TB 43-0001-61-3

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

EQUIPMENT IMPROVEMENT REPORT AND MAINTENANCE DIGEST

(THIRD QUARTER CY 2006)

TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE)

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HEADQUARTERS, DEPARTMENT OF THE ARMY

JULY 2006

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Washington, DC 3 July 2006

TECHNICAL BULLETIN
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REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can improve this manual. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Commander, US Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax, or the World Wide Web. Our FAX number is: DSN 788-6546 or Commercial 256-842-6546. Our e-mail address is: 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual. For the World Wide Web, use: https://amcom2028.redstone.army.mil.

TABLE OF CONTENTS

CHAPTER 1

GENERAL

SECTION 1. INTRODUCTION

1.1 Purpose

a. This bulletin provides information and/or action to be taken to correct equipment faults reported through Equipment Improvement Recommendations (EIRs). It also provides notification of minor alterations, publication changes, advance information of modification work orders (MWOs) and maintenance program planning and execution.

b. This technical bulletin (TB) is published quarterly to disseminate technical information concerning Test, Measurement, and Diagnostic Equipment (TMDE) to field units and major commands.

1.2 Scope

a. This bulletin contains EIR and general information pertaining to TMDE that is managed or maintained by the U.S. Army Aviation and Missile Command. It may contain information on EIRs, equipment publication changes, MWOs, warranty recall information, and publication actions – some resulting from DA Forms 2028, Recommended Changes to Publications and Blank Forms.

b. This bulletin is informational in nature. It contains discretionary entries, authorizes certain maintenance actions, and gives advance information on the future changes to equipment publications.

c. This bulletin may contain minor changes that may be performed without an MWO. Control and reporting of these changes in accordance with DA PAM 738-750 is not required except as routine maintenance action.

1.3 Obtaining the Equipment Improvement Report and Maintenance Digest. This TB will be posted to the LOGSA website. The digest may be requested from APD.

1.4 Inquiries. Points of contact for this EIR are Mr. Marcus Jarmon, marcus.jarmon@redstone.army.mil, DSN 788-2423, commercial 256-842-2423 or Mr. Les Barnard, les.barnarad@redstone.army.mil, DSN 788-2426, commercial 256-842-2426.

SECTION II. GENERAL INFORMATION

1.1 Purpose

The purpose of an EIR is to initiate early and effective corrective action, where necessary, to eliminate failure and/or improve material. AR 750-1 makes the submission of an EIR mandatory when an equipment failure occurs as a result of other than normal wear, operational malpractice, or accidental damage. DA Pamphlet 738-750 provides the detained instructions for the submission of an EIR.

1.2 Deficiency Reporting

a. DA PAM 738-750, The Army Maintenance Management System, is the guideline for initiating and submitting EIRs which are to be reported on SF 368, Quality Deficiency Report (QDR).

b. Materiel received damaged, due to improper packaging or packing, must be reported on SF 364, Report of Discrepancy (ROD), in accordance with AR 735-11-2.

b. Transportation/shipping damage must be reported on SF 361, Discrepancy in Shipment Report, in accordance with AR 55-38.

1.3 Priorities for EIR

a. CATEGORY 1. A deficiency/improvement recommendation which will or may effect life or limb of personnel or impair the combat capabilities of the using organization or individual. Deficiencies that affect operational capability, to the extent that mission accomplishment is jeopardized, fall within this definition.

b. CATEGORY 2. A deficiency/improvement recommendation which does not meet the criteria set forth in category 1.

CHAPTER 2

SAFETY-OF-(USE/FLIGHT) MESSAGES – NOT INCLUDED

CHAPTER 3

EQUIPMENT IMPROVEMENT RECOMMENDATION CASES

SECTION I. INTRODUCTION

3.1 General. This chapter provides information on Equipment Improvement Reports (EIRs)/QDR cases requiring corrective action by the field that were opened or closed during the period, as well as information on EIR cases that have had a change of status. Unless definite limitations are specified, recipients of this technical bulletin are authorized to apply corrections as indicated for deficiencies listed in the following section. These changes or corrections are to be undertaken only if adequate skills, tools,

and parts are available. If additional information is needed, make reference to the EIR number in your inquiry.

SECTION II. ACTIVE (OPEN) EIR CASES

3.2 EIRs still under investigation. All QDRs have been closed.

SECTION III. INACTIVE (CLOSED) EIR CASES

3.3 EIRs requiring answers to the originator only. None

3.4 Closed EIR cases. There is no QDR information for this quarter.

CHAPTER 4

MINOR ALTERATIONS

4.1 General

All minor alterations are optional for application to the item indicated at the field maintenance level specified. Minor alterations are to be undertaken only if adequate skills, tools, and parts are available. Application of minor alterations will be recorded in the appropriate equipment record as a routine maintenance action.

