

ARMY TECHNICAL MANUAL
NAVY PUBLICATION

TM 5-6350-264-14&P-9
NAVELEX EE 181-AA-
OMI-100/E-121 DZ-204
T.O. 31S9-2FSS9-1 9

AIR FORCE TECHNICAL ORDER

TECHNICAL MANUAL

**OPERATORS'S ORGANIZATIONAL
DIRECT SUPPORT AND GENERAL SUPPORT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL
TOOLS LIST)**

**ALARM, AUDIBLE
BZ-6350/FSS-9(V)
NSN 6350-00-228-2514**

Distribution Statement A. Approved for public release; distribution is unlimited.

DEPARTMENT OF THE ARMY, THE NAVY, AND THE AIR FORCE

30 September 1982

WARNING

The Audible Alarm presents a noise hazard to personnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Authorized protective equipment must be worn by all personnel in the work area. If the Audible Alarm is installed, it must be disabled BEFORE any troubleshooting procedures are attempted. Disable the alarm by setting the key operated switch on Control Unit to TEST/RESET position, opening Audible Alarm, removing faceplate, and turning off power switch. After troubleshooting the Audible Alarm must be reactivated. Activate the Alarm by setting the key-operated switch on Control Unit to TEST/RESET position, turn Alarm power switch on, replace faceplate, close and clock Audible Alarm door. Turn key-operated switch on Control Unit to SECURE or ACCESS.

WARNING

HIGH VOLTAGE

High voltage is used in the operation of this equipment. Death on contact may result if personnel fail to observe safety precautions. A 115-volt ac potential may cause death under certain conditions; therefore, precautions should be taken at all times. Be careful not to contact connections for 115-volt ac input when installing or repairing this equipment. Never work on electronic equipment unless there is another person nearby who is familiar with the hazards of the equipment and who is competent in administering first aid.

WARNING

HYDROGEN GAS

The Audible Alarm contains a rechargeable battery which may generate ignitable amounts of hydrogen gas if certain failures occur. This is a potential safety hazard. Do not smoke when opening the door. After opening, allow the unit to ventilate with the door open for 2 minutes before turning off the Power Switch or performing any other maintenance action. If excessive heat or fumes of any nature are being emitted from the Audible Alarm, immediately open the enclosure door and ventilate for 2 minutes before performing any maintenance action.

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CHANGE

NO. 4

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OPERATOR'S ORGANIZATIONAL
DIRECT SUPPORT AND GENERAL SUPPORT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

ALARM, AUDIBLE
BZ-204/FSS-9 V
NSN 6350-00-228-2514

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TM 5-6350-264-14&P-9, 30 September 1982 is updated as follows:

1. File this sheet front of the manual for reference.
2. This change implements Army Maintenance Transformation and changes the Maintenance Allocation Chart(MAC) to support field and sustainment maintenance.
3. New or updated text is indicated by a vertical bar in the outer margin of the page.
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WASHINGTON, D.C., 29 July 1994

NO. 3

Operator's, Organizational,
Direct Support and General Support
Maintenance Manual
(including Repair Parts and Special Tools List)

ALARM, AUDIBLE
BZ-204/FSS-9(V)
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C-9 through C-16

2. Retain this sheet in front of manual for reference purposes.
3. Attention Navy Users: This is Change B EE 181-AA-OMI-1OB. Technical Manual Stock Number 0913-LP-004-4302.

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CHANGE
NO.2

Operator's, Organizational,
Direct Support and General Support
Maintenance Manual
(Including Repair Parts and Special Tools List)

ALARM, AUDIBLE
BZ-204/FSS-9(V)
NSN 6350-00-2282514

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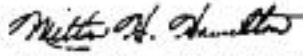
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CHANGE

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WASHINGTON, D.C., 20 May 1986

NO. 1

Operator's, Organizational,
Direct Support and General Support
Maintenance Manual
(Including Repair Parts and Special
Tools List)

ALARM, AUDIBLE
BZ-204/FSS-9(V)
NSN 6350-00-228-2514

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LIST OF EFFECTIVE PAGES

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**ARMY TECHNICAL MANUAL
NAVY PUBLICATIONS
AIR FORCE TECHNICAL ORDER**

**TM 5-6350-264-14&P-9
NAVALEX EE 181-AA-OMI-100/E121 DZ-204
T.O. 31S9-2FSS9-1-9**

**HEADQUARTERS
DEPARTMENTS OF THE ARMY, NAVY, AND AIRFORCE
WASHINGTON, D.C., 30 September 1982**

**Operators, Organizational, Direct Support, and General Support
Maintenance Manual
(Including Repair Parts and Special Tools List)**

**ALARM, AUDIBLE
BZ-204/FSS-9(V)
NSN 6350-00-228-2514**

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.

For the Army, mail letter or DA Form 2028(Recommended Changes to Publications and Blank Forms) located in back of this manual, directly to: Commander, U.S. Army CECOM Life Cycle Management Command(LCMC) and Fort Monmouth, ATTN:AMSEL-LC-LEO-E-ED, Fort Monmouth, NJ 07703-5006. You may also send your recommened changes via electronic mail or by fax. Our fax number is 732-532-1556. DSN 992-1556, e-mail address is MONMAMSELLEOPUBSCHG@conus.army.mil. Our online web address for entering and submitting DA Form 2028 is <http://edm.monmouth.army.mil/pubs/2028.html>.

For Air Force, completed AFTO Form 22(Technical Order Publication Improvement Report and Reply) should be forwarded to:CPSG/LGLI, 230 Hall BLVD. STE 104L, San Antonio,TX 782433-7081.

For Navy, mail comments to the Commander, Space and Naval Warfare Systems Command, ATTN: SPAWAR 8122, Washington, DC 20363-5100.

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HOW TO USE THIS MANUAL

Manual Overview

The chapters within this manual are divided into specific functional information. Chapter types include General Information, Maintenance Information, Troubleshooting Information, Parts Information, and This manual tells you how to operate and maintain the Audible Alarm BZ-204/FSS-2514.

Warnings and cautions listed throughout the manual are summarized beginning on page a. Make sure that you read and understand all of these before attempting any repair or maintenance function.

Significant subject headings are listed by page numbers in the table of contents.

Individual subjects/terms are found by referring to the subject index in the rear of this manual.

WARNING

Warning highlights an essential operating or maintenance procedure, practice, condition, statement, etc, which, if not strictly observed, could result in injury to, or death of, personnel or long term health hazards.

CAUTION

Highlights an essential operating or maintenance procedure, practice, condition, statement, etc, which, if not strictly observed, could result in damage to, or destruction of, equipment or loss of mission effectiveness.

NOTE

Highlights an essential operating or maintenance procedure, condition, or statement.

NOTE

Changes in this manual introduces the Two-Level Maintenance (TLM) concept which is located in APPENDIX B. TLM Concept changed the maintenance levels from five(Operator, Crew, Direct Support, General Support, and Depot) to two(Field and Sustainment. Field maintenance occurs either on the equipment or where it is located. Sustainment occurs off the equipment and is usually performed at a different location.

CHAPTER 1

INTRODUCTION

Section 1. GENERAL

1-1. SCOPE.

This manual is for your use in operating the Audible Alarm(AA), Model BZ-204/FSS(V). The audible Alarm is an integral part of the Joint Services Interior Intrusion Detection System(J-SIIDS). For information on other major assemblies of the JSIIDS, refer to the applicable manuals listed in appendix A.

1-2. CONSOLIDATED INDEX OF ARMY PUBLICATIONS AND BLANK FORMS

Refer to the latest issue of DA Pam 25-30 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

1-3. MAINTENANCE FORMS, RECORDS, AND REPORTS

a. Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 750-8, as contained in Maintenance Management Update. Air Force personnel will use AFR 66-1 for maintenance reporting and TO-00-35D54 for unsatisfactory equipment reporting. Navy personnel will report maintenance performed utilizing the Maintenance Data Collection Subsystem (MDCS) IAW OPNAVINST 4790.2, Vol 3 and unsatisfactory material/conditions (UR) IAW OPNAVINST 4790.2, Vol 2, chapter 17. Marine Corps maintains forms and procedures as prescribed by TM 4700-15/1.

b. Reporting of Item and Packaging Discrepancies. Fill out and forward SF 364 (Supply Discrepancy Report (SDR)) as prescribed in AR 735-11-2/DLAR 4140.55/SECNAVINST 4355.18/AFR 400-54/MCO 4430.3J.

c. Transportation Discrepancy Report (TDR) (SF 361). Fill out and forward Transportation Discrepancy Report (TDR) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

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T.O. 31S9-2FSS9-1-9

1-4. DESTRUCTION OF ARMY ELECTRONICS MATERIEL

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

1-5. ADMINISTRATIVE STORAGE

Administrative storage of equipment issued to and used by Army activities will have Preventive Maintenance Checks and Services (PMCS) performed before storing. When removing the equipment from administrative storage, the PMCS checks should be performed to assure operational readiness.

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

- a. *Army.* If your equipment 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 or performance. Put it on an SF 368 (Product Quality Deficiency Report). Mail it to: Commander, U.S. Army Communications-Electronics Life Cycle LC-LEO-D-SS Fort Monmouth, New Jersey 07703-5006. We'll send you a reply.
- b. *Air Force.* Air Force personnel are encouraged to submit EIR's in accordance with AFR 900-4.
- c. *Navy.* Navy personnel are encouraged to submit EIR's through their local Beneficial Suggestion Program.

Section II. DESCRIPTION AND DATA

1-7. DESCRIPTION. The AA is an integral part of the J-SIIDS Control Unit. It receives operating power from and sends signals to the J-SIIDS Control Unit. The AA(fig II) consists of a sounding device(speaker), a battery for emergency power supply, battery charger, signal circuit, and tamper alarm switches. The The AA is protected by a doubled-walled, steel enclosure, with a lockable hinged cover.

1-8. TABULATED DATA. a. An identification plate(fig. 1-2) is mounted on the inside of the Audible Alarm access door.

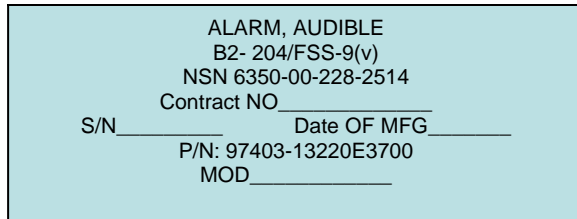


Figure 1-2. Identification Plate

b. Equipment characteristics.

(1) Enclosure.

Weight (without battery) 23.50 pounds(10.65 kg)

Dimensions(overall)

Height 15.13 inches(38.43 cm)
Width 12.31 inches(31.26 cm)
Depth 5.95 inches (15.11 cm)

Color (enclosure) Gray per Federal I Standard 595, color chip 36440 MIL-C-22751

Environmental (Operational)

Temperature range -20° to +150°F (-29° to +650C)
Relative humidity.....Up to 95%

Environmental(non-operational and storage)

Temperature range -30° to+ 165F(-34° to +740C)
Relative humidity.....Up to 95°

Shock.....20 g for 11 ms duration plus bench handling shock(w/o battery)

Vibration..... Withstands transportation conditions(w/o battery)

Audible alarm output.....108 db, referenced to 0.0002 microbar

Power requirements.....110 – 125 vac, 48-62 Hz

Tamper alarm criteria.....Movement of cover ¼ inch(0.635 cm) or more

Weather resistance.....Designed for exterior installation

(2) Battery

Weight.....6.00 pounds (2.272 kg)

Height.....2.55 inches (6.477 cm)

Width.....3.10 inches (7.874 cm)

Depth.....9.15 inches (23.241 cm)

Voltage capacity..... 24 vdc, 2.5 ampere hours

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. OPERATING PROCEDURES

2-1. CONTROLS AND INDICATORS. There are no operator controls or indicators applicable to this equipment.

