TECHNICAL MANUAL

UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL

(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

STERILIZER 6530-00-926-2151

HEADQUARTERS, DEPARTMENT OF THE ARMY
OCTOBER 1990

Throughout this manual are WARNINGS, CAUTIONS, and NOTES. Please take time to read these. They are there to protect you and the equipment.

WARNING

Procedures which must be observed to avoid personal injury, and even loss of life.

CAUTION

Procedures which must be observed to avoid damage to equipment, destruction of equipment, or long-term health hazards.

NOTE

Essential information that should be remembered.

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

1. DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL
2. IF POSSIBLE, TURN OFF THE ELECTRICAL POWER
3. IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH, OR LIFT THE PERSON TO SAFETY USING A DRY WOODEN POLE OR A DRY ROPE OR SOME OTHER INSULATING MATERIAL
4. SEND FOR HELP AS SOON AS POSSIBLE
5. AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION

Treatment Procedures for Symptoms of Carbon Monoxide Poisoning

Move the victim to fresh air.

Keep the victim warm.

Do not allow the victim to exert any physical activity.

Give artificial respiration to the victim, if necessary. Refer to FM 21-11 for artificial respiration procedures.

A

TECHNICAL MANUAL
NO. 8-6530-004-24&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *8 October 1990*

UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) STERILIZER 6530-00-926-2151

You can help improve this manual. If you find any mistakes or if you know a way to improve procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 (Recommended Changes to Equipment Technical Publications) located in the back of this manual, to: Commander, U.S. Army Medical Materiel Agency, ATTN: SGMMA-M, Frederick, MD 21702-5001. A reply will be furnished directly to you.

Approved for public release; distribution is unlimited.

LIST OF ILLUSTRATIONS

LIST OF TABLES

HOW TO USE THIS MANUAL

This manual provides all the information needed to understand the capabilities, functions, and characteristics of the sterilizer. It describes how to set up, operate, troubleshoot, repair, and perform verification functions. You must familiarize yourself with the entire manual before operating or beginning a maintenance task.

The manual is arranged by chapters, sections, and paragraphs followed by appendixes, a glossary, an index, and DA Forms 2028-2. Use the table of contents to help locate the chapter or section for the general subject area needed. The index will help locate more specific subjects.

Multiple figures and tables are provided for your ease in using this manual. Words that are both capitalized and in quotation marks are names of components or words that you will actually see on the equipment.

Chapter 3 contains a troubleshooting table that will enable you to identify some malfunctions by observing thermometer and gauge indications.

Specific direct support and general support maintenance instructions are included. Only perform maintenance functions specified in the maintenance allocation chart for your level of maintenance. Maintenance functions specified for higher levels of maintenance frequently require additional training; test, measurement, and diagnostic equipment; or tools.

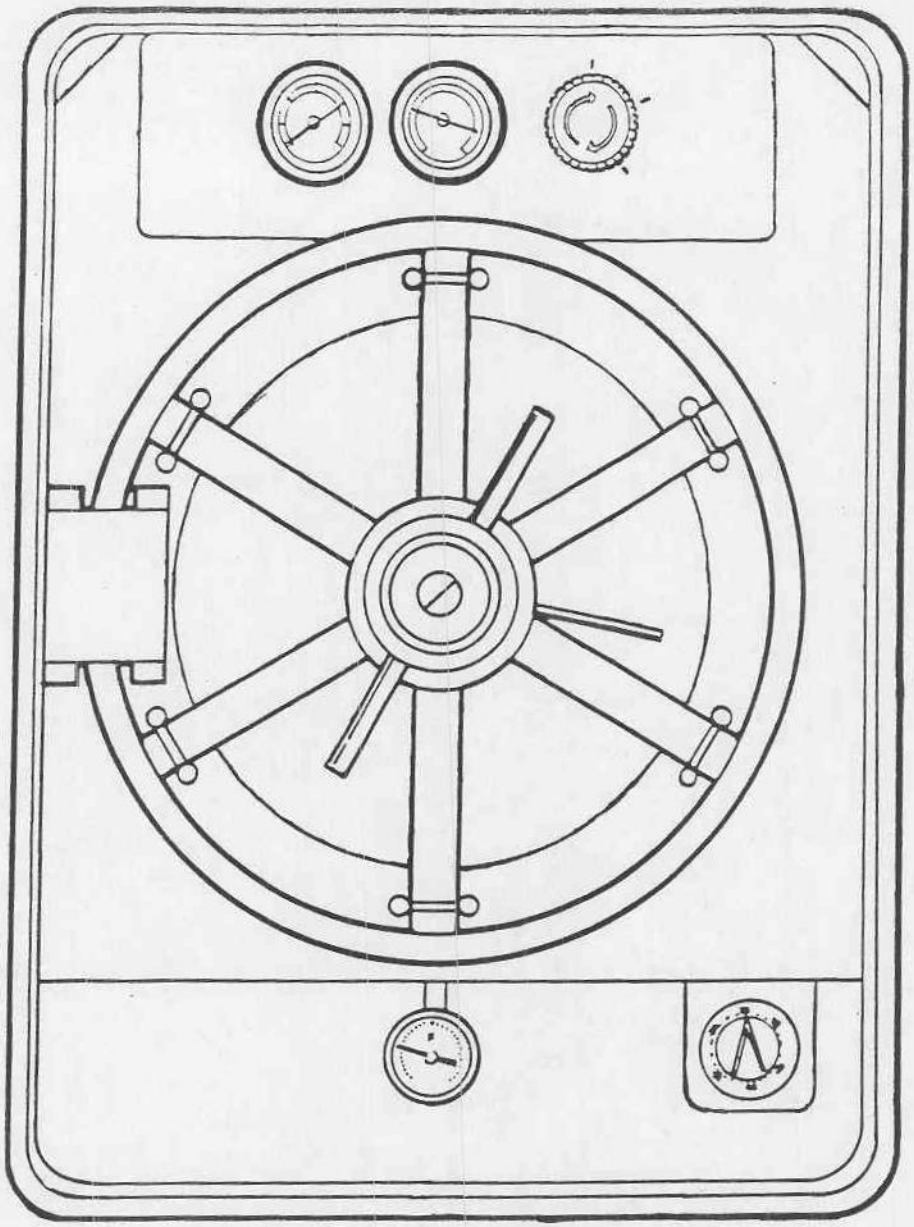


Figure 1–1. Sterilizer.

CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

1–1. Scope

This manual describes the sterilizer; provides maintenance personnel with equipment technical data and installation procedures; and provides operational and maintenance functions, services, and actions. Additional information follows:

a. Type of manual. Unit, direct support (DS), and general support (GS) maintenance (including repair parts and special tools list).

b. Model numbers and equipment name. M-138 and FS 1986, Sterilizer, Surgical Instrument and Dressing with Gasoline Burner and Pump (fig 1–1).

c. Purpose of equipment. Sterilizes surgical instruments, utensils, dressings, and bottled surgical solutions in a field environment.

1–2. Explanation of abbreviations and terms

Special or unique abbreviations, acronyms, and symbols used within this manual are explained in the glossary.

1–3. Maintenance forms, records, and reports

TB 38-750-2 prescribes forms and procedures.

1–4. Destruction of Army materiel to prevent enemy use

AR 40-61 contains instructions for destruction and disposal of Army medical materiel.

1–5. Preparation for storage or shipment

a. Refer to table 1–1 for procedures required to prepare, store, or ship the sterilizer.

WARNING

Do not begin storage or shipment preparations until shut-down procedures are complete and the steam source is disconnected. Direct contact with steam or hot surfaces can seriously burn human skin. The sterilizer, if electrically heated, contains potentially lethal voltages.

Table 1–1. Storage or Shipment Procedures.

1. Open the chamber door.
2. Thoroughly clean the sterilizer interior shell by washing it with a mild detergent. Do not use an abrasive cleanser.
3. Turn the operating valve to the "STERILIZE" position.
4. Rock the sterilizer from side to side and end to end to ensure that all water is removed from the jacket, chamber, and pipes.
5. Turn the operating valve to the "DRY" position and open all other valves.
6. Close the chamber door and tighten it slightly to enable the handles to clear the front of the case when it is closed.
7. Close the top door and both firebox doors and latch them in place.
8. Loosen the two thumb screws holding the rear door to the case. Lift the back of the sterilizer to permit the door to swing up to the closed position. Latch the door.
9. Repeat the previous procedure to close and latch the front door of the case.

b. Instruction plates containing the storage and shipment procedures are fastened to both the inside and outside of the case rear door.

c. See AR 40-61 for additional administrative storage requirements.

1–6. Quality assurance or quality control (QA/QC)

TB 740-10/DLAM 4155.5/AFR 67-43 contains QA/QC requirements and procedures.

1–7. Nomenclature cross-reference list

Table 1–2 identifies official versus commonly used nomenclatures.

Table 1–2. Nomenclature Cross-reference List.

Common name	*Official nomenclature*
Sterilizer	Sterilizer, Surgical Instrument and Dressing, Pressure, Steam, Electric or Gasoline Burner Heated
Gasoline Burner	Burner Unit, Gasoline
Pump	Pump, Inflating
Thermometer	Thermometer, Self-indicating, Bimetallic
Gauge	Gauge, Compound, Pressure/Vacuum Gauge, Pressure, Dial-indicating

1–8. Reporting and processing medical materiel complaints and/or quality improvement reports

AR 40-61 prescribes medical materiel complaints and/or quality improvement reports for the sterilizer.

1–9. Warranty information

A warranty is not applicable.

Section II. EQUIPMENT DESCRIPTION AND DATA

1–10. Equipment characteristics, capabilities, and features

a. Characteristics. The sterilizer is a self-contained unit consisting of a welded aluminum alloy sterilizing assembly, a gasoline burner, a pump, and a case with doors. The case, with the doors closed, encloses and protects the sterilizing assembly, gasoline burner, and pump. It also serves as the storage and shipment container. The case, with the front and rear doors open, provides an integral stand which places the sterilizing assembly chamber door and operating controls at a convenient working height.

b. Capabilities and features. The sterilizer can sterilize a wide range of medical material in varying field environments. Universal shelves provide flexibility. The sterilizer can operate from multiple voltages and frequencies, a gasoline burner, or direct steam.

c. Technical data. The sterilizer operates in a range of 250 to 270 degrees Fahrenheit (107 to 118 degrees Celsius). Refer to tables 1–3 and 1–4 for dimensions, weight, and electrical power data.

Table 1–3. Dimensions and Weight.

Length	
Case (doors closed)	46 inches
Chamber	36 inches
Width	
Case	24½ inches
Chamber	16 inches diameter
Height	
Doors closed	37¾ inches
Doors open	62 inches
Weight	
Basic unit	255 pounds
Gasoline burner	44 pounds
Total	299 pounds

Table 1–4. Electrical Power Data.

Electrical power	Actual load	Line fuse
220 volts, 50/60 Hz, single-phase	45 amps	50 amps
380 volts, 50/60 Hz, three-phase	15 amps	20 amps
220 volts, 50/60 Hz, three-phase	25 amps	30 amps
*208 volts, 50/60 Hz, three-phase	25 amps	30 amps
**440 volts, 50/60 Hz, three-phase	15 amps	20 amps
**440 volts, 50/60 Hz, single-phase	15 amps	20 amps

*The sterilizer does not operate at the rated electrical wattage on this voltage and requires longer timeframes to heat and operate.
**The sterilizer only operates on 67% of rated electrical wattage when used in these electrical configurations. Longer heating and operating timeframes will be required.

1–11. Data plate information

Refer to tables 1–5, 1–6, and 1–7 for data plate information. Serial numbers will be different for each sterilizer.

Table 1–5. Data Plate Information.

6530-00-926-2151 STERILIZER CONTRACT NO. DLA 120-87-C-4861 MODEL NO. M-138 SERIAL NO. XXXXXXXX ENVIRONMENTAL TECTONICS CORPORATION

Table 1–6. Data Plate Information.

6530-00-926-2151 STERILIZER CONTRACT NO. DLA 120-86-C-4382 MODEL NO. FS 1986 SERIAL NO. XXXXXXXX ATLANTIC INDUSTRIES, INC.

Table 1–7. Data Plate Information.

6530-00-926-2151 STERILIZER CONTRACT NO. DLA 120-84-C-5251 MODEL NO. M-138 SERIAL NO. XXXXXXXX ENVIRONMENTAL TECTONICS CORPORATION

1–12. Model differences

The basic configuration is the same for all models of the sterilizer. There are no installation, operational, or maintenance procedure differences. Additionally, all repair parts are interchangeable.

1–13. Safety, care, and handling

a. Observe each WARNING, CAUTION, and NOTE in this manual. This equipment contains electrical power, steam, hot water, and hot surfaces. Instructions to follow if someone is the victim of electrical shock are listed on page B of this manual. Carbon monoxide treatment procedures are listed on page A of this manual.

b. Load, move, and setup the sterilizer with an adequate number of personnel to ensure safe handling of the equipment.

c. Familiarize yourself with the location of fire extinguishers and emergency exits.

Section III. PRINCIPLES OF OPERATION

1–14. Basic sterilization cycle

a. Water is placed in the jacket of the sterilizer and the jacket is sealed. A water level indicator gauge (see table 2–2) is located at the rear of the sterilizer for monitoring the water level.

b. Electrical immersion heaters or a gasoline burner heats the water in the jacket which produces steam.

c. A valve directs the steam into the closed chamber for a sterilizing cycle. A timer on the front panel is used to indicate when the sterilizing cycle is complete. There is also a provision to allow for fast or slow steam exhaust from the chamber and vacuum drying of material.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. PREPARATION FOR OPERATION

2–1. Equipment location

a. Assure that electrical power and drain lines are accessible to the sterilizer's operating location.

b. Consider heat and steam resulting from sterilizer operations when deciding on an appropriate location for the sterilizer.

2–2. Set-up procedures

a. Open either firebox door and remove the gasoline burner. Close the firebox door.

b. Tilt up the front of the sterilizer, unlatch the door, and swing it down into place as the front stand. Tighten the two thumb screws into the sterilizer case.

c. Raise the rear of the sterilizer, unlatch the door, and swing it down into place as the rear stand. Tighten the two thumb screws into the sterilizer case.

d. Assure that all packing material is removed from the sterilizer.

e. Level the sterilizer, as necessary.

NOTE

The sterilizer chamber will serve as a level by pouring a small amount of water into the chamber. The water should gently flow to the drain in the front of the chamber. Adjust the leveling or use blocking as required.

f. Arrange the shelves, as desired.

2–3. Indoor use

Using the sterilizer in tents or other enclosed structures will require you to use a steam and condensate kit.

Section II. ELECTRICAL CONNECTIONS

2–4. General instructions

a. Electrical heat should be used when operating the sterilizer indoors.

b. The wiring diagrams illustrated in figures 2–1 through 2–6 are also on a data plate fastened on the rear of the sterilizer.

2–5. Electrical connection procedures

a. Remove the cover of the electrical control box to access the electrical terminal strip.

b. Determine the available voltage(s), frequency, and phase(s).

NOTE

Three voltage and phase configurations increase heating and operating timeframes.

c. Select the optimum voltage and phase configuration and connect an electrical supply cable using the wiring diagrams.

CAUTION

Some electrical voltage and phase configurations require additional electrical connections.

Section III. GASOLINE BURNER INSTRUCTIONS

2–6. Technical information

a. Gasoline burner heat should be used outdoors, if possible.

WARNING

Carbon monoxide can kill you. Carbon monoxide is a colorless and odorless gas produced by combustion. Breathing carbon monoxide can cause headaches, dizziness, loss of muscular control, sleepiness, a coma, brain damage, or death, depending on the length and amount of exposure. Carbon monoxide can become dangerously concentrated under conditions of no or little air movement, such as in a closed tent or shelter.

