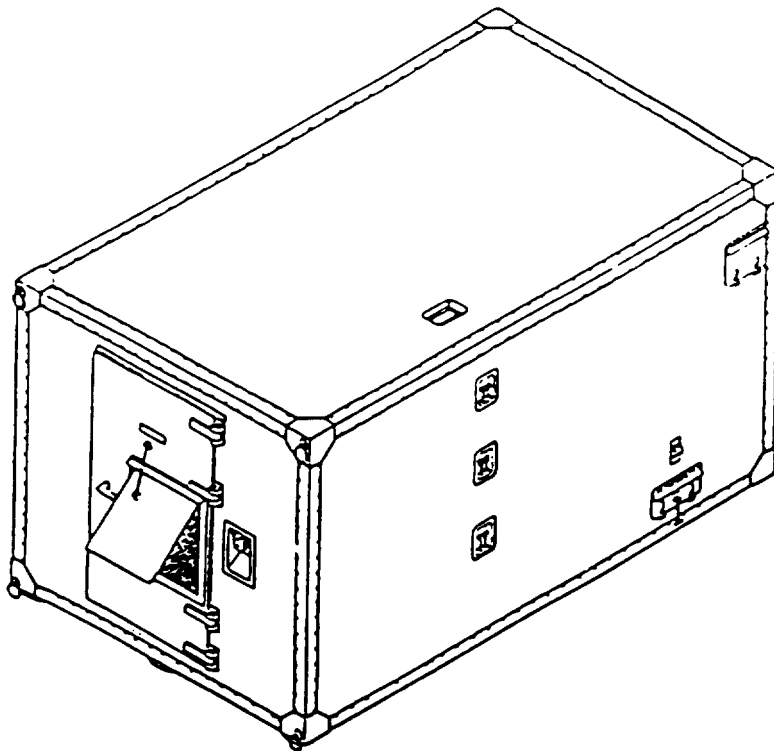


TECHNICAL MANUAL

**OPERATOR'S, UNIT, AND DIRECT SUPPORT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS
AND SPECIAL TOOLS LIST)**



**AIRMOBILE AVIATION FUEL
LABORATORY
(NSN 6640-00-902-9711)**

Approved for public release; Distribution is unlimited.

**HEADQUARTERS, DEPARTMENT OF THE ARMY
24 OCTOBER 1990**

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WASHINGTON, D.C., 30 September 1996

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(Including Repair Parts and Special Tools List)

AIRMOBILE AVIATION FUEL LABORATORY
(NSN 6640-00902-9711)

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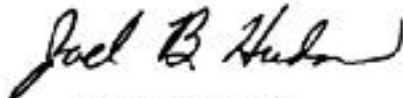
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(Including Repair Parts and Special Tools List)
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AIR MOBILE AVIATION FUEL LABORATORY
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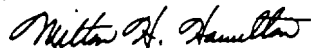
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Operator's, Unit and Direct Support Maintenance Manual
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DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A, Operator, Unit and Direct Support Maintenance requirements for Laboratory, Aviation Fuel, Air Mobile.

WARNING

HIGH VOLTAGE

is used in the operation of this equipment

DEATH ON CONTACT

may result if personnel fail to observe safety precautions.

Death or serious injury may result from connecting main power cable to Airmobile Laboratory before grounding the laboratory.

Do not attempt to connect live main power cable to laboratory electrical connector . Deactivate power source at generator set before connecting cable to connector.

WARNING

COMBUSTIBLE GASES

may be present in the shelter after prolonged periods

DEATH OR SERIOUS INJURY

may result if personnel fail to observe safety practices.

Do not attempt to enter laboratory during laboratory startup until automatic purge cycle (5 minutes) is completed. Dangerous combustible gases or vapors may be present which could ignite and cause death or serious injury to personnel.

WARNING

Mercury is a poisonous material which may enter the body by ingestion, inhalation, or skin absorption. Mercury has such density, high surface tension, and low viscosity that pouring without splashing and spilling is almost impossible. When mercury is poured, always use a funnel and make the transfer over spill trays. If a mercury spill occurs, do not vacuum or sweep the area. This will disperse mercury throughout the laboratory. Spills may be cleaned up by using a glass tube of about 1 mm and connected by rubber tubing to a filter flask connected with a vacuum pump or aspirator, the flask acting as a trap. Control of mercury vapor should not be attempted with Flowers or Sulfur as this is not effective. Spills must be reported to the Environmental Science Officer providing services to the unit.

Most cleaning solvents are hazardous. Avoid prolonged skin contact and breathing of vapors. Check container label for warning.

WARNING

RADIOACTIVE MATERIAL

The ionizing unit utilized with the analytical balance contains the radioactive isotope polonium which is an alpha emitter and can be a health hazard if ingested. When the unit is no longer effective as a static eliminator, the small quantity of radioactive material remaining presents a potential hazard if mishandled. Do not discard as scrap. Dispose of as radioactive material in accordance with TM 3-261.

WARNING

PRESSURIZED OXYGEN AND OIL

Do not lubricate valves or regulators on compressed gas bottles. Pressurized oxygen and oil can create an explosion that could cause death or injury to personnel.

WARNING

Monobromotrifluoromethane liquid or gas can cause

DEATH

or serious injury if personnel fails to observe safety precautions.

- Inhalation of monobromotrifluoromethane gas (Halon 1301) at concentrations of 5% to 6% for more than 4 or 5 minutes may result in serious cardiac or central nervous system effects.
- Liquid Halon 1301 (including the spray in the immediate vicinity of discharge) may freeze the skin (frostbite) on contact. Wear protective clothing and eye Protection to avoid such contact. In the event of frostbite, warm the effected area quickly to body temperature. Immerse hands in warm water or place hands in armpits, Get medical attention promptly.

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

AIRMOBILE AVIATION FUEL LABORATORY
(NSN 6640(M)902-9711)

Current as of 18 June 1991

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 these procedures, please let us know Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Aviation Troop Command, ATTN AMSAT-I-MP, 4300 Goodfellow Blvd.. St. Louis, MO 63120-1798 You may also submit your recommended changes by E-mail directly to <mpmt%cavma28@st-louis-mh7 army mil> A reply will be furnished directly to you Instructions for sending an electronic 20(28 may be found at the back of this manual immediately preceding the hard copy 202.8.

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HOW TO USE THIS MANUAL

The manual has been divided into chapters, sections, and paragraphs which are all numbered sequentially; figures and tables have also been numbered in the same manner. The operator's portion of the manual identifies major components and their location which will aid you, the operator, in performing your PMCS. Detail lubrication instructions which are mandatory are included within the operator's maintenance section.

Use the front cover locators and "marked/tabbed" pages to quickly find the parts of the manual shown on the cover. The "blocked" titles in the table of contents are the titles for these locators. These portions of the manual were chosen because they are used most often.

Maintenance procedures used by Unit, and Direct Support personnel are described in a step by step manner, ensuring the correct, and safe removal or repair of equipment. An alphabetical index at the back of the manual is referenced to the appropriate paragraph in the manual for ease of locating a specific task or procedure.

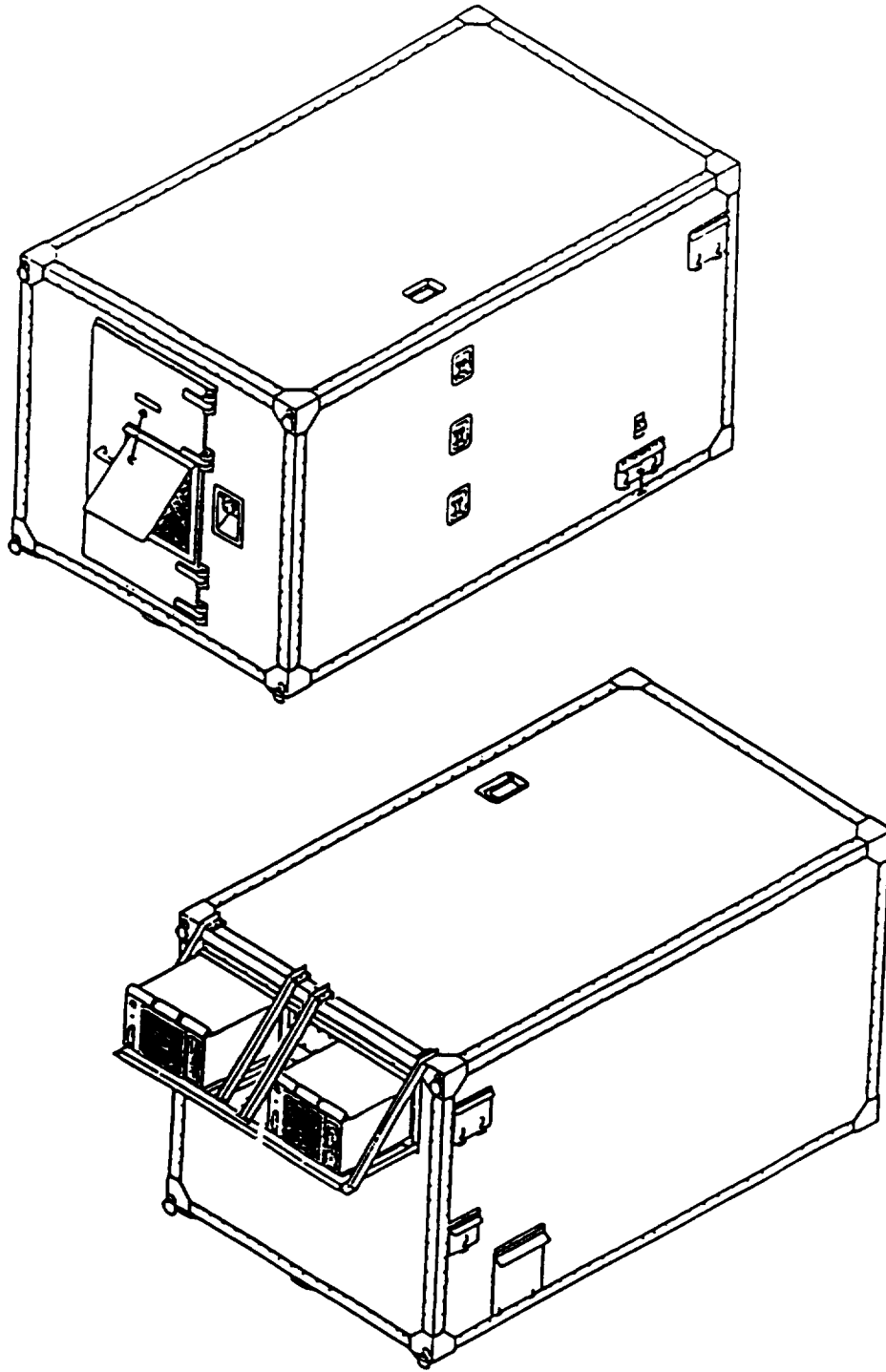


Figure 1-0. Airmobile Laboratory

CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

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1-1. SCOPE

- a. Type of Manual. This manual contains operation, maintenance instructions and repair parts and special tool list (RPSTL) for the operator, unit, and direct support maintenance personnel of the Airmobile Aviation Fuel Laboratory.
- b. Equipment Name. Laboratory, Airmobile, Aviation Fuel (NSN 6640-00-902-9711).
- c. Purpose of Equipment. To conduct aviation fuel and diesel fuel quality testing in the field.

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

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 736-750, The Army Maintenance Management System (TAMMS).

1-3. HAND RECEIPT (-HR) MANUALS.

This manual has a companion document with a TM number followed by "-HR" (Hand Receipt). The TM 10-6640-216-10-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (i. e., COEI, BII, and AAL) you must account for. As an aid to property account-

1-3. HAND RECEIPT (-HR) MANUALS - continued.

ability, additional -HR manuals may be requisitioned from the following source In accordance with procedures in AR 25-30:
Commander
U.S. Army Publications Distribution Center - St. Louis
ATTN: SFIS-APC-OC
1655 Woodson Road
St. Louis, MO 63114-6181

1-4. DESTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE.

Destruction of Army materials to prevent enemy use shall be in accordance with TM 750-244-3.

1-5. PREPARATION FOR STORAGE OR SHIPMENT.

Refer to Section IV of Chapter 3 for requirements concerning these preparations

1-6. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC).

The quality of the Airmobile Laboratory must at all times be in compliance with the requirements set forth in MIL-L-0051050C(ME), paragraph 4 If a discrepancy is found to exist between your laboratory and MIL-L-0051050C(ME), notify your supervisor.

1-7. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs).

If your Airmobile Laboratory 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 us at Commander, U S Army Aviation and Troop Command. ATTN A.MSAT-I-MDO, 4300 Goodfellow Boulevard, St. Louis. Missouri 63120-1798 We'll send you a reply

1-8. SAFETY, CARE, AND HANDLING.

Safe and efficient aviation fuel laboratory operations depend on the observance of well established safety practices and a thorough knowledge of testing procedures The testing procedures often involve using equipment and materials that are potentially hazardous. Injury to personnel and damage to equipment by fire, chemicals, dangerous pressures and vacuums, or misuse of equipment can be avoided by alert and responsible laboratory technicians. Strict observance of established safety, care and handling procedures will allow laboratory personnel to perform their duties in a safe and hazard-free environment

1-8. SAFETY, CARE, AND HANDLING - continued.

a. General Precautions. The following are general safety precautions that need to be observed by all operators of the Airmobile Laboratory.

- Always be mindful of tests in progress. Never allow horseplay or loud talking that would divert the attention of laboratory technicians. If it is necessary to leave the laboratory or to leave a test in progress, make certain no safety hazard will result from your absence.
- Do not attempt to perform tests simultaneously unless each test can be given the required attention.
- Whenever in doubt concerning any operation, consult qualified authority for advice.
- Do not attempt unauthorized shortcuts to save time, as they generally are not in accordance with safe laboratory procedures.
- Be prepared for any emergencies which may arise, and be familiar with the proper action to take in event of emergencies.
- When ending daily operations, make a thorough and orderly check of laboratory, equipment and facilities to ensure that no hazards may develop during the time the laboratory is unattended.

b. Preventing Fires. The following fire prevention rules must be observed in all laboratory procedures:

- Do not smoke in the airmobile laboratory.
- Never leave open flames or heating elements unattended.
- Never pour hot liquids into drains. Set aside hot liquids to cool thoroughly in covered containers before discarding.
- Make sure that chemicals which may react to produce dangerous fumes, fires, or explosion are stored in their proper places.
- Make sure that volatile liquids and flammable products are kept away from heat sources, open flames, direct sunlight, and electrical switches.
- Make certain that there is no open flame or exposed heating element nearby when pouring highly volatile liquids.
- Clean up chemical and liquid spills immediately.
- Always pour acid into water; never pour water into acid.
- Keep oily rags in a metal, airtight, closed container. Do not store oily rags in cabinets or drawers.
- Make certain laboratory is adequately ventilated.

1-8. SAFETY, CARE, AND HANDLING - continued.

- Check fire fighting equipment periodically to make certain it is properly serviced and ready for use. This is done by checking seals, tags, pressure gages, and hoses.
- c. Extinguishing Fires. Be familiar with the nature of petroleum fires; with procedures for fighting fires; and with the fire extinguishing equipment in the laboratory. Do not use water for extinguishing oil fires because it will spread the fire. Water is a conductor of electricity and should not be used on electrical fires.
- d. Handling Chemicals. The following safety precautions need to be observed by all personnel while handling chemicals.
- Store heavy and large containers of chemicals on or as near the floor as possible.
 - Never fill a container with material other than that indicated on the label. Make sure that every container is properly labeled.
 - Never place bottles containing acids or alkalis on high shelves or on top of equipment.
 - Always wear goggles when breaking up solid chemicals which might chip, or when handling quantities of corrosive liquids such as strong acids and strong bases.
 - When opening new bottles of acid, always wear goggles.
 - When pouring a sample from a container, hold the container cap or stopper in the hand. Never place the cap or stopper on a counter where it may come in contact with a contaminating agent.
 - Always wipe up any acid that spills or splashes on benches, tables, or floors.
 - If any chemical is spilled or splashed on the body, immediately wash the contaminated area thoroughly with water.
 - Keep all sample containers that are in use capped or stoppered at all times except when pouring out test portions. Always replace the same cap or stopper in the container from which it was removed.
 - Never handle mercury with bare hands; never heat mercury in an open container; and never shake more than 20 milliliters of mercury in a glass container.
 - Never taste laboratory chemicals. Smell a chemical only when necessary and then only by wafting a small amount of vapor with the hand toward the nose.
 - Dispose of all unlabeled chemicals.
- e. Controlling Pressure and Vacuum. The following safety precautions should be observed by all personnel while operating the air/vacuum systems.
- Do not use faulty copper, plastic, or rubber tubing when performing operations requiring pressure or vacuum.

1-8. SAFETY, CARE, AND HANDLING - continued.

- Make sure that glass vacuum apparatus is properly shielded when it is in use.
- Always wear goggles when opening air valves that are close to the face.
- Make sure that chemical containers having vent caps are inspected, and that containers which do not have vent caps are vented periodically.
- Keep containers of volatile liquids as cool as possible. Exercise caution in releasing any pressure which may have formed in the container; always release the pressure gradually. Remove caps or stoppers periodically to vent the vapor. The practice of venting containers of volatile liquids does not apply to those samples collected for vapor pressure tests.
- Vent separator funnels frequently when shaking volatile liquids. Always wrap the funnel with a rag when shaking an extremely volatile liquid.
- Store propane cylinders in the propane stowage locker, away from heat or ignition sources.

f. Controlling Fumes. The following safety precautions are presented to aid operators of the Airmobile Laboratory in controlling toxic fumes.

- Make certain the laboratory is properly ventilated at all times.
- Perform all gas alarm system tests and calibrations as specified to ensure proper operation of system.
- If any material is spilled which gives off toxic fumes, all personnel should leave the area immediately and return only after the area has been adequately purged.

g. Electrical Safety. The following electrical safety precautions apply to all operators and maintenance personnel for the Airmobile Laboratory.

- Equipment producing a tingle sensation will be reported promptly for repair.
- Keep the use of extension cords to a minimum and the cords as short as possible. Be sure insulation and wire size are adequate for the voltage and current to be carried.
- Work on electrical devices should be done after the power has been disconnected or shut off, and suitable precautions taken to keep the power off during the work.
- Never use metallic pencils or rulers, or wear rings or watches when working on electrical equipment.
- Avoid using or storing flammable liquids near electrical equipment.

1-9. NOMENCLATURE CROSS-REFERENCE LIST.

Common Name Or Abbreviation

Official Nomenclature

| | |
|----------------------|--|
| Airmobile Laboratory | Airmobile Aviation Fuel Laboratory |
| Gas Alarm | Gas Detection and Alarm System |
| ASTM | American Society for Testing and Materials |
| FTMS | Federal Test Methods Standards |
| ECU | Environmental Control Unit |
| RVP | Reid Vapor Pressure |
| LCD | Liquid Crystal Display |
| Hg | Mercury |
| Hz | Hertz |
| V | volts |
| JFTOT | Jet Fuel Thermal Oxidation Tester |
| psi | Pounds per Square Inch |
| amp | ampere |
| w | Watt |
| RPM | Revolutions per Minute |
| AC | Alternating Current |
| DC | Direct Current |
| lel | Lower Explosive Limit |
| Steam Super Heater | High Pressure Boiler |
| Steam Generator | Low Pressure Boiler |
| hp | Horsepower |
| pH | Degree of Acidity or Alkalinity |
| gph or GPH | Gallons per Hour |
| gpm or GPM | Gallons per Minute |
| %V | Percent of Volume |
| GFI | Ground Fault Interrupt |

Section II. EQUIPMENT DESCRIPTION AND DATA

Alphabetical Index

| Paragraph Title | Paragraph |
|---|------------------|
| Equipment Data | 1-12 |
| Equipment Purpose, Capabilities, and Features | 1-10 |
| Location and Description of Major Components | 1-11 |

1-10. EQUIPMENT PURPOSE, CAPABILITIES, AND FEATURES.

- a. Purpose. The Airmobile Laboratory is self-contained petroleum quality testing facility. It is designed to perform a variety of critical tests on aviation fuels such as JP-4, JP-8, and diesel fuel, in the field.
- b. Capabilities and Features. The Airmobile Laboratory is capable of performing the following American Society for Testing and Materials (ASTM) tests and Federal Test Methods Standards (FTMS):

ASTM

- D-86 Distillation of Petroleum Products
- D-93 Flash Point by Pensky-Martens Closed Tester
- D-130 Detection of Copper Corrosion From Petroleum Products by the Copper Strip Tarnish Test
- D-270 Sampling Petroleum and Petroleum Products
- D-287 API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
- D-323 Vapor Pressure of Petroleum Products
- D-1085 Gaging Petroleum and Petroleum Products
- D-1086 Measuring the Temperature of Petroleum and Petroleum Products
- D-1094 Test Method for Water Reaction of Aviation Fuels
- D-1250 Petroleum Measurement Tables
- D-1298 Density, Relative Density (Specific Gravity) or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method
- D-2276 Particulate Contamination in Aviation Fuel

1-10. EQUIPMENT PURPOSE, CAPABILITIES, AND FEATURES-continued.

FTMS

FTM5327 Determination of Fuel System Icing Inhibitor in Hydrocarbon Fuels

The Airmobile Laboratory incorporates the following features:

- Fully air and ground transportable for rapid deployment
- Rigid wall construction
- All weather operation
- Rapid set-up for use
- Self-contained environmental control system
- Self-contained water system
- Self-contained air-vacuum system
- Skid mounted for short distance towing
- Designed to operate under blackout. conditions with door activated blackout switches

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

NOTE

The Air mobile laboratory entrance door end is the rear of the laboratory Laboratory exterior sides and interior walls are designed "roadside" (left) and "curbside" (right) as viewed from the entrance door

a. Rear and Curbside Exterior.

Laboratory Tiedown Rings. Eight tiedown rings provide a means of securing laboratory to prevent movement during transportation.

Laboratory Entrance Door. Provides entrance into laboratory, and an exit out of laboratory.

Laboratory Secondary Exit. Provides exit from laboratory in the event that the entrance door becomes blocked.

Laboratory Electrical Connector Receptacle. Houses main power cable connector and ground cable lug. Protected by cap.

Recessed Step Assembly. Provides a means of reaching top of laboratory.

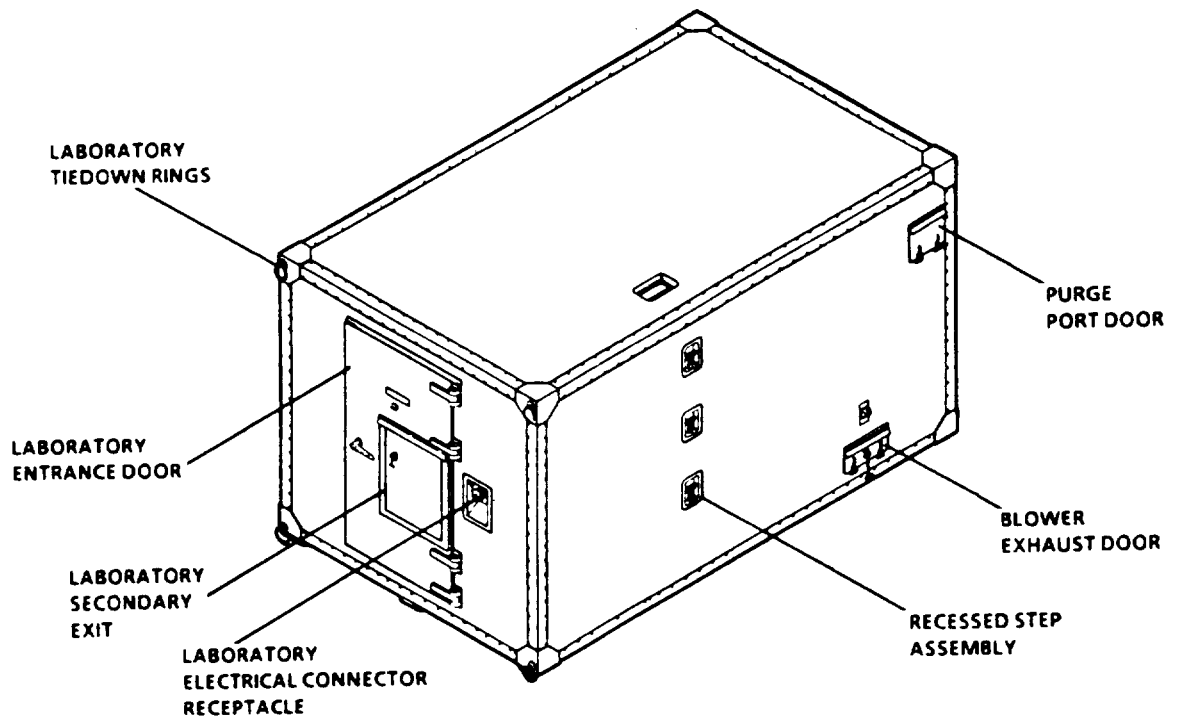


Figure 1-1. Rear and Curbside Exterior

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - continued.

Blower Exhaust Door. Hinged, double-latch, blower exhaust door houses discharge louvers. Must be opened during purge operations to allow blower exhaust.

Purge Port Door. Hinged, double-latch, purge port door houses purge damper for roadside purge ductwork. Must be opened during purge operations to allow environmental control unit to draw air from the outside.

b. Front and Roadside Exterior.

Environmental Control Units. Provide heating and cooling of the laboratory. Contains individual controls.

Purge Port Door. Hinged, double-latch, purge port door houses purge damper for roadside purge ductwork. Must be opened during purge operations to allow environmental control unit to draw air from the outside.

Water Reservoir Receptacle. Receptacle provides a means of manually filling the water reservoir.

Utilities Box and Access Door. Provides means of connecting external water supply hoses, and sink and tank drain hoses to the laboratory. Also contains tank vent fitting. Covered by hinged, double-latch, access door.

c. Interior.

Environmental Control Units. Provide heating and cooling of the laboratory. Identical units with individual controls.

Environmental Control Unit Control Modules. Used to control the ECUs in the heating, air conditioning or venting modes of operation.

Cabinet No. 8. Provides storage for test equipment and supplies. Contains pull-out shelf. For storage information, refer to Appendix C.

Detector Assembly. Houses device which senses laboratory air and provides result to gas alarm control unit.

Reid Vapor Pressure (RVP) Bath. Provides a heater water bath source to perform ASTM Test D-323. Bracket at top of bath support a stirrer assembly, thermoregulator, and a three-RVP test bomb rack. Includes cover.

RVP Petroleum Test Bombs and Gages. Used with RVP bath in performing ASTM Test D-323. Large scales provide for easy and accurate readings.

Ceiling Lights. Four fixtures, each containing two white fluorescent lamps and one blue lamp.

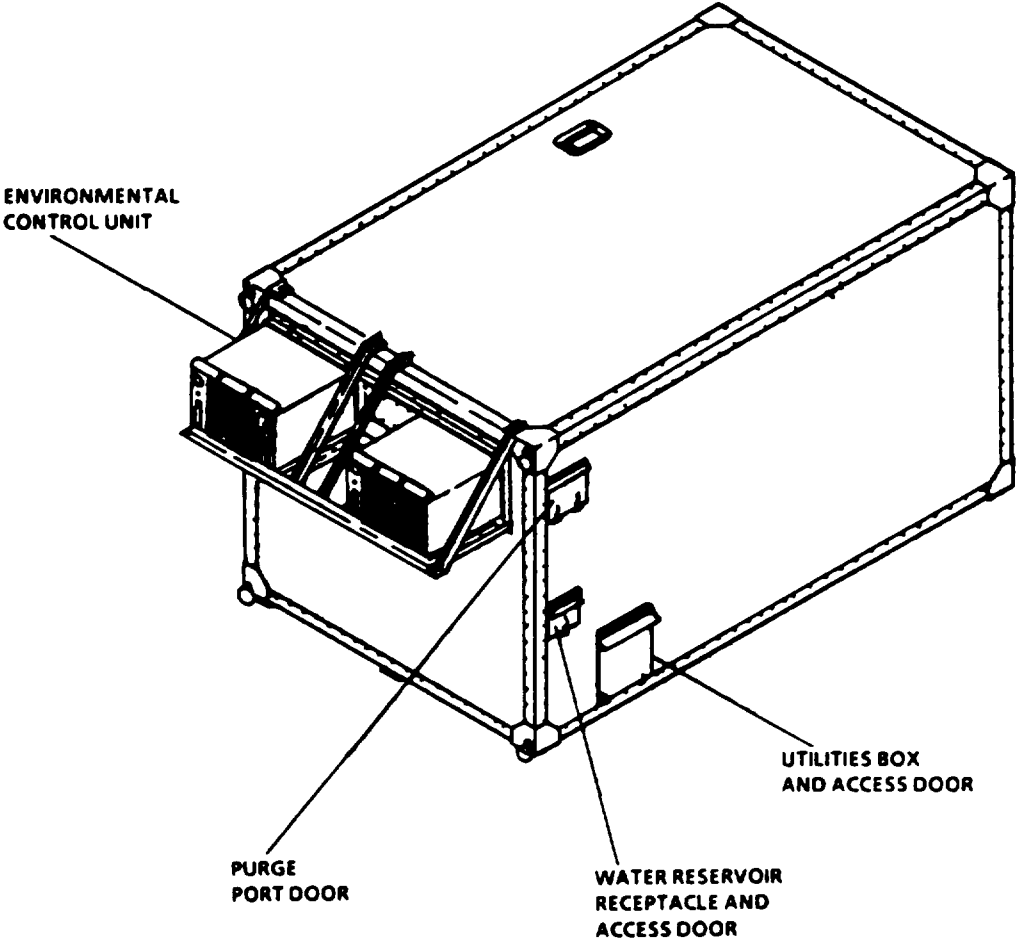


Figure 1-2. Front and Roadside Exterior

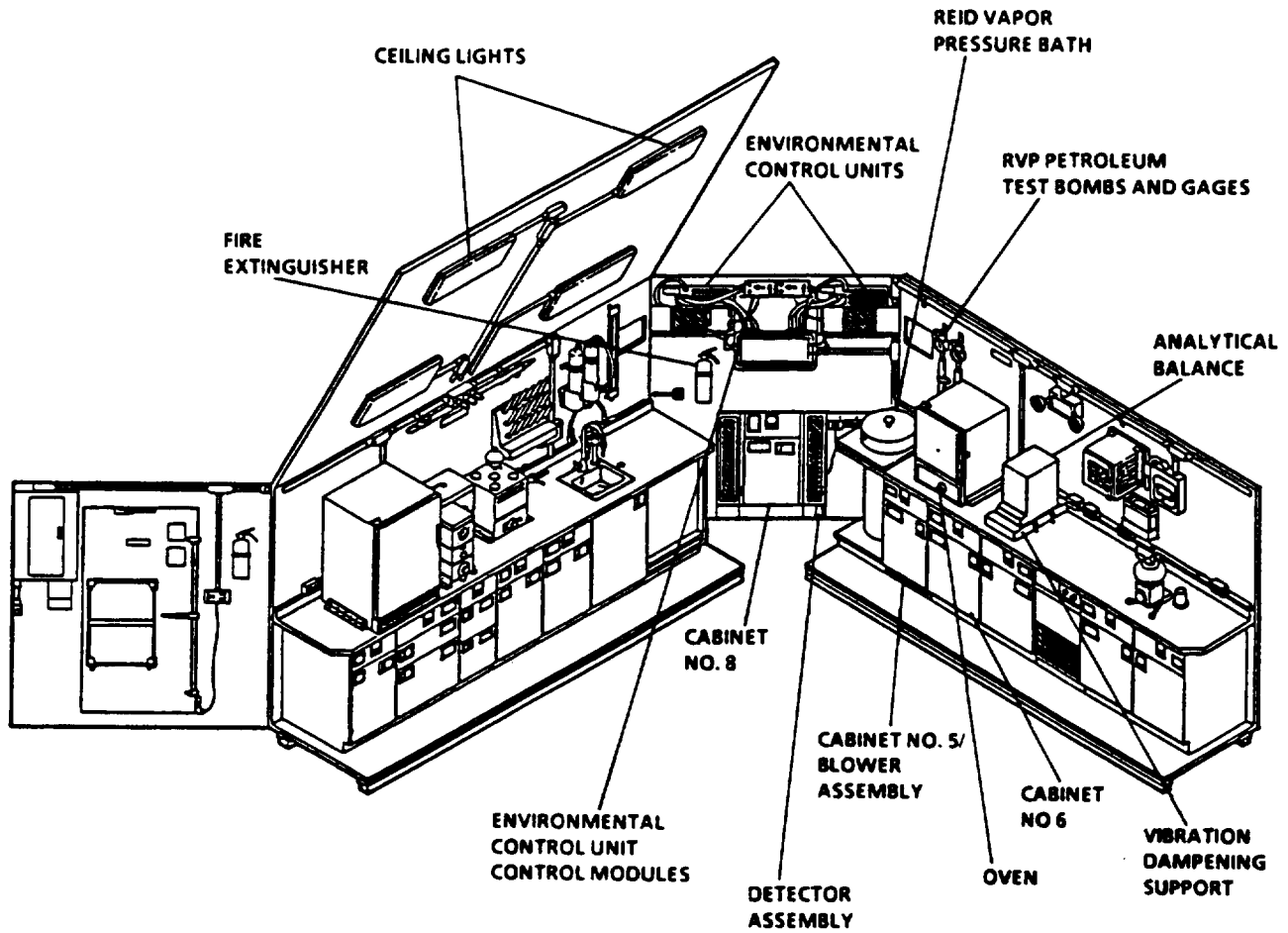


Figure 1-3. Airmobile Laboratory Interior (Sheet 1 of 2)

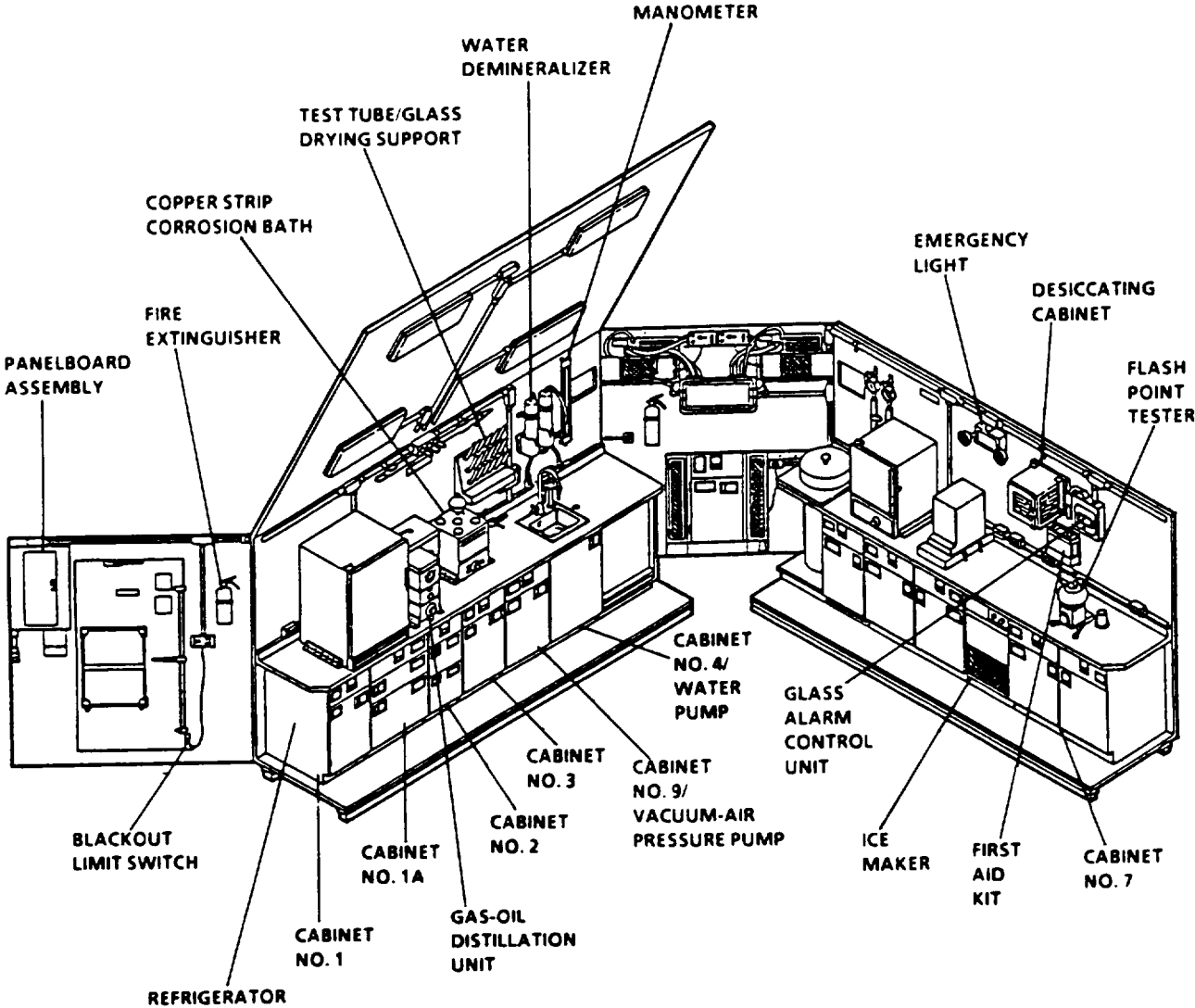


Figure 1-3. Airmobile Laboratory Interior (Sheet 2 of 2)

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - continued.

Cabinet No. 5. Provides storage for test equipment and supplies. Contains a special storage box for thermometers, hydrometers, and thermoregulators. Contains pull-out shelf. For storage information refer to Appendix C.

Blower Assembly. Located in lower portion of cabinet No. 5.

Oven. Gravity convection oven with a 1.5 cu ft (42 cmm) chamber capacity and a 18°F (65° C) to 107° (225° C) temperature range.

Cabinet No. 6. Double cabinet which provides storage for test equipment and supplies. Contains pull-out shelves. For storage information refer to Appendix C.

Vibration Dampening Support. Aluminum box enclosing reinforced concrete, mounted on four shock absorbing supports. Provides stable base for analytical balance.

Analytical Balance. Top-loading, fully automatic, auto-calibrating balance with 0-200g weighing range and 0.1 mg readability with digital LCD readout.

Emergency Light. Provides battery-powered emergency lighting in event that laboratory experiences a main power failure.

Desiccating Cabinet. Provides means of drying for ASTM Test D-2276. Incorporates an integral relief device for manual pressure release.

First Aid Kit. Contains essential items for minor injuries.

Ice Maker. Provides up to 53 lbs (116.6 kg) of ice cubes in a 24-hour period. Contains storage bin for up to 35 lbs (77 kg) of ice.

Flash Point Tester. Determines flash points of fuels and oils in accordance with ASTM Test D-2276.

Cabinet No. 7. Double cabinet which provides storage for test equipment and supplies. Contains pull-out shelves. For storage information refer to Appendix C.

Gas Alarm Control Unit, Contains power supply, alarm test and control circuit for gas detection and alarm system.

Panelboard Assembly. Central electrical power panel which contains all circuit breakers, two fuses, a timer relay, a timer bypass switch and a purge system relay.

Fire Extinguisher, A 5-pound, Halon, Type 1211 extinguisher.

Blackout Limit Switch. Turns off white ceiling lights when laboratory entrance door is opened.

Refrigerator. 6.5 cu ft (.182 cm) refrigerator with two adjustable interior compartment shelves and three fixed door shelves.

Cabinet No. 1. Provides storage for test equipment and supplies. Contains pull-out shelves. For storage information refer to Appendix C.

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - continued.

Cabinet No. 1A. Provides storage for test equipment and supplies. Contains pull-out shelves. For storage information refer to Appendix C.

Gas-Oil Distillation Unit. Distillation apparatus is used to perform ASTM Test D-86. Consists of a 2 gallon (7.6.1) condenser with 3000W heater and a distillation shield with a 1000W heater.

Copper Strip Corrosion Bath. Used to perform ASTM Test D-130. Provides for insertion of four copper corrosion test bombs. Consists of a double-walled chamber thermometer holder, 750W immersion heater, thermoregulator, and softlet reflux condenser.

Cabinet No. 2. Provides for storage of test equipment and supplies. Contains pull-out shelf. For storage information refer to Appendix C.

Cabinet No. 3. Provides for storage of test equipment and supplies. Contains pull-out shelf. For storage information refer to Appendix C.

Cabinet No. 9. Provides for storage of test equipment and supplies. For Storage information refer to Appendix C.

Vacuum-Air Pressure Pump. Located in lower portion of cabinet No. 9.

Test Tube/Glass Drying Support. Provides support facilities for drying test tubes and other glassware after cleaning.

Water Demineralize. Provides for removal of organic and inorganic substances from water.

Aneroid Barometer. Measure barometric pressure and displays readings in Hg and cm Hg. Stored in cabinet No. 8 when not in use.

Manometer. A dual-scale (psi and in Hg) mercury indicator which provides a means of accurately testing RVP gages before and after their use.

Water Pump. Located in cabinet No. 4.

Cabinet No. 4. Houses water tank, water pump, surge tank, pressure switch, and all other related water valves and plumbing.

1-12. EQUIPMENT DATA.

Exterior Dimensions

Length 12.25 ft(3.67m)
Width 7.25 ft (2.16m)
Height 6.95 ft (2.08 m)

Interior Dimensions

Length 11.50 ft(3.45 m)
Width 6.79 ft (2.04 m)
Height 6.52 ft (1.95m)

Total Cubage

Exterior 640 ft³(18.52m³)
Interior 509.11ft³(15.27m³)

Weight 2.500lbs(1136kg)

power Requirements 208V, 60 Hz, 3-phase 5-wire

Environmental Control Two horizontal environmental control units
Model ECU 9HC236 (NSN 4120-01-193-4998)

Capacity Per Unit

Cooling 9,000 BTU/Hr (3180W)
Heating 7,000 BTU/Hr (2230W)

Water System Reservoir Capacity 30 gal (143 l)

Connections

Electrical Power One 280 V, 60 Hz, 3-phase, 5-wire power input cable
Ground Groundlug

Water System Connections

Inlet

Suction Standard garden hose connector

Fill Standard garden hose connector

Sink Drain Standard garden hose connector

Tank Drain Quick disconnect hose connector

Section III. TECHNICAL PRINCIPLES OF OPERATION

Alphabetical Index

| Maintenance Item | Paragraph |
|--|------------------|
| Functional Description of Laboratory Systems | 1-13 |
| Functional Description of Laboratory Unique Equipment. | 1-14 |

1-13. FUNCTIONAL DESCRIPTION OF LABORATORY SYSTEMS.

The following paragraphs describe the systems within the design of the Airmobile Laboratory. For details of major equipment refer to the appropriate technical manual.

a. Electrical System (Refer to Figure 1-4). The Airmobile Laboratory has an input power requirement of 208V, 3-phase power. Power is supplied by an external generator through a 50-foot (15-meter), 8-wire cable (W1). Power enters the laboratory via connector receptacle J1. From J1 power is applied to CB1 in the panelboard assembly. CB1 is a 100-amp, main power input circuit breaker which incorporates an undervoltage trip feature.

(1) Panelboard Assembly. The panelboard assembly houses all equipment circuit breakers. There are fourteen 15-amp circuit breakers, (for equipment and convenience outlets), and two 20-amp circuit breakers (for the environmental control units). The following items are also contained in the panelboard assembly.

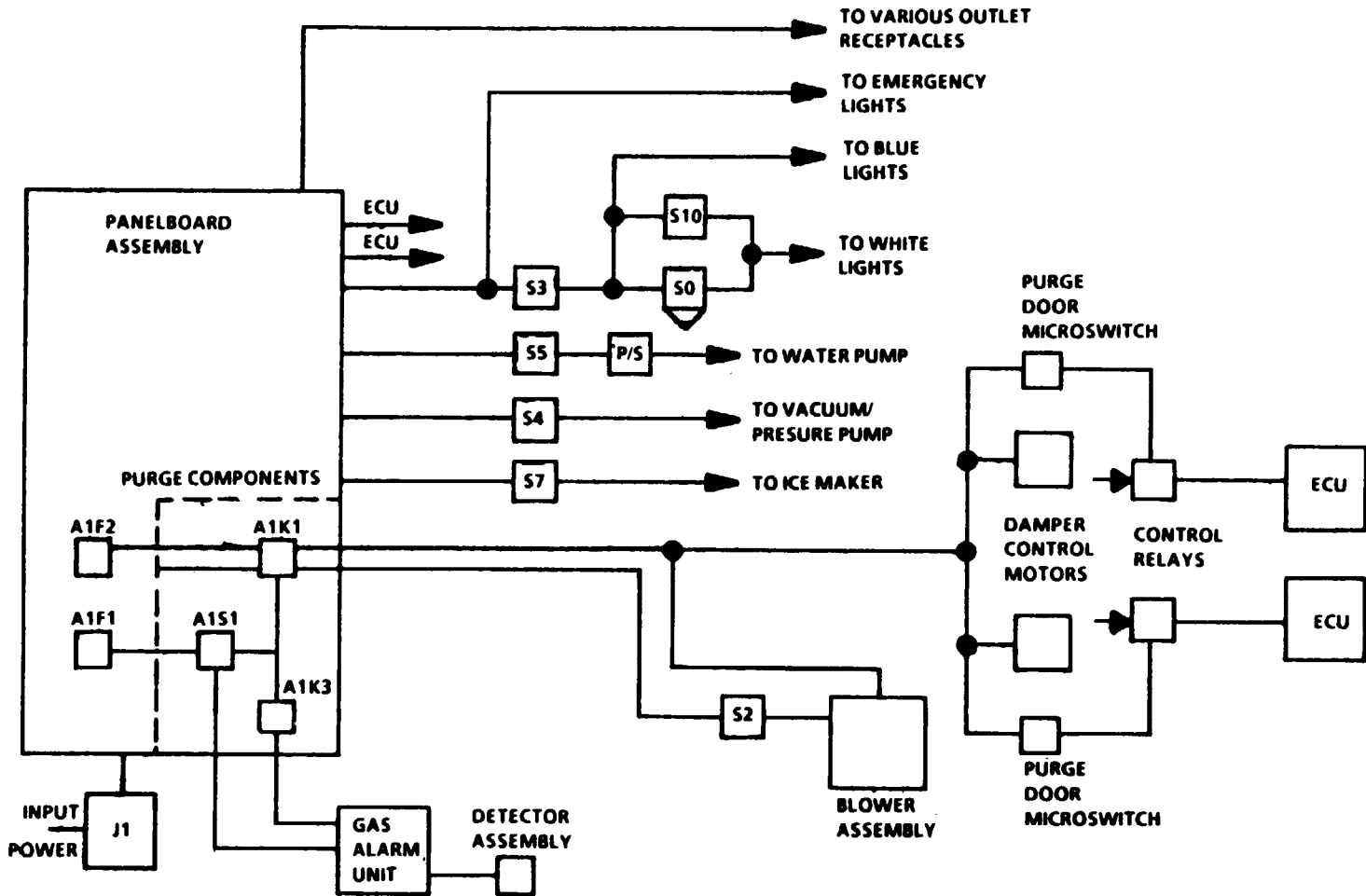
(a) Fuse F2. Fuse F2 is a 15-amp fuse used to protect the components which make up the control devices used during purging operations.

(b) Purge System Power Relay (K2). This relay is used to turn on the control devices for the purge system. It routes A-phase power via F2. The operating state of the relay is not energized. When energized, control voltage used to operate components of the purge system is removed.

(c) Time Delay Relay (K3). The relay, along with the 6 Mohm resistor, provides a 5-minute delay before applying power to relay K2. The 5-minute delay is for the 5-minute purging cycle that is automatically started when power is supplied to the laboratory after a shutdown. Power to the relay is routed from A-phase input, through 5-amp fuse F1, and through the gas detector and alarm system. During normal operation the time delay relay keeps relay K2 energized. In the event of toxic gases being detected by the gas detector and alarm system, power would be removed from the time delay relay which would deenergize relay K2. This would then begin a purge cycle that would last 5 minutes after the gas detector and alarm system has reset itself and power reapplied to the time delay relay.

(d) Fuse F1. Fuse F1 is a 5-amp fuse which is in-line with the time delay relay as a protection device.

Figure 1-4. Electrical System Functional Diagram



1-13. FUNCTIONAL DESCRIPTION OF LABORATORY SYSTEMS - continued.

- (e) Timer Bypass Switch (S1). This switch is used to bypass the operation of the time delay relay.
- (2) Lighting System. Laboratory lighting is provided by four fluorescent ceiling lights. Each light contains one blue lamp and two white lamps. During normal operations, all lamps are lit. CB17 is the lights' circuit breaker in the panelboard assembly. The lights are turned on and off using the LIGHT switch (S3) located just left of the laboratory entrance door. A junction box (A4) provides a point of connection for all four ceiling lights. This box is located on the roadside wall above the copper strip corrosion bath.
- (a) Blackout Lighting. Blackout lights (blue lamps) are provided when blackout conditions are necessary. When the BLACKOUT OVERRIDE switch, (S10), (located next to the LIGHTS switch) is in the OFF position (down) blackout conditions are set. Whenever the entrance door is opened, a micro switch (S9), located at the bottom of the entrance door, is activated. This will turn off all white lamps. When the door is closed again the white lamps will come back on. When the BLACKOUT OVERRIDE switch is in the ON (up) position, the operation of the microswitch is bypassed and all lamps remain lit.
- (b) Emergency Lighting. An emergency light fixture is mounted on the curbside wall of the laboratory above the pencil sharpener. During normal operations, power is supplied to it from CB17. While power is available, the charging circuit maintains the batteries in a fully charged condition. Upon loss of power the emergency light instantly connects the lamps of the fixture to the batteries. The batteries will allow a minimum of 90 minutes of operation. Upon return of power the lamps are turned off and power is supplied to the charging circuits to recharge the batteries to a full charge. If the batteries have been completely exhausted, it will take approximately 16 hours to return them to a full charge status.
- (3) Water System. Pressure for the water system is supplied by a water pump driven by a 3/4 hp motor. The motor operates on 110 VAC and draws approximately 5 amps. It is protected by CB16 in the panelboard assembly. The pump motor is turned on and off by a pressure switch mounted next to the water pump. When pressure is below a preset value, the switch turns on the pump motor, when the pressure is at or above the preset pressure, the pump motor will turn off. A switch (S5), located next to the sink, is provided to turn power off to the pressure switch when the water system is not required.
- (4) Purge System. The purge system is activated by relay K2 in the panelboard assembly. (Refer to paragraph 1-14. a.(1)(b).) The purge system is used to exhaust any contaminated air inside the laboratory to the outside. This is accomplished using the environmental control units. A blower assembly mounted inside cabinet No. 5 is used to assist the automatic purge cycle.
- (a) Environmental Control Units (ECUs). The function of the ECUs during purging operations is to pull air from outside the laboratory and exhaust it into the laboratory. This will overpressurize the laboratory forcing the contaminated air to the outside via the open secondary exit. This is accomplished by motor driven dampers inside the air plenums. When a purge cycle is initiated, two motors in each air plenum position dampers inside the air plenum to route air

1-13. FUNCTIONAL DESCRIPTION OF LABORATORY SYSTEMS - continued.

flow in through the purge vents. (Refer to Figure 1-5). These motors are turned on from power routed from relay K2. Power is also routed to two microswitches located on the purge ports. As long as the purge port doors are open, power passes through the microswitches to two control relays located in the distribution box below the ECUs controls. This power energizes the control relays which in turn, turn on the evaporator fans on high in each ECU. In the event that a purge vent door closes, the ECU for that vent will turn off because of loss of power to its control relay. After the purge cycle is complete, power is removed from the control relays which turn off the ECUs. Power is also removed from the damper motors in the air plenums which will return the air dampers to a normal configuration.

(b) Blower Assembly. The blower assembly is located inside cabinet No. 5 and is used to ensure that all contaminated air is exhausted from under the cabinet assemblies. It is provided power from the circuit breaker CB2 and is activated by placing switch S2 in the ON position when the automatic purge cycle is completed.

(5) Vacuum-Air Pressure System. The vacuum-air pressure system is powered by a 120 VAC vacuum-air pressure pump located in cabinet No. 9. The pump receives power from CB5, through VAC AIR switch (S4), located next to the sink.

b. Water System. (Refer to Figure 1-6). The water system supplies the laboratory with fresh water for use with laboratory tests. Water can be supplied from either one of two sources, From an external source connected to the SUCTION connection in the utilities box, or from the water reservoir (a 30 gallon tank) located under the counter top, front roadside corner. This water reservoir can be filled by using the FILL connection and gating valve with pressurized water, or the WATER RESERVOIR till pour spout (located front roadside corner exterior) by pouring water into fill spout, Two gating valves are used to line up the correct input to the water pump.

(1) Pressurized/Supply Lines. Pressure throughout the water system is maintained by a pressure switch and the water pump. (Refer to paragraph 1-13. a.(3).) The output of the water pump is passed through a check valve which maintains water on the output side of the water pump. From the check valve water is routed to the various units requiring water. The RVP bath and water demineralize have valves and fittings to connect tubing, The faucet, eyewash, and ice maker have no valves to isolate the water system from them. A surge tank is mounted in parallel with the supply lines to maintain even water pressure and flow. Air pressure is added to the surge tank prior to operation to maintain header pressure in the system,

(2) Drain Lines. Drain lines in the water system are supplied for the sink, RVP bath, distillation testing unit, refrigerator, and the copper strip corrosion bath (which has its own shutoff valve). These drains are referred to as the SINK DRAIN outlet in the utilities box. The water reservoir has its own drain in the utilities box labeled TANK DRAIN,

c. Vacuum-Air Pressure System. (Refer to Figure 1-7.) The vacuum-air pressure system provides vacuum and air pressures needed to perform various laboratory tests. The vacuum and air pressure are supplied by a 120 VAC vacuum-air pressure pump mounted in cabinet No. 9. (Refer to paragraph 1-13. a.(5).)

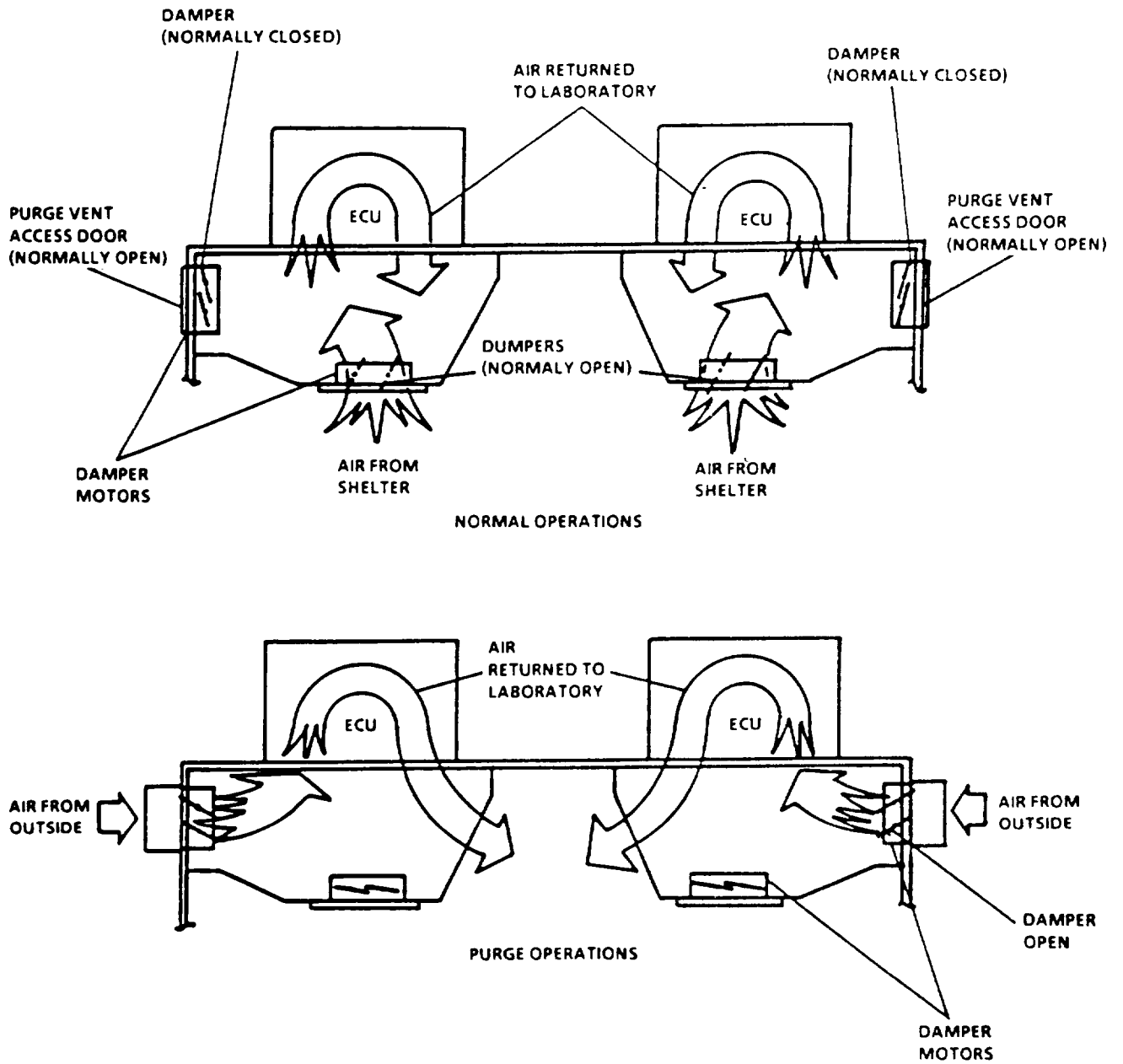


Figure 1-5. Air Plenum and Purge Dampers

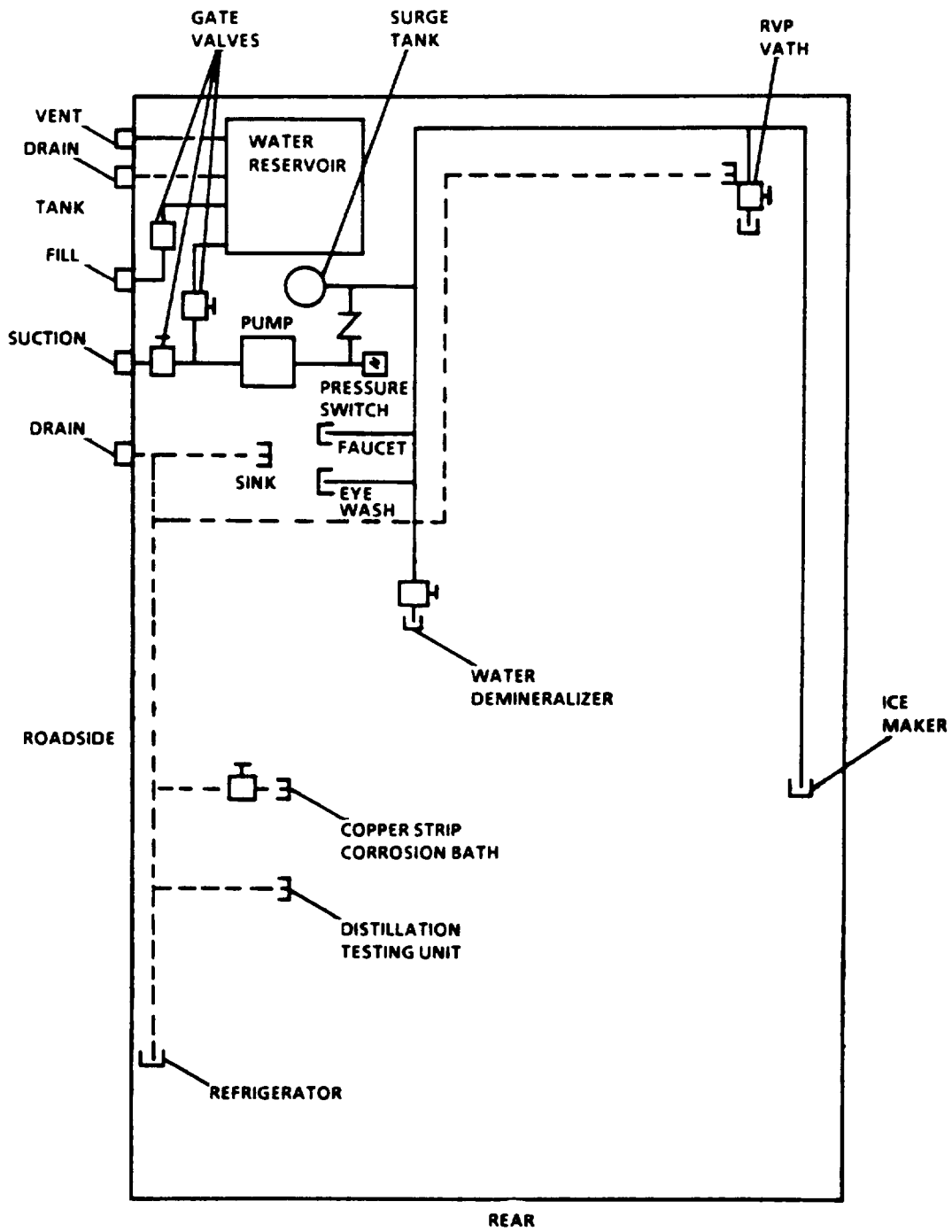


Figure 1-6. Water System Functional Diagram

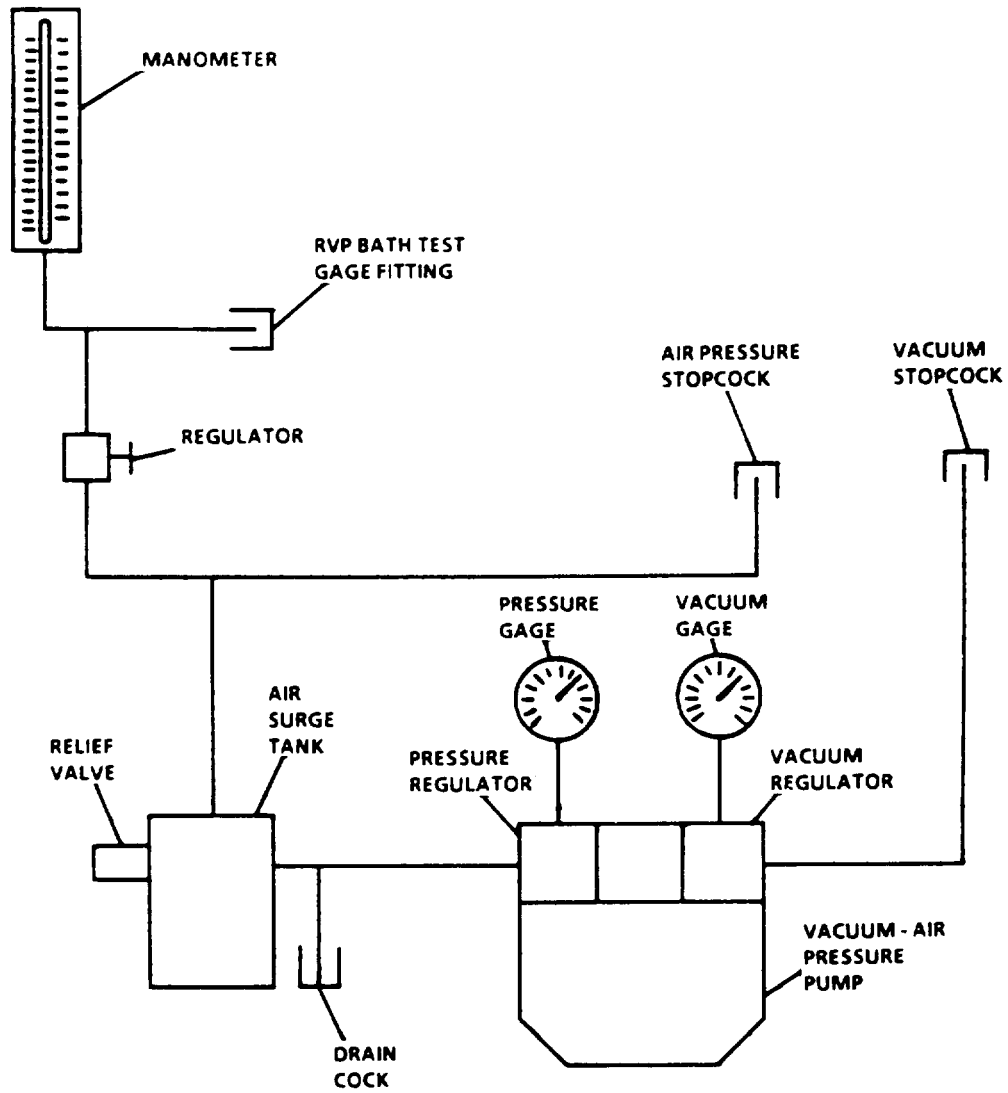


Figure 1-7. Vacuum-Air Pressure system Functional Diagram

1-13. FUNCTIONAL DESCRIPTION OF LABORATORY SYSTEMS - continued.

(1) Vacuum Side. Vacuum is created from the vacuum side of pump. A vacuum stopcock is located on the countertop next to the sink. Air is sucked through the stopcock and into the vacuum-air pressure pump. A regulator and gage mounted on top of the vacuum-air pressure pump is provided to control vacuum pressure.

(2) Pressure Side. Pressure is created from the air sucked into the vacuum air pressure pump vacuum side. Air being exhausted from the pump is supplied to an air surge tank. Pressure to the air surge tank is regulated by a regulator and gage mounted on top of the vacuum-air pressure pump. A drain cock on the line to the air surge tank is provided to release air pressure from the system. The surge tank has a relief valve mounted on it to prevent over pressurization of the system. The output from the air surge tank is sent to an air pressure stopcock mounted next to the vacuum stopcock on the countertop next to the sink. Air also is routed to the manometer and a test gage fitting through a pressure regulator. The pressure regulator, manometer and test gage fitting provides a means of checking and calibrating the RVP bath gages.

1-14. FUNCTIONAL DESCRIPTION OF LABORATORY UNIQUE EQUIPMENT.

The following paragraphs describe some of the equipment mounted or stored within the laboratory. For equipment not described in these paragraphs, refer to the appropriate technical manual listed in Appendix A.

a. Flash Point Tester Unit. The flash point tester unit used for ASTM D-93 and is designed to determine the flash point of fuel oils, lube oils, suspensions of solids, liquids that tend to form a surface film under test conditions, and other liquids. The flash point tester operates on 110V, 60 Hz, single-phase power supplied from a convenience outlet. It is an electrically heated closed-type unit, with two thermometers, one with a range of 20 to 230°F (-6.1 to 110°C), and the other with a range of 200 to 700°F (93 to 371°C).

b. Distillation Unit. The distillation unit is used for ASTM D-86. The unit consists of a shield assembly and a condenser assembly. The shield and condenser exteriors are constructed of stainless steel. The condenser interior is constructed of copper, insulated with a 1-inch thickness of fiberglass. The ice-refrigerated condenser is equipped with a drain and overflow outlet, and a distilled-fuel outlet. An immersion heater is contained in the condenser unit to control the temperature. The shield encloses a 750W heater with auto transformer, two porcelain refractory blocks, observation window, an elevating device to allow proper alignment of the distillation flash to the condenser tube, a temperature-control assembly, and an on/off toggle switch.

c. Fuel Sampling Kit. The fuel sampling kit is used for ASTM Method D2275. The unit is used for field sampling of liquids from pressurized systems by means of millipore fuel monitors. The contaminant retained on the test filter held in the monitor is retained for subsequent analysis. The sampling kit contains a stainless steel holder (sampler assembly) for the monitors, and the tubing, connectors, and accessories required to perform the sampling operation and prepare the monitor for subsequent analysis. The monitors are disposable plastic filter holders made of fuel resistant Tenite and preloaded with 37-millimeter filters. The entire kit is enclosed in a hard plastic carrying case.

**1-14. FUNCTIONAL DESCRIPTION OF LABORATORY UNIQUE EQUIPMENT -
continued.**

- d. Anti-Icing Additive Test Kit. This apparatus is contained in a carrying case and is stored in the laboratory cabinet No. 5. It consists of a hand held, direct reading refractometer, support base rod and ring, separator funnel, graduated cylinder, aluminum dishes, piston pipets, and a polypropylene bottle. It is used to determine the percent volume of anti-icing additive in jet turbine engine fuels.
- e. Reid Vapor Pressure Testing Bath. The RVP bath is used for ASTM tests D-323 and D-1267. It is mounted on the curbside countertop. It operates on 110V, 60 Hz, single-phase power. It consists of the bath, a rack with a 3-bomb capacity, a 1/30 hp motor and stirrer, a thermometer, an immersin heater and, a thermoregulator. It is provided with bombs for testing that are stored in a rack on the wall adjacent to the RVP bath and pressure gages which hang in brackets above the bomb rack.
- f. Manometer. The manometer is mounted on the laboratory roadside wall, next to the water demineralizer. The manometer provides the primary basic standard of pressure measurement. It is used in the laboratory to calibrate the RVP gages. It consists of a glass column supported within a frame and connected at the bottom by a U-shaped tube to the manometer fluid reservoir. It has a duplex-type scale calibrated in inches and tenths on the left side of the tube, pounds and tenths using mercury on the right side. It is also equipped with high pressure (HP) connection, low pressure (LP) connection, fill plug, drain plug, vent plug, and a zero scale adjustment knob.
- g. Refrigerator. The refrigerator is mounted on the roadside of the laboratory. It operates on 110V, 60 Hz, single-phase power. It is designed and constructed for explosion-proof operation. Components that might create sparks or arcing have been enclosed and insulated against volatile, explosive fumes and gases that might escape from containers stored in its interior or envelope its exterior. It provides 6.5 cubic feet (.182 cm) of refrigerated storage.
- h. Copper Strip Corrosion Bath. The copper strip corrosion bath is used to perform ASTM test D-130. It is mounted on the roadside countertop. It requires 110V, 60 Hz, single-phase power which is provided from one of the convenience outlets in the laboratory compartment. It is used to determine relative corrosivity caused by sulfur compounds in petroleum products. The apparatus consists of a constant temperature bath having a temperature range from ambient to $221^{\circ}\text{F} \pm 1^{\circ}$ ($105^{\circ}\text{C} \pm 0.5^{\circ}$), a 750W copper immersion heater, a thermoregulator, a Soxhlet condenser and a constant water level device. It has a removable top plate and is provided with a test tube rack, test bombs, a thermometer, four rubber stoppers, copper strips, copper strip corrosion standards and has the capacity to hold four bombs.
- i. Laboratory Ovens. The laboratory oven is used for ASTM test D-2276. It operates on 110V, 60 Hz, single-phase power. It is mounted on the curbside countertop. The oven employs gravity convection as a method of heat transfer within its chambers. It is provided with two highly accurate hydraulic thermostats (one for control and one for high limit safety) from a single control. This provides a sensitivity to $.45^{\circ}\text{F}$ ($.25^{\circ}\text{C}$). The oven has a maximum operating temperature of 437°F (225°C). It is supplied with a thermometer with a temperature range of 0 to 482°F (250°C).

**1-14. FUNCTIONAL DESCRIPTION OF LABORATORY UNIQUE EQUIPMENT-
continued.**

j. Desiccating Cabinet. The desiccating cabinet is mounted on the curbside wall above the countertop. It is used for ASTM test D-2276. The cabinet is constructed of stainless steel with glass side panels. A molded rubber door gasket provides an airtight fit for the door. The cabinet also is provided with a manual relief valve.

k. Analytical Balance. The analytical balance is mounted on the damping vibration support which is located on the curbside countertop. It is used in the performance of ASTM test D-2276. The analytical balance comes with its own power supply unit which receives 110V, 60 Hz, single-phase power from a convenience outlet in the laboratory compartment. It is a fully automatic, top-loading balance with upfront, one-finger control of all balance functions. It provides digital readout that can be viewed from any angle. The door on top and one on each side make the weighing chamber fully accessible for formulations and liquid transfer operations. The weighing chamber is housed in glass for unobstructed viewing.

l. Gas Alarm System. The gas alarm system consists of a main control unit (cabinet assembly) and one remote detector assembly. The main control unit is wall mounted on the curbside and connects electrically to the detector assembly. The system operates on 110V, 60 Hz, single-phase power. The main control unit supplies 5.5 VDC to the detector. The alarm is calibrated for propane and has a setting of 20 to 40 percent of the lower explosive limit (lel) of gasoline. An indicating meter in the control unit shows the concentration being monitored and adjustable dual-level alarm circuits are triggered whenever a concentration exceeds the lel. The alarm alerts personnel of combustible mixtures that could cause explosions or cause fires, and automatically activates the air purge system.

m. Ice Maker. The ice maker is mounted below the countertop on the curbside of the laboratory. It operates on 110V, 60 Hz, single-phase power. It is a completely self-contained ice maker and will produce up to 53 pounds of ice in 24 hours. It has the capacity to store up to 35 pounds of ice.

n. Sampling and Gaging Kit. The sampling and gaging kit is used to perform ASTM test D-270, D-287, D-1085, D-1086, D-1250, and D-1298. It is a portable petroleum testing kit which is stored in the laboratory cabinets. It consists of the carrying case, shoulder strap, gravity computer, cupcase thermometer, hydrometer cylinder, gasoline indicating paste, water indicating paste, image tape and bob, weighted beaker sampler, and standard hydrometers.

CHAPTER 2
OPERATING INSTRUCTIONS

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

Alphabetical Index

| Paragraph Title | Paragraph |
|--|------------------|
| Damage From Improper Settings | 2-1 |
| Operator's Controls and Indicators | 2-2 |

2-1. DAMAGE FROM IMPROPER SETTINGS.

All operators should become thoroughly familiar with the operator's controls and indicators, and with the proper operating procedures for the Airmobile Laboratory. Certain precautions must be observed in the operation of the equipment and its components. Procedures are presented in set sequence and must be followed in sequence.

2-2. OPERATOR'S CONTROLS AND INDICATORS.

Table 2-1 contains the controls and indicators for the laboratory exterior. Tables 2-2 through 2-7 are for the other functional systems within the laboratory. Operator's controls and indicators for the laboratory unique equipment are listed in Tables 2-9 and 2-10. The ECU controls are listed in Table 2-8. Operator's controls and indicators for the refrigerator, convection ovens, gas alarm control unit, RVP bath, ice maker, gum bath system, copper strip corrosion bath, analytical balance, etc., are described in their respective TMs (see Appendix A for TM number).

- a. Exterior. Figure 2-1 and Table 2-1 list the laboratory's exterior controls and indicators.

Table 2-1. Laboratory Exterior Controls and Indicators

| Control or Indicator | Function |
|---------------------------------------|---|
| Blower Exhaust Door | Covers blower louvers for cabinet exhaust blower assembly. Must be opened during purge operations. |
| Purge Port Door (one on each side) | Covers environmental control unit plenum intakes. A microswitch senses when door is opened or closed. Must be opened to initiate purge cycle. |

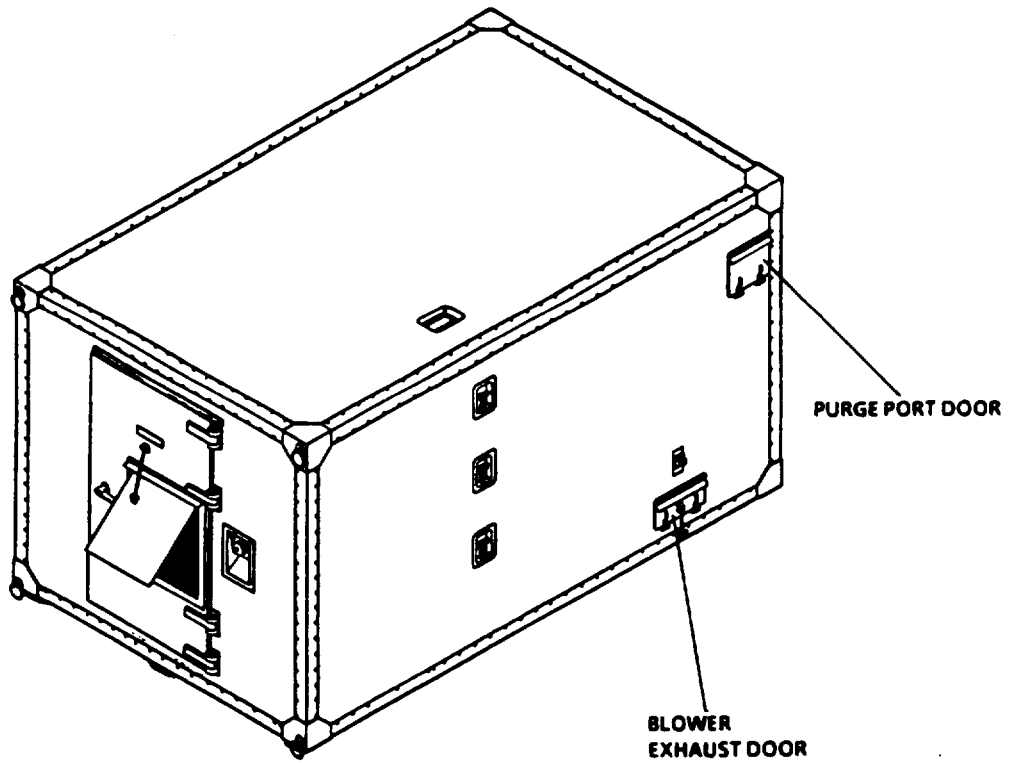


Figure 2-1. Laboratory Exterior

2-2. OPERATOR CONTROLS AND INDICATORS - continued.

b. Interior Rear Wall. Figures 2-2 and 2-3 and Tables 2-2 and 2-3 list the controls and indicators located on the rear wall of the laboratory interior.

Table 2-2. Panelboard Assembly Controls and Indicators

| Control or Indicator | Function |
|----------------------------------|---|
| Timer Relay Override Switch (S1) | [n ON position, overrides the timer relay during laboratory startup and stops the automatic laboratory air purging process. In OFF position, allows timer relay to control purging process. |
| Main Power Circuit Breaker (CB1) | In ON position, applies power to all system circuit breaks. Provides 100A protection for main power input. |
| System Circuit Breakers | |
| CB2 | Provides 15A circuit protection for blower assembly. |
| CB3 | Provides 20A circuit protection for ECU 1. |
| CB4 | Provides 20A circuit protection for ECU 2. |
| CB5 | Provides 15A circuit protection for vacuum-air pressure pump outlet (J4). |
| CB6 | Provides 15A circuit protection for convenience outlet (J6). |
| CB7 | Provides 15A circuit protection for flash point tester outlet (J7). |
| CB8 | Provides 15A circuit protection for analytical balance outlet (J8). |
| CB9 | Provides 15A circuit protection for the oven outlet (J9). |
| CB10 | Provides 15A circuit protection for convenience outlet (J10) and RVP bath outlet (J11). |
| CB11 | Provides 15A circuit protection for refrigerator outlet (J11). |

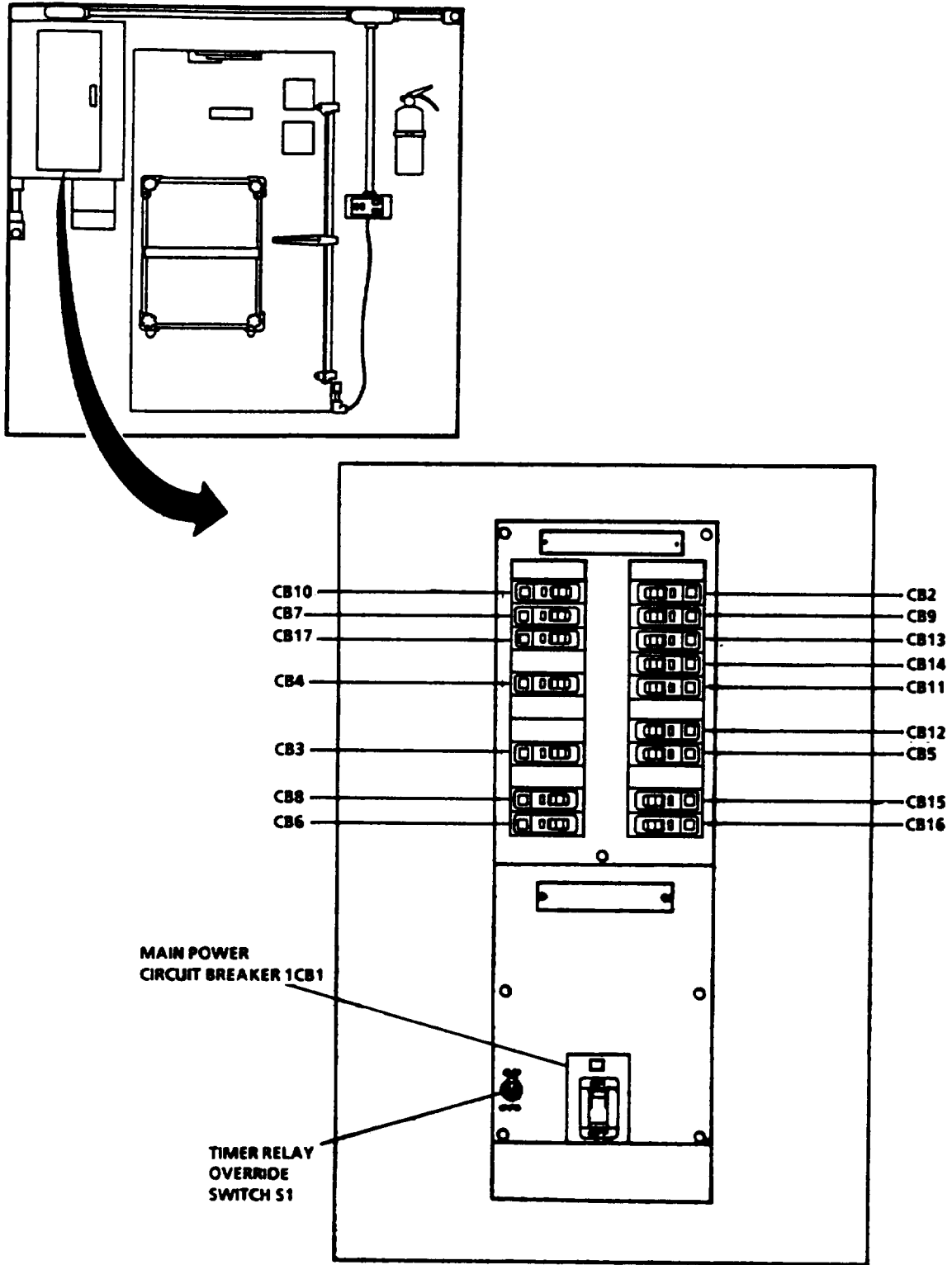


Figure 2-2. Panelboard Assembly

2-2. OPERATOR CONTROLS AND INDICATORS - continued.**Table 2-2. Panelboard Assembly Controls and Indicators - (Cont)**

| Control or Indicator | Function |
|-----------------------------|---|
| CB12 | Provides 15A circuit protection for gas-oil distillation unit outlet (J13). |
| CB13 | Provides 15A circuit protection for copper strip corrosion bath outlet (J13). |
| CB14 | Provides 15A circuit protection for convenience outlet. |
| CB15 | Provides 15A circuit protection for ice maker outlet (J15). |
| CB16 | Provides 15A circuit protection for water pump. |
| CB17 | Provides 15A circuit protection for emergency lighting and laboratory lighting. |
| Fuses | |
| F1 | Provides 5A circuit protection for timer relay and purge startup relay. |
| F2 | Provides 15A circuit protection for purge system components. |

2-2. OPERATOR CONTROLS AND INDICATORS - continued.

Table 2-3. Interior - Rear Wall Switches, Controls, and Indicators

| Control or Indicator | Function |
|--|---|
| LIGHT Switch (S3) | Controls operation of ceiling lights. |
| BLOWERS Switch (S2) (with neon light) | Provides power to blower assembly to purge cabinets air. Built in neon light on switch illuminates when switch placed in the on position. |
| BLACKOUT OVERRIDE Switch (S10) | Overrides the blackout microswitch for the entrance door. |

c. Interior - Roadside Wall and Countertop. Figure 2-4 and Table 2-4 list the laboratory's controls and indicators located on the roadside of the laboratory's interior.

Table 2-4. Interior - Roadside Wall and Countertop Controls, and Indicators

| Control or Indicator | Function |
|-----------------------------------|--|
| Air Pressure Stopcock | Provides hose connection and shut off of air pressure. |
| Vacuum Stopcock | Provides hose connection and shut off of vacuum. |
| Faucet Shutoff | Means of controlling water from faucet. |
| Eyewash Shutoff | Means of controlling water from eyewash. |
| Water Demineralization Line Valve | Controls water flow to demineralize filters. |
| Manometer | Provides an indication of air pressure applied to RVP gages under test. Granulated in psi and in. Hg. |
| Aneroid Barometer | Provides indication of atmosphere pressure from 25 to 32 in. Hg (64 to 79 cm Hg). (Normally stored in drawer No. 8.) |

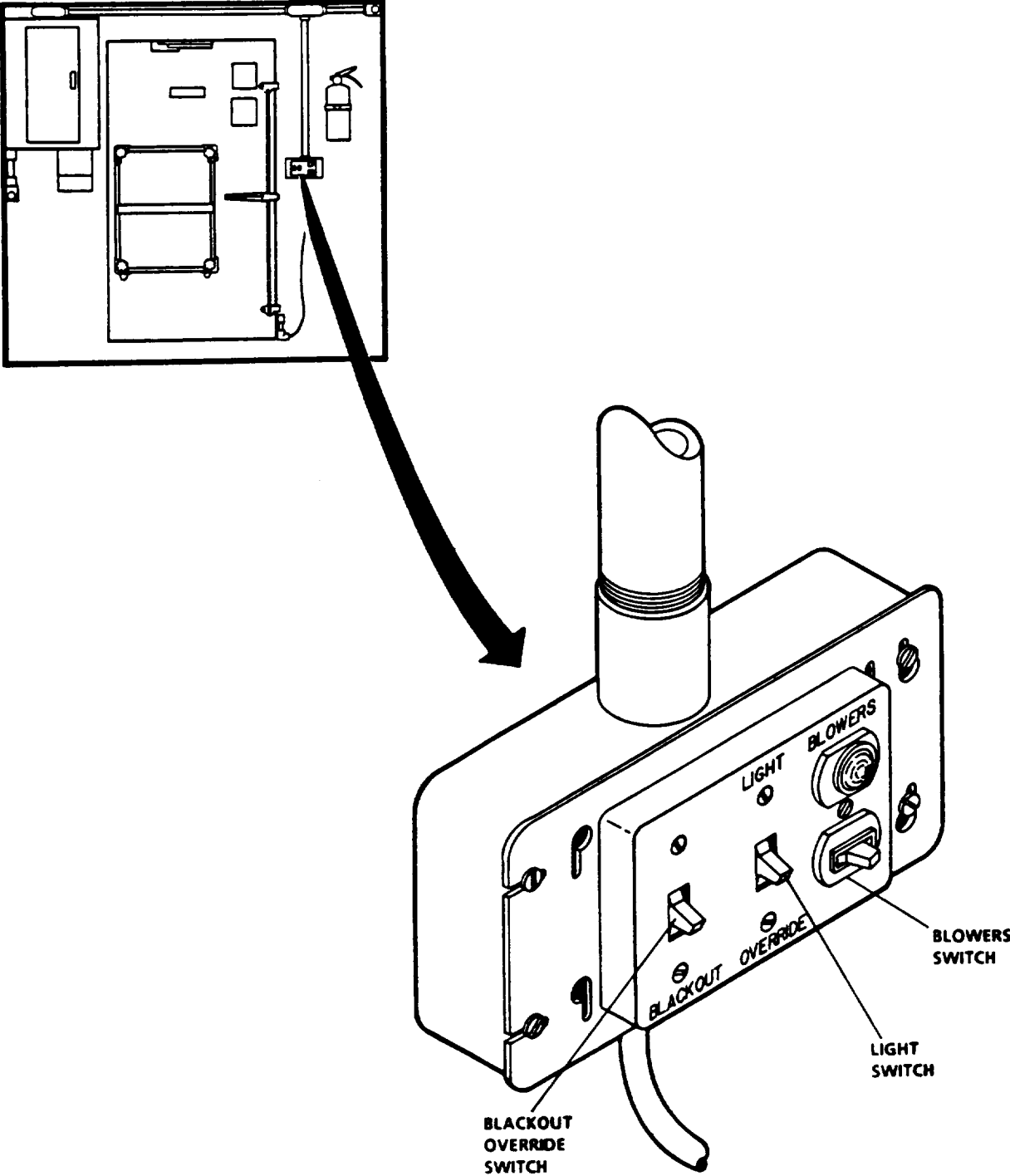


Figure 2-3. Interior - Rear Wall Switches

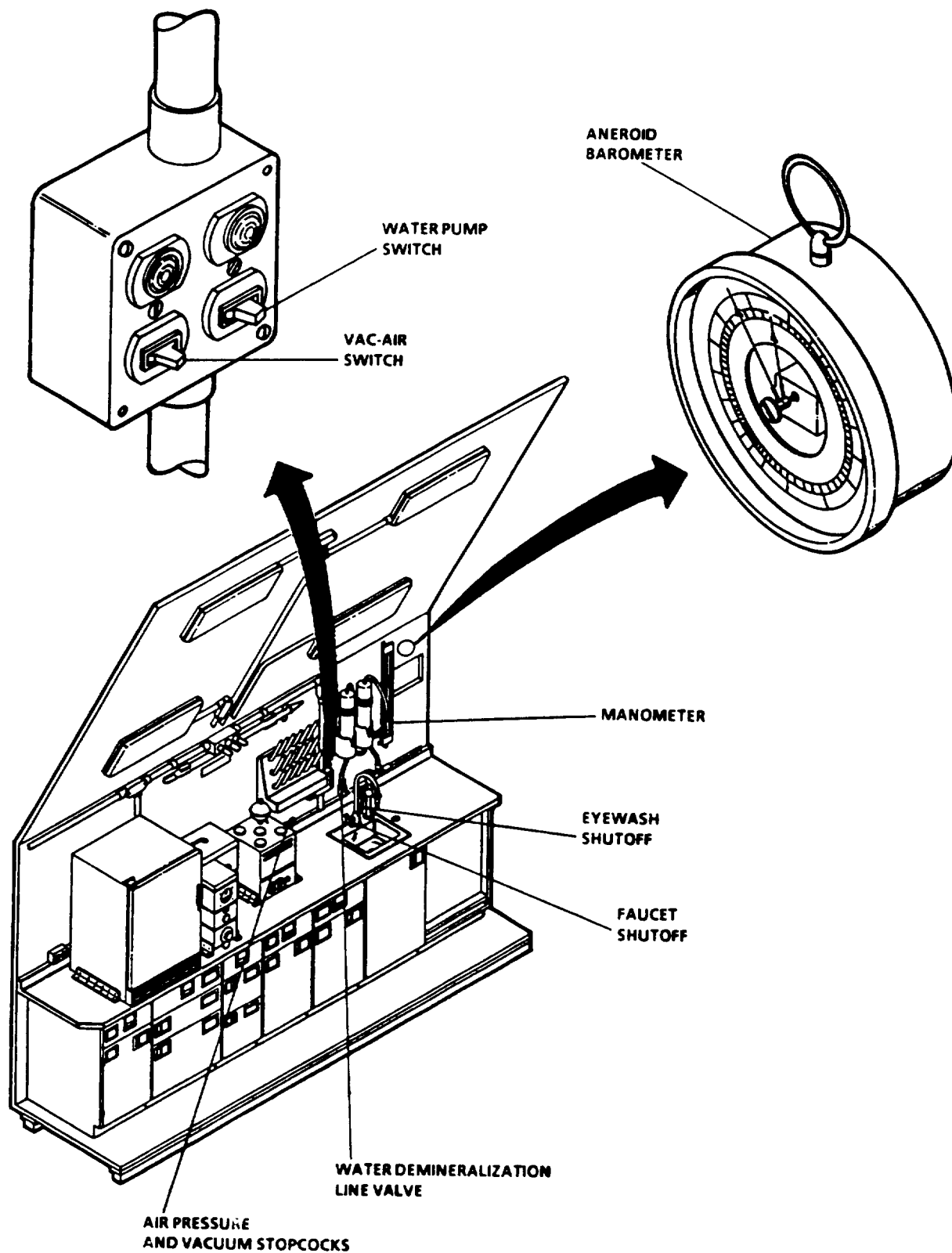


Figure 2-4. Interior - Roadside Wall and Countertop

2-2. OPERATOR CONTROLS AND INDICATORS - continued.

Table 2-4. Interior - Roadside Wall and Countertop Controls, and Indicators - (Cont)

| Control or Indicator | Function |
|---|--|
| VAC-AIR Switch (S4) (with neon light) | Provides power to vacuum-air pressure pump. Built-in neon lamp on switch illuminates when switch placed in the on position. |
| WATER PUMP Switch (S5) (with neon light) | Provides power to water pump. Built-in neon lamp on switch illuminates when switch placed in the on position. |

d. Interior - Vacuum Air Pressure System Controls and Indicators (Cabinet No. 9). Figure 2-5 and Table 2-5 list the controls and indicators of the vacuum-air pressure system located in cabinet No. 9.

Table 2-5. Interior - Vacuum Air Pressure System Controls and Indicators

| Control or Indicator | Function |
|----------------------------------|--|
| Manometer Air Pressure Regulator | Regulates air pressure level to manometer for RVP gage testing. Manually adjusted according to ASTM Test D-323. |
| Air Pressure Regulator | Provides manual adjustment of vacuum-air pressure pump discharge air pressure. Set at 18 psi (1.26 kg/cm ²). |
| Air Pressure Gage | Mounted on discharge side of vacuum-air pressure pump. Provides indication of pump output pressure. Graduated from 0 to 100 psi (0 to 7 kg/cm ²). |
| Vacuum Regulator | Provides manual adjustment of vacuum created by vacuum-air pressure pump. Vacuum level is adjusted according to ASTM Test being performed and specifications of fuel under test. |
| Vacuum Gage | Mounted on inlet side of vacuum-air pressure pump. Provides indication of pump vacuum. Graduated from 0 to 30 in. Hg (0 to 760 mm Hg). |

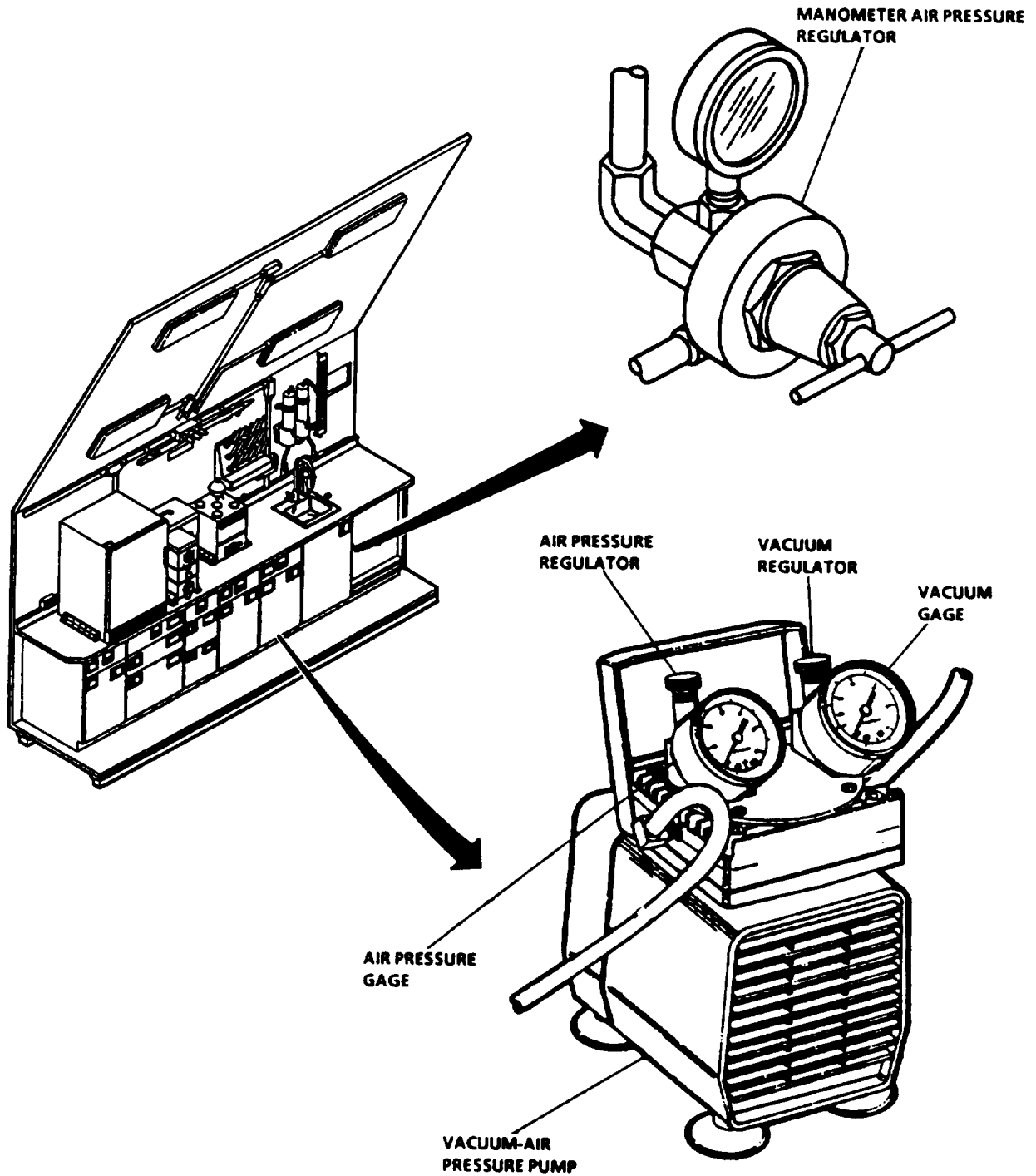


Figure 2-5. Vacuum-Air Pressure System (Cabinet No. 9)

2-2. OPERATOR CONTROLS AND INDICATORS - continued.

- e. Interior - Water System Controls and Indicators (Cabinet No. 4). Figure 2-6 and Table 2-6 list the controls and indicators for the water system located in cabinet No. 4.

Table 2-6. Water System

| Control or Indicator | Function |
|---|---|
| Water Pump ON/OFF Switch | Energizes motor start/stop circuit at pressure switch. |
| Pressure Switch | Starts and stop the water pump automatically at the required pressures. |
| Water Level Sight Glass | Indicates the water level in the water tank. |
| Water System Isolation and Service Valves | Provides for isolation, system line up from various supply sources, drainage, and service access to the water system in the laboratory. |

- f. Interior - Curbside Wall Controls and Indicators. Figure 2-7 and Table 2-7 list the laboratory's controls and indicators located on the curbside of the laboratory interior.

Table 2-7. Interior - Curbside Wall Controls and Indicators

| Control or Indicator | Function |
|-----------------------------|---|
| Cabinet No. 5 | Provides storage for test equipment and supplies. Contains a special storage box for thermometers, hydrometers, and thermo-regulators. Lower portion of cabinet houses blower assembly. Contains pull-out shelf. For storage information refer to Appendix C. |
| Oven | Gravity convection oven with a 1.5 cu ft (42 cmm) chamber capacity and a 18 degrees F (65 degrees C) to 107 degrees (225 degrees C) temperature range. |
| Cabinet No. 6 | Double cabinet which provides storage for test equipment and supplies. Contains pull-out shelves. For storage information refer to Appendix C. |

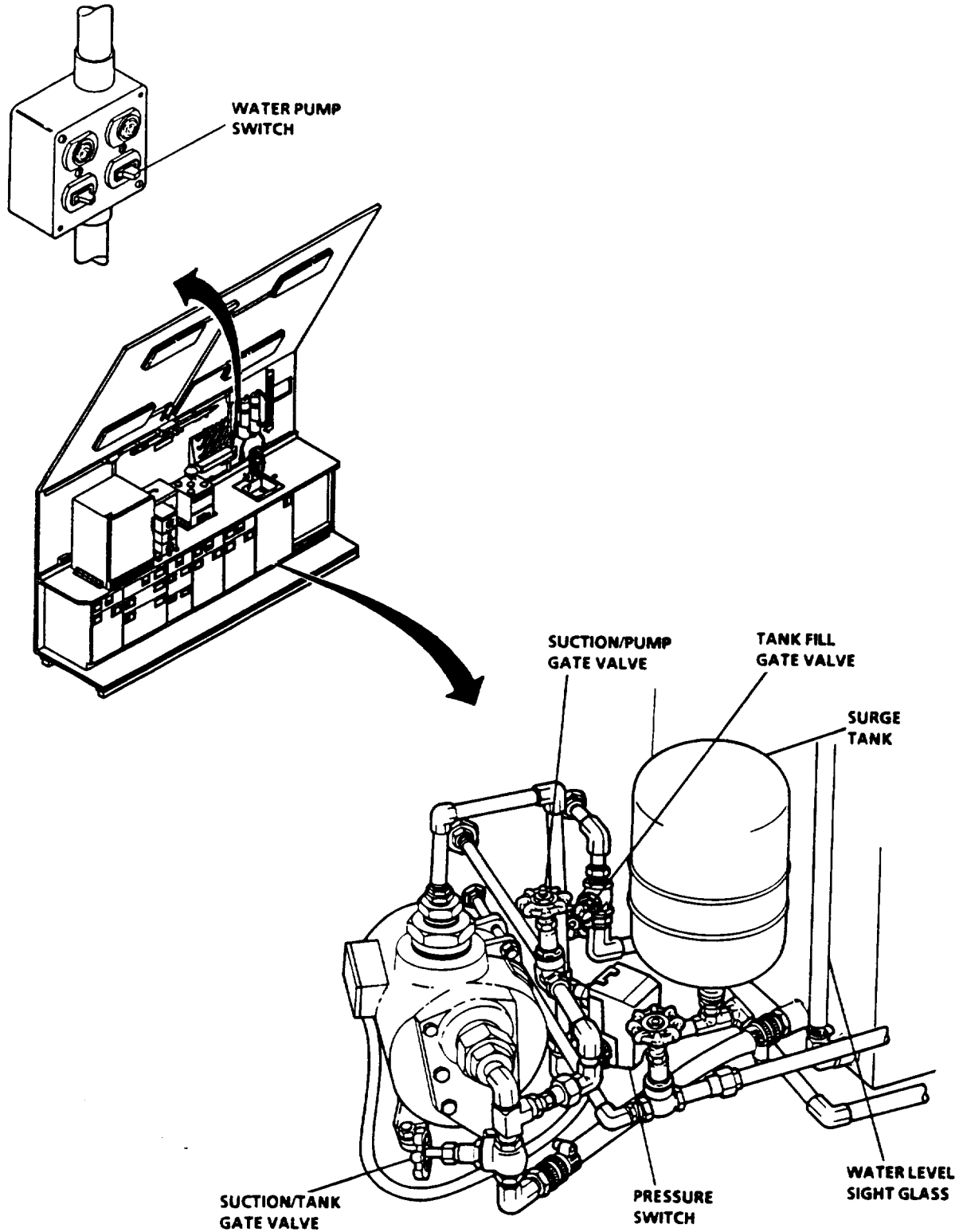


Figure 2-6. Water System Controls and Indicators

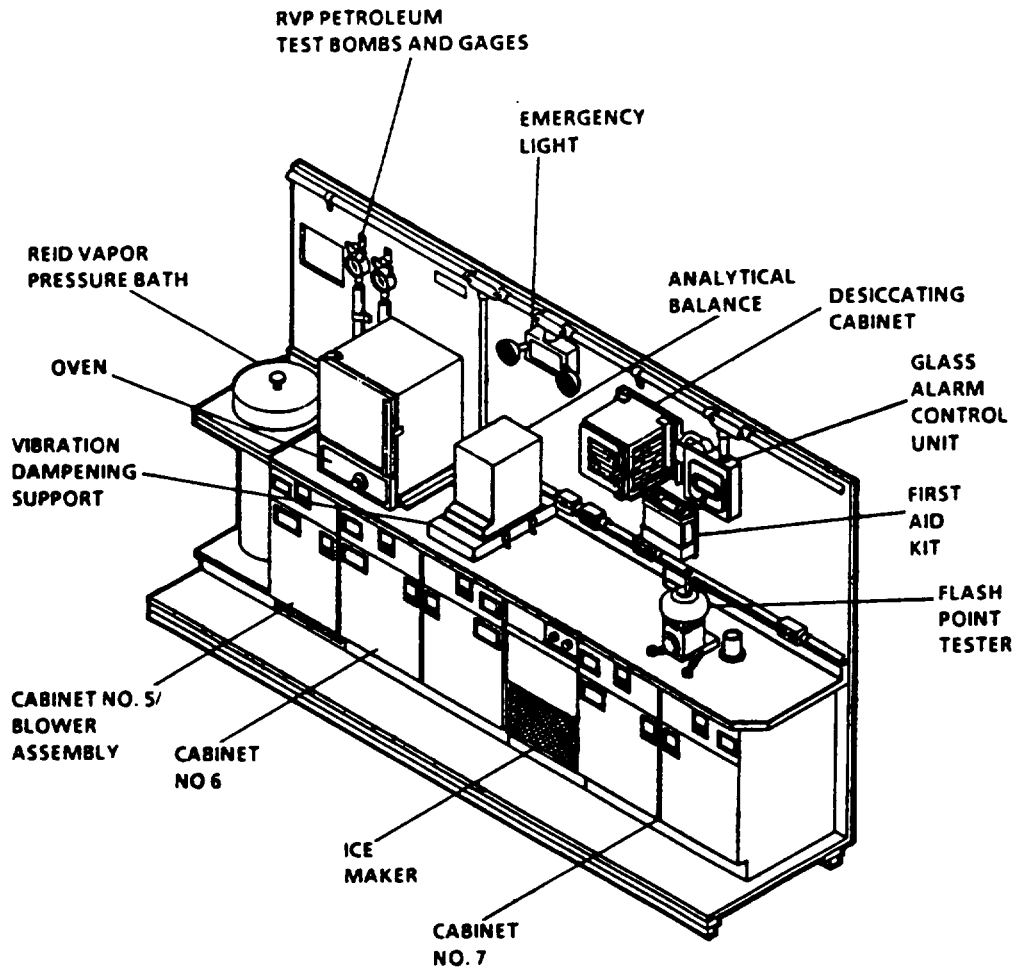


Figure 2-7. Interior - Curbside Wall Controls and Indicators

2-2. OPERATOR CONTROLS AND INDICATORS - continued.

Table 2-7. Interior - Curbside Wall Controls and Indicators - (Cont)

| Control or Indicator | Function |
|---|---|
| Vibration Dampening Support | Aluminum box enclosing reinforced concrete, mounted on four shock absorbing supports. Provides stable base for analytical balance. |
| Analytical Balance | Top-loading, fully automatic, auto-calibrating balance with 0-200g weighing range and 0.1 mg readability with digital LCD readout. |
| Emergency Light | Provides battery-powered emergency lighting in event that laboratory experiences a main power failure. |
| Desiccating Cabinet | Provides means of drying for ASTM Test D-2276. Incorporates an integral relief device for manual pressure release. |
| First Aid Kit | Contains essential items for minor injuries. |
| Ice Maker | Provides up to 53 lbs (116.6 kg) of ice cubes in a 24-hour period. Contains storage bin for up to 35 lbs (77 kg) of ice. |
| Flash Point Tester | Determines flash points of fuels and oils in accordance with ASTM Test D-2276. |
| Cabinet No. 7 | Double cabinet which provides storage for test equipment and supplies. Contains pull-out shelves. For storage information refer to Appendix C. |
| Gas Alarm Control Unit | Contains power supply, alarm test and control circuits for gas detection and alarm system. |
| Reid Vapor Pressure (RVP) Bath | Provides a heated water bath source to perform ASTM Test D-323. Bracket at top of bath support a stirrer assembly, thermoregulator, and a three-RVP test bomb rack. Includes cover. |
| RVP Petroleum Test Bombs and Gages | Used with RVP bath in performing ASTM D-323. Large scales provide for easy and accurate readings. |

2-2 OPERATOR CONTROLS AND INDICATORS - continued.

g. Environmental Control Unit Controls and Indicators. Figure 2-8 and Table 2-8 list the controls and indicators for the ECU system.

Table 2-8. Environmental Control Unit Controls and Indicators

| Control or Indicator | Function |
|------------------------------------|---|
| Control Circuit Breaker | Main circuit breaker for ECU. Located on ECU, above connector assembly. |
| Evaporator Fan Speed | Selects the speed of the evaporator fan. HIGH or LOW. |
| Temperature Selector | Used to adjust the output temperature of the ECU. |
| Mode Selector | Used to select the mode of operation of the ECU. HEAT, VENT, or COOL. |
| Compr (Compressor) Circuit Breaker | Circuit breaker used to protect the compressor motor. |

h. Anti-Icing Additive Test Kit Controls and Indicators. The hand refractometer is part of the anti-icing additive test kit. Figure 2-9 and Table 2-9 list the controls and indicators for the refractometer.

Table 2-9. Refractometer Controls and Indicators

| Control or Indicator | Function |
|-----------------------------|---|
| Cover Plate | Used to expose the prism face |
| Prism Face | Location of test sample should be placed on this surface. |
| Calibration Setscrew | Used to align cross hairs and scale to zero reading with distilled water. |
| Eyepiece | Provides viewing of scale and test sample. |

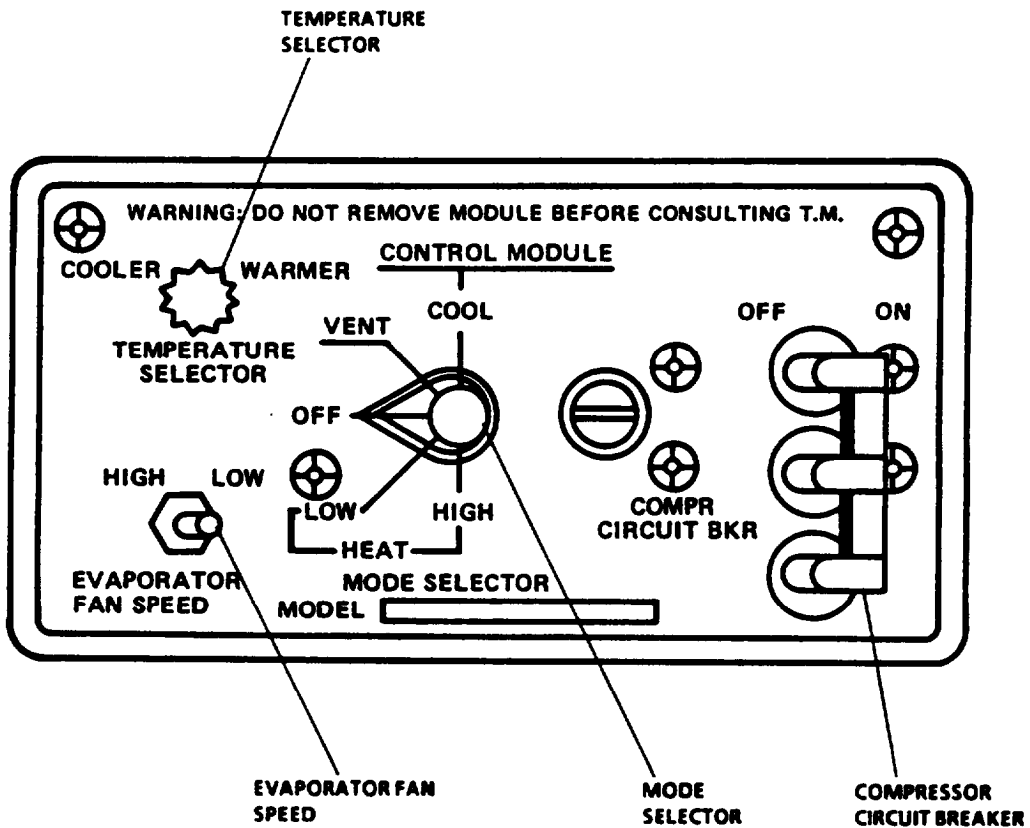


Figure 2-8. ECU Controls and Indicators

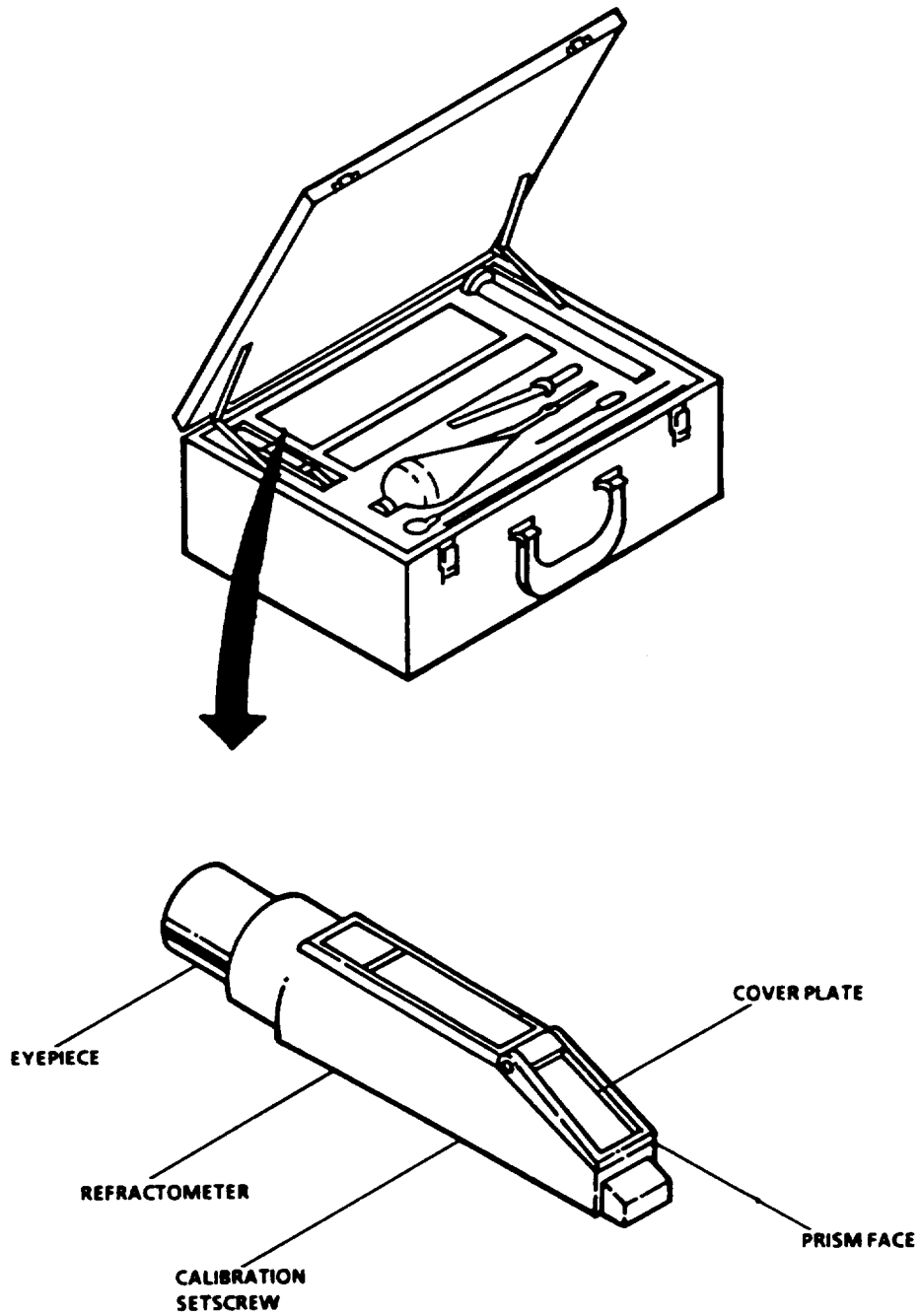


Figure 2-9. Anti-Icing Additive Test Kit

2-2. OPERATOR CONTROLS AND INDICATORS - continued.

- i. Sampling and Gaging Kit Controls and Indicators. Figure 2-10 and Table 2-10 list the indicators in the sampling and gaging kit.

Table 2-10. Sampling and Gaging Kit Controls and Indicators

| Control or Indicator | Function |
|----------------------|---------------------------------------|
| Hydrometers | Measures specific gravity of samples. |
| Cupcase Thermometer | Measures temperature of sample. |

- j. Flash Point Tester Controls and Indicators. Refer to TM 10-6630-231-13&P for controls and indicators of the flash point tester.
- k. Gas-Oil Distillation Unit Controls and Indicators. Refer to TM 10-6630-219-13&P for controls and indicators of the gas-oil distillation unit.
- l. Analytical Balance Controls and Indicators. Refer to TM 10-6670-277-13&P for controls and indicators of the analytical balance.
- m. Laboratory Furnace Controls and Indicators. Refer to TM 10-6640-218-13&P for controls and indicators of the laboratory furnace.
- n. RVP Bath Controls and Indicators. Refer to TM 10-6640-226-13&P for controls and indicators of the RVP bath.
- o. Ice Maker Controls and Indicators. Refer to TM 10-6640-227-13&P for controls and indicators of the ice maker.
- p. Copper Strip Corrosion Controls and Indicators. Refer to TM 10-6640-220-13&P for controls and indicators of the corrosion strip corrosion bath.
- q. Explosion Proof Refrigerator Controls and Indicators. Refer to TM 10-6640-219-13&P for controls and indicators of the explosion proof refrigerator.
- r. Gas Alarm Controls and Indicators. Refer to TM 10-6665-297-13&P for controls and indicators of the gas alarm system.

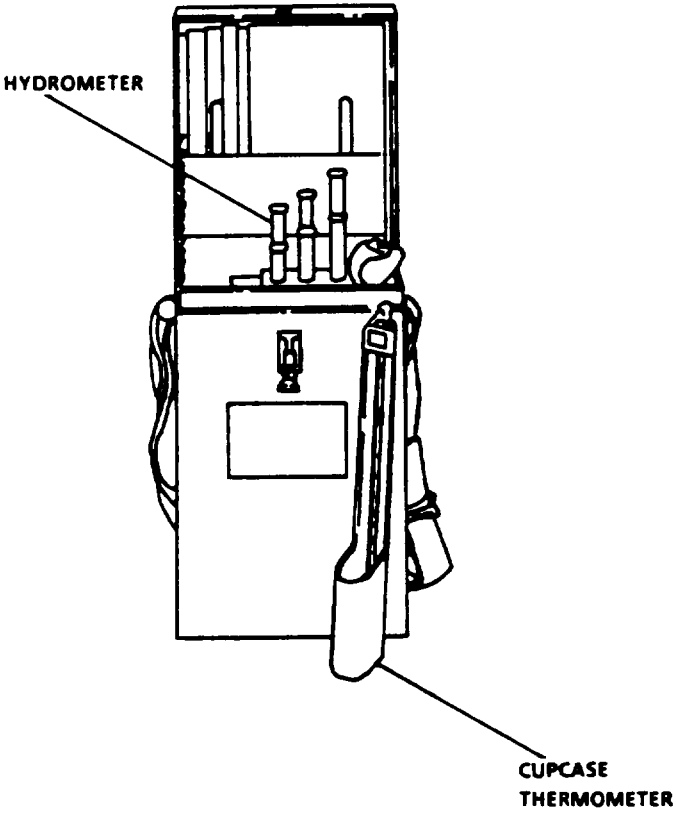


Figure 2-10. Sampling and Gaging Kit Indicators

Section II. OPERATOR PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Alphabetical Index

| Paragraph Title | Paragraph |
|--|------------------|
| After Prolonged Shutdowns | 2-5 |
| General | 2-3 |
| Individual Equipment PMCS | 2-8 |
| Leakage | 2-7 |
| PMCS Columnar Entries..... | 2-4 |
| Reporting and Correcting Deficiencies..... | 2-6 |
| Tools and Materials..... | 2-9 |

2-3 GENERAL.

The following paragraphs describe general information concerning when to do PMCS and what to do if a failure is discovered.

- a. Before You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your before (B) PMCS prior to the equipment leaving the laboratory or performing its intended mission.
- b. While You Operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your during (D) PMCS when the equipment is being used in its intended mission.
- c. After You Operate. Be sure to perform your (A) PMCS after the equipment has been taken out of its mission mode or returned to the laboratory.
- d. If Your Equipment Fails to Operate. Troubleshoot with proper equipment. Report any deficiencies using the proper forms. See DA Pam 738-750.
- e. Purpose of PMCS Table. Your PMCS table lists the inspections and care your equipment requires to keep it in good operating condition.

2-4. PMCS COLUMNAR ENTRIES.

The following paragraphs describe your PMCS, Table 2-11.

- a. Item Number Column. Item numbers are assigned in chronological, ascending sequence regardless of interval designation. These numbers are used for your "TM number" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet in recording results of PMCS.
- b. Service Interval Column. The interval column of your PMCS table tells you when to do certain checks or services,

2-4. PMCS COLUMNAR ENTRIES - continued.

- c. Item to be Inspected Column. This column lists functional groups and their respective assemblies and subassemblies. The appropriate check or service procedure follows the specific item to be inspected.
- d. Procedures Column. This column of your PMCS table tells you how to do the required checks and services. Carefully follow these instructions. If you do not have the tools, or if the procedure tells you to, have unit maintenance do the work.
- e. Equipment Is Not Ready/Available If Column. This column is used for identification of conditions that make the equipment not ready/available for readiness reporting purposes or denies use of the equipment until corrective maintenance is performed.

NOTE

The terms *ready/available* and *mission capable* refer to the same status; Equipment is on hand and is able to perform its combat missions (See AR 700-138).

2-5. AFTER PROLONG SHUTDOWNS.

Perform weekly as well as before operations if you are the assigned operator and have not operated the item since the last weekly or if you are operating the item for the first time.

2-6. REPORTING AND CORRECTING DEFICIENCIES.

If your equipment does not perform as required, refer to Chapter 3 under Troubleshooting for possible problems. Report any malfunctions or failures on the proper DA Form 2404, or refer to DA Pam 738-750

CAUTION

- . Equipment operation is allowable with minor leakages (Class I or II).
Of course, you must consider the fluid capacity in the item/system being checked/inspected. When in doubt, notify your supervisor.
- . When operating with Class I or Class II leaks, continue to check fluid levels as required in your PMCS.
- . Class III leaks should be reported to your supervisor or unit maintenance.

2-7. LEAKAGE

Leakage definitions for operator/crew PMCS shall be classified as follows:

- | | |
|---------|--|
| Class I | See page of fluid (as indicated by wetness or discoloration) not great enough to form drops. |
|---------|--|

2-7. LEAKAGE - continued.

Class II Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected.

Class III Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

2-8. INDIVIDUAL EQUIPMENT PMCS.

PMCS for the laboratory equipment such as environmental control unit, refrigerator, convection oven, gas alarm control unit, RVP bath, ice maker, copper strip corrosion bath, analytical balance, etc., are contained in their respective TMs (refer to Appendix A for TM numbers).

2-9. TOOLS AND MATERIALS.

The following is a list of tools and materials required for PMCS.

No tools are required for Operator's PMCS.

Table 2-11. Operator Preventive Maintenance Checks and Services

NOTE

If the equipment must be kept in continuous operation, check and service those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.

B - Before

A - After

M - Monthly

D - During

W - Weekly

| Item No. | Interval | | | | | Item to Be Inspected | Procedures Check for and have repaired or adjusted as necessary. | Equipment is Not Ready/ Available If: |
|----------|----------|---|---|---|---|---|---|--|
| | B | D | A | W | M | | | |
| 1 | | | | • | | Laboratory Exterior Laboratory Walls | Inspect skin surface for paint damage, corrosion, cracks, or punctures. | Wall skin corroded, cracked, or punctured. |

Table 2-11. Operator Preventive Maintenance Checks and Services - continued

B - Before
D-During

A - After
W - Weekly

M - Monthly

| Item No. | Interval | | | | | Item to Be Inspected | Procedures Check for and have repaired or adjusted as necessary. | Equipment is Not Ready/ Available If: |
|----------|----------|---|---|---|---|--------------------------------------|---|---|
| | B | D | A | W | M | | | |
| 2 | | | | | | Recessed Step Assemblies | Inspect for condition and security. | Steps damaged or loose. |
| 3 | | | | • | | Laboratory Tiedown Rings | Inspect for broken or missing rings. | Defective or missing rings. |
| 4 | • | | | | | Blower Exhaust Door | a. Check louvers for any obstructions. b. Inspect access door for defective or missing latches, keepers, seals, and hinges. | Louvers are blocked. Latches, keepers, seals, or hinges damaged or missing. |
| 5 | • | | | | | Purge Port Doors | a. Inspect access doors for defective or missing latches, keepers, seals, and hinges. b. Inspect door micro-switches to be sure they activate properly when door is closed, and deactivated when door is opened. c. Check air exhaust filters for cleanliness, damage or missing condition. | Latches, keepers, seals, or hinges damaged or missing. Microswitches do not operate correctly. Dirty, damaged or missing exhaust filters. |
| 6 | • | | | | | Utilities Box and Access Door | a. Inspect access door for defective or missing latches, keepers, seal, and hinge. b. Check connectors for security and damaged threads. | Latches, keepers, seal, or hinges damaged or missing. Defective or loose connections. |

Table 2-11. Operator Preventive Maintenance Checks and Services - continued

B - Before

A - After

M - Monthly

D- During

W - Weekly

| Item No. | Interval | | | | | Item to Be Inspected | Procedures Check for and have repaired or adjusted as necessary. | Equipment is Not Ready/ Available If: |
|----------|----------|---|---|---|---|--|--|--|
| | B | D | A | W | M | | | |
| 7 | ● | | | | | Water Reservoir Receptacle | a. Check receptacle screen for debris, blockage, or damage. | Broken screen. |
| 8 | ● | | | | | Personnel Entrance Door | a. Inspect for operation, condition and security. | Door damaged, not secure or operating properly. |
| 9 | ● | ● | ● | | | Electrical Connector Receptacle | a. Inspect power cable connector for loose and damaged pins. b. Check ground cable is properly connected to ground lug and grounding rod. | Defective connector. Grounding connections are damaged. |
| 10 | ● | | ● | | | Main Power Cable | Inspect cable for damaged connector, cuts, and deep abrasions. | Cable damaged. |
| 11 | | | | | ● | Laboratory Interior Rear Wall Panelboard Assembly | a. Set each circuit breaker to OFF, then ON. b. Check security of circuit breaker cover and timer relay override switch. | Circuit breaker is defective or switch loose. |
| 12 | | | | | ● | Blackout Override System | a. Close entrance door. | Blackout system inoperative. |

Table 2-11. Operator Preventive Maintenance Checks and Services - continued

B - Before
D - During

A - After
W - Weekly

M - Monthly

| Item No. | Interval | | | | | Item to Be Inspected | Procedures Check for and have repaired or adjusted as necessary. | Equipment is Not Ready/ Available If: |
|----------|----------|---|---|---|---|--|---|--|
| | B | D | A | W | M | | | |
| 13 | | | | | ● | Electrical Switches | b. Turn LIGHT switch on. c. Turn BLACKOUT OVERRIDE switch on. d. Move door lever to open position. e. Check that white ceiling lights went off and blackout lights come on. f. Move door lever to closed position. g. Check that white ceiling lights came on. | Blackout system inoperative. Blackout system inoperative. |
| 14 | ● | | ● | | ● | Fire Extinguishers | a. Inspect for broken seals. b. Check that charge indicating gage is in the green. | Seal broken. Charge gage not indicating proper charge. |
| 15 | | | | | ● | Blackout Limit Switch | Check switch for proper mounting and actuation. | Switch loose or does not activate correctly. |
| 16 | | | | ● | | Laboratory Interior Roadside Wall Water Demineralizer | a. Check for security of mount brackets. | Brackets are loose. |

Table 2-11. Operator Preventive Maintenance Checks and Services - continued

B - Before

A - After

M - Monthly

D - During

W - Weekly

| Item No. | Interval | | | | | Item to Be Inspected | Procedures Check for and have repaired or adjusted as necessary. | Equipment is Not Ready/ Available If: |
|----------|----------|---|---|---|---|---|--|--|
| | B | D | A | W | M | | | |
| 17 | • | | | • | | Manometer | b. Check tubes for leaks or deterioration. Inspect liquid column for cleanliness and security. | Tubes leak. Manometer dirty. |
| 18 | • | | | • | | Vacuum-Air Pressure System | a. Inspect vacuum-air pressure system for air and vacuum leaks. b. Check vacuum-air pressure pump for security. | Lines, hoses, valves are leaking. Loose pump mount bolts. |
| 19 | | | | • | | Water System | c. Check power cord for damage. a. Inspect for evidence of water leaks. b. Check water pump for security. | Damaged plug. Class III leak detected. Loose pump mount bolts. |
| 20 | | • | | | | Cabinets | c. Check tank water level. Should not be less than 1/4 full. a. Check for broken latches and hinges. b. Inspect contents for damaged or missing items. | Hinge or latch broken. Items damaged or missing. |
| 21 | | | | • | | Power Receptacles/ Switches | Check for loose, burned, or cracked receptacles/- switches. | Receptacle/switches cracked or burned. |
| 22 | • | | | | | Laboratory Interior Front Wall Detector Assembly | Check for security and condition. | Loose or damaged. |

Table 2-11. Operator Preventive Maintenance Checks and Services - continued

B - Before

A - After

M - Monthly

D - During

W - Weekly

| Item No. | Interval | | | | | Item to Be Inspected | Procedures Check for and have repaired or adjusted as necessary. | Equipment is Not Ready/ Available If: |
|----------|----------|---|---|---|---|---|--|---|
| | B | D | A | W | M | | | |
| 23 | | | | | | Air Plenum and Damper Assemblies Laboratory Interior Curbside Wall | a. Check that air filters are clean. b. Verify that air dampers in plenums open when purge cycle is initiated. c. Verify that air plenum is mounted properly to ECUS and that no air leaks are apparent. | Air filters are dirty. Air dampers do not position properly. Plenum not mounted properly or air leaks are apparent. |
| 24 | | | | | | RVP Gages | Inspect face for cracked or broken glass. | Glass damaged. |
| 25 | ● | | | | | Emergency Light | Test emergency light by pressing TEST switch. | Emergency light does not come on. |
| 26 | | | | | ● | First Aid Kit | Check kit for missing contents. | Contents are low. |
| 27 | ● | | | | | Exhaust Blower | Check that blower cord is plugged into convenience outlet. | |
| 28 | ● | | | | | Laboratory Interior Ceiling Ceiling Lights | Inspect for burned out fluorescent lamps. Replace as required. | |

Table 2-1. Operator Preventive Maintenance Checks and Services - continued

B - Before

A - After

M - Monthly

D - During

W - Weekly

| Item No. | Interval | | | | | Item to Be Inspected | Procedures Check for and have repaired or adjusted as necessary. | Equipment is Not Ready/ Available If: |
|----------|----------|---|---|---|---|---------------------------------------|--|---|
| | B | D | A | W | M | | | |
| 29 | | | | | ● | Power Receptacle/ Switches | Check for loose, burned, or cracked receptacles/- switches | Switcc/receptacles loose, cracked or burned. |
| 30 | | | | ● | | Surface | Inspect for tears or cracks in surface. | |
| | | | | | | Laboratory Equipment | | |
| 31 | ● | | | ● | | Flash Point Tester | a. Inspect condition. b. Check operation. | Defective or missing components. Flash point tester operates improperly. |
| 32 | | ● | | ● | | Ice Maker | a. Inspect for condition and security. b. Check operation. | Defective or missing fasteners. Ice maker is inoperative |
| 33 | ● | | | | | Analytical Balance and Support | Inspect for condition and security. | Defective retainers and straps. Loose or missing screws. |
| 34 | | | | ● | | Desiccating Cabinet | Inspect for loose or missing mounting bolts. | Loose or missing mounting bolts. |
| 35 | ● | | ● | | | Laboratory Oven | a. Inspect for condition and security. b. Check operation. | Loose or missing fasteners. Furnace operates improperly. |
| 36 | ● | | | | | RVP Bath | a. Inspect for condition and security. b. Check operation. | Loose or missing fasteners. RVP bath operates improperly. |

Table 2-11. Operator Preventive Maintenance Checks and Services - continued

B - Before

A - After

M - Monthly

D - During

W - Weekly

| Item No. | Interval | | | | | Item to Be Inspected | Procedures Check for and have repaired or adjusted as necessary. | Equipment is Not Ready/ Available If: |
|----------|----------|---|---|---|---|-------------------------------------|--|---|
| | B | D | A | W | M | | | |
| 37 | | • | | | | Copper Strip Corrosion Bath | a. Inspect for condition and security. b. Check operation. | Loose or missing fasteners. Copper strip corrosion bath operates improperly. |
| 38 | • | | | | | Gas-Oil Distillation Unit | a. Inspect for condition and security. b. Check operation. | Loose or missing fasteners. Distillation unit operates improperly. |
| 39 | | | | • | | Explosion Proof Refrigerator | a. Inspect for condition and security. b. Check operation. | Loose or missing fasteners. Refrigerator is inoperative. |
| 40 | • | | | • | | Field Testing Kits | a. Inspect condition. b. Check operation | Defective kits and missing components. Kit will not perform test properly. |

Section III. OPERATION UNDER USUAL CONDITIONS

Alphabetical Index

| Paragraph Title | Paragraph |
|--|-----------|
| Assembly and Preparation for Use | 2-11 |
| Operating Procedures | 2-12 |
| Preparation for Movement | 2-13 |
| Site and Shelter Requirements | 2-10 |

2-10. SITE AND SHELTER REQUIREMENTS.

- a. Site Selection. Select a site that provides or has the following features:
 - Ample space for maneuvering the vehicles that may be used to move and position a trailer mounted generator set, the Airmobile Laboratory, and a water supply trailer.
 - Site has a firm, well drained terrain, relatively free of surface rocks and large stones.
 - Ground is not excessively sloped, which could hamper leveling of the laboratory.

2-11. ASSEMBLY AND PREPARATION FOR USE.

- a. Inspection. Inspect the exterior of the laboratory for damage incurred during shipment. If found damaged, report the damage to your supervisor. Refer to TB 43-0124 for authorized repair of the basic laboratory.

CAUTION

Some items of test equipment may be adversely affected, either causing improper functioning or incorrect readings, if the Airmobile Laboratory is not level.

NOTE

The Airmobile Laboratory does not have jacking or leveling devices which are built-in or can be secured to the laboratory.

- b. Leveling. The following procedures are used to level the Airmobile Laboratory.
 - (1) Using the carpenters level located in the overpack box, observe bubble on level to determine which side or end will have to be raised or lowered to level the laboratory.
 - (2) Use what ever materials are available to support the laboratory in a firm, level position.
- c. Laboratory Grounding. The following procedure is used to properly ground the Airmobile Laboratory.

2-11. ASSEMBLY AND PREPARATION FOR USE - continued.**WARNING**

Death or serious injury may result from connecting main power cable to Airmobile Laboratory before grounding the laboratory

NOTE

The grounding rod, driver/puller, and grounding cable, are stored and shipped in the overpack box.

- (1) Remove grounding rod, driver/puller, and grounding cable from overpack box.
- (2) Select an area as close to the laboratory electrical connector receptacle as possible to install grounding rod.
- (3) Attach first grounding rod and coupling to the driver/puller rod (refer to Figure 2-11).

NOTE

Before driving rounding rod, be certain that driver/puller rod and grounding rod are fully threaded into coupling. Be sure collar is hand tight against coupling.

- (4) Place driver/puller on driver/puller rod and drive grounding rod into ground approximately 30 inches.

CAUTION

Do not allow grounding rod to rotate when disconnecting the driver/puller rod from the grounding rod. Grounding sections must be kept screwed together to ensure a good electrical ground.

- (5) Remove driver/puller rod and driver/puller from first grounding rod section.
- (6) Attach second section of grounding rod to first section and attach driver/puller rod to second section and drive into ground.
- (7) Repeat steps (5 and 6) and drive third section of grounding rod into ground until only 12 in. (30.5 cm) of rod is above ground.
- (8) Remove driver/puller and driver/puller rod from third section of grounding rod.
- (9) Place driver/puller and driver/puller rod in overpack