DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
3000 MARINE CORPS PENTAGON
WASHINGTON, DC 20350-3000

MCO 4733.1B
LPC-1
17 Dec 12

MARINE CORPS ORDER 4733.1B Administrative Change

From: Commandant of the Marine Corps
To: Distribution List

Subj: MARINE CORPS TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE) CALIBRATION AND MAINTENANCE PROGRAM (CAMP)

Ref: (a) MCO 5215.1K

Encl: (1) MCO 4733.1B

1. Situation. To establish policy, provide guidance and general information, and promulgate responsibilities relative to the Marine Corps TMDE CAMP.

2. Mission. The Marine Corps policy is that all TMDE be calibrated only to the extent and intervals necessary to adequately perform the measurement involved. It is also Marine Corps policy to accomplish such calibration in the most cost-effective way that will satisfy operational requirements. Marine Corps Calibration Facilities (CF) are the preferred source for calibration and maintenance of Marine Corps TMDE.

3. Execution. Administrative changes are as follows:

a. Paragraph 6.c. should read "Commander, Marine Corps Logistics Command (COMMARCORLOGCOM)".

b. Paragraph 6.c.2. should read "The COMMARCORLOGCOM is responsible for supporting and implementing the Marine Corps TMDE CAMP to include the following:".

4. Administration and Logistics.

a. Distribution Statement. Directives issued by the CMC are published electronically and can be accessed online via the Marine Corps homepage at: http://www.marines.mil.

b. Access to an online medium will suffice for directives that can be obtained from the Internet, CD-ROM, or other sources. For purposes of inspection, electronic files will suffice and need not be printed. For commands without access to the Internet, hard copy, and CD-ROM versions of Marine Corps directives can be obtained through Marine Corps Publications Distribution System (MCPDS).

c. Recommendations concerning the contents of this Order are invited. Such recommendations will be forwarded to the Commandant of the Marine Corps (CMC) Logistics Policy (LP) via the appropriate chain of command.

5. Command and Signal

a. Command. This Order is applicable to the Marine Corps Total Force.

b. Signal. This Order is effective the date signed.

M. G. DANA
By direction

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DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
2 NAVY ANNEX
WASHINGTON, DC 20380-1775

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MARINE CORPS ORDER 4733.1B

From: Commandant of the Marine Corps
To: Distribution List

Subj: MARINE CORPS TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE) CALIBRATION AND MAINTENANCE PROGRAM (CAMP)

Ref: (a) SECNAVINST 3960.6
(b) TI-4733-35/8
(c) TI-4733-15/1
(d) TI-4733-15/3
(e) TI-4733-35/23
(f) NAVAIR 17-35FR-02 (NOTAL)
(g) NAVAIR 17-35FR-05 (NOTAL)
(h) MCO 4855.10B

Encl: (1) List of Pertinent References Addressing Test, Measurement, and Diagnostic Equipment (TMDE) and the Calibration and Maintenance Program (CAMP)
(2) Calibration Activity Laboratory Codes

1. Purpose. To establish policy, provide guidance and general information, and promulgate responsibilities relative to the Marine Corps TMDE CAMP.

2. Cancellation. MCO 4733.1A.

3. Summary of Revision. This revision incorporates changes in organizational codes and points of contact resulting from reorganization, as well as various policy changes within TMDE CAMP.

4. Information. The Marine Corps TMDE CAMP has been developed to provide and maintain prescribed accuracy in standards of measurement and to ensure satisfactory performance of all Marine Corps TMDE at bases and stations in the Marine Forces (MARFOR). The policy and

broad action aspects of the program are stated herein. Specific procedural aspects of the program are provided in various technical instructions (TI), technical manuals, User Logistic Support Summary's, and other Marine Corps Orders (MCO) as identified in references (a) through (h) and enclosure (1).

5. Policy. The Marine Corps policy is that all TMDE be calibrated only to the extent and intervals necessary to adequately perform the measurement involved. It is also Marine Corps policy to accomplish such calibration in the most cost- effective way that will satisfy operational requirements. Marine Corps Calibration Facilities (CF) are the preferred source for calibration and maintenance of Marine Corps TMDE. Per reference (a), it is the Department of the Navy policy to provide the organizational, intermediate, and depot maintenance levels with diagnostic capabilities to detect and isolate faults to design threshold levels and to ensure all testing and measurement equipment used for quantified measurements are maintained and calibrated at the lowest practical maintenance level. Interservice support may be used at the command discretion.

