The authorized and assigned strength of the facility (officer, warrant officer, enlisted, and civilian).

(5) Calibration and repair scheduling accomplishment, recording, and reporting.

(6) Local QA records.

(7) A complete set of applicable local operating procedures.

(8) Documented significant problems pertaining to the calibration and/or repair mission.

(9) Approved or pending requests for waiver.

(10) Shortages and requisitions of DA publications (calibration, maintenance, and administrative).

d. Access to restricted areas when necessary.

e. A room with sufficient table or desk space for the inspection team to work and discuss matters in private.

f. Sufficient number of recently calibrated end items.

4-5. Verification Inspection. An end item verification inspection encompasses the inspection of an item of TMDE/standard that has completed the calibration and/or repair

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cycle. Supervisors, team chiefs, or designated representatives perform, as a minimum, one end item verification inspection per technician on a quarterly basis. Such inspections ensure technical competence and product quality. Sampling of end items should be selected based upon the following criteria:

- a. Criticality of end item application.
- b. Frequency of end item use.
- c. Complexity and relative difficulty of calibration/repair.
- d. Failure experience.
- e. Personnel experience and reliability.

4-6. Technical Measurement Audits. A technical measurement audit is a tool used by QA personnel to identify deficiencies, or to investigate problem areas. Such audits are performed on a scheduled, and as necessary, basis. The audits are designed for determining technical proficiency, availability of requisite skill, technical information, and uniformity of measurement techniques. The audits provide a uniform method of evaluating the technical competence of the TSAs that provide “S” level TMDE support services. The audits are standardized in form, content, and method of analysis for each audit cycle. Audit packages are developed around the calibration capabilities of the TSA being audited. Activities that perform technical measurement audits develop, and update annually, a table of capabilities. The table is submitted to the region/company QA office and to HQ USATA.

4-7. Maintenance of Records. Formal records of QA inspections and end item inspections, should be retained for the period between the USATA QA inspections.

APPENDIX A
REFERENCES

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

Army Regulations:

AR 220-1	Unit Status Reporting Code
AR 710-2	Inventory Management-Materiel Management for Using Units, Support Units, and Installations
AR 735-11-2	Report of Items and Packaging Discrepancies
AR 750-1	Army Materiel Maintenance Concepts and Policies
AR 750-43	Test, Measurement, and Diagnostic Equipment Maintenance of Supply and Equipment

DA Pamphlets:

DA PAM 710-2-1	Using Unit Supply System, Manual Procedures
DA PAM 710-2-2	The Supply Support Activity (SSA) Supply System
DA PAM 738-750	The Army Maintenance Management System (TAMMS)

Department of the Army Technical Bulletins:

TB 43-180	Calibration and Repair Requirements for the Maintenance of Army Materiel
TB 9-6665-285-15	Radiation Detection, Indication, and Computation (RADIAC) Meters
TB 9-4931-537-35	Calibration Procedures for Cross-Checks, Intercomparisons, and Visual Inspections
TB 9-4931-539-35	Frequency and Time Measurements

Supply Bulletin:

SB 708-43	Cataloging Handbook H4/H8 Commercial and Government Entity (GAGE) Sections C&D
SB 708-48	Cataloging Handbook H4/H8 Commercial and Government Entity (GAGE) Sections A&B

Military Standards

MIL-STD-129	Military Identification Markings
MIL-STD-45662A	Calibration System Requirements

Other References

FED LOG	Federal Logistics Information System
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APPENDIX A
REFERENCES (Continued)

Prescribed Forms and Labels

DA Form 2417	U. S. Army Calibration System Rejected Instrument
DA Form 3023	Gage 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

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 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 (fig. B-1).

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. DS/GS/AVIM maintenance 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:

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

(3) 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.

(4) 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.

(5) 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.

(6) 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.

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

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(8) 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.

(9) Blocks 16a-c - Instrument Specifications. Block 16a - Enter the parameters that denote the capabilities of the instrument (resistance, voltage, frequency, etc.). Block 16b - Enter the range of each parameter (0-100 MΩ, 0-1 V, 10-20 MHz, etc.). 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."