2-2. NORMAL OPERATING PROCEDURES.

The AA is ready for operation after it is installed, tested, and connected to the J-SIIDS Control Unit. Since the startup and shutdown of the AA is dependent upon the presence or absence of power from the J-SIIDS Control Unit, no operating procedures are required.

2-3. EMERGENCY OPERATION. Operation with incomplete surveillance coverage or faulty tamper circuit should be held to a minimum. Extended periods of operation on battery (stand-by) power should be avoided.

2-4. UNUSUAL OPERATING CONDITIONS. Relocation or storage of large objects within close proximity of equipment cabinet will reduce effectiveness of audible signal.

Section II. THEORY OF OPERATION

2-5. FUNCTIONAL DESCRIPTION. The Audible Alarm provides an audible indication of an alarm condition when it receives an alarm signal from the J-SIIDS Control Unit. An alarm signal switches on electronic circuitry that produces a loud (min 108 db @ 10 ft), varying (500 to 2, 000 Hz) tone. This alarm indication will continue until the cause of the alarm has been removed and the Control Unit (CU) has been reset. Primary ac power is provided by the CU. This ac power is rectified to dc and

used to operate all electronic circuitry including the battery charger. Emergency power is provided by the battery. If ac power fails, the AA will automatically draw operating power from the battery. A tamper alarm is automatically initiated if the AA enclosure door is opened, if the enclosure is pried away from its mounting surface, or if the inner and outer enclosures are shorted together. Figure 2-1 is a simplified block diagram.

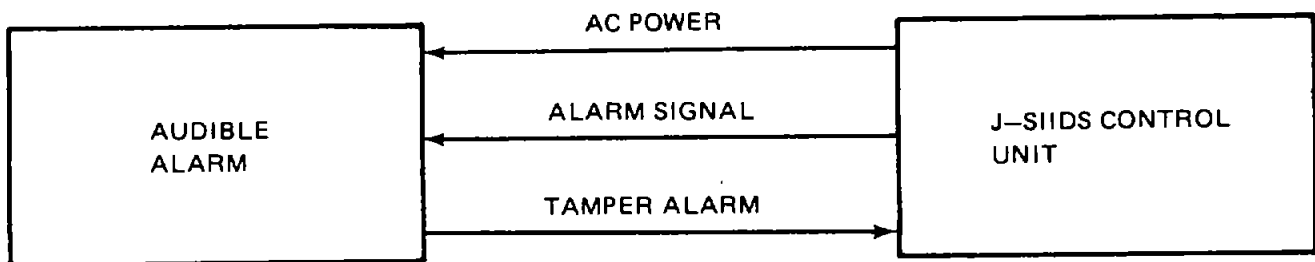


Figure 2-1. Audible Alarm Simplified Block Diagram

CHAPTER 3

OPERATOR MAINTENANCE INSTRUCTIONS

This chapter is not applicable to this equipment.

3-1/(3-2 blank)

CHAPTER 4

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

This chapter is not applicable to this equipment.

4-1/(4-2 blank)

CHAPTER 5

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

Section I. OPERATING PROCEDURES

5-1. SPECIAL TOOLS. No special tools or equipment are required for the Audible Alarm.

5-2. REPAIR PARTS. Repair parts are listed and illustrated in the repair parts and special tools list covering direct and general support maintenance for this equipment in appendix C of this manual.

Section II. TROUBLESHOOTING

5-3. GENERAL.

- a. This section contains troubleshooting information for locating and correcting most of the operating troubles which may develop in the Audible Alarm. Each malfunction or trouble for an individual component, unit, or system is followed by a probable causes and a list of tests or inspections which will help you to determine corrective actions to take. You should perform the test/inspections in the corrective actions column in the order listed.
- b. Table 5-1 does not list all malfunctions that may occur, nor all tests or inspections and corrective actions to be made. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor.
- c. The table lists the common malfunctions which you may find during the operation or maintenance of the Audible Alarm. You should perform the test/ inspections in the corrective actions column in the order listed.

NOTE

- Before you use table 5-1, be sure you have performed all applicable operating checks.
- d. Check all available information on the equipment for aid in diagnosing problems.
 - e. Make a visual inspection of the equipment.
 - (1) Inspect the equipment for evidence of physical damage.
 - (2) Inspect terminal strips for clean and secure connections.
 - (3) Inspect all wiring and cabling for worn or frayed insulation and broken wires.
 - (4) Inspect all resistors for discoloration due to overheating.
 - (5) Inspect the complete subsystem for the presence of dirt, corrosion,

moisture, and bits of wire or solder inside the housings.

NOTE

Touchup paint is recommended instead of refinishing whenever practical.

- (6) Inspect all metal surfaces intended to be painted for condition of finish and legibility of panel lettering.

WARNING

HIGH VOLTAGE is used in the operation of this equipment DEATH ON CONTACT may result if personnel fail to observe safety precautions Learn the areas containing high voltage in the equipment. Be careful not to contact high voltage connections when installing or operating this equipment Never work on electronic equipment unless there is another person nearby who is familiar with the hazards of the equipment and is competent in administering first aid.

WARNING

Power to the J-SIID system must be shut down before any repairs or replacements can be performed on the Audible Alarm.

WARNING

The Audible Alarm presents a noise hazard to personnel in the area The noise level exceeds the allowable limits for unprotected personnel. Authorized ear protective equipment must be worn by all personnel in the work area Before any troubleshooting procedures are at

tempted the Audible Alarm must be disabled.

CAUTION

While performing maintenance or troubleshooting on the Audible Alarm, ensure that test points and terminals are never grounded or shorted to each other or to the chassis This will cause serious damage to the internal components.

CAUTION

When taking measurements with a multimeter, ensure that the meter is set to the proper scale and range before inserting probes into the circuit.

- f. To disable the Audible Alarm (AA) for maintenance or troubleshooting, notify proper authorities per installation/site security procedures Enter the Control Unit area and turn the operating mode switch (key operated) to TEST/RESET position If the audible signal device in the CU sounds, ignore it for a moment. Inspect the Control Unit door to ensure that it is flat, straight, and completely closed. Open the door, pull the Tamper Alarm Switch (TAS) plunger all the way out, and ensure that there is no debris between the door and enclosure.

NOTE

There are six Light Emitting Diodes (LED's) on PC board A12 in the upper right corner of the Control Unit Note any of these LED's that are on Any LED that is on indicates a sensor that has been activated and should be investigated before troubleshooting the Audible Alarm.

Turn the operating mode switch to ACCESS.

- (1) If the AA is silent, put on ear protection and open the AA door. Pull the TAS plunger all the way out. Remove screws that secure faceplate, and remove faceplate. Turn off power switch located in the upper left corner of the AA. Tag, disconnect, and insulate speaker wire from TB3-7.
- (2) If the AA continues to sound, tag, disconnect, and insulate green wire (from status processor) from TB4-1 in the Control Unit. Install a jumper between TB4-4 and TB4-1. AA should be silenced. Put on ear protection and open AA door. Pull the TAS plunger all the way out. Remove screws that secure the faceplate, and remove the faceplate. Turn off power switch located in the upper left corner of the AA. Tag, disconnect, and insulate speaker wire from TB3-7 in the Control Unit, remove the AA interconnecting wire from TB4-3 and connect a jumper wire from TB4-4 and TB4-3. Turn on power switch in AA. The AA speaker is now disabled.

and maintenance and troubleshooting may be performed.

- (3) When maintenance or troubleshooting has been completed, turn off power switch in AA. In the Control Unit, remove jumper wire from TB4-4 and TB4-3. Connect AA interconnecting wire to TB4-3. In the AA, connect speaker wire to TB3-7; turn on power switch. Install and secure faceplate. Close door on AA. On Control Unit, turn operating mode switch to TEST/RESET and then to SECURE.
- g Inspect varistors for evidence of physical damage or overheating. Disconnect one lead from each varistor from TB1. Set multimeter to ohms and connect one lead to each varistor lead. Meter should indicate over 100,000 ohms. Check both varistors.
 - h Refer to figure 5-1 for all test points found in troubleshooting table 5-1. Figure 5-2 is a wiring diagram of the Audible Alarm. Step-by-step troubleshooting procedures, including Trouble, Probable Cause, and Corrective Action, are listed in table 5-1.