4.2 EIR Digest Revitalized

The Engineering, Acquisition and Logistics Directorate is drafting a new issue of the Equipment Improvement Recommendation (EIR) Digest for TMDE. The revitalized publication will serve as a host to EIR statuses and other technical updates that had been found in the Accurate Times. A release date is scheduled for July, but budget restraints will force them to limit it to an electronic format on LOGSA. Anyone wishing to submit articles for the digest may send their input to Mr. Les Barnard at les.barnard@redstone.army.mil.

4.3 Calibration of the Aerosmith Model 1790 Tachometer Tester

When calibrating an Ideal Aerosmith model 1790 Tachometer Tester the adapter used to cover the x2 range (5000-10000 rpm) may be defective. This is easily identified by attaching the adapter and manually rotating the shaft and noting if the display indicates twice as many rotations. To calibrate to the full range of the 1790 requires the adapter. Contact Ideal Aerosmith (http://www.ideal-aerosmith.com/contact/index.asp) or the USATA Technical Assistance Team (https://usata.redstone.army.mil/TATV2/default_net.aspx) if defective adapters are found. It may be possible to get free replacements for adapters linked to latent defects.

James R. Christian, Electronics Engineer, US Army TMDE Activity AMSAM-TMD-LW, Redstone Arsenal, AL 35898, (256) 876-9506, DSN 746-9506, FAX: (256) 876-4550.

4.4 Fluke 5820A Oscilloscope Calibrator

Recent field inquiries within the activity regarding 5820A relay problems has brought about a need for end users to run the relay exercising program (WORK RF RELAY) on a weekly basis. This embedded program is accessed through the front panel on the 5820A. This ensures that relay accessed areas that you might not utilize in your day-to-day operations are still being utilized and "exercised". This might go a long way in preventing problems when the instrument goes in for its yearly certification, as well as avoid end user problems during its calibration cycle use. Press SETUP, (Blue Key) UTILITY FUNCTIONS, (Blue Key) SELF TESTS, and finally (Blue Key) WORK RF RELAYS. It takes less than a minute to run.

Fred Melton, Equipment Specialist, US Army TMDE Activity / AMSAM-TMD-LP, Redstone Arsenal, AL 35898, (256) 842-2300, DSN 788-2300

4.5 DM224 Digital Multimeter Calibration

If your Polywell Controller has recently been updated to Win XP and there is a problem reinstalling the DM224 Maintenance Disk Rev. 2.1 onto your controller, you will no longer be able to install this disk using the Disk installation menu because of a Win 2000 and Win XP compatibility issue. If you go to the USATA TB folder for the DM224, TB 9-6625-2326-35, you will find a new readme.txt file with new installation instructions along with a new DM224 Win XP driver. By following these instructions, we hope to have you up and running again in being able to calibrate the DM224 PCMCIA card on your controllers in Win XP. The PM plans on issuing a follow-up CD to address the Win 2000/Win XP issues.

Fred Melton, Equipment Specialist, US Army TMDE / Activity AMSAM-TMD-LP, Redstone Arsenal, AL 35898, (256) 842-2300, DSN 788-2300

4.6 M41 PATS

The M41 PATS is to be considered as used in *personal safety* and the calibration interval is *not to be extended.*

Please ensure all of your TSAs are informed of this.

James M. Hudson, Chief, USATA QA, DSN 788-8129, EMAIL jim.hudson@redstone.army.mil

4.7 TEMOD Program Becomes GPETE

In order to give the owners and operators of test equipment a better idea of what the TEMOD Office procures, they have changed their name to General Purpose Electronic Test Equipment (GPETE), and that is what they buy. APM GPETE is

pursuing the acquisition of two new items. They are the Test Set, Radio: AN/PRM-35 and the Generator, Signal: SG-1364/U. Bid sample evaluations get underway in April with purchasing contracts likely in the second quarter of FY 07.

4.8 Electronic Equipment Test Facility

Provide updated guidance regarding Electronic Equipment Test Facility (EETF) critical assets.

Reference: USATA Special Advisory - Electronic Equipment Test Facility

General: The EETF continues to be the Army's support system to test and repair the APACHE Helicopter. The following two TMDE components at each EETF are critically scarce.