(10) 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.

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

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

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

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

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

(4) Block 25 - Remarks as appropriate.



(5) 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		17. QUANTITY FIELDIED (By Theater) a. CONUS b. EUROPE c. FAR EAST d. U.S. ARMY SOUTH
	b. PARAMETER See Attached		
		c. RANGE	
		c. ACCURACY	
SECTION B - CALIBRATION SUPPORT CAPABILITY			
18a. CALIBRATION CAPABILITY IS ON HAND AND CALIBRATION IS BEING ACCOMPLISHED EVERY _____ DAYS USING CALIBRATION PROCEDURE		<input checked="" type="checkbox"/> CALIBRATION CAPABILITY IS NOT ON HAND. <input 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"/> F (DS/GS) <input checked="" type="checkbox"/> T (ATST/TSC)		b. REPAIR: <input type="checkbox"/> P (USAPSL) <input type="checkbox"/> S (ACL) <input checked="" type="checkbox"/> F (DS/GS) <input checked="" type="checkbox"/> T (ATST/TSC)	
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, DS/GS/AVIM units, 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).

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(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 <i>21 NOV 96</i>	2. CALBR BY <i>W I P L A A</i>
3. CALBR VOID <i>16 NOV 97</i>	4. NAME/REPORT NO. <i>J. Smith</i>
5. IDENTIFICATION NO. <i>3495</i>	6. OWNER <i>W C A L A A</i>
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 WIP LAA
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 WIP LAA
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. Hudson	
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 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.

U.S. ARMY CALIBRATION SYSTEM REJECTED INSTRUMENT (TB 750-25)	
1. DATE REJECTED	2. REJECTED BY
21 NOV 96	WB2GAA
3. OWNER	4. NAME
WYC7AØ	J. Smith
5. MFR/MOD NO.	6. IDENTIFICATION NO.
2465B	B012345
7. REMARKS	
Times per division out of tolerance. Will not adjust.	
DA FORM 2417, 1 DEC 77	
COPY 1	

Figure C-4. Sample of completed DA Form 2417.

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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 gage 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.

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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 I 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 79	2. CALBR BY W G E H A H
3. CALBR VOID 6 JUN 79	4. NAME/REPORT NO. J. S. Conroy
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 72	2. CALBR BY CNR
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 72	2. CALBR BY CBU
3. CALBR VOID	4. NAME/REPORT NO. A. Mackay
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 TNG
3. CALBR VOID	4. NAME/REPORT NO. S. G. Lang
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 PFAA
3. CALBR VOID 22 MAR 97	4. NAME/REPORT NO. S. G. Lang
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	
<i>(TB 750-25)</i>	
1. DATE CALBR 21 NOV 96	2. CALBR BY WYPLAA
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. DA Label 80 or DA Label 163.

(1) 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.

(2) When the size of an instrument prevents affixing the label to the front of the instrument, one of the following methods may be used:

(a) The label may be affixed to a blank tag and tied to the instrument.

(b) In the case of instruments such as gage block sets, micrometers, weight sets, etc., the label may be affixed to the outside of the lid of the container (case).

(c) 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.

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(3) Labels previously affixed to an instrument will be removed and the new label affixed.

(4) DA Labels 80 and 163 are not required for dimensional gages used in production or industrial operations when DA Form 3023 (Gage Record) is maintained for the gages IAW appendix E of this TB..

b. 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. 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
PREPARATION OF DA FORM 7372,
TMDE CALIBRATION AND REPAIR DATA FORM

D-1. Purpose. This appendix provides instructions for completing DA Form 7372, TMDE Calibration and Repair Data (fig. D-1).

D-2. Applicability. This appendix is applicable to the instrument owner/user, DS/GS/AVIM, TSAs, and the USAPSL.

