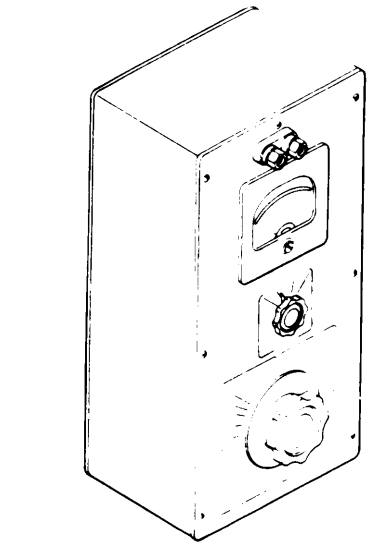
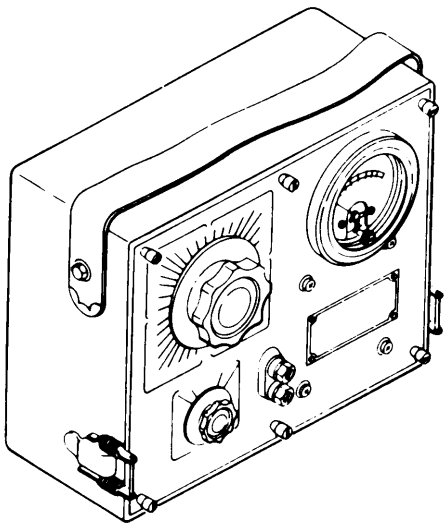
ARMY TM 11-6625-291-14
AIR FORCE TO 33A1-7-23-1

TECHNICAL MANUAL
OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE





OUTPUT METERS
TS-585A/U (NSN 6625-00-244-0501)
TS-585B/U (NSN 6625-00-244-0501)
TS-585C/U (NSN 6625-00-244-0501)
TS-585D/U (NSN 6625-00-684-5438)

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

19 JANUARY 1983

WARNING

HIGH VOLTAGE

may be used in the operation

of this equipment.

DON'T TAKE CHANCES!

Turn equipment OFF

before you do any repair work

inside it.

WARNING

Adequate ventilation should be provided while using trichlorotrifluoroethane. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since trichlorotrifluoroethane dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

5 SAFETY STEPS TO FFOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK

1. DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL

2. IF POSSIBLE, TURN OFF THE ELECTRICAL POWER

3. IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH, OR LIFT THE PERSON TO SAFETY USING A WOODEN POLE OR A ROPE OR SOME OTHER INSULATING MATERIAL

4. SEND FOR HELP AS SOON AS POSSIBLE

5. AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION

Technical Manual
No. 11-6625-291-14
Technical Order
No. 33 AI-7-23-1

HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND THE AIR FORCE
Washington, DC, 19 January 1983

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL
OUTPUT METERS TS-585A/U (NSN 6625-00-244-0501)
TS-585B/U (NSN 6625-00-244-0501)
TS-585C/U (NSN 6625-00-244-0501)
TS-585D/U (NSN 6625-00-684-5438)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the bock of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, NJ 07703.

For Air Force, submit AFTO Form 22 (Technical Order System Publication improvement Report and Reply) in accordance with paragraph 6-5, Section VI, T.O. 00-5-1. Forward direct to prime ALC/MST.

In either case, a reply will be furnished direct to you.

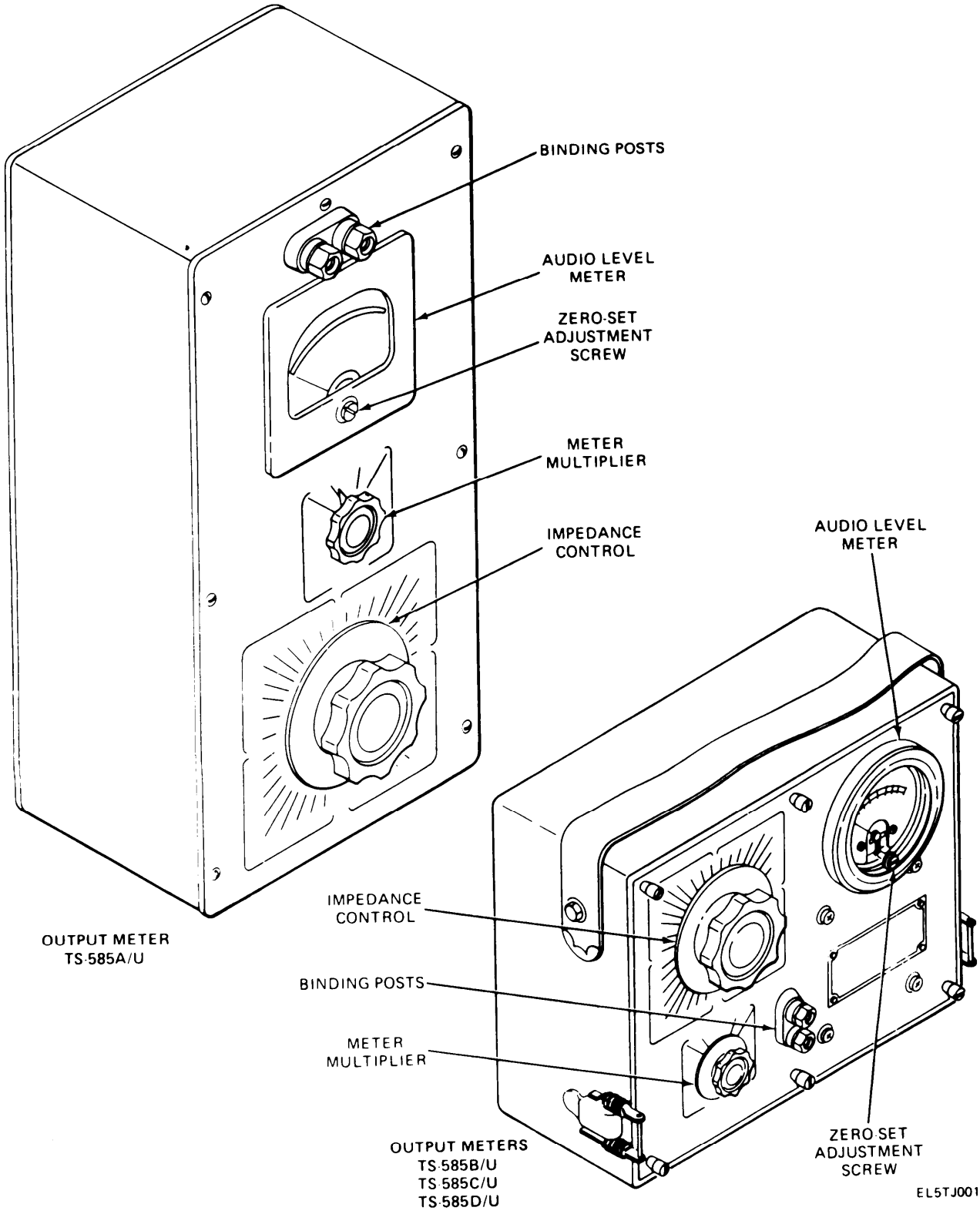
Page

*This manual supersedes TM 11-5017/T033A1-7-23-1, 28 September 1956, including all changes.

HOW TO USE THIS MANUAL

In this manual, paragraphs are numbered by chapter and the order n which they appear in each chapter. To find the paragraph you need, first Iocate your subject in the table of contents. Turn to the page shown and read the paragraph headings until you see what you're looking for. Special tools and parts are shown in the rear of this manual as appendixes. Wiring diagrams and schematics are located directly after chapter 6 (General Support Maintenance). If you find a word or term you don't understand, refer to the glossary in the back of this manual.

OUTPUT METERS TS-585A/U, TS-585C/U, AND TS-585D/U



CHAPTER 1

INTRODUCTION

OVERVIEW

This chapter contains general information, equipment descriptions, and principles of operation for Output Meters TS-585A/U,TS-585B/U, TS-585C/U,andTS-585D/U.

Section I GENERAL INFORMATION

1-1. SCOPE.

Type of Manual: Operator's, Organizational, Direct Support, and General Support Maintenance.

Equipment Name and Model Number: Output Meter TS-585(*)/U.

Purpose of Equipment: Provides means of measuring output power and characteristic impedance of equipment under test.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS.

REPORTS OF MAINTENANCE AND UNSATISFACTORY EQUIPMENT.

Deportment of the Army forms and procedures used for equipment maintenance will be those prescribed by TM38-750. The Army Maintenance Management System (TAMMS) (Army). Air Force personnel will use AFR 66-1 for maintenance reporting and TO-00-35D54 for unsatisfactory equipment reporting.

REPORT OF PACKAGING AND HANDLING DEFICIENCIES.

Fill out and forward SF364 (Report of Discrepancy (ROD)) as prescribed in AR735-ll-2/DLAR 4140.55/NAV-MATINST 4355.73/AFR 400-54/MCO4430.3E.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS. (CONT)

DISCREPANCY IN SHIPMENT REPORT (DISREP) (SF 361).

Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38 /NAVSUPlNST 4610.33B/AFR 75-18/MCO P4610.19C/DLAR 4500.15.

1-3. DESTRUCTION OF ARMY ELECTRONICS MATERIEL.

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

1-4. ADMINISTRATIVE STORAGE.

Administrative storage of equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the PMCS charts before storing. When removing the equipment from administrative storage, the PMCS should be performed to ensure operational readiness. To store, place unit in a box, surrounding it with protective packing. Store indoors, protecting unit from humidity and extremes in temperature. See chapter 4, section VI for packing procedure.

1.5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

a. Army. If your output meters need improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report), Mail it to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. A reply will be sent to you.

b. Air Force. Air Force personnel are encouraged to submit EIR's in accordance with AFR 900-4.

1-6. NOMENCLATURE CROSS REFERENCE.

This list contains common names used throughout this manual in place of official nomenclature.

Common Name	Official Nomenclature
Output meter	Output Meter TS-585A/U, TS-585B/U TS-585C/U or TS-585D/U
Allen wrench	Key, hex socket screw
Test set	Capacitance-Inductance Resistance Test Set
Axial resistor	Resistor, Fixed, Composition
Radial resistor	Resistor, Fixed, Wire Wound
Meter	Meter, Audio Level

1-7. LIST OF ABBREVIATIONS.

This list contains abbreviations used in this manual.

Abbreviation	Word or Term
ac	alternating current
COEIL	Components of End Item List
DA	Department of the Army
dc	direct current
FSCM	Federal Supply Code for Manufacturers
Hz	Hertz
MAC	Maintenance Allocation Chart
NSN	National Stock Number
Pam	Pamphlet
RPSTL	Repair Parts and Special Tools List
SB	Service Bulletin
TAMMS	The Army Maintenance Management System
TB	Technical Bulletin
TM	Technical Manual
TMDE	Test, Measurement, Diagnostic Equipment
v	volts
vac	volts, alternating current
vdc	volts, direct current

Section II EQUIPMENT DESCRIPTION AND DATA

1-8. EQUIPMENT CHARACTERISTICS.

Portable
For shop use
Available in four models

1-9. EQUIPMENT CAPABILITIES AND FEATURES.

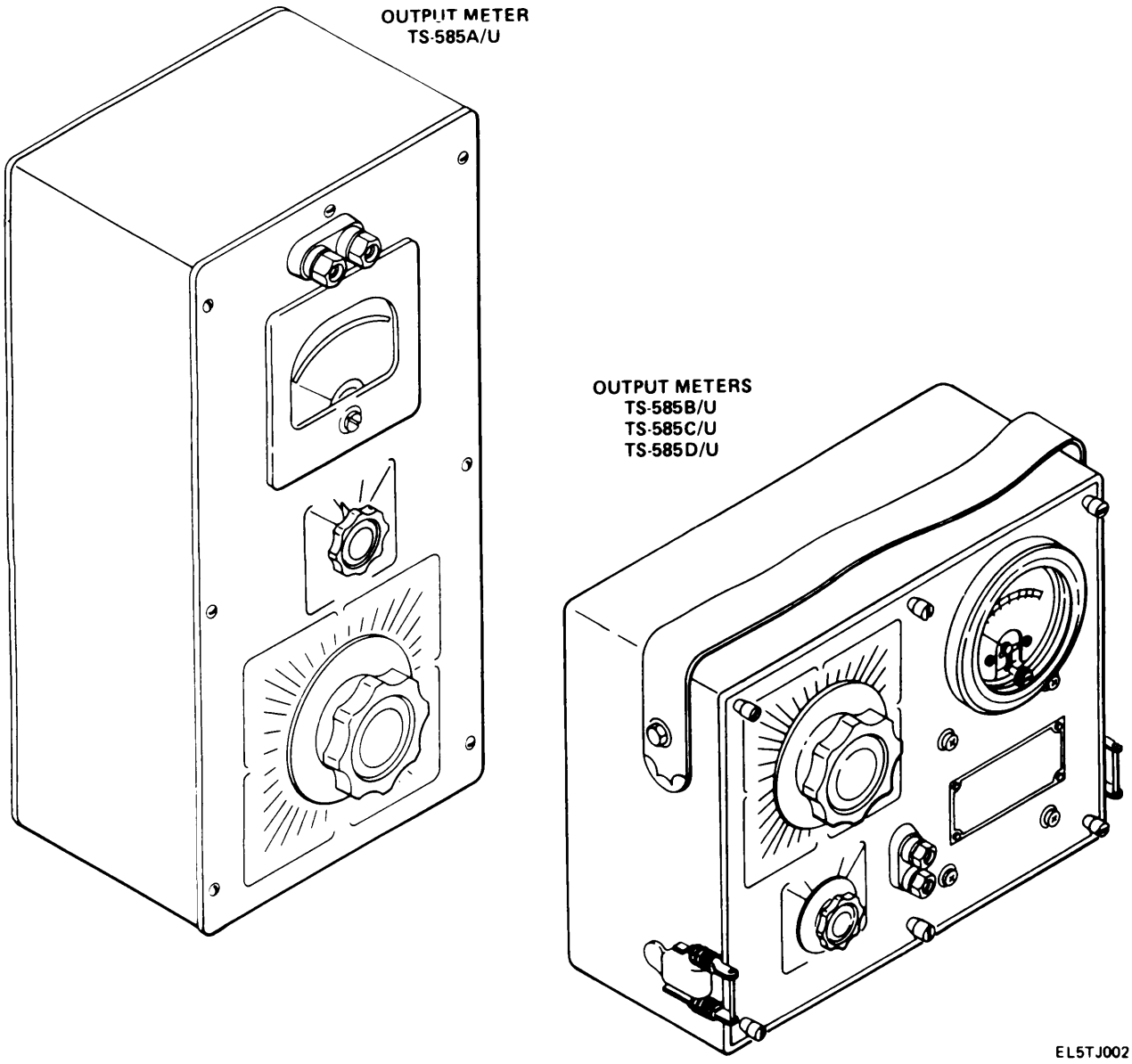
A direct reading output meter
Measures output power in milliwatts or decibels
Measures characteristic impedance

1-10. DIFFERENCE BETWEEN MODELS.

The differences between models TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U are:

Weight and physical dimensions
Location of controls and indicators on front panel

There are no differences in operation or maintenance actions.



1-11. EQUIPMENT DATA.

WEIGHTS AND DIMENSIONS

OUTPUT METER	HEIGHT (in.)	WIDTH (in.)	DEPTH (in.)	VOLUME (Cu ft)	WEIGHT (lbs)
TS-585A/U					
Packed	18.	12.25	12.25	1.563	16
Unpacked	12.	6.	7.	0.291	9
TS-585B/U					
Packed	13.	15.	10.	1.12	21
Unpacked	8.5	11.	5.5	0.297	14
TS-585C/U					
Packed	13.	15.	10.	1.12	21
Unpacked	8.5	11.	5.5	0.297	14
TS-585D/U					
Packed	13.	15.	10.	1.12	21
Unpacked	8.5	11.	5.5	0.297	14

PERFORMANCE

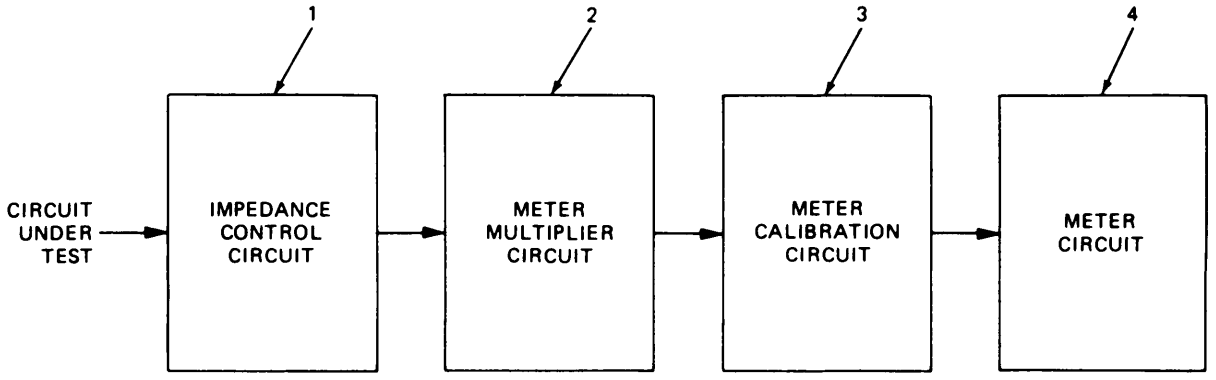
OUTPUT METER	POWER RANGE (mw)(dbm)	INPUT IMPEDANCE (ohms)	FREQUENCY RANGE (Hz)	ACCURACY (at 11 dBm)	
				POWER (dB)	IMPEDANCE" (%)
TS-585A/U	0.1 to 5,000 -10 to +37	2.5 to 20,000	20 to 10,000	±0.4	±10
TS-585B/U	0.1 to 5,000 -10 to +37	2.5 to 20,000	30 to 10,000	±0.4	± 5
TS-585C/U	0.1 to 5,000 -10 to +37	2.5 to 20,000	30 to 10,000	± 0 . 4	± 5
TS-585D/U	0.1 to 5,000 -10 to +37	2.5 to 20,000	30 to 10,000	±0.4	± 5

1-12. SAFETY, CARE, AND HANDLING.

Be sure to obey all WARNINGS, CAUTIONS, and NOTES given in this manual. Serious injury to personnel or damage to equipment may result if WARNINGS, CAUTIONS, and NOTES are not followed exactly.

Section III PRINCIPLES OF OPERATION

1-13. BLOCK DIAGRAM PRESENTATION.



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1 IMPEDANCE CONTROL CIRCUIT. Selects an impedance range to measure the load being tested.

2 METER MULTIPLIER CIRCUIT. Selects a power range to measure the load being tested.

3 METER CALIBRATION CIRCUIT. Provides a means to adjust the meter circuit to accurately measure the load being tested.

4 METER CIRCUIT. A meter that shows readings in terms of milliwatts or decibels.

CHAPTER 2

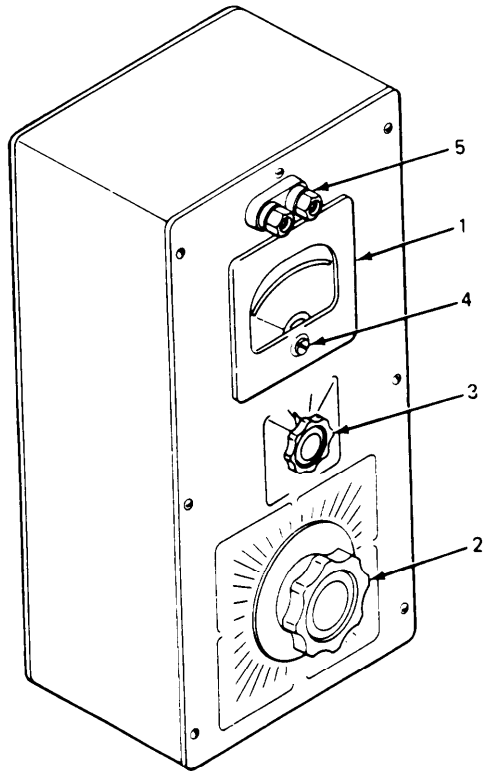
OPERATING INSTRUCTIONS

OVERVIEW

This chapter contains a description of operator's controls, preventive maintenance procedures, initial adjustment and operating procedures for Output Meters TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U.

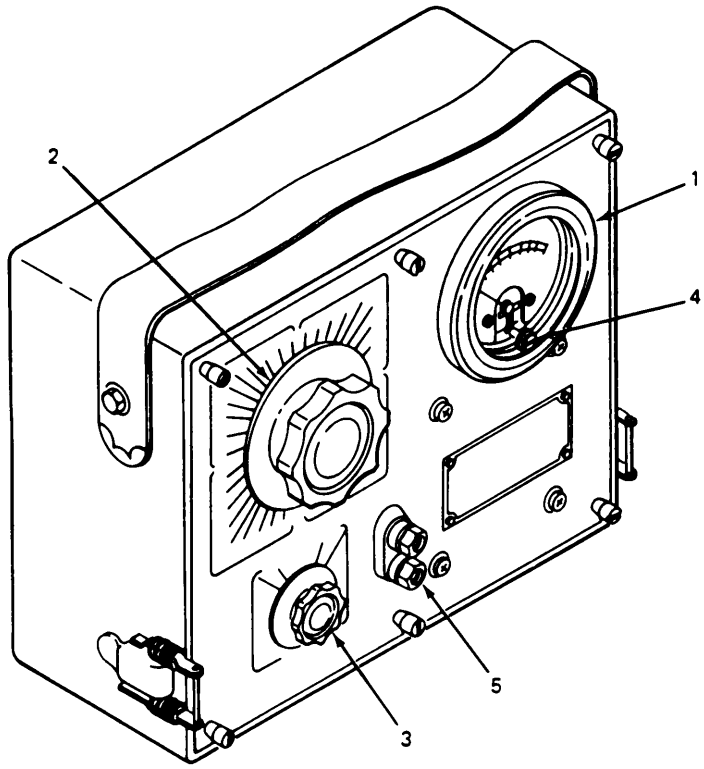
Section I DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

2-1. DESCRIPTION OF OUTPUT METER TS-585A/U.



1	METER	Meter. Shows power being measured in milliwatts or decibels.
2	IMPEDANCE CONTROL	Control knob. Selects an impedance range to measure the load being tested. Selects from 2.5 ohms to 20,000 ohms.
3	METER MULTIPLIER	Control knob. Selects a power range to measure the load being tested. Selects from 0.1 mw to 5,000 mw or -10 dbm to +37 dbm.
4	ZERO-SET ADJUSTMENT	Screw. Adjusts needle on meter to zero setting so that accurate measurements of power can be made.
5	BINDING POSTS	Jacks. Provides connection to equipment being tested.

2-2. DESCRIPTION OF OUTPUT METER TS-585B/U, TS-585C/U, OR TS-585D/U.



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1	METER	Meter. Shows power being measured in milliwatts or decibels.
2	IMPEDANCE CONTROL	Control knob. Selects an impedance range to measure the load being tested. Selects from 2.5 ohms to 20,000 ohms.
3	METER MULTIPLIER	Control knob. Selects a power range to measure the load being tested. Selects from 0.1 mw to 5.000 mw or -10 dbm to +37 dbm.
4	ZERO-SET ADJUSTMENT	Screw. Adjusts needle on meter to zero setting so that accurate measurements of power can be made.
5	BINDING POSTS	Jacks. Provides connection to equipment being tested.

Section II OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES

2-3. OVERVIEW.

Before Operations, do the before PMCS to be sure that the output meter is ready for operation.

If the equipment fails to operate, refer co operator's troubleshooting procedures (see chapter 3, section II) in this manual. Use TM 38-750 as a guide for reporting problems and using forms.

The column titled Equipment is Not Ready/Availabie if tells you why your equipment cannot be used if the item to be Inspected does not meet Procedure needs.

The Item Number column in the PMCS table is to be used as a source of item numbers for the TM number column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, for recording PMCS results.

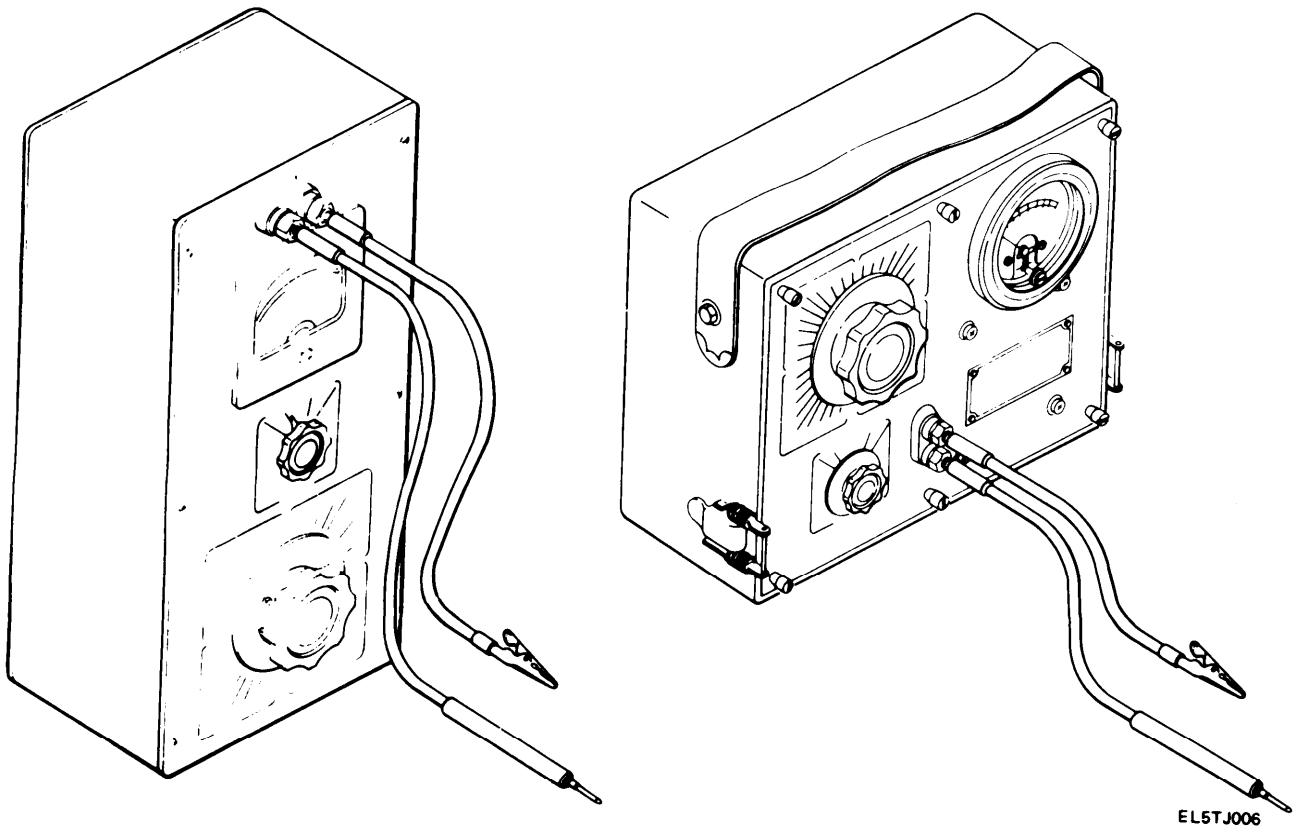
NOTE

A ways keep in mind the CAUTIONS and WARNINGS.

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES

B - BEFORE OPERATION

ITEM NO.	INTERVAL B	ITEM TO BE INSPECTED PROCEDURE	EQUIPMENT IS NOT READY/AVAILABLE IF:
1	•	BASIC ISSUE ITEMS. Check equipment with the basic issue items list in appendix C of this manual for all items needed for operation.	All equipment is not supplied.
2	•	EXTERIOR SURFACES. Clean the exterior surfaces, including the panel and meter glass. See chapter 3, section III for cleaning procedures.	
3	•	TEST LEADS. Check test lead for broken, cracked, or frayed insulation. Replace connectors that are broken or worn.	Test leads are broken, cracked or frayed.

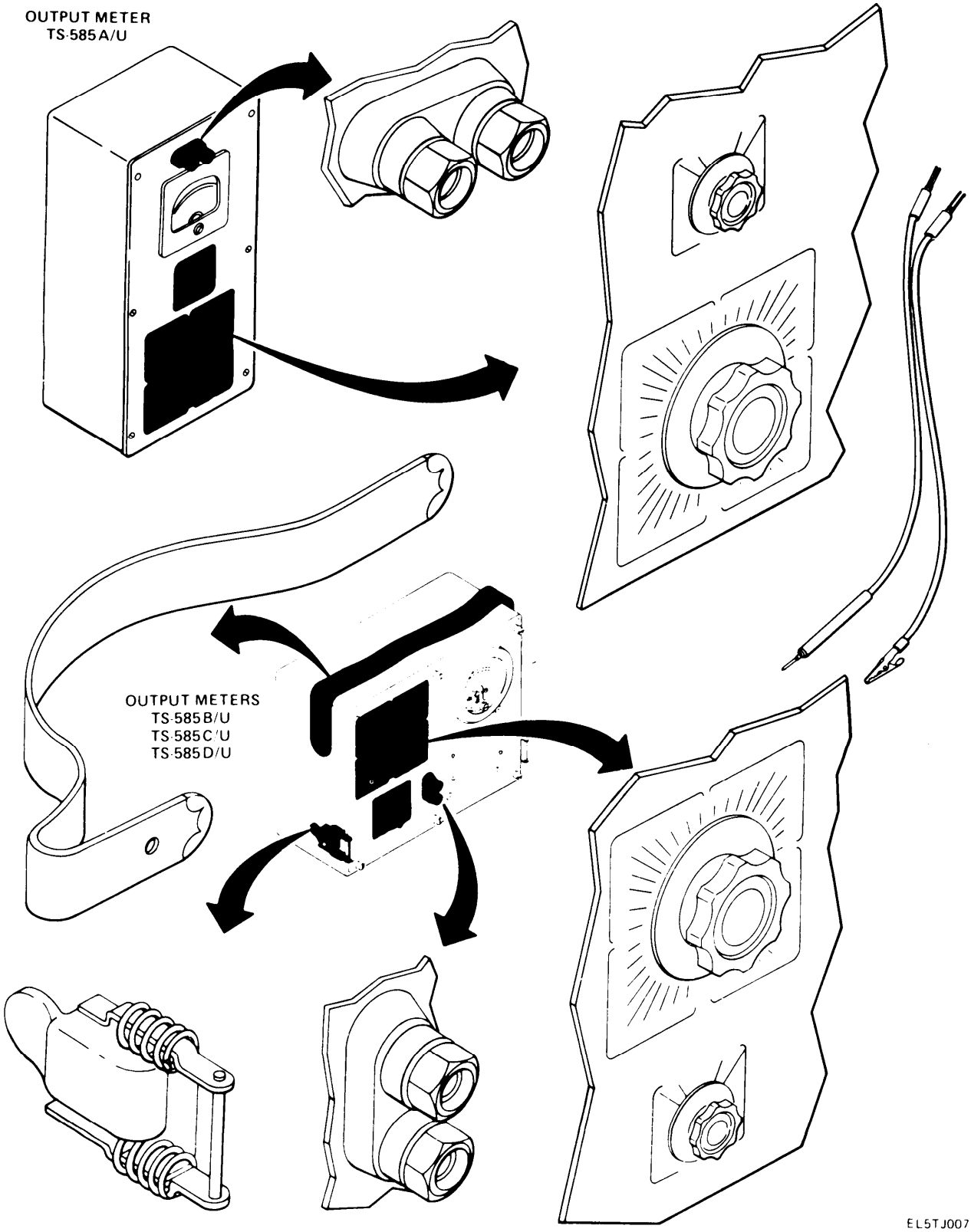


OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES - CONTINUED

B - BEFORE OPERATION

ITEM NO.	INTERVAL B	ITEM TO BE INSPECTED PROCEDURE	EQUIPMENT IS NOT READY/AVAILABLE IF:
4	•	BINDING POSTS. Check that test leads fit firmly into binding posts to provide good contact.	Test leads do not fit firmly into jacks.
5	•	HANDLE AND LATCHES. Check handle and latches for looseness. Replace or tighten as necessary (Output Meters TS-585B/U, TS-585C/U and TS-585D/U only).	
6	•	IMPEDANCE CONTROL AND METER MULTIPLIER CONTROL KNOBS. Check that each knob moves freely and is not loose.	Control knobs do not move freely or are loose.
7	•	PANEL SCREWS Tighten all panel screws.	
8	•	METAL SURFACES. Check metal surfaces for rust and corrosion. See chapter 3, section Ill for touchup painting procedures.	
9	•	MODIFICATION WORK ORDERS (MWO'S). Check that all MWO'S are done. All URGENT MWO'S must be done at once and all NORMAL MWO'S must be scheduled.	

OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONT)



Section Ill OPERATION UNDER USUAL CONDITIONS

2-4. ASSEMBLY AND PREPARATION FOR USE.