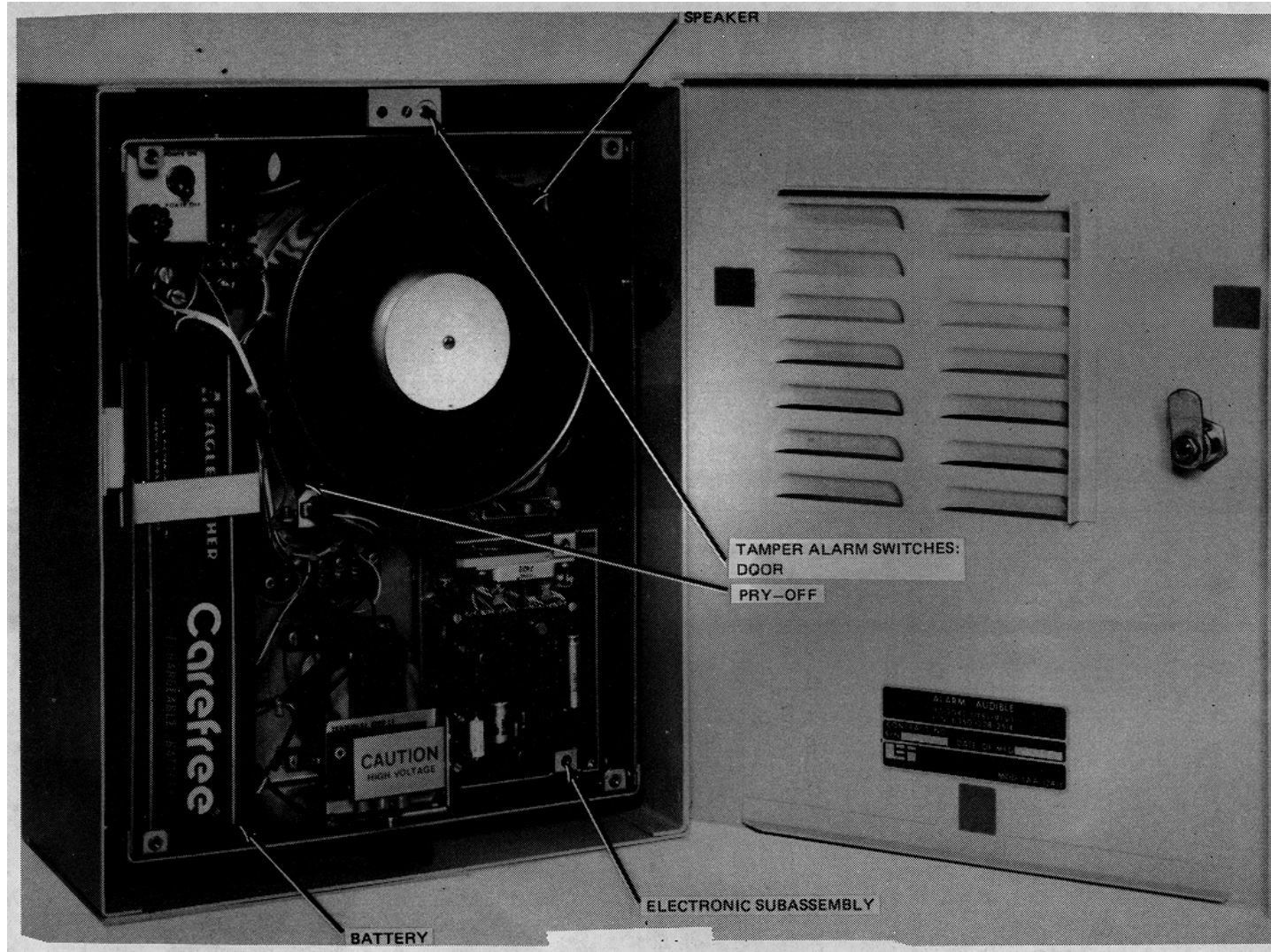
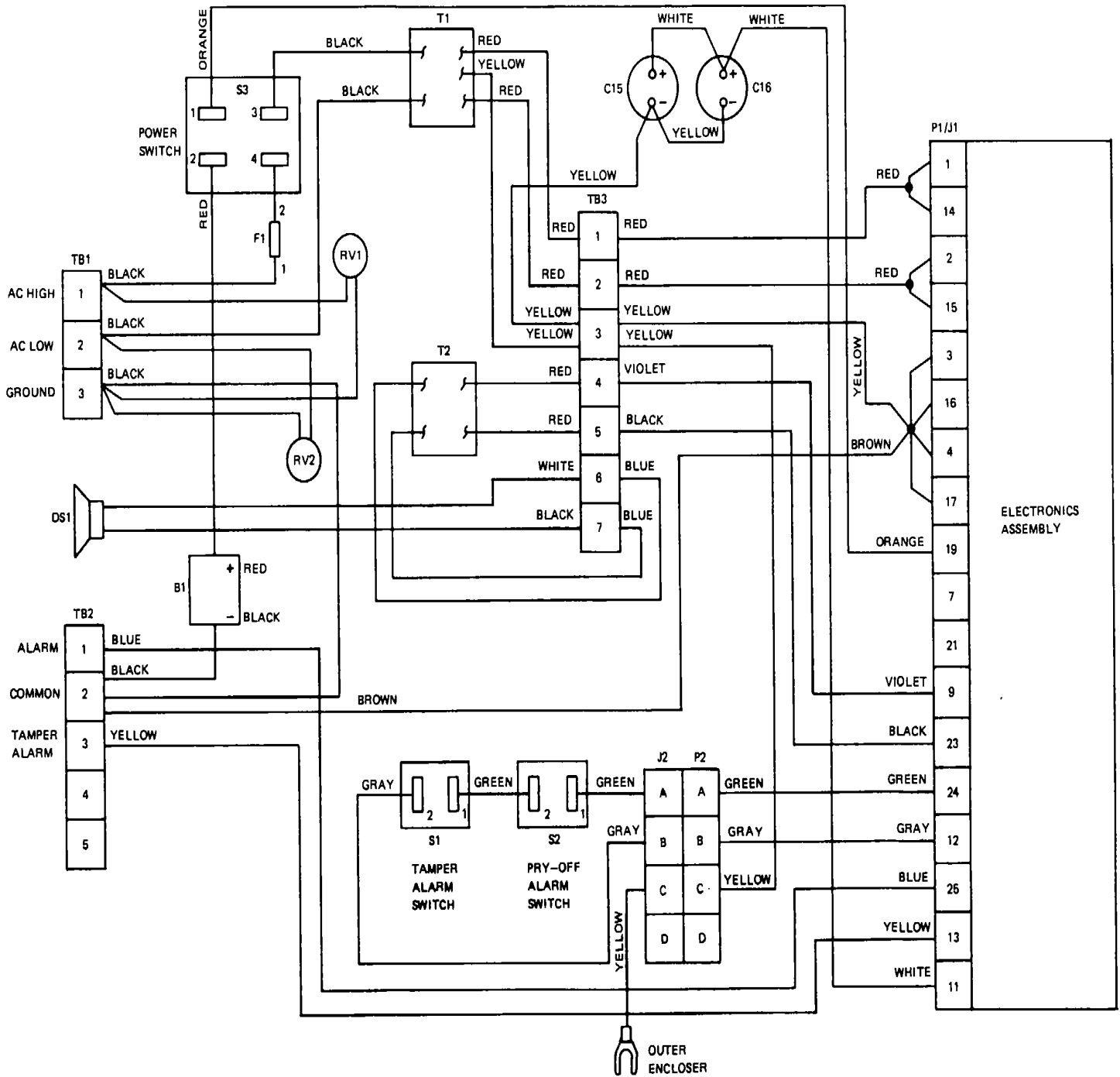


Figure 5-1. Audible Alarm with Troubleshooting Test Points

5-5

Figure 5-2. Audible Alarm Wiring Diagram.



NOTE

Troubleshooting procedures listed in table 5-1 may require more than one person to perform corrective action.

Covers should be removed as necessary to perform troubleshooting procedures.

Never disconnect a wire without first marking that wire to assure proper reconnection.