Calibrator, AC 6625-01-100-6196 (referred to in TB 43-180 as 5200A, 6625-01-063-6325)
Calibrator, DC 6625-01-134-6629 (referred to in TB 43-180 as 3330B, 6625-00-003-7031)

Guidance: Any EETF's 5200A or 3330B that fail calibration and can not be repaired locally must be returned to its owner with explicit instructions to send the instrument to the Depot repair program at Tobyhanna Army Depot (BY6). Condition coding of the instruments do not warrant the items to be sent to DRMO and misdirection could jeopardize the EETF lifecycle.

POC within USATA is Mr. Eddy Copeland, (256) 842-2700, DSN 788-2700, or Mr. Bob Branin, USATA Staff Office, (256) 955-8818, DSN 645-8818

4.9 Tegam System II Microwave Power Calibrations

The recent fielding of the Tegam System II microwave power calibration system at Reference has generated many questions from System II users regarding uncertainties and test uncertainty ratios (TURs). The situation is complicated even more by the fact that power standards and sensors calibrated by the system are used to adjust the precision power reference outputs on RF power meters to extremely tight tolerances. A good example is the + 0.7% power amplitude adjustment requirement of the HP model 437B power meter reference at 50 MHz. Other instruments such as the new Agilent model 4419B power meter have even tighter adjustment tolerances.

These are examples of TMDE that cannot be supported at the traditional 4:1 test uncertainty ratio. With improved technology, better instrumentation, and tighter performance specifications, the 4:1 requirement is not applicable for some of our standards and TMDE. The industry is improving faster than NIST and the metrology community can develop the standards and techniques necessary to provide the lower uncertainties we would like to see. Also, we are pushing the "theoretical" limits on how

accurate some of these measurements, precision components, and standard artifacts ultimately can be made.

To address the Tegam System II uncertainty issue, the Army Primary Standards Laboratory (APSL) is working diligently to reduce the reported calibration factor uncertainties for thermistor mount power standards such as the Tegam model M1111 and HP model 478A-H75, particularly at the critical 50 MHz frequency. Users of these power standards should be seeing APSL reports with uncertainties at 50 MHz of 0.7% or better very soon. Calibration factor uncertainties at other frequencies may also be reduced significantly. This should satisfy some of the concerns about supportability of some of the newer power meters. Additional guidance will be provided by the Engineering, Acquisition and Logistics Directorate as new solutions are identified.

4.10 Notification of Change to Commercial Equipment/ Computer Software and Documentation

22 September 2005
Change Notice Number: 007
Contract Number DAAH01-01-D-0067

Agilent Technologies proposes a no-cost change to equipment supplied under Contract Number DAAH01-01-D-0067. This ECP will document a new acquisition board recently introduced into the commercial version of this product. The acquisition board may be used for new purchases for the OS-303/G.

Description of Equipment: Oscilloscope
Model Number: OS-303/G
NSN: 6625-01-470-7541

Serial Numbers affected: The new acquisition board will function in all serial numbers.

Description of Change: Minor. A new acquisition board, part number 54831-66407, has been introduced into the WinXP commercial version of the OS-303/G. Agilent has created a special version of Win98 operating system software to support this new board in the OS-303/G. Any OS-303/G may be upgraded to the newest version of operating software, revision 2.40 and any scope may use the new acquisition board. The 2.40 version of operating software is required when using the 54831-66407 acquisition board. Testing was completed to demonstrate version 2.40 software working with older acquisition boards and the new 54831-66407 functioning in a current OS-303/G. The following table should be used when replacing acquisition boards:

Defective Board	Exchange Board	Win98 Software	New Board	Win98 Software
54831-66503	54831-69503	Any version	54831-66407	2.40
54831-66505	54831-69505	2.10 or greater	54831-66407	2.40
54831-66407	54831-69407	2.40	54831-66407	2.40

Note: Version 2.40 operating software may be installed in any OS-303/G and used with any acquisition board.

Version 2.40 may be requested free of charge from the following website: http://software.cos.agilent.com/Infiniium/index.stm (choose 54831B)

Changes in components and part number: New part number 54831-66407.

Changes in performance/operability/interoperability: New boards ordered as replacements will work in any OS-303/G scopes that are upgraded to version 2.40 of the operating software.

Effect on logistic support material:

Publications- The RPSTL will need to be updated with the new part. All repair/replacement procedures are identical.

Add a note to Work Package 0058.00 sheet 129 of 148 stating the following: "Note: The 54831-66407 part requires version 2.40 or higher firmware/software."

Spares/Repair Parts- None.

Training- None.

Support and Maintenance equipment- None.

Effect of Delivery Schedule- None.

Modification instructions- None needed.