D-3. Use. The DA Form 7372 will be used as the official document for recording TMDE C&RS actions and signatures. The use of other documents or electronic means to identify or record TMDE C&RS actions does not eliminate the requirement for completing a DA Form 7372. Figure D-1 illustrates a completed DA Form 7372. The back of DA Form 7372 contains coding and data field information. Printing the back of DA Form 7372 is considered optional when using the electronic version of the form. Where the back of DA Form 7372 and this TB differ, this TB will take precedence.

D-4. Disposition. The disposition of DA Form 7372 (multiple copy form or electronic version) will be as follows:

a. One copy is provided to the customer by the performing C&RS activity when an item of TMDE is presented for C&RS.

b. A second copy is used by the performing activity, as required, during the C&RS process.

c. Once C&RS functions are completed a third copy, along with the item of TMDE, is provided to the customer. This copy serves as a final receipt and record of support provided. Retain for a period of one year.

d. The remaining copy of the form is retained by the performing C&RS activity and serves as a record of services provided. Retain for a period of one year.

D-5. Definitions

a. Repair. To restore an item to a serviceable condition through correction of a specific failure or unserviceable condition.

b. Adjustment. Action that returns an instrument from an out-of-tolerance condition to a within-tolerance condition without repairing or replacing a component.

D-6. Procedures

a. General instructions for completing DA Form 7372 (Fig. D-1) are:

(1) Block 1 - JOB ORDER NUMBER. This will be assigned by scheduler UIC.

(a) Positions 1-8, eight-digit date (first four digits for the year, next two for the month, next two for day) when item was given status (i.e., 19851028 is 28 October 1985).

(b) Positions 9-12, four-digit job sequence number assigned when item arrived (i.e., 0001).

(2) Block 2 - PRIORITY. This field is filled in accordance with AR 750-1, paragraph 3-2. The permanent orders activating the unit usually include the assigned force/activity designator (FAD). A unit has only one FAD. The table below, for an assigned FAD and urgency of need (UND), yields the priority for block 2.

<u>FAD</u>	<u>UND (A)</u>	<u>UND (B)</u>	<u>UND (C)</u>
I	01	04	11
II	02	05	12
III	03	06	13
IV	07	09	14
V	08	10	15

(3) Block 3 - IDENTIFICATION CODE. This field will be pre-printed to contain a ten-character bar code identifier, if previously assigned.

(4) Block 4 - TECHNICAL BULLETIN. This field will be preprinted if item is found in TB 43-180. Manual entry permitted, but not required.

(5) Block 5 - TECHNICAL MANUAL. This field will be preprinted if item is found in TB 43-180. Manual entry /permitted, but not required.

(6) Block 6 - SCHEDULE UIC. Limited to six characters.

(a) The schedule UIC is the assigned single point of contact for designated owners listed on the UIC master file.

(b) Must have an entry.

(c) Entries must not contain any blanks, special characters, or the alpha characters I or O.

(d) Entries can only have W in the first position.

(e) There will be only one schedule UIC per owner UIC.

(7) Block 7 - OWNER UIC. Limited to six characters.

(a) If ADD is checked in block 22, then block 7 must have an entry.

(b) Entries must not contain any blanks, special characters, or the alpha characters I or O.

(c) For contractors, use "K" plus their five-digit manufacturing code which will be assigned by the USATA. All other agency codes will be assigned by the POC at the USATA after determination of owner affiliation (Navy, Air Force, Marines, etc.).

(d) Use UIC of unit that owns TMDE, not the parent unit or maintenance unit that provides support.

NOTE: Never use a DODAAC.

(8) Block 8 - SERIAL NUMBER. Limited to 10 characters.

(a) Must have an entry. Cannot be blank or all zeroes.

(b) Enter serial number exactly as shown on the instrument, including leading zeros, slashes, dashes, etc. Note: Do not "zero" fill if less than 10 characters.

(c) If longer than 10 characters delete from left side.

(d) Use joint electronics type designator system (JETDS) serial number, if available, otherwise use the manufacturer serial number.