Table 5-1 Troubleshooting Procedures

Trouble	Probable cause	Corrective action
1 Constant alarm.	a Poor or broken ground connectors	<p>a Set multimeter to dc volts Connect positive meter lead to TB2-1 and negative meter lead to TB2-2. Meter should indicate more than 1 vdc.</p> <p>(1) If meter does not indicate more than 1 vdc for both tests, turn power switch S3 to POWER OFF.</p> <p>(2) Set multimeter to ohms Connect leads to TB2-1 and TB2-2, and then to TB2-2 and TB2-3 Meter should indicate 100, 000 ohms or more for both tests.</p> <p>(3) If the meter indicates less than 100, 000 ohms, inspect wiring and P1 for shorts, broken or loose connections, or bent pins.</p> <p>b Connect meter leads to the following points:</p> <p style="padding-left: 40px;">TB2-1 to P1-25; TB2-3 to P1-13; TB2-2 to outer enclosure; TB2-2 to P1-3, 4, 16, 17; TB2-2 to P1-23; TB2-2 to battery negative lead; TB2-2 to TB3-3.</p> <p>Meter should indicate 0 ohms at each point.</p> <p>c If the multimeter reads more than 0 ohms at any of the above points, inspect wiring for broken or loose connections, inspect plugs for bent or broken pins and inspect conduit for poor connections. Repair or replace defective wiring or connectors.</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
1. (Cont)	b. Defective electronics assembly or power transformer.	<p>a. Turn on switch S3 on power supply. Set multimeter to dc volts. Connect positive meter lead to TB2-1 and negative meter lead TB2-2. Meter should indicate less than 1 vdc.</p> <p>b. If meter indicates 1 vdc or more replace the electronics assembly.</p> <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> CAUTION </div> <p>Inner enclosure is heavy. Use caution when removing from outer enclosure.</p> <p>(1) To remove electronics assembly, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide the inner enclosure out of the outer enclosure. Place inner enclosure on bench. Remove screws, lock washers, and washers and disconnect connector J1 from P1. Remove mounting screws from rear of inner enclosure and remove electronics assembly.</p> <p>(2) To install new electronics assembly, position assembly on inner enclosure. Install mounting screws through rear of inner enclosure. Connect J1 to P1 and install screws, lock washers, and washers. Slide inner enclosure into outer enclosure. Route wires through hole in rear of inner enclosure. Connect wires that run from terminal boards to conduits. Align notch on P2 with J2 and connect P2 to J2. Lock metal tabs together and tighten collar on connector P2.</p> <p>c. Set multimeter to dc volts. Connect positive meter lead to TB2-3 and negative meter lead to TB2-2. Meter should indicate 5 i0.5 vdc.</p> <p>d. If meter indicates less than 1 vdc, connect positive meter lead to P1-13 and negative meter lead to TB2-2.</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
1. (Cont)	b. (Cont)	<p>e. If meter indicates 5 +0.5 vdc, inspect wiring from TB2 to P1 for broken or loose connections. Repair or replace defective wiring.</p> <p>f. If meter indicates less than 1 vdc, connect positive meter lead to P1-24 and negative meter lead to TB2-2.</p> <p>g. If meter indicates less than 1 vdc, replace the electronics assembly.</p> <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> CAUTION </div> <p>Inner enclosure is heavy. Use caution when removing from outer enclosure.</p> <p>(1) To remove electronics assembly, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide the inner enclosure out of the outer enclosure. Place inner enclosure on bench. Remove screws, lock washers, and washers and disconnect connector J1 from P1. Remove mounting screws from rear of inner enclosure and remove electronics assembly.</p> <p>(2) To install new electronics assembly, position assembly on inner enclosure. Install mounting screws through rear of inner enclosure. Connect J1 to P1 and install screws, lock washers, and washers. Slide inner enclosure into outer enclosure. Route wires through hole in rear of inner enclosure. Connect wires that run from terminal boards to conduits. Align notch on P2 with J2 and connect P2 to J2. Lock metal tabs together and tighten collar on connector P2.</p> <p>h. Turn off switch S3 on power supply. Set the multi-meter to ohms. Tag, remove, and isolate terminals of C15 and C16. Set multimeter to ohms and connect</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
1. (Cont)	b. (Cont)	<p>leads to inner enclosure and negative terminal of C15. Note indication. Connect meter leads to inner enclosure and negative terminal of C16. Meter should indicate less than 100,000 ohms in both tests. Meter may not give correct indication immediately.</p> <p>i. If either indication is greater than 100,000 ohms, replace electronics assembly.</p> <div style="text-align: center; border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> CAUTION </div> <p>Inner enclosure is heavy. Use caution when removing from outer enclosure.</p> <p>(1) To remove electronics assembly, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide the inner enclosure out of the outer enclosure. Place inner enclosure on bench. Remove screws, lock washers, and washers and disconnect connector J1 from P1. Remove mounting screws from rear of inner enclosure and remove electronics assembly.</p> <p>(2) To install new electronics assembly, position assembly on inner enclosure. Install mounting screws through rear of inner enclosure. Connect J1 to P1 and install screws, lock washers, and washers. Slide inner enclosure into outer enclosure. Route wires through hole in rear of inner enclosure. Connect wires that run from terminal boards to conduits. Align notch on P2 with J2 and connect P2 to J2. Lock metal tabs together and tighten collar on connector P2.</p> <p>j. Reconnect leads to negative terminals of C15 and C16. Turn on switch S3 on power supply. Set multimeter to ac volts. Connect positive lead to P1-1 and negative lead to P1-2.</p> <p style="text-align: center; margin-top: 20px;">5-9</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
1. (Cont)	b. (Cont)	<p>k. If meter indicates 68 +7 vac, turn off power switch S3. Disconnect Pi/J1 and connect meter leads to P1-1 and P1-2. Turn on switch S3.</p> <p>1. If voltage is not within tolerance (68 +7 vdc), replace power transformer.</p> <p>(1) To remove transformer, note length and connection points of transformer wires. Disconnect wires. Remove mounting screws and washers. Remove transformer.</p> <p>(2) To install new transformer, cut transformer wires to proper length and install crimp lugs. Position transformer on inner enclosure and install mounting screws and washers. Connect transformer wires.</p> <p>m. If voltage is within tolerance, replace electronics assembly.</p> <div style="text-align: center; border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> CAUTION </div> <p>Inner enclosure is heavy. Use caution when removing outer enclosure.</p> <p>(1) To remove electronics assembly, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide the inner enclosure out of the outer enclosure. Place inner enclosure on bench. Remove screws, lock washers, and washers and disconnect connector J1 from P1. Remove mounting screws from rear of inner enclosure and remove electronics assembly.</p> <p>(2) To install new electronics assembly, position assembly on inner enclosure. Install mounting screws through rear of inner enclosure. Connect J1 to P1 and install screws, lock washer, and washers. Slide inner enclosure into outer enclosure.</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
1. (Cont)	<p>b. (Cont)</p> <p>c. Defective power switch, S3.</p> <p>d. Defective power transformer T1</p>	<p>Route wires through hole in rear of inner enclosure. Connect wires that run from terminal boards to conduits. Align notch on P2 with J2 and connect P2 to J2. Lock metal tabs together and tighten collar on connector P2.</p> <p>a. Ensure that power switch S1 in Control Unit is turned off. Slide inner enclosure part way out. Remove screws that secure switch bracket. Lower switch bracket to gain access to switch terminals. Ensure that power switch S3 is on. Set multi-meter to ohms. Connect meter leads to S3-1 and 2 (red wires). Note meter indication. Connect meter leads to S3-3 and 4 (black wires). Note meter indication.</p> <p>b. If meter indicates over 100,000 ohms, replace switch S3.</p> <p>(1) To remove switch S3, unscrew and remove knurled nut from front of switch bracket. Push switch through hole in bracket. Tag wires and use a soldering iron of 50 watts maximum to remove wires from switch terminals.</p> <p>(2) To install new switch S3, use a soldering iron of 50 watts maximum to connect wires to switch terminals. Insert switch through hole in switch bracket. Place knurled nut over switch and tighten to secure switch. Place switch bracket in position inside upper left corner of inner enclosure. Insert screws through enclosure and tighten to secure switch bracket. Slide inner enclosure all the way into outer enclosure.</p> <p>a. Ensure that power switch S1 in Control Unit is turned off. Disconnect negative lead from battery. Slide inner enclosure part way out. Remove screws that secure switch bracket. Lower switch bracket to gain access to terminals on</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
1. (Cont)	d. (Cont)	<p>switch S3. Ensure that switch S3 is on. Set multimeter to ohms. Connect meter leads to S3-1 and 2 (red wires). Note meter indication. Connect meter leads to S3-3 and 4 (black wires). Note meter indication.</p> <p>b. If meter indicates 0 ohms, inspect wiring for broken or loose connections at the following points: fuse F1 to S3-4; S3-3 to T1; T1 to TB3-1 and 2; TB3-1 and 2 to P1-1 and 2; battery red lead to S3-2; S3-1 to PI-19.</p> <p>c. If wiring connections are good, replace power transformer.</p> <p>(1) To remove transformer, note length and connection points of transformer wires. Disconnect wires. Remove mounting screws and washers. Remove transformer.</p> <p>(2) To install new transformer, cut transformer wires to proper length and install crimp lugs. Position transformer on inner enclosure and install mounting screws and washers. Connect transformer wires.</p> <p>d. Set multimeter to ac volts. Disconnect P1/J1 and connect meter leads to P1-1 and P1-2. Turn on switch S3. If voltage is not within tolerance, 68 +7 vac),replace power transformer. If voltage is within tolerance, replace electronics assembly.</p> <div style="text-align: center; border: 1px solid black; padding: 2px; width: fit-content; margin: 10px auto;"> CAUTION </div> <p>Inner enclosure is heavy. Use caution when removing from outer enclosure.</p> <p>(1) To remove electronics assembly, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide the inner</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
1. (Cont)	f. (Cont)	<p>e. If the highest multimeter indication is greater than 13,000 ohms, tag, remove, and isolate the yellow wires (-) from C15 and C16.</p> <p>f. Connect leads to inner enclosure and negative terminal of C15, then to inner enclosure and negative terminal of C16.</p> <p>g. If either capacitor check is less than 100,000 ohms, replace the capacitor.</p> <p style="padding-left: 20px;">(1) To remove capacitor, tag and remove wires. Loosen screw on mounting bracket and remove capacitor.</p> <p style="padding-left: 20px;">(2) To install new capacitor, position capacitor in mounting bracket and tighten mounting screws. Connect wires to capacitor terminals.</p> <p>h. If after removing P2 meter indicates less than 13,000 ohms, inspect enclosures for foreign matter, conduit contacting both enclosures, frayed wires, leaking battery or any other material that will allow continuity between enclosures.</p> <p>i. Set multimeter to ac volts. Connect leads to P1-1 and P1-2. Meter should indicate 68 +7 vac.</p> <p style="padding-left: 20px;">(1) If meter does not indicate 68 +7 vac, turn power switch S3 to POWER OFF.</p> <p style="padding-left: 20px;">(2) Tag, remove, and isolate white wire (+) from C15. Turn power switch S3 to POWER ON. Connect multimeter leads to P1-1 and P1-2. If meter does not indicate 68 +7 vac, turn power switch S3 to POWER OFF and install C15 white wire (+). If meter indicates 68 +7 vac, replace C15.</p> <p>(a) To remove capacitor, tag and remove wires. Loosen screw on mounting bracket and remove capacitor.</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
1. (Cont)	h. Defective fuse.	a. Set multimeter to ohms. b. Remove fuse from fuse holder. Connect meter leads to each end of fuse. c. If meter indicates more than 100,000 ohms, replace fuse.
2. Nuisance alarms.	a. Audible Alarm unit mounting. b. Defective tamper switch.	<p>Ensure that the Audible Alarm unit is mounted rigidly to a flat surface, that the door is flat, and there is no play when the door is locked.</p> a. Set the multimeter to ohms. Connect meter leads to tamper switch terminals that have wires connected. <ol style="list-style-type: none"> (1) Depress the switch plunger. Meter should read 0 ohms. (2) Release the switch plunger. Meter should read more than 100,000 ohms. b. If meter indications are not correct, replace tamper switch. <ol style="list-style-type: none"> (1) To remove door tamper switch, remove tamper switch support mounting screws. Push switch through outer enclosure. Tag wires and use a soldering iron of 50 watts maximum to unsolder wires. Unscrew switch from switch support and remove switch. (2) To install new door tamper switch, screw switch into switch support. Use a soldering iron of 50 watts maximum to solder wires. Position switch enclosure support bracket and install tamper switch support mounting screws. (3) To remove pry-off tamper switch, remove mounting screws from tamper switch bracket. Remove snap on button cap. Remove hex nut and push switch through switch

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
2. (Cont)	e. (Cont)	<p>into outer enclosure. Route wires through hole in rear of inner enclosure. Connect wires that run from terminal boards to conduits. Align notch on P2 with J2 and connect P2 to J2. Lock metal tabs together and tighten collar on connector P2.</p>
	f. Poor ground connections.	<p>Set multimeter to ohms. Connect meter leads to each of the following points:</p> <ul style="list-style-type: none"> TB2-2 to outer enclosure; TB2-2 to TB3-3; TB2-2 to P1-3, 4, 16, 17; TB2-2 to battery negative lead. <p>If the multimeter indicates more than 0 ohms at any of the above points, inspect wiring for broken or loose connections, inspect plugs for bent or broken pins, and inspect conduit for poor connections.</p>
3. No alarms.	a. Shorted or broken wires, loose connections, or bent pins.	<ul style="list-style-type: none"> a. Set multimeter to dc volts. Connect positive meter lead to TB1-2 and negative meter lead to TB2-2. Ensure that an alarm condition is being presented by the Control Unit. b. If meter indicates 5 +0.5 vdc, turn power switch S3 to POWER OFF. Inspect wiring and Pi/J1 for shorts, frayed wires, bent pins, or foreign material. P1-12, 13, and 24 carries 5 vdc, which is shorted to P1-25 will not allow an alarm to be received by the Audible Alarm. c. Set multimeter to ac volts. Connect leads to P1-9 and P1-23. If meter indicates 12 +2 vac, inspect wiring from P1 to TB3 and T2 for broken wires, loose connections, or bent pins. d. Connect meter leads to TB3-6 and TB3-7. If meter indicates 18 ±2 vac, inspect wiring from T2 to TB3 and speaker DS1.

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
3. (Cont)	b. Defective electronics assembly.	<p>a. Set multimeter to dc volts. Connect positive meter lead to TB2-3 and negative meter lead to TB2-2.</p> <p>b. If meter indicates 5 +0.5 vdc, replace the electronics assembly.</p> <div style="border: 1px solid black; padding: 5px; text-align: center; width: fit-content; margin: 10px auto;">CAUTION</div> <p>Inner enclosure is heavy. Use caution when removing from outer enclosure.</p> <p>(1) To remove electronics assembly, loosen collar on connect P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide the inner enclosure out of the outer enclosure. Place inner enclosure on bench. Remove screws, lock washers, and washers and disconnect connector J1 from P1. Remove electronics assembly mounting screws from rear of inner enclosure. Remove electronics assembly.</p> <p>(2) To install new electronics assembly, position assembly on inner enclosure. Install mounting screws through rear of inner enclosure. Connect J1 to P1 and install screws, lock washers, and washers. Slide inner enclosure into outer enclosure. Route wires through hole in rear of inner enclosure. Connect wires that run from terminal boards to conduits. Align notch on P2 to J2. Lock metal tabs together and tighten collar on connector P2.</p> <p>c. Set multimeter to ac volts. Connect leads to P1-9 and P1-23.</p> <p>d. If meter indicates less than 1 vac, replace electronics assembly.</p> <p style="text-align: center;">5-21</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
3. (Cont)	c. Defective audio output transformer T2.	<p>a. Set multimeter to ac volts. Connect leads to TB3-6 and TB3-7.</p> <p>b. If meter indicates less than 1 vac, replace audio output transformer.</p> <p>(1) To remove audio output transformer, note length and location of transformer wires. Disconnect wires. Remove mounting screws and lock washers and remove transformers.</p> <p>(2) To install new transformer, cut transformer wires to proper length and install crimp terminals. Position transformer on inner enclosure and install mounting screws and lock washers. Connect wires to terminal board.</p>
	d. Defective speaker.	<p>a. Set multimeter to ac volts. Connect leads to TB3-6 and TB3-7.</p> <p>b. If meter indicates 18 +2 vac replace speaker.</p> <p>(1) To remove speaker loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide the inner enclosure out of the outer enclosure. Place inner enclosure on bench. Note length and location of speaker wires. Disconnect wires from terminal board. Remove mounting screws from rear of enclosure and remove speaker.</p> <p>(2) To install new speaker, cut speaker wires to proper length and install crimp lugs. Position speaker on inner enclosure. Install mounting screws through rear of inner enclosure. Connect wires to terminal board.</p>
	e. Defective tamper switch.	<p>a. Set the multimeter to ohms. Connect meter leads to tamper switch terminals that have wires connected. Depress the switch plunger. Meter</p>

Table 5-1. Troubleshooting Procedures - Continued

Trouble	Probable cause	Corrective action
4. (Cont)	<p>e. Defective audio output transformer T2.</p> <p>f. Defective speaker.</p>	<p>a. Set multimeter to ac volts. Connect leads to TB3-6 and TB3-7. If meter indicates less than 16 vac, replace audio output transformer.</p> <p>(1) To remove transformer, note length and location of transformer wires. Disconnect wires. Remove mounting screws and lock washers and remove transformer.</p> <p>(2) To install new transformer, cut transformer wires to proper length and install crimp terminals. Position transformer on inner enclosure and install mounting screws and lock washers. Connect wires to terminal board.</p> <p>a. Set multimeter to ac volts. Connect leads to TB3-6 and TB3-7. If meter indicates 18 +2 vac, replace speaker.</p> <p>(1) To remove speaker, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide the inner enclosure out of the outer enclosure. Place inner enclosure on bench. Note length and location of speaker wires. Disconnect wires from terminal board. Remove mounting screws from rear of enclosure and remove speaker.</p> <p>(2) To install new speaker, cut speaker wires to proper length and install crimp lugs. Position speaker on inner enclosure. Install mounting screws through rear of inner enclosure. Connect wires to terminal board.</p>

Section III. GENERAL MAINTENANCE.