6. Action. Enclosure (1) provides a listing and short description of publications which contain detailed procedures relative to the operation of the Marine Corps TMDE CAMP. Actions and responsibilities outlined herein will be accomplished per procedures contained in the publications listed in enclosure (1).

a. Organizations Possessing TMDE (hereinafter referred to as using units)

(1) Commanders of Marine Corps organizations who possess TMDE are responsible for:

(a) Submitting all TMDE requiring calibration. To determine whether or not calibration is required, review the Operational Test Code (OTC) which is found in the FEDLOG, in the sixth position of management data. Items with an OTC of 3 require calibration. If no OTC is listed, or if there is a question concerning one which is listed, contact your nearest CF to determine whether or not the item requires calibration.

(b) Scheduling TMDE for calibration in such a manner as to maintain, on hand, a sufficient amount of TMDE to preclude the loss of required test capabilities.

(c) Ensuring that all TMDE submitted for calibration has had all maintenance authorized at the using unit level/echelon performed.

(d) Ensuring that TMDE is adequately protected during transportation to and from the TMDE CF, by using packing materials and/or containers as necessary.

(e) Ensuring that all TMDE without a current CALIBRATED, SPECIAL CALIBRATION, or CALIBRATION NOT REQUIRED (CNR) label affixed are not used. Even though a current CALIBRATED or SPECIAL CALIBRATION label is affixed, TMDE received from the supply system should have 1st/2d echelon operational check performed prior to use. When the validity of the TMDE's calibration is in doubt, it should be submitted for calibration. CNR items may be used, although not for quantitative/qualitative measurements.

(f) Analyzing measurement requirements and requesting SPECIAL CALIBRATION for TMDE when its entire measurement capability is not required. The using unit is also responsible for requesting INACTIVE and CNR labels from the supporting CF for specifically identified TMDE. The local supporting CF should be consulted if the using unit requires assistance in determining required measurement capability.

(g) Ensuring that TMDE is used properly to preclude damage thereto.

(h) Requesting assistance, as necessary, from the supporting Marine Corps CF for education of personnel in analyzing measurement requirements and proper use of TMDE.

(2) Formal schools assigned TMDE are responsible for all portions of paragraph 6a(1), preceding, and the following:

(a) Identifying TMDE used for measurement of values where the accuracy of the measurement is not considered essential to the effectiveness of the training involved, for assignment of CNR status.

(b) The TMDE School, located at Keesler Air Force Base, Mississippi is authorized to perform in-house calibration for equipment, as required. Such calibration will be performed within the measurement capabilities and the availability of calibration personnel at the school.

(c) Determining which TMDE is used for training only. TMDE used for training only need not be submitted for periodic calibration at normal intervals. When performance is suspect, submit TMDE for repair/calibration.

(3) For all Marine Corps organizations, when obtaining calibration services from any activity outside of the USMC Metrology and Calibration (METCAL) program, the following requirements must be adhered to:

(a) The calibration service provider must meet the requirements set forth in the ANSI Z540-1-1994, American National Standard for Calibration Laboratories.

(b) A contract/statement of work shall specify that the support calibration laboratory is subject to onsite review by Marine Corps/Navy auditors to validate compliance with the above requirement.

(c) A certificate or report of calibration will be provided by the outside support activity for each calibration.

(d) Owning units will maintain copies of all certificates and reports of calibration from outside support activities for audit purposes for a period of 3 years or until the next calibration is completed and a new certificate/report of calibration is issued. Any request for deviation from this requirement must be submitted to, Commander, Marine Corps Systems Command (COMMARCORSYSCOM), TMDE/Calibration and TMDE Management Systems (CTMS), 2033 Barnett Ave., Suite 315 Quantico, VA 22134-5010.

b. MARFOR Commands Authorized TMDE Calibration and Maintenance Facilities. Commanders of MARFOR organizations assigned TMDE calibration and maintenance facilities are responsible for:

(1) Taking the necessary actions to assure maximum calibration and repair support, within the capabilities of their facilities, of Marine Corps TMDE belonging to using units. Use will be made of interservice support agreements, commercial calibration support, and higher level Marine Corps CF to support TMDE for which there is no resident capability. The amount of calibration effort required and the length of turn around time may be minimized if maximum use is made of SPECIAL CALIBRATION, CNR, and INACTIVE status assignments.