(9) Block 9 -MODEL NUMBER. Limited to 12 characters.

(a) Must have an entry.

(b) List item as found in TB 43-180.

(c) If item is not found in TB 43-180, enter number found on instrument, but omit special characters.

(d) If JETDS item, use JETDS number.

(10) Block 10 - MFG CODE. Limited to five characters.

- (a) Must have an entry.
- (b) List item as found in TB 43-180.
- (c) Use five zeroes if equipment is JETDS item or MFG CODE is unknown.

Reference:

(1) SB 708-43 - Cataloging Handbook H4/H8, Commercial and Government Entity (CAGE), Section C&D.

(2) SB 708-48 - Cataloging Handbook H4/H8, Commercial and Government Entity (CAGE), Section A&B.

(11) Block 11 - NATIONAL STOCK NUMBER. Limited to 13 characters.

- (a) If ADD-in block 22 is checked this block must have an entry.
- (b) List as found in TB 43-180. If NSN is unknown, use federal supply class followed by nine zeroes.

(12) Block 12 - DUE DATE. Enter DD-MM-YY format.

- (a) If ADD is checked in block 22, then block 12 will default to date of entry.
- (b) Block 12 must be a valid DD-MM-YY format.

(13) Block 13 - INT. Interval is limited to one character. If ADD is checked in block 22, block 13 must have an entry. See table D-1..

(14) Block 14 - SYSTEM CODE. Limited to three characters.

- (a) If ADD is checked in block 22, block 14 must have an entry.
- (b) Entries must contain an alpha character in the first position and a numeric character in positions two and three.
- (c) Must not contain an alpha "0" in the first position.

(d) Customer should supply applicable system code. Reference TB 43-180.

(15) Block 15 - NOMENCLATURE. Limited to 12 characters.

- (a) If ADD is checked in block 22, block 15 must have an entry.
- (b) Use nomenclature found in TB 43-180. If not identified in TB 43-180, enter nomenclature in accordance with abbreviations listed in TB 43-180.

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(16) Block 16 - WORK CENTER TEAM.

- (a) Use as locally required (five positions).
- (b) Can be blank.

(17) Block 17 - LEVEL. Limited to one character.

- (a) If ADD is checked in block 22, block 17 must have an entry.
- (b) Use level required for calibration, not level performed.
- (c) Entries can only be:
 - 1 P - primary.
 - 2 S - secondary.
 - 3 T - transfer.
 - 4 F - other.

(18) Block 18 - ACTION DATE. Enter DD-MM-YY format. Enter the date on which the calibration or repair action was completed. This block must be completed regardless of the type of action taken.

(19) Block 19 - PERFORMING UIC. Limited to six characters.

- (a) UIC of the team/laboratory which calibrated/repaired item.
- (b) Entries must not contain any blanks, special characters, or the alpha characters I or O.
- (c) Entries can only have A, B, D, E, F, K, L, M, N, S, W, Y, or Z in the first position (A=Federal Aviation Administration, B=NASA, D=Reserved for DOD, E=Coast Guard, F=Air Force, K=Contractor, L=Defense Logistics Agency, M=Marine Corps, N=Navy, S=Defense Reutilization Marketing Office, W=Army, Y=FEMA, Z=Reimbursable Other).

(20) Block 20 - TYPE STANDARD.

- (a) Must have an entry.

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(b) Enter an "X" in the appropriate box to indicate the principal type of standard or set utilized to accomplish the calibration action. MW is microwave, ELEC is electrical, PHYS is physical, IR is infrared, and RAD is RADIAC.

(21) Block 21 - EQUIPMENT READINESS CODE. Identifies TMDE application. Reference AR 220-1, appendix B & C:

- A Principal Weapons and Equipment
- B Auxiliary Equipment (AE)
- C Administrative Support Equipment (ASE)
- P Pacing Item (A pacing item is also an ERC A item)

(22) Block 22 - UPDATE.

(a) Enter an "X" in the appropriate box to indicate the action to be performed.