The following paragraph gives instructions for unpacking and adjusting the TS-585(*)/U. Be sure to follow these instructions before you use the output meter.

2-5. UNPACKING PROCEDURE.

This task covers:

Unpacking

INITIAL SETUP

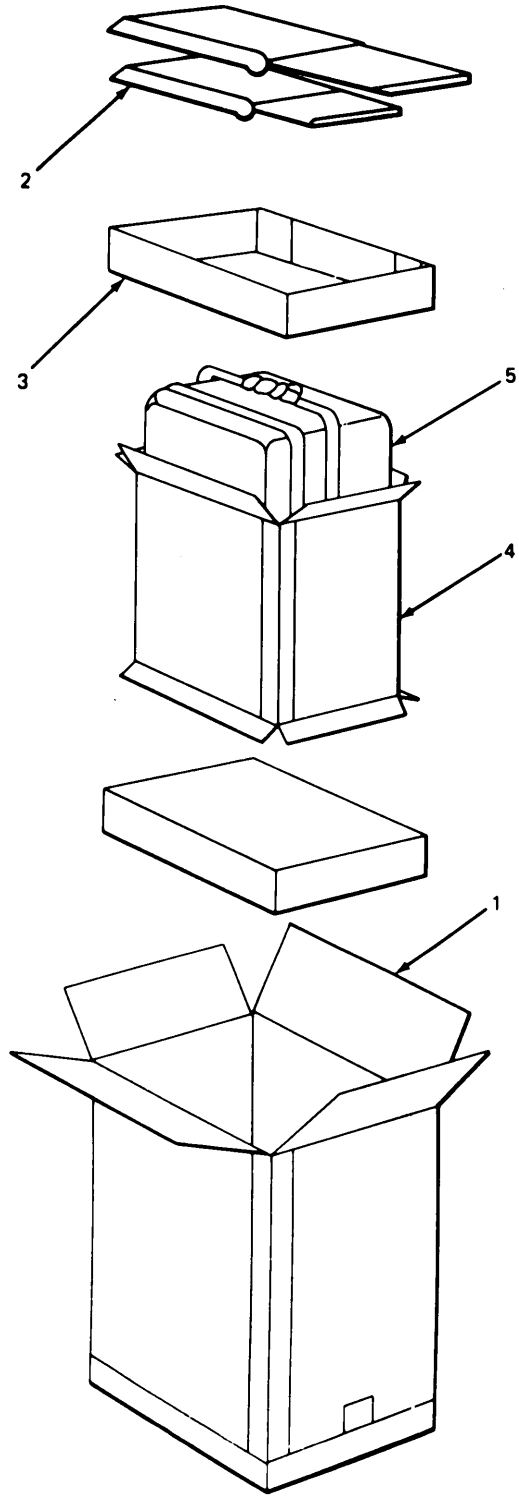
Tools	Personnel Required
Tool Kit, Electronic Equipment TK-105/G	One operator
Materials/Parts	**Equipment Condition**
None	Output meter on workbench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1. Waterproof carton	Cover flaps (1)	Using pocket knife, cut seam along cover of waterproof carton. Fold back cover flaps.
2.	Waterproof envelopes (2)	Remove. **Waterproof envelopes contain output meter manuals.**
3.	Corrugated tray (3)	Remove.
4.	Inner carton (4)	Remove.
5.	Output meter (5)	Remove.

NOTE

Check the basic issue items list is appendix C for all items needed for the operation of the output meter.

2.5. UNPACKING PROCEDURE. (CONT)



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2-6. INITIAL ADJUSTMENTS.

The initial adjustments in this section are listed below.

Meter needle zero adjustment for TS-585AU
Meter needle zero adjustment for TS-585B/U, TS-585C/U, or TS-585D/U

2-7. METER NEEDLE ZERO ADJUSTMENT FOR TS-585A/U.

This task covers:

Adjustment

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Personnel Required

One operator

Materials/Parts

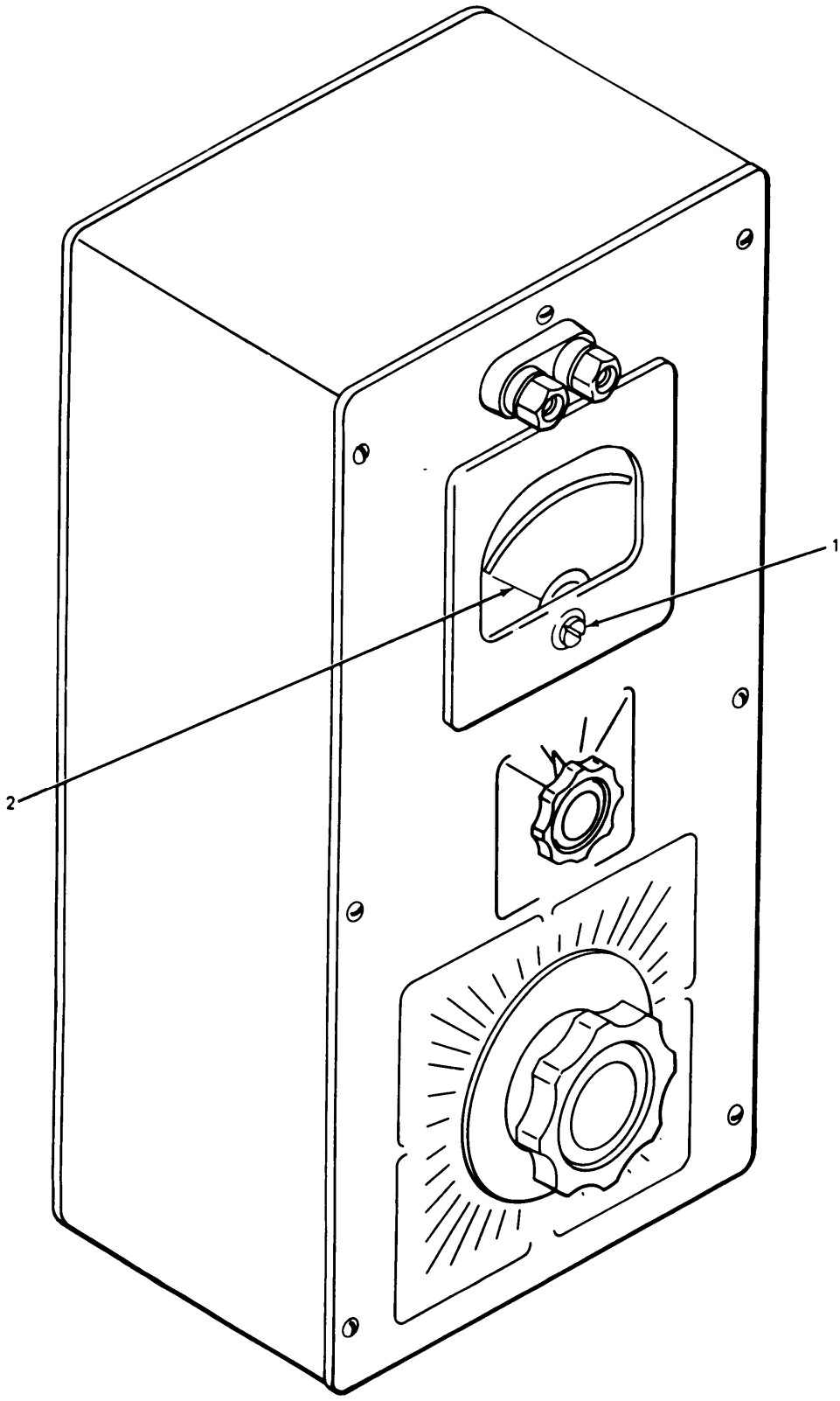
None

Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION **REMARKS**
ADJUSTMENT		
		NOTE Look at meter needle from directly above. If meter needle Is not directly above zero marking, perform the initial adjustment.
Output Meter TS-585A/U	Zero-set adjustment screw (1) and meter needle (2)	Using flat-tip screwdriver, turn screw left or right to aline meter needle with zero mark.

2-7. METER NEEDLE ADJUSTMENT FOR TS585A/U. (CONT)



2-8. METER NEEDLE ZERO ADJUSTMENT FOR TS-585B/U, TS-585C/U, OR TS-585D/U.

This task covers:

Adjustment

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Personnel required

One operator

Materials/Parts

None

Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION **REMARKS**

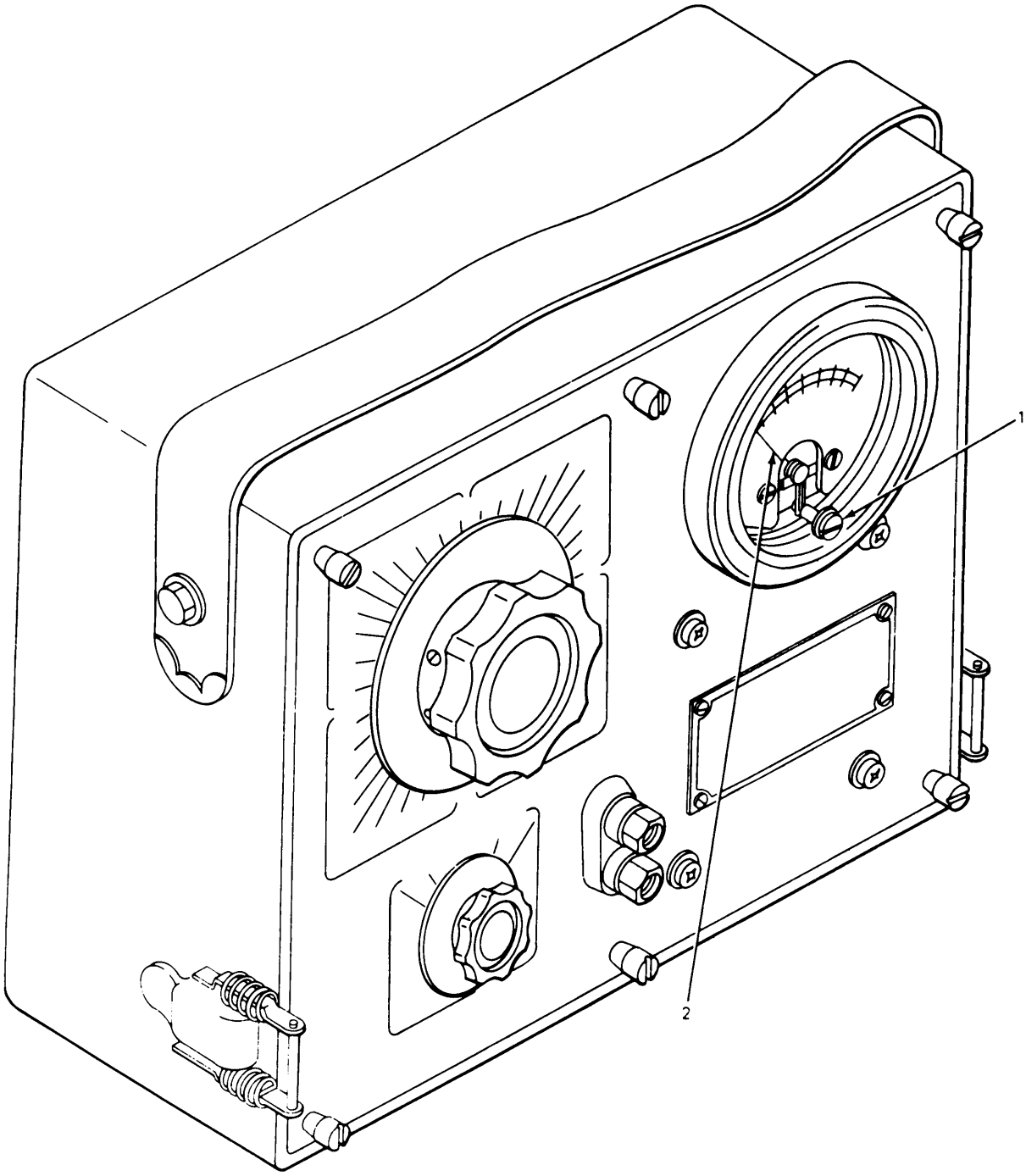
ADJUSTMENT

NOTE

Look at meter scale. If meter needle is not directly above zero marking, perform the initial adjustment.

Output Meter TS-585B/U, TS-585C/U or TS-585D/U	Zero-set adjustment screw (1) and meter needle (2)	Using flat-tip screwdriver, turn screw left or right to aline meter needle with zero mark.

2-8. METER NEEDLE ADJUSTMENT FOR TS-585B/U, TS-585C/U OR TS-585D/U. (CONT)



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2-9. OPERATING PROCEDURES.

The operating procedures listed below are given in this section:

Measurement of output power using TS-585A/U
Measurement of output power using TS-585B/U, TS-585C/U, or TS-585D/U
Measurement of characteristic impedance using TS-585A/U
Measurement of characteristic impedance using TS-585B/U, TS-585C/U, or TS-585D/U

2-10. MEASUREMENT OF OUTPUT POWER USING TS-585A/U.

This task covers:

Measurement

INITIAL SETUP

Tools	Personnel Required
None	One operator
Materials/Parts	**Equipment Condition**
None	Equipment under test off

LOCATION	ITEM	ACTION **REMARKS**

MEASUREMENT

CAUTION

The output meter is not fused. Do not connect the output meter to equipment rated more than 5 watts.

1. Output Meter TS-585A/U	Test leads (1) and binding posts (2)	Connect test leads to binding posts.

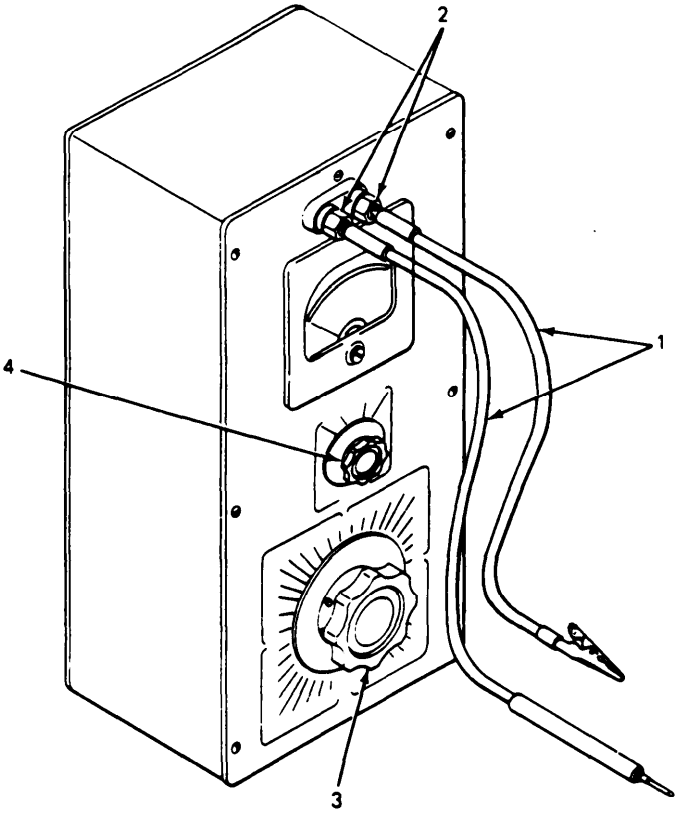
NOTE

If equipment under test is grounded, connect test lead from negative binding post (marked—) to ground of equipment under test.

2.	Impedance control knob (3)	Set Impedance control knob to characteristic impedance setting of circuit being tested.

2-10. MEASUREMENT OF OUTPUT POWER USING TS-585A/U. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
MEASUREMENT (CONT)		
		NOTE If the characteristic impedance is unknown, see paragraph 2-12 to find the characteristic impedance of the circuit being tested.
3. Output Meter TS-585AW	Meter multiplier knob (4)	Set meter multiplier knob to 100. **Set equipment under test on.**
4.	Meter multiplier knob (4)	Set meter multiplier knob to setting where meter reading is slightly to right of center scale. **More accurate readings are taken when meter needle points near center of scale.**
		NOTE Read the power in milliwatts by: meter multiplier setting times the meter reading. Read the power in decibels by: meter multiplier setting plus the meter reading.



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2-11. MEASUREMENT OF OUTPUT POWER USING TS-585B/U, TS-585C/U, OR TS-585D/U.

This task covers:

Measurement

INITIAL SETUP

Tools

None

Materials/Parts

None

Personnel Required

One operator

Equipment Condition

Equipment under test off

LOCATION	ITEM	ACTION	REMARKS

MEASUREMENT

CAUTION

The output meter is not fused. Do not connect the output meter to equipment rated more than 5 watts.

1.	Output Meter TS-585B/U TS-585C/U, or TS-585D/U	Test leads (1) and binding posts (2)	Connect test leads to binding posts.

NOTE

If equipment under test is grounded, connect test lead from binding post (marked G) to ground of equipment under test.

2.		Impedance control (3)	Set Impedance control knob to characteristic impedance setting of circuit being tested.

NOTE

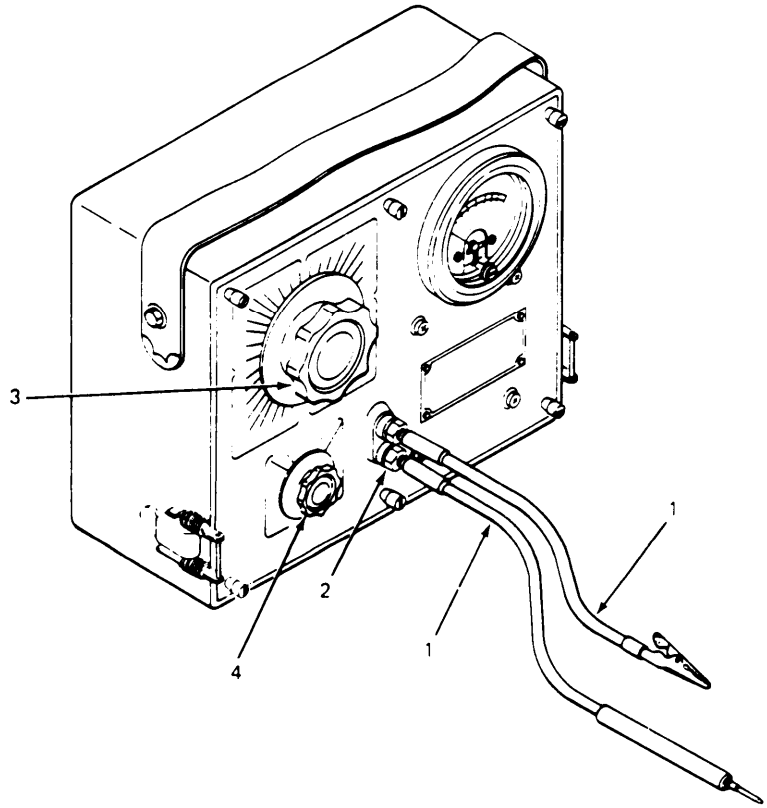
If the characteristic impedance is unknown, see paragraph 2-13 to find the characteristic impedance of the circuit being tested.

2-11. MEASUREMENT OF OUTPUT POWER USING TS-585B/U, TS-585C/U, OR TS-585D/U. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
MEASUREMENT (CONT)		
3.. Output Meter TS-585BNJ, TS-585C/U, or TS-585D/U	Meter multiplier knob (4)	Set meter multiplier knob to 100. **Set equipment under test ON.**
4.	Meter multiplier knob (4)	Set meter multiplier knob to setting where meter reading is slightly to right of center scale. **More accurate readings are taken when meter needle points near center of scale.**

NOTE

Read the power in milliwatts by: meter multiplier setting times the meter reading. Read the power in decibels by: meter multiplier setting plus the meter reading.



EL5TJ012

2-12. MEASUREMENT OF CHARACTERISTIC IMPEDANCE USING TS-585A/U. (CONT)

This task covers:

Measurement

INITIAL SETUP

Tools

None

Materials/Parts

None

Personnel Required

One operator

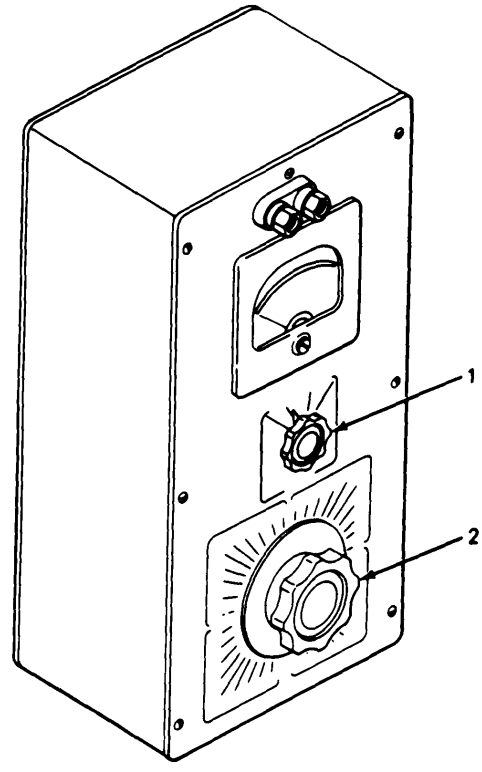
Equipment Condition

Equipment under test off

LOCATION	ITEM	ACTION **REMARKS**
MEASUREMENT		
		CAUTION The output meter is not fused. Do not connect the output meter to equipment rated more than 5 watts.
1. Output Meter TS-585A/U	Meter multiplier knob (1)	Set to 100.
2.	Impedance control knob (2)	Set to 200 x 100 **Set equipment under test on.**
3.	Impedance control knob (2)	Adjust impedance control until meter needle is all the way to the right but not pegged.
4.	Meter multiplier knob (1)	Set meter multiplier knob to setting where meter reading is slightly to right of center scale.
5.		Repeat steps 3 and 4 until lowest setting of impedance control knob points meter needle all the way to the right, but not pegged.

2-12. MEASUREMENT OF CHARACTERISTIC IMPEDANCE USING TS-585A/U. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
MEASUREMENT (CONT)		
		NOTE The lowest impedance control knob setting that points meter needle as far right on scale without being pegged is the characteristic impedance of circuit. if meter reading shows zero during entire procedure, output power from circuit under test may be too small to be measured.



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2-13. MEASUREMENT OF CHARACTERISTIC IMPEDANCE USING TS-585B/U, TS-585C/U, OR TS-585D/U.

This task covers:

Measurement

INITIAL SETUP

Tools

None

Materials/Parts

None

Personnel Required

One operator

Equipment Condition

Equipment under test off

LOCATION	ITEM	ACTION	REMARKS
MEASUREMENT			
		CAUTION The output meter is not fused. Do not connect the output meter to equipment rated more than 5 watts.	
1. Output Meter TS-585B/U, TS-585C/U, or TS-585D/U	Meter multiplier knob (1)	Set to 100.	
2.	Impedance control knob (2)	Set to 200 X 100. **Set equipment under test on.**	
3.	Impedance control knob (2)	Adjust impedance control knob until meter needle points all the way right, but not pegged.	
4.	Meter multiplier knob (1)	Set meter multiplier knob to setting where meter reading is slightly to right of center scale.	
5.		Repeat steps 3 and 4 until lowest setting of impedance control knob points meter needle all the way right, but not pegged.	

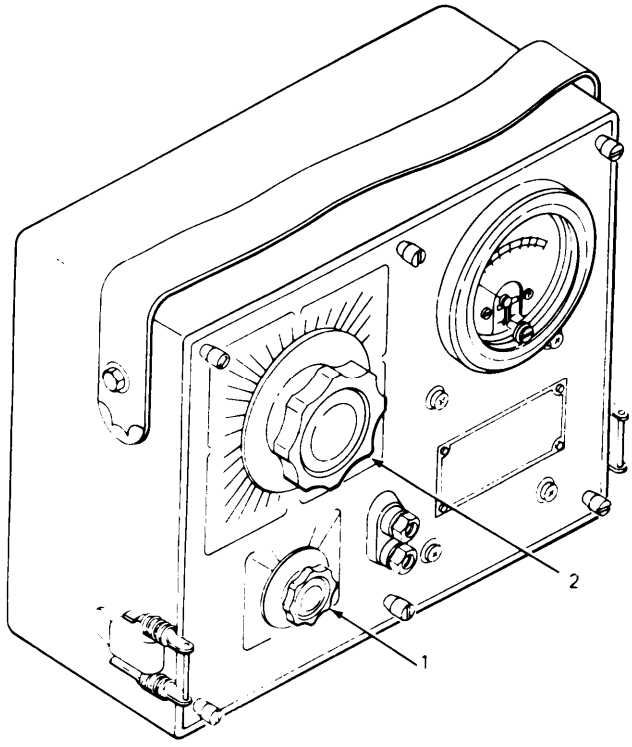
2-13. MEASUREMENT OF CHARACTERISTIC IMPEDANCE USING TS-585B/U, TS-585C/U, OR TS-585D/U. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
MEASUREMENT (CONT)		

NOTE

The lowest impedance control knob setting that points meter needle far right on scale without being pegged is the characteristic impedance of circuit

If meter reading shows zero during entire procedure, output power from circuit under test may be too small to be measured.



CHAPTER 3

OPERATOR MAINTENANCE

OVERVIEW

This chapter contains operator maintenance and troubleshooting procedures for Output Meters TS-585A/U, TS-585B/U,TS-585C/U,and TS-585D/U.

Section I LUBRICATION INSTRUCTIONS

3-1. OVERVIEW.

Lubrication is not needed for the output meter at the operator maintenance level.

Section II TROUBLESHOOTING PROCEDURES

3-2. 0VERVIEW.

The troubleshooting procedures show the common malfunctions which you will find during the operation or maintenance of the output meter. You should perform the tests, inspections, and corrective actions in the order listed.

This manual cannot Iist all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor.

To use the troubleshooting procedures, first find your problem in the symptom index. The symptom index will give you a page number where you will find your problem and corrective actions.

SYMPTOM INDEX

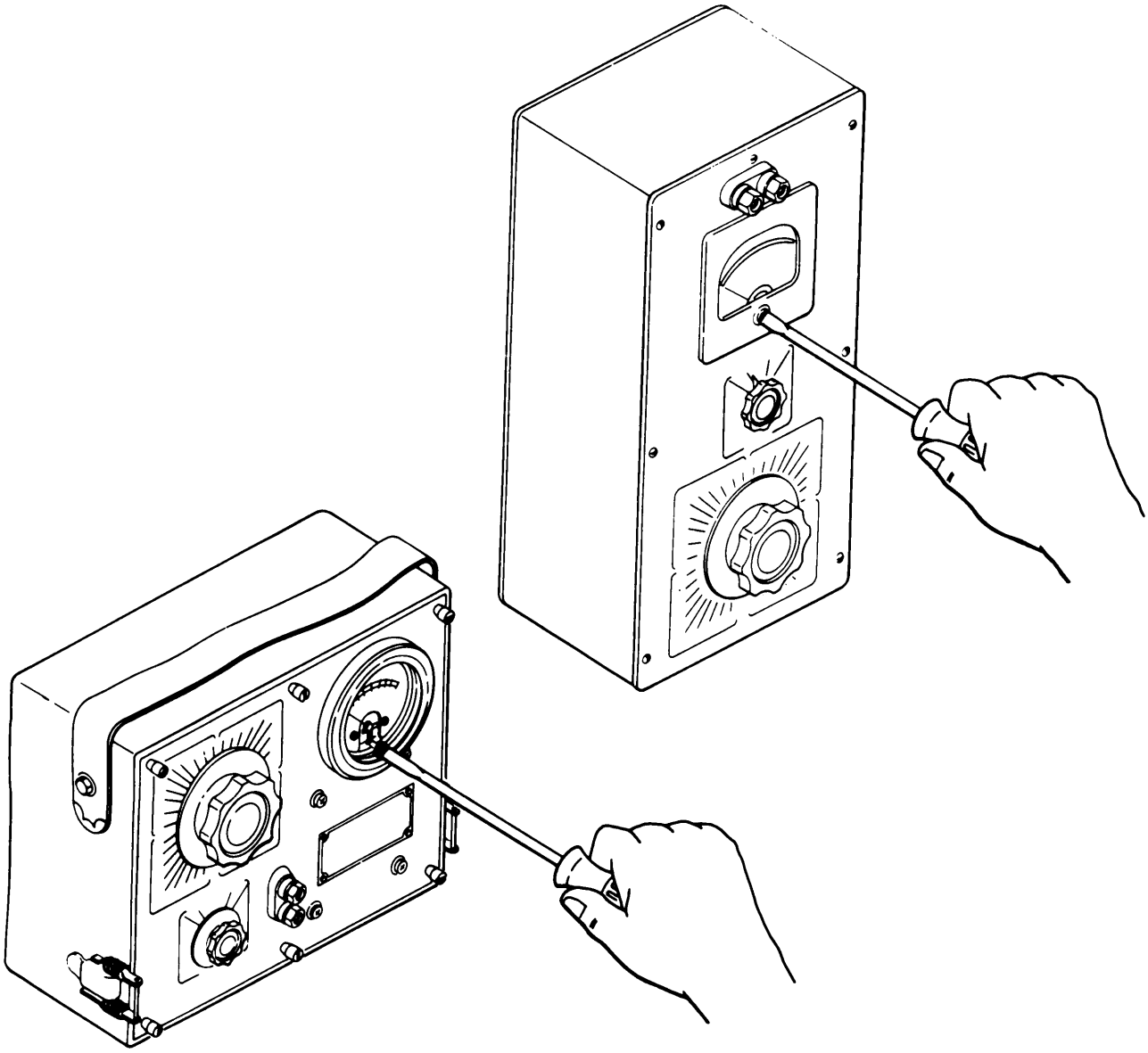
TROUBLESHOOTING

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

1. Meter needle does not rest at zero,

Check if meter needle needs zero adjustment.

Turn zero-set adjustment screw to left or right until meter needle points directly above zero mark.



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TROUBLESHOOTING (CONT)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
2. Meter needle does not return to zero after equipment under test is turned off. Check for bad meter. Refer to higher level of maintenance.
3. Meter needle does not show any reading when equipment under test is turned on. Check for bad output meter. Refer to a higher level of maintenance.
4. Impedance control knob does not point needle to far right of scale for any setting. Check for bad control knob. Refer to a higher level of maintenance.
5. Meter multiplier knob does not point needle near center of scale for any setting. Check for bad control knob. Refer to a higher level of maintenance.

Section III MAINTENANCE PROCEDURES

3-3. OVERVIEW.

This section provides maintenance procedures for the output meter at the operator maintenance level.

The maintenance procedures for the output meter are organized into the following groups:

Inspection
Cleaning
Touchup Painting

3-4. INSPECTION.

The only inspection procedures at the operator maintenance level are the PMCS. The PMCS must be performed at the intervals listed. See chapter 2, section II for the PMCS procedures.

3-5. CLEANING.

Clean the output meter panel with a lint-free cloth. It maybe necessary to clean meter glass using soap and a dampened cloth. The metal parts of output meter can be cleaned using trichlorotriflouroethane.

WARNING

Adequate ventilation should be provided while using trichlorotrifluoroethane. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open frame; the products of decomposition are toxic and irritating. Since trichlorotrifluoroethane dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

CAUTION

Do not clean meter glass with trichlorotrifluoroethane. This can damage the output meter.

3-6. TOUCHUP PAINTING.

Remove rust and corrosion from metal surfaces by lightly sanding surfaces with fine sandpaper. Brush two thin coats of proper paint on bare metal. See TM43-0139 for cleaning and refinishing instructions.

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

OVERVIEW.

This chapter contains service, troubleshooting, and maintenance procedures at the organizational maintenance level for Output Meters TS-585A/U, TS-585B/U,TS-585C/U,andTS-585D/U.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

4-1. COMMONTOOLS AND EQUIPMENT.

The tools needed for maintenance procedures at the organizational maintenance Ievel are included in Electronic Equipment Tool Kit TK-105/G.

4-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

No special tools or equipment are needed for maintenance procedures at the organizational maintenance level.

4-3. REPAIR PARTS.

The repair parts needed for maintenance procedures at the organizational maintenance Ievel can be found in the repair parts and special tools list. See TM 11-8625-291-24P.

Section II SERVICE UPON RECEIPT

4-4. SERVICE UPON RECEIPT OF MATERIEL.

The only instructions for service upon receipt of materiel cover unpacking.

NOTE

After unpacking, be sure to check the basic issue items list in appendix C for all items needed for the operation of the output meter.

4-5. UNPACKING.

For unpacking procedures, see chapter 2, section Ill.

Section Ill PREVENTIVE MAINTENANCE CHECKS AND SERVICES

4-6. OVERVIEW.

To be sure that the output meter is always ready, organizational maintenance must perform Preventive Maintenance Checks and Services (PMCS).

Perform the weekly (W) PMCS. A week is 7 calendar days.

Perform the monthly (M) PMCS. A month is 30 calendar days.

TOOLS NEEDED FOR ORGANIZATIONAL PMCS.

All tools needed for PMCS for the output meter are in Tool Kit, Electronic Equipment TK-105/G.

PMCS TABLE.