22 September 2005
Change Notice Number: 007
Contract Number DAAH01-01-D-0067

Approved: _____//s//_____
Wayne L. Wolf
PM TMDE, PEO CS
TEMOD Project Leader,
Oscilloscope: OS-303/G
Date: 18 Oct 02

4.11 Contract Modification for Oscilloscope: OS-303/G

(1) The contract for the Oscilloscope: OS-303/G (contract # DAAH01-01-D-0067) has been modified to correct a transposed "71" to "17" part number problem found on ECP #5, dated 18 Dec 03. The updated ECP #5, dated 19 Dec 2005, shows the correct discontinued ATX motherboard part number to be 0960-2176. The updated ECP #5, dated 19 Dec 2005, shows that the ATX motherboard replaced the discontinued part number, 0960-2176, with a newer ATX motherboard part number, 0960-2359.

(2) The contract for the Oscilloscope: OS-303/G (contract # DAAH01-01-D-0067) was modified and executed as of 14 April 2006. This contract modification approved ECP #8, dated 1 Feb 06. ECP #8 documents a new ATX motherboard recently introduced by Agilent Technologies into the commercial version of this product. This new ATX motherboard may be used for new purchases for OS-303/G repairs. While none of the new ATX motherboards, part number 0960-2481, have been shipped in the OS-303/G products, the previous ATX motherboard, part number 0960-2359, has been discontinued. For continued support, the 0960-2359 has been replaced by the 0960-2481.

(3) An email to all USATA team chiefs was sent on 18 Nov 05 that talked about ECP #7 and the new acquisition board, part number 54831-66407, which required an updated Win98 revision 2.40 operating system. The e-mail mentioned that to obtain version 2.40, the user was directed to the Agilent website (http://software.cos.agilent.com/Infiniium/index.stm) to request free of charge the Win98 revision 2.40 operating system. It was brought to PM, TMDE attention that this website did not have the link to order the Win98 revision 2.40 operating system. This problem has now been fixed. To order free of charge the Win98 revision 2.40 operating system, go to the website listed above and do the following:

(a) Select "5483X" Series from the menu. Note: "54831M" is the commercial model number of the Oscilloscope: OS-303/G. "54831B" shown at the website is the commercial equivalent version of "54831M."

(b) Select Microsoft Windows 98 as your operating system.

(c) Select either 2.30 Recovery CD or 2.41 Upgrade CD as your product. Note: Version 2.41 is an upgrade that contains software fixes to the version 2.40 operating system required by the new acquisition board. (Special Note: Only use Win98 2.40 or greater with the new acquisition board, part number 54831-66407. All other acquisition board part numbers use the 2.30 Recovery version.)

(d) Fill out your shipping information and submit the form.

Mr. Wayne L. Wolf, Project Leader, General Purpose Electronic Test Equipment (GPETE)
Product Manager, Test, Measurement, and Diagnostic equipment (PM, TMDE),
SFAE-CSS-FT-T-TEMOD, Email 1: wayne.wolf@redstone.army.mil,
Email 2: wayne.wolf@us.army.mil, Work: 256-876-2918, DSN 746-2918
Fax: 256-313-2940, DSN 897-2940

4.12 Calibration Press in support of the Digital Aircraft Weight Scales (DAWS)

1. The fluid for the DAWS calibration presses has been identified. The fluid is as follows:

Part Number: DTE 24
NSN: 9150-01-466-8594
Price: $59.00 per 5 gallon can

2. You can also top the machine up with MIL-H-5606 if required; the two fluids are compatible. However, the Mobile product has superior properties and is the preferred fluid.

3. POC within USATA is Mr. Gregg Rigney, (256) 876-7715, DSN 746-7715.

4.13 Calibration Press Software

1. Software Version 2.5 for the Calibration Press was recently released by Intercomp on 24 May 06 and should be available to the field by 2 Jun 06. This software will allow the Calibration Press to be used to calibrate scales other than Intercomp's DAWS.

2. POC within USATA is Mr. Eddy Copeland, (256) 842-2700, DSN 788-2700

4.14 Requisitioning Instructions for Thermo-Hygrometer

DEPARTMENT OF THE ARMY
UNITED STATES ARMY AVIATION AND MISSILE COMMAND
REDSTONE ARSENAL AL 35898-5000

REPLY TO
ATTENTION OF

AMSAM-TMD-LI

25 APR 2008

MEMORANDUM FOR

TMDE Support Region 1 (AMSAM-TMD-A, Mr. Don Ruth), 431 Michigan Avenue, Chambersburg, PA 17201-4185
TMDE Support Region 2 (AMSAM-TMD-B, Mr. Eddy Copeland), Redstone Arsenal, AL 35898-5400
TMDE Support Region 3 (AMSAM-TMD-C, Mr. Emery Woodard), White Sands Missile Range, NM 88002-5528
TMDE Region Europe (AMSAM-TMD-E, Mr. Ehren Braun), CMR 434, APO AE 09138
TMDE Region Pacific (AMSAM-TMD-P, Mr. Norm Curran), Unit 15376, Box 572, APO AP 96260-5376