(b) If "ADD" is selected, complete blocks 8, 9, 10, 11, 12, 13, and 14. Reference TB 43-180.

(c) If "CHANGE", is selected:

1 Blocks 8, 9, and 10 must be filled.

2 Circle incorrect data found in blocks 8, 9, 10, 11, 12, 13, and 14, and draw arrow to block 24 to show change. Reference TB 43-180 and reverse side of DA Form 7372.

(d) If "DELETE" is selected, blocks 8, 9, and 10 must be filled. Reference TB 43-180.

(23) Block 23 - REPORT CODE. Can have A, C, D, L, N, P, S, W, X, also a 01-99 extension is acceptable.

- (a) A - Audit or inspection.
- (b) C - Computer/Peripheral repair.
- (c) D - Deployment - USATA assigned extension (01-99).
- (d) L - Use of DA Label 163 (U. S. Army limited or special calibration).
- (e) N - Normal or routine calibration/repair actions.
- (f) P - Programming or reprogramming effort - USATA assigned extension.

- (g) S - Special project - USATA assigned extension.
- (h) W - Wipe test action - USATA assigned extension.
- (i) X - Reliability check

(24) Block 24 - CHANGE DATA. Used to enter correct data if block 22, Change, is checked.

(25) Block 25 - DEFICIENCIES/SYMPTOMS. A short narrative from the customer or the technician describing the instrument's condition. This information is for reference only and is not be entered into the data base. Block 25 may also be used to record additional information pertaining to the Job Order.

(26) Block 26 - STATUS.

- (a) PUIC. Same instructions as block 19, Performing UIC.
- (b) CODE.

1 Codes are located in this pamphlet and on the back of DA Form 7372.

2 The first status code entered will be "A" (repair or other non-calibration services) or "B" (calibration).

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Available status codes are:

- A - All CNR and other items requiring repair or non-calibration services. The customer should annotate block 25 describing deficiencies/symptoms.
- B - All TMDE submitted for calibration
- D - Awaiting manual (TB/TM)
- E - Awaiting additional equipment or accessories that are needed before work can be accomplished. Components of a set where the basic unit is red-tagged may be allocated this code
- F - Calibration standards/accessories not available to complete calibration/repair. This indicates an unready condition at bench level
- G - Repair parts not on hand to complete repair action
- J - Those items that are awaiting shop for repair/diagnosis
- K - Those items that are awaiting shop and 100 percent of repair parts have been received
- L - Those items that are awaiting shop for calibration
- M - Items in-shop on the calibration/repair bench
- N - Completed items that are awaiting customer pickup
- P - Completed items that are awaiting transportation (e.g., items awaiting postage, labeling, other documentation)
- Q - Completed items that are awaiting shipment (i.e., calibration reports and other documentation have been completed).
- S - Items evacuated from the schedule UIC to the performing UIC (PUIC)
- T - Items that are evacuated to the factory for warranty repair and other repair
- V - Items that are returned to the customer direct support unit
- W - Items returned to the customer
- X - Items placed in a float or reparable exchange (RX) stock
- Y - Items that are salvaged (i.e., unserviceable, uneconomical to repair, not reparable) or items submitted for condition coding as excess or direct turn-in and will be removed from the IMRF

NOTE

Mandatory incoming status codes are A or B. Mandatory outgoing status codes are V, W, X, or Y

(c) DATE. Enter DD-MM-YY format.

(d) INIT. Initials are used to identify the performing technician.

(27) Block 27 - CALIBRATION CONDITION.

(a) Check block A when item is found to be within tolerance at the completion of calibration; otherwise check block B.

(b) Leave block 27 blank if no calibration was performed.

(28) Block 28 - REPAIR/ADJUSTMENT.

(a) Check block A (by team/lab) for items repaired or components replaced.

(b) Check block B if item is deferred maintenance. An example of deferred maintenance is when an item required repair (but accuracy is unaffected) and is returned to the owner. Repair will be accomplished on receipt of the part.