5-4. MAINTENANCE ACTION. The extent of direct and general support maintenance is governed by the Maintenance Allocation Chart (MAC), Appendix B. The MAC authorizes on-site test and replacement of the electronics assembly, fuse holder assembly, speaker, audible output transformer, power switch, tamper switches, power transformer, battery, capacitors, and connectors. The MAC also

authorizes inspection and replacement of the fuse holder assembly, battery, and connectors. Periodic testing of the Audible Alarm is not scheduled because the J-SIIDS is maintained in continuous operation. Cleaning the exterior of equipment cabinets is required periodically to maintain equipment free of debris. Maintain louvers in cabinet door and holes in face plate in an open and free condition.

Section IV. REMOVAL AND REPLACEMENT OF MAJOR COMPONENTS AND ASSEMBLIES

WARNING

Before removing any components turn off power switch S1. After replacement of components, turn on power switch S1.

5-5. REMOVAL AND INSTALLATION PROCEDURES.

- a. To remove the electronics assembly, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide inner enclosure out of outer enclosure. Place inner enclosure on bench. Remove screws, lock washers and washers, and disconnect connector J2 from P1. Remove electronics assembly mounting screws from rear of inner enclosure.
- b. To install, position new electronics assembly on inner enclosure. Install mounting screws through rear of inner enclosure. Connect J1 to P1 and install screws, lock washers and washers. Slide inner enclosure into outer enclosure. Route wires through hole in rear of inner enclosure. Connect

wires running from terminal boards to conduits. Align notch on P2 with J2 and connect P2 to J2. Lock metal tabs together and tighten collar on connector P2.

- c. To remove speaker, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Tag and disconnect wires that run from terminal boards to conduit. Slide inner enclosure out of outer enclosure. Place inner enclosure on bench. Note length and location of speaker wires. Disconnect wires from terminal board. Remove mounting screws from rear of enclosure and remove speaker.
- d. To install new speaker, cut speaker wires to same length as wires on old speaker. Trim insulation from 1/8 inch (3.175 mm) of end of wires and install crimp lugs. Insert mounting screws from rear of enclosure and tighten to secure. Connect wires to terminal boards.
- e. To remove audio output transformer, note length and location of transformer wires. Disconnect wires. Remove mounting screws and lock washers, and remove transformer.

- f. To install new transformer, cut transformer wires to proper length and install crimp terminals. Position transformer on inner enclosure and install mounting screws and lock washers. Connect wires to terminal board.
- g. To remove capacitor, tag and remove wires. Loosen screw on mounting bracket and remove capacitor.
- h. To install, position new capacitor in mounting bracket and tighten mounting screw. Connect wires to capacitor terminals.
- i. To remove door tamper switch, remove tamper switch support mounting screws. Push switch through outer enclosure. Tag wires and use a soldering iron of 50 watts maximum to unsolder wires. Unscrew switch from switch support and remove switch.
- j. To install new door tamper switch, screw switch into switch support. Solder wires to switch terminals. Position switch and support on outer enclosure. Install tamper switch support mounting screws.
- k. To remove pry-off tamper switch, remove mounting screws from tamper switch bracket. Remove snap on button cap. Remove hex nut and push switch through switch bracket. Tag wires and use a soldering iron of 50 watts maximum to unsolder wires. Remove tamper switch.
- l. To install new pry-off tamper switch, solder wires to switch terminals and position in switch bracket. Install hex nut and snap on button cap. Position switch and switch bracket on inner enclosure mounting bracket and install mounting screws.
- m. To remove power transformer, note length and connector location of transformer wires. Disconnect wires. Remove mounting screws and washers and remove transformer.
- n. To install new transformer, cut transformer wires to proper length and install crimp terminals. Position transformer on inner enclosure and install mounting screws and washers. Connect transformer wires.
- o. To remove power switch, slide inner enclosure part way out of outer enclosure. Remove screws from switch bracket. Lower switch bracket to gain access to power switch. Tag wires and use a soldering iron of 50 watts maximum to unsolder wires. Remove knurled nut and remove power switch.
- p. To install, position new power switch bracket and install knurled nut. Solder switch wires to switch terminals. Position switch bracket on inner enclosure and install mounting screws. Slide inner enclosure into outer enclosure.
- q. To remove battery, disconnect battery wires from battery. Remove screw and washer from battery clamp bracket and remove battery.
- r. To install, position new battery and battery clamp bracket. Install screw and washer. Connect battery wires to battery.
- s. To remove connector P2/J2, loosen collar on connector P2. Turn metal tab 90 degrees and disconnect P2 from J2. Unscrew collar and tag wires. Use a soldering iron of 50 watts maximum to unsolder wires on P2 and J2. Remove hex nut and remove connector.

t. To install new connector P2/J2, position J2 on inner enclosure mounting bracket and install hex nut. Position collar and metal tab on wire. Solder wires on P2/

J2. Align notch on P2 with J2 and connect P2 to J2. Lock metal tabs together and tighten collar on connector P2.

- u. To remove connector P1, loosen screws and disconnect P1 from J2. Tag wires. Use a soldering iron of 50 watts maximum to unsolder wires.
Remove connector P1.
- v. To install new connector P1, solder wires to connector. Connect to J1 and tighten screws.
- w. To remove fuse holder assembly, slide inner enclosure part way out of outer enclosure. Remove screws from switch bracket. Lower switch bracket to gain access to fuse holder assembly. Tag wires and use a soldering iron of 50 watts maximum to unsolder wires. Remove hex nut and remove fuse holder assembly.
- x. To install new fuse holder assembly, position assembly in switch bracket and install hex nut. Solder wires. Position switch bracket on inner enclosure and install mounting screws. Slide inner enclosure into outer enclosure.
- y. To remove varistor, remove screws from barrier strip cover and remove barrier strip cover. Note varistor wire connection on TB1. Loosen terminal screws and remove varistor.
- z. To install new varistor, install insulation tubing on varistor wires. Connect wires to TB1 and tighten terminal screws. Position barrier strip cover and install mounting screws.

WARNING

Operation of this equipment presents a noise hazard to personnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Authorized protective equipment must be worn by all personnel in the work area.

- aa. After replacing major components or assemblies, test the Audible Alarm for proper operation. Set Control Unit POWER switch to ON. Set Control Unit mode switch to SECURE. Initiate an intrusion alarm. The alarm should sound after expiration of time-delay period. Set Control Unit mode switch to TEST/ RESET and then to ACCESS. The alarm should stop. Using the key, unlock and slowly open Audible Alarm outer enclosure door. The Audible Alarm should sound when door is opened 1/8 to 1/4 inch. Place the door tamper switch in the maintenance position. Set the Control Unit mode switch to TEST/RESET and then to ACCESS. The alarm should stop. Short the outer enclosure to the inner enclosure. The Audible Alarm should sound. Remove the short. Set the Control Unit mode switch to TEST/ RESET and then to ACCESS. The alarm should stop. Using the key, close and lock the Audible Alarm outer enclosure door. The Audible Alarm should sound. Set the Control Unit mode switch to TEST/RESET and then to ACCESS. The alarm should stop.

CHAPTER 6

REPAIR OF AUDIBLE ALARM

This chapter is not applicable to this equipment.

APPENDIX A

REFERENCES

1. DEMOLITION
TM 750-244-3
Procedures for Destruction of Equipment to Prevent Enemy Use
2. FIRE PROTECTION
TB5-4200-200-10
Hand Portable Fire Extinguishers Approved for Army Users
3. MAINTENANCE
DA PAM 738-750.
The Army Maintenance Management System
4. TRI-SERVICE MANUALS

DMWR 5-6350-264
NAVELEX EE181-AA-MMD-010/E121
J-SIIDS MWR
AIR FORCE T.O. 31S9-4-1-213
Depot Maintenance Work Requirement

TM 5-6350-264-14-1
NAVELEX EE181-AA-INM-020/E121
J-SIIDS INS
AIR FORCE T.O. 31S9-4-1-201
Installation, Operation and Checkout Procedures

TM 5-6350-264-14&P-2
NAVELEX EE181-AA-OMI-030/E121
RT1161 M9443
AIR FORCE T.O. 31S9-2FSS9-1-2
Transceiver, Ultrasonic Signal and Processor, Ultrasonic Motion Signal

TM 5-6350-264-14&P-3
NAVELEX EE181-AA-OMI-040/E121
R1860 M9443
AIR FORCE T.O. 31S9-2FSS9-1-3
Receiver Passive Signal, Ultrasonic and Processor, Passive Signal, Ultrasonic

TM 5-6350-264-14&P-4
NAVELEX EE181-AA-OMI-050/E121
DT546 M9442
AIR FORCE T.O. 31S9-2FSS9-1-4
Detector, Vibration Signal and Processor, Vibration Signal

TM 5-6350-264-14&P-5
NAVELEX EE181-AA-OMI-060/E121
SA-1955
AIR FORCE T.O. 31S9-2FSS9-1-5
Switch, Balanced Magnetic

TM 5-6350-264-14&P-6
NAVELEX EE181-AA-OMI-070/E121
DT-545
AIR FORCE T.O. 31S9-2FSS9-1-6
Sensor, Grid Wire

TM 5-6350-264-14&P-7
NAVELEX EE181-AA-OMI-080/E121
DT-548
AIR FORCE T.O. 31S9-2FSS9-1-7
Sensor, Capacity Proximity