SUBJECT: Requisition Instructions RI 06-01 for Thermo-Hygrometer, Manufacturer's Part Number (MFGPN) 1620-S, National Stock Number (NSN) 6685-01-534-7702, Commercial and Government Entity Code (CAGEC) 64841

1. We are providing information pertaining to the Thermo-Hygrometer as follows:

   a. Cost: $1,420.00

   b. NSN: 6685-01-534-7702

   c. CAGEC/MFGPN: 64841/1620-S

   d. Item Manager: B64

   e. Accounting Requirements Code: Nonexpendable

   f. Recoverability Code: D

   g. Demand Code: Nonrecurring on initial issue; recurring on future requirements

   h. Materiel Category Code/Financial Inventory Accounting Code: L21FQ

   i. Calibration Level/Interval: S/360

AMSAM-TMD-LI
SUBJECT: Requisition Instructions RI 06-01 for Thermo-Hygrometer, Manufactures Part Number (PN) 1620-S, National Stock Number (NSN) 6685-01-534-7702, Commercial and Government Entity Code (CAGEC) 64841

j. Authorization: We will add this item to the secondary reference standards, Army drawing number 7911261, by engineering change proposal MI-N9200. We will add this item to the Supply Catalog 4913-9204, Sets, Kits, and Outfits, Components List, Calibration Sets: Secondary Reference Standards on Sep 06, our next update. These publications are contained on CD-ROM Electronic Manual 0074, which supersedes all previously published supply catalogs supporting TMDE calibration sets. In the interim, this memorandum constitutes your authorization for this item. For those activities not authorized a Secondary Transfer or Reference Set, your authorization is Army Regulation 71-32.

2. We have added the Thermo-Hygrometer, MFGPN 1620-S, to replace the Thermograph, Missile Interim Specification (MIS)-10266, which is old and obsolete.

3. Replacement/Disposition: The Thermograph, MIS-10266, should be turned in one for one when the Thermo-Hygrometer is received. Turn-ins will be done in accordance with Army Regulation 725-50, chapter 3 and Department of the Army Pamphlet 710-1.

4. The property book officers responsible for the units/activities listed in the distribution plan (enclosed), should submit requisitions via facsimile to (DSN 788-2313, commercial 256-842-2313, or e-mail (marcus.jarmon@redstone.army.mil). Submit hard copies to the Integrated Logistics Support and Sustainment Division, US Army Aviation and Missile Command, (AMSAM-TMD-LI, Marcus Jarmon), Redstone Arsenal, AL 35898-5400, to ensure proper processing.

5. The points of contact are Mr. Marcus Jarmon, DSN 788-2423, commercial 256-842-2423, and Mr. Dave Russell, DSN 788-2310, commercial 256-842-2310.

Encl

THOMAS A.CHAFFEE
Director, Engineering, Acquisition,
and Logistics Directorate

CHAPTER 5

EQUIPMENT PUBLICATIONS – NOT INCLUDED

CHAPTER 6

MODIFICATION WORK ORDERS – NOT INCLUDED

By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0615202

Distribution:
To be distributed in accordance with the initial distribution number (IDN) 344854, requirements for calibration procedure TB 43-0001-61-3.

Instructions for Submitting an Electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however, only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" whomever@redstone.army.mil
To: <2028@redstone.army.mil

Subject: DA Form 2028

1. **From**: Joe Smith
2. Unit: home
3. **Address**: 4300 Park
4. **City**: Hometown
5. **St**: MO
6. **Zip**: 77777
7. **Date Sent**: 19-OCT –93
8. **Pub no:**55-2840-229-23
9. **Pub Title**: TM
10. **Publication Date**: 04-JUL-85
11. Change Number: 7
12. Submitter Rank: MSG
13. **Submitter FName**: Joe
14. Submitter MName: T
15. **Submitter LName**: Smith
16. **Submitter Phone**: 123-123-1234
17. **Problem**: 1
18. Page: 2
19. Paragraph: 3
20. Line: 4
21. NSN: 5
22. Reference: 6
23. Figure: 7
24. Table: 8
25. Item: 9
26. Total: 123
27. **Text**

This is the text for the problem below line 27.