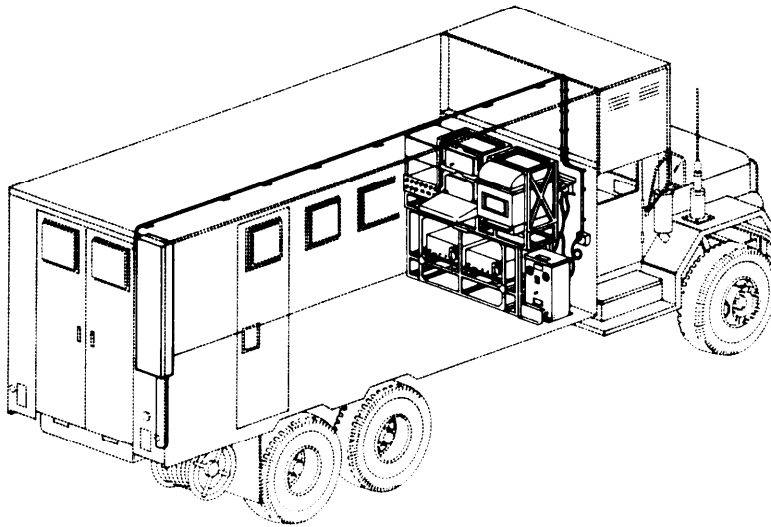


TM 11-7440-293-14

TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL, DIRECT
SUPPORT, AND GENERAL SUPPORT
MAINTENANCE**



**EQUIPMENT
DESCRIPTION**

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**ASSEMBLY AND
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**ELECTRONICS EQUIPMENT INSTALLATION
KIT MK-1818/GSG-10(V)
(NSN 1290-01-070-8908)
FOR
5-TON EXPANSIBLE VAN TRUCK M820**

**HEADQUARTERS, DEPARTMENT OF THE ARMY
JUNE 1983**



5

SAFETY STEPS TO FOLLOW 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

WARNING

HIGH VOLTAGE

is used in the operation of this equipment.

DEATH ON CONTACT

may result if personnel fail to observe
safety precautions.

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment. When the technician is aided by an operator they must warn the operator about dangerous areas.

The power supply must be shut off before beginning work on the equipment. Always ground every part before touching it. When possible, keep one hand away from equipment to reduce the hazard of electrical shock.

Be sure equipment is always properly grounded.

When performing work on a vehicle always engage parking brake.

A/(B blank)

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TECHNICAL MANUAL
No. 11-7440-293-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 15 June 1983

**Operator's, Organizational,
Direct Support, and General Support
Maintenance Manual**

**ELECTRONICS EQUIPMENT INSTALLATION KIT MK-1818/GSG-10(V)
(NSN 1290-01-070-8908)**

5-TON EXPANSIBLE VAN TRUCK M820

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 or DA Form 2028 (Recommended Changes to Equipment Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. A reply will be furnished to you.