(c) Check block C, not reparable this station (NRTS), if repair cannot be effected by the performing UIC or if coding out is performed.

(d) Leave block 28 blank if routine adjustments were made during a calibration procedure and no repair was performed.

(29) Block 29 - REPAIR.

(a) If blocks 28a, 28b, or 28c have been checked and where man-hours have been expended toward repair, block 29 must have repair hours recorded.

(b) Under TECH CODE, print initials of technician performing repair. If two technicians perform repair work, use the next line for the second technician.

(c) Under HOURS, enter man-hours expended in effecting repair; i.e., 4 hours 26 minutes will be entered as 4.5 for manual entry. When using TIMMS program enter hours as stated for manual entry. If two technicians perform repair work, use the second line for the second technician. See reverse side of the DA Form 7372 for conversion of man-hours. Only total hours expended will be entered into TIMMS.

(30) Block 30 - CALIBRATION.

(a) If block 27A or 27B has an entry, block 30 must have calibration hours recorded.

(b) Time expended adjusting from an out-of-tolerance condition to a within tolerance condition, as part of a calibration procedure, will be reported as calibration time.

(c) Under TECH CODE, print initials of the technician performing the calibration. If two technicians perform calibration on the item, use the second line for the second technician.

(d) Under HOURS, enter man-hours expended in accomplishing calibration, i.e., 3 hours 13 minutes will be entered as 3.3 for manual entry. When using TIMMS program enter hours as stated for manual entry. If two technicians perform calibration work, use the second line for the second technician. See reverse side of DA Form 7372 for conversion of man-hours. Only total hours expended will be entered into TIMMS. Calibration man-hours will include a setup of the instrument, tear down of the instrument requiring calibration, and time spent completing appropriate forms and reports.

(31) Block 31 - PARTS ADJUSTED. If adjustment is made to bring item within tolerance, list only the circuit reference designator; i.e., A1R36, A4C16. A comma must separate each reference designator.

(32) Block 32 - PARTS REPLACED. If parts are replaced or repaired to bring item within tolerance, list only the circuit reference designator; i.e., A1R36, A2C16. A comma must separate each reference designator.

(33) Block 33 - REMARKS.

(a) When a substitute item is used to calibrate TMDE used by nuclear weapons support units/installations, enter the NSN, model and serial number of the substitution.

(b) May be used to record such functions as cleaned, lubricated, tightened, etc., when appropriate.

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(34) Block 34 - PARTS REQUISITIONED.

(a) Block 34a - REF DESIG. Enter manufacturer's reference designator; i.e., R31, C362, etc.

(b) Block 34b - NOMENCLATURE. Enter the nomenclature of the components required for repair (e.g., resistor, capacitor, etc.) as identified in the supply catalog.

(c) Block 34c - MFG CODE. Manufacturer alphanumeric identifier that identifies the needed component.

(d) Block 34d - NATIONAL STOCK NO/PART NO. List Government NSN or part number.

(e) Block 34e - QTY. Enter quantity of parts ordered.

(f) Block 34f - UNIT ISSUE. Enter unit of issue; i.e., each, dozen, case, etc.

(g) Block 34g - UNIT COST. Enter unit cost in dollars; i.e., 10.63, 0.95, etc.

(h) Block 34h - DOCUMENT NUMBER. Document number required to requisition repair parts as per DA Form 2765-1, or DD Form 1348-6 (DOD Single Line Item Requisition System Document (manual long-form)). Reference DA Pamphlet 710-2-1, paragraph 2-19.

(i) Block 34i - RECEIVED. Enter the four-digit Julian date the item(s) was received.

(35) Block 35a - SUBMITTED BY. Enter the calendar date item is submitted for calibration/repair. Enter signature of individual submitting item.

(36) Block 36a - RECEIVED BY. Enter the calendar date item is received by calibration/repair personnel. Enter signature of individual receiving item for calibration/repair.

(37) Block 37a - ACCEPTED. Enter the calendar date item is accepted by the individual after calibration/repair has been completed. Enter signature of individual accepting item after calibration/repair has been completed.