The Item No. column is used as a source for the TM number on DA Form 2404.

The Item to be Inspected column describes the parts of the output meter that must be inspected. Inspect all items in the order listed.

The Procedures column describes how to perform the needed checks and services. Carefully follow these Instructions.

If any problems arise during PMCS or if you find any damage, refer to the organizational troubleshooting section in this manual for instructions. A higher level of maintenance may be required,

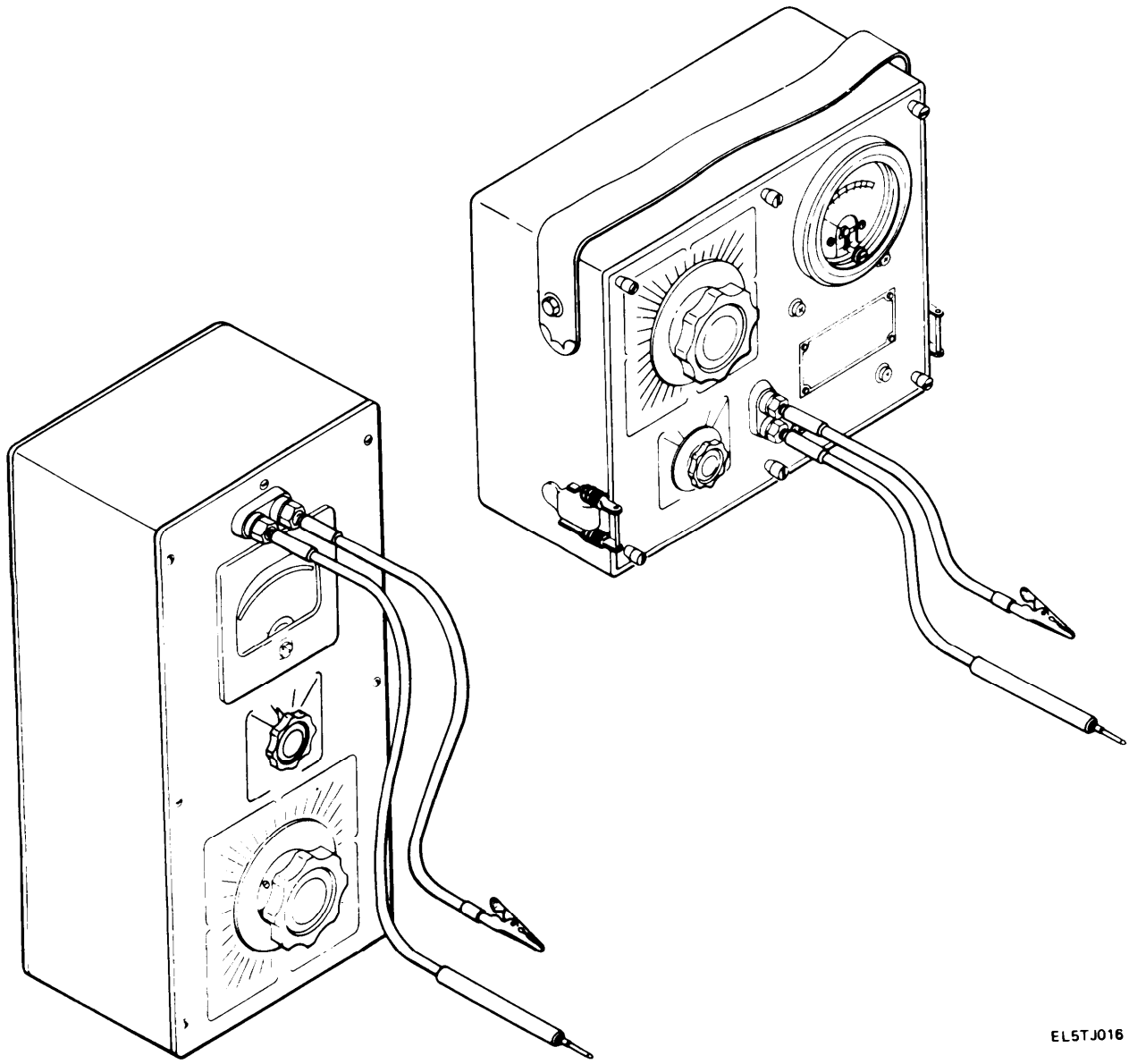
NOTE

Always keep in mind the CAUTIONS and WARNINGS.

ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

W - WEEKLY

ITEM NO.	INTERVAL W	ITEM TO BE INSPECTED	PROCEDURES
1	•	BASIC ISSUE ITEMS	Check equipment with basic issue items list in appendix C of this manual for all items needed for operation.



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ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (CONT)

W - WEEKLY

ITEM NO.	INTERVAL W	ITEM TO BE INSPECTED	PROCEDURES
2		EXTERIOR SURFACES	Clean the exterior surfaces, including the panel and meter glass. See chapter 3, section III for cleaning procedures.
3		TEST LEADS	Check test leads for broken, cracked, or frayed insulation. Replace connectors that are broken or worn.
4		BINDING POSTS	Check that test leads fit firmly into binding posts to provide good contact.
5		HANDLE AND LATCHES	Check handle and latches for looseness. Replace or tighten as necessary (Output Meters TS-585B/U, TS-585C/U and TS-585D/U only).
6		IMPEDANCE CONTROL AND METER MULTIPLIER CONTROL KNOBS	Check that each knob moves freely and is not loose.
7		PANEL SCREWS	Tighten all panel screws.
8		METAL SURFACES	Check metal surfaces for rust and corrosion. See chapter 3, section III for touchup paint procedures.
9		MODIFICATION WORK ORDERS (MWO'S).	Check that all MWO'S are done. All URGENT MWO'S must be done at once and all NORMAL MWO'S must be scheduled.

Section IV TROUBLESHOOTING

4-7. OVERVIEW.

The troubleshooting procedure lists the common malfunctions which you may find during the operation or maintenance of the output meter. You should perform the tests, inspections and corrective actions in the order listed.

This manual cannot Iistall malfunctions that may occur, nor all tests or inspections and corrective actions. if a malfunction is not listed or is not corrected by listed corrective actions, tell your supervisor.

To use the troubleshooting procedures, first find your problem in the symptom index. This symptom index will give you a page number where you will find your problem and corrective actions.

SYMPTOM INDEX

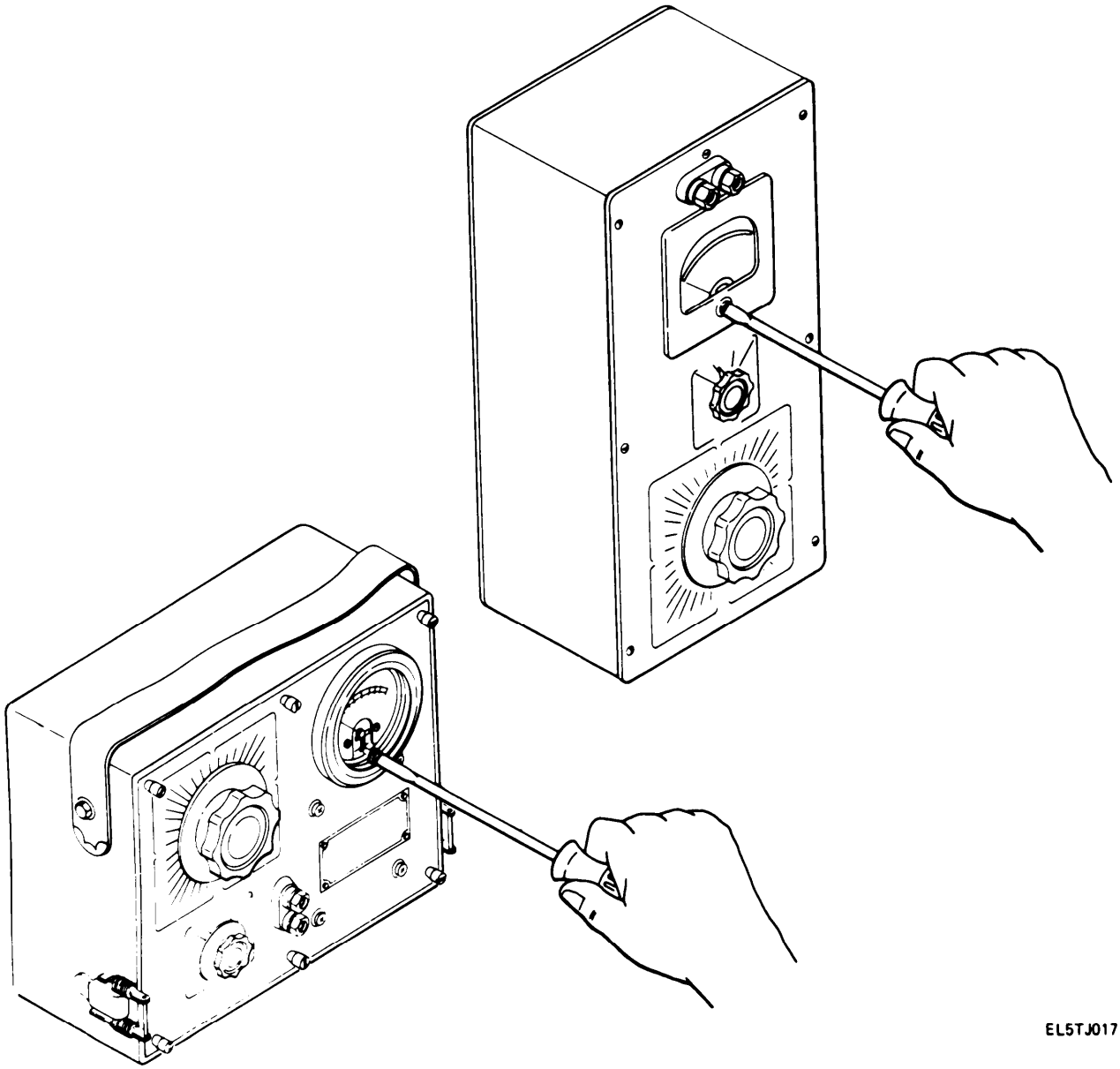
TROUBLESHOOTING

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION

1. Meter needle does not rest at zero.

Check if meter needle needs zero adjustment.

Turn zero-set adjustment screw to left or right until meter needle points directly above zero mark.



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TROUBLESHOOTING (CONT)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

2. Meter needle does not return to zero after equipment is turned off.

   Check for bad meter.

   Refer to a higher level of maintenance.

3. Meter needle does not show any reading when equipment under test is turned on.

   Check for bad output meter.

   Refer to a higher level of maintenance.

4. Impedance control knob does not point needle to far right of scale for any setting.

   Check for bad control knob.

   Refer to a higher level of maintenance.

5. Meter multiplier knob does not point needle near center of scale for any setting.

   Check for bad control knob.

   Refer to a higher level of maintenance.

Section V MAINTENANCE PROCEDURES

4-8. OVERVIEW.

This section provides maintenance procedures for the output meter at the organizational maintenance level.

The maintenance procedures for the output meter are organized into the following groups;

Inspection
Cleaning
Touchup Painting
Replacement Procedures

4-9. INSPECTION.

The only inspection procedures at the organizational maintenance level are the PMCS. The PMCS must be performed at the interval listed. See chapter 5, section lV for the PMCS procedures.

4-10. CLEANING.

Clean the output meter with a soft lint-free cloth. lt may be necessary to clean meter glass using soap and a dampened cloth. The metal parts of the output meter can be cleaned using trichiorotrifiuoroethane.

WARNING

Adequate ventilation should be provided while using trichlorotrifluoroethane. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since trichlorotrifluorwthane dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

CAUTION

Do not clean meter glass with trichlorotrifluoroethane. This can damage the output meter.

4-11. TOUCHUP PAINTING.

Remove rust and corrosion from metal surfaces by lightly sanding surfaces with fine sandpaper. Brush two thin coats of proper paint on bare metal. See TM 43-0139 for cleaning and refinishing instructions.

4-12. REPLACEMENT PROCEDURES.

The following copy provides replacement procedures for the following:

Impedance control knob on Output Meters TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U.

Meter multiplier knob on Output Meters TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U.

Rubber bumpers on Output Meter TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U.

4-13. REPLACEMENT OF IMPEDANCE CONTROL KNOB ON OUTPUT METERS TS-585A/U, TS-585B/U, TS-585C/U and TS-585D/U.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment
TK-105/G

Materials/Parts

Knob
NSN 5355-00-160-6863

Personnel Required

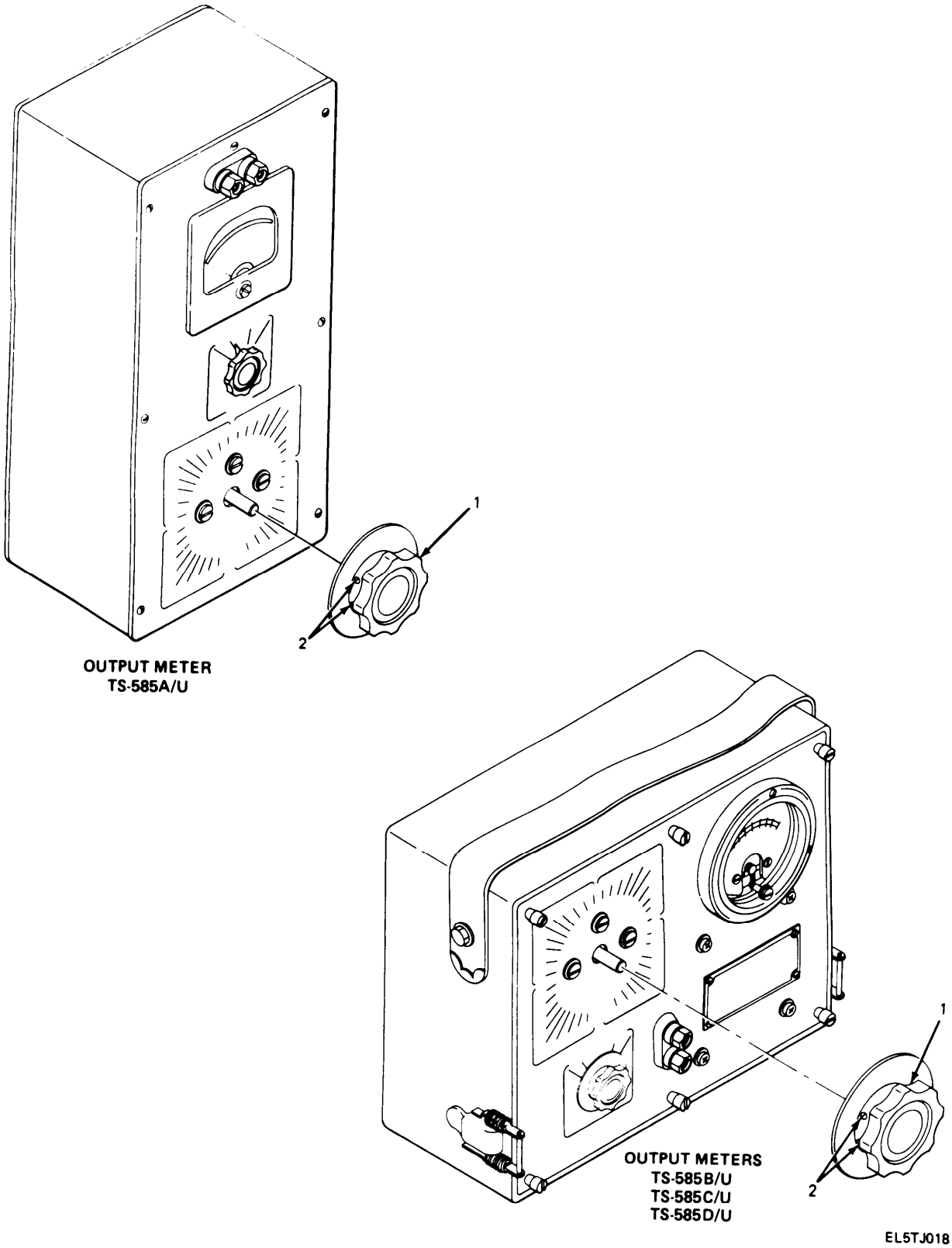
One operator

Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
Output Meter TS-585A/U TS-585B/U TS-585C/U TS-585D/U	Impedance control knob (1) and screws (2)	Using flat-tip screwdriver, loosen screws. Remove impedance control knob. **Throw away broken knob.**
INSTALLATION		
Output Meter TS-585A/U TS-585B/U TS-585C/U TS-585D/U	Impedance control knob (1) and screws (2)	Place new impedance control knob on control shaft. Using flat-tip screwdriver, tighten screws. **Check operation of knob.**

4-13. REPLACEMENT OF IMPEDANCE CONTROL KNOB ON OUTPUT METER TS-585A/U, TS-585B/U, TS-585C/U and TS-585D/U. (CONT)



4-14. REPLACEMENT OF METER MULTIPLIER KNOB ON OUTPUT METER TS-585A/U, TS-585B/U, TS-585C/U and TS-585D/U.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment
TK-105/G

Materials/Parts

Knob
NSN 5355-00-160-6863

Personnel Required

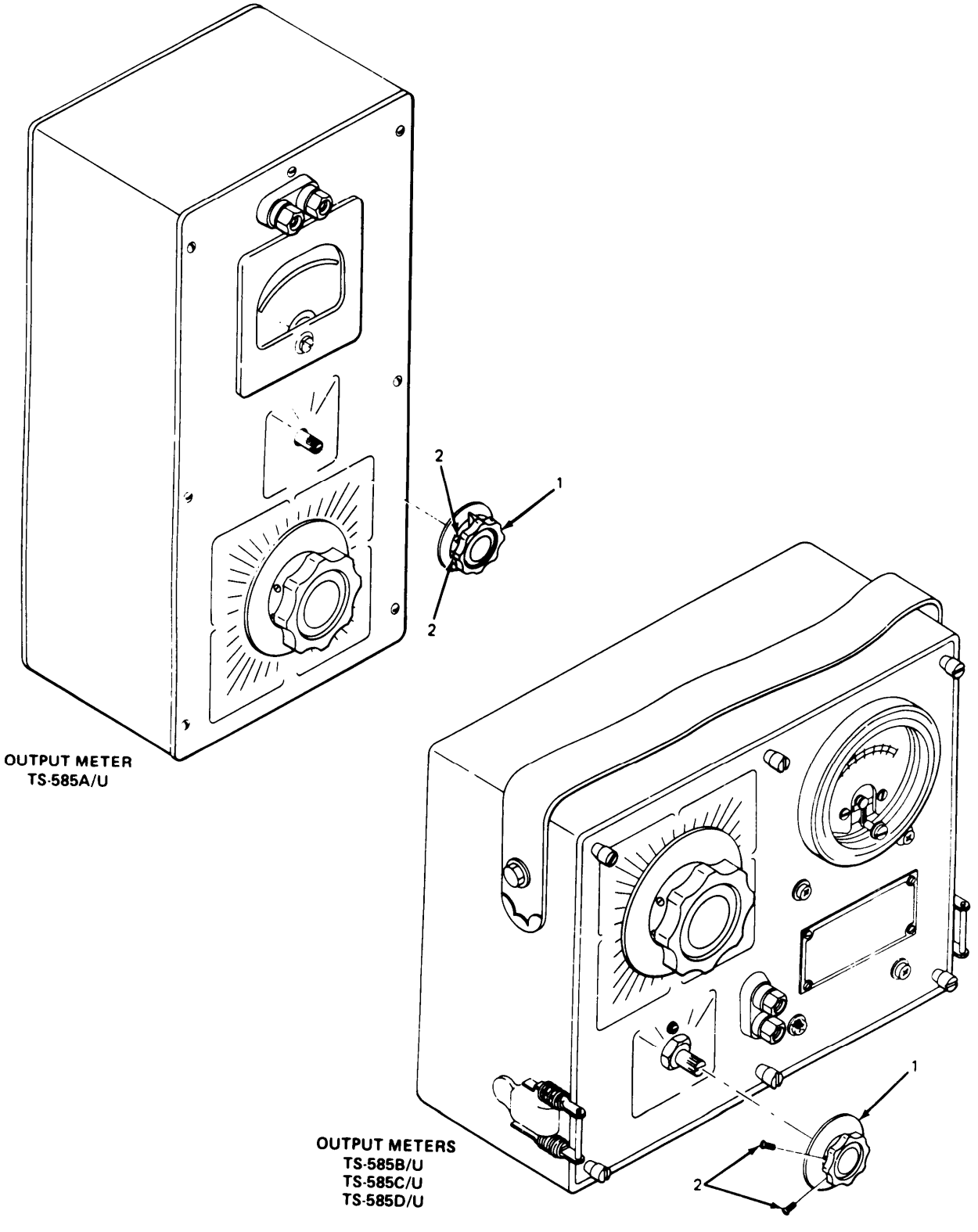
One operator

Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
Output Meter TS-585A/U TS-585B/U TS-585C/U TS-585D/U	Impedance control knob (1) and screws (2)	Using flat-tip screwdriver, loosen screws. Remove impedance control knob. **Throw away broken knob.**
INSTALLATION		
Output Meter TS-585A/U TS-585B/U TS-585C/U TS-585D/U	Impedance control knob (1) and screws (2)	Place new impedance control knob on control shaft. Using flat-tip screwdriver, tighten screws. **Check operation of knob.**

4-14. REPLACEMENT OF METER MULTIPLIER KNOB ON OUTPUT METER TS-585A/U, TS-585B/U, TS-585C/U and TS-585D/U. (CONT)



4-15. REPLACEMENT OF RUBBER BUMPERS ON OUTPUT METER TS-585A/U, TS-585B/U, TS-585C/U AND TS-565D/U.

This procedure shows typical replacement of rubber bumpers. Shown below is a replacement procedure for a rubber bumper on Output Meter TS-585A/U. This procedure is the same for Output Meters TS-585B/U, TS-585C/U, and TS-585D/U.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment
TK-105/G

Materials/Parts

Bumper, rubber
NSN 5340-00-550-8485

Personnel Required

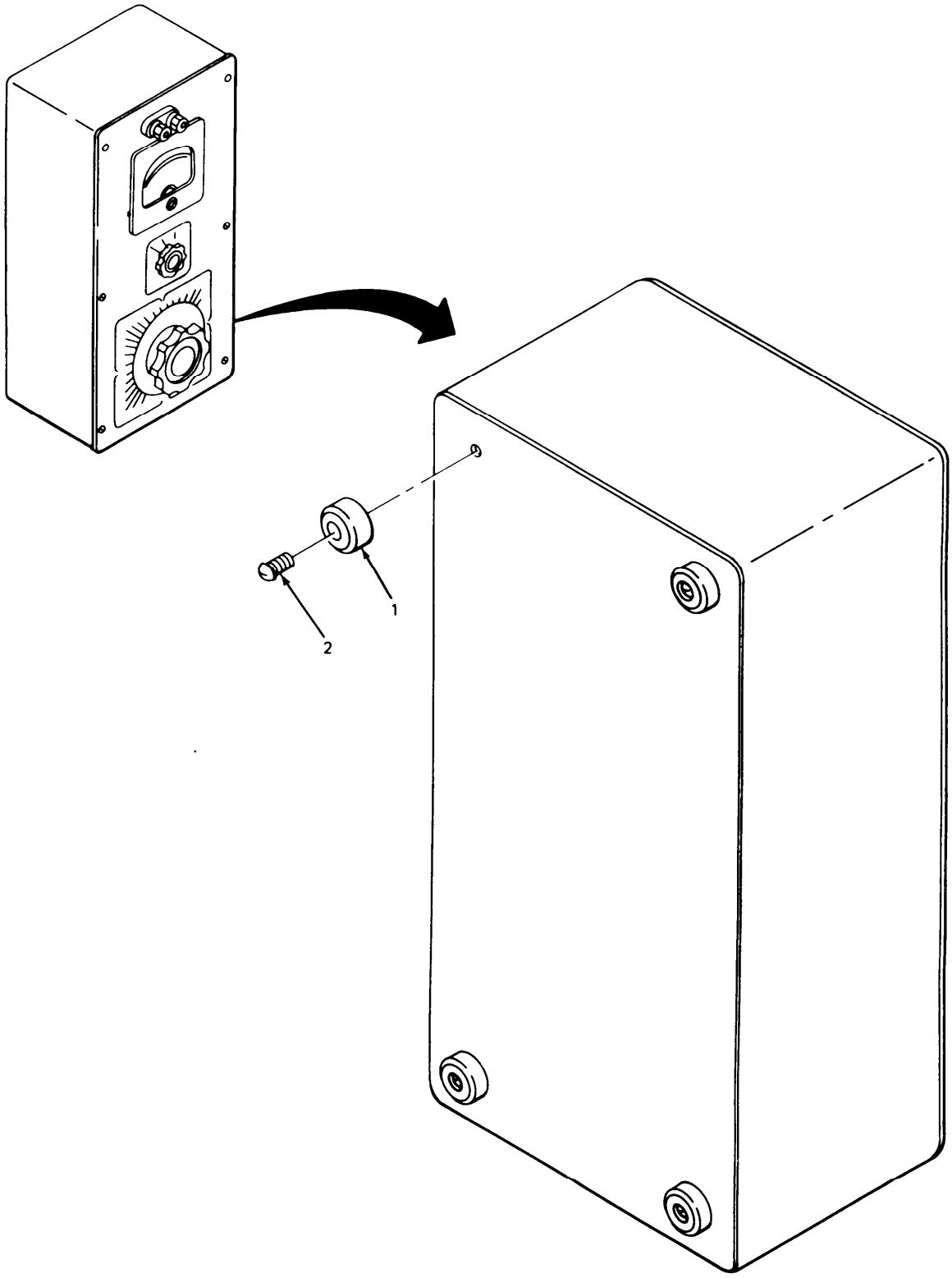
One operator

Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
		NOTE Remove and replace only those bumpers that need to be replaced.	
Output Meter TS-585A/U	Rubber bumper (1) and screw (2)	Using flat-tip screwdriver, remove screw in center of rubber bumper. Remove rubber bumper.	**Throw away broken bumper.**
INSTALLATION			
Output Meter TS-585A/U	Rubber bumper (1) and screw (2)	Put new rubber bumper in place. Using flat-tip screwdriver, install screw.	

4-15. REPLACEMENT OF RUBBER BUMPERS ON OUTPUT METER TS-585A/U, TS-585B/U, TS-585C/U, AND TS-585D/U. (CONT)



BACK VIEW OF UNIT

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Section VI PREPARATION FOR STORAGE OR SHIPMENT

4-16. PACKING

This task covers:

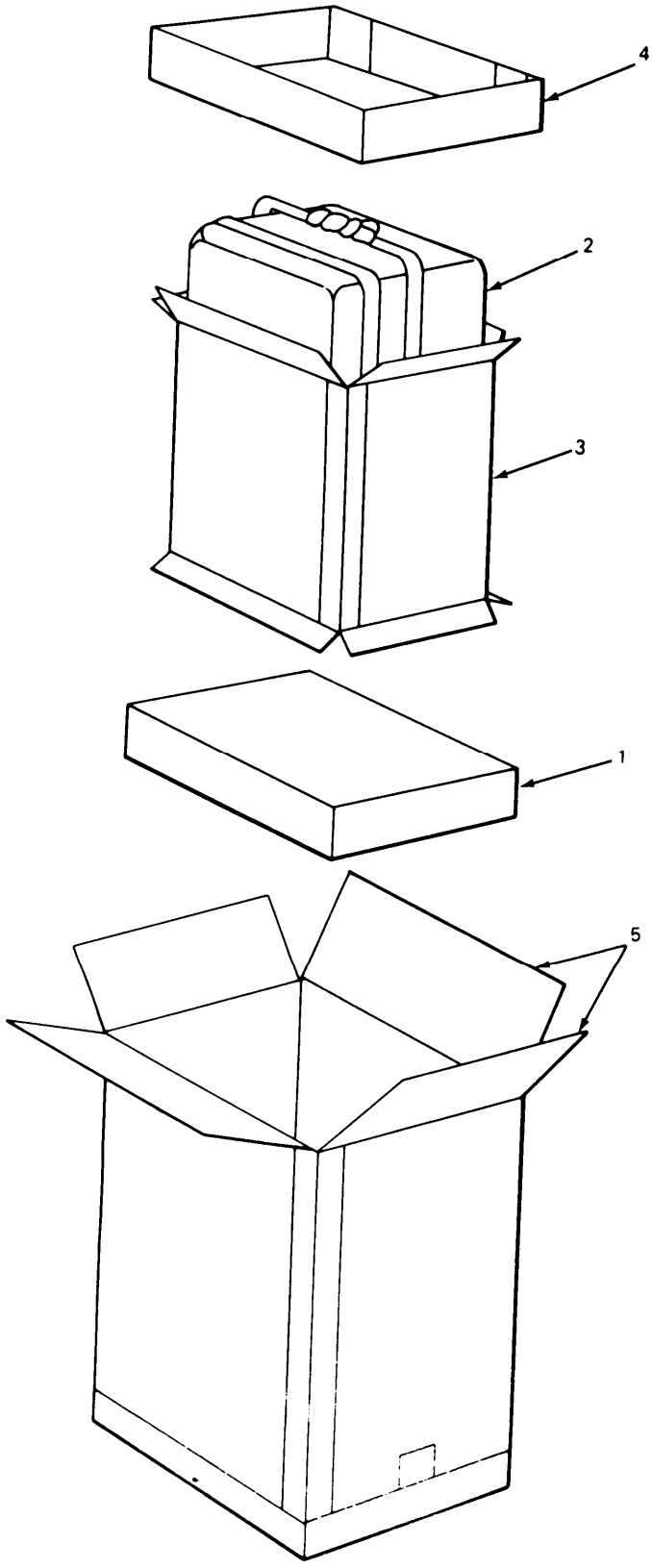
Packing

INITIAL SETUP

Tools	Personnel Required
None	One operator
Materials/Parts	**Equipment Condition**
Packing carton Packing tape	Output meter on workbench

LOCATION	ITEM	ACTION **REMARKS**
PACKING		
1. Waterproof carton	Corrugated tray (1)	Place into waterproof carton.
2. Inner carton	Output meter (2)	Place into inner carton.
3. Waterproof carton	Inner carton (3)	Place into waterproof carton.
4.	Corrugated tray (4)	Place into waterproof carton on top of output meter.
5.	Cover flaps (5)	Fold over corrugated tray. Using packing tape, secure flaps on carton along seam.

4-16. PACKING. (CONT)



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CHAPTER 5

DIRECT SUPPORT MAINTENANCE

OVERVIEW

At present, there are no authorized maintenance procedures to be performed at the direct support maintenance level for Output Meters TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U.

CHAPTER 6

GENERAL SUPPORT MAINTENANCE

OVERVIEW

This chapter contains troubleshooting, maintenance, calibration, and final testing procedures authorized at the general support maintenance level for Output Meters TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

6-1. COMMON TOOLS AND EQUIPMENT.

The tools and equipment needed for maintenance procedures at the general support Ievel can be found in appendix B, section lll.

6-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment needed for maintenance procedures at the general support level can be found in appendix B, section lll.

6-3. REPAIR PARTS.

The repair parts needed for maintenance procedures at the general support Ievel can be found in the repair parts and special tools list. See TM 11-6625-291-24P.

Section II TROUBLESHOOTING

6-4. OVERVIEW.

When trouble occurs, look for simple causes such as oxidation of contact surfaces and loose set screws on top of impedance control. Avoid major disassembly of parts or test equipment setups until failure not due to simple malfunction is determined.

Perform the operational checks to determine the malfunction and seethe symptom index to find the troubleshooting procedure needed. For wiring diagrams and schematics, seepages 6-52 to 6-59.

6-5. OPERATIONAL CHECKS.

To determine the malfunction of output meter, the following operational checks must be performed:

Measurement of a known power output of a circuit with a characteristic impedance under 300 ohms (under l,000 ohms for Output Meters TS-585C/U and TS-585D/U).

Measurement of a known power output of a circuit with a characteristic impedance above 400 ohms (above 1,250 ohms for Output Meters TS-585C/U and TS-585D/U).

See chapter 2, section Ill for operating procedures for output meters.

SYMPTOM INDEX

Page

TROUBLESHOOTING

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION

1. No meter indication at all positions of impedance control.

Step 1: Check for bad meter.

See paragraph 6-16 for testing procedures.

Step 2: Check for poor contact or no contact of wiper arms on rings of impedance control.

See paragraph 6-20 for cleaning and adjustment procedures

Step 3: Check for poor contact or no contact of rotary switch parts.

See paragraph 6-22 for testing procedures.

TROUBLESHOOTING (CONT)

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

2. Meter indication only when impedance control is set at 300 ohms or below (at 1,000 ohms or below for Output Meter TS-585C/U and TS-585D/U).

Check for poor contact or no contact of wiper arms on rings of impedance control.

See paragraph 6-20 for cleaning and adjustment prodecures.

3. Meter indication only when impedance control is set at 400 ohms or above (at 1,250 ohms or above for Output Meters TS-585C/U and TS-585D/U).