TM 5-6350-264-14&P-8 NAVELEX EE181-AA-OMI-090/E121 SA-1954 AIR FORCE T.O. 31S9-2FSS9-1-8	Switch, Alarm Latching
TM 5-6350-264-14&P-9 NAVELEX EE181-AA-OMI-100/E121 DZ-204 AIR FORCE T.O. 31S9-2FSS9-1-9	Alarm, Audible
TM 5-6350-264-14&P-10 NAVELEX EE181-AA-OMI-110/E121 C-9412 AIR FORCE T.O. 31S9-2FSS9-1-10	Control Unit, Alarm Set
TM 5-6350-264-14&P-11 NAVELEX EE181-AA-OMI-120/E121 C-7359-60-1 AIR FORCE T.O. 31S9-2FSS9-1-11	Cabinet, Monitor, Type A, Type B, Type C and Monitor Module, Status, Monitor Module, Alarm
TM 5-6350-264-14&P-12 NAVELEX EE181-AA-OMI-130/E121 R1861-T1257 AIR FORCE T.O. 31S9-2FSS9-1-12	Receiver, Data and Transmitter, Data
TM 5-6350-264-14&P-13 NAVELEX EE181-AA-OMI-140/E121 DT-547 AIR FORCE T.O. 31S9-2FSS9-1-13	Sensor, Magnetic Weapons (DT-547)
TB 5-6350-264 NAVELEX EE181-AB-OMI-010/E121 J-SIIDS AIR FORCE T.O. 3159-4-1-111	Selection and Application of Joint Services Interior Intrusion Detection System

- | | | |
|----|-------------------------------------|---|
| 5. | PAINTING
SB 11-573 | Painting and Preservation Supplies
Available for Field Use for Electronic
Equipment |
| | TM 43-0139 | Painting Instructions for Field Use |
| 6. | RADIOACTIVE MATERIAL
TB 43-0141 | Instructions for Safe Handling, Maintenance,
Storage, and Disposal of Radioactive
Commodities |
| 7. | SHIPMENT AND STORAGE
TM 740-90-1 | Administrative Storage of Equipment |

A-3/(A-4 blank)

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section 1. INTRODUCTION

B-1 The Army Maintenance System MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

This MAC (immediately following the introduction) 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 shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field – includes three subcolumns, Crew maintenance (C), Service maintenance(O), and Field maintenance (F).
Sustainment – includes two subcolumns, Below Depot (H) and Depot(D).

The tools and test equipment requirements (immediately following the MAC) list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

The remarks (immediately following the tools and test equipment requirements) contain supplemental instructions and explanatory notes for a particular maintenance function.

B-2 Maintenance Functions

Maintenance functions are limited to and defined as follows:

1. **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). This includes scheduled inspection and gagings and evaluation of cannon tubes.
2. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.

TM 5-6350-264-14&P-9
NAVELEX EE 181-AA-OMI-100/E 121-DZZ-204
T.O. 31S9-2FSS9-1-9

3. **Service.** Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms.

The following are examples of service functions:

- a. **Unpack.** To remove from packing box for service or when required for the performance of maintenance operations.
 - b. **Repack.** To return item to packing box after service and other maintenance operations.
 - c. **Clean.** To rid the item of contamination.
 - d. **Touch up.** To spot paint scratched or blistered surfaces.
 - e. **Mark.** To restore obliterated identification.
4. **Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. **Align.** To adjust specified variable elements of an item to bring about optimum or desired performance.
6. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment 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.
7. **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.
8. **Paint** (ammunition only). To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.
9. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.

10. **Repair.** The application of maintenance services, including fault location/troubleshooting, removal/installation, 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.

NOTE

The following definitions are applicable to the “**Repair**” maintenance function:

Services. Inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT)

Disassembly/assembly. The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing

11. **Overhaul.** That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.
12. **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 material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

TM 5-6350-264-14&P-9
NAVELEX EE 181-AA-OMI-100/E121 DZ-204
T.O. 31S9-2FSS9-1-9

B-3 Explanation of Columns in the MAC

Column (1) Group Number. Column (1) lists Functional Group Code (FGC) numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA)

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

Column (3) Maintenance Function. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above).

Column (4) Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as manhours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. 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 time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

- Field – includes three subcolumns, Crew maintenance (C), Service maintenance (O), and Field maintenance (F).
- Sustainment – includes two subcolumns, Below Depot (H) and Depot Maintenance (D).

NOTE

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5) Tools and Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries

B-4 Explanation of Columns in the Tools and Test Equipment Requirements

Column (1) Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Column (3) Nomenclature. Name or identification of the tool or test equipment.

Column (4) National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) Tool Number. The manufacturer's part number, model number, or type number.

B-5 Explanation of Columns in the Remarks

Column (1) Remarks Code. The code recorded in column (6) of the MAC.

Column (2) Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC

TM 5-6350-264-14&P-9
NAVELEX EE 181-AA-OMI-10A/E121 DZ-204
T.O. 31S9-2FSS9-1-9

Section II. MAINTENANCE ALLOCATION CHART

For

Audible Alarm (BZ-204)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQPT REF CODE	(6) REMARKS CODE
			FIELD			SUSTAINMENT			
			C	O	F	H	D		
01	Audible Alarm	Inspect			0.4			1	
		Test			2.3			1	
		Repair			7.4				
		Replace			1.5				
	Eelectronics Assy	Test			0.4			1	
		Replace			0.9				

NOTE

The “L” maintenance level is not included in column(4) of the MAC Functions to this level of maintenance are identified by work time figures in the “H” column, and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete application is explained when required.

TM 5-6350-264-14&P-9
NAVELEX EE 181-AA-OMI-10A/E 121 DZ-204
T.O. 31S9-2FSS9-1-9

Section III. **TOOL AND TEST EQUIPMENT REQUIREMENTS**

for

Audible Alarm(BZ-204)

TOOLS OR TEST EQUIPMENT	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1.	F	Multimeter	6625-00019-0815	Vom

APPENDIX C

ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

1. **SCOPE.** This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational, direct support, general support of the Audible Alarm. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

2. **GENERAL.** In addition to this section, Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for repairable special tools are also listed in this section. Items listed are shown on the associated illustration(s)/figure(s).

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

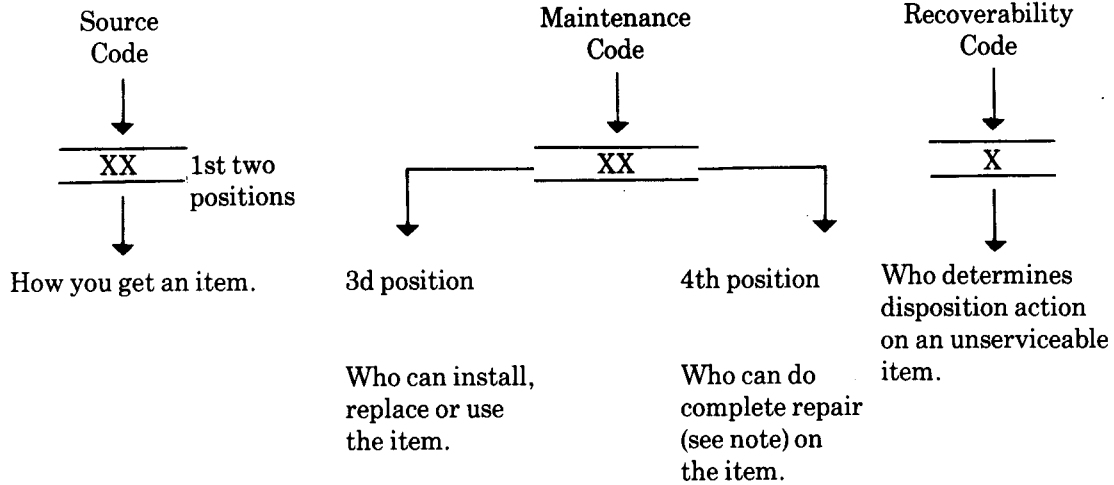
c. Section IV. National Stock Number and Part Number Index. A list, in National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

3. **EXPLANATION OF COLUMNS (SECTIONS II AND III).**

a. ITEM NO. (Column (1)). Indicates the number used to identify items called out in the illustration.

b. SMR Code (Column (2)). The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:

Change 1 C-1



*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) **Source Code.** The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end/equipment. Explanations of source codes follows:

Code

Explanation

PA PB PC PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3d position of the SMR code.
--	---

**NOTE: Items coded PC are subject to deterioration.

KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
----------------	---

Explanation

MO—Made at org/ AVUM category MF—Made at DS/ AVUM category MH—Made at GS category ML—Made at Specialized Repair Activity (SRA) MD—Made at Depot	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION and USABLE ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in the RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
---	---

AO –Assembled by org/AVUM category
AF –Assembled by DS/AVUM category
AH –Assembled by GS category
AL –Assembled by SRA
AD –Assembled by Depot

Explanation

Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the items are assembled at a higher level, order the item from the higher level of maintenance.

Code	Explanation
------	-------------

- XA - Do not requisition an "XA" -coded item. Order its next higher assembly. (Also, refer to the NOTE below.)
- XB - If an "XB" item is not available from salvage, order it using the FSCM and part number given.
- XC - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
- XD - Item is not stocked. Order an "XD" -coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 70042.

(2) Maintenance Code. Maintenance codes tells you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance.

- | Code | Application/Explanation |
|------|--|
| C | -Crew or operator maintenance done within organizational or aviation unit maintenance. |
| O | -Organizational or aviation unit category can remove, replace, and use the item. |
| F | -Direct support or aviation intermediate level can remove, replace, and use the item. |
| H | -General support level can remove, replace, and use the item. |
| L | -Specialized repair activity can remove, replace, and use the item. |
| D | -Depot level can remove, replace, and use the item. |

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions.) NOTE: Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes. This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	-Organizational or (aviation unit) is the lowest level that can do complete repair of the item.
F	-Direct support or aviation intermediate is the lowest level that can do complete repair of the item.
Code	Application/Explanation
H	-General support is the lowest level that can do complete repair of the item.
L	-Specialized repair activity repair of the item.
D	-Depot is the lowest level that can do complete repair of the item.
Z	-Nonreparable. No repair is authorized.
B	-No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item). However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

(3) **Recoverability Code.** Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR Code as follows:

Recoverability Codes	Application/Explanation
Z	-Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR Code.
O	-Reparable item. When uneconomically repairable, condemn and dispose of the item at organizational or aviation unit level.
F	-Reparable item. When uneconomically repairable, condemn and dispose of the item at the direct support or aviation intermediate level.
H	-Reparable item. When uneconomically repairable, condemn and dispose of the item at the general support level.

Recoverability Codes	Application/Explanation
D	-Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.
L	-Reparable item. Condemnation and disposal not authorized below specialized repair activity (SRA).
A	-Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. FSCM (Column (3)). The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

d. PART NUMBER (Column (4)). Indicates the primary number used by the manufacturer, (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE

When you use a NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. DESCRIPTION AND USABLE ON CODE (UOC) (Column (5)). This column includes the following information:

- (1) The Federal item name and, when required, a minimum description to identify the item.
- (2) The physical security classification of the item is indicated by the parenthetical entry, e.g., Phy Sec C1 - Confidential, Phy Sec C1 (S) - Secret, Phy Sec C1 (T) - Top Secret.
- (3) Items that are included in kits and sets are listed below the name of the kit or set.
- (4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.
- (5) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.
- (6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC).
- (7) The usable on code, when applicable (see paragraph 5, Special Information).