TMDE CALIBRATION AND REPAIR DATA <small>For use of this form see TB 750-25; the proponent agency is USAMC</small>				1. JOB ORDER NUMBER	2. PRIORITY	3. IDENTIFICATION CODE	
4. TECHNICAL BULLETIN TB 9-6625-2059-35				19960719-0030		13	
5. TECHNICAL MANUAL TM 11-6625-3016-40-1				6. SCHEDULE UIC W4L6RK		7. OWNER UIC WQPT99	
8. SERIAL NUMBER 1898A				9. MODEL NUMBER AN/GRM-114A		10. MFG CODE 00017	
11. NATIONAL STOCK NUMBER 6625-01-144-4481				12. DUE DATE 27 SEP 96	13. INT D	14. SYSTEM CODE W00	
15. NOMENCLATURE TS RADIO				20. TYPE STANDARD <input type="checkbox"/> PHYS <input type="checkbox"/> IR <input type="checkbox"/> MW <input checked="" type="checkbox"/> ELEC			
18. WORK CENTER TEAM L600		17. LEVEL T		18. ACTION DATE 18 SEP 96		19. PERFORMING UIC W4L6RK	
21. EQUIP READINESS CODE A		22. UPDATE <input type="checkbox"/> ADD <input type="checkbox"/> CHANGE <input type="checkbox"/> DELETE		23. REPORT CODE N		24. CHANGE DATA	
25. DEFICIENCIES/SYMPOMS Malfunction in Com frequency range. Fund Code: G PBC: GR2003							
26. STATUS				27. CALIBRATION CONDITION		28. REPAIR/ADJUSTMENT	
a. PUIC	b. CODE	c. DATE	d. INT	a. WITHIN TOLERANCE	b. BY TEAM/LAB	29. REPAIR TECH CODE	30. CALIBRATION TECH CODE
W4L6RK	B	18 SEP 96	26	<input checked="" type="checkbox"/>	✓	72	28
W4L6RK	L	18 SEP 96	26	<input type="checkbox"/>	b. DEFERRED MAINT	HOURS	HOURS
	N	18 SEP 96	14		c. NRTS/CODE OUT	3.0	6.5
	W	18 SEP 96	02				
31. PARTS ADJUSTED							
32. PARTS REPLACED C7 La Freq Phn Lock Bd.							
33. REMARKS							
34. PARTS REQUISITIONED		b. NOMENCLATURE		c. MFG CODE		d. NATIONAL STOCK NO./ PART NO.	
a. REF DESIG				e. QTY	f. UNIT ISSUE	g. UNIT COST	h. DOCUMENT NUMBER
C7	La Freq Phn Lock	4006	6625-01-108-096	1	EA	405.20	i. RECEIVED
35a. SUBMITTED BY John Brown						35b. DATE 18 Sep 96	
36a. RECEIVED UNDER LIMITED TECHNICAL INSPECTION BY Bob Jones						36b. DATE 18 Sep 96	
37a. ACCEPTED John Brown						37b. DATE 18 Sep 96	

DA FORM 7372, DEC 98

AMXTM 34A, 1 Dec 87, and AMSM 34A, 1 Apr 98, are obsolete.

Figure D-1. Sample of completed DA Form 7372

Table D-1. Interval Codes

CODE	INTERVAL/DAYS
A	30
B	60
C	90
D	120
E	150
F	180
G	210
H	240
J	270
K	300
L	330
M	360
N	450
O	One time calbr
P	540
Q	630
R	480
S	600
T	390
U	420
V	510
W	570
X	660
Y	690
Z	840
2	720
3	1080
5	USAPSL special only
6	960
7	Training
8	CNR
9	CBU (Admin storage)

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NOTE

Table D-1 reflects the interval codes listed in TB 43-180 and on the reverse side of DA Form 7372. Where there is a discrepancy between DA Form 7372, table D-1, and TB 43-180, the most current issue of TB 43-180 will be considered the correct source for interval codes.