Check for poor contact or no contact of wiper arms on rings of impedance control.

See paragraph 6-20 for cleaning and adjustment procedures.

4. Meter indication too low at all positions of impedance control.

Step 1: Check for poor calibration of output meter.

See paragraph 6-26 for calibration procedures.

Step 2: Check for bad meter.

See paragraph 6-16 for testing procedures.

Step 3: Check for bad axial resistor R2 or variable resistor R3.

See paragraph 6-10 for test and replacement procedures for R3.
See paragraph 6-13 for test and replacement procedures for R2.

Step 4: Check for bad impedance control.

See paragraph 6-21 for testing procedures.

5. Meter indication too low when impedance control is set at 300 ohms or below (at 1,000 ohms or below for Output Meters TS-585C/U and TS-585D/U).

Step 1: Check for poor contact or no contact of wiper arms on rings of impedance control.

See paragraph 6-20 for cleaning and adjustment procedures.

TROUBLESHOOTING (CONT)

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 2: Check for bad capacitor Cl (Output Meters TS-585A/U and TS-585B/U only).

See paragraph 6-9 for test and replacement procedures.

Step 3: Check for bad autotransformer.

See paragraphs 6-18 for testing procedure

6. Meter indication too low when impedance control is set at 400 ohms or above (at 1,250 or above for Output Meters TS-585C/U and TS-585D/U).

Check for poor contact or no contact of wiper arms on rings of impedance control

See paragraph 6-20 for cleaning and adjustment procedures.

7. Meter indication too high at all positions of impedance control.

Step 1: Check for poor calibration of output meter.

See paragraph 6-26 for calibration procedures.

Step 2: Check for bad rotary switch contacts.

See paragraph 6-22 for testing procedures.

Step 3: Check for bad radial resistors R12, R13, or R14.

See paragraph 6-11 for test and replacement procedures.

Step 4: Check for bad axial resistors R4, R5, or R6.

See paragraph 6-13 for test and replacement procedures.

Step 5: Check for bad meter.

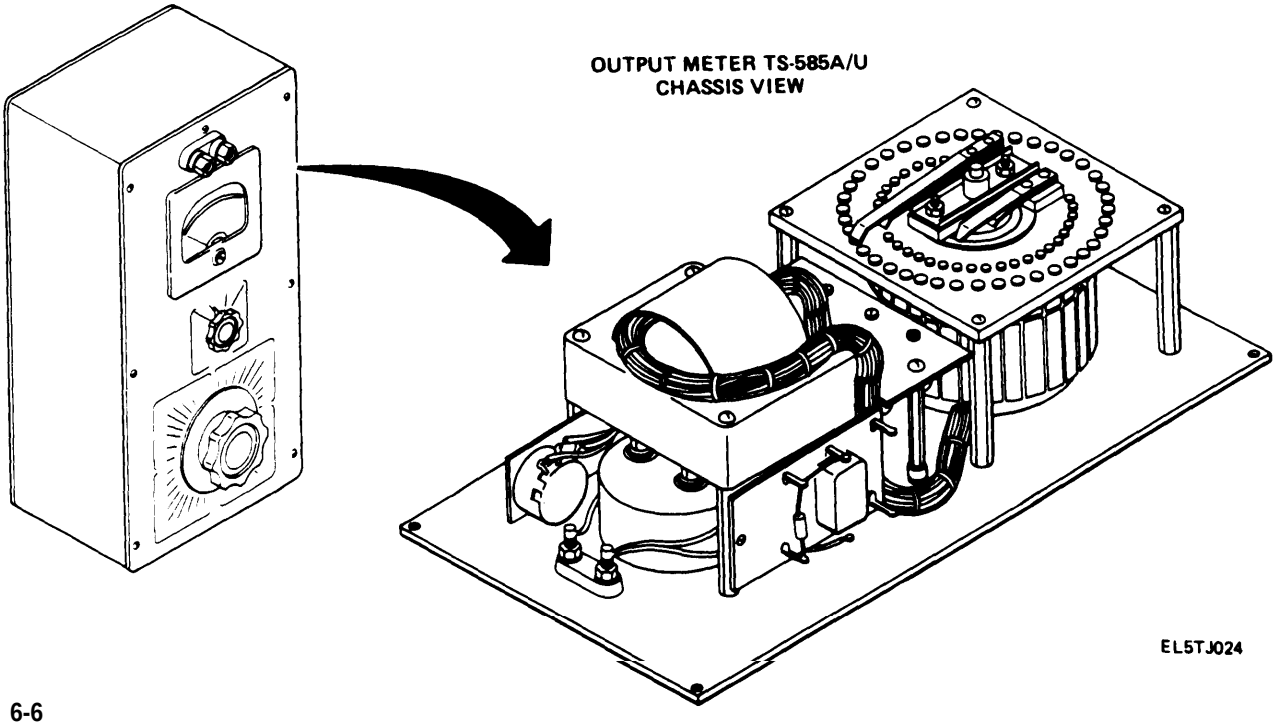
See paragraph 6-16 for testing procedures.

Section III MAINTENANCE PROCEDURES

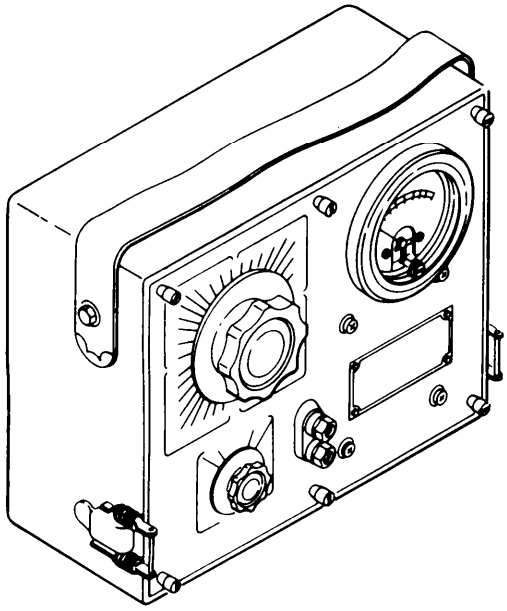
6-6. OVERVIEW.

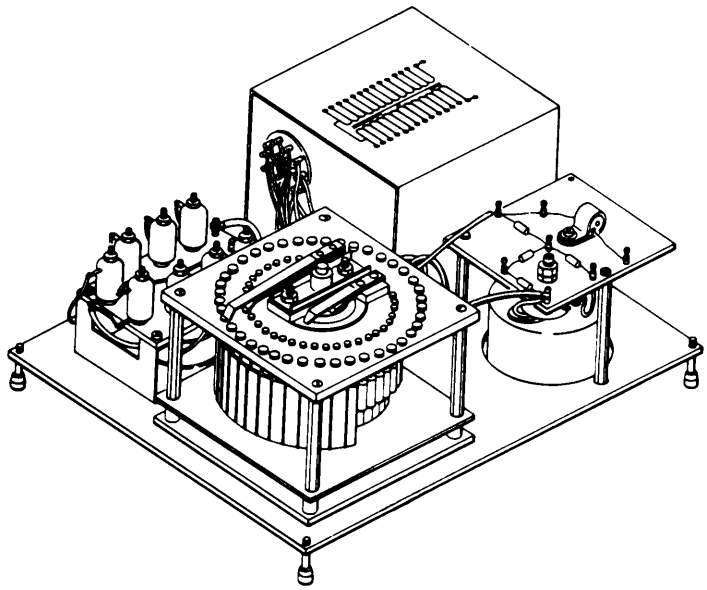
This section provides typical instructions for removal, repair, and installation of parts of the output meter at the general support maintenance level.

All maintenance procedures in this section refer to 0utput Meter TS-585D/U, except where otherwise noted. The same procedures are used for Output Meters TS-585A/U, TS-585B/U, and TS-585C/U. For maintenance procedures of Output Meters TS-585A/U, TS-585B/U, and TS-585C/U, see the following figures for differences in configuration. For wiring diagrams and schematics, see pages 6-52 to 6-59.

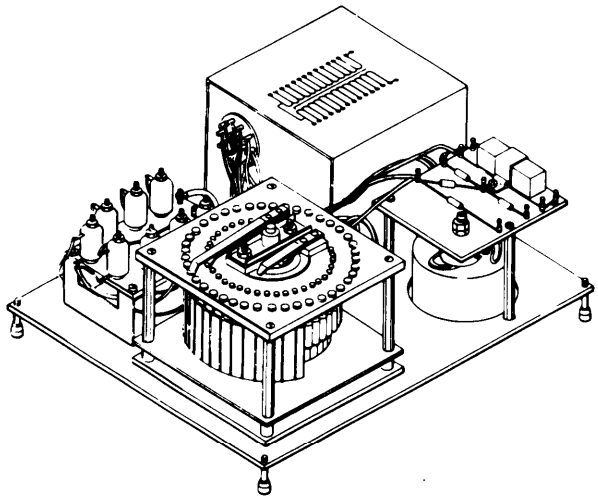


6-6. OVERVIEW. (CONT)

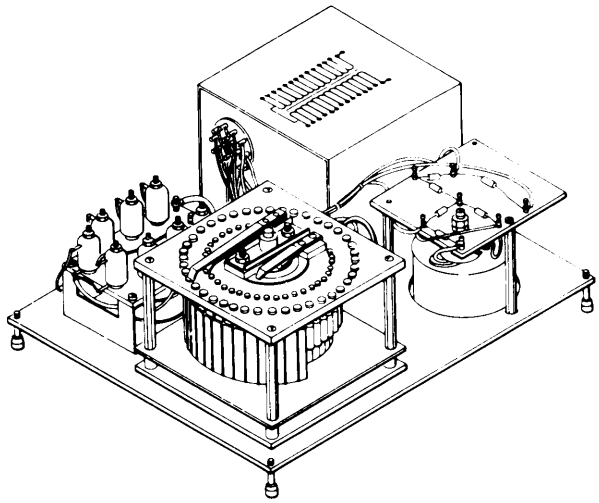




OUTPUT METER TS-585D/U
CHASSIS VIEW



OUTPUT METER TS-585B/U
CHASSIS VIEW



OUTPUT METER TS-585C/U
CHASSIS VIEW

EL5TJ025

6-7. REPLACEMENT OF CHASSIS.

This procedure shows replacement of chassis for Output Meter TS-585D/U. This procedure is the same for Output Meters TS-585A/U, TS-585B/U. and TS-585C/U.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

None

Personnel Required

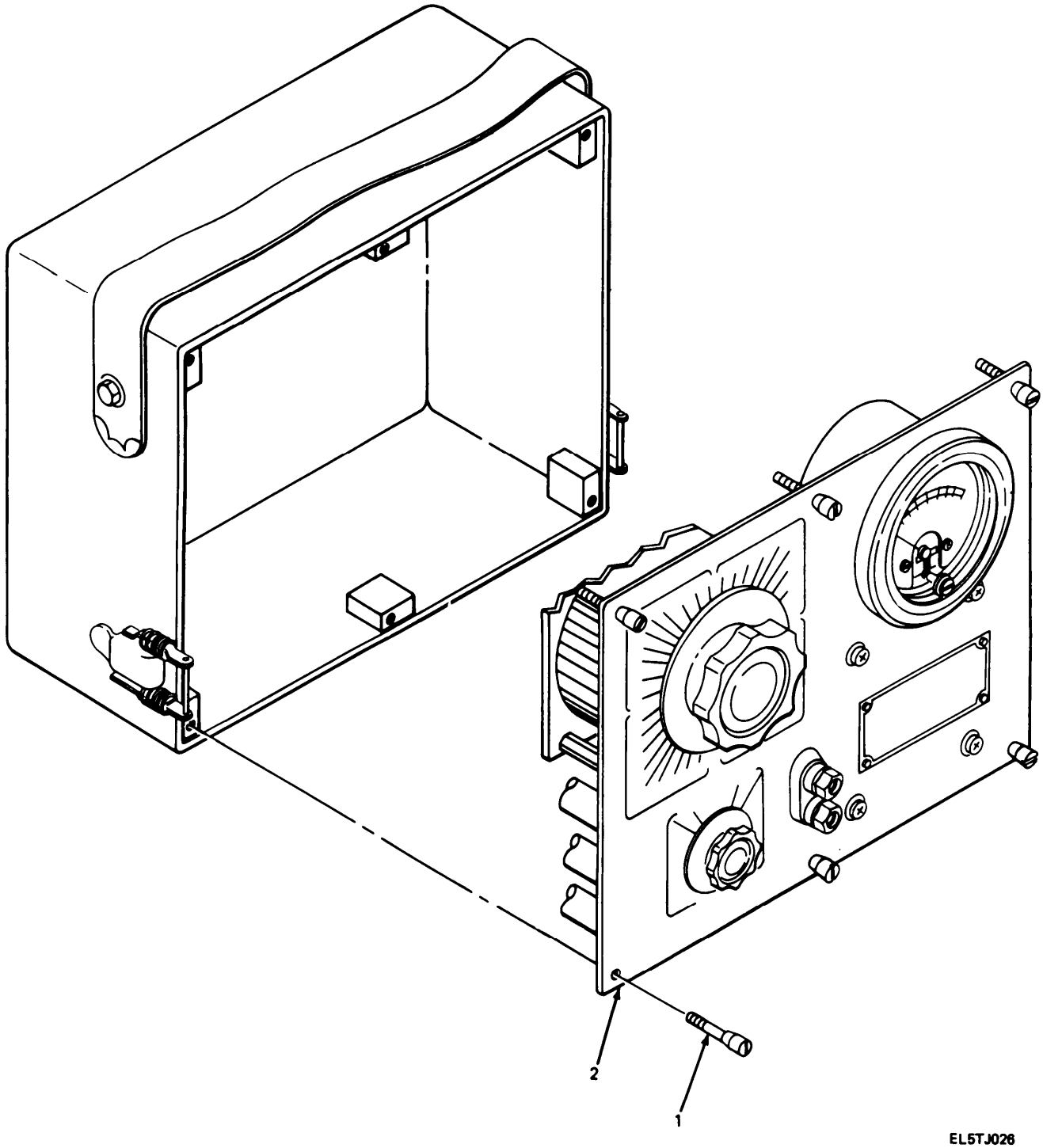
One technician

Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1. Chassis	Screws (1)	Using flat-tip screwdriver, remove.
2. Case	Chassis (2)	Lift chassis from case.
INSTALLATION		
1. Case	Chassis (2)	Put into case.
2. Chassis	Screws (1)	Using flat-tip screwdriver, install.

6-7. REPLACEMENT OF CHASSIS. (CONT)



6-8. REPLACEMENT OF BINDING POST ASSEMBLY.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools	Personnel Required
Tool Kit, Electronic Equipment TK-105/G	One technician
Materials/Parts	**Equipment Condition**
Post, binding See TM 11-8625-291-24P	Output meter on workbench

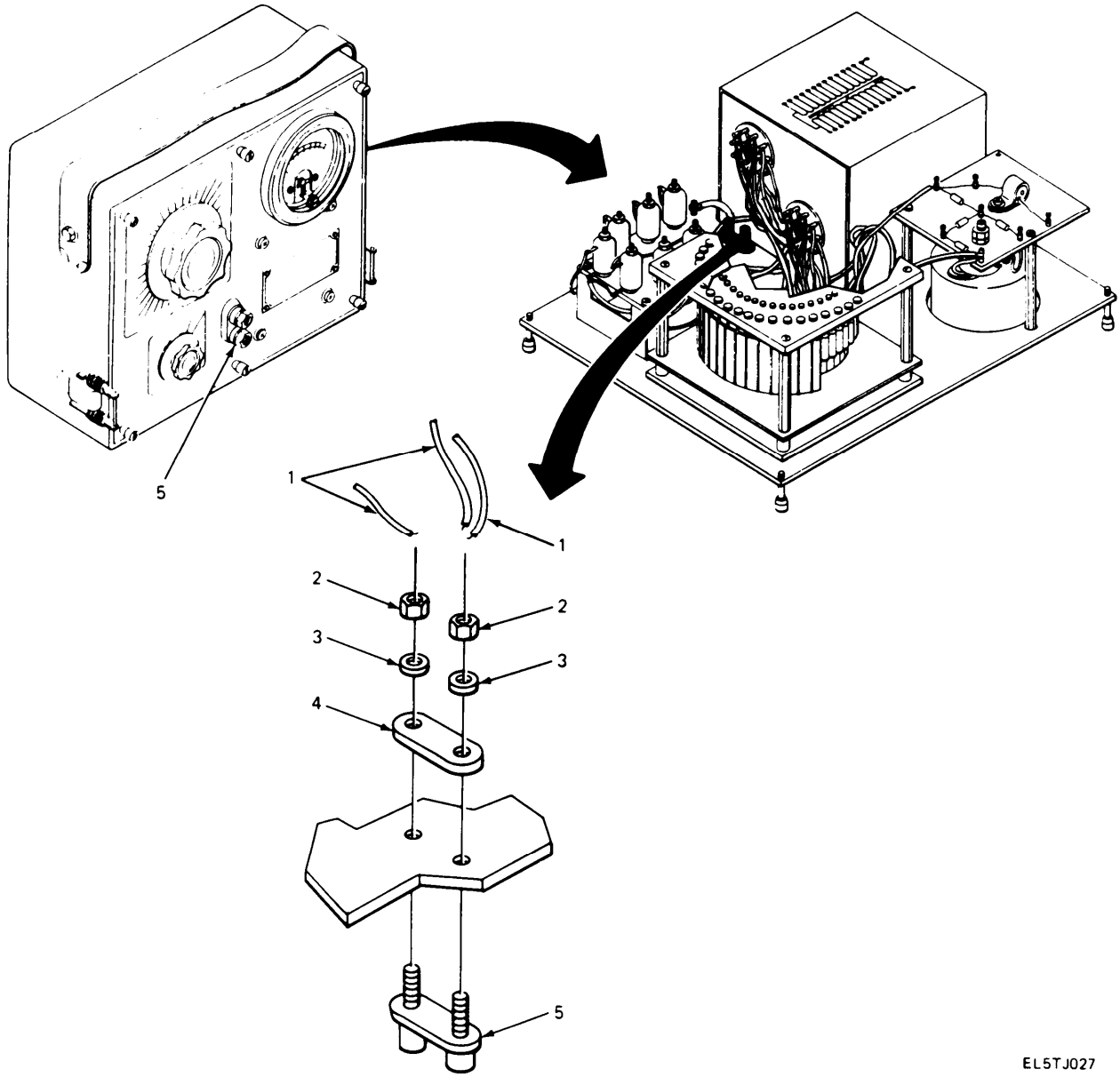
LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
		NOTE
		See paragraph 6-7 for removal of chassis from case.
1. Chassis	Leads (1)	Using soldering iron and aid, unsolder. Tag leads.
2.	Nuts (2), lock-washers (3) and insulator plate (4)	Using 3/8-inch wrench, remove.
3.	Binding post (5)	Remove.
INSTALLATION		
1. Chassis	Binding post (5)	Install.
2.	Insulator plate (4), Iockwashers (3) and nuts (2)	Using 3/8-inch wrench, install.
3.	Leads (1)	Using soldering iron and aid, solder. Remove tags.

6-8. REPLACEMENT OF BINDING POST ASSEMBLY. (CONT)

LOCATION	ITEM	ACTION / **REMARKS**

NOTE

See paragraph 6-7 for installation of chassis into case.



6-9. MAINTENANCE OF CAPACITOR (TS-585A/U AND TS-585B/U ONLY).

This task covers:

1. Removal
2. Test
3. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

Capacitor, fixed, paper
NSN 5910-00-112-7003

Personnel Required

One technician

Equipment Condition

Output meter on workbench

Test Equipment

Capacitance-Inductance-Resistance Test Set AN/URM-90

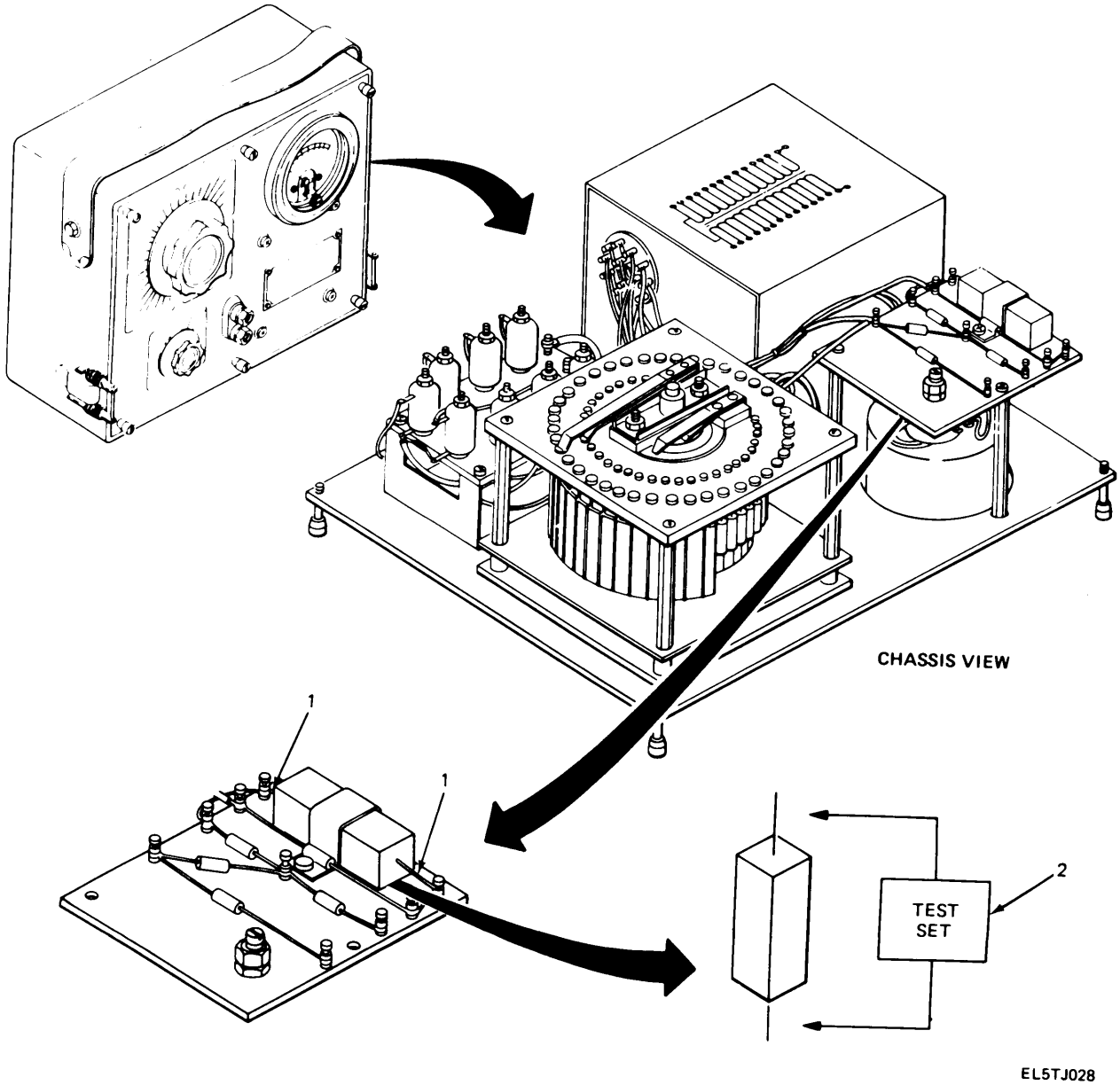
LOCATION	ITEM	ACTION **REMARKS**
		NOTE
REMOVAL		See paragraph 6-7 to remove chassis from case.
		WARNING
		Soldering iron is hot. Severe burns to personnel can result from improper handling.
Capacitor	Leads (1)	Using soldering iron and aid, unsolder.
TEST		
Capacitor	Test set (2)	Using test set, test capacitor. **Replace capacitor if bad.**

6-9. MAINTENANCE OF CAPACITOR (TS-585A/U AND TS-585B/U ONLY). (CONT)

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION		
Capacitor	Leads (1)	Using soldering iron and aid, solder.

NOTE

See paragraph 6-7 for installation of chassis into case.



6-10. MAINTENANCE OF VARIABLE RESISTOR.

This task covers:

1. Test
2. Removal
3. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

Resistor variable
See TM 11-6625-291-24P

Personnel Required

One technician

Equipment Condition

Output meter on workbench

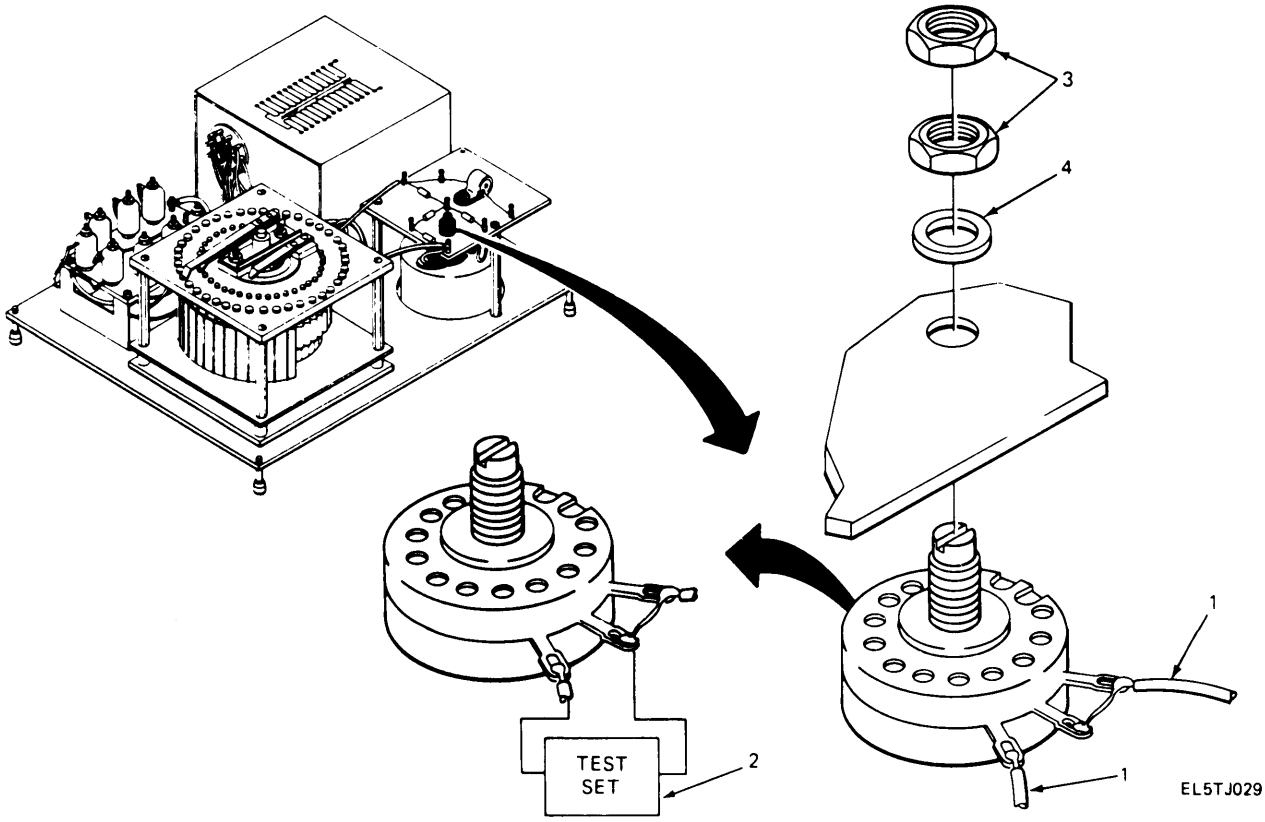
Test Equipment

Capacitance-Inductance-Resistance Test Set AN/URM-90

LOCATION	ITEM	ACTION	REMARKS
		NOTE	
TEST		See paragraph 6-7 for removal of chassis from case.	
		WARNING	
		Soldering iron is hot. Severe burns to personnel can result from improper handling.	
1. Variable resistor	Leads (1)	Using soldering iron and aid, unsolder.	
2.	Test set (2)	Using test set, test variable resistor for continuity. **Replace variable resistor if bad.**	

6-10. MAINTENANCE OF VARIABLE RESISTOR. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
Variable resistor	Hex nuts (3) and flat washer (4)	Using 7/16-inch wrench and 1/2-inch wrench, remove. Lift variable resistor off terminal board. **Throw away old variable resistor.**
INSTALLATION		
		NOTE Before installing new variable resistor, solder a jumper wire to two terminals on variable resistor that are next to each other.
1. Variable resistor	Flat washer (4) and hex nuts (3)	Put variable resistor in place. Using 1/2-inch wrench and 7/16-inch wrench, install.
2.	Leads (1)	Using soldering iron and aid, solder. Remove tags.



6-11. MAINTENANCE OF RADIAL RESISTOR.

This task covers:

1. Test
2. Removal
3. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

Resistor, fixed, wire wound
Nut, hex
See TM 11-6625-291-24P

Personnel Required

One technician

Equipment Condition

Output meter on workbench

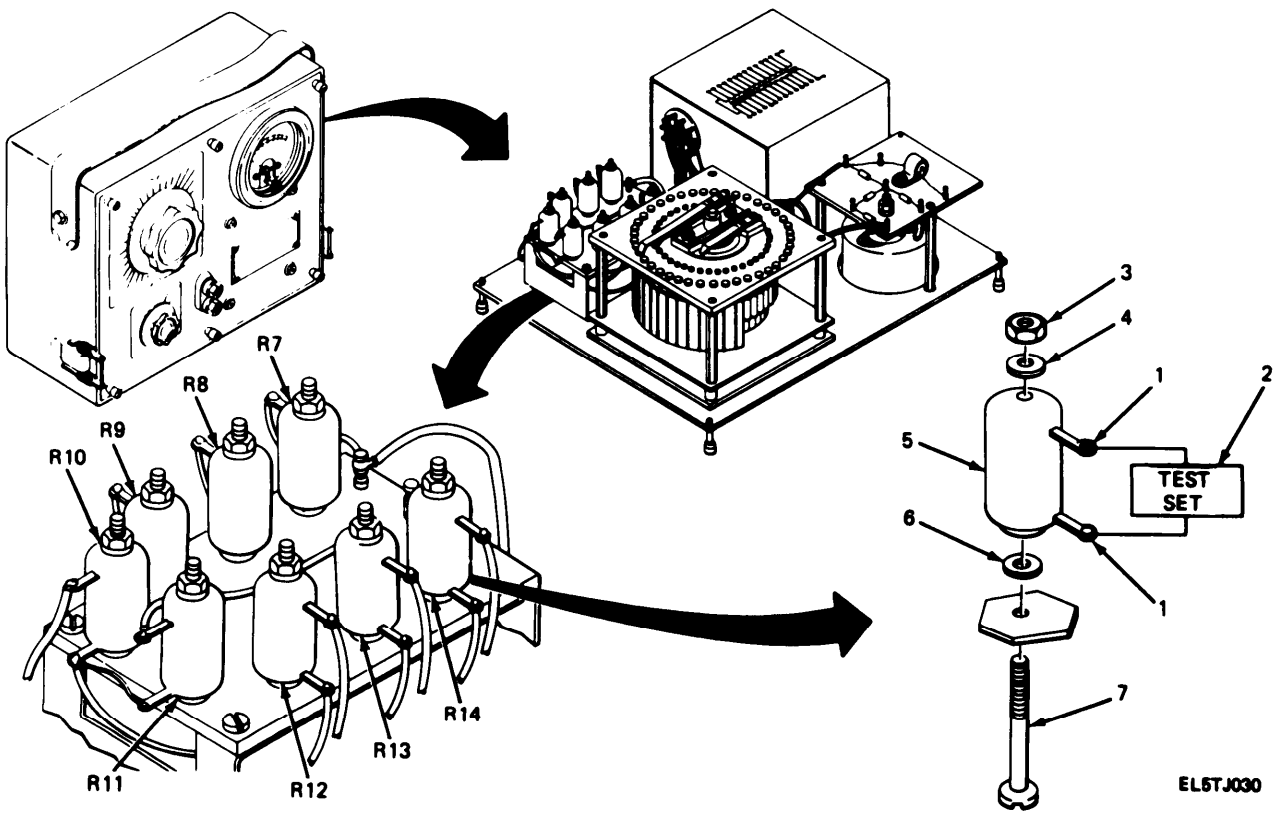
Test Equipment

Capacitance-Inductance-Resistance Test Set AN/URM-90

LOCATION	ITEM	ACTION	REMARKS
		NOTE	
TEST		See paragraph 6-7 for removal of chassis from case.	
		WARNING	
		Soldering iron is hot. Severe burns to personnel can result from improper handling.	
1. Radial resistor	Terminal leads (1)	Using soldering iron and aid, unsolder. Tag wires.	
2. Radial resistor	Test set (2)	Using test set, test radial resistor.	**Replace radial resistor if bad.**
REMOVAL			
Terminal board AT1	Hex nut (3), flat washer (4), radial resistor (5), flat washer (6) and screw (7)	Using 5/16-inch wrench, remove hex nut. Lift off radial resistor.	**Throw away old radial resistor.**

6-11. MAINTENANCE OF RADIAL RESISTOR. (CONT)

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
		NOTE	
		Install new hex nut when installing radial resistor.	
1. Terminal board AT1	Screw (7), flat washer (6), radial resistor (5), flat washer (4) and hex nut (3)	Put radial resistor in place. Using 5/16-inch wrench, install hex nut.	
2. Radial resistor	Terminal leads (1)	Using soldering iron and aid, solder. Remove tags.	
		NOTE	
		See paragraph 6-7 for installation of chassis into case.	