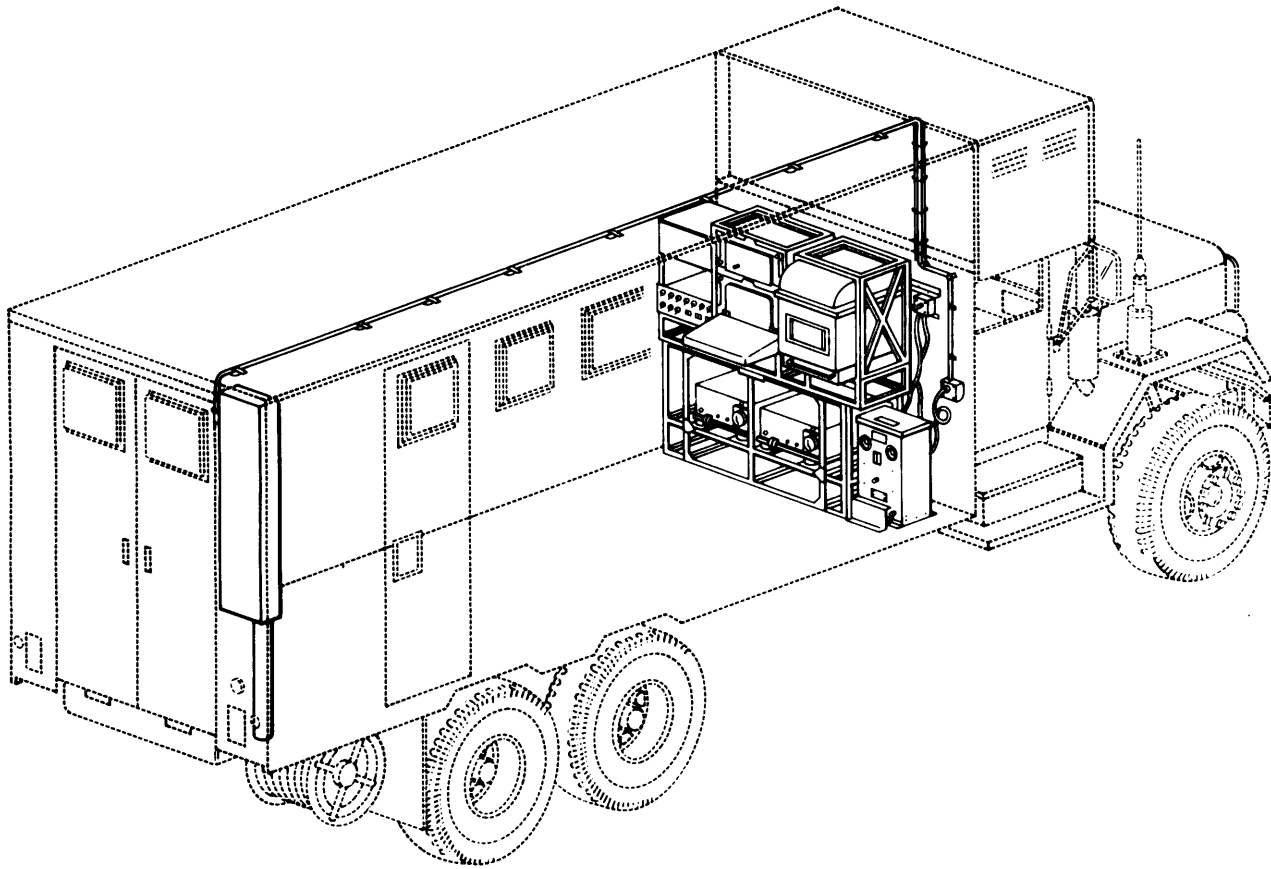
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HOW TO USE THIS MANUAL

In this manual, paragraphs are numbered by chapter and order in each chapter. To find the paragraph you need, first locate 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. If you find a word or term you don't understand, refer to the glossary in the back of the book.



TACFIRE INSTALLED IN 5-TON EXPANSIBLE VAN TRUCK M820

EL8KD001

CHAPTER 1

INTRODUCTION

Subject	Section	Page
General Information	I	1-1
Equipment Description	II	1-5
Principles of Operation	III	1-8

OVERVIEW

This chapter contains general information, equipment descriptions, and principles of operation for Electronics Equipment installation Kit MK-1818/GSG-10(V) in truck, van (expandible) 5-ton M820.

Section I GENERAL INFORMATION

Subject	Para	Page
Scope	1-1	1-1
Maintenance Forms,Records, and Reports	1-2	1-1
Destruction of Army Electronics Materiel to Prevent Enemy Use	1-3	1-2
Administrative Storage	1-4	1-2
Reporting Equipment Improvement Recommendations	1-5	1-2
Nomenclature Cross-Reference List	1-6	1-2
List of Abbreviations	1-7	1-4

1-1. SCOPE.

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

Model Number and Equipment Name: MK-1818/GSG-10(V) Installation Kit, Electronic Equipment in Truck, Van (Expandible) 5-Ton M820.

Purpose of Equipment: Provides mounting racks, hardware and cables for the installation of Variable Format Message Entry Device AN/GSC-21 in truck, van (expandible) 5-ton M820.

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

REPORTS OF MAINTENANCE AND UNSATISFACTORY EQUIPMENT

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System (TAMMS).