(2) Submitting recommendations for additional calibration equipment, as required, to COMMARCORSYSCOM, TMDE/CTMS, using the address in paragraph 6a(3)(d) preceding.

(3) Participating in the Marine Corps Standards program per reference (b).

(4) Forwarding to appropriate higher echelon calibration laboratories CF equipment, which is beyond their internal capability, but are not included in the Marine Corps Standards program. Calibration of CF equipment forwarded to other than Marine Corps METCAL facilities must be funded locally.

(5) Ensuring proper use of calibration labels and tags per reference (c).

(6) Initiating action for retirement of unstable and unreliable TMDE per reference (d).

(7) Maintaining direct liaison with the Marine Corps Liaison Officer (MCLO), Naval Warfare Assessment Station (NWAS), P.O. Box 5000, Corona, CA 91718-5000, concerning

Calibration Problem Reports, calibration procedures, and other technical problems in the general calibration area.

(8) Providing assistance, when requested, to using units in the education of personnel in analyzing measurement requirements and proper use of TMDE as addressed in paragraph 6a(1)(h) preceding.

(9) Advising using units when it becomes apparent (based on the condition of the TMDE when submitted for calibration or repair) that their TMDE is not being properly maintained or used and offering assistance in educating personnel in that regard. It is not necessary to advise using units of isolated instances of improper use or maintenance other than by an annotation on the Equipment Repair Order. Obvious abuse or neglect should be reported to the owning unit's maintenance management officer.

(10) Using the Computer Assisted Logistics and Test Equipment Calibration System (CALTECS) in the performance of all calibrations and repairs on all TMDE assets. Complying with reference (e) requires that all Naval and Marine Corps calibration laboratories be reviewed at least once every three years; this will be coordinated by TMDE/CTMS; the MCLO, Corona, California and the individual laboratories. Reference (e) provides administrative and technical criteria for auditing and certifying calibration laboratories. Certification of calibration laboratories results from a finding of competence by an appropriate authority to an accepted set of criteria, i.e., ANSI/NCSL Z540-1-94.

(11) Interfacing with, and reporting calibration related problems, to include problems/recommendations with the CALTECS, to the MCLO, Corona.

(12) Ensuring that the CF environment is properly controlled and maintained per references (f) and (g). Failure to control the environment may void all calibrations conducted on TMDE and could pose a safety hazard.

c. Commander, Marine Corps Logistics Bases (COMMARCORLOGBASES)

(1) CF's have been established at the MCLB's as fixed installations. These CF's are primarily for the calibration support of organic TMDE and calibration of TMDE prior to issue. These facilities also provide support to field units on a reimbursable basis.

(2) The COMMARCORLOGBASES is responsible for supporting and implementing the Marine Corps TMDE CAMP to include the following:

(a) Testing and inspecting 100 percent of all new TMDE. Report all discrepancies of non-conformance to COMMARCORSYSCOM, TMDE/CTMS, using the address in paragraph 6a(3)(d) preceding, and initiate a Product Quality Deficiency Report per reference (h).

Prior to issue to the MARFOR's, all TMDE without documentation certifying calibration performed by a facility meeting ANSI Z-540-1 requirements, or equivalent, or with less than 6 months remaining before calibration is due, will be submitted for calibration at the depot level.

(b) Providing reimbursable calibration and maintenance support for TMDE owned by MARFOR units, as required.

(c) Operating and maintaining calibration standards, including forwarding to the appropriate higher echelon calibration laboratory, TMDE which are beyond the internal capability of CF and funding for the cost of such higher echelon support.

(d) Ensuring proper use of calibration labels and tags.

(e) Providing assistance, when requested, to using units in education of personnel in analyzing measurement requirements and proper use of TMDE as addressed in paragraph 6a(1)(h) preceding.

(f) Advising using units when it becomes apparent (based on the condition of the TMDE submitted for calibration or repair) that TMDE is not being properly maintained or used, and offering assistance in educating personnel.

(g) Funding for and arranging for calibration/repair training for civilian personnel, as required.