6-12. MAINTENANCE OF THERMAL RESISTOR (TS-585D/U).

This task covers:

1. Removal
2. Test
3. installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

Resistor, thermal

Personnel Required

One technician

Equipment Condition

Output meter on workbench

Test Equipment

Resistance-Inductance-Capacitance Test Set AN/URM-90

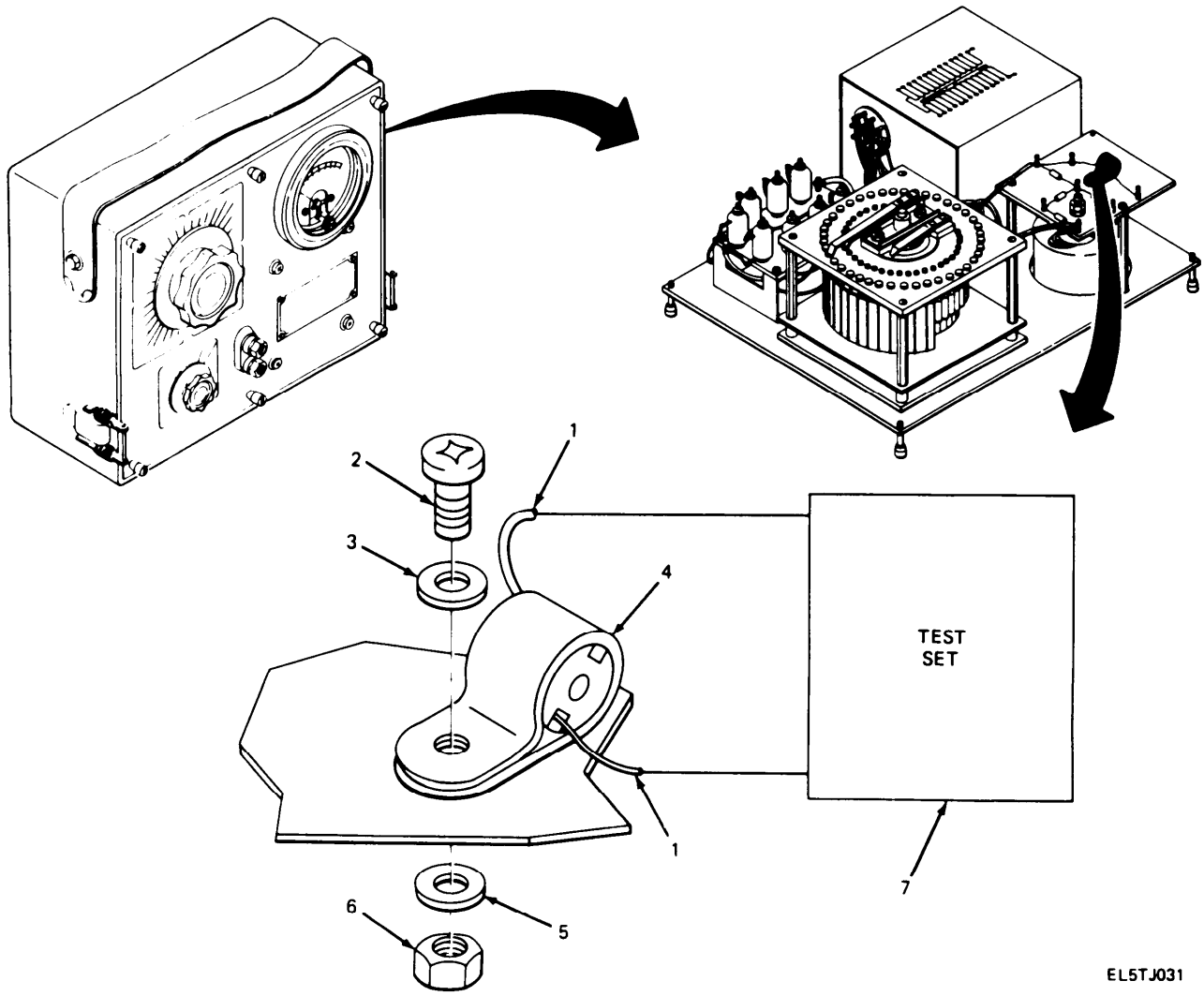
LOCATION	ITEM	ACTION	REMARKS
		NOTE See paragraph 6-7 for removal of chassis from case.	
REMOVAL			
		WARNING Soldering iron is hot. Severe burns to personnel can result from improper handling.	
1. Thermal resistor	Leads (1)	Using soldering iron and aid, unsolder.	
2. Terminal board TB1	Screw (2), flat washer (3), thermal resistor (4), flat washer (5) and hex nut (6)	Using cross-tip screwdriver and 5/16-inch wrench, remove.	
TEST			
Thermal resistor	Test set (7)	Using test set, test thermal resistor.	**Replace if bad.**

6-12. MAINTENANCE OF THERMAL RESISTOR (TS-585D/U). (CONT)

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION		
1. Terminal board TB1	Hex nut (6), flat washer (5), thermal resistor (4), flat washer (3) and screw (2)	Using cross-tip screwdriver and 5/16-inch wrench, install.
2. Thermal resistor	Leads (1)	Using soldering iron, solder.

NOTE

After replacement of thermal resistor, see paragraph 6-26 for calibration procedure.



6-13. MAINTENANCE OF AXIAL RESISTOR.

This task covers:

1. Removal
2. Test
3. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment
TK-1 05/G

Materials/Parts

Resistor, fixed, composition
See TM 11-6625-291-24P

Personnel Required

One technician

Equipment Condition

Output meter on workbench

Test Equipment

Capacitance-Inductance-Resistance Test Set
AN/URM-90

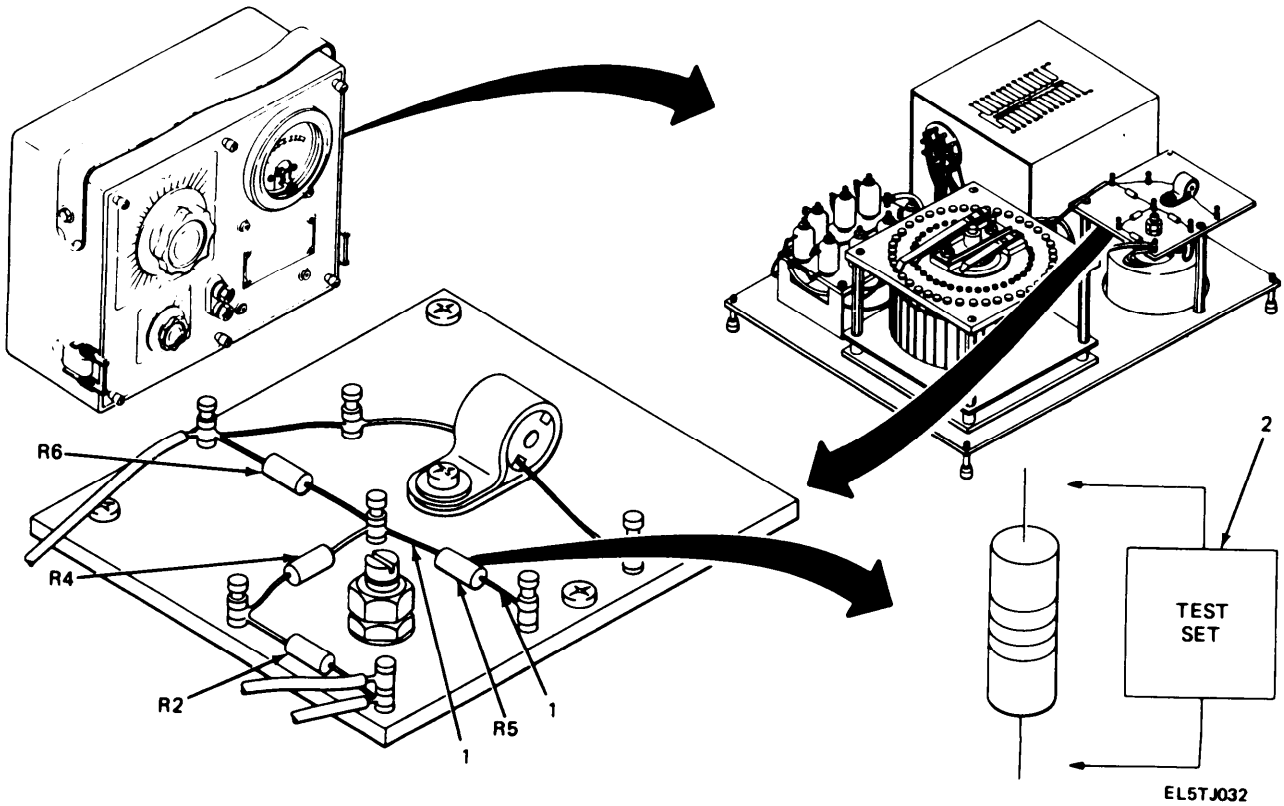
LOCATION	ITEM	ACTION	REMARKS
REMOVAL		**NOTE** See paragraph 6-7 for removal of chassis from case. If resistor R2 needs replacement, see paragraph 6-24 for alinement and replacement procedures.	
		WARNING Soldering iron is hot. Severe burns to personnel can result from improper handling.	
Axial resistor	Leads (1)	Using soldering iron and aid, unsolder.	

6-13. MAINTENANCE OF AXIAL RESISTOR. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
TEST		
Axial resistor	Test set (2)	Using test set, test axial resistor. **Replace resistor if bad.**
INSTALLATION		
Axial resistor	Leads (1)	Using soldering iron and aid, solder.

NOTE

If resistor is replaced on meter calibration circuit TB1, see paragraph 6-26 for calibration procedure.



6-14. REPLACEMENT OF METER MULTIPLIER TERMINAL BOARD.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

Terminal board
See TM 11-6625-291-24P

Personnel Required

One technician

Equipment Condition

Output meter on workbench

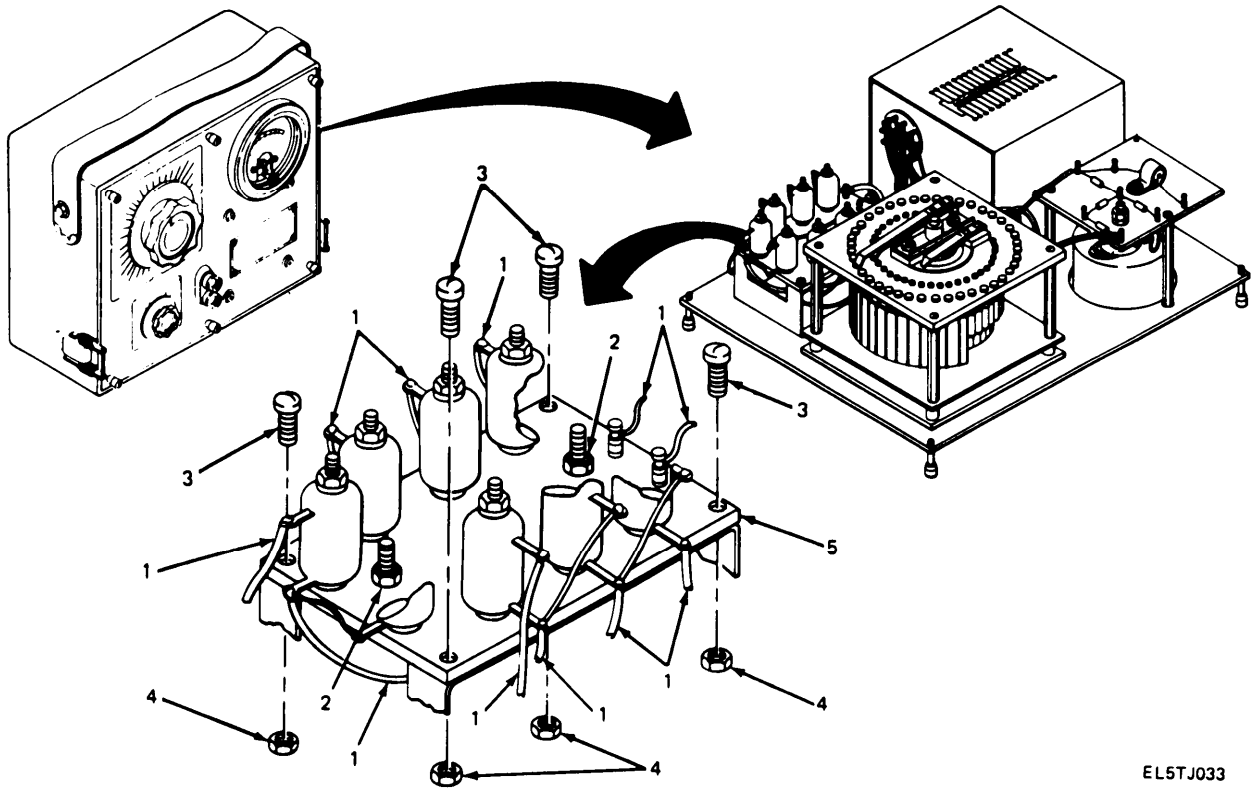
LOCATION	ITEM	ACTION / REMARKS
REMOVAL		
		NOTE See paragraph 6-7 for removal of chassis from case. See paragraph 6-11 for removal of radial resistors from terminal board. When removing radial resistors, do not remove jumper wires.
1. Chassis	Leads (1)	Tag leads. Using soldering iron and aid, unsolder.
2.	Nuts (2)	Using 5/16-inch wrench, remove.
3.	Screws (3) and nuts (4)	Using flat-tip screwdriver and 1/4-inch wrench, remove.
4.	Terminal board (5)	Lift off.
INSTALLATION		
1. Chassis	Terminal board (5)	Put in place.
2.	Nuts (4) and screws (3)	Using flat-tip screwdriver and 1/4-inch wrench, install.

6-14. REPLACEMENT OF METER MULTIPLIER TERMINAL BOARD. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION (CONT)		
3. Chassis	Nuts (2)	Using 5/16-inch wrench, install.
4.	Leads (1)	Using soldering iron and aid, solder. Remove tags.

NOTE

See paragraph 6-11 for installation of radial resistor to terminal board. See paragraph 6-7 for installation of chassis into case.



6-15. REPLACEMENT OF METER CALIBRATION TERMINAL BOARD.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Personnel Required

One technician

Materials/Parts

Terminal board
See TM 11-6625-291-24P

Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION	REMARKS

REMOVAL

NOTE

See paragraph 6-7 for removal of chassis from case. See paragraph 6-13 for removal of axial resistors from terminal board.

See paragraph 6-12 for removal of thermal resistor from terminal board (TS-585D/U only).

See paragraph 6-9 for removal of capacitor from terminal board (TS-585A/U and TS-585B/U only).

See paragraph 6-10 for removal of variable resistor from terminal board.

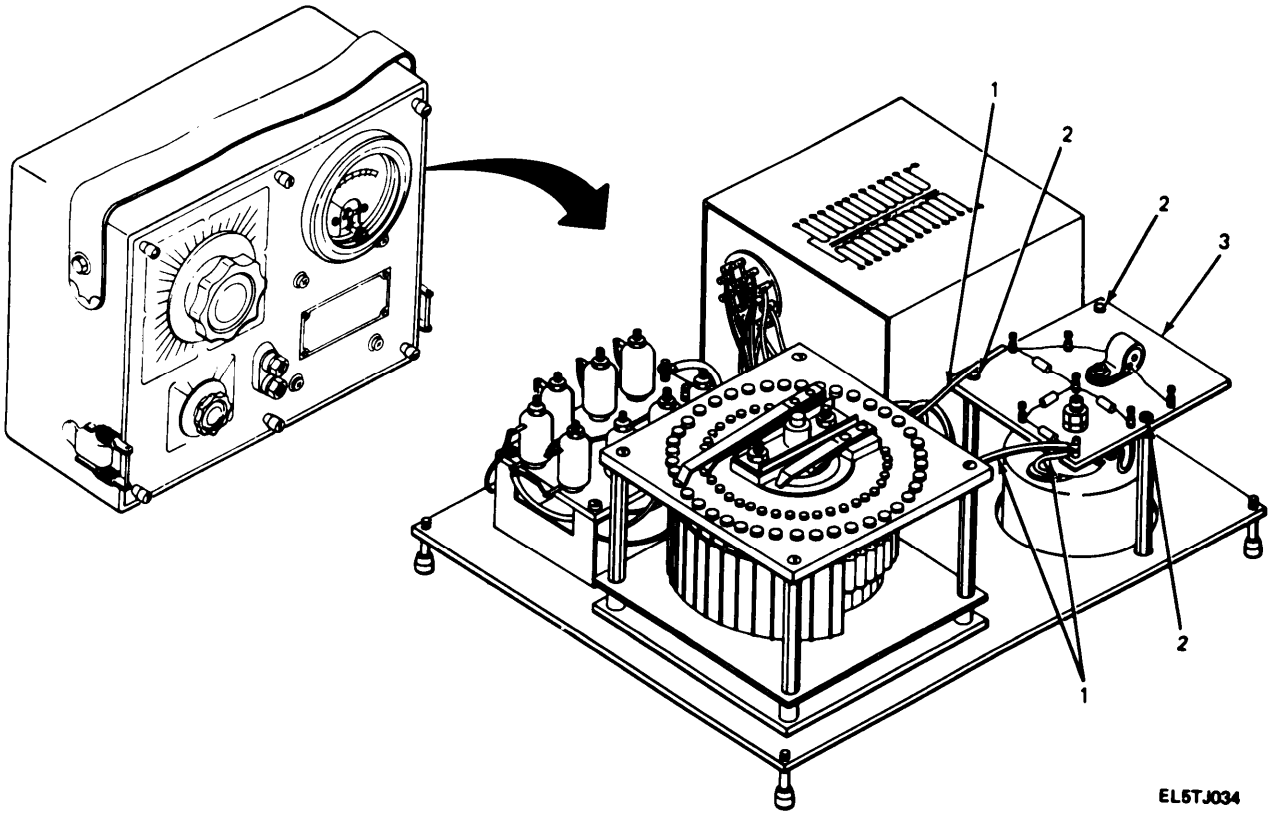
1.	Chassis	Leads (1)	Using soldering iron and aid, unsolder. Tag leads.
2.		Screws (2)	Using flat-tip screwdriver, remove.
3.		Terminal board (3)	Lift off.

6-15. REPLACEMENT OF METER CALIBRATION TERMINAL BOARD. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION		
1. Chassis	Terminal board (3)	Put in place.
2.	Screws (2)	Using flat-tip screwdriver, install.
3.	Leads (I)	Using soldering iron and aid, solder. Remove tags.

NOTE

See paragraph 6-10 for installation of variable resistor on terminal board.
See paragraph 6-9 for installation of capacitor on terminal board (TS-585A/U and TS-585B/U only).
See paragraph 6-12 for installation of thermal resistor on terminal board (TS-585D/U).
See paragraph 6-13 for installation of axial resistors on terminal board.
See paragraph 6-7 for installation of chassis into case.



6-16. TESTING OF METER.

This task covers:

Testing

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

None

Personnel Required

One technician

Equipment Condition

Output meter on workbench

Test Equipment

Decade Resistor TS-679/U
Meter Test Set TS-682/GSM-1

LOCATION	ITEM	ACTION	REMARKS

NOTE

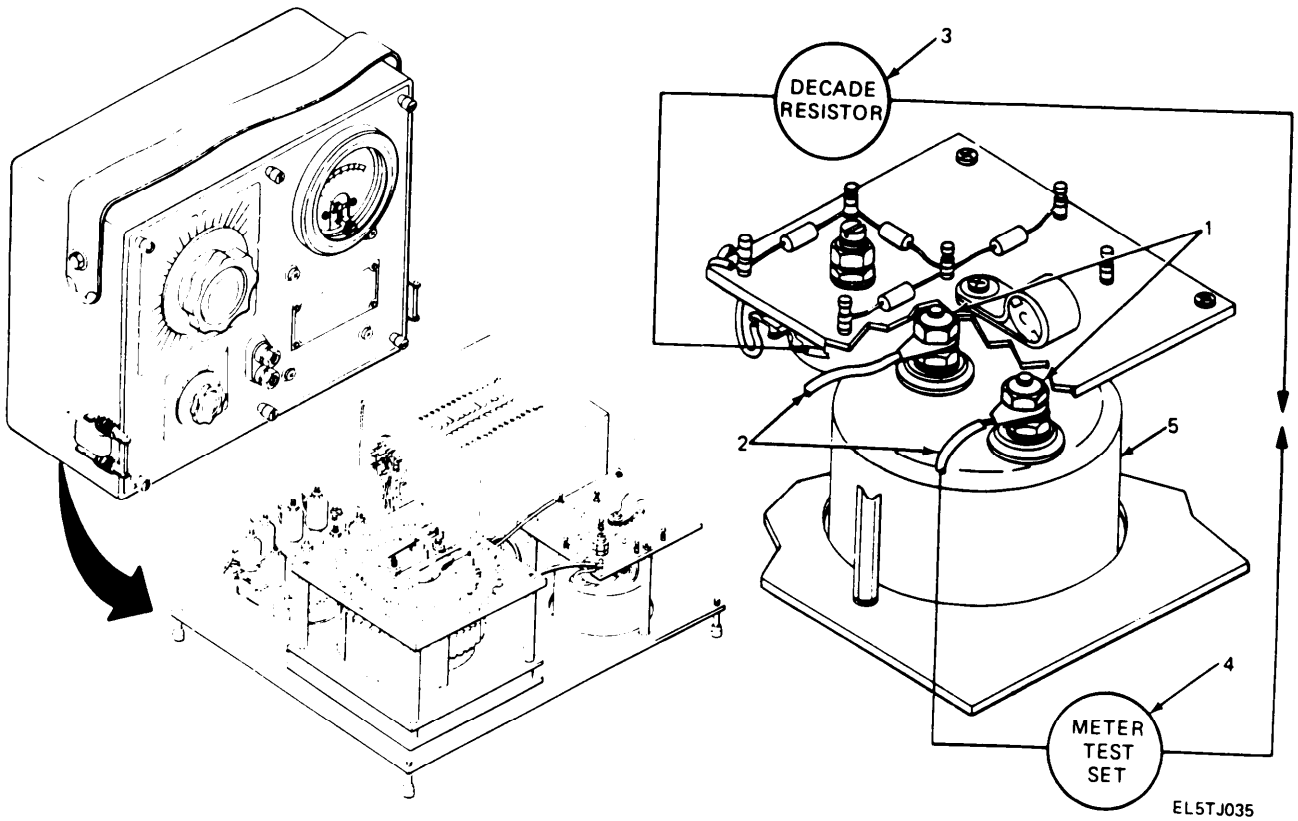
See paragraph 6-7 for removal of chassis from case.

TESTING

1.	Meter	Hex nuts (1) and leads (2)	Using 3/8-inch wrench, remove. Tag wires.
2.		Decade resistor (3) Meter test set (4)	Connect the decade resistor, meter test set, and meter in series with each other.
3.		Decade resistor (3)	For the output meter model tested, adjust the decade resistor to the value shown in the table.
4.		Meter test set (4)	For the output meter model tested, adjust the meter test set to the value shown in the table.

6-16. TESTING OF METER. (CONT)

LOCATION	ITEM	ACTION **REMARKS**	
TESTING (CONT)			
Output Meter	Decade Resistor Setting (ohms)	Meter Test Set Setting (volts)	Meter Reading Range (dB)
TS-585A/U	5,000	1.094	10.45 to 11.55
TS-585B/U	5,000	1.094	10.45 to 11.55
TS-585C/U	5,000	2.183	16.45 to 17.55
TS-585D/U	4,825	2.24	16.45 to 17.55
5.	Meter (5)	If meter does not show range in table, meter is bad. Replace meter.	



6-17. REPLACEMENT OF METER.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment
TK-105/G

Materials/Parts

Meter, audio level
NSN 6625-00-265-6665

Personnel Required

One technician

Equipment Condition

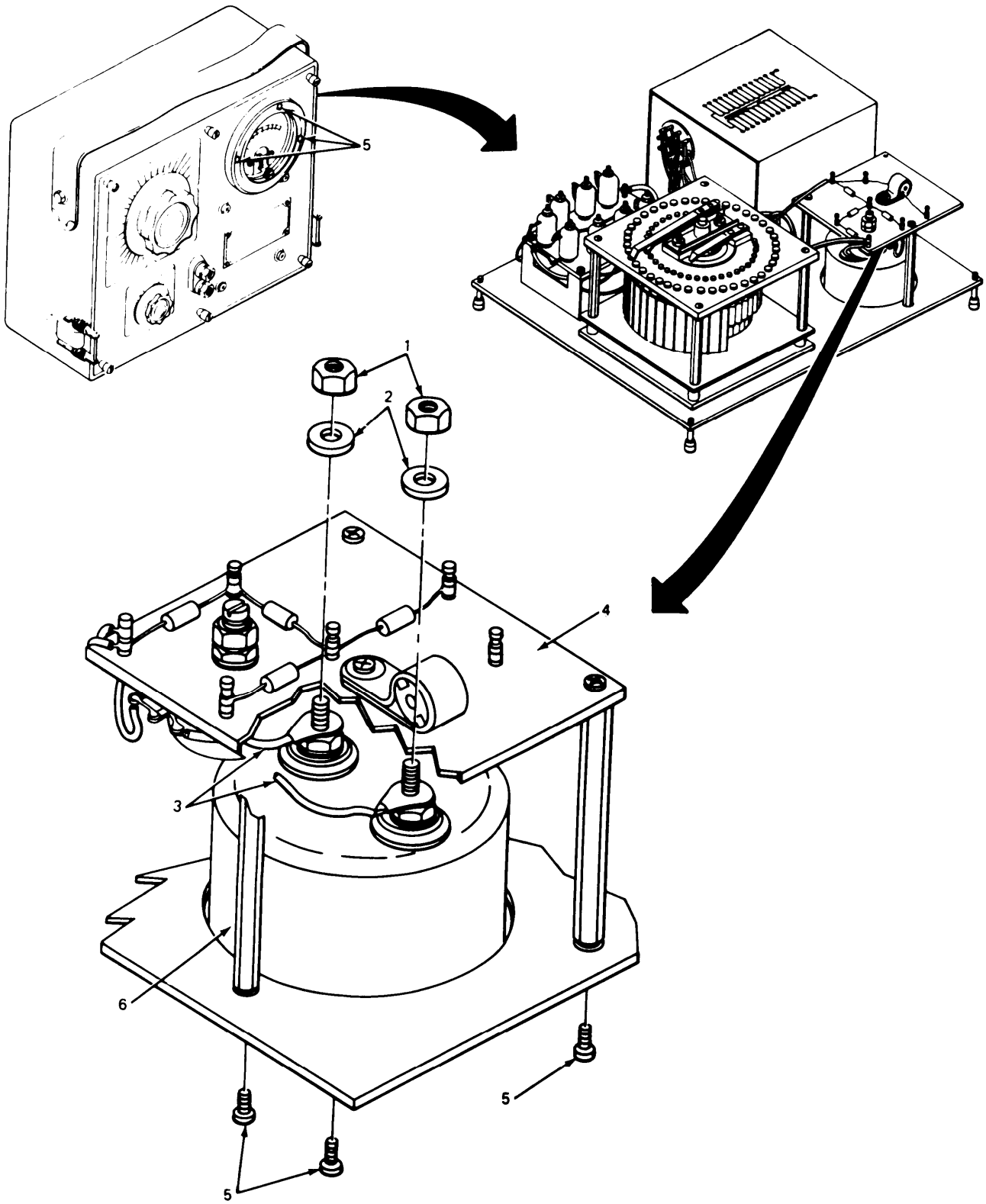
Output meter on workbench

LOCATION	ITEM	ACTION **REMARKS**
REMOVAL		
1. Meter	Hex nuts (l), flat washers (2) and leads (3)	Using wrench, remove.
2. Chassis, front	Terminal board (4) mounting screws (5)	Using flat-tip screwdriver, remove.
3.	Meter (6)	Lift out. Return to supply.
INSTALLATION		
1. Chassis, front	Meter (6)	Put meter in place.
2.	Mounting screws (5) and terminal board (4)	Using flat-tip screwdriver, install.
3. Meter	Leads (3), flat washers (2) and hex nuts (1)	Using 3/8-inch wrench, install.

NOTE

See paragraph 6-24 for alinement procedures.

6-17. REPLACEMENT OF METER. (CONT)



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6-18. TESTING OF AUTOTRANSFORMER.

This task covers:

Testing

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Equipment Condition

Output meter on workbench

Materials/Parts

None

Test Equipment

Audio Oscillator TS-382A/U
Voltmeter ME-30A/U

Personnel Required

One technician

LOCATION	ITEM	ACTION	REMARKS
TESTING			
1. Impedance network	Control knob (1)	Set to X.1 X 25 position (2.5 ohms).	
2.	Wiper arms (2)	Carefully lift wiper arms, insert paper or other insulating material under wiper arms.	
3. Chassis, front	Audio oscillator (3) and binding post G (4)	Connect the ground lead of audio oscillator to binding post G.	
4. Impedance control	Audio oscillator (3) and inside row contact (5)	Connect other lead of audio oscillator to inside row contact of impedance control.	
5. Audio oscillator	Voltmeter meter (6)	Connect voltmeter across audio oscillator. Set voltmeter meter ON.	
6. Voltmeter meter	Audio oscillator (3)	Adjust frequency to 10 KHz. Adjust output unitl voltmeter reads 1 volt.	
7. Audio oscillator; impedance network	Voltmeter meter (6) and split ring segment contact (7)	Remove voltmeter lead connected to ungrounded audio oscillator lead. Connect this lead to the split ring segment of impedance control.	**See table for voltmeter reading range.**

6-18. TESTING OF AUTOTRANSFORMER. (CONT)

LOCATION	ITEM	ACTION **REMARKS**

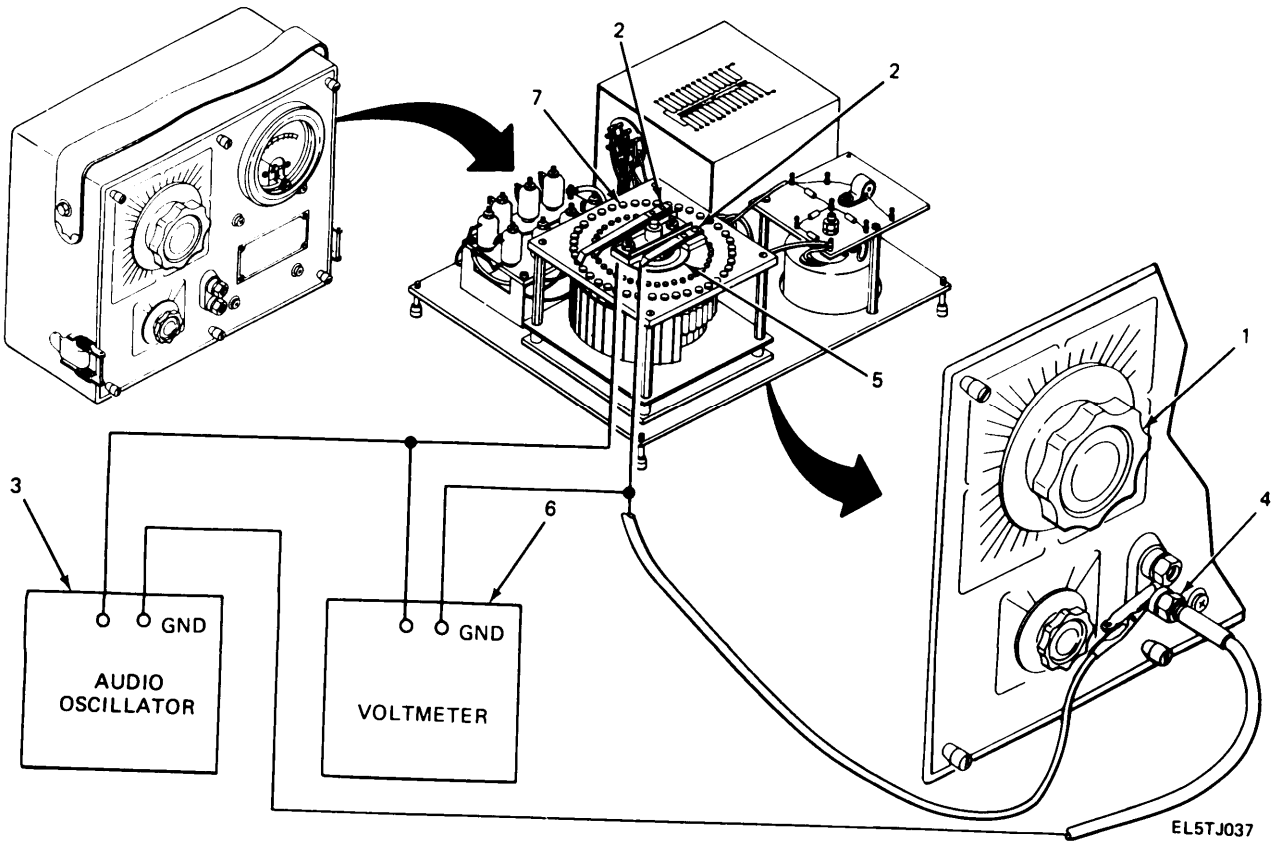
TESTING (CONT)

Output Meter	Voltmeter Reading Range (volts)
TS-585A/U	12.45 to 13.75
TS-585B/U	11.87 to 13.13
TS-585C/U	22.8 to 25.2
TS-585D/U	20.5 to 22.5

NOTE

In Output Meter TS-585A/U and Output Meter TS-585B/U, if voltmeter does not read proper range, remove capacitor. If voltmeter then reads properly, replace capacitor. If voltmeter does not read properly after replacement of capacitor, replace autotransformer.