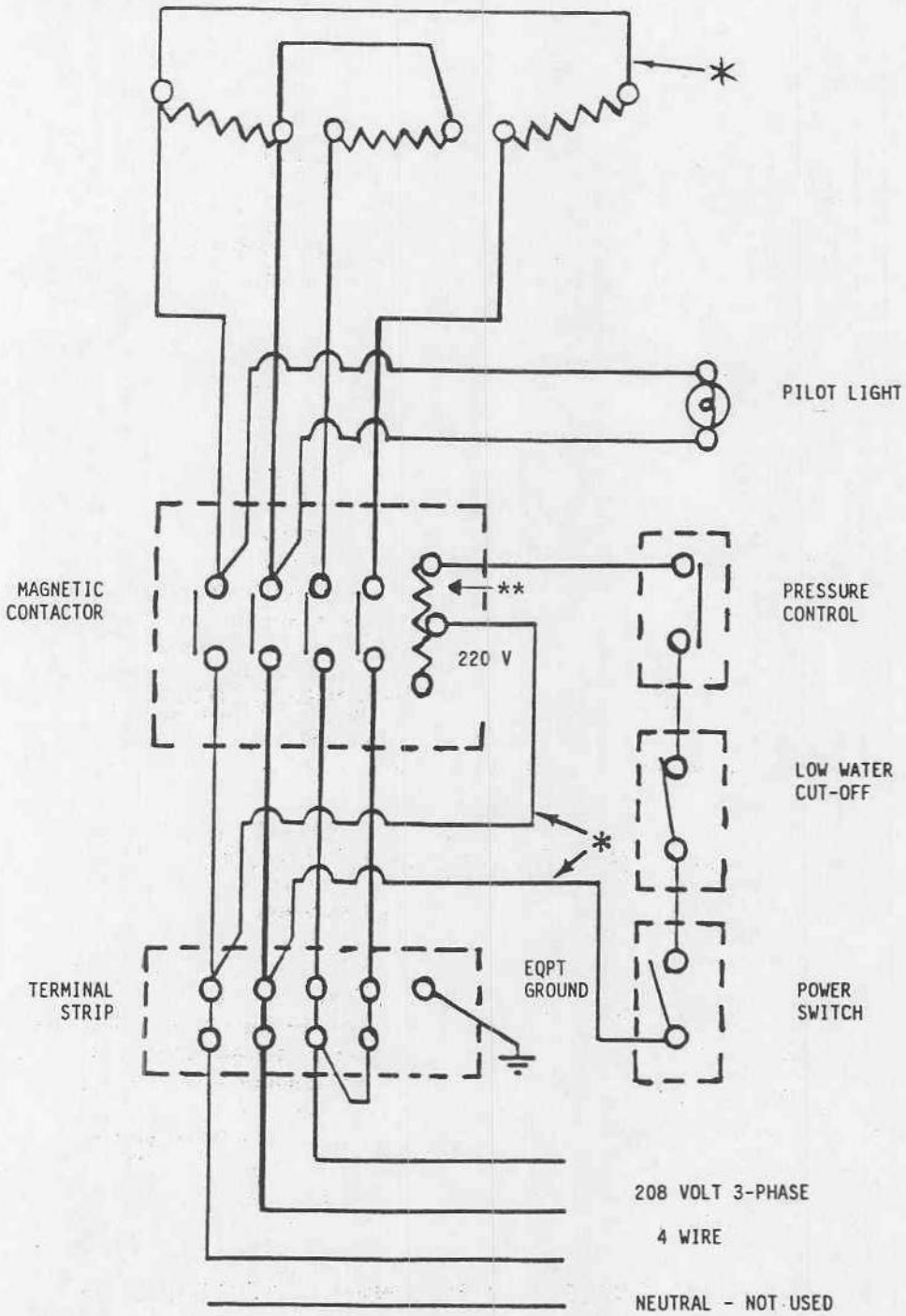
b. When a sterilizer is heated by a gasoline burner, follow these precautions:

(1) Only heat the sterilizer in a well-vented area.

(2) Be alert for carbon monoxide exposure symptoms. If symptoms are present, follow the procedures in the front of this manual.

WARNING

The field protective mask for chemical, biological, and radiological protection will



* INDICATES CONNECTIONS WHICH MAY CHANGE WITH CHANGES IN POWER SUPPLY.

** SOME MODELS MAY HAVE A FOURTH CONNECTION POINT.

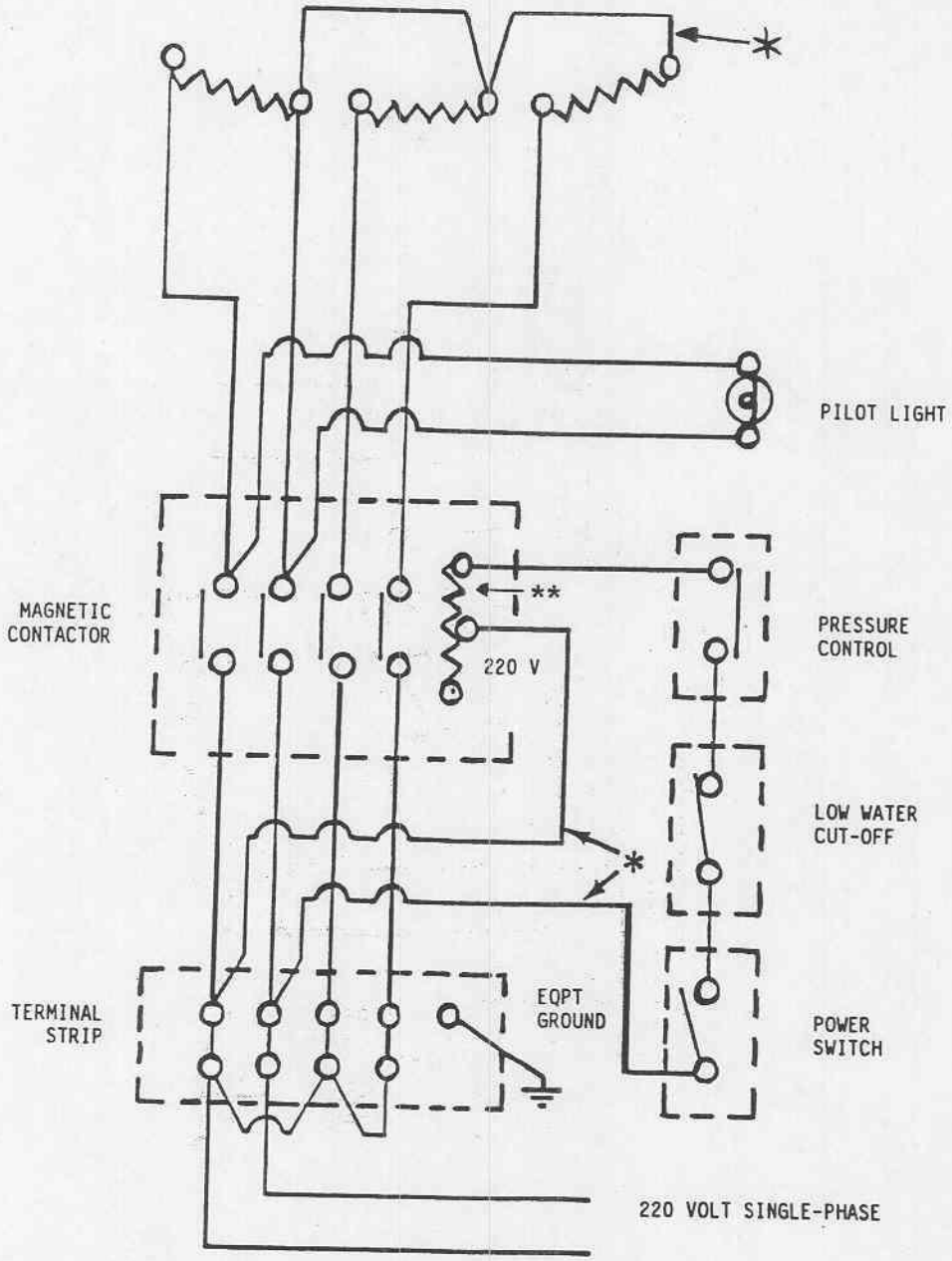
Figure 2–1. Wiring Diagram for 208 Volts, Three-Phase.

not protect you from carbon monoxide poisoning.

c. TM 10-7360-204-13&P contains the instructions on operation, maintenance, and parts of the gasoline burner.

2–7. Gasoline burner set-up procedures

a. Prepare the gasoline burner for operation as described in TM 10-7360-204-13&P.



* INDICATES CONNECTIONS WHICH MAY CHANGE WITH CHANGES IN POWER SUPPLY.

** SOME MODELS MAY HAVE A FOURTH CONNECTION POINT.

Figure 2–2. Wiring Diagram for 220 Volts, Single-Phase.

b. Open both sterilizer firebox doors and insert the gasoline burner.

c. Open the vent door on top of the sterilizer.

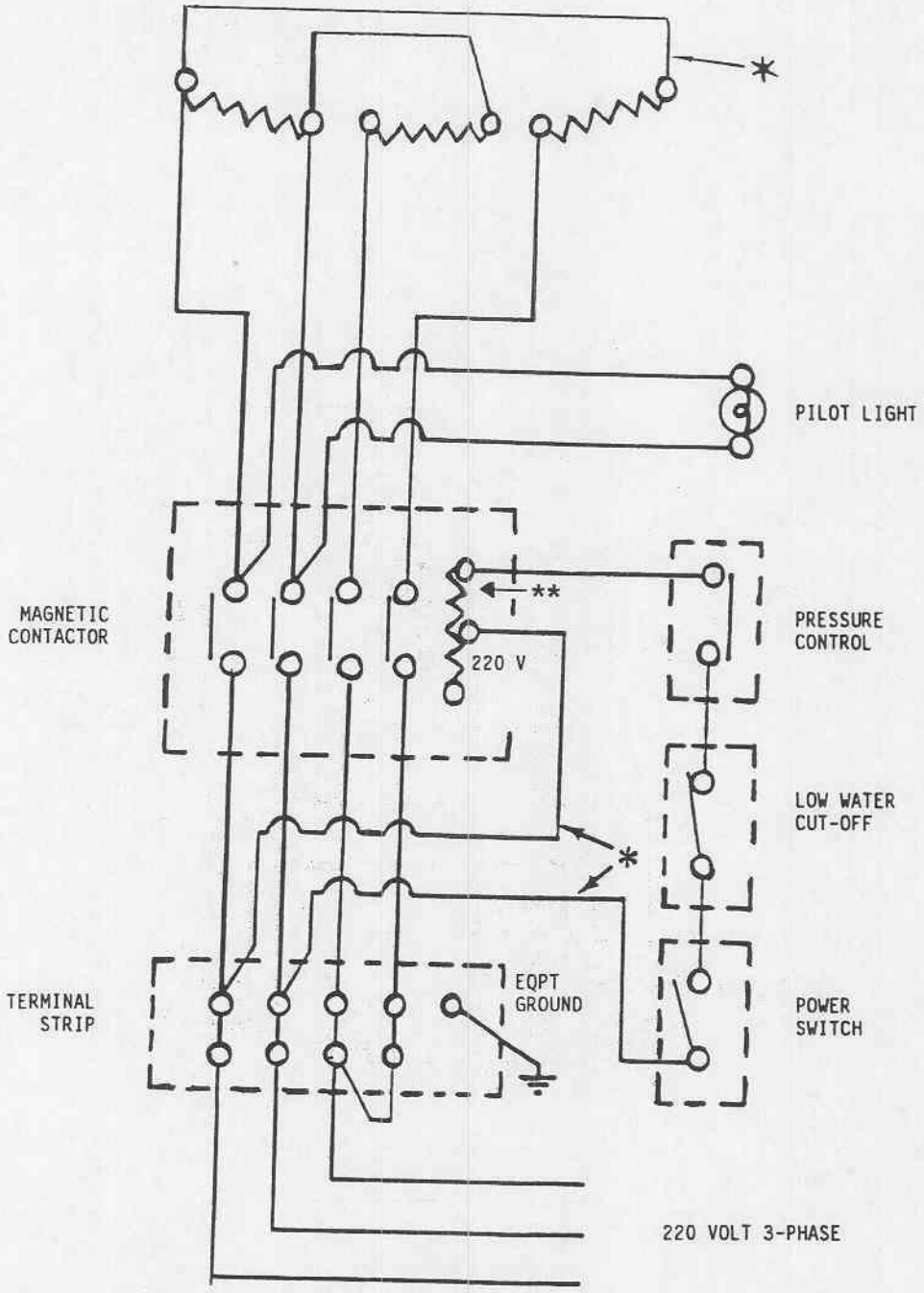
d. Install stovepipe flues for venting combustion gases if they are used in confined spaces or indoors.

CAUTION

The firebox doors must be open when the gasoline burner is in operation.

NOTE

The firebox doors are provided with chains to hold the doors partially closed, if required, to shield the gasoline burner from air currents.



* INDICATES CONNECTIONS WHICH MAY CHANGE WITH CHANGES IN POWER SUPPLY.

** SOME MODELS MAY HAVE A FOURTH CONNECTION POINT.

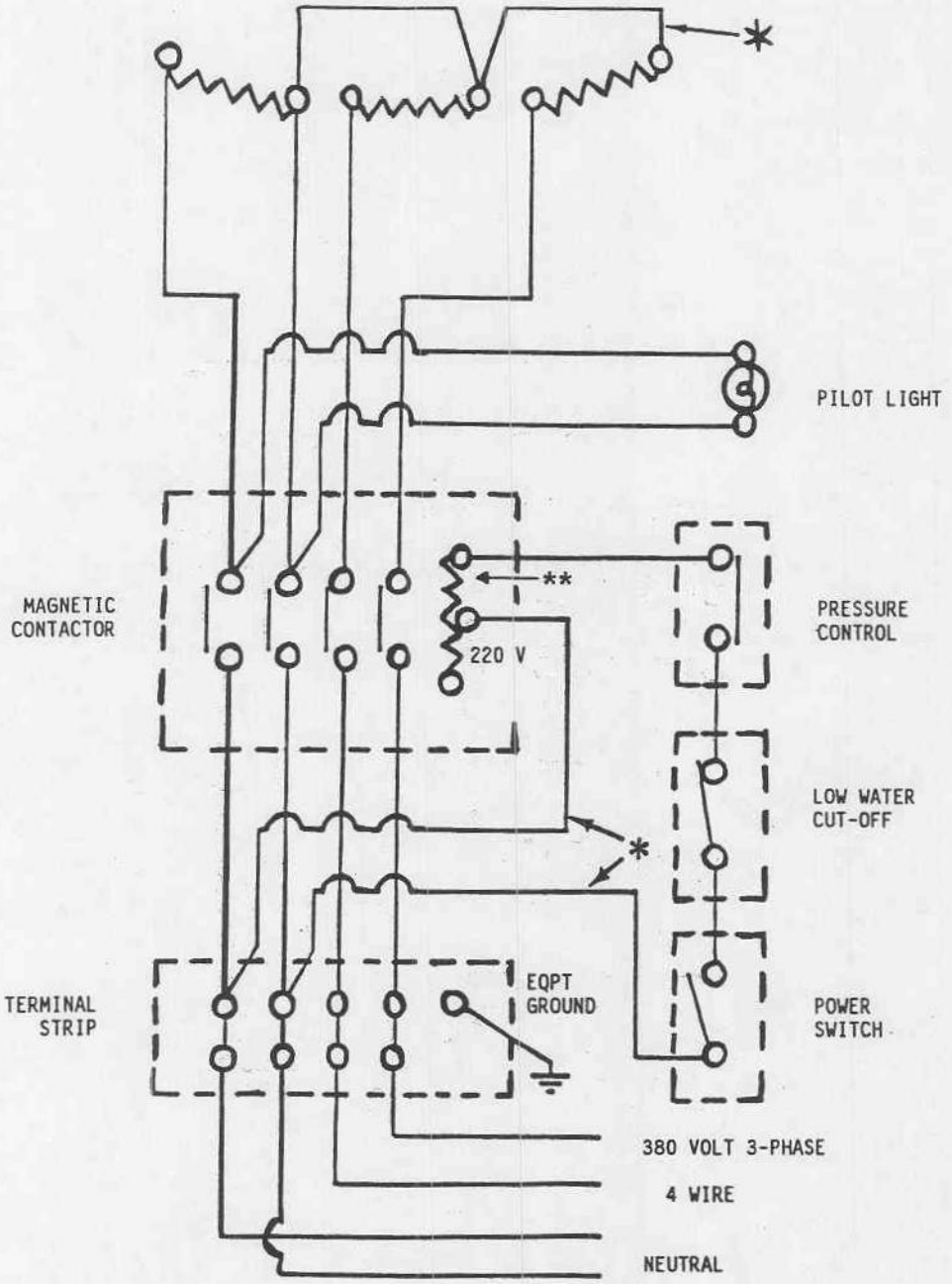
Figure 2–3. Wiring Diagram for 220 Volts, Three-Phase.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2–8. Environmental conditions

a. The use and heating methods of this sterilizer under any conditions require extreme care and attention. The sterilizer should not be heated by the gasoline burner indoors except in an emergency.

b. Combustion gases must be vented.



* INDICATES CONNECTIONS WHICH MAY CHANGE WITH CHANGES IN POWER SUPPLY.

** SOME MODELS MAY HAVE A FOURTH CONNECTION POINT.

Figure 2–4. Wiring Diagram for 380 Volts, Three-Phase.

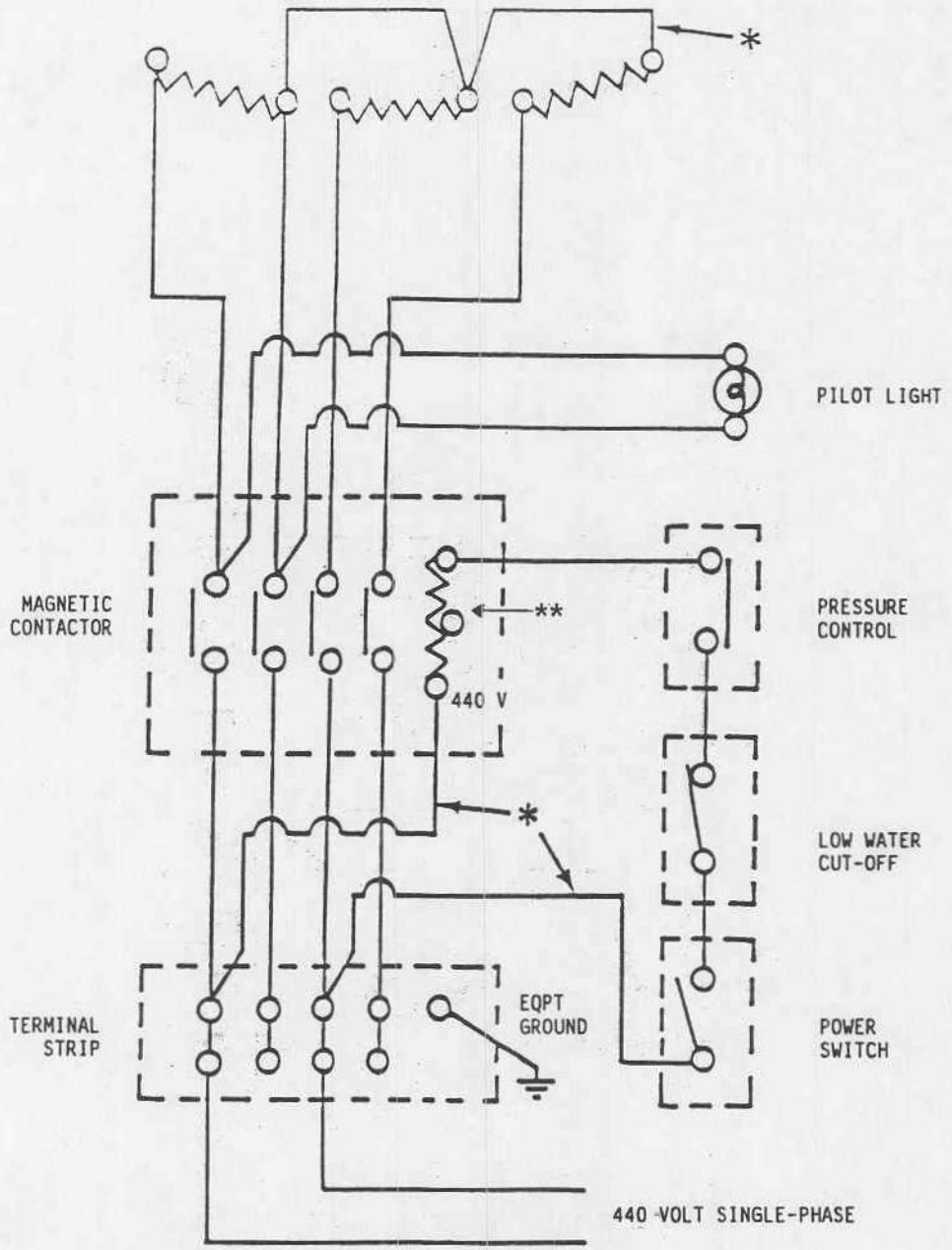
2–9. Direct steam conversion

a. An external source of steam may be used to operate the sterilizer.

b. Use the procedures listed in table 2–1 to convert to external steam.