REPORT OF PACKAGING AND HANDLING DEFICIENCIES

Fill out and forward SF 364, Report of Discrepancy (ROD) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73/AFR 400-54/MCO 4430.3E.

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

Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33 B/AFR 75-18/MCO 4610.19 C/DLAR 4500.15.

1-3. DESTRUCTION OF ARMY ELECTRONICS MATERIEL TO PREVENT ENEMY USE.

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 assure operational readiness. Disassembly and repacking of equipment for shipment or limited storage are covered in Chapter 4.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your Electronics Equipment Installation Kit MK-1818/GSG-10(V) needs 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. We'll send you a reply.

1-6. NOMENCLATURE CROSS-REFERENCE LIST.

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

Common Name	Official Nomenclature
antenna mount assembly	Antenna Assembly AS-1729/URC and antenna mount
curbside antenna cables	Curbside Antenna Lead-in Cable Assembly RF CX-1773B/U (20 ft) and SP CX-4722/VRC (20 ft)
dc/dc switch	switch assembly, dc/dc
distribution box	Distribution Box J-3030/GSG-10(V)
electronic line printer rack	Electrical Equipment Rack MT-4392/GSG-10(V)
electronic equipment	message entry device, electronic line printer, key generator, power distribution box

1-6. NOMENCLATURE CROSS-REFERENCE LIST. (CONT)

Common Name	Official Nomenclature
electronic equipment racks	key generator rack, message entry device rack, electronic line printer rack
Hubbell connector plug	connector, plug, 3 phase, 3 wire, 30 amp, Hubbell #3331-C
installation kit	Electronics Equipment Installation Kit MK-1818/GSG-10(V)
key generator rack	Electrical Equipment Rack MT-4393/GSG-10(V)
message entry group rack	Electrical Equipment Rack MT-4391/GSG-10(V)
power cable	Cable, 3 Cord, No. 10, Type C0-03 M0F (3/10) 0690 (26 ft)
power distribution box	Power Distribution Box J-3030/GSG-10(V)
power supply	Power Supply, PP-1104/G, 50 amp, 24 v
radio mount	Radio Mount MT-4395/GSG-10(V)
radio mounting base	Radio Mounting Base MT-1029/VRC
receptacle	receptacle, 3 phase, 3 wire, 30 amp Hubbell #3330
roadside antenna cables	Roadside Antenna Lead-in Cable Assembly RF CX-1773B/U (20 ft) and CX-4722/VRC (20 ft)
table mount	Electronic Equipment Table MT-4394/GSG-10(V)
tacfire mount	assembled racks to hold electronic equipment
tacfire rack	assembled racks
wall support	wall mount assembly
30 inch ground strap	electrical lead (30 in.)

1-7. LIST OF ABBREVIATIONS.

This list contains abbreviations used in this manual.

Abbreviation	Word or Term
IT	internal tooth
IET	internal/external tooth
tacfire	tactical firing equipment
rf	radio frequency
sp	special purpose

Section II EQUIPMENT DESCRIPTION

Subject	Para	Page
Purpose of Installation Kit	1-8	1-5
Equipment Capabilities and Features	1-9	1-5
Location and Description of Major Components.	1-10	1-8
Safety, Care, and Handling	1-11	1-8

1-8. PURPOSE OF INSTALLATION KIT.