In Output Meter TS-585C/U and Output Meter TS-585D/U, if voltmeter does not read proper range, replace autotransformer.



6-19. REPLACEMENT OF AUTOTRANSFORMER.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools	Personnel Required
Tool Kit, Electronic Equipment TK-105/G	One technician
Materials/Parts	**Equipment Condition**
Autotransformer See TM 11-6625-291-24P	Output meter on workbench

LOCATION	ITEM	ACTION	**REMARKS**

WARNING

Soldering iron is hot. Severe burns to personnel can result from improper handling.

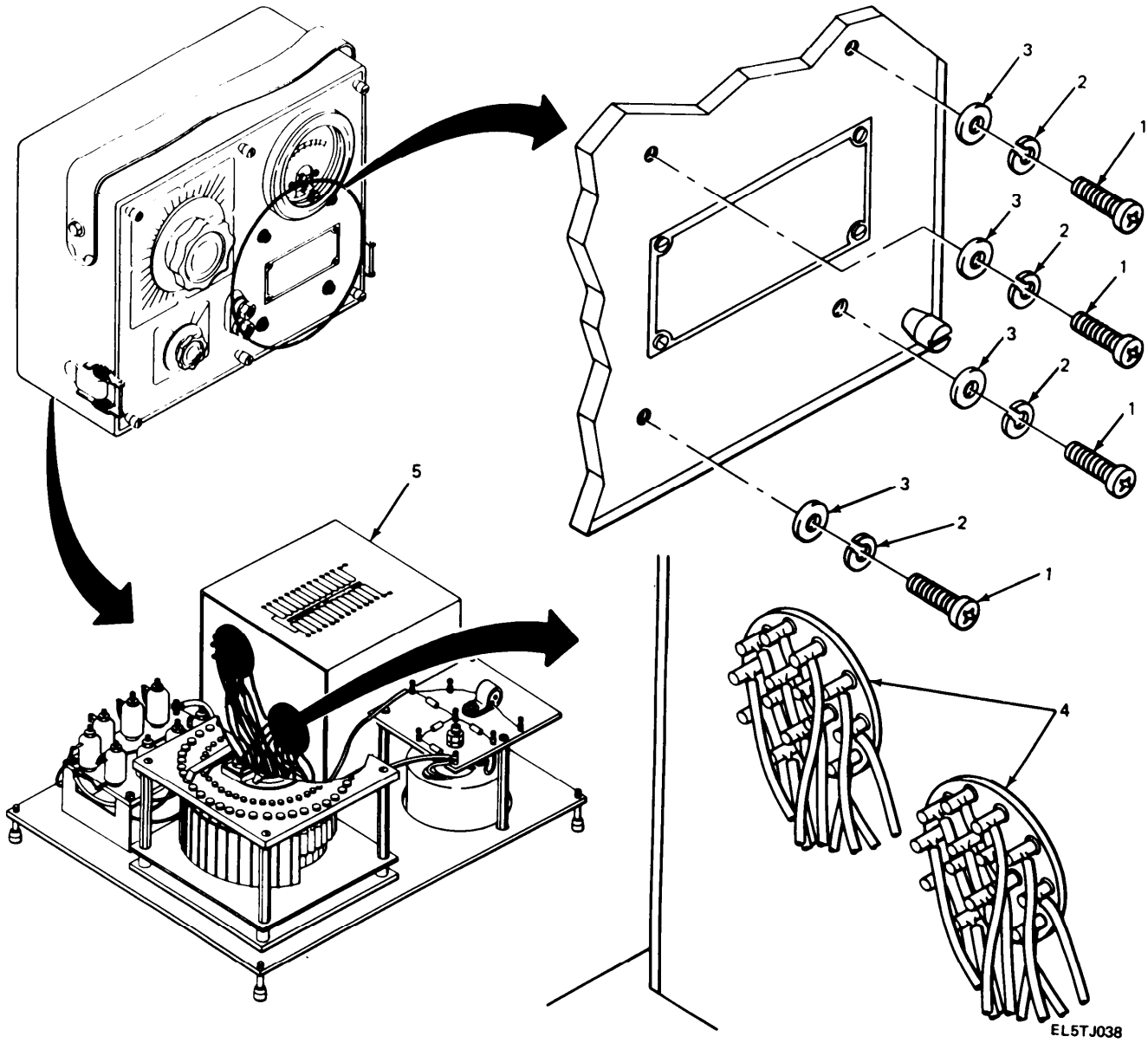
REMOVAL

1.	Chassis, front	Screws (1), lock-washers (2) and flat washers (3)	Usng cross-tip screwdriver, remove.
2.	Autotransformer	Wires (4)	Using soldering iron and aid, unsolder. Tag wires.
3.		Autotransformer (5)	Lift off. Return to supply.

INSTALLATION

1.	Chassis, front	Autotransformer (5)	Put autotransformer in place.
2.	Autotransformer	Wires (4)	Using soldering iron and aid, solder. Remove tags.
3.		Flat washers (3), lock washers (2) and screws (1)	Using cross-tip screwdriver, install.

6.19. REPLACEMENT OF AUTOTRANSFORMER. (CONT)



6-20. CLEANING AND ADJUSTMENT OF IMPEDANCE NETWORK.

This task covers:

1. Cleaning
2. Adjustment

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

Trichlorotrifluoroethane, Item 1, appendix D
Soft clean cloth, item 2, appendix D

Personnel Required

One technician

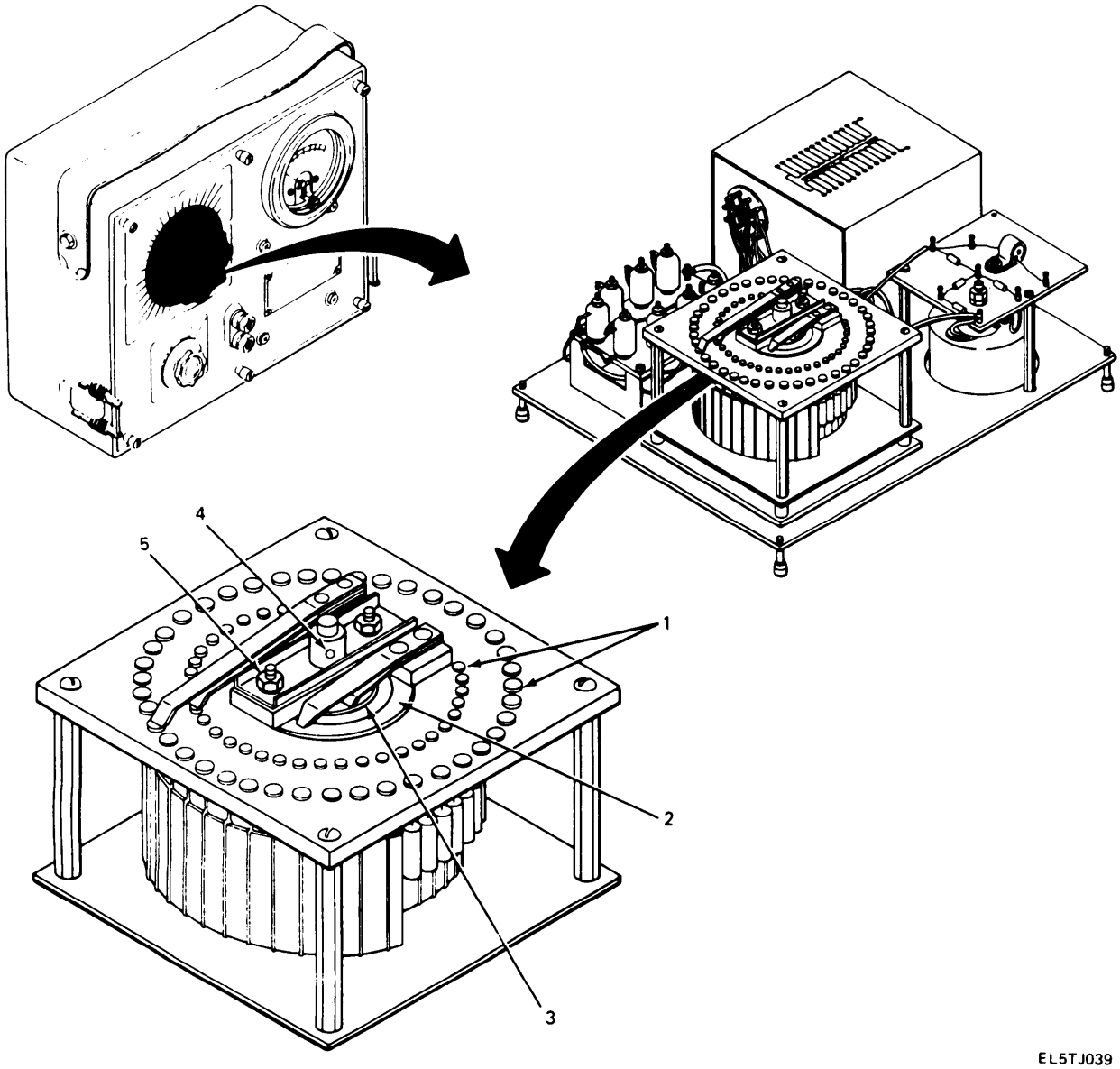
Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION	REMARKS
		NOTE See paragraph 6-7 for removal of chassis from case.	
CLEANING			
1. Impedance network	Split ring segments (1)	Use a soft, clean, dampened (not wet) cloth with trichlorotrifluoroethane to clean.	
2.	Outer ring (2) and center ring (3)	Use a soft, clean, dampened (not wet) cloth with trichlorotrifluoroethane to clean.	
ADJUSTMENT			
		NOTE Perform the following adjustment only if wiper arms do not make firm contact with split ring segments, or outer and center ring segments.	
1. Impedance network	Hex socket screw (4)	Using alien wrench, loosen.	

6-20. CLEANING AND ADJUSTMENT OF IMPEDANCE NETWORK. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
ADJUSTMENT (CONT)		
2. Impedance network	Wiper arm assembly (5) and ring segments (2), (3)	Press wiper arm assembly down so that wiper arms make firm contact onto ring segments,
3.	Hex socket screw (4)	Using allen wrench, tighten.



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6-21. TESTING OF IMPEDANCE NETWORK.

This task covers:

Testing

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

None

Personnel Required

One technician

Equipment Condition

Output meter on workbench

Test Equipment

Capacitance-Inductance-Resistance Test Set AN/URM-90

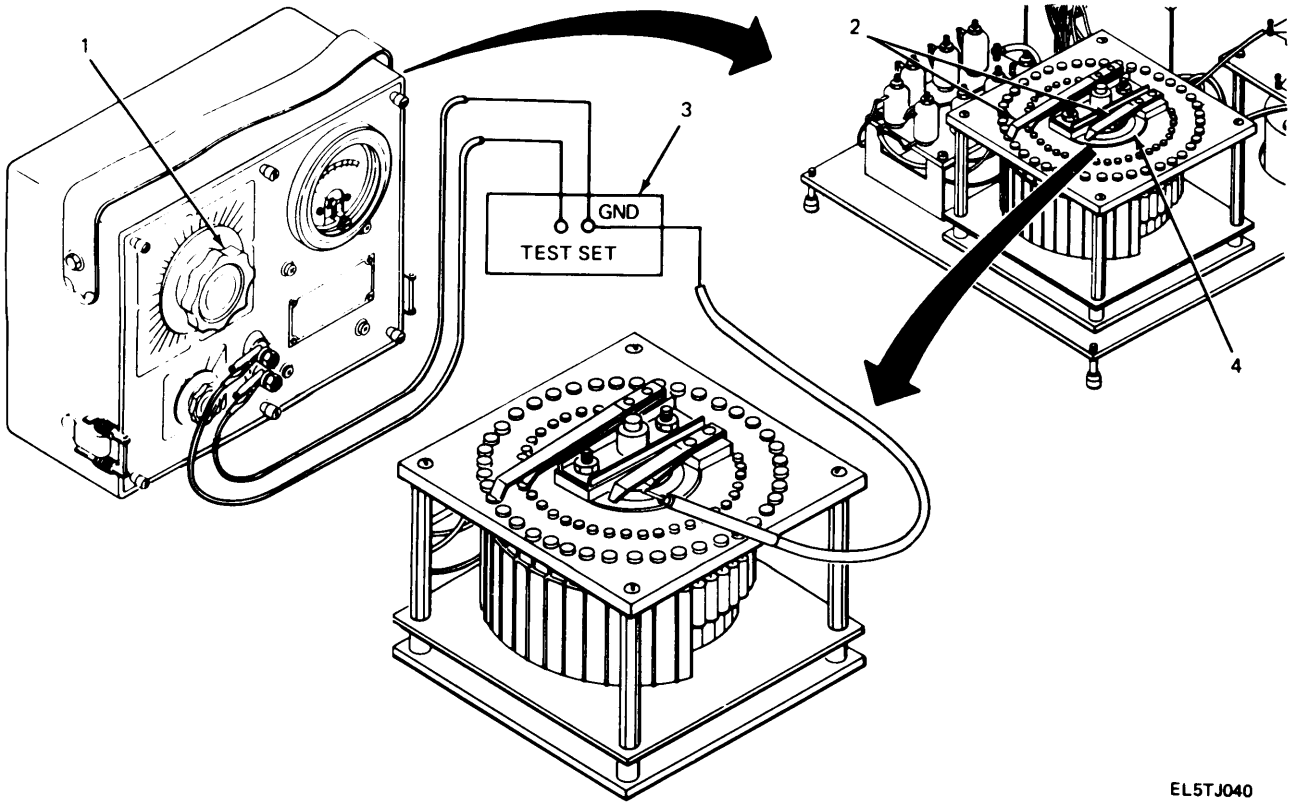
LOCATION	ITEM	ACTION	REMARKS
TESTING			
		NOTE See paragraph 6-7 for removal of chassis from case.	
1. Chassis, front	Control knob (1)	Set to X100 X200 position (20,000 ohms).	
2. Impedance network	Wiper arms (2)	Carefully lift each wiper arm, place a piece of paper or other insulating material under wiper arms.	
3. Binding posts	Test set (3)	Connect.	
4.	Test set (3)	Read test set.	**If test set does not show reading range of following table, impedance network is bad. Refer to higher level of maintenance.**

Output Meter	Test Set Reading Range (ohms)
TS-585A/U	44,708 to 45,011
TS-585B/U	43,510 to 44,389
TS-585C/U	166,466 to 169,829
TS-585D/U	177,525 to 191,314

6-21. TESTING OF IMPEDANCE NETWORK. (CONT)

LOCATION	ITEM	ACTION REMARKS
TESTING		
5. Binding post	Test set (3)	Remove test set leads from binding posts.
6.	Test set (3)	Connect one test set lead to binding post not marked 'G'.
7. Impedance network	Test set (3), short segment split ring (4)	Connect other test set lead to short segment split ring of impedance network.
8.	Test set (3)	Read test set. **If test set does not show reading range of following table, impedance network is bad. Refer to higher level of maintenance.**

Output Meter	Test Set Reading Range (ohms)
TS-585A/U	30,351 to 31,168
TS-585B/U	31,383 to 32,017
TS-585C/U	17,523 to 17,877
TS-585D/U	17,186 to 17,533



EL5TJ040

6-22. TESTING OF METER MULTIPLIER CIRCUIT.

This task covers:

Testing

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

None

Personnel Required

One technician

Equipment Condition

Output meter on workbench

Test Equipment

Capacitance-Inductance-Resistance Test Set AN/URM-90
Decade Resistor TS-679/U

LOCATION	ITEM	ACTION / REMARKS

NOTE

See paragraph 6-7 for removal of chassis from case.

TESTING

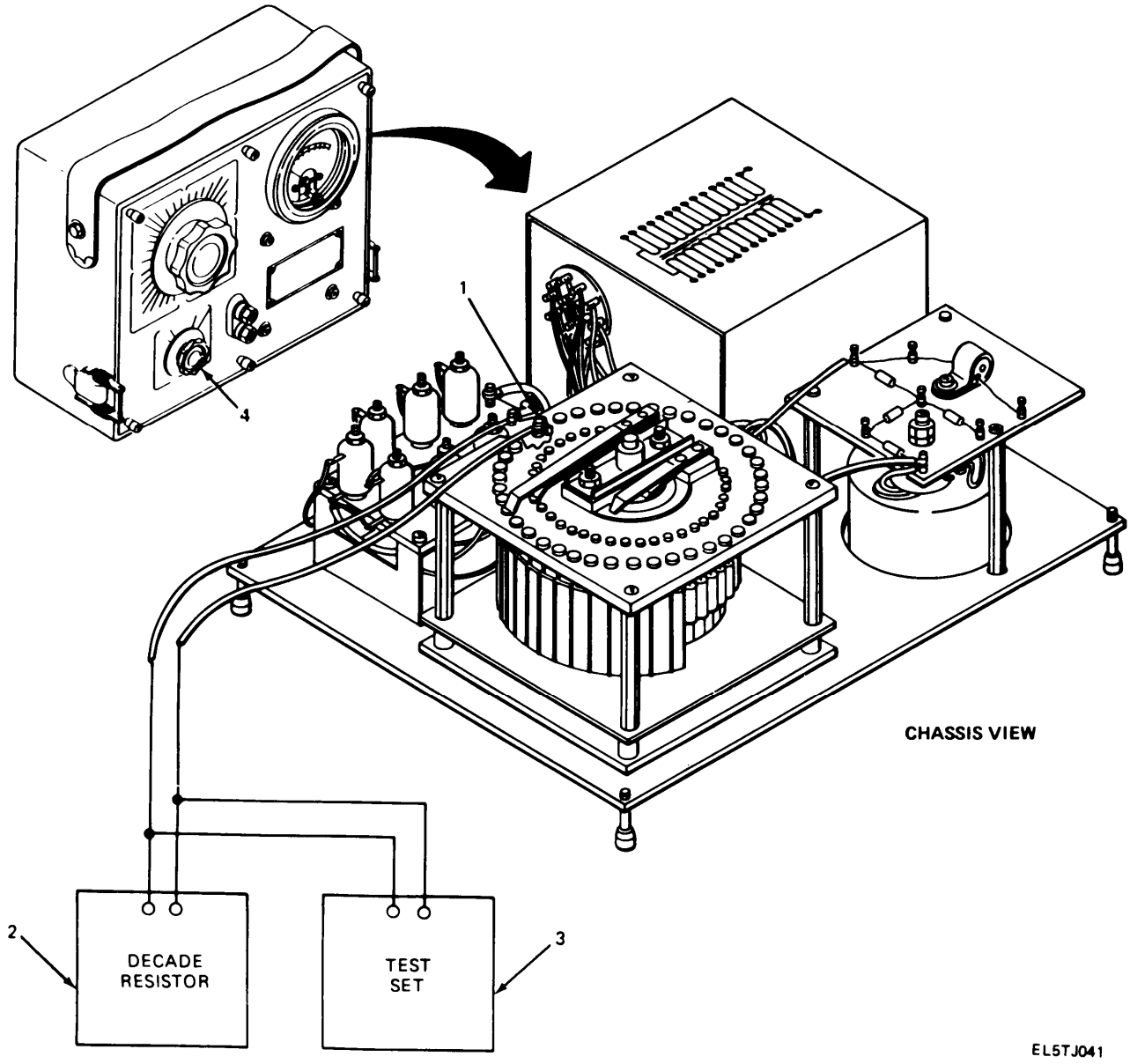
WARNING

Soldering iron is hot. Severe burns to personnel can result from improper handling.

1. Terminal board AT1	OUT terminal lead (1)	Using soldering iron and aid, unsolder.
2.	Decade resistor (2)	Connect decade resistor leads at OUT and C terminals. Set decade resistor to 5,000 ohms.
3.	Test set (3)	Connect test set leads at OUT and C terminals.
4.	Meter multiplier knob (4)	Set meter multiplier knob to each setting and observe test set readings. **Each test set reading must show range from 4,940 to 5,050 ohms. If test set does not show reading range, see paragraph 6-11 to test radial resistors. if each resistor is good, replace rotary switch. See paragraph 6-23 for replacement procedure.**

6-22. TESTING OF METER MULTIPLIER CIRCUIT. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
TESTING (CONT)		
5. Terminal board AT1	OUT terminal lead (1)	Using soldering iron and aid, solder.



6-23. REPLACEMENT OF ROTARY SWITCH.

This task covers:

1. Removal
2. Installation

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

Switch, rotary
NSN 5930-00-254-0171

Personnel Required

One technician

Equipment Condition

Output meter on workbench

LOCATION	ITEM	ACTION / REMARKS

WARNING

Soldering iron is hot. Severe burns-to personnel can result from improper handling.

REMOVAL

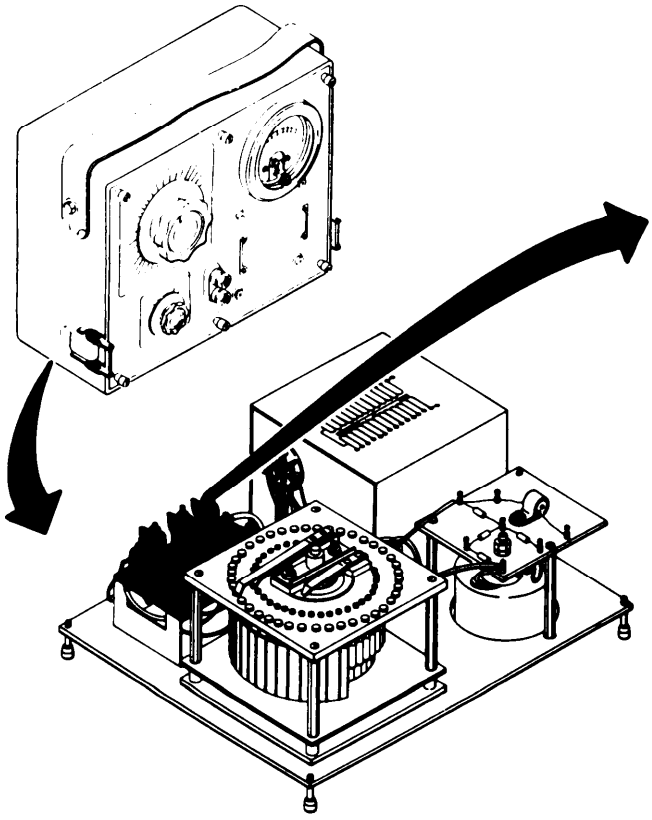
1. Chassis, front	Screw (1) and control knob (2)	Using screwdriver, remove.
2.	Hex nut (3) and lockwasher (4)	Using 7/16-inch wrench, remove.
3. Chassis	Screws (5)	Using screwdriver, remove.
4.	Hex nuts (6) and rotary switch (7)	Using 5/8-inch wrench, remove.
5.	Wires (8)	Tag wires. Using soldering iron and aid, unsolder.

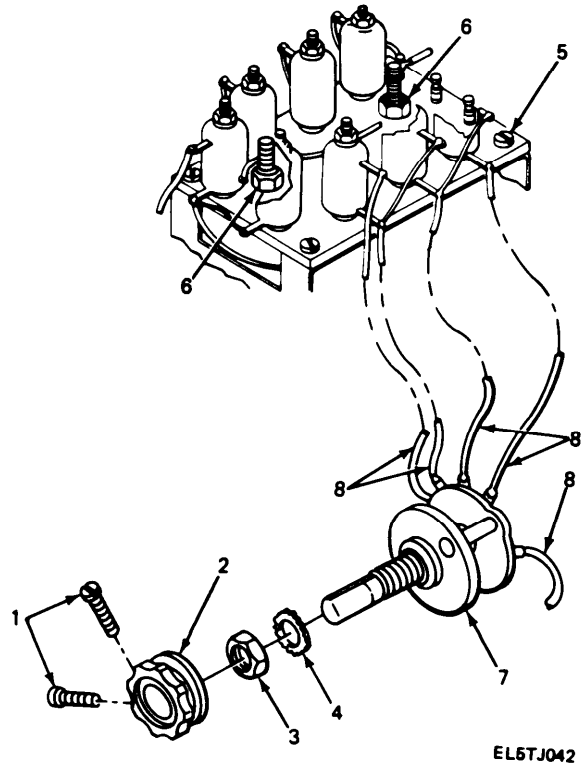
6-23. REPLACEMENT OF ROTARY SWITCH. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
INSTALLATION		
1. Chassis	Wires (8)	Using soldering iron and aid, solder. Remove tags.
2.	Rotary switch (7) and hex nuts (6)	Using 5/8-inch wrench, install.
3.	Screws (5)	Using screwdriver, install.
4.	Lockwasher (4) and hex nut (3)	Using 7/16-inch wrench, install.
5. Chassis, front	Control knob (2) and screw (1)	Using screwdriver, install.

NOTE

See paragraph 6-7 for installation of chassis into case.





6-24. ALINEMENT OF METER CALIBRATION CIRCUIT (TS-585D/U ONLY).

This task covers:

Alinement

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

Resistor, fixed, composition See TM 11-6625-291-24P

Personnel Required

Equipment Condition

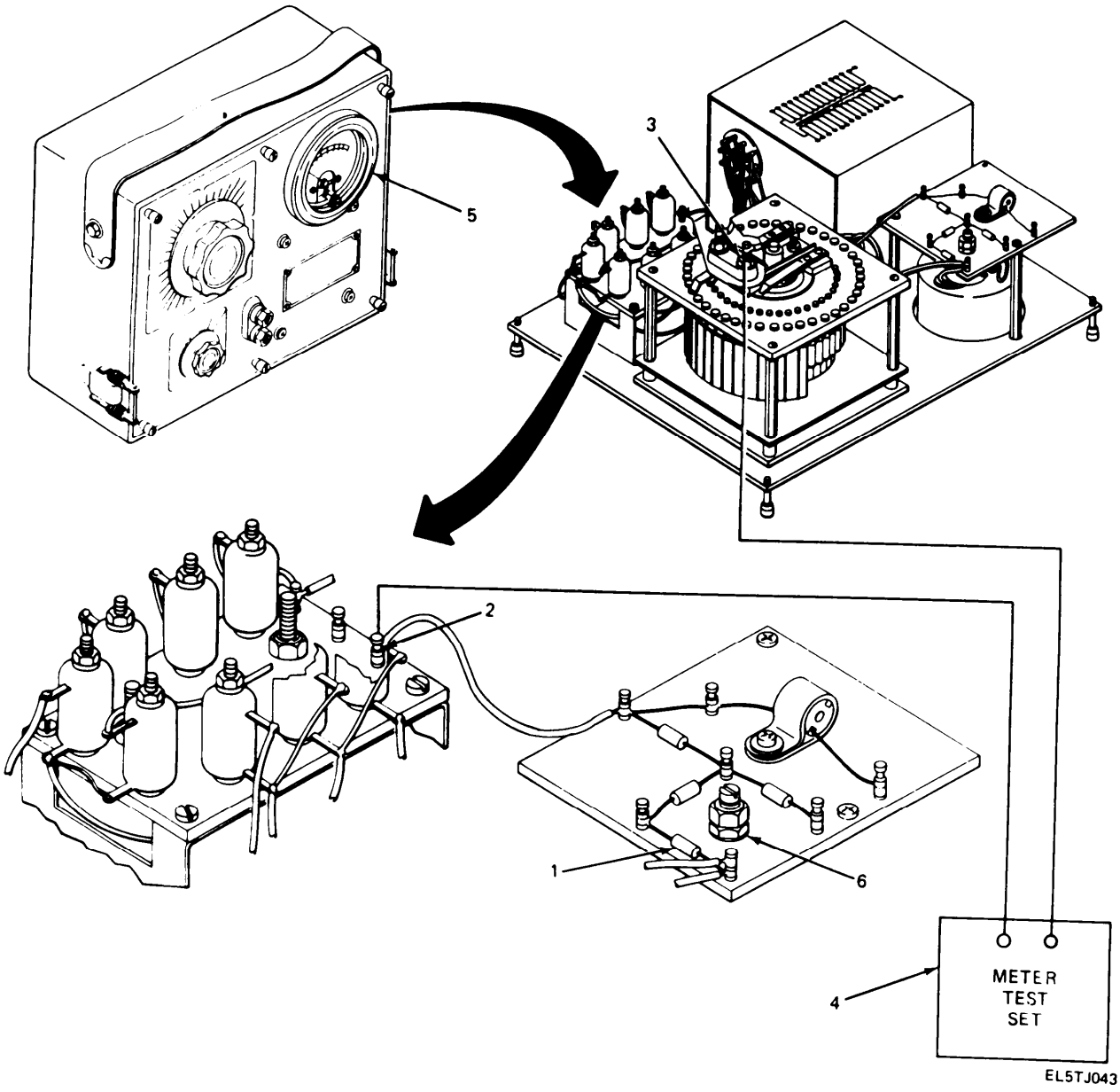
Output meter on workbench

Test Equipment

Meter Test Set TS-882/GSM-1
Decade Resistor TS-679/U

LOCATION	ITEM	ACTION **REMARKS**
ALINEMENT		
		WARNING Soldering iron is hot. Severe burns to personnel can result from improper handling.
1. Terminal board AT1	Resistor R2 (1) and OUT terminal lead (2)	Using soldering iron and aid, unsolder. **Throw away old resistor R2.**
2. Terminal board TB1	OUT terminal lead (2), binding post G (3) and meter test set (4)	Adjust meter test set to 1.12 vat. Connect meter test set to binding post G and OUT terminal lead.
3. Chassis, front	Meter (5)	Meter must show 11 decibels.
4. Terminal board TB1	Meter test set (4)	Adjust meter test set to 2.25 vat.
5. Chassis, front; Terminal board TB1	Meter (5) and variable resistor R3 (6)	Meter must show full-scale reading. Adjust R3 until meter shows full-scale reading.

6-24. ALINEMENT OF METER CALIBRATION CIRCUIT (TS-585D/U ONLY). (CONT)



6-24. ALINEMENT OF METER CALIBRATION CIRCUIT (TS-585D/U ONLY). (CONT)

LOCATION	ITEM	ACTION **REMARKS**
ALINEMENT (CONT)		
6. Terminal board TB1 Terminal board AT1	Decade resistor (1), OUT terminal lead (2), and OUT terminal (3)	Adjust decade resistor to 4,825 ohms. Connect one lead of decade resistor to OUT terminal lead. Connect other lead of decade resistor to OUT terminal.
7. Terminal board TB1	Meter test set (4) and decade resistor (1)	Adjust meter test set to 5 vat. Connect meter test set across decade resistor.
8. Terminal board TB1; chassis, front	Meter test set (4) and meter (5)	Readjust meter test set until meter shows full-scale reading.
		NOTE Readjust meter test set, when necessary, to maintain meter at full-scale reading.
9. Terminal board TB1	Voltmeter ground lead (6) and OUT terminal lead (2)	Connect voltmeter ground lead to OUT terminal lead,
10.	Test point 1 (7), test point 2 (8) and voltmeter test lead (9)	By trial and error procedure, vary the resistance of decade resistor from 4875 to 4775 ohms and select a resistor R2 (from table below) that will result in equal voltage readings at test point 1 and test point 2 using voltmeter test lead.