(h) Maintaining direct liaison with the MCLO, Corona, CA concerning calibration procedures and other technical problems relating to calibration of TMDE.

(i) Initiating action for retirement of unstable and unreliable TMDE.

(j) Operating and maintaining CALTECS and reporting any problems/recommendations to the MCLO, Corona, CA.

(k) Submitting recommendations for additional calibration equipment, as required, via the appropriate chain of command to the COMMARCORSYSCOM, using the address in paragraph 6a(3)(d).

(l) Performing all overflow maintenance for MARFOR TMDE and all calibration programs; i.e., the Infantry Weapons Gage Calibration program, Survey Instrument Calibration

program, Marine Corps Standards program, and the Thermistor Mount/Power Sensor program will have data captured via CALTECS.

d. MCLO, Corona, California. The MCLO, Corona, provides liaison between the COMMARCORSYSCOM, TMDE/CTMS; Marine Corps CF; and the Metrology Engineering Center (MEC) located at NWAS, Corona. The MCLO, Corona is responsible for:

(1) Coordinating, with MEC, the preparation of calibration procedures and evaluation of calibration equipment requirements to support the Marine Corps TMDE CAMP.

(2) Providing direct liaison to all Marine Corps CF's concerning calibration procedures and other technical problems relating to calibration of TMDE.

(3) Coordinating with MEC and affected MARFOR units, the evaluation of Marine Corps CF upon direction of the COMMARCORSYSCOM, TMDE/CTMS. These evaluations may concern both the administrative and technical aspects of the overall CAMP.

(4) Coordinating the COMMARCORSYSCOM (TMDE/CTMS) requests for performance of engineering services by MEC in support of the Marine Corps TMDE CAMP.

(5) Coordinating with MEC, the revision of calibration procedures used by the Marine Corps TMDE CAMP, as required.

(6) Coordinating calibration requirements with MEC for new items of TMDE procured by the Marine Corps.

(7) Carrying out other duties as directed by the COMMARCORSYSCOM, TMDE/CTMS, other correspondence, and directives.

(8) Ensuring that the Program Manager (PM), TMDE WebSite is properly maintained.

(9) Providing Life Cycle Management for CALTECS.

e. COMMARCORSYSCOM, TMDE/CTMS. The policy, guidance, and technical direction of the Marine Corps TMDE CAMP are the responsibilities of the COMMARCORSYSCOM, TMDE/CTMS and include the following:

(1) Budgeting for and the initiating procurement of new or replacement calibration equipment.

(2) Initiating action for the preparation of calibration procedures to support Marine Corps TMDE.

(3) Ensuring with information provided from the various program offices at MARCORSYSCOM, that calibration capabilities and procedures are available for new items of TMDE introduced into the Marine Corps.

(4) Authorizing and reviewing evaluation (administrative and technical) of Marine Corps CF to maintain an efficient, updated TMDE CAMP.

(5) Managing TMDE issues for the Maritime Prepositioning Force, Enhanced Equipment Allowance Pool, and the Norway Airlanded Marine Expeditionary Brigade.

(6) Managing and administering all calibration policy and centrally managed calibration programs; i.e., CALTECS, Infantry Weapons Gage Calibration program, Survey Instrument Calibration program, Marine Corps Standards program, and the Thermistor Mount/Power Sensor program.

(7) Operating and maintaining Marine Corps Metrology Quality program per reference (e). This includes participation in joint service audits, conduct of, scheduling, and reporting to PM, TMDE the results of Marine Corps ground calibration activity audits. Developing and maintaining a quality manual for all activities. This manual will be used to map the metrology processes organic to all activities, clearly stating the laboratories operations, when affecting quality of product or services.

(8) Furnishing certified auditors for participation in audits of MARFOR CF's.

7. Calibration Activity/Laboratory Codes. Enclosure (2) provides a list of calibration activity/laboratory codes which have been assigned to identify the individual Marine Corps CF's and is to be used during preparation of calibration labels and tags.

8. Marine Corps Aviation. The instructions contained in this Order are not applicable to Marine Corps aviation CF which operate under the Naval Aviation Command Calibration program. Ground combat elements of the Marine Air Wing; i.e., Marine Wing Communication Squadron, are required to implement this Order.