- (8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.
- (9) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

f. **QTY (Column (6)).** The QTY (quantity per figure column) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and may vary from application to application.

4. EXPLANATION OF COLUMNS (SECTION IV).

a. NATIONAL STOCK NUMBER (NSN) INDEX.

- (1) **STOCK NUMBER column.** This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN, i.e. $\frac{\text{NSN}}{\text{NIIN}}$ (5305-01-5741467).

When using this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

- (2) **FIG. column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.
- (3) **ITEM column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. **PART NUMBER INDEX.** Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

- (1) **FSCM column.** The Federal Supply Code for Manufacturer (FSCM) is a 5digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.
- (2) **PART NUMBER column.** Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.
- (3) **STOCK NUMBER column.** This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and FSCM columns to the left.
- (4) **FIG. column.** This column lists the number of the figure where the item is identified/located in Sections II and III.
- (5) **ITEM column.** The item number is that number assigned to the item as it appears in the figure referenced in adjacent figure number column.

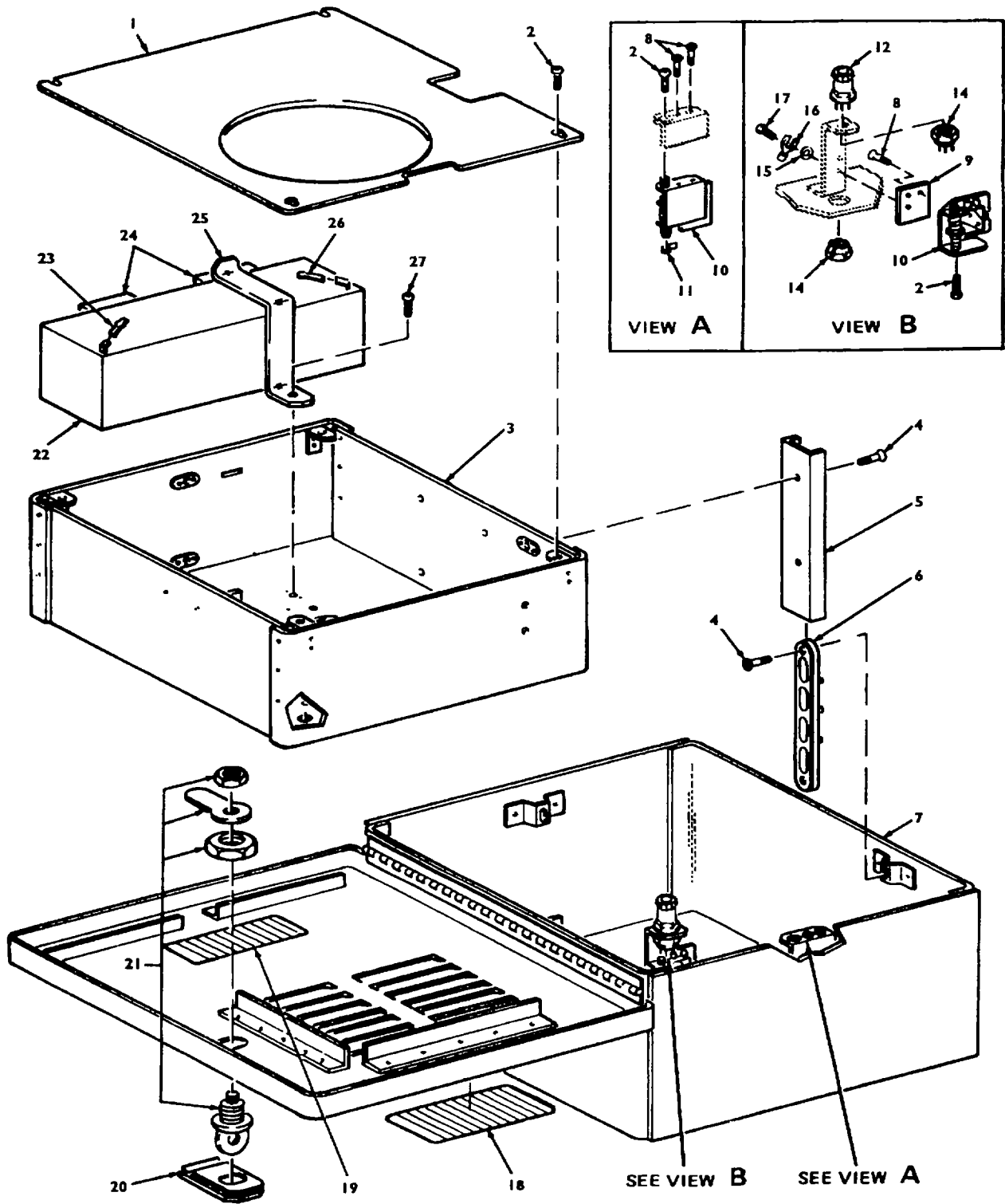


Figure C-1. Audible Alarm BZ-204/FSS-9(V) (Sheet 1 of 2)

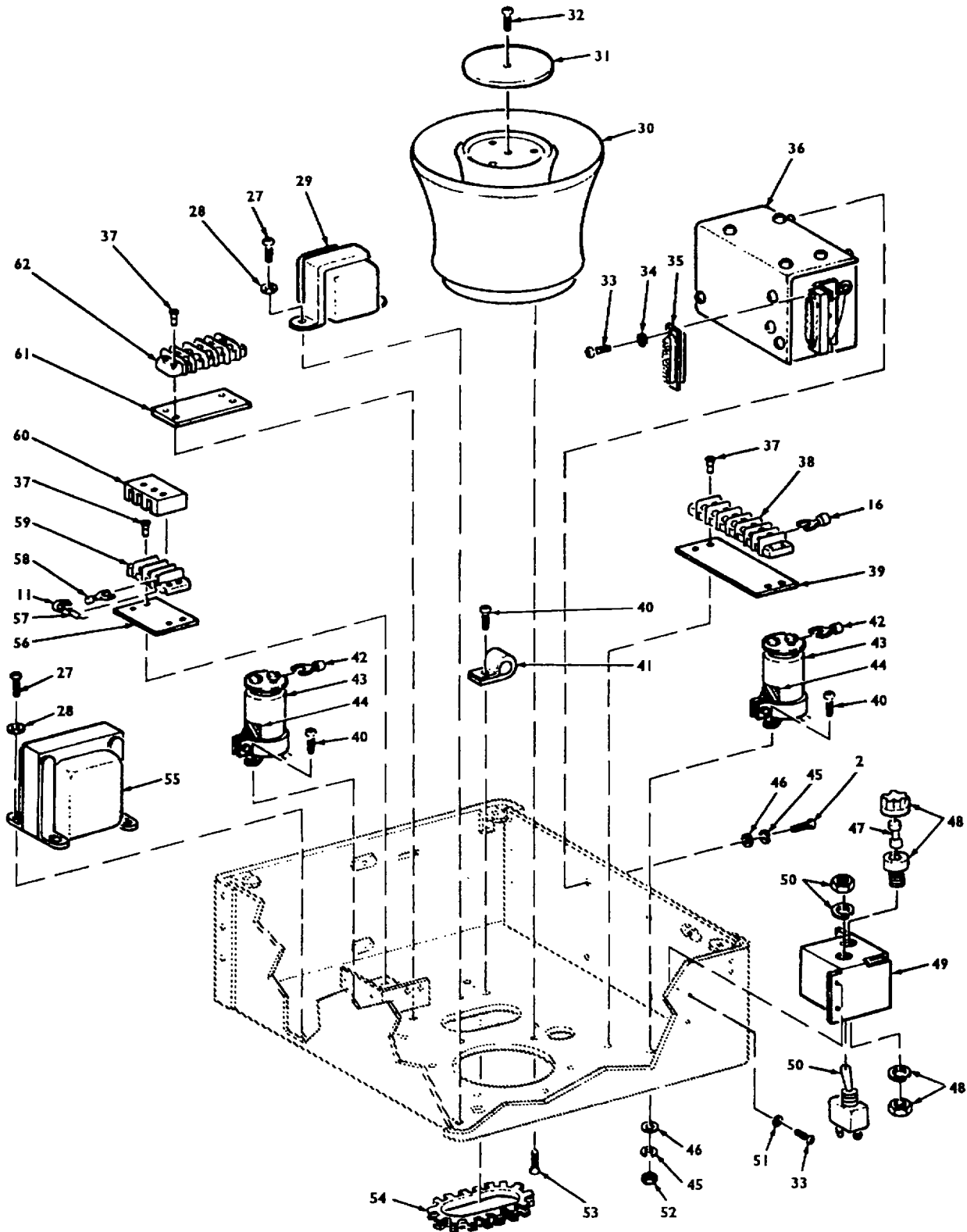


Figure C- 1. Audible Alarm BZ-204/FSS-9(V) (Sheet 2 of 2)

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
				GROUP 01 AUDIBLE ALARM	
				FIG. C-1 AUDIBLE ALARM BZ-204/FSS-9 (V)	
1	XBFZZ	97403	13220E3721	COVER, INNER HOUSING.....	1
2	PAFZZ	96906	MS35206-230	SCREW, MACHINE, PNH	9
3	XBFZZ	97403	13220E3718	HOUSING	1
4	PAFZZ	96906	MS35190-250	SCREW, MACHINE	12
5	XBFZZ	97403	13220E3705	SUPPORT, HOUSING	3
6	XBFZZ	97403	13220E3742	SUPPORT, ENCLOSURE	3
7	XBFZZ	97403	13220E3743	ENCLOSURE, AUDIBLE	1
8	XDFZZ	96906	MS35 190-234	SCREW, MACHINE	2
9	XDFZZ	97403	13220E3767	SUPPORT, SPACER.....	1
10	PAFZZ	96906	MS 16106-1	SWITCH, SENSITIVE	2
11	PAFZZ	96906	MS3367-4-9	STRAP, TIEDOWN	35
12	PAFZZ	13511	126-214-1000	CONNECTOR, RECEPTACLE	1
13	PAFZZ	13511	126-215-1002	CONNECTOR, RECEPTACLE	1
14	XBFZZ	97403	13220E3726	PLUG, HOLE	1
15	XBFZZ	96906	MS35335-29	WASHER, LOCK	2
16	XDFZZ	97403	13220E3829- 1	TERMINAL.....	26
17	PAFZZ	96906	MS35206-21 2	SCREW, MACHINE	2
18	XDFZZ	97403	13220E3766	PLATE, CAUTION	1
19	XBFZZ	97403	13220E3740	PLATE	1
20	XBFZZ	97403	13220E3713	COVER, LOCK.....	1
21	PAFZZ	24153	60-4055-104- 1012	LOCK, SECURITY CAM	1
22	PCFZZ	97403	13220E3712	BATTERY, AUDIBLE ALARM	1
23	PAFZZ	00779	41274	TERMINAL QUICK DISC	1
24	XDFZZ	81348	ZZ-R-765	RUBBER, SILICONE CLASS I B-GRADE40, 50, 600R70-COLOR, GRAY-SIZE, I IN X I INX062TK	2
25	XBFZZ	97403	13220E376 11	CLAMP, BATTERY	1
26	XDFZZ	97403	13220E3623	TAB, CRIMP	1
27	PAFZZ	97403	MS35206-245	SCREW, MACHINE, PNH	7
28	XDFZZ	96906	MS27183-41	WASHER, FLAT	6
29	PAFZZ	07618	34A013-1	TRANSFORMER, POWER	1
30	PAFZZ	97403	13220E3708	LOUDSPEAKER, PERMANENT	1
31	XBFZZ	97403	13220E3714	PLATE, SPEAKER.....	1
32	PAFZZ	96906	MS35206-233	SCREW, MACHINE, PNH	1
33	PAFZZ	96906	MS35206-213	SCREW, MACHINE, PNH	18
34	PAFZZ	96906	MS35338-40	WASHER, LOCK	2