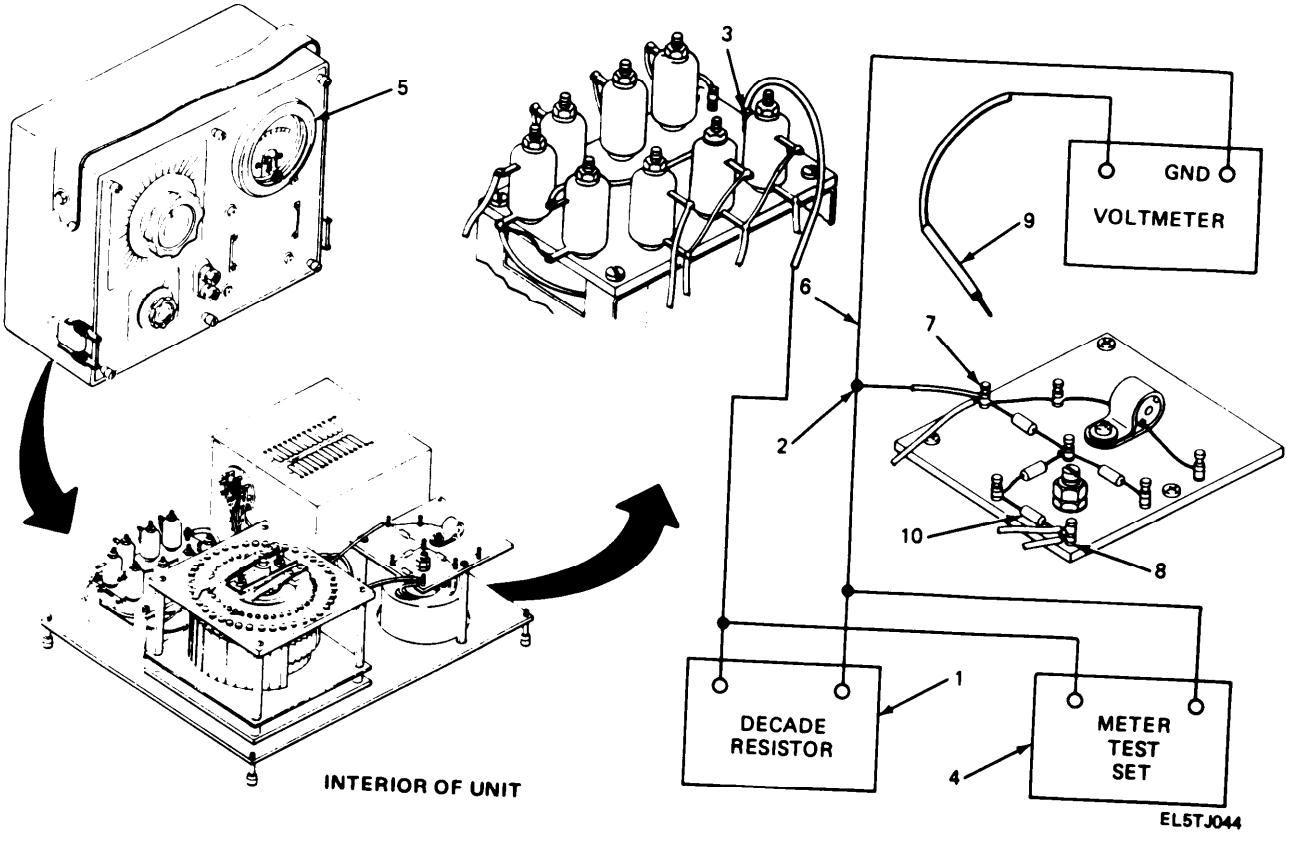
Resistor Value (ohms)	National Stock Number (NSN)
330	5905-00-171-1997
390	5905-00-279-1890
470	5905-00-171-2005
560	5905-00-195-6799
680	5905-00-256-0387
820	5905-00-257-2631

6-24. ALINEMENT OF METER CALIBRATION CIRCUIT (TS-585D/U ONLY). (CONT)

LOCATION	ITEM	ACTION **REMARKS**
ALINEMENT (CONT)		
11. Terminal board TB1; Terminal board AT1	Voltmeter ground lead (6), meter test set (4) and decade resistor (1)	Disconnect.
		WARNING Soldering iron is hot. Severe burns to personnel can result from improper handling.
12. Terminal board AT1	OUT terminal lead (2) and OUT terminal (3)	Using soldering iron and aid, solder.
13. Terminal board TB1	Resistor R2 (10)	Using soldering iron and aid, solder.

NOTE

See paragraph 6-26 for calibration.



Section IV CALIBRATION

6-25. OVERVIEW.

The output meter is calibrated during manufacture. Recalibrate when required or when a resistor in the calibration circuit has been replaced. For wiring diagrams and schematics, see pages 6-52 to 6-59.

6-26. CALIBRATION.

This task covers:

Calibration

INITIAL SETUP

Tools

Tool Kit, Electronic Equipment TK-105/G

Materials/Parts

None

Personnel Required

One technician

Equipment Condition

Output meter on workbench

Test Equipment

Audio Oscillator TS-382A/U
Voltmeter ME-30A/U

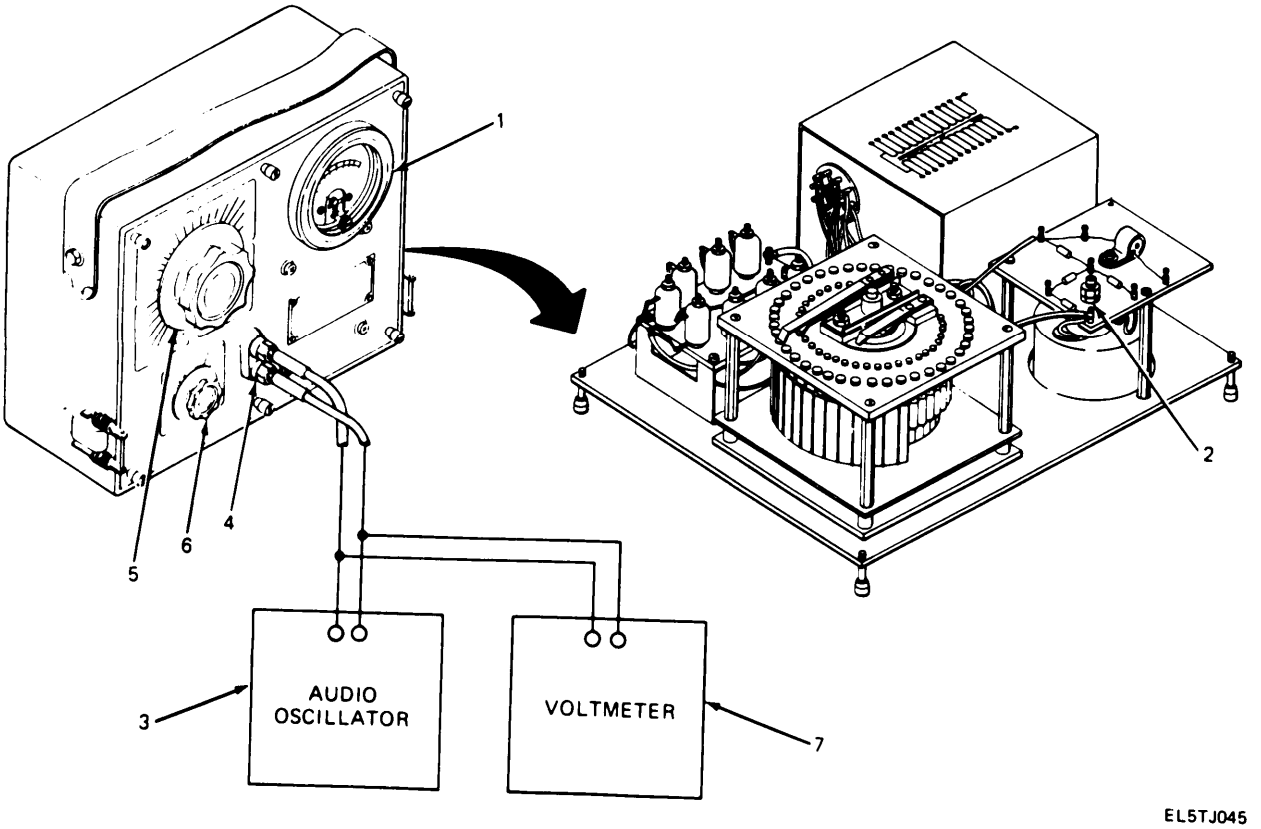
LOCATION	ITEM	ACTION	REMARKS
CALIBRATION			
		NOTE	
		See paragraph 6-7 for removal of chassis from case.	
1. Chassis	Meter (1) and variable resistor R3 (2)	Position chassis so that meter faces the operator and variable resistor R3 faces away from the operator.	
2.	Audio oscillator (3) and binding posts (4)	Connect.	
3.	impedance control knob (5)	Set to X10 X100 (1,000 ohms).	

6-26. CALIBRATION. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
CALIBRATION (CONT)		
4. Chassis	Meter multiplier knob (6)	Set to 10.
5.	Audio oscillator (3)	Adjust to 1000 Hertz.
6.	Voltmeter (7) and audio oscillator (3)	Connect.
7.	Audio oscillator (3) and voltmeter (7)	Set audio oscillator to ON. Adjust audio oscillator until voltmeter shows 10 volts.
8.	Variable resistor R3 (2) and meter (1)	Using screwdriver, adjust variable resistor R3 until meter shows full-scale reading.

NOTE

See paragraph 6-7 for installation of chassis into case.



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Section V FINAL TESTING

6-27. OVERVIEW.

Final testing must be performed after maintenance procedures for the output meter have been completed.

All final testing procedures in this section refer to Output Meter TS-585D/U. The same procedures apply to Output Meters TS-585A/U, TS-585B/U, and TS-585C/U.

Output Meter TS-585A/U is accurate to within ± 10 percent at half scale. Ten percent is approximately 2 1/2-scale divisions. 0utput MetersTS-585B/U, TS-585C/U, and TS-585D/U are accurate to within ±5 percent at half scale. Five percent is approximately 1 1/2-scaledivisions

For wiring diagrams and schematics, seepages 6-52 to 6-59.

6-28. FINAL TESTING.

This task covers:

1. Testing of impedance control circuit
2. Testing of meter multiplier circuit

INITIAL SETUP

Tools

None

Materials/Parts

None

Personnel Required

One technician

Equipment Condition

Output meter on workbench

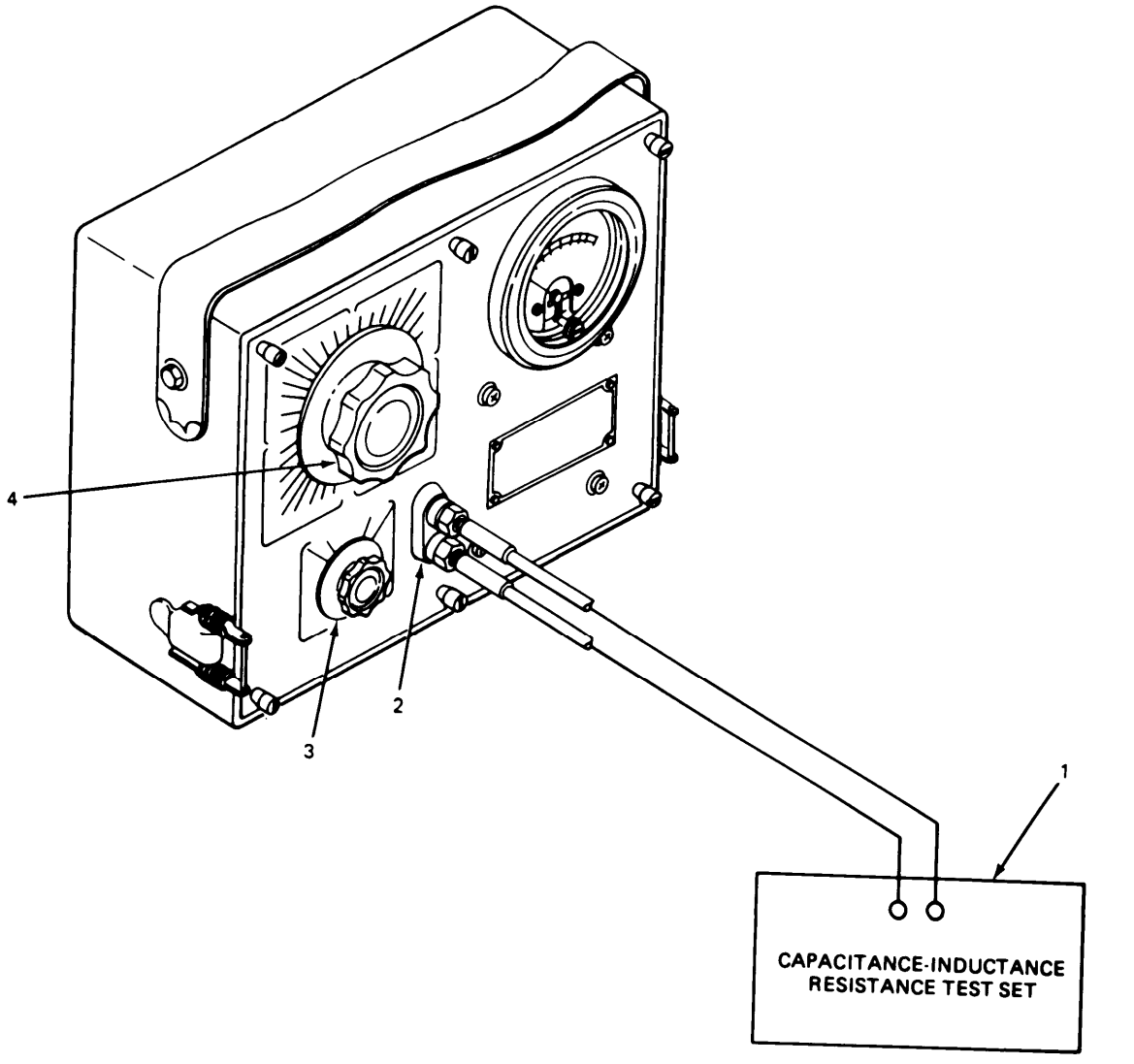
Test Equipment

Capacitance-Inductance-Resistance Test Set AN/URM-90
Meter Test Set TS-682/GSM-1

LOCATION	ITEM	ACTION	**REMARKS**
TESTING OF IMPEDANCE CONTROL CIRCUIT			
1. Output meter	Test set (1) and binding posts (2)	Connect.	**Be sure to connect ground lead to G.**

6-28. FINAL TESTING. (CONT)

LOCATION	ITEM	ACTION **REMARKS**
TESTING OF IMPEDANCE CONTROL CIRCUIT (CONT)		
2. Output meter	Meter multiplier knob (3)	Set to 100.
3.	Impedance control knob (4) and test set (1)	Turn impedance control knob to each setting. **The test set reading should agree within ± 5 percent with impedance control knob setting.**



EL5TJ046

6-28. FINAL TESTING. (CONT)

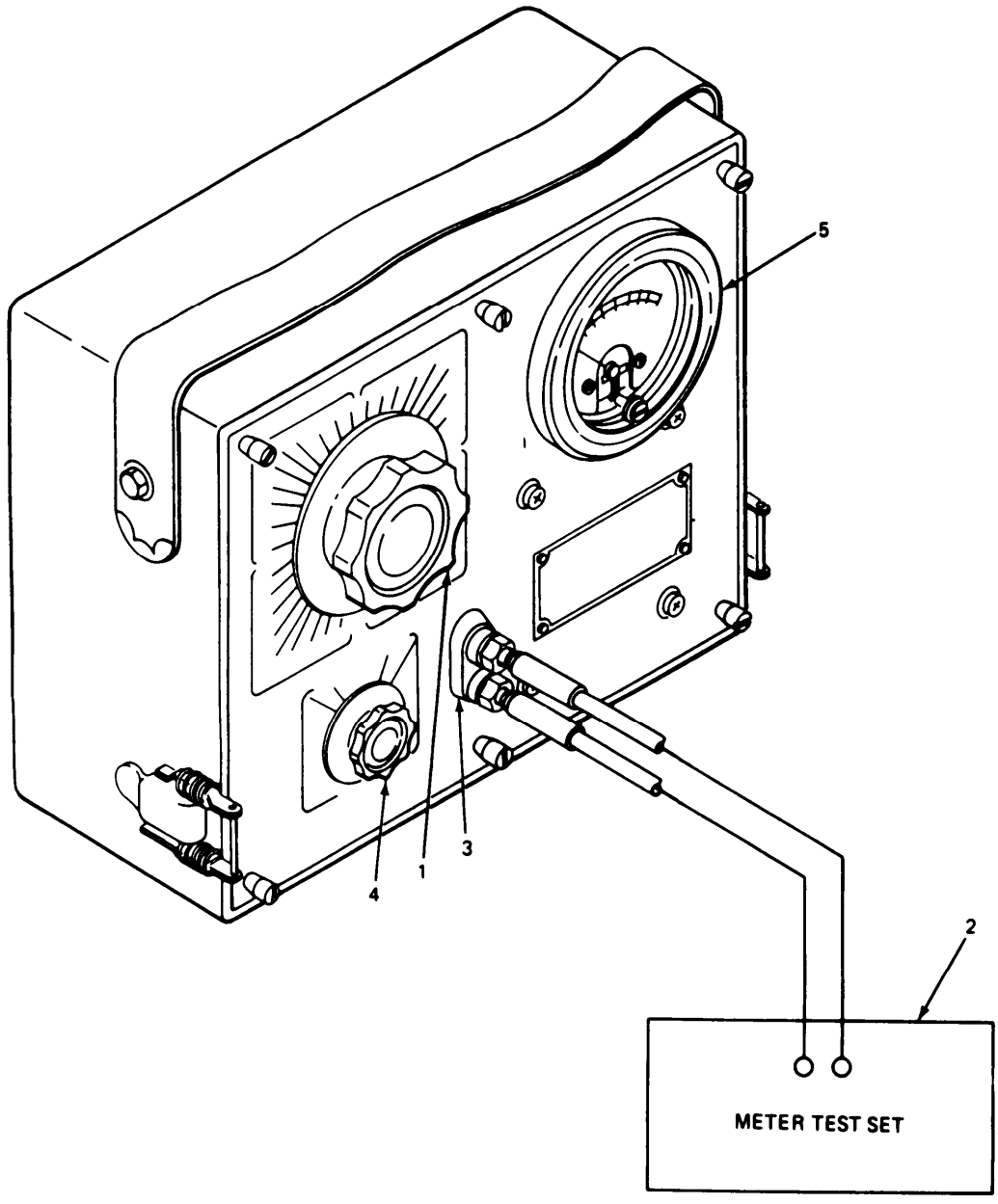
LOCATION	ITEM	ACTION **REMARKS**
TESTING OF METER MULTIPLIER CIRCUIT		
1. Output meter	Impedance control knob (1)	Set to X10 X100 (1,000 ohms).
2.	Meter test set (2) and binding posts (3)	Connect.
3.	Meter test set (2) meter multiplier knob (4) and meter (5)	Set meter test set and meter multiplier knob to each position listed in table below. Each reading on meter should not vary more than ± 0.25 dB.

NOTE

Do not use multiplication factor of meter multiplier control knob while performing this test.

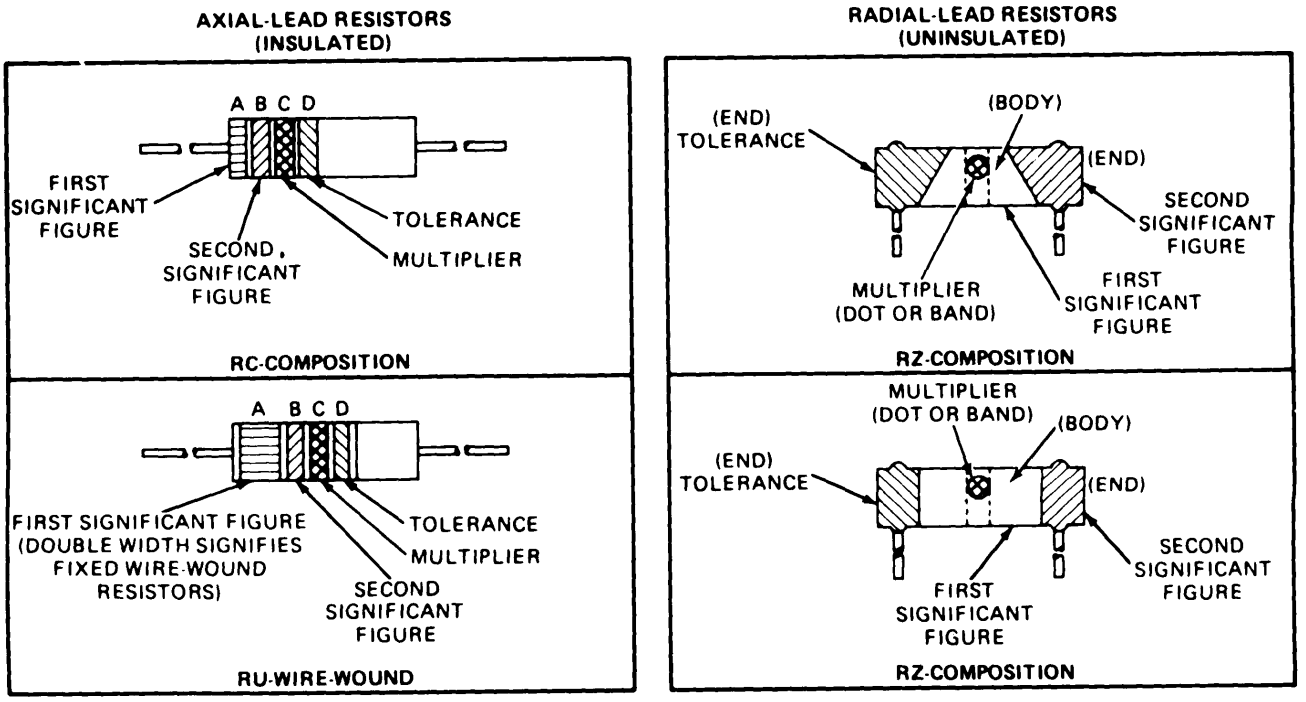
Meter Multiplier Control Knob Position	Test Voltage from Meter Test Set TS-682/GSM-1
0.1	1.12
1.	3.55
10.	11.2
100.	35.5

6-28. FINAL TESTING. (CONT)



EL5TJ047

RESISTOR COLOR CODE MARKING (MIL-STD RESISTORS)



RESISTOR COLOR CODE

BAND A OR BODY*		BAND B OR END*		BAND C OR DOT OR BAND*		BAND D OR END*	
COLOR	FIRST SIGNIFICANT FIGURE	COLOR	SECOND SIGNIFICANT FIGURE	COLOR	MULTIPLIER	COLOR	RESISTANCE TOLERANCE (PERCENT)
BLACK	0	BLACK	0	BLACK	1	BODY	± 20
BROWN	1	BROWN	1	BROWN	10	SILVER	± 10
RED	2	RED	2	RED	100	GOLD	± 5
ORANGE	3	ORANGE	3	ORANGE	1,000		
YELLOW	4	YELLOW	4	YELLOW	10,000		
GREEN	5	GREEN	5	GREEN	100,000		
BLUE	6	BLUE	6	BLUE	1,000,000		
PURPLE (VIOLET)	7	PURPLE (VIOLET)	7				
GRAY	8	GRAY	8	GOLD	0.1		
WHITE	9	WHITE	9	SILVER	0.01		

*FOR WIRE-WOUND-TYPE RESISTORS, BAND A SHALL BE DOUBLE-WIDTH WHEN BODY COLOR IS THE SAME AS THE DOT (OR BAND) OR END COLOR. THE COLORS ARE DIFFERENTIATED BY SHADE, GLOSS, OR OTHER MEANS.

EXAMPLES (BAND MARKING):

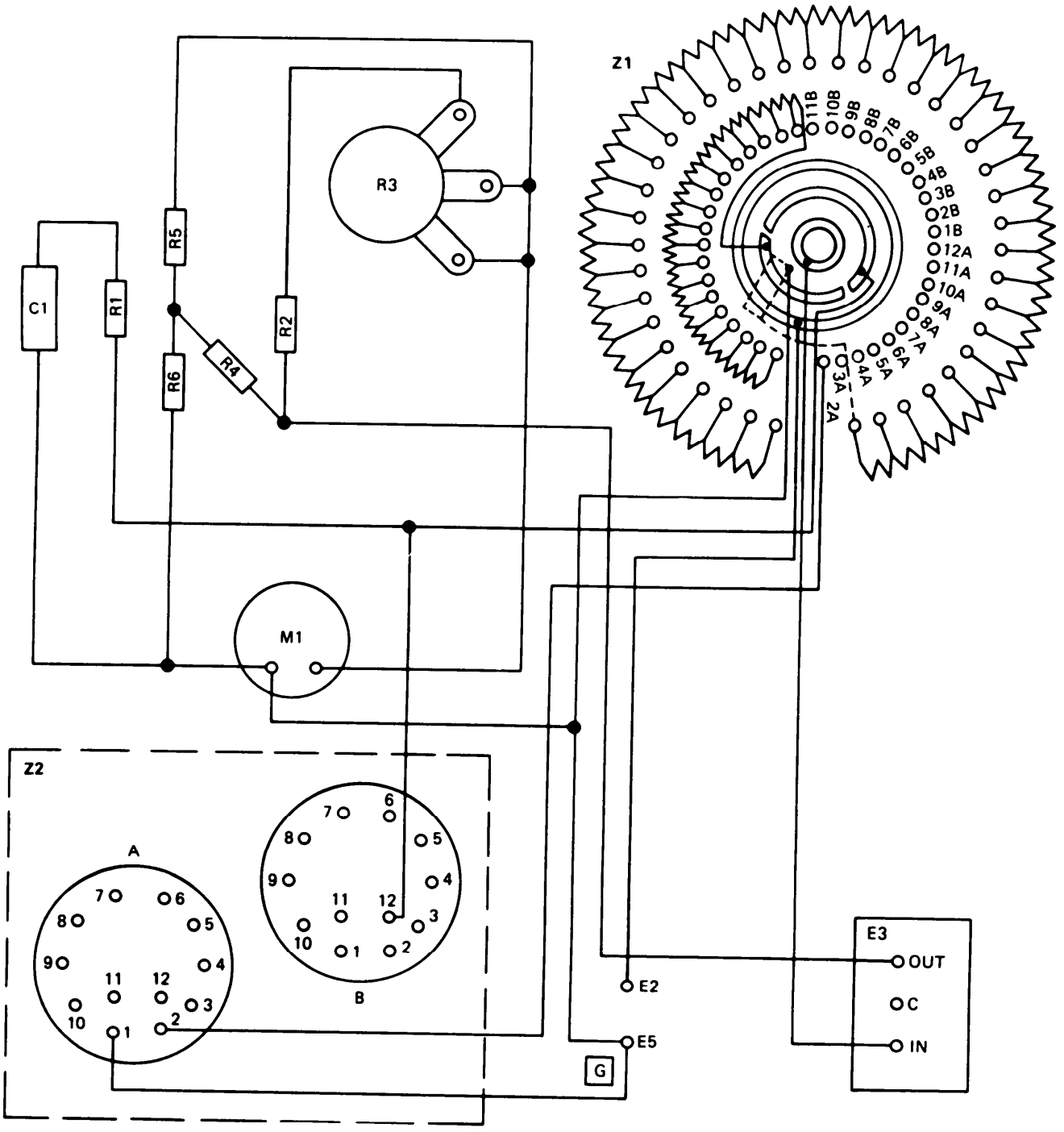
10 OHMS ±20 PERCENT: BROWN BAND A; BLACK BAND B, BLACK BAND C; NO BAND D.
4.7 OHMS ±5 PERCENT YELLOW BAND A; PURPLE BAND B; GOLD BAND C; GOLD BAND D.

EXAMPLES (BODY MARKING):

10 OHMS ± 20 PERCENT: BROWN BODY, BLACK END, BLACK DOT OR BAND, BODY COLOR ON TOLERANCE END.
3,000 OHMS ± 10 PERCENT: ORANGE BODY, BLACK END, RED DOT OR BAND, SILVER END.

EL5TJ048

WIRING DIAGRAM, OUTPUT METER TS-585B/U

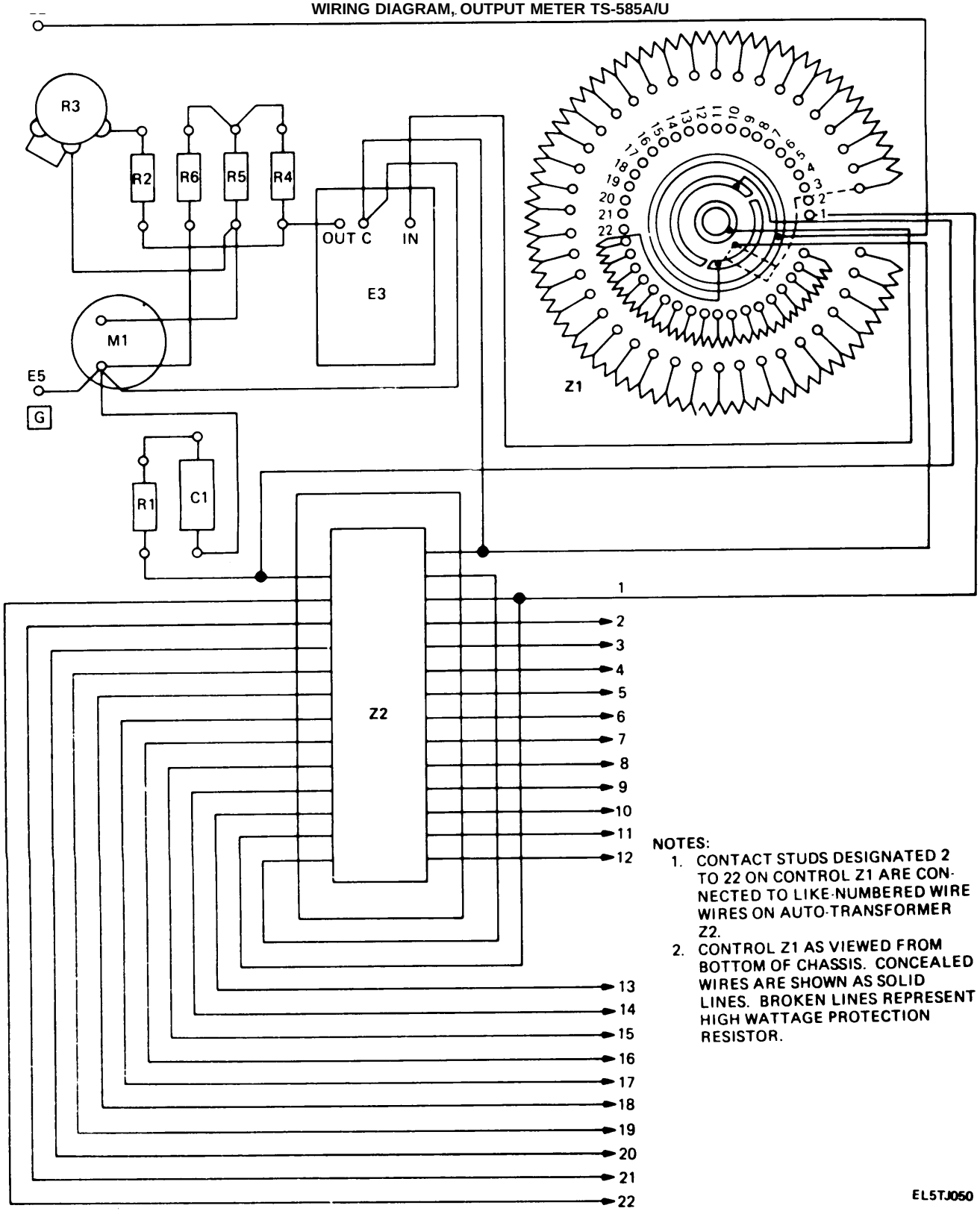


NOTES:

1. CONTACT STUDS DESIGNATED 2A TO 12A AND 1B TO 11B ON CONTROL Z1 ARE CONNECTED TO LIKE-NUMBERED TERMINALS ON AUTOTRANSFORMER Z2.
2. CONTROL Z1 AS VIEWED FROM BOTTOM OF CHASSIS. CONCEALED WIRES ARE SHOWN AS SOLID LINES. BROKEN LINES REPRESENT HIGH WATTAGE PROTECTION RESISTOR.