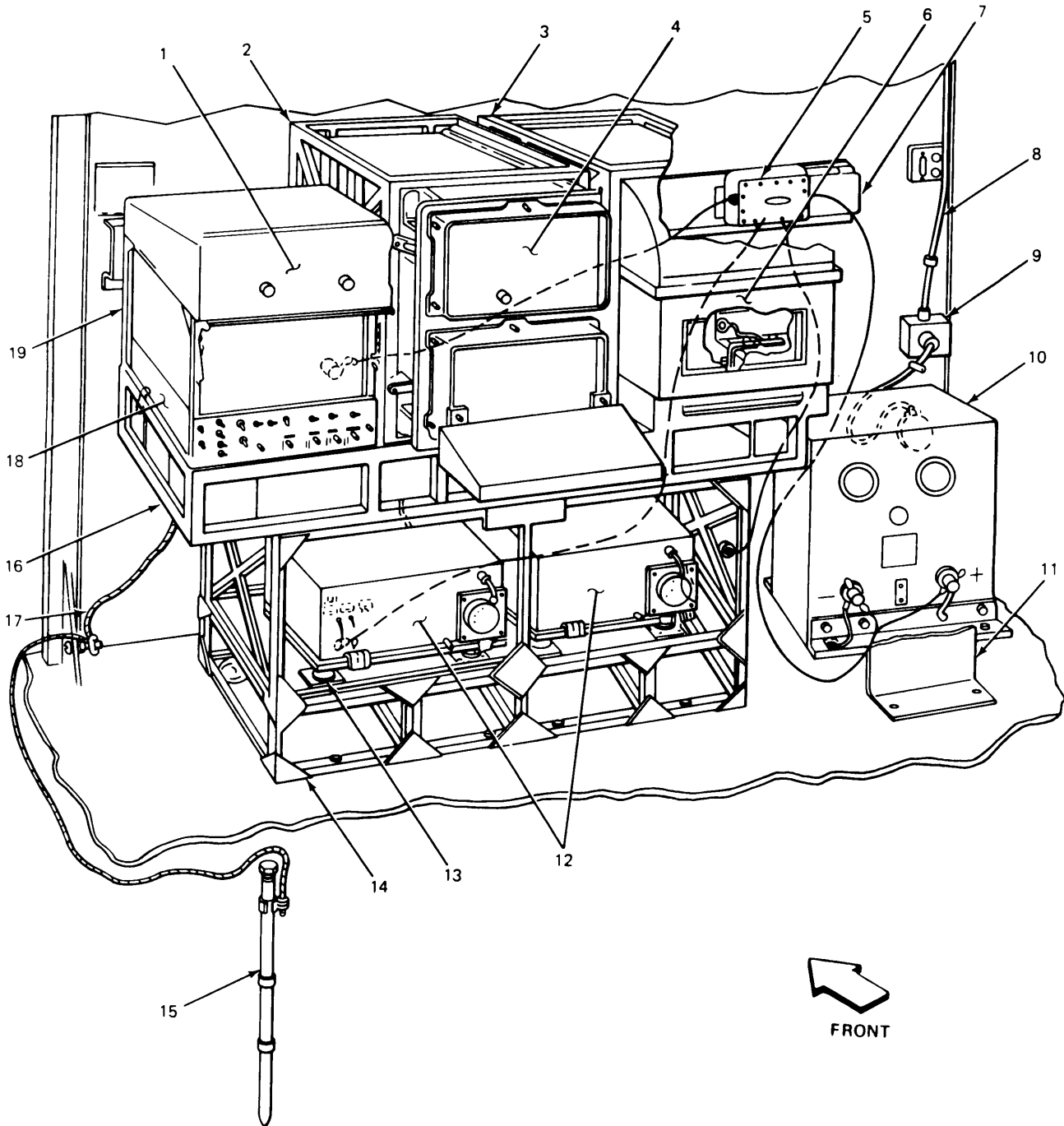
The installation kit provides:

- Mounting Racks
- Antennas
- Power Connections for Electronic Equipment

1-9. EQUIPMENT CAPABILITIES AND FEATURES.

- Can be operated in all weather and climate conditions.
- Fully transportable and mobile.
- Secure field and teletype communications.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.