Table 2–1. External Steam Conversion Procedures.

1. Remove the pipe plug from the right side of the heater flange.
2. Connect the pressure regulator and steam supply valve to this opening.
3. Connect the steam trap assembly to the drain valve opening.
4. Connect the external source of steam at 50 to 80 pounds per square inch (psi) to the steam supply valve.



* INDICATES CONNECTIONS WHICH MAY CHANGE WITH CHANGES IN POWER SUPPLY.

** SOME MODELS MAY HAVE A FOURTH CONNECTION POINT.

Figure 2–5. Wiring Diagram for 440 Volts, Single-Phase.

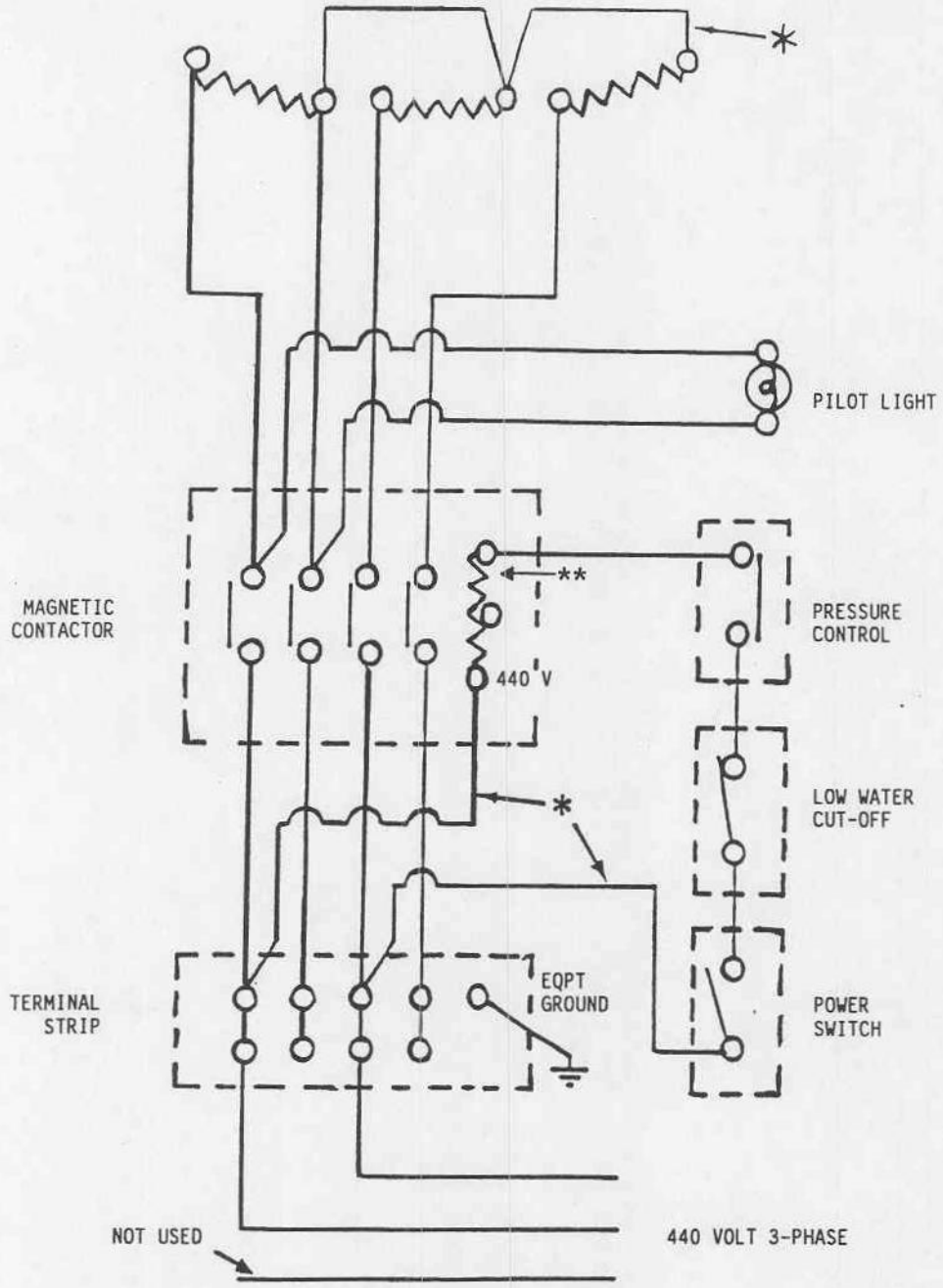
Section V. STERILIZER OPERATION

2–10. Jacket water

Fill the jacket with water using the procedures listed in table 2–2.

CAUTION

Water should be as clean and pure as possible to prevent frequent cleaning of the jacket interior and premature failure of the heating elements caused by mineral deposits.



* INDICATES CONNECTIONS WHICH MAY CHANGE WITH CHANGES IN POWER SUPPLY.

** SOME MODELS MAY HAVE A FOURTH CONNECTION POINT.

Figure 2–6. Wiring Diagram for 440 Volts, Three-Phase.

Table 2–2. Jacket Water Filling Procedures.

1. Turn the operating valve to the "DRY" position.
2. Unscrew and remove the plug from the filling funnel.
3. Turn the operating valve to the "STERILIZE" position.
4. Assure drain valve is closed.
5. Fill the jacket with water until it reaches the top of the water level indicator line.

NOTE

If the water level indicator gauge doesn't show that the chamber is filling with water, clean or replace the connecting elbow. Corrosion in this elbow prohibits a correct reading on the water level indicator gauge.

6. Replace the plug in the filling funnel.

WARNING

When water is required for continuous operation, do not remove filler plug while there is pressure in the jacket. Relieve pressure by lifting the handle on the safety relief valve or by turning the operating valve to "DRY."

7. Turn the operating valve to the "OFF" position.

NOTE

The sterilizer is now ready for operation on either electrical power or the gasoline burner.

2–11. Preliminary procedures for electrical heat

Preliminary operating procedures are listed in table 2–3.

CAUTION

Ensure that the jacket water level is at least 1/4 full by observing the water level indicator gauge.

Table 2–3. Preliminary Operating Procedures for Electrical Heat.

1. Turn the "ELECTRIC HEAT PRESSURE CONTROL" knob to the fully clockwise position.
2. Turn the power switch to the "ON" position. The red pilot light will glow. If the pilot light doesn't glow, press the "RESET" button.
3. When the desired pressure is reached, turn the "ELECTRIC HEAT PRESSURE CONTROL" knob slowly counterclockwise until the pilot light is turned off.

WARNING

The safety relief valve should be tested frequently to assure proper operation. An inoperative valve could allow dangerous pressure levels.

NOTE

Pressure-temperature relationships are normally 18 psi for 250 degrees Fahrenheit (107 degrees Celsius) operation and 29 psi for 270 degrees Fahrenheit (118 degrees Celsius) operation. However, altitude and atmospheric conditions will vary the pressure requirements between 15 and 20 psi and between 27 and 32 psi to obtain 250 and 270 degrees Fahrenheit (107 and 118 degrees Celsius).

4. Wait 10 to 15 minutes for the pressure to stabilize prior to using the sterilizer.

2–12. Preliminary procedures for gasoline burner

Preliminary operating procedures are listed in table 2–4.

CAUTION

Ensure that the jacket water level is at least 1/2 full by observing the water level indicator gauge.

Table 2–4. Preliminary Operating Procedures for Gasoline Burner.

1. Service and ignite the gasoline burner in accordance with the operating instructions on the gasoline burner.
2. Open the door on top of the case.
3. Insert the gasoline burner into the firebox of the sterilizer.
4. Open both side doors of the case unless partial closing is required to shield the gasoline burner from the wind.
5. Attach door chains, as required.
6. Reduce the flame on the gasoline burner by using the burner controls to maintain the desired pressure. Refer to the warning and note in table 2–3.

CAUTION

The sterilizer does not have low water cut-off protection when using the gasoline burner. Use extreme caution when the water level falls below 1/4 full.

NOTE

A pressure relief valve has been provided to prevent an overshoot of temperature when operating on 250 degrees Fahrenheit (107 degrees Celsius). This valve is located at the top rear of the sterilizer and is controlled by a hand valve. The valve is opened for 250 degrees Fahrenheit (107 degrees Celsius) operation and closed for 270 degrees Fahrenheit (118 degrees Celsius) operation.

2–13. Sterilization

Sterilization procedures are listed in table 2–5.

Table 2–5. Sterilization Procedures.

1. Load the sterilizer.
2. Close the door, rotate the quick-throw handle clockwise, and tighten the handle securely.

NOTE

The handle will not operate until the door locking arms are properly located in the end rings.

3. Turn the operating valve to the "STERILIZE" position.
4. Monitor the chamber temperature gauge until the desired temperature is reached.

NOTE

Turn the "ELECTRIC HEAT PRESSURE CONTROL" knob clockwise if the sterilizer doesn't reach the desired temperature.

5. Set the timer for the desired sterilization period.
6. Turn the operating valve to either "FAST EXHAUST" for instruments or fabric loads or "SLOW EXHAUST" for solutions.

CAUTION

The source of heat should be turned off for "SLOW EXHAUST" operation.

7. Take no further action until the chamber pressure gauge is zero.
8. Turn the operating valve to "DRY" for instrument or fabric loads.
9. Turn the operating valve to "OFF."
10. Loosen the chamber door locking arms and allow the load to cool for 5 minutes.
11. Unload the sterilizer.
12. If additional loads are ready for sterilization, ensure that the jacket water level is at least 1/4 full by observing the water level indicator gauge. Refill the jacket with water, as required.

NOTE

The sterilizer may be reloaded and recycled immediately. If not, turn off the heat source and turn the operating valve to the "DRY" position.

2–14. Sterilization periods

Typical sterilization periods for various materials are listed in table 2–6.

Table 2–6. Typical Sterilization Periods.

Fabric Loads

Sterilize: 30 minutes at 250 degrees Fahrenheit (107 degrees Celsius).
Dry: 15 minutes.

Solution loads (1000 milliliter bottles)

Sterilize: 30 minutes at 250 degrees Fahrenheit (107 degrees Celsius).
Slow Exhaust: As required to reach zero pressure.
Open door (1/4 inch): 5 minutes.

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CHAPTER 3

UNIT-LEVEL MAINTENANCE

Section I. GENERAL INFORMATION

3–1. Overview

Maintenance functions, both preventive and corrective, that are beyond the scope of the user are assigned to unit-level medical equipment repairer personnel. These personnel will perform the majority of maintenance required for the sterilizer except for some tasks involving the chamber and case. This chapter provides instructions and information to aid in performing the required tasks.

3–2. Lubrication instructions

a. Chamber door. The chamber door and hinge pins should be lubricated semi-annually with high temperature grease while in routine use or a minimum of once each year. Procedures for disassembling, lubricating, and reassembling the chamber door and hinges are listed in tables 3–1 and 3–2.

Table 3–1. Chamber Door Lubrication Procedures.

1. Remove the chamber door stop.
2. Remove the door handle retaining ring.
3. Unscrew the door handle.
4. Grease the exposed bearing and screw threads.
5. Reverse the operation of steps 3 through 1 to assemble the door.

Table 3–2. Hinge Lubrication Procedures.

1. Loosen the allen screws in the hinge blocks.
2. Drive the pins out using an aluminum or brass drift.
3. Grease the pins.
4. Reverse the operation of steps 2 and 1 to assemble the hinge.

b. Case. The hinges and latches should be oiled with a few drops of general-purpose lubricating oil or light motor oil at least annually.

3–3. Tools and test equipment

Common tools and test equipment required for unit-level maintenance are listed in appendix B, section III of this manual.

3–4. Components of end item and basic issue items

Components of end item and basic issue items are listed in appendix C, sections II and III of this manual.

3–5. Expendable supplies

Expendable supplies and materials required for unit-level maintenance are listed in appendix D, section II of this manual.

3–6. Repair parts

Repair parts required for unit-level maintenance are listed in appendix E, section II of this manual.

3–7. Special tools

Special tools required for unit-level maintenance are listed in appendix E, section III of this manual.

Section II. SERVICE UPON RECEIPT OF EQUIPMENT

3–8. General

Most of the installation tasks can be handled by equipment operators. However, help will be required in moving and placing the sterilizer, connecting electrical power, if required, and installing drain lines or the steam and condensate kit. Additionally, other tasks may be required by medical equipment repairers if problems develop during sterilizer checkout.

a. Electrical connections. Sterilizer operators are not authorized to make any electrical power connections. Therefore, medical equipment repairers will ensure that the power source is adequate and that electrical connections are installed. (See chap 2, sec II.)

b. Preventive maintenance checks and services (PMCS). Operator's PMCS are provided in TM 8-6500-001-10-PMCS, appendix J.

Section III. MECHANICAL SERVICES AND ADJUSTMENTS

3–9. Jacket

a. Mineral deposits. The quality or hardness of the water used in the sterilizer jacket will determine the frequency that the interior of the jacket and the heating elements should be cleaned. As a minimum, the jacket should be inspected annually.

b. Low water cut-off. An indication of excessive accumulation of minerals will be the activation of the low water cut-off while water is still in the jacket.

c. Cleaning. Follow the procedures listed in table 3–3 for cleaning mineral deposits.

Table 3–3. Jacket Cleaning Procedures.

1. Disconnect electrical power from the sterilizer.
2. Remove the heater box cover.
3. Disconnect the electrical wiring from the heater terminals.
4. Remove the hex nuts on the heater assembly.
5. Remove the heater assembly from the jacket.
6. Remove the mineral deposits.
7. Inspect the heater assembly and replace heaters, if damaged.
8. Replace the heater assembly gasket.
9. Reverse the operation of steps 5 through 1 to reassemble the heater assembly.

3–10. Operating valve

The only periodic problem with the operating valve is leaking of the valve seat or stem packing. Replacement of defective parts is performed following the procedures listed in figure 3–1.

CAUTION

Ensure that the leg on the stem fork labeled "O" is inserted in the stepped hole in the carbon seat. The side of the seat with the partially milled slot is the seat face and should be placed against the face of the valve body. The valve is off when the stem keyway is 45 degrees to the left of the top of the valve as viewed from the front of the sterilizer.

3–11. Chamber door

a. Disassembly and assembly of the chamber door for the performance of maintenance services or actions is accomplished by following the detailed instructions in table 3–4.

Table 3–4. Chamber Door Disassembly and Assembly Instructions.

1. Remove the chamber door stop.
2. Unscrew the door handle retaining ring.
3. Remove the three door post screws on the inside of the door and knock out the door post.
4. Rotate the door hub until the arms are clear of the fulcrums and lift off the entire assembly.
5. Reverse the operation of steps 4 through 1 to assemble the door. Ensure that the hole in the hub flange aligns with the peg in the door to enable the door to be locked.

NOTE

The O-ring under the door post should be replaced when the door post is reassembled.

b. The door gasket is replaced by aligning the gasket with the door groove and pushing it into place with your fingers at four equi-distant locations. Soap and water will ease the installation. Then carefully work the gasket into the groove until it is evenly distributed around the door.

3–12. Electric heaters

Replacement of defective electric heaters is performed by following the jacket cleaning procedures in table 3–3 and the additional procedures listed in table 3–5.

Table 3–5. Electric Heater Replacement Procedures.

1. Unscrew the male connections holding the heater(s) to the plate and replace the defective heater(s).
2. Seal all joints.
3. Remove the support(s) from the defective heater(s) and place the support(s) on the new heater(s).
4. Install a new gasket.
5. Refasten the male connections holding the heater(s) to the plate.

3–13. Vacuum dryer assembly

a. The vacuum dryer assembly permits a slight vacuum to be developed in the chamber to assist in drying sterilized materials. It allows filtered air into the chamber with the door closed to minimize the danger of contamination by outside air currents.

b. The vacuum dryer assembly is susceptible to mineral deposits in the filter and requires periodic cleaning or replacement of the Monel wool.