EL5TJ049

WIRING DIAGRAM, OUTPUT METER TS-585A/U

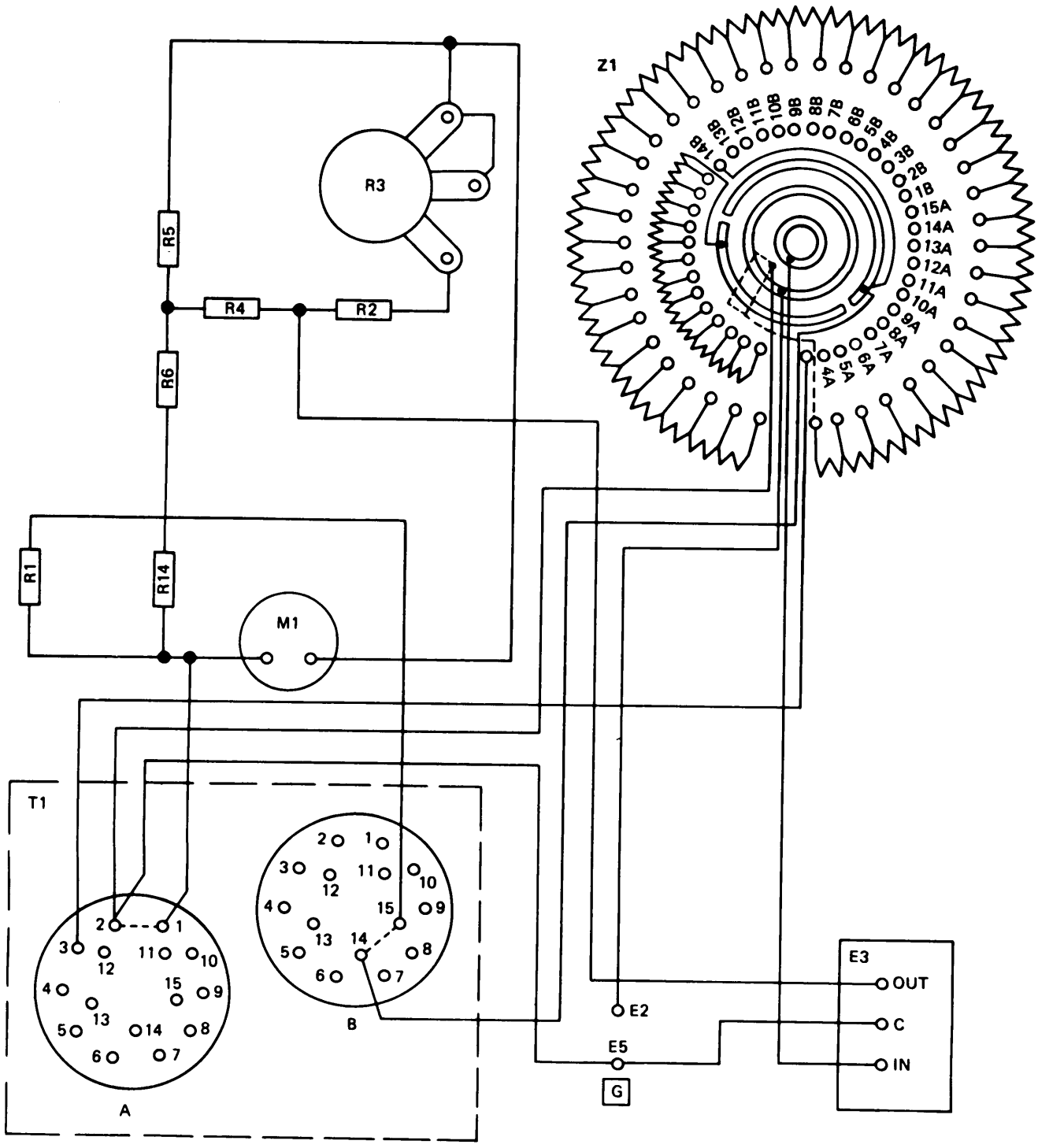


NOTES:

1. CONTACT STUDS DESIGNATED 2 TO 22 ON CONTROL Z1 ARE CONNECTED TO LIKE-NUMBERED WIRE WIRES ON AUTO-TRANSFORMER Z2.
2. CONTROL Z1 AS VIEWED FROM BOTTOM OF CHASSIS. CONCEALED WIRES ARE SHOWN AS SOLID LINES. BROKEN LINES REPRESENT HIGH WATTAGE PROTECTION RESISTOR.

EL5TJ050

WIRING DIAGRAM, OUTPUT METER TS-585C/U

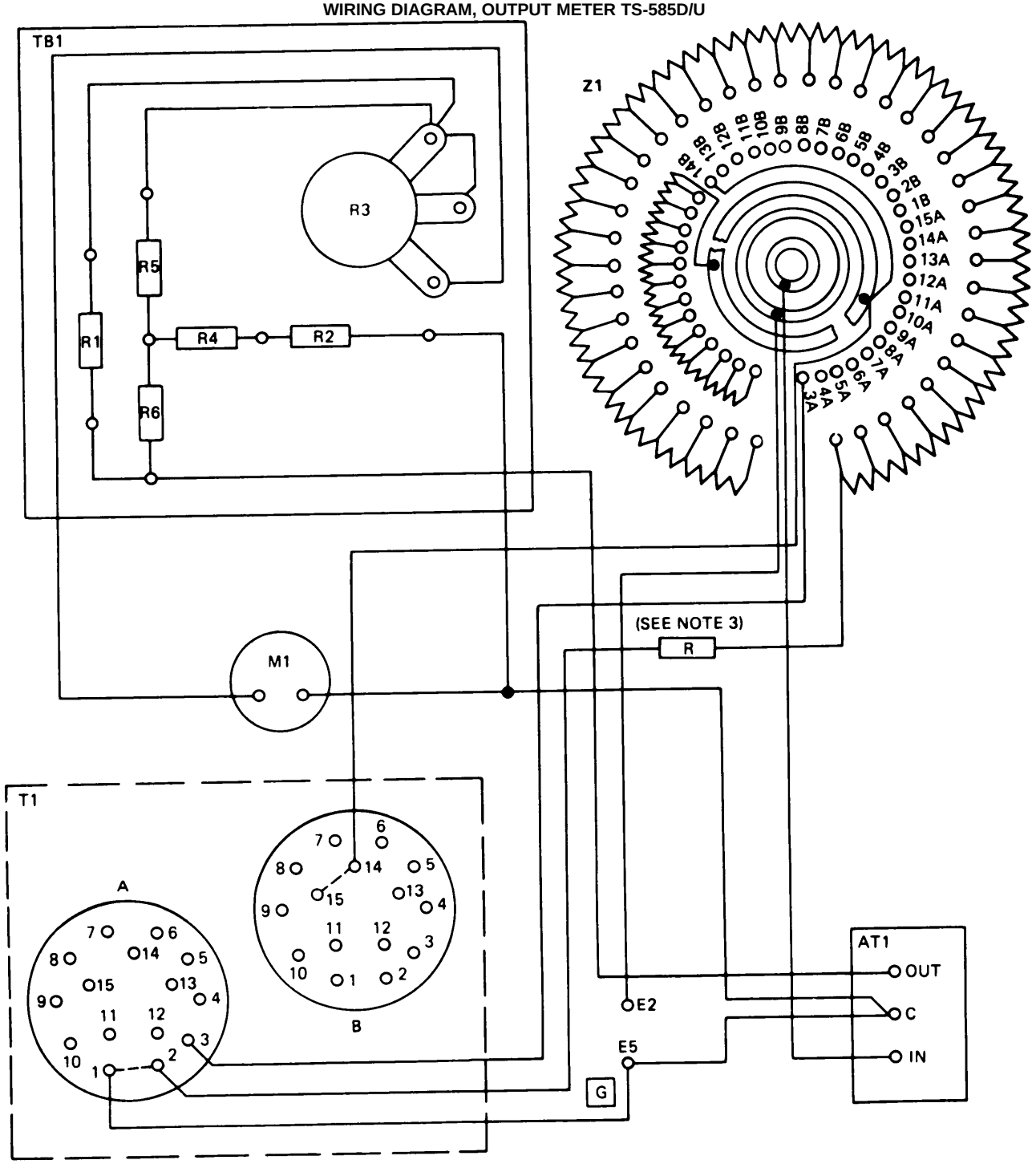


NOTES:

1. CONTACT STUDS DESIGNATED 3A TO 15A AND 1B TO 14B ON CONTROL Z1 ARE CONNECTED TO LIKE-NUMBERED TERMINALS ON AUTOTRANSFORMER T1.
2. CONTROL Z1 AS VIEWED FROM BOTTOM OF CHASSIS. CONCEALED WIRES ARE SHOWN AS SOLID LINES. BROKEN LINES REPRESENT HIGH WATTAGE PROTECTION RESISTOR.

EL5TJ051

WIRING DIAGRAM, OUTPUT METER TS-585D/U

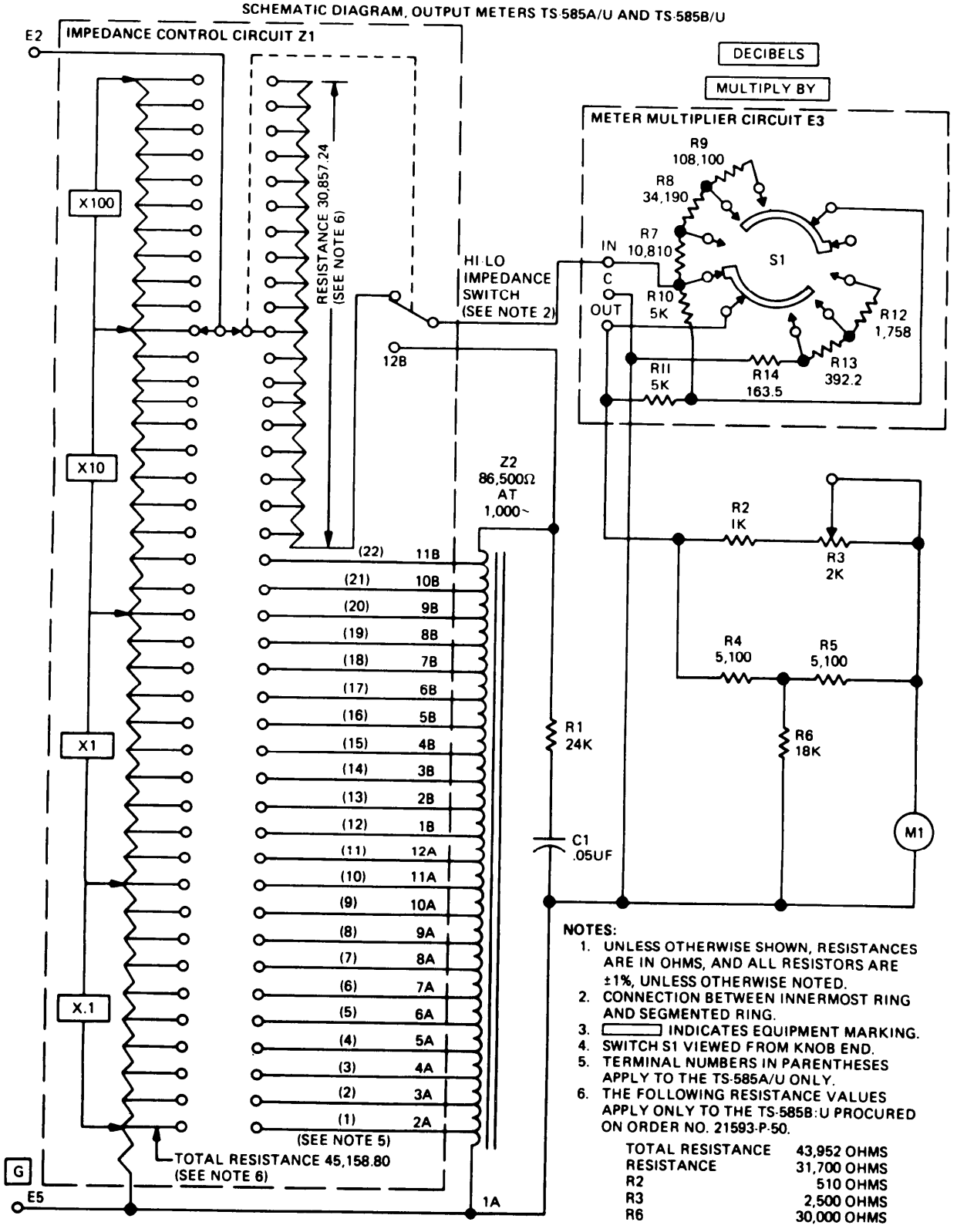


NOTES:

1. CONTACT STUDS DESIGNATED 3A TO 15A AND 1B TO 14B ON CONTROL Z1 ARE CONNECTED TO LIKE-NUMBERED TERMINALS ON AUTOTRANSFORMER T1.
2. CONTROL Z1 AS VIEWED FROM BOTTOM OF CHASSIS. CONCEALED WIRES ARE SHOWN AS SOLID LINES.
3. CURRENT LIMITING RESISTOR (PART OF Z1).

EL5TJ052

SCHEMATIC DIAGRAM, OUTPUT METERS TS-585A/U AND TS-585B/U



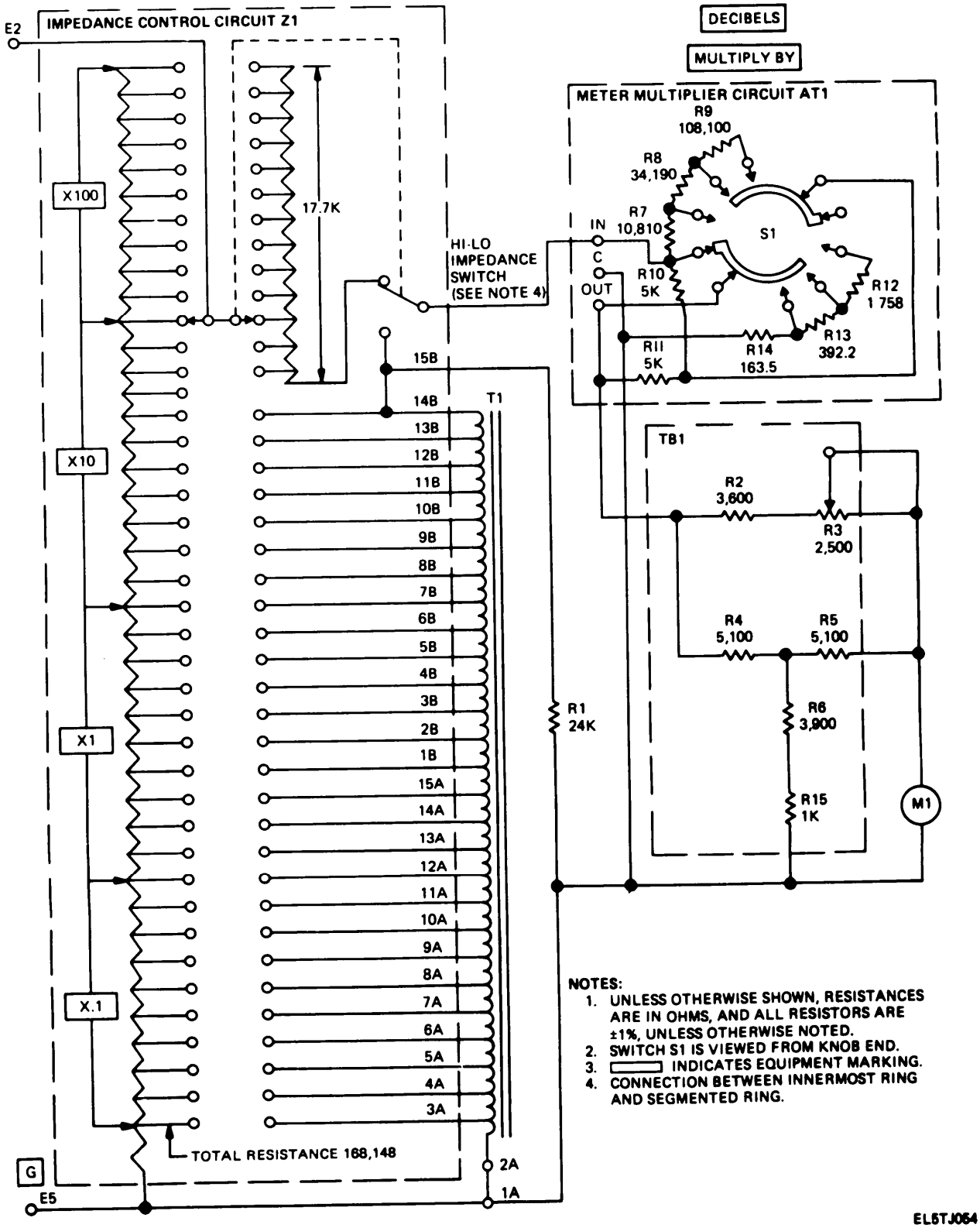
NOTES:

1. UNLESS OTHERWISE SHOWN, RESISTANCES ARE IN OHMS, AND ALL RESISTORS ARE ±1%, UNLESS OTHERWISE NOTED.
2. CONNECTION BETWEEN INNERMOST RING AND SEGMENTED RING.
3. ▭ INDICATES EQUIPMENT MARKING.
4. SWITCH S1 VIEWED FROM KNOB END.
5. TERMINAL NUMBERS IN PARENTHESES APPLY TO THE TS-585A/U ONLY.
6. THE FOLLOWING RESISTANCE VALUES APPLY ONLY TO THE TS-585B:U PROCURED ON ORDER NO. 21593-P-50.

TOTAL RESISTANCE	43,952 OHMS
RESISTANCE	31,700 OHMS
R2	510 OHMS
R3	2,500 OHMS
R6	30,000 OHMS

EL5TJ053

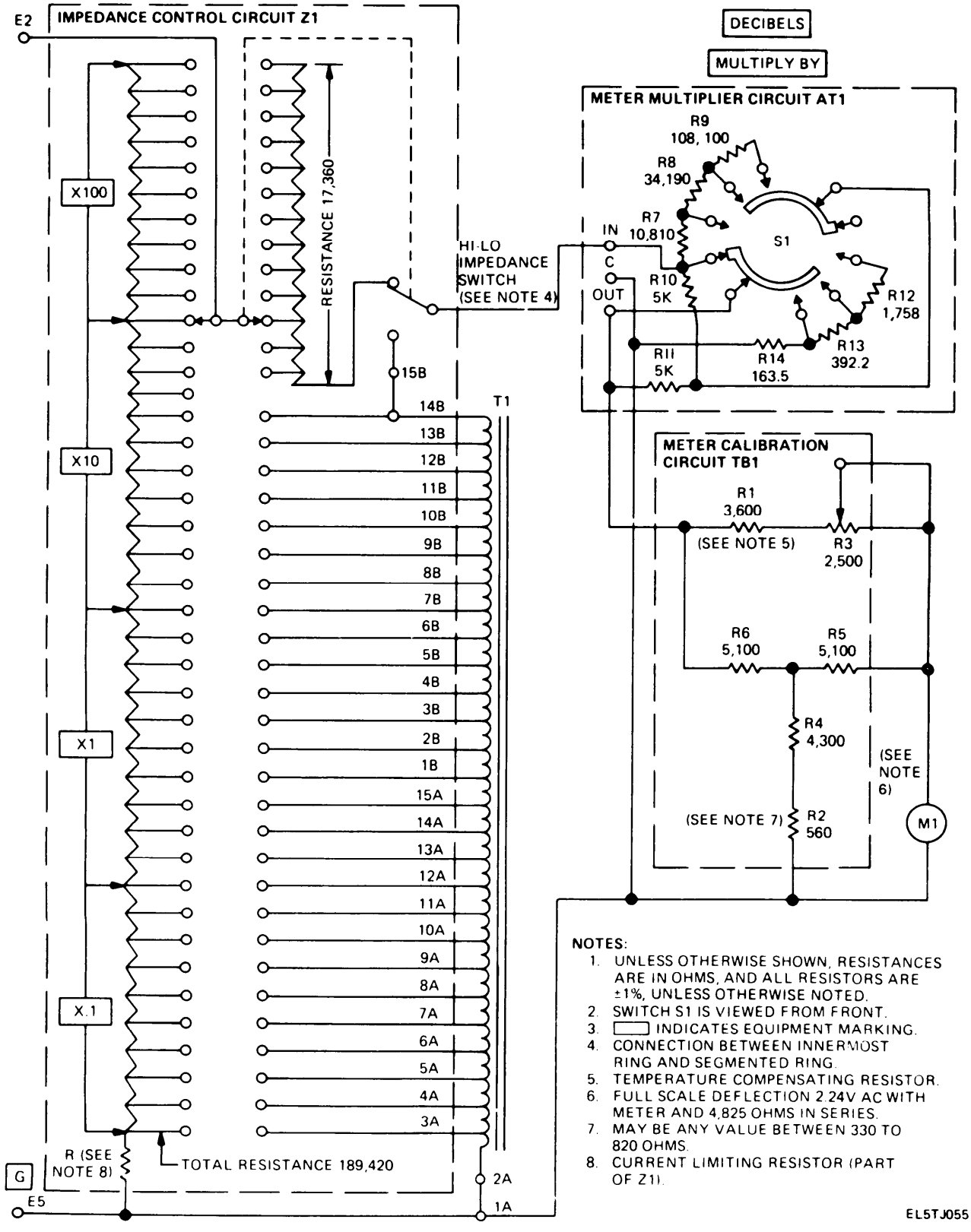
SCHEMATIC DIAGRAM, OUTPUT METER TS-585C/U



NOTES:
1. UNLESS OTHERWISE SHOWN, RESISTANCES ARE IN OHMS, AND ALL RESISTORS ARE ±1%, UNLESS OTHERWISE NOTED.
2. SWITCH S1 IS VIEWED FROM KNOB END.
3. ▭ INDICATES EQUIPMENT MARKING.
4. CONNECTION BETWEEN INNERMOST RING AND SEGMENTED RING.

EL5TJ054

SCHEMATIC DIAGRAM, OUTPUT METER TS-585D/U



NOTES:
1. UNLESS OTHERWISE SHOWN, RESISTANCES ARE IN OHMS, AND ALL RESISTORS ARE ±1%, UNLESS OTHERWISE NOTED.
2. SWITCH S1 IS VIEWED FROM FRONT.
3. ▭ INDICATES EQUIPMENT MARKING.
4. CONNECTION BETWEEN INNERMOST RING AND SEGMENTED RING.
5. TEMPERATURE COMPENSATING RESISTOR.
6. FULL SCALE DEFLECTION 2.24V AC WITH METER AND 4,825 OHMS IN SERIES.
7. MAY BE ANY VALUE BETWEEN 330 TO 820 OHMS.
8. CURRENT LIMITING RESISTOR (PART OF Z1).

EL5TJ055

APPENDIX A

REFERENCES

A-1. SCOPE.

This appendix lists all forms, field manuals, technical manuals and miscellaneous publications referenced in this manual.

A-2. PAMPHLETS.

Consolidated Index of Army Publications and Blank Forms	DA Pam 310-1

A-3. TECHNICAL MANUALS.

Meter Test Set TS-682/GSM-1	TM 11-2535B
Resistors, Decade ZM-16/U (NSN 6625-00-669-0266), ZM-16A/U, and ZM-16B/U	TM-5102
Multimeters TS-352/U, TS-352A/U, and TS-352B/U	TM 11-6625-366-15
Organizational, Direct Support, and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools) for Multimeter TS-352B/U.	TM 11-6625-366-24P
Organizational Maintenance Repair Parts and Special Tools List for Output Meters, Audio Level TS-585A/U, TS-585B/U, TS-585C/U, and TS-585D/U (NSN 6625-00-244-0501).	TM 11-6625-291-20P
Operator's and Organizational Maintenance Manuals: Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME-30B/U and ME-30C/U and ME-30E/U	TM 11-6625-320-12
Operator, Organizational, Direct Support and General Support Maintenance Manual for Signal Generator AN/URM-127 (NSN 6625-00-783-5965)	TM 11-6625-683-15
The Army Maintenance Management System (TAMMS)	TM 38-750
Painting Instructions For Field Use	TM 43-04139
Administrative Storage of Equipment	TM 740-90-1
Procedure for Destruction of Army Electronics Materiel to Prevent Enemy Use	TM 750-244-2

APPENDIX B

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

B-1 . GENERAL

This appendix provides a summary of the maintenance operations for the Output Meter TS-585(*)/U. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

c. Section Ill lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section Il.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTION.

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics, with established standards through examination. (e.g., by sight, sound, or feel.)

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

B-2. MAINTENANCE FUNCTION. (CONT)

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. 'Replace' is authorized by the MAC and is shown as the 3rd position code of the SMR code.

i. Repair. The application of maintenance services, including fault location/trouble-shooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item or system.

j. Overhaul. That maintenance effort (service or action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC, Section II.

a. Column 1, Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be '00'.

b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in Column 2. For detailed explanation of these functions, see paragraph (B-2).

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate work time figures wiII be shown for each category. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the Maintenance Allocation Chart. The symbol designations for the various maintenance categories are as follows:

C — Operator or crew
O — Organizational Maintenance
F — Direct Support Maintenance
H — General Support Maintenance
L — Specialized Repair Activity (SRA)
D — Depot Maintenance

B-3. EXPLANATION OF COLUMNS IN THE MAC, Section II. (CONT)

e. Column 5. Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and Support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, Section III.

a. Column 1, Reference Code. The tool and test equipment reference code correlated with a code used in the MAC, Section II, column 5.

b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National Stock Number. The National Stock Number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, Section IV.

a. Column 1, Reference Code. The code recorded in column 6, Section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II MAINTENANCE ALLOCATION CHART FOR OUTPUT METER, AUDIO LEVEL, TS-585A, B, C, D/U

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
00	Output Meter, Audio Level TS-585A, B, C, D/U	Adjust				0.5		7	
		Inspect	0.5	0.5				-	
		Test				1.0		1,2,3, 5,6,7	
		Replace		0.2					A
		Repair				1.0		7	B
		Overhaul					4.0	1-7	

Section Ill TOOL AND TEST EQUIPMENT REQUIREMENTS FOR OUTPUT METER, AUDIO LEVEL, TS-585A, B, C, D/U

TOOLS OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	H,D	Capacitance-Inductance-Resistance Test Set AN/URM-90	662540-532-4157	
2	H,D	Audio Oscillator TS-382A/U	662540-783-5965	
3	H,D	Decade Resistor ZM-16/U	6625-00-669-0266	
4	D	Meter Test Set TS-682/GSM-1	6625-00-669-0747	
5	H,D	Multimeter, TS-352B/U	6625-00-242-5023	
6	H,D	Voltmeter ME-30A/U	6625-00-669-0742	
7	O,H,D	Tool Kit, Electronic Equipment TK-105/G	5180-00~10-8177	

Section IV REMARKS

REFERENCE CODE	REMARKS
A	Replacement of control knobs and rubber bumpers only.
B	Replacement of components.

APPENDIX C

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST

Section I INTRODUCTION

C-1. SCOPE.

This appendix lists components of end item and basic issue items for the Output Meter TS-585(*)/U to help you inventory items required for safe and efficient operation.

C-2. GENERAL.

The components of End Item and Basic Issue Item Lists are divided into the following sections:

a. Section II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the Output Meter in operation. This manual is your authority to request/requisition replacement Basic Issue Items, based on TOE/MTOE authorization of the end item.

C-3. EXPLANATION OF COLUMNS.

The following provides an explanation of columns found in the tabular listings:

a. Column (1) Illustration Number. This column does not apply.

b. Column (2) National Stock Number. Indicates the National Stock Number assigned to the item and will be used for requisitioning purposes.

c. Column (3) Description. Indicates the National item name and if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number. If an item needed differs on different models of equipment, the model is shown under the 'Usable On' heading in this column.

d. Column 4, U/M (Unit of Measure). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two character alphabetical/abbreviation (ea, in, pr).

e. Column 5, Qty Req'd (Quantity Required). Indicates the quantity of the item authorized to be used with/on the equipment.

Section II COMPONENTS OF END ITEM LIST

(1) ILLUS NO	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION (FSCM) AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY REQ'D
	6625-00-244-0501	Output Meters TS-585A/U TS-585B/U and TS-585C/U		ea	1
	6625-00-684-5438	Output Meter TS-585 D/U		ea	1
	6625-00-395-9313	Lead, Test Set CX-1331/U and CX-1331A/U		ea	1

Section III BASIC ISSUE ITEMS

(1) ILLUS NO	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION (FSCM) AND PART NUMBER	USABLE ON CODE	(4) U/M	(5) QTY REQ'D
		Case Assembly 80063 SMD-168643		ea	1
		Strap, Webbing 70747, 27-1231B		ea	1
		Panel Assembly 80063 SMC-340455		ea	1
	6625-00-395-9313	Lead, Test Set CX-133/U and CX-1331A/U		ea	1
	Order thru normal channels	Technical Manual TM 11-6625-291-14		ea	1

APPENDIX D

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I INTRODUCTION

D-1. SCOPE.

This appendix lists expendable supplies and materials you will need to operate and maintain the Output Meter TS-585(*)/U. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. EXPLANATION OF COLUMNS.

Column (1)-ITEM NUMBER, This number is referenced in the narrative instructions to identify the material (for example, 'Use cleaning compound, Item 1, Appendix E.').

Column (2)-LEVEL. This column identifies the lowest level of maintenance that requires the listed item.

C - Crew/Operator
O - Organizational Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

Column (3)-NATIONAL STOCK NUMBER. This is the National Stock number assigned to the item; use it to request or requisition the item.

Column (4)-DESCRIPTION. Indicates the Federal item name and, if required, a description to identify the item, The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

Column (5)-UNIT OF MEASUREMENT (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical (e.g. ea, in, pr). If the unit of measure differs from the unit of issue that you require, requisition the lowest unit of issue that will satisfy your requirements.

Section II EXPENDABLE SUPPLIES AND MATERIALS

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION, FSCM	(5) U/M
1	C	6850-00-105-3084	Trichlorotrifluoroethane (80244)	QT
2	C	8305-00-267-3015	Cleaning cloth	YD
3	C	8020-00-205-6512	Sash brush (96906)	EA
4	O	5350-00-598-5908	Sandpaper, No. 000	SH
5	O	5350-00-221-0872	Cloth, abrasive	SH

GLOSSARY

The following special terms and words are used in this manual.

ALINEMENT. A procedure for adjusting a circuit to produce a desired frequency response or impedance.

ALTERNATING CURRENT. The type of current usually supplied by utility power lines. A flow of electricity which reverses in direction continuously.

AUDIO LEVEL. A frequency between 20 to 20,000 Hertz.

AUTOTRANSFORMER. Any transformer which is constructed from a single coil. A coil in which part of the primary winding also serves as the secondary winding.

AXIAL LEADS. Wires which extend from the ends of a resistor or capacitor along the axis instead of the sides.

Calibration. A procedure for comparing the reading of a measuring device with a standard, and correcting any difference from the standard.

CAPACITOR. A device capable of storing electrical energy. Used to block the flow of direct current while allowing alternating current to pass.

Characteristic IMPEDANCE. The value of a resistance which will provide minimum reflection of voltage or current in a circuit or line.

DECIBEL. The standard unit for expressing relative power, voltage, or current.

DIRECT CURRENT. A current that flows in only one direction and is a constant value.

DIRECT READING METER. A measuring device which shows readings on a meter scale.

FULL SCALE READING. The maximum reading on a meter scale.

HALF SCALE READING. The center reading on a meter scale.

HERTZ. A term meaning cycle per second.

IMPEDANCE. The opposition a circuit has to the flow of alternating current.

LOAD. Any energy or power consuming device connected to a circuit supplying power or energy.

MILLIWATT. A unit of measurement of electrical power. A milliwatt is 1/1000 of a watt.

GLOSSARY (CONT)

OHM. A unit of measurement of resistance.

PADDING RESISTOR. A resistor inserted into a circuit to produce a desired impedance.

POWER OUTPUT. The power in watts delivered to a load.

RADIAL LEADS. Wires which extend from the sides of a resistor or capacitor.

RESISTANCE. The opposition to the flow of direct or alternating current.

RESISTOR. A device which opposes the flow of direct or alternating current.

THERMAL RESISTOR. A resistor whose electrical resistance changes with temperature.

ZERO ADJUSTMENT. A procedure to adjust the meter needle so that it reads zero on the meter scale.

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN. . JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

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Commander
Stateside Army Depot
ATTN: AMSTA-US
Stateside, N.J. 07703

DATE SENT
10 July 1975

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 11-5840-340-12	23 Jan 74	Radar Set AN/PRC-76

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:
2-25	2-28			Recommend that the installation antenna alignment procedure be changed throughout to specify a 2° IFF antenna lag rather than 1°. REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.
3-10	3-3		3-1	Item 5, Function column. Change "2 db" to "3db." REASON: The adjustment procedure the the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.
5-6	5-8			Add new step f.1 to read, "Replace cover plate removed in step e.1, above." REASON: To replace the cover plate.
		F03		Zone C 3. On J1-2, change "+24 VDC to "+5 VDC." REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

SAMPLE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER	SIGN HERE
SSG I. M. DeSpiritof 999-1776	I. M. DeSpiritof

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General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR 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

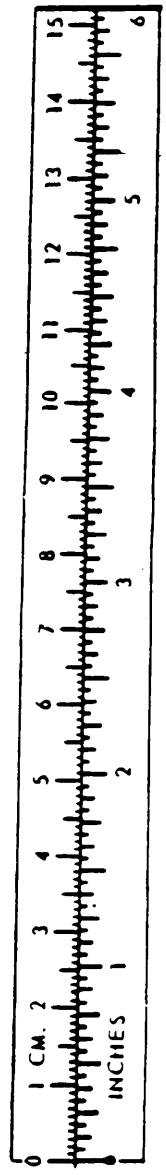
$5/9\,(^{0}F - 32) = {}^{0}C$

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

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
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	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
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



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