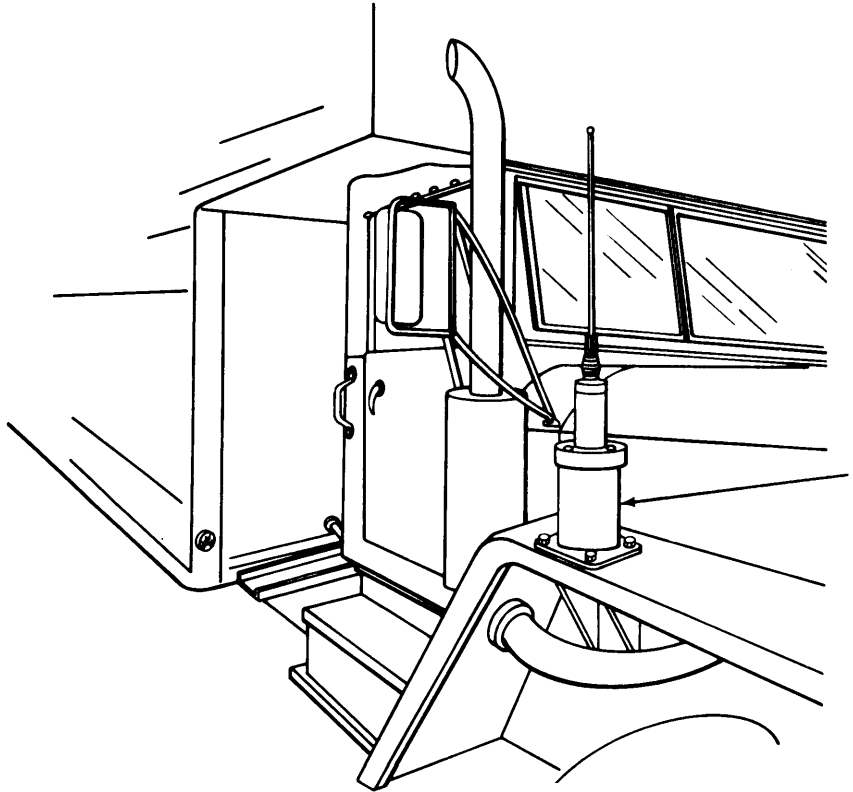
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1.10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS. (CONT)

FORWARD WALL

- 1 KEY GENERATOR. Communications security equipment.
- 2 MESSAGE ENTRY GROUP RACK. Provides a housing and support for message entry group.
- 3 ELECTRONIC LINE PRINTER RACK. Provides a housing and support for electronic line printer.
- 4 MESSAGE ENTRY GROUP. Groups incoming messages to produce a word or words.
- 5 DC/DC SWITCH. Switches power source.
- 6 ELECTRONIC LINE PRINTER. Teletypewriter.
- 7 WALL SUPPORT. Provides rear support for tacfire rack.
- 8 POWER CABLE. Routes power from circuit breaker box to power supply.
- 9 4 x 4-INCH OUTLET BOX. Provides an outlet or electrical connection for power supply.
- 10 POWER SUPPLY. Supplies power by converting alternating current to direct current.
- 11 GUARD ASSEMBLY. Provides protection from electrical shock by shielding exposed connections in front of power supply.
- 12 RADIO RECEIVER TRANSMITTER. Receives and transmits radio signals.
- 13 RADIO MOUNTING BASES MT-1029/VRC. Supports radio receiver transmitters.
- 14 RADIO MOUNT. Provides a base support for tacfire rack and serves as a housing and support for radio receiver transmitters.
- 15 EXTERNAL GROUNDING ROD. Provides an external ground for electronic equipment.
- 16 ELECTRONIC EQUIPMENT TABLE. Provides a mount and support for electronic equipment racks.
- 17 30-INCH GROUNDING STRAP. Provides a ground to truck body for the electronic equipment.
- 18 POWER DISTRIBUTION BOX. Distributes input power to electronic equipment.
- 19 KEY GENERATOR RACK. Provides a housing and support for key generator and power distribution box.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS. (CONT)



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TOP OF CURBSIDE AND ROADSIDE FENDERS

- 1 ANTENNA MOUNT ASSEMBLIES. Provides a mounting base for the antennas.

1-11. SAFETY, CARE, AND HANDLING.

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

Section III PRINCIPLES OF OPERATION

OVERVIEW

Refer to TM 11-7440-251-10 and TM 11-7440-253-10-1 for principles of operation for the electronic equipment housed in the installation kit.

CHAPTER 2

OPERATING INSTRUCTIONS

Subject	Section	Page
Description and Use of Operator's Controls and Indicators	I	2-1
Operator Preventive Maintenance Checks and Services	II	2-1
Operation Under Usual Conditions	III	2-1
Operation Under Unusual Conditions.	IV	2-1

OVERVIEW

This chapter contains description and use of operator's controls and indicators and operator preventive maintenance checks and services for the electronic equipment provided in the installation kit.

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

Subject	Para	Page
Operating Instructions	2-1	2-1

2-1. OPERATING INSTRUCTIONS.

For operating instructions of the tacfire electronic equipment refer to TM 11-7440-251-10 and TM 11-7440-253-10-1.

Section II OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES

There are no operator PMCS procedures for this equipment. Routine checks like equipment inventory, cleaning the vehicle, checking for trayed or broken cables, replacing items not in use, and checking for loose hardware, such as nuts, bolts and screws are not listed in the PMCS table. Do these tasks anytime you see they need to be done.

Section III OPERATION UNDER USUAL CONDITIONS

For operation under usual conditions refer to TM 11-7440-251-10 and TM 11-7440-253-10-1.

Section IV OPERATION UNDER UNUSUAL CONDITIONS

For operation under unusual conditions refer to TM 11-7440-251-10 and TM 11-7440-253-10-1.

CHAPTER 3 OPERATOR MAINTENANCE

Subject	Section	Page
Lubrication Instructions	I	3-1
Troubleshooting Procedures	II	3-1
Maintenance Procedures	III	3-1

OVERVIEW

This chapter contains lubrication, troubleshooting and maintenance instructions for the electronic equipment in the installation kit.

Section I LUBRICATION INSTRUCTIONS

There are no lubrication instructions for Installation Kit MK-1818-GSG-10(V) in truck, van (expandable) 5-ton M820.

Section II TROUBLESHOOTING PROCEDURES

For troubleshooting procedures refer to TM 11-7440-251-10 and TM 11-7440-253-10-1.

Section III MAINTENANCE PROCEDURES

For maintenance procedures refer to TM 11-7440-251-10 and TM 7440-253-10-1.

CHAPTER 4

ORGANIZATIONAL MAINTENANCE

Subject	Section	Page
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Service Upon Receipt.	II	4-1
Assembly and Installation of Electronics Equipment Kit	III	4-4
Preventive Maintenance Checks and Services	IV	4-120
Organizational Troubleshooting	V	4-120
Maintenance Procedures	VI	4-120
Removal of Electronics Equipment Kit.	VII	4-121

OVERVIEW

This chapter contains instructions for the assembly, installation and removal of the installation kit.

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

Subject	Para	Page
Common Tools and Equipment	4-1	4-1
Special Tools, TMDE, and Support Equipment	4-2	4-1

4-1. COMMON TOOLS AND EQUIPMENT.

The common tools and equipment needed for the installation of the electronic equipment installation kit will be listed in the Maintenance Allocation Chart found in appendix B, and at the beginning of each installation procedure.

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

Refer to appendix B for special tools required for installation of electronic equipment installation kit.

Section II SERVICE UPON RECEIPT

Subject	Para	Page
Unpacking	4-3	4-2
Checking Unpacked Materiel	4-4	4-4

4-3. UNPACKING.

This task covers:

Unpacking

INITIAL SETUP

Tools

- Pliers
- Nail puller
- Shears
- Pocket knife

Personnel Required

One mechanic

Equipment Condition

Equipment crated.

Materials/Parts

None

LOCATION	ITEM	ACTION REMARKS
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WARNING

Stand to side of each packing band when cutting.

NOTE

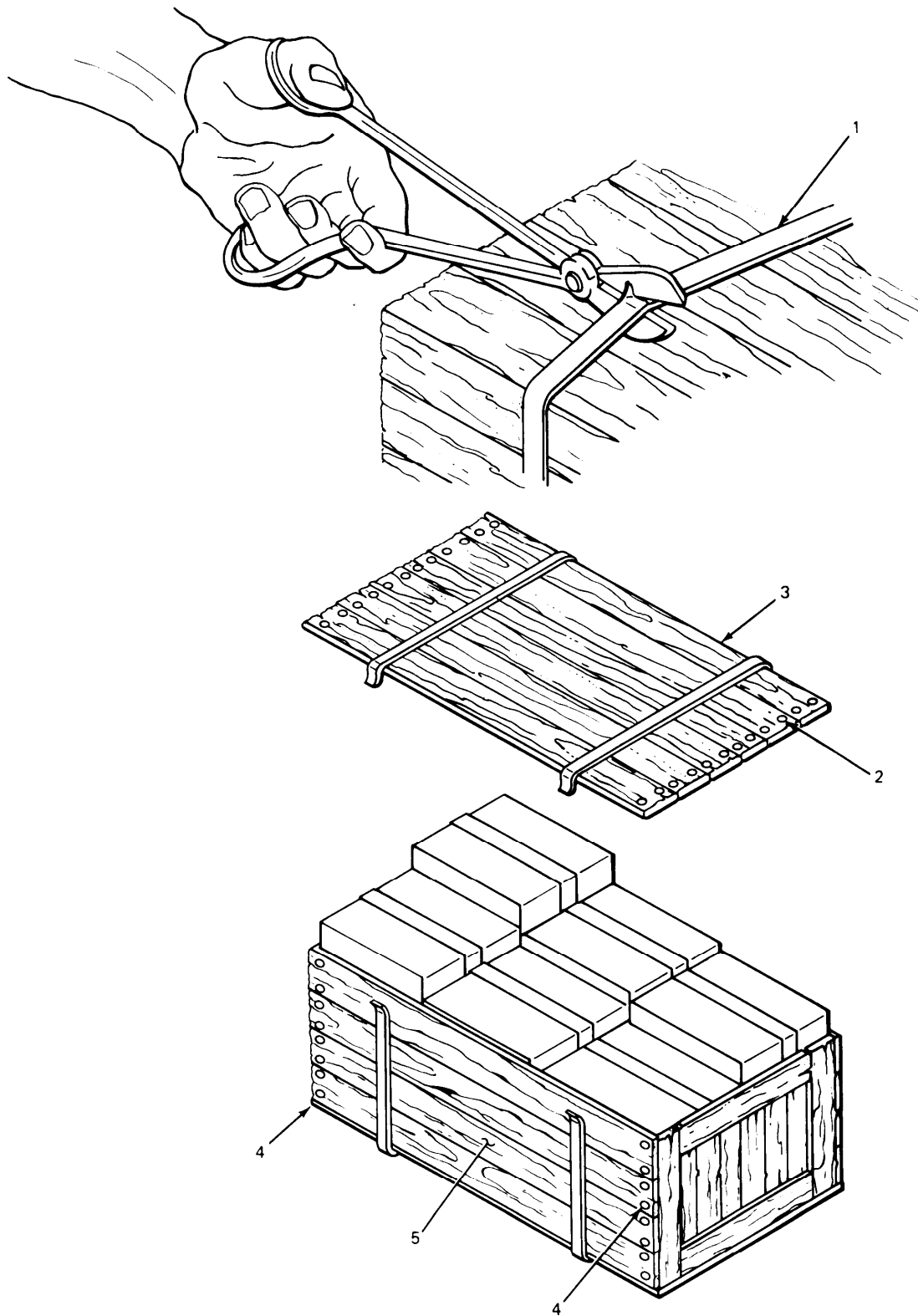
Move crated equipment to site of installation. Save cartons, fillers, and blocking for future use as packing for storage.

1. Wooden crate	Packing band (1)	Using shears, cut.
2. Top cover	Nails (2)	Using nail puller, remove.
3. Wooden crate	Top cover (3)	Remove.
4. Side cover	Nails (4)	Using nail puller, remove.
5. Wooden crate	Side cover (5)	Remove. If packed for overseas, remove moisture proof cover.

NOTE

Remove cartons from crate and carefully remove components. Some parts are secured to sides of wooden crate. Using pliers, remove.

4-3. UNPACKING. (CONT)



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4-4. CHECKING UNPACKED MATERIEL.

When the installation kit is received, the unpacker must check equipment for damage resulting from shipment, proper amount of items or parts shipped, and if the right units were sent in the kit.

If damage to a unit or a part of the kit other than minor scratches or dents are found, refer to paragraph 1-2, Maintenance Forms, Records and Reports. Check the parts list with the parts received and if there is a difference in the amount received, report on forms shown in TM 38-750. If the part numbers are not the same, check the current Modification Work Order (MWO) DA Pam 310-1 for a change in parts listing.

**Section III ASSEMBLY AND INSTALLATION OF ELECTRONICS EQUIPMENT
INSTALLATION KIT**

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