3–14. Low water cut-off

a. The low water cut-off may require periodic adjustments due to severe field conditions. This is accomplished by holding the plunger stationary and turning the hexagonal adjustment screw clockwise (in) to raise its setting. Operate the sterilizer through a 270 degrees Fahrenheit (118 degrees Celsius) cycle, and after it is about 10 minutes into the cycle, turn the calibrating screw counterclockwise until the low-water cut-off trips. Then, turn the screw clockwise about ⅛ turn and reset the low water cut-off.

b. The operation of the low water cut-off should be verified periodically after sterilization requirements are complete. This is accomplished by providing electric heat to the jacket while draining it. The low water cut-off should activate prior to the jacket being completely drained.

CAUTION

The low water cut-off verification will only be performed while a medical equipment

Table 2–6. Typical Sterilization Periods—Continued.

Small instruments (emergency)
Sterilize: 3 minutes at 270 degrees Fahrenheit (118 degrees Celsius).
Fast Exhaust: As required to reach zero pressure.

WARNING

Personal injury or equipment damage may result from bursting bottles and hot fluids. Follow these procedures:

—Use only vented bottles. Do not use screw caps or rubber stoppers with crimped seals.
—Use only Type 1 borosilicate (pyrex) glass bottles. Do not use ordinary glass bottles or any container not designed for sterilization.
—Carefully follow procedures for sterilizing bottled solutions.
—Do not jolt hot bottles because rough handling may cause bottles to explode.
—Do not handle bottles if liquid inside the bottles is still boiling or bubbling.
—Move only sterilized bottles that are cool.

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VALVE STEM PACKING REPLACEMENT

1. Unscrew the "packing nut" from the "valve stem."
2. Remove the "gland."
3. Remove the "preformed packing" and replace it.
4. Inspect the "gland" and reinstall it or install a new "gland."
5. Replace the "packing nut."

VALVE SEAT REPLACEMENT

1. Remove the five "screws" (only two shown in figure) from the "valve bonnet."
2. Open the valve and remove the "valve seat," "washer," and "spring" and install all three parts from a operating valve kit.
3. Inspect the "gasket" and reinstall it or replace it, if required.
4. Reassemble the valve and replace the five "screws."

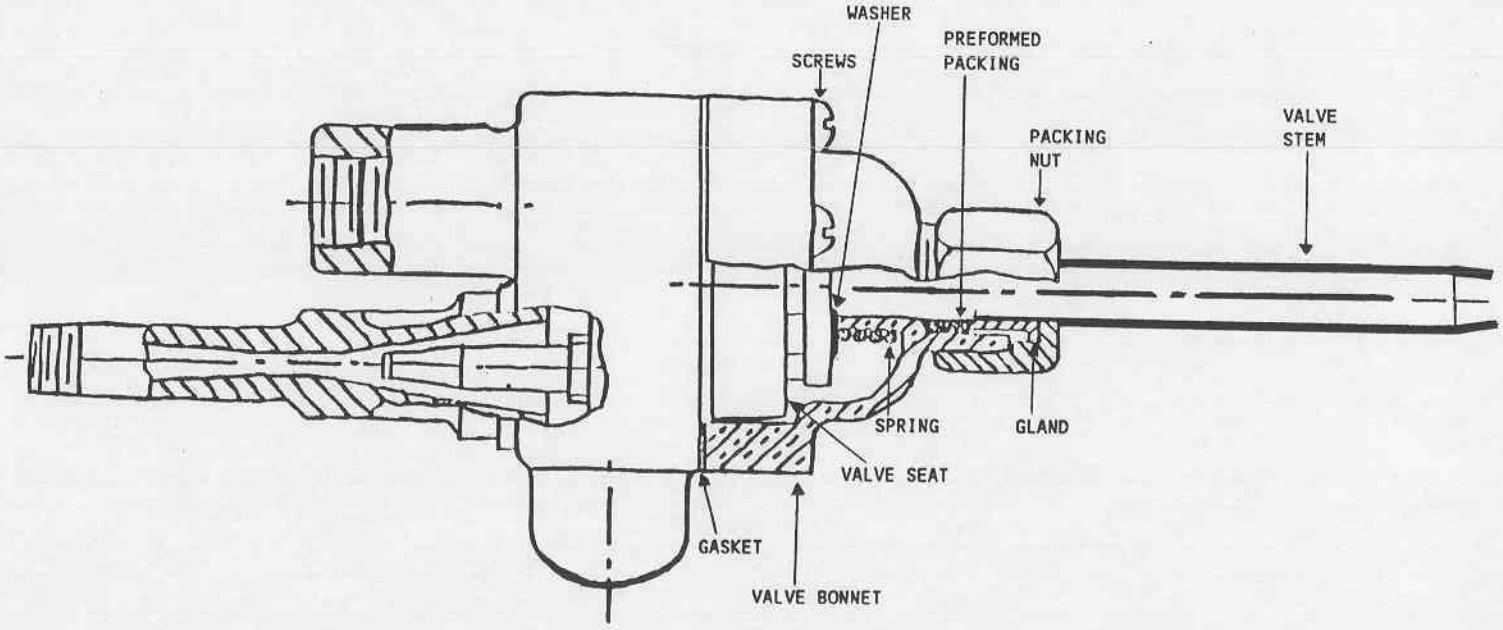

Figure 3-1. Operating Valve.

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repairer is present to preclude damage to the sterilizer.

NOTE

In the event that the jacket becomes loaded with lime and other mineral deposits, the low water cut-off will continue to trip out during operation. When this occurs, follow the procedures in table 3–3 for cleaning the jacket.

3–15. Safety relief valves

a. Using protective gloves, test the safety relief valves daily by lifting the handles of the valves when the jacket contains steam.

CAUTION

Activation of the safety relief valves' handles will release steam and/or hot water.

b. Immediately report to medical equipment repairer personnel if there is continuous leaking of steam or hot water from either valve.

c. The valves should be periodically removed from the sterilizer and soaked in acetic acid (vinegar) to remove mineral deposits caused by hard water.

3–16. Water level indicator gauge

a. The water level indicator gauge and the connecting elbow (refer to fig E–2, item 26) are susceptible to mineral deposits from hard water. Indications of mineral deposits in the glass tubing are readily evident, but mineral deposits in the connecting elbow are not visible. This problem typically is indicated by a jacket full of water and the water level indicator gauge showing a significantly lower level.

b. The glass tubing should be removed and cleaned periodically.

c. The connecting elbow should be disconnected, inspected for mineral deposits, and cleaned or replaced, as required.

Section IV. TROUBLESHOOTING

3–17. General

a. General troubleshooting information for locating and correcting many of the operating malfunctions which may develop in the sterilizer are listed in table 3–6. This table lists the common malfunctions which you may find during the operation or maintenance of the sterilizer. You should perform the tests or inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all tests and corrective actions. If a malfunction is not listed or is not determined by routine diagnostic procedures, notify your appropriate maintenance support unit.

Table 3–6. General Troubleshooting.

SYMPTOM POSSIBLE CAUSE CORRECTIVE ACTION
1. PILOT LIGHT DOES NOT LIGHT. (ELECTRICAL OPERATION.)
No power to unit.
Check power line and fuses.
Defective power switch.
Replace power switch.
Lamp burned out.
Replace lamp.
Loose electrical connections.
Check wiring for loose connections or broken wire and repair.
Low water cut-off tripped.
Press the "RESET" button.
2. NO STEAM PRESSURE. (ELECTRIC OPERATION.)
Defective pressure control.
Repair or replace control.
Contactor coil defective.
Replace contactor coil.

Table 3–6. General Troubleshooting—Continued.

SYMPTOM POSSIBLE CAUSE CORRECTIVE ACTION
3. STEAM PRESSURE HIGH, LOW, OR ERRATIC. (ELECTRIC OPERATION.)
Pressure control sticking or defective.
Repair or replace pressure control.
Pressure gauge error.
Verify accuracy or replace pressure gauge.
Loose electrical connection.
Check wiring for broken wire or loose connection and repair.
4. EXCESSIVE TIME TO GENERATE STEAM. (ELECTRIC OPERATION.)
Low voltage.
Check and adjust.
Defective heating element.
Replace heating element.
Loose electrical connection to heaters.
Check wiring to heaters and repair.
Mineral deposits in jacket.
Clean jacket and heating elements.
5. CHAMBER DOES NOT COME UP TO OPERATING TEMPERATURE OR PRESSURE.
Operating valve handle incorrectly positioned.
Turn handle to proper position.
Steam trap stuck open.
Repair steam trap.
Plugged screen in chamber drain.
Clean screen.
Door leaks.
Tighten door or replace door gasket.
Defective thermometer.
Replace thermometer.
Pressure gauge error.
Verify accuracy or replace gauge.
Pressure control or pressure regulator set too low.
Adjust regulator.

Table 3–6. General Troubleshooting—Continued.

SYMPTOM POSSIBLE CAUSE CORRECTIVE ACTION
6. LOW WATER CUT-OFF TRIPS WITH WATER IN JACKET. (ELECTRIC HEAT.)
Mineral deposits in jacket.
Clean jacket and heating elements.
Low water cut-off needs adjustment.
Adjust low water cut-off.
7. WATER IN CHAMBER.
Plugged screen in chamber drain.
Remove screen and clean.
Plugged drain line.
Clean drain line.
Steam trap does not open for water.
Repair steam trap.
8. STEAM COMES OUT VACUUM DRYER.
Vacuum dryer clogged and inoperative.
Repair vacuum dryer.
Vacuum dryer not in a vertical position.
Straighten vacuum dryer.
9. LOAD DOES NOT DRY.
Vacuum dryer clogged.
Repair vacuum dryer.
Operating valve handle not properly positioned.
Turn to proper position.
Heat source shut off during dry cycle.
Continue jacket pressure throughout cycle.
Vacuum dry time insufficient.
Time for full 15 minutes.
Materials improperly loaded.
Arrange load so moisture will drain off.
10. SOLUTION EXHAUST TOO FAST OR TOO SLOW.
Operating valve handle not positioned properly.
Turn to proper position.
Operating valve plugged or defective.
Clean or repair operating valve.

Table 3–6. General Troubleshooting—Continued.

SYMPTOM POSSIBLE CAUSE CORRECTIVE ACTION
11. SAFETY VALVE RELEASES PREMATURELY OR DOES NOT RELEASE AT SET PRESSURE.
Defective safety valve.
Replace safety valve.
12. CASE OVERHEATS. (GASOLINE BURNER OPERATION.)
Insufficient venting.
Check flue for obstruction and for proper draft.
Firebox door(s) closed.
Open door(s).
Wing baffle improperly positioned.
Position wing baffle properly.
13. NO STEAM PRESSURE. (DIRECT STEAM OPERATION.)
Steam valve closed.
Open supply valve.
Faulty steam control valve.
Repair.
No steam supply to unit.
Supply steam to unit.
14. STEAM PRESSURE TOO HIGH, LOW, OR ERRATIC. (DIRECT STEAM OPERATION.)
Steam supply less than 35 psi minimum.
Increase steam supply pressure.
Steam pressure regulator sticking or defective.
Repair or replace steam pressure regulator.
Steam trap clogged or stuck open.
Repair steam trap.
Pressure gauge error.
Calibrate or replace pressure gauge.
Drain valve closed.
Open drain valve.

CHAPTER 4

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

Section I. GENERAL INFORMATION

4–1. Overview

This chapter provides for the accomplishment of corrective maintenance that is beyond the capability, capacity, and authorization for unit-level maintenance personnel. The procedures in this chapter should not be attempted at the unit level.

4–2. Support maintenance services

Specified components or assemblies identified in appendix B, section II, are only authorized for servicing by support-level maintenance units. The replacement of the asbestos insulation will only be accomplished in accordance with the military installation policies and procedures by appropriate personnel.

Section II. TROUBLESHOOTING

4–3. General

a. There are no specific troubleshooting procedures at these levels of maintenance.

b. A defect such as distortion or structural failure may not be apparent until some evidence develops on a surface. Check for evidence of canted, buckled, or wrinkled covering, loose rivets, or moving rivets.

NOTE

A working rivet has movement under structural stress, but has not loosened such that movement can be observed. This condition can sometimes be detected by a dark, greasy residue or deterioration of paint around rivet heads.

APPENDIX A

REFERENCES

A–1. Army Regulations

AR 40–61	Medical Logistics Policies and Procedures
AR 710–2	Supply Policy Below the Wholesale Level
AR 725–50	Requisitioning, Receipt, and Issue System
AR 750–1	Army Materiel Maintenance Policy and Retail Maintenance Operations
AR 750–2	Army Materiel Maintenance Wholesale Operations
AR 750–43	Test, Measurement, and Diagnostic Equipment

A–2. Technical Manuals

TM 8–6500–001–10–PMCS	Operator's Preventive Maintenance Checks and Services for Reportable Medical Equipment (Consolidated)
TM 10–7360–204–13&P	Operator's Organizational and Direct Support Maintenance Manual Including Repair Parts and Special Tools List for Range Outfit, Field; Gasoline, Model M59 (NSN 7360–00–082–2153); Burner Unit, Gasoline, Model M2 (7310–00–842–9247); Model M2A (7310–01–017–1285); Model M2A with Safety Device (7310–01–113–9172) and Accessory Outfit, Gasoline, Field Range with Baking Rack (7360–00–187–4757)
TM–DPSC–6500–RPL	Medical Repair Parts Reference List

A–3. Technical Bulletins

TB 38–750–2	Maintenance Management Procedures for Medical Equipment
TB 43–180	Calibration and Repair Requirements for the Maintenance of Army Materiel
TB 740–10/DLAM 4155.5/AFR 67–43	Quality Control, Depot Storage Standards, Appendix M, Medical Supplies
TB 750–8–1	Maintenance Expenditure Limits for Medical Materiel: FSC Groups (Medical Only)

A–4. Field Manual

FM 21–11	First Aid for Soldiers

A–4. Supply Bulletins

SB 700–20	Army Adopted/Other Items Selected for Authorization/List of Reportable Items
SB 708–48	Cataloging Handbook H4/H8, Commercial and Government Entity (CAGE) Sections A & B

A–5. Other Publications. (These publications may be obtained from Commander, U.S. Army Medical Materiel Agency, ATTN: SGMMA–M, Frederick, MD 21702–5001.)

Instruction Manual, Environmental Tectonics Corporation
Technical Manual, Atlantic Industries, Inc.

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B–1. General

a. This section provides a general explanation of all maintenance and repair functions, services, fault location or troubleshooting, removal and installation, and actions authorized at various maintenance levels.

b. Section II of this appendix designates authority and responsibility for the performance of maintenance functions on the identified end item or component. It also provides the work measurement time required to perform the function by designated maintenance levels. The application of the maintenance functions to the end item or component must be consistent with the capabilities and capacities of the designated maintenance levels, which are shown on the maintenance allocation chart (MAC) in column (4) as—

UNIT, which includes two subcolumns: C (operator) and O (unit maintenance).

SUPPORT, which includes three subcolumns: F (direct support), H (general support), and D (depot-level support).

c. Section III of this appendix lists the tools and test equipment required for each maintenance function as referenced in section II of this appendix.

B–2. Maintenance functions

Maintenance functions will be limited to and defined as follows:

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

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

c. Service. To keep an item in proper operating condition (clean, preserve, drain, paint, or replenish fuel, lubricants, hydraulic fluids, and compressed gas supplies).

d. Adjust. To maintain within prescribed limits by bringing into proper or exact position, or by setting the operating characteristics to specifications in this manual.

e. Align. To adjust specified variable elements of an item to optimum or desired performance.

f. Inspect or test electrical safety. To determine conformance to electrical safety parameters and make or report corrections.

g. Calibrate, verify, and certify. To determine compliance of medical equipment with applicable specifications or standards and to make the necessary corrections. To compare the item with a certified device, tool, or test equipment standard.

h. Remove and install. To remove and then install the same item when required to perform service or other maintenance functions. Install may involve emplacing, seating, or fixing into position an assembly, subassembly, module, or component to allow proper functioning of the end item.

i. Replace. To remove an unserviceable item and install a serviceable counterpart in its place.

j. Repair. To apply maintenance services, fault location or troubleshooting, removal and installation or disassembly and assembly procedures, and maintenance actions to identify troubles and to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, module, assembly, or end item.

k. Overhaul. To perform prescribed periodic maintenance in order to restore an item to a completely serviceable and operational condition as required by depot maintenance work requirements in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Normally, overhaul does not return an item to like-new condition.

l. Rebuild. To perform those services and actions necessary to restore unserviceable equipment to a like-new condition in accordance with the original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipment and components.

B–3. Explanation of columns in the MAC FOR STERILIZER (sec II)

a. Column (1), GROUP NUMBER. This column lists functional group numbers. They are used to

identify subassemblies, modules, and components with the next higher assembly.

b. Column (2), COMPONENT/ASSEMBLY. This column contains assemblies, subassemblies, modules, and components for which maintenance is authorized.

c. Column (3), MAINTENANCE FUNCTION. This column lists the functions to be performed on the items listed in column (2).

d. Column (4), MAINTENANCE LEVEL. This column specifies, by a work-time figure (expressed as man-hours and shown as whole hours or decimals) the level of maintenance authorized to perform the function listed in column (3). The work-time figure represents the average time required to restore an item (assembly, subassembly, module, or component) to a serviceable condition under typical field operating conditions. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work-time figures will be shown for each level. This time includes preparation time and quality assurance or quality control time in addition to the time required to perform the specific tasks identified for the authorized maintenance functions. An X indicates that the work-time figure is not applicable. The symbol designations for the various maintenance levels are as follows:

C.....	operator
O.....	unit–level maintenance
F.....	direct support maintenance
H	general support maintenance
D	depot–level maintenance

e. Column (5), TOOLS AND EQPT (equipment). This column specifies, by code (sec III of this app), those common tool sets (not individual tools) and test equipment required to perform the designated function.

f. Column (6), REMARKS. This column specifies, by code (listed in sec IV of this app), supplemental instructions and explanatory notes for a particular maintenance function.

B–4. Explanation of columns in TOOL AND TEST EQUIPMENT REQUIREMENTS FOR STERILIZER (sec III)

a. Column (1), REFERENCE CODE. The tool and test equipment reference code correlates with the code used in section II, column (5).

b. Column (2), MAINTENANCE LEVEL. This column identifies the lowest level of maintenance authorized to use the tool set or test equipment.

c. Column (3), NOMENCLATURE. This column lists the name of the tool set or test equipment.

d. Column (4), NATIONAL STOCK NUMBER. This column identifies the national stock number (NSN) assigned to the specific tool set or item of test equipment.

e. Column (5), LINE ITEM NUMBER. This column shows the line item number (LIN) identified in SB 700-20.

B–5. Explanation of columns in REMARKS FOR STERILIZER (sec IV)

a. Column (1), REFERENCE CODE. This column provides a code that correlates to the code used in section II, column 6.

b. Column (2), REMARKS. This column contains supplemental information and explanatory notes pertinent to the maintenance function being performed as indicated in section II of this appendix.

Section II. MAINTENANCE ALLOCATION CHART FOR STERILIZER

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQPT	(6) REMARKS
			UNIT		SUPPORT				
			C	O	F	H	D		
00	Sterilizer	Inspect	X						
		Test		0.8				01,02	A,B
		Electrical Safety Test	X	0.3				01,02 03,04 05	
		Service	X						
01	Heater Assembly	Test		0.3				01,02 03	
		Replace		0.5				01,02	
02	Control Box Assembly	Inspect	X						
		Repair		0.3				01,02 03	
021	Relay, Armature	Test		0.2				01,02 03	
		Replace		0.3				01,02	
022	Pressure Control	Test		0.1				01,02 03	
		Replace		0.3				01,02	
023	Pilot Light	Test		0.1				01,02 03	
		Replace		0.2				01,02	
024	Lamp, Neon	Test		0.1				01,02 03	
		Replace		0.2				01,02	
025	Switch, Toggle	Test		0.1				01,02 03	
		Replace		0.2				01,02	

Section II. MAINTENANCE ALLOCATION CHART
FOR
STERILIZER

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQPT	(6) REMARKS
			UNIT		SUPPORT				
			C	O	F	H	D		
026	Switch, Low Water Cut-off	Test		0.2				01,02 03	
		Replace		0.3				01,02	
027	Block, Terminal	Replace		0.2				01,02	
03	Operating Valve Assembly	Test		0.2				01,02	
		Repair		0.3				01,02	
		Replace		0.5				01,02	
04	Door Assembly	Test		0.3				01,02	
		Service	X						
		Repair		0.5				01,02	
041	Packing, Preformed (Door Gasket)	Inspect	X						
		Replace		0.2				01,02	
05	Vacuum Dryer Assembly	Test		0.3				01,02	
		Replace		0.8				01,02	
06	Gauges	Inspect	X						
		Test		0.2				01,02	
		Replace		0.5				01,02	
07	Timer	Test		0.3				01,02	
		Replace		0.3				01,02	
08	Case, Transport	Inspect	X						
		Repair		0.3				01,02	
		Overhaul				5.0		05	
09	Shelves	Inspect	X						
		Replace	X						
10	Chamber	Inspect	X						
		Replace		3.0				01,02	
		Overhaul				3.0		01,02 05	

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
STERILIZER

(1) REFERENCE CODE	(2) MAINTENNACE LEVEL	(3) NOMENCLATURE	(4) NATIONAL STOCK NUMBER	(5) LINE ITEM NUMBER
01	O	Tool Kit, Medical Equipment Maintenance and Repair: Repairmans	5180-00-611-7923	W45334
02	O	Tool Kit, Medical Equipment Maintenance and Repair: Org Maint	5180-00-611-7924	W45197
03	O	Multimeter, Digital:		
		AN/PSM45	6625-01-139-2512	M60449
		or		
		AN/PSM45A	6625-01-265-6000	M60449
04	O	Tester, Current Leakage: TS2514/P	6625-01-142-8233	T61791
05	F	Shop Equipment, Medical Maintenance: Depot Maint	4940-00-594-6455	T24386

Section IV. REMARKS
FOR
STERILIZER

(1) REFERENCE CODE	(2) REMARKS
A	Provided to indicate the category responsible for PMCS and the man-hour requirement. Where Medical Equipment Repairers are not authorized, the appropriate command(s) will designate responsibility for PMCS.
B	Performance will be accomplished by support-level maintenance for units without organic capability.
E	Special tool(s) required. Refer to Appendix E, Section III.

APPENDIX C

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

Section I. INTRODUCTION

C–1. Scope

This appendix lists components of the end item and basic issue items of the sterilizer to help you inventory the items required for safe and efficient operation.

C–2. General

The components of the end item and basic issue items lists are divided into the following sections:

a. Section II. COMPONENTS OF END ITEM FOR STERILIZER. These items are part of the equipment and will be with the end item whenever it is issued or transferred between property book accounts.

b. Section III. BASIC ISSUE ITEMS FOR STERILIZER. These are the minimum essential items required to place the equipment in operation, to operate it, and to perform emergency repairs. This manual is the authority to requisition replacement basic issue items (BII), based on TOE or MTOE authorization of the end item.

C–3. Explanation of columns

The following explanation of columns apply to both section II and section III.

a. Column (1), ITEM NUMBER. This column indicates a sequential number for items.

b. Column (2), NATIONAL STOCK NUMBER. This column indicates the NSN assigned to the item and will be used for requisitioning purposes.

c. Column (3), DESCRIPTION. This column indicates the Federal item name and, if required, a minimum description to identify and locate the item.

d. Column (4), U/M (unit of measure). This column indicates the measure used in performing the actual operational or maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN).

e. Column (5), QTY RQR (quantity required). This column indicates the quantity of the item used in the sterilizer.

Section II. COMPONENTS OF END ITEM FOR STERILIZER

(1) ITEM NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION	(4) U/M	(5) QTY RQR
1	4320-00-852-9036	Pump, Inflating	EA	1
2	7310-01-113-9172	Burner Unit, Gasoline	EA	1
3	5110-00-387-0005	Scraper Assembly	EA	1

Section III. BASIC ISSUE ITEMS FOR STERILIZER

(1) ITEM NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION	(4) U/M	(5) QTY RQR
1	4540-00-935-1505	Heating Element, Electrical with Sleeves	EA	3
2	5310-00-926-9399	Washer, Flat, Teflon	EA	2
3	5330-00-182-3392	Packing, Preformed, Silicone Rubber	EA	1
4	5330-00-832-5767	Gasket, Asbestos	EA	2

APPENDIX D

EXPENDABLE AND DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

D–1. Scope

This appendix lists expendable and durable supplies and materials that are required to maintain the equipment. This listing is authorization to requisition and retain the items if not otherwise authorized.

D–2. Explanation of columns

a. Column (1), ITEM NUMBER. This number is sequentially assigned.

b. Column (2), LEVEL. This column identifies the lowest level of maintenance that requires the listed item. An explanation of the alphabetical character is provided in appendix B, section I of this manual.

c. Column (3), NATIONAL STOCK NUMBER. This is the NSN assigned to the item; use it to request or requisition the item.

d. Column (4), DESCRIPTION. This column indicates the Federal item name and, if required, a description to identify the item.

e. Column (5), U/M (unit of measure). This column indicates the measure used in performing the actual operation or maintenance function. This measure is expressed by a two-character alphabetical abbreviation. If the unit of measure differs from the unit of issue, requisition the lowest unit of issue to satisfy the requirement.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST FOR STERILIZER

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	O	5970-00-419-4290	Tape, Electrical	RO
2	O	5975-00-043-3403	Cable, Tie	PG
3	O	6145-00-117-8858	Cable, Power, Electrical, 3-Conductor	RO
4	O	6145-00-191-3614	Cable, Power, Electrical, 4-Conductor	RO
5	O	6850-00-110-4498	Cleaning Compound	PT
6	O	7920-01-004-7847	Cloth, Cleaning	RO
7	O	8030-00-889-3534	Tape, Teflon	RO

APPENDIX E

REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

E–1. Scope

This manual lists spare and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of unit-level, direct support, and general support maintenance. It authorizes the requisitioning and issue of spares and repair parts in consonance with the MAC (app B).

E–2. General

This appendix also contains the following sections.

a. Section II. REPAIR PARTS LIST FOR STERILIZER. A list of spares and repair parts authorized for use in the performance of maintenance. This list also includes parts that must be removed for replacement of the authorized parts.

b. Section III. SPECIAL TOOLS LIST FOR STERILIZER. A list of special tools, special TMDE, and other special support equipment authorized for the performance of maintenance.

E–3. Explanation of columns in REPAIR PARTS LIST FOR STERILIZER (sec II)

a. Column (1), ILLUST. (illustration) (FIG. NO. AND ITEM NO.). The figure number refers to the appropriate drawing. The item number is sequentially assigned and corresponds to the call-out number for the figure in this same column.

b. Column (2), NSN AND CAGE (Commercial and government entity) code/PART NUMBER. This column indicates the NSN on the upper line and the CAGE code and part number of the item on the lower line.

c. Column (3), NOMENCLATURE. Indicates the Federal item name and/or manufacturer name of the spare or repair part.

d. Column (4), EI QTY (end item quantity). This column indicates the total quantity of the item contained in the unit.

e. Column (5), U/I (unit of issue). This column indicates the unit of measure to requisition items. The measure is expressed by a two-character alphabetical abbreviation.

E–4. Explanation of columns in SPECIAL TOOLS LIST FOR STERILIZER (sec III)

a. Column (1), MAINTENANCE LEVEL. This column provides codes that denote the applicable level(s) requiring the special tools identified in this manual.

b. Column (2), REQUIRED QTY (quantity). This column identifies the required and authorized quantity of special tools at each maintenance level.

c. Column (3), NSN. This column identifies the NSN, when assigned. The NSN should be used for requisitioning.

d. Column (4), NOMENCLATURE and/or MANUFACTURER PART NUMBER. This column provides the name, identifying data, and manufacturer's reference number when an NSN is not assigned.

e. Column (5), CAGE code. This column provides a 5-digit code listed in SB 708-48. This is a alphanumeric code assigned to each manufacturer or distributor of an item that enters the Federal cataloging system. When a stock-numbered item is listed, several manufacturers may provide the item; therefore, each one will have a different CAGE code (formerly Federal supply code for manufacturers (FSCM)).

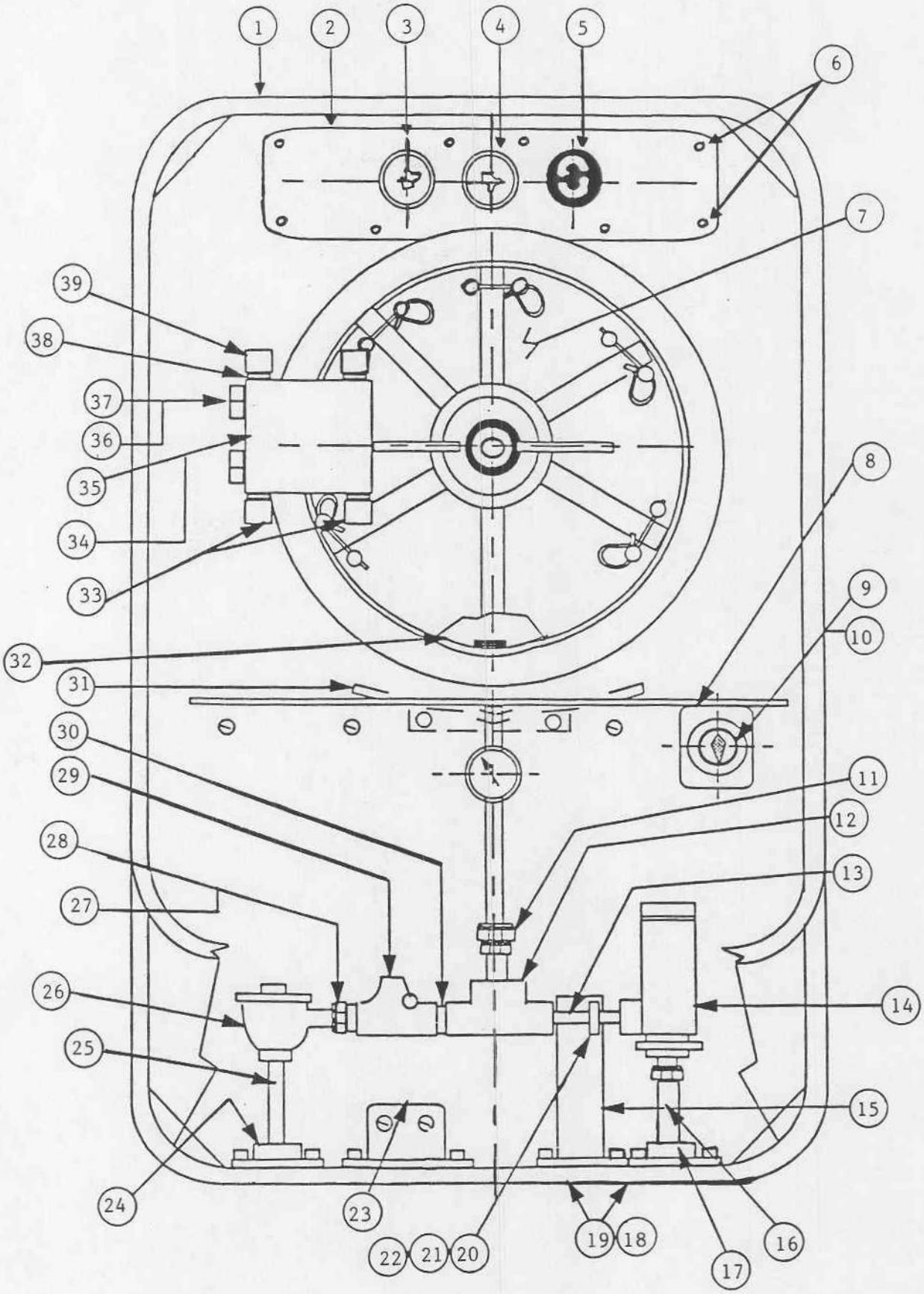

Figure E–1. Sterilizer, Front View.

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-1	1	33714/C300-906-96 3V634/75662-091	Case	1	EA
E-1	2	33714/C300-906-11 3V634/97851-010	Name Plate	1	EA
E-1	3	6685-00-832-5740 33714/C300-906-16 3V634/77096-010	Gauge, Pressure	1	EA
E-1	4	6685-00-832-5741 33714/C300-906-15 3V634/76852-010	Gauge, Compound, Pressure-Vacuum	1	EA
E-1	5	33714/C300-906-13 3V634/44330-091	Wheel, Hand (Operating Valve)	1	EA
E-1	6	33714/C300-906-12 3V634/9645-061	Screw, Drive	45	BX
E-1	7	33714/C300-906-2 3V634/78836-091	Door Assembly (Chamber Door)	1	EA
E-1	8	33714/C300-906-124 3V634/75680-010	Bracket, Timer	1	EA
E-1	9	33714/C300-906-125 3V634/150307-001	Timer	1	EA
E-1	10	33714/C300-906-126 3V634/150318-001	Knob, Timer	1	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-1	11	33714/C300-906-53 3V634/75346-061	Connector, Male, 1/2 in. odt by 3/8 in. ipt	3	EA
E-1	12	33714/C300-906-20 3V634/48689-091	Tee, 3/8 in.	3	EA
E-1	13	33714/A300-224-34/98 3V634/74112-061	Nipple, 3/8 in. by 3 in.	1	EA
E-1	14	33714/A300-224-17/98 3V634/56179/001	Dryer, Vacuum	1	EA
E-1	15	33714/A300-224-12/98 3V634/75654-091	Pipe Support Assembly	2	EA
E-1	16	33714/A300-224-37/98 3V634/75619-061	Nipple, Special	1	EA
E-1	17	33714/A300-224-33/98 3V634/75657-091	Coupling Assembly	1	EA
E-1	18	33714/C300-906-99 3V634/75664-010	Screw, Flat Head, 1/2-20 by 1 in.	34	BX

Section II. REPAIR PARTS LIST
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STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-1	19	33714/C300-906-100 3V634/75620-010	Washer	30	BX
E-1	20	33714/C300-906-81 3V634/19685-061	Washer, Lock, No. 10	6	BX
E-1	21	33714/C300-906-80 3V634/8647-061	Nut, Hex, 10-32	18	BX
E-1	22	33714/A300-224-15/98 3V634/77131-061	U-bolt	2	EA
E-1	23	33714/C300-906-127 3V634/55630-010	Brace	2	EA
E-1	24	33714/A300-224-3/98 3V634/75657-091	Coupling Assembly	1	EA
E-1	25	33714/A300-224-2/98 3V634/75660-061	Nipple, 3/8 in. by 3-3/4 in.	2	EA
E-1	26	33714/A300-224-1/98D 3V634/9976-091	Trap, Chamber, 3/8 in.	1	EA
E-1	27	33714/C300-906-48 3V634/4076-045	Spud, Male, 3/8 in.	2	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-1	28	33714/C300-906-47 3V634/2901-045	Nut, Union, 3/8 in.	2	EA
E-1	29	4820-00-288-6677 33714/A300-224-8/98 3V634/5424-091	Valve, Check, Swing	1	EA
E-1	30	33714/C300-906-57 3V634/48688-061	Nipple, 3/8 in. by 1 in.	2	EA
E-1	31	33714/C300-906-71 3V634/75632-001	Baffle Assembly, Flame	1	EA
E-1	32	4730-00-216-2094 33714/C300-906-10 3V634/12243-061	Strainer Element, Sediment	1	EA
E-1	33	33714/C300-906-7 3V634/112006-045	Screw, Socket, 1/4-20 by 1/4 in.	2	BX
E-1	34	33714/C300-906-4 3V634/48960-061	Pin, Hinge	2	EA
E-1	35	33714/C300-906-3 3V634/48707-010	Leaf, Hinge	1	EA
E-1	36	33714/C300-906-8 3V634/19687-061	Washer, Lock, 3/8 in.	12	BX

Section II. REPAIR PARTS LIST
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STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-1	37	33714/C300-906-9 3V634/31838-042	Screw, Hex Head, 3/8-16 X 1 in.	2	BX
E-1	38	33714/C300-906-6 3V634/31931-061	Washer	6	BX
E-1	39	33714/C300-906-5 3V634/48705-010	Hinge, Frame	1	EA

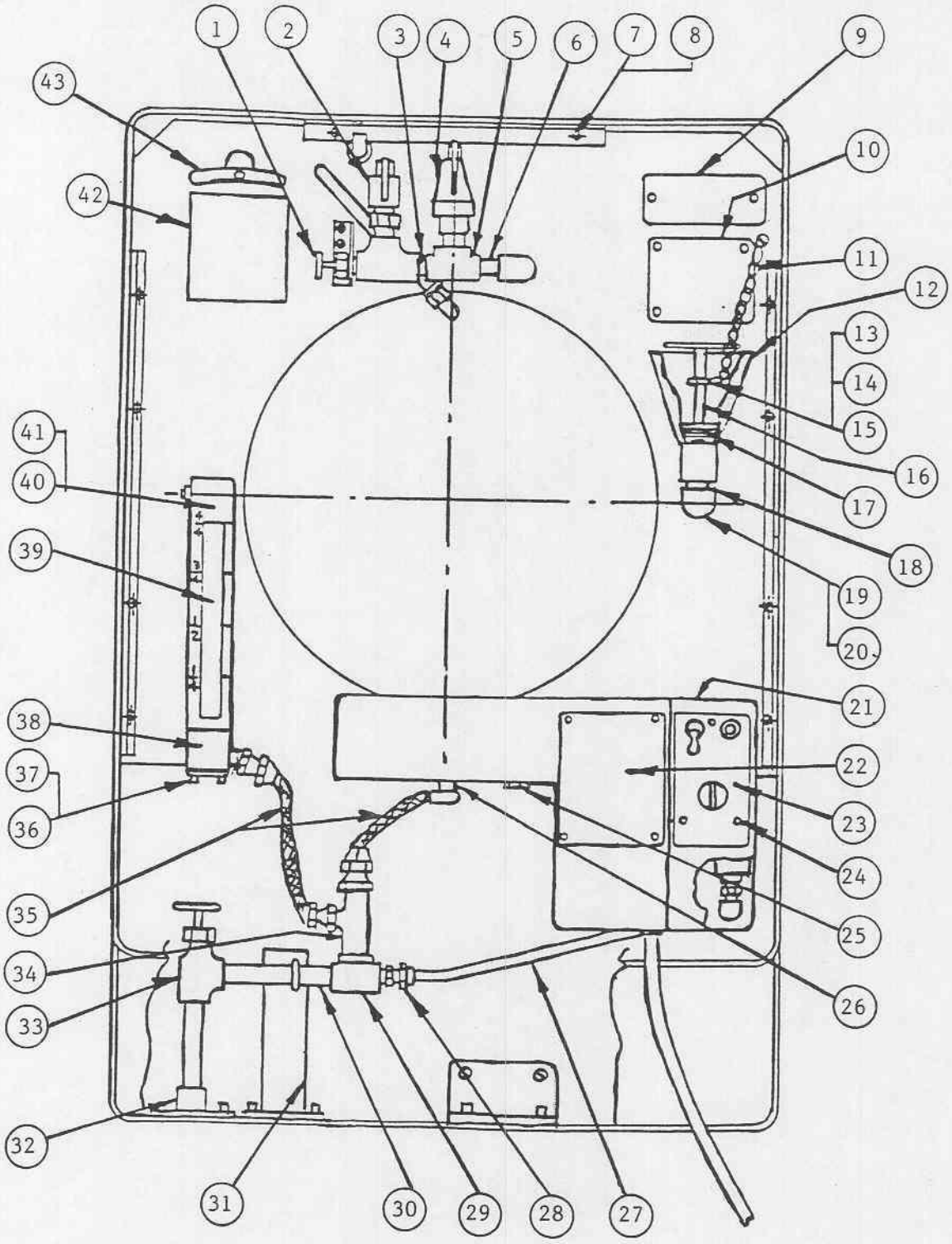

Figure E–2. Sterilizer, Rear View.

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-2	1	4820-00-935-1507 33714/C300-906-61 3V634/25510-042	Valve, Angle, Bronze	2	EA
E-2	2	4820-00-935-1509 33714/C300-906-60 3V634/76831-010	Valve, Safety Release, Bronze	1	EA
E-2	3	33714/C300-906-36 3V634/50230-061	Bushing, 1/2 in. by 3/8 in. ipt	1	EA
E-2	4	4820-01-249-1170 33714/C300-906-58 3V634/22097-010	Valve, Safety Relief, Bronze	1	EA
E-2	5	33714/C300-906-85 3V634/40525-061	Tee, 1/2 in.	1	EA
E-2	6	33714/C300-906-37 3V634/40519-061	Bushing, Nipple, 1/2 in. Close	2	EA
E-2	7	33714/C300-906-113 3V634/75328-010	Screw, Round Head, 1/4-20 by 3/4 in.	12	BX
E-2	8	33714/C300-906-114 3V634/19686-010	Washer, Lock 1/4 in.	10	BX
E-2	9	33714/C300-906-135 3V634/77133-091	Electrical Data Plate	1	EA
E-2	10	33714/C300-906-134 3V634/75614-091	Warning Plate	1	EA

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Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-2	11	33714/C300-906-44 3V634/75659-042	Chain	1	EA
E-2	12	33714/C300-906-38 3V634/75635-091	Funnel Assembly	1	EA
E-2	13	33714/C300-906-41 3V634/75661-061	Clip	1	EA
E-2	14	33714/C300-906-42 3V634/13334-041	Screw, 4-40 by 3/8 in.	1	BX
E-2	15	33714/C300-906-43 3V634/13794-041	Nut, Hex, 4-40	1	BX
E-2	16	33714/C300-906-45 3V634/75626-061	Plug Assembly	1	EA
E-2	17	5310-00-926-9399 33714/C300-906-40 3V634/75631-091	Washer, Flat, Teflon	1	BX
E-2	18	33714/C300-906-37 3V634/40519-061	Bushing, Nipple, 1/2 in. by Close	2	EA
E-2	19	33714/C300-906-35 3V634/75665-091	Elbow, 1/2 in. ipt	2	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-2	20	33714/C300-906-39 3V634/74115-061	Nipple, 1/2 in. by 1-1/2 in.	2	EA
E-2	21	33714/C300-906-109 3V634/99651-091	Electrical Control Box Assembly	1	EA
E-2	22	33714/C300-906-112 3V634/55641-031	Plate, Instructions	1	EA
E-2	23	33714/C300-906-111 3V634/55642-031	Plate, Name	1	EA
E-2	24	33714/C300-906-12 3V634/9645-061	Screw, Drive	45	BX
E-2	25	33714/C300-906-22 3V634/44731-061	Plug, Pipe, 3/8 in.	2	EA
E-2	26	33714/C300-906-154 3V634/150284-001	Elbow, Female 1/2 in. odt by 3/8 in. ipt	1	EA
E-2	27	33714/A300-197-12/108 3V634/75676-091	Tube, Pressure Control	1	EA
E-2	28	33714/C300-906-66 3V634/75358-061	Connector, Male, 3/8 in. odt by 3/8 in. ipt	2	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-2	29	33714/C300-906-20 3V634/48689-091	Tee, 3/8 in.	3	EA
E-2	30	33714/A300-197-13/108 3V634/48703-061	Nipple, 3/8 in. by 4-1/2 in.	1	EA
E-2	31	33714/A300-224-12/98 3V634/75654-091	Pipe Support Assembly	2	EA
E-2	32	33714/A300-224-3/98 3V634/75657-091	Coupling Assembly	2	EA
E-2	33	4820-00-935-1507 33714/C300-906-61 3V634/25510-042	Valve, Angle, Bronze	2	EA
E-2	34	33714/C300-906-153 3V634/150289-001	Tee, Male, 1/2 in. odt by 3/8 in. ipt	1	EA
E-2	35	33714/C300-906-14 3V634/150290-001	Hose	2	EA
E-2	36	33714/C300-906-30 3V634/22710-062	Screw, Hex Head, 5/16-18 by 2-1/2 in.	2	BX
E-2	37	33714/C300-906-31 3V534/19691-061	Washer, Lock 5/16 in.	3	BX

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-2	38	33714/C300-906-29 3V634/38942-091	Block, Gauge	1	EA
E-2	39	9340-00-926-4625 33714/C300-906-28 3V634/150294-001	Tubing, Glass, Round	1	EA
E-2	40	5330-00-250-1217 33714/C300-906-26 3V634/39067-091	Packing, Preformed, Rubber	2	EA
E-2	41	5330-00-292-0570 33714/C300-906-27 3V634/39066-091	Packing, Preformed	3	EA
E-2	42	33714/C300-906-136 3V634/77132-091	Identification Plate	1	EA
E-2	43	5110-00-387-0005 33714/C300-906-139 3V634/39078-010	Scraper Assembly	1	EA

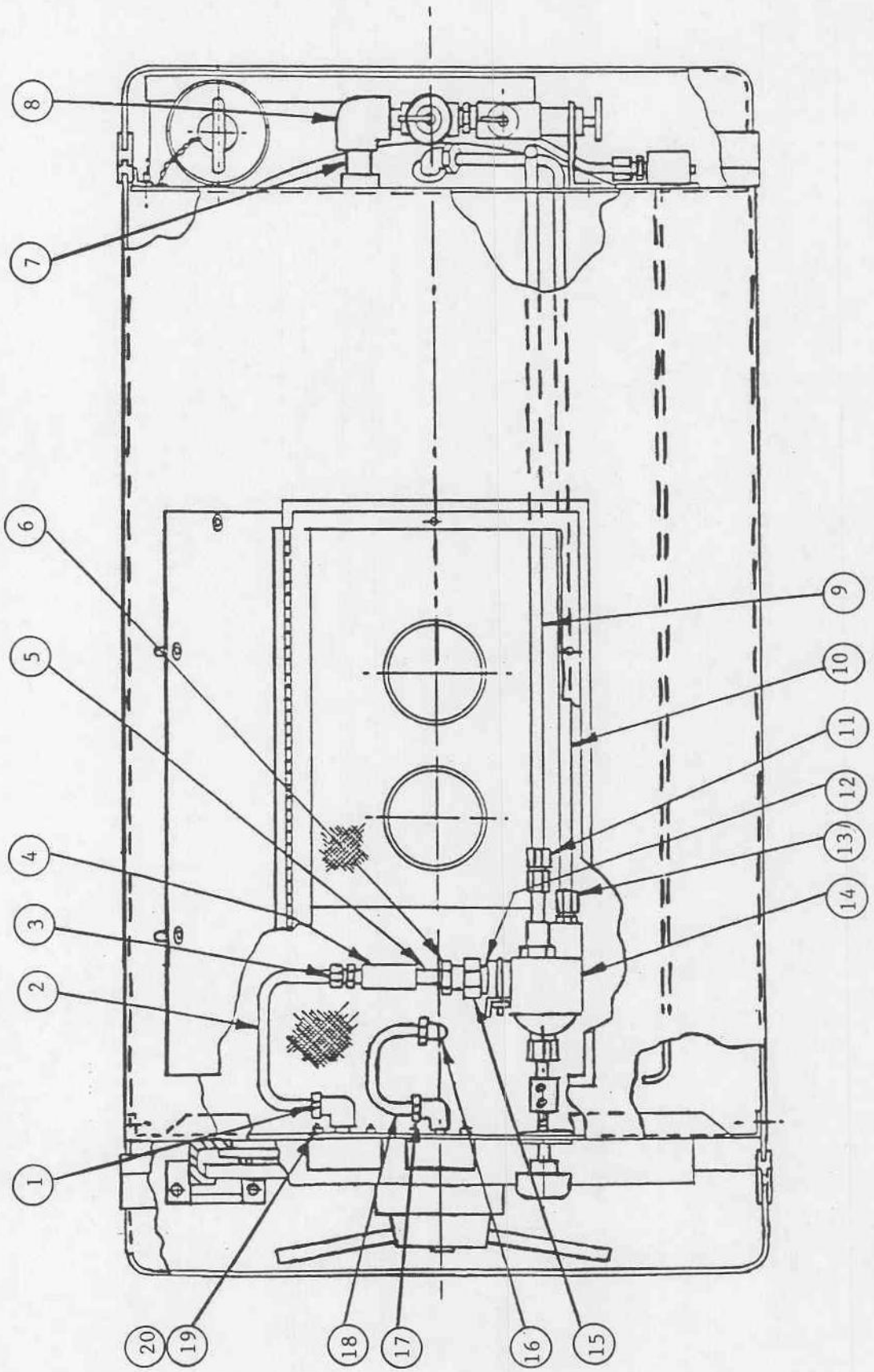

Figure E–3. Sterilizer, Top View.

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-3	1	33714/C300-906-46 3V634/75354-091	Elbow, Female, 3/8 in. odt by 1/4 in. ipt	2	EA
E-3	2	33714/C300-906-68 3V634/75673-091	Tube, Jacket Pressure	1	EA
E-3	3	33714/C300-906-66 3V634/75358-061	Connector, Male, 3/8 in. odt by 3/8 in. ipt	2	EA
E-3	4	33714/C300-906-65 3V634/75663-061	Tee, 3/8 in.	1	EA
E-3	5	33714/C300-906-64 3V634/75488-061	Nipple, 3/8 in. by 1-5/8 in.	1	EA
E-3	6	33714/C300-906-63 3V634/1626-045	End, Threaded, 3/8 in.	1	EA
E-3	7	33714/C300-906-39 3V634/74115-061	Nipple, 1/2 in. by 1-1/2 in.	2	EA
E-3	8	33714/C300-906-35 3V634/75665-091	Elbow, 1/2 in. ipt	2	EA
E-3	9	33714/C300-906-56 3V634/75672-091	Tube, Vent	1	EA

Section II. REPAIR PARTS LIST FOR STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-3	10	33714/C300-906-55 3V634/48683-091	Tube, Chamber, Steam	1	EA
E-3	11	33714/C300-906-54 3V634/75345-061	Connector, Female, 1/2 in. odt by 1/4 in. ipt	1	EA
E-3	12	33714/C300-906-48 3V634/4076-045	Spud, Male, 3/8 in.	1	EA
E-3	13	33714/C300-906-53 3V634/75346-061	Connector, Male, 1/2 in. odt by 3/8 in. ipt	3	EA
E-3	14	4820-01-244-2766 33714/C300-906-52 3V634/39069-091	Valve, Regulating, Temperature (Operating Valve)	1	EA
E-3	15	33714/C300-906-47 3V634/2901-045	Nut, Union, 3/8 in.	2	EA
E-3	16	33714/C300-906-67 3V634/75533-061	Elbow, Male, 3/8 in. odt by 1/4 in. ipt	1	EA
E-3	17	33714/C300-906-46 3V634/75354-091	Elbow, Female, 3/8 in. odt by 1/4 in. ipt	1	EA
E-3	18	33714/C300-906-69 3V634/75674-091	Tube, Chamber Pressure	1	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-3	19	33714/C300-906-80 3V634/8647-061	Nut, Hex, 10-32	18	BX
E-3	20	33714/C300-906-81 3V634/19685-061	Washer, Lock, No. 10	6	BX

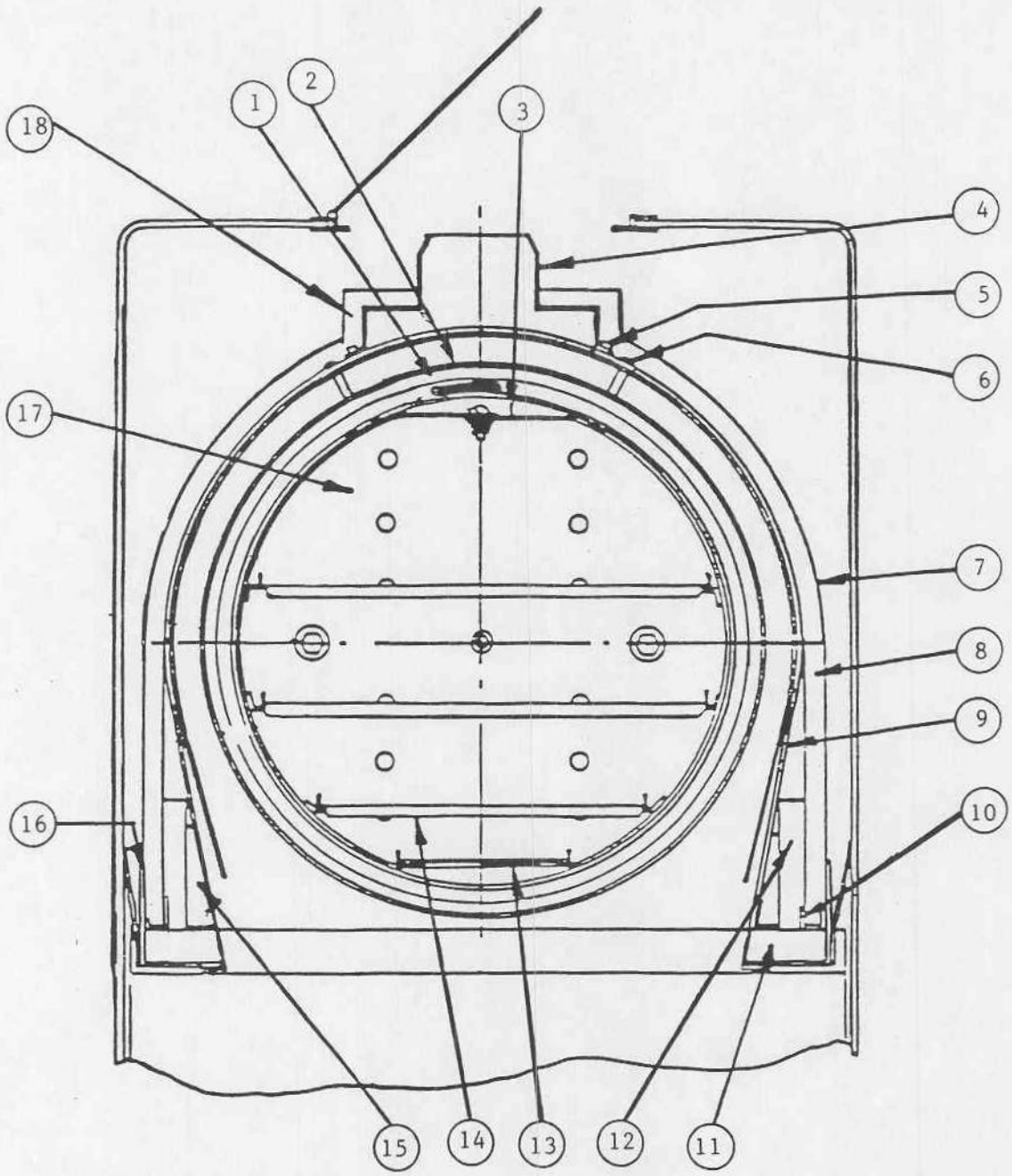

Figure E–4. Shelves.

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-4	1	33714/C300-906-149 3V634/55629-091	Insulation	1	EA
E-4	2	33714/C300-906-150 3V634/75649-091	Cover, Insulation	1	EA
E-4	3	33714/C300-906-115 3V634/38988-091	Shelf Rack Assembly	1	EA
E-4	4	33714/C300-906-77 3V634/75630-091	Stack Assembly	1	EA
E-4	5	33714/C300-906-72 3V634/75617-061	Screw, Pan Head, 8 by 3/8 in.	75	BX
E-4	6	33714/C300-906-78 3V634/75624-061	Post	8	EA
E-4	7	33714/C300-906-76 3V634/97854-091	Wire Mesh	1	EA
E-4	8	33714/C300-906-75 3V634/55629-091	Insulation	1	EA
E-4	9	33714/C300-906-73 3V634/97852-091	Flue Gas Deflector	1	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-4	10	33714/C300-906-70 3V634/75640-091	Channel	2	EA
E-4	11	33714/C300-906-89 3V634/75652-091	Insulation	4	EA
E-4	12	33714/C300-906-87 3V634/75650-091	Insulation	2	EA
E-4	13	33714/C300-906-119 3V634/38984-33	Shelf, Bottom	1	EA
E-4	14	33714/C300-906-123 3V634/38981-033	Shelf	6	EA
E-4	15	33714/C300-906-88 3V634/75651-091	Insulation	2	EA
E-4	16	33714/C300-906-62 3V634/54289-061	Leg	2	EA
E-4	17	33714/C300-906-116 3V634/38989-091	Baffle	1	EA
E-4	18	33714/C300-906-86 3V634/75649-091	Insulation	1	EA

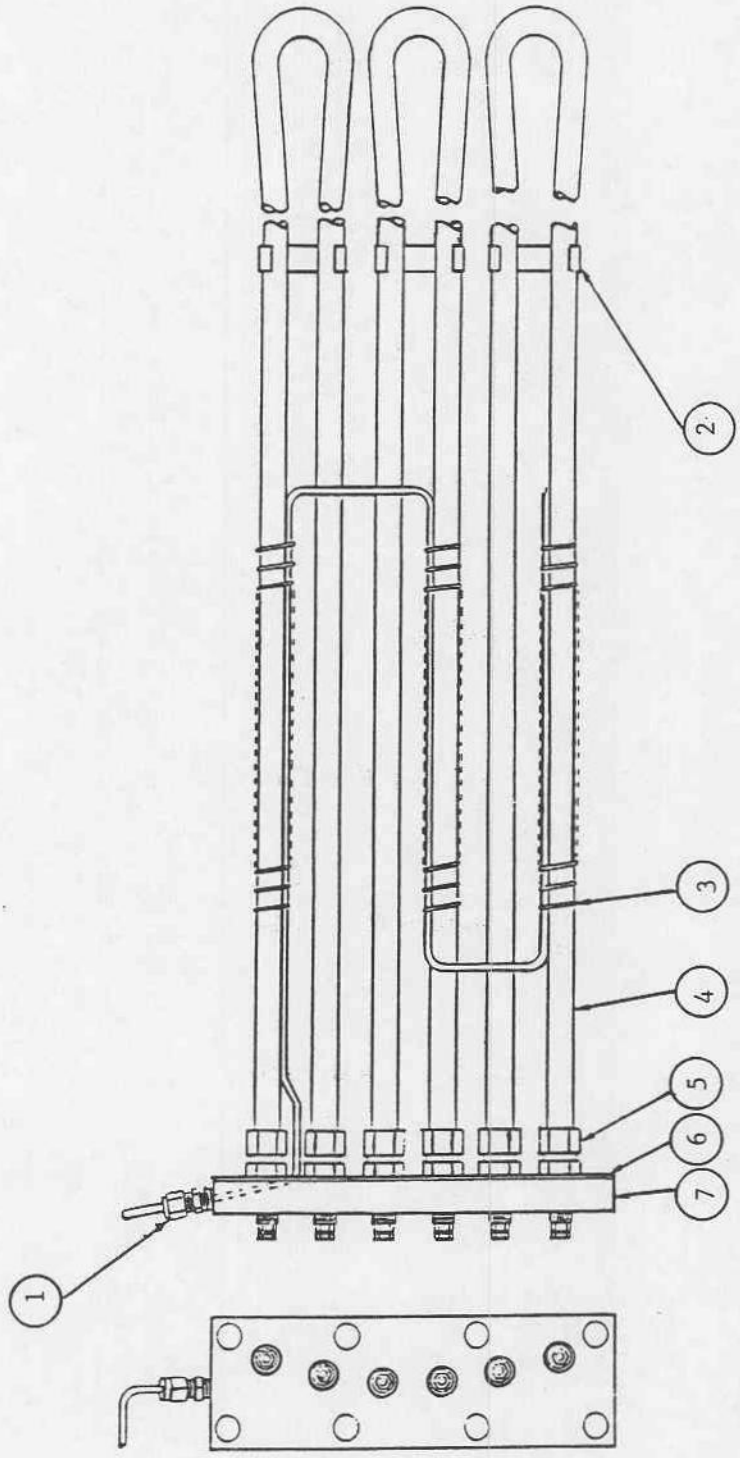

Figure E–5. Heater Assembly.

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-5	1	33714/C300-249-37/109 3V634/75480-091	Fitting	1	EA
E-5	2	33714/C300-249-49/109 3V634/75303-061	Support	3	EA
E-5	3	33714/C300-249-32/109 3V634/75517-061	Spring	3	EA
E-5	4	4540-00-935-1505 33714/C300-249-48/109 3V634/55638-091	Heating Element, Electrical	3	EA
E-5	5	33714/C300-249-47/109 3V634/48712-091	Connector, Male	6	BX
E-5	6	5330-00-832-5767 33714/C300-249-46/109 3V634/753-02-109	Gasket, Asbestos	1	EA
E-5	7	33714/C300-249-45/109 3V634/55637-091	Plate	1	EA

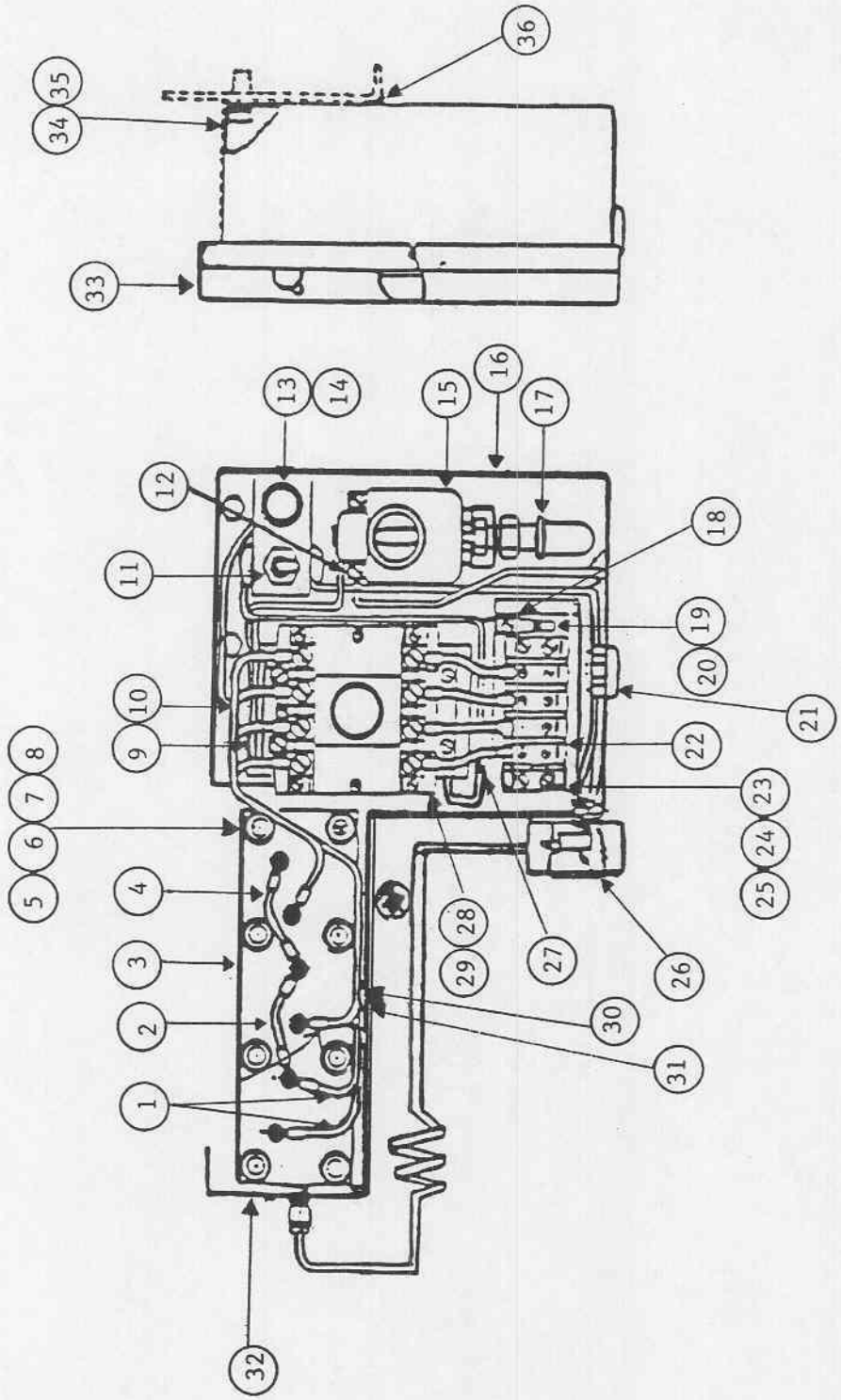

Figure E–6. Control Box Assembly.

Section II. REPAIR PARTS LIST FOR STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-6	1	33714/B300-265-22/109 3V634/75692-091	Wire Assembly, 12 in.	3	EA
E-6	2	33714/B300-265-29/109 3V634/75693-091	Wire Assembly, 3 in.	2	EA
E-6	3	33714/B300-265-28/109 3V634/99650-091	Heater Assembly	1	EA
E-6	4	33714/B300-265-13/109 3B634/75696-091	Wire Assembly, 6-1/2 in.	1	EA
E-6	5	33714/C300-960-23 3B634/24496-061	Nut, Hex, Lock, 3/8-16	8	BX
E-6	6	37114/C300-960-8 3B634/19687-061	Washer, Lock, 3/8 in.	8	BX
E-6	7	33714/C300-960-118 3B634/10412-042	Washer, 3/8 in.	8	BX
E-6	8	33714/B300-265-24/109 3V634/75481-061	Stud, 3/8-16	8	BX

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-6	9	33714/B300-265-23/ 109 3B634/75695-091	Wire Assembly, 8 in.	2	EA
E-6	10	33714/B300-265-20/ 109 3V634/75691-091	Wire Assembly, 9 in.	1	EA
E-6	11	5930-00-503-3991 33714/B300-265-7/ 109 3V634/150291-001	Switch, Toggle	1	EA
E-6	12	33714/B300-265-41/ 109 3B634/75699-091	Wire Assembly	1	EA
E-6	13	6210-00-834-2681 33714/B300-265-5/ 109 3V634/29517-091	Light, Indicator, Red (Pilot Light)	1	EA
E-6	14	6240-00-223-9100 33714/B300-265-6/ 109 3V634/23883-091	Lamp, Glow	1	EA
E-6	15	5930-00-926-7458 33714/B300-265-4/ 109 3V634/23884-091	Switch, Pressure	1	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-6	16	33714/C300-906-109 3V634/99651-091	Control Box Assembly	1	EA
E-6	17	33714/B300-265-46 3V634/75354-091	Elbow, Female, 3/8 in. odt by 1/4 in. ipt	1	EA
E-6	18	33714/B300-265-39/109 3V634/75697-091	Wire Assembly	1	EA
E-6	19	33714/B300-165-133 3V634/14166-091	Terminal, Ground	1	EA
E-6	20	33714/B300-265-9/109 Not available	Screw, 10-32 by 3/4 in.	5	BX
E-6	21	33714/B300-265-10/109 3V634/22366-091	Bushing, Insulating	1	EA
E-6	22	33714/B300-265-8/109 3V634/39091-091	Block, Terminal	1	EA
E-6	23	33714/B300-265-156 3V634/12540-061	Screw, Machine, Round Head, 10-32 by 1/2 in.	2	BX

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-6	24	33714/B300-265-166 Not available	Washer, Flat	2	BX
E-6	25	33714/B300-265-157 3V634/150306-001	Nut, Elastic, Lock, 10-32	2	BX
E-6	26	33714/B300-265-30/109 3V634/56182-001	Low Water Cut-off	1	EA
E-6	27	33714/B300-265-12/109 3V634/75690-091	Wire Assembly, 3-3/4 in.	4	EA
E-6	28	5945-00-782-6843 33714/B300-265-2/109 3V634/39082-091	Relay, Armature	1	EA
E-6	29	33714/B300-265-3/109 3V634/75617-061	Screw, Round Head, 8 by 3/8 in.	3	BX
E-6	30	33714/B300-265-36/109 3V634/75648-091	Spacer, 3/16 in.	2	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-6	31	33714X/B300-265-35/109 3V634/12531-061	Screw, Round Head, 6-32 by 3/8 in.	2	BX
E-6	32	33714/B300-265-34/109 3V634/55640-010	Cover, Heater	1	EA
E-6	33	33714/B300-265-18/109 3V634/75354-091	Cover	1	EA
E-6	34	33714/B300-265-4/2 3V634/10572-061	Screw, Hex Head, 1/4-20 by 5/8 in.	2	BX
E-6	35	33714/B300-265-14/109 3V634/49134-061	Washer	2	BX
E-6	36	33714/B300-265-16/109 3V634/75647-091	Shield	1	EA

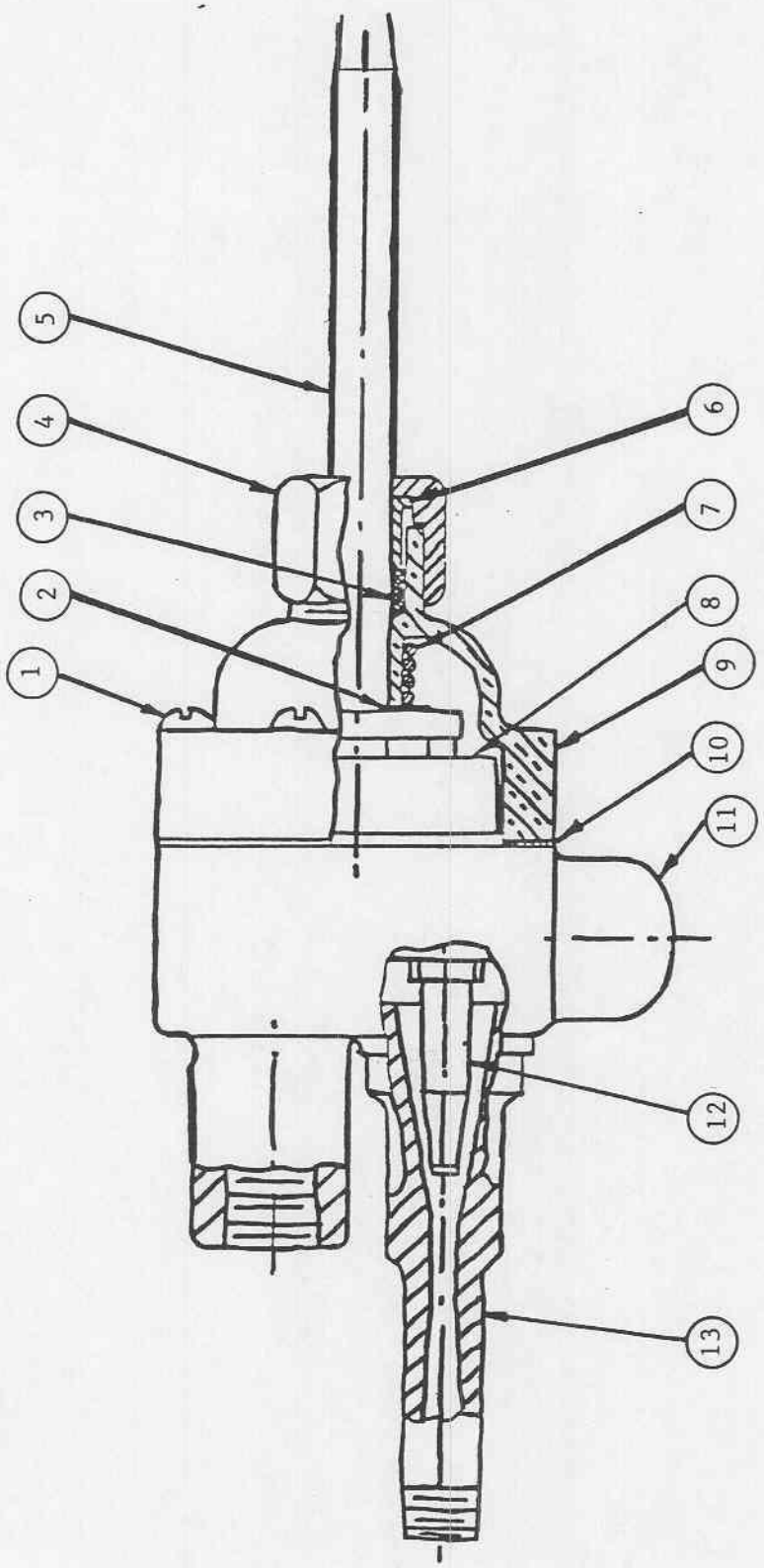

Figure E–7. Operating Valve Assembly.

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-7	1	33714/B300-210-13/52 3V634/12541-061	Screw, Round Head, 10-32 by 1 in.	5	BX
E-7	2	33714/B300-210-3/52 3V634/10414-045	Washer*	1	EA
E-7	3	5330-00-883-9212 33714/B300-210-5/52 3V634/46355-091	Packing, Preformed, Asbestos*	1	EA
E-7	4	33714/B300-210-7/52 3V634/8604-045	Nut, Packing	1	EA
E-7	5	33714/B300-210-2/52 3V634/20579/061	Stem	1	EA
E-7	6	33714/B300-210-6/52 3V634/7755-091	Gland	1	EA
E-7	7	33714/B300-210-4/52 3V634/9280-061	Spring*	1	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-7	8	4820-00-832-5585 33714/B300-210-8152 3V634/20720-091	Seat, Valve, Graphite*	1	EA
E-7	9	33714/B300-210-1/52 3V634/308-045	Bonnet	1	EA
E-7	10	5330-00-880-3154 33714/B300-210-9/52 3V634/7765-091	Gasket, Asbestos*	1	EA
E-7	11	33714/B300-210-10/52 3V634/39068-045	Body, Valve	1	EA
E-7	12	33714/B300-210-12/52 3V634/9739-045	Tube, Ejector	1	EA
E-7	13	33714/B300-210-11/52 3V634/2998-091	Nozzle	1	EA
E-7	**	6530-01-160-2524 02964/P764317-873 89875/00-832-5585	Parts Kit, Surgical Instrument (Kit, Operating Valve)	1	KT

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-7		33714/C300-906-52 3V634/39069-091	Valve, Regulating Temperature (Operating Valve)	1	EA
		** When you order this parts kit, you will receive items marked with an *.			

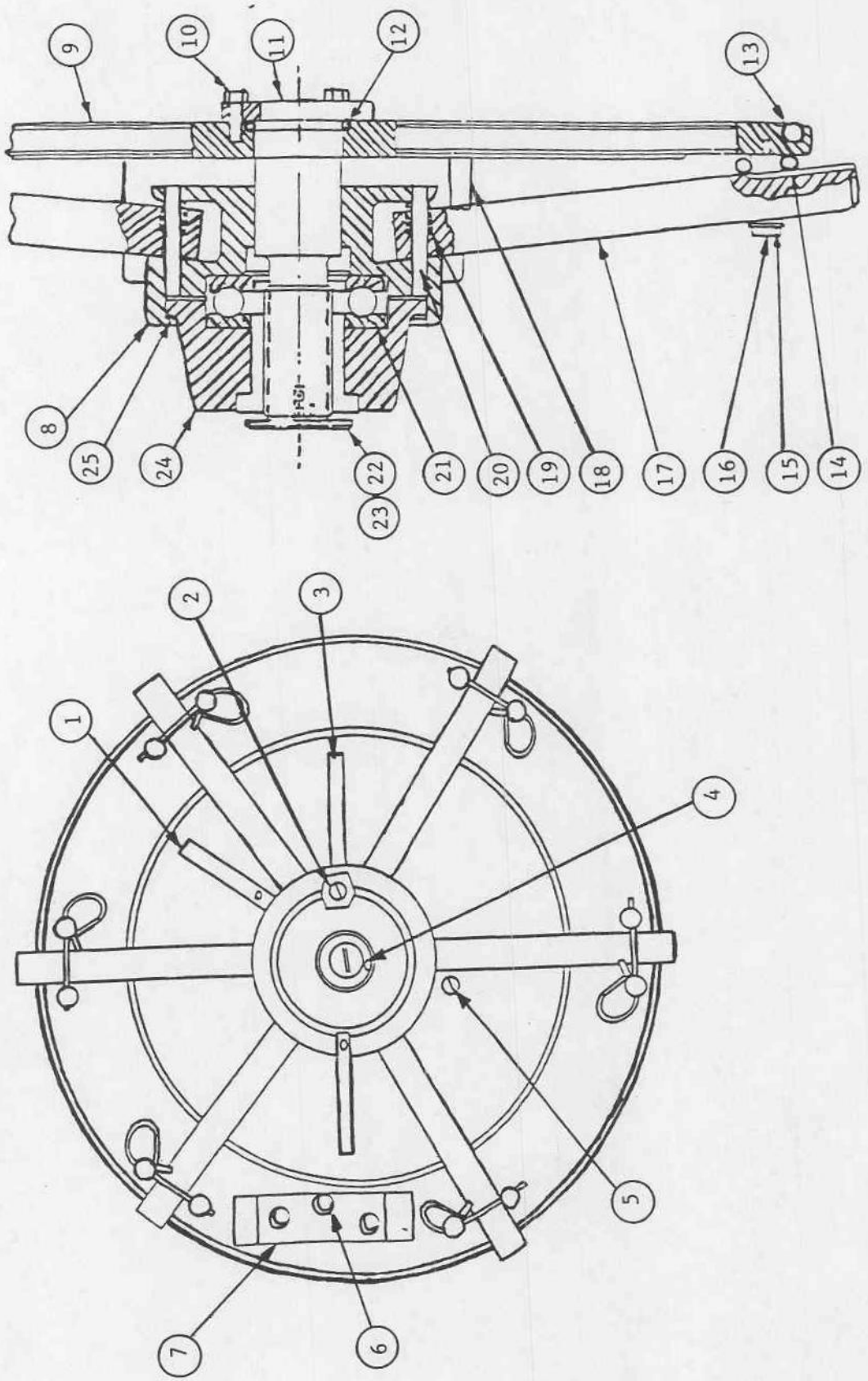

Figure E–8. Door Assembly.

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-8	1	33714/B300-264-20/2 3V634/38972-010	Rod, Throw Arm	1	EA
E-8	2	33714/B300-264-24/2 3V634/39118-061	Pin, Alignment	1	EA
E-8	3	33714/B300-264-19/2 3V634/38973-010	Handle	2	EA
E-8	4	33714/B300-264-26/2 3V634/24885-061	Pin, Spiral	1	EA
E-8	5	33714/B300-264-10/2 Not available	Stop	1	EA
E-8	6	33714/B300-264-22/2 3V634/12423-041	Screw, Socket Head, 5/16-18 by 3/4 in.	3	BX
E-8	7	33714/B300-264-21/2 3V634/48706-010	Hinge, Door	1	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-8	8	33714/B300-264-5/2 3V634/38971-010	Hub, Retraction	1	EA
E-8	9	33714/B300-264-1/2 3V634/55742-010	Plate, Door	1	EA
E-8	10	33714/B300-264-4/2 3V634/10572-061	Screw, Hex Head, 1/4-20 by 5/8 in.	3	BX
E-8	11	33714/B300-264-3/2 3V634/48710-061	Post, Door	1	EA
E-8	12	33714/B300-264-2/2 3V634/39117-091	Ring, Seal	1	EA
E-8	13	5330-00-182-3392 33714/B300-264-23/2 3V634/38965-091	Packing, Preformed, Silicone Rubber	1	EA
E-8	14	6530-00-134-3159 33714/B300-264-16/2 3V634/150286-001	Door, Radial Arm Fulcrum Kit	6	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-8	15	33714/B300-264-15/2 3V634/78830-061	Pin, Lock	6	EA
E-8	16	33714/B300-264-17/2 3V634/78831-010	Post	12	EA
E-8	17	33714/B300-264-6/2 3V634/78833-010	Arm, Radial	6	EA
E-8	18	33714/B300-264-10/2 3V634/38955-010	Stop	1	EA
E-8	19	33714/B300-264-7/2 3V634/39116-091	Spring	6	EA
E-8	20	33714/B300-264-8/2 3V634/38968-061	Pin, Roll	6	EA
E-8	21	33714/B300-264-11/2 3V634/38961-091	Bearing, Thrust, Ball	1	EA

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-8	22	33714/B300-264-25/2 3V634/13150-061	Screw, Flat Head, 3/8-16 by 3/4 in.	1	BX
E-8	23	33714/B300-264-9/2 3V634/48276-010	Washer	1	BX
E-8	24	33714/B300-264-13/2 3V634/49294-010	Handwheel Assembly	1	EA
E-8	25	33714/B300-264-14/2 3V634/38962-061	Ring, Retaining	1	EA

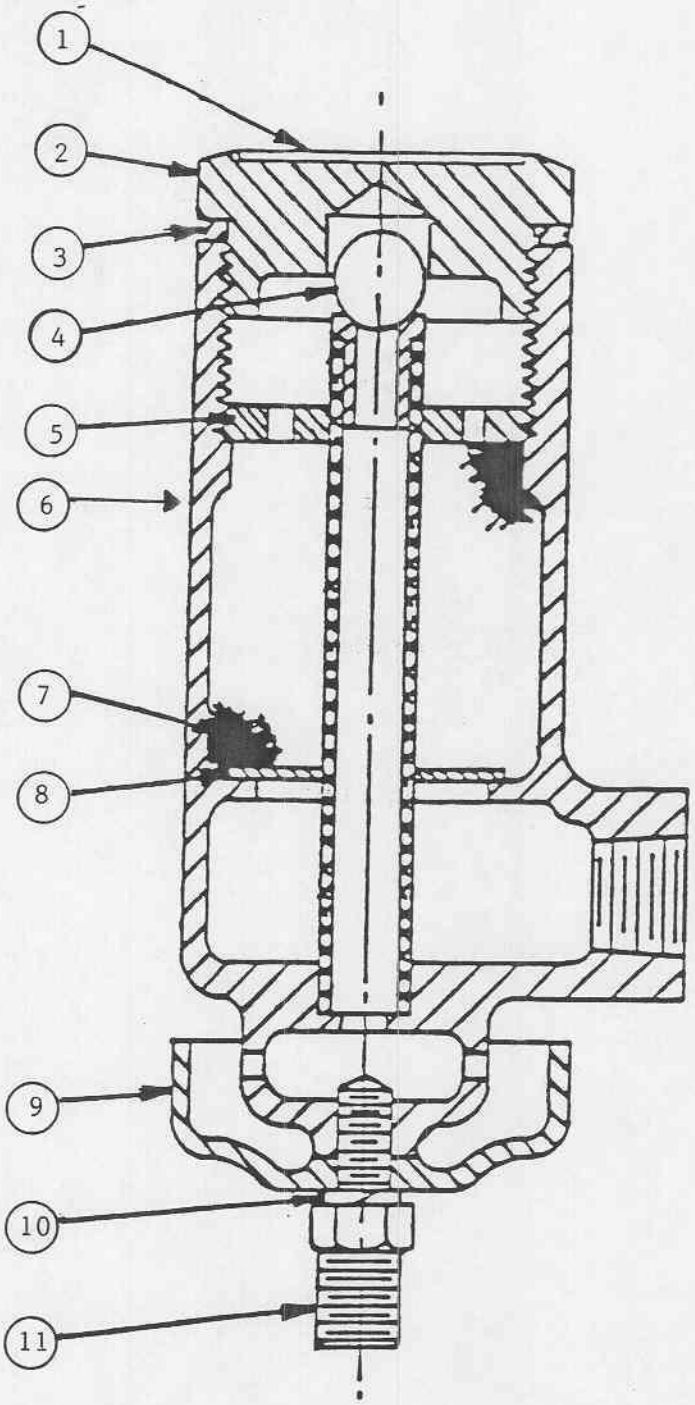

Figure E–9. Vacuum Dryer Assembly.

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-9	1	33714/B300-232-18/98 3V634/12008-091	Plate, Name	1	EA
E-9	2	33714/B300-232-19/98 3V634/12009-091	Plug, Ball, Retainer	1	EA
E-9	3	33714/B300-232-21/98 3V634/46754-091	Gasket	1	EA
E-9	4	33714/B300-232-20/98 3V634/12609-091	Ball	1	EA
E-9	5	33714/B300-232-22/98 3V634/8682-091	Nut, Filter Packing	1	BX
E-9	6	33714/B300-232-23/98 3V634/5756-091	Housing Assembly	1	EA
E-9	7	33714/B300-232-32/98 3V634/R1417-001	Wool, Monel	1	PG

Section II. REPAIR PARTS LIST
FOR
STERILIZER

(1) ILLUST. FIG NO.	(1) ILLUST. ITEM NO.	(2) NSN CAGE/PART NUMBER	(3) NOMENCLATURE	(4) EI QTY	(5) U/I
E-9	8	33714/B300-232-28/98 3V634/11334-047	Screen	1	EA
E-9	9	33714/B300-232-29/98 3V634/11602-091	Cup, Drip	1	EA
E-9	10	33714/B300-232-31 3V634/19691-061	Washer, Lock, 5/16 in.	1	BX
E-9	11	33714/B300-232-31/98 Not available	Stud, Mounting	1	EA
E-9		33714/B300-224-17/98 3V634/56179-001	Dryer Assembly	1	EA

Section III. SPECIAL TOOLS LIST FOR STERILIZER

(1) MAINTENANCE LEVEL	(2) REQUIRED QTY	(3) NSN	(4) NOMENCLATURE MANUFACTURER PART NUMBER	(5) CAGE
O	1	5110-00-387-0005	Scraper Assembly	02964

GLOSSARY

amps	Amperes.
BII	Basic issue items.
BX	Box.
CAGE	Commercial and government entity.
Component/module	A combination of parts mounted together in manufacture, which may be tested, replaced as a unit, or repaired (for example, operating valve, vacuum dryer, and heater assembly). The term "module" is normally associated with electronic equipment.
C	Operator maintenance.
D	Depot-level maintenance.
DS	Direct support.
Disassembly/assembly	The step-by-step removal of parts from a module or end item to obtain access to a defective part for replacement and the subsequent step-by-step process of fitting the module or end item together.
EA	Each.
EI QTY	End item quantity.
EQPT	Equipment.
F	Direct support maintenance.
FSCM	Federal supply code for manufacturers. (Obsolete term, see CAGE.)
Fault location/ troubleshooting	Investigating and detecting the cause of equipment malfunction; isolating a fault within a unit under test.
FIG	Figure.
GS	General support.
H	General support maintenance.
Hex	Hexagon(al).
Hz	Hertz (cycles per second).
ILLUST.	Illustration.
in (IN)	Inch.
ipt	Inside pipe thread.
KT	Kit.
LIN	Line item number.
MAC	Maintenance allocation chart.
Maintenance actions	Welding, grinding, riveting, straightening, facing, remachining, and resurfacing an item of equipment.
Maintenance capability	Availability of those resources—facilities; tools; TMDE; drawings; technical publications; trained maintenance personnel; engineering and management support; spares; and repair parts required to perform maintenance operations.
Maintenance capacity	A quantitative measure of maintenance capability usually expressed as the number of man-hours of direct labor that can be applied within a specific maintenance activity or shop, during a 40-hour week (1 shift, 5 days).
NO.	Number.
NSN	National stock number.
O	Unit maintenance.
odt	Outside diameter thread.
PG	Package.
PMCS	Preventive maintenance checks and services.
psi	Pounds per square inch.
PT	Pint.
QA/QC	Quality assurance or quality control.
QTY	Quantity.
RO	Roll.
RQR	Required.
TMDE	Test, measurement, and diagnostic equipment.

TOE/MTOE	Table(s) of organization and equipment or modified table(s) of organization and equipment.
U/I	Unit of issue.
U/M	Unit of measure.
V	Volts.

INDEX

This index is organized alphabetically by topic and by subtopic within a topic. Topics and subtopics are identified by paragraph number.

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