9. Recommendations. Recommendations concerning the contents of the Marine Corps TMDE CAMP are invited. Submit recommendations, via the appropriate chain of command, to the COMMARCORSYSCOM using the address in paragraph 6a(3)(d).

10. Reserve Applicability. This Order is applicable to the Marine Corps Reserve.

G. B. HIGGINBOTHAM
Deputy Chief of Staff
for Installations and Logistics

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LIST OF PERTINENT REFERENCES ADDRESSING TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE) AND THE CALIBRATION AND MAINTENANCE PROGRAM (CAMP)

1. SECNAVINST 3960.6, Department of the Navy Policy and Responsibility for Test, Measurement, Monitoring, Diagnostic Equipment and Systems, and Metrology and Calibration (METCAL). Establishes policy and responsibility for incorporating testability and diagnostic capability into weapons platforms, weapons systems, surveillance, communications, navigational guidance, deception/protection systems, meteorological systems, and associated support systems.

2. MCO 10510.18, Policy and Responsibility for Electronics Test and Measuring Equipment. Establishes policy and responsibility for the selection, development, acquisition, standardization, application, and logistics support of all types of manual, semiautomatic and automatic general purpose, and special purpose Marine Corps-procured electronic test and measuring equipment.

3. SC-6625/2, Electronic Test and Measuring Equipment, Support Concept. Provides information and support guidance pertinent to general and special purpose electronic test and measuring equipment.

4. TI-4733-15/1, Calibration Requirements, TMDE. Provides instructions for calibration of TMDE prior to issue by the Marine Corps Logistics Bases and identification of TMDE which requires calibration at periodic intervals by Marine Force units. Additionally, provides identification and use instructions of calibration labels, tags, and seals.

5. TI-4733-15/2, Sliding Calibration Interval Program, TMDE. Provides instructions and specific guidelines relative to the establishment of an optional Sliding Calibration Interval program within the Marine Corps TMDE CAMP.

6. TI-4733-15/3, Retirement of Unstable or Unreliable TMDE. Provides instructions for retiring unstable or unreliable TMDE.

NOTE

TI-4733-15/2 and TI-4733-15/3 will be incorporated into a new TI to be published at a later date.

7. TI-4733-15/6, TMDE Calibration and Maintenance Support. Provides information to aid commanders in obtaining calibration and maintenance support for Marine Corps procured TMDE.

8. TI-4733-15/9, Radiation, Detection, Indication and Computation (RADIAC) Instruments, Calibration Requirements. Provides information relative to calibration of RADIAC instruments.

9. TI-4733-15/10, Special Calibration of Torque Wrenches. Provides instructions for the calibration of torque indicating (measuring) instruments.

10. TI-4733-15/11, Infantry Weapons Gage Calibration Program. Provides procedures for the operation of the Infantry Weapons Gage Calibration program.

11. TI-4733-15/12, Calibration Requirements for Thermistor Mounts/Power Sensors, Marine Corps Calibration Program. Provides procedures for the operation of the Thermistor Mount Calibration program.

12. TI-4733-15/21, Survey Instrument Calibration Program (SICP). Provides instructions and procedures for the operation of the Marine Corps SICP.

13. TI-4733-35/23, Navy and Marine Corps Calibration Laboratory Audit/Certification Manual. Requires that all Naval and Marine Corps calibration laboratories be reviewed at least once every three years; this will be coordinated by TMDE/Calibration and TMDE Management Systems, the Marine Corps Liaison Officer, Corona, and the individual laboratories.

14. TI-4733-35/5, Calibration Equipment Recommendations, Marine Corps Calibration Program. Provides guidance in recommending additional calibration equipment.

15. TI-4733-35/8, Marine Corps Standards Program, CAMP. Provides procedures for the operation of the Marine Corps Standards Calibration program.

CALIBRATION ACTIVITY LABORATORY CODES

Code	Organization
AAM	MCLB, Albany
ATM	MarDet, Keesler AFB, Biloxi, MS
BAM	MCLB, Barstow
TAM	3d FSSG
TBM	1st FSSG
TCM	2d FSSG
TDM	CSSG-3, HI
TEM	CSSG-1, 29 Palms
TFM	MWCS-18
TGM	MWCS-28
THM	MWCS-38
TIM	MWCS-48
TJM	MCCES, 29 Palms

ENCLOSURE (2)