NOTE

All fixed items should adhere to the 30-day increment up to 720 days, 180-day increments above 720 up to 1,080 days

NOTE

The number of days in the interval column is primarily for fixed calibration facilities. Mobile teams must use the next lower interval that represents the 180-day loop schedule for listed intervals of less than 1,080 days when the interval listed is not 180 days or a multiple of 180 days (i.e. 360, 540, 720, 900). For example, 225 days would revert to 180 days.

NOTE

Where there is a discrepancy between the data on the back of DA Form 7372, table D-1, and TB 43-180, the most current issue of TB 43-180 will be considered the correct source for interval codes

APPENDIX E

INSTRUCTIONS FOR COMPLETION OF GAGE RECORD (DA FORM 3023)

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

E-2. The gage user completes the following on the front of each DA Form 3023 (fig. E-1):

LOCATION - Enter exact location of gage, to include specific locations pertaining to RACK, SECTION, BIN, DRAWER, and TRAY as appropriate.

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

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

b. TYPE - Enter full nomenclature of gage 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. GAGE 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 gage.

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

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 GAGE - Enter the type of measurement gage 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 GAGE 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 gage 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 gage certified.

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

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

a. RECHECK GAGE 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 gage 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 gage.

d. ISSUED TO - Enter name of recipient of gage (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 gage.

e. GAGE SIZE LIMIT - Enter dimensional limit of gage when appropriate.

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

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

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

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

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

k. 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 gage.

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

NOTE

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

TB 750-25

F7799699		GAGE TEST BOLT		61741	
GAGE DRAWING NO.		TYPE		IDENTIFICATION NO.	
GAGE DRAWING REVISION		12 MAY 73 NSN4933-00-653-9550		VALUE \$116.00	
COMPONENT DRAWING NO.		PIECE MARK NO.		FUNCTION OF GAGE	
8863597		875-1-357		CARTRIDGE SEAT TO LOCKING LUGS	
REVISION		COMPONENT NAME			
		GUN MACH 7.62MM M60, M60C & M60D			
REQUIRED COMPONENT DIMENSION		ACTUAL GAGE DIMENSIONS		LOCATION	
* .4180+ .0005		CERTIFIED ALL DIMENSIONS WITHIN DRAWING REQUIREMENTS CHIEF U.S. ARMY DISTRICT TMDE SUPPORT CENTER-ANNISTON ATTN: AMXTM-GB-A ANNISTON ARMY DEPOT ANNISTON, AL 36201-5096		W468X4	
* SURF "Y" COPLANAR (.0005)				RACK 2	
* LEAD OF HELIX .0005				SECTION 4	
.138+ .001				BIN 3 [DRAWER 1]	
.245+ .001				TRAY A	
RC 63-66				REMARKS	
*Requires annual certification				DATE	
				June 21, 1973	
				GAGE CHECKED	
				<i>J. Smith</i>	

DA FORM 3023 JUL 66 For use of this form, see TB 750-25; the proponent agency is USAMC

GAGE RECORD

Figure E-1. Sample DA Form 3023 (front)

APPENDIX F
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
DS	direct support
EI	extended interval
GIDEP	Government Industry Data Exchange Program
GS	general support
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
SOP	standing operating procedure

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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.

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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 or intermediate direct support/general support (DS/GS) units.

(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. To restore 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.)

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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.

By Order of the Secretary of the Army:

Official:



JOEL B. HUDSON

**Administrative Assistant to the
Secretary of the Army
03437**

**DENNIS J. REIMER
General, United States Army
Chief of Staff**

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PUBLICATION DATE

PUBLICATION TITLE

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.

PARA-GRAPH

FIGURE NO.

TABLE NO.

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

TEAR ALONG PERFORATED LINE

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

THE METRIC SYSTEM AND EQUIVALENTS

WEIGHT MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 lb.
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
its	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
ometers per Liter	Miles per Gallon	2.354
ometers per Hour	Miles per Hour	0.621



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