Change 3 C-11

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY
35	PAFZZ	97403	13220E3732-2	CONNECTOR	1
36	PAFZZ	97403	13220E3701	ELECTRONICS ASSEMBLY	1
37	XDFZZ	97403	13220E2998-6	RIVET, BLIND	6
38	XBFZZ	97403	13220E3823-7	BARRIER STRIP	1
39	XBFZZ	97403	13220E3840-7	STRIP, MARKER	1
40	PAFZZ	96906	MS35206-227	SCREW, MACHINE	7
41	XBFZZ	97403	13220E3621-3	CLAMP, CABLE	3
42	PAFZZ	96906	MS35431-7	TERMINAL LUG	4
43	PAFZZ	97403	13220E37 15-1	CAPACITOR	2
44	XDFZZ	81349	MIL-1-695 TYPE F	INSULATION ELEC PAPER 2.50 X .75 X.005 THK	2
45	PAFZZ	96906	MS35338-41	WASHER, LOCK	8
46	PAFZZ	96906	MS27183-6	WASHER, FLAT	8
47	PAFZZ	81349	FO2B250V2A	FUSE	1
48	PAFZZ	81349	FHN-20G	FUSEHOLDER.....	1
49	XBFZZ	97403	13220E3717	BRACKET, SWITCH, ALARM	1
50	PAFZZ	27193	7590K6	SWITCH, TOGGLE	1
51	PAFZZ	96906	MS27183-4	WASHER, FLAT	4
52	PAFZZ	96906	MS35649-262	NUT, PLAIN-HEXAGON	4
53	PAFZZ	96906	MS24629-46	SCREW	6
54	PAFZZ	96906	MS21266-2N	GROMMET, NONMETALLIC	1
55	PAFZZ	07618	34A012-1	TRANSFORMER, AUDIO	1
56	XBFZZ	97403	13220E3725-3	STRIP, MARKER	1
57	PAFZZ	03508	VISOLAIOA	RESISTOR, VOLTAGE SE	2
58	XDFZZ	97403	13220E3405	TERMINAL, LUG	3
59	XBFZZ	97403	13220E4026-3	BARRIER STRIP	1
60	XBFZZ	97403	13220E3769	COVER, BARRIER	1
61	XBFZZ	97403	13220E3840-5	STRIP, MARKER	1
62	XBFZZ	97403	13220E3823-5	BARRIER STRIP	1

Change 3 C-12

Section III. SPECIAL TOOLS LIST

(Not Applicable)

Change 1 C-13

SECTION IV

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5935-00-018-6256	1	12			
5310-00-045-4007	1	45			
5310-00-082-1404	1	46			
6140-00-111-0512	1	22			
5920-00-228-7882	1	47			
6350-00-360-7750	1	29			
6350-00-360-7751	1	55			
5965-00-368-8204	1	30			
6350-00-368-8206	1	36			
5905-00-487-1614	1	57			
5930-00-519-8144	1	10			
5310-00-543-2410	1	34			
5930-00-655-1575	1	50			
5940-00-683-4339	1	42			
5975-00-727-5153	1	11			
5305-00-855-0957	1	53			
5940-00-874-9033	1	23			
5305-00-889-3000	1	2			
5305-00-889-3116	1	33			
5310 00-934-9747	1	52			
5310-00-950-1310	1	51			
5305-00-958-5474	1	4			
5305-00-984-4984	1	40			
5305-00-984-4993	1	32			
5305-00-993-0191	1	17			
5325-01-024-4930	1	54			
5935-01-044-8620	1	13			
5935-01-094-1875	1	35			
9905-01-116-4497	1	18			

NATIONAL STOCK NUMBER AND PART NUMBER INDEX

PART NUMBER INDEX

FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
81349	FHN-20G		1	48
81349	F02B250V2A	5920-00-228-7882	1	47
81349	M11-1-695 TYPE F 2.50x.75x.005THK		1	44
96906	MS 16106-1	5930-00-519-8144	1	10
96906	MS21266-2N	5325-01-024-4930	1	54
96906	MS24629-46	5305-00855-0957	1	53
96906	MS27183-41		1	28
		5310-00-950-1310	1	51
96906	MS27183-6	5310-00-082-1404	1	46
96906	MS3367-4-9	5975-00-727-51531	1	11
96906	MS35190-234		1	8
96906	MS35 190-250	5305-00-958-5474	1	4
96906	MS35206-212	5305-00-993-0191	1	17
96906	MS35206-213	5305-00-889-3116	1	33
96906	MS35206-227	5305-00-984-4984	1	40
96906	MS35206-230	5305-00-889-3000	1	2
96906	MS35206-233	5305-00-984-4993	1	32
97403	MS35206-245		1	27
96906	MS35335-29		1	15
96906	MS35338-40	5310-00-543-2410	1	34
96906	MS35338-41	5310-00-045-4007	1	45
96906	MS35431-7	5940-00-683-4339	1	42
96906	MS35649-262	5310-00-934-9747	1	52
03508	V1501A10A	5905-00-487-1614	1	57
81348	ZZ-R-765		1	24
13511	126-214-1000	5935-00-018-6256	1	12
13511	126-215-1002	5935-01-044-8620	1	13
97403	13220E2998-6		1	37
97403	13220E3621-3		1	41
97403	13220E3623		1	26
97403	13220E3701	6350-00-368-8206	1	36
97403	13220E3705		1	5
97403	13220E3708	596500-368-8204	1	30
97403	13220E3712	6140-00-111-0512	1	22
97403	13220E3713		1	20
97403	13220E3714		1	31
97403	13220E3715-1		1	43
97403	13220E3717		1	49
97403	13220E3718		1	3
97403	13220E3721		1	1
97403	13220E3725-3		1	56
97403	13220E3726		1	14
97403	13220E3732-2	5935-01-094-1875	1	35
97403	13220E3740		1	19

FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
97403	13220E3742		1	6
97403	13220E3743		1	7
97403	13220E3761		1	25
97403	13220E3766	9905-01-116-4497	1	18
97403	13220E3767		1	9
97403	13220E3769		1	60
97403	13220E3823-5		1	62
97403	13220E3823-7		1	38
97403	13220E3829-1		1	16
97403	13220E3840-5		1	61
97403	13220E3840-7		1	39
97403	13220E4026-3		1	59
07618	34A012-1	6350-00-360-7751	1	55
07618	34A013-1	6350-00-360-7750	1	29
00779	41274	5940-00-874-9033	1	23
24153	60-4055-104-1012		1	21
27193	7590K6	5930-00-655-1575	1	50

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FSCM	PART NUMBER	STOCK NUMBER	FIG.	ITEM
97403	13220E3742		1	6
97403	13220E3743		1	8
97403	13220E3761		1	29
97403	13220E3766	9905-01-116-4497	1	21
97403	13220E3767		1	10
97403	13220E3769		1	63
97403	13220E3823-5		1	65
97403	13220E3823-7		1	42
97403	13220E3829-1		1	19
97403	13220E3840-5		1	64
97403	13220E3840-7		1	43
97403	13220E4026-3		1	62
07618	34A012-1	6350-00-360-7751	1	58
07618	34A013-1	6350-00-360-7750	1	33
00779	41274	5940-00-874-9033	1	27
24153	60-4055-104-1012		1	24
27193	7590K6	5930-00-655-1575	1	53
06001	88F235ALA		1	47

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By Order of the Secretaries of the Army, the Navy, and the Air Force:

Official:

E. C. MEYER
General, United States Army
Chief of Staff

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

H. D. ARNOLD
Rear Admiral, United States Navy
Commander, Naval Electronic
Systems Command

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Logistics Command

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A, Operator Maintenance requirements for Intrusion Detection.

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA				Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).		DATE 30 August 2002	
TO: (Forward to proponent of publication or form) (Include ZIP Code) Commander, US Army C-E LCMC ATTN: AMSEL-LC-LEO-E-ED Fort Monmouth, NJ 07703-5006				FROM: (Activity and location) (Include ZIP Code) Jane Q. Doe, SFC 1234 Any Street Anytown, AL 34565			
PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER TM 11-1234-567-14				DATE 16 Sep 2001		TITLE Operator, Field and Sustainment Support Maintenance Manual for Radio, AN/ABC-123	
ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON	
1	WP0005 PG 3		2			Test or Corrective Action column should identify a different WP number.	
TYPED NAME, GRADE OR TITLE Jane Q. Doe, SFC				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION 123-4567		SIGNATURE	

EXAMPLE

TO: (Forward to proponent of publication or form) (Include ZIP Code)	FROM: (Activity and location) (Include ZIP Code)	DATE
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PART II- REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION/FORM NUMBER	DATE	TITLE
-------------------------	------	-------

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
EXAMPLE								

PART III - REMARKS (Any general remarks, recommendations, or suggestions for improvement of publications and blank forms. Additional space may be used if more space is needed.)

EXAMPLE								
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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA					Use Part II (<i>reverse</i>) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).		DATE
TO: (<i>Forward to proponent of publication or form</i>) (<i>Include ZIP Code</i>)					FROM: (<i>Activity and location</i>) (<i>Include ZIP Code</i>)		
PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER					DATE		TITLE
ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON	
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION		SIGNATURE	

TO: (Forward to proponent of publication or form) (Include ZIP Code)	FROM: (Activity and location) (Include ZIP Code)	DATE
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PART II- REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION/FORM NUMBER			DATE		TITLE			
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III - REMARKS (Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA					Use Part II (<i>reverse</i>) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).		DATE
TO: (<i>Forward to proponent of publication or form</i>) (<i>Include ZIP Code</i>)					FROM: (<i>Activity and location</i>) (<i>Include ZIP Code</i>)		
PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER					DATE		TITLE
ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON	
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION		SIGNATURE	

TO: (Forward to proponent of publication or form) (Include ZIP Code)	FROM: (Activity and location) (Include ZIP Code)	DATE
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PART II- REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION/FORM NUMBER			DATE	TITLE				
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III - REMARKS (Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is OAASA					Use Part II (<i>reverse</i>) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).		DATE
TO: (<i>Forward to proponent of publication or form</i>) (<i>Include ZIP Code</i>)					FROM: (<i>Activity and location</i>) (<i>Include ZIP Code</i>)		
PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS							
PUBLICATION/FORM NUMBER					DATE		TITLE
ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON	
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION		SIGNATURE	

TO: (Forward to proponent of publication or form) (Include ZIP Code)	FROM: (Activity and location) (Include ZIP Code)	DATE
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PART II- REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION/FORM NUMBER			DATE	TITLE				
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

PART III - REMARKS (Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 dekagram = 10 grams = .35 ounce
 1 hectogram = 10 dekagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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PIN: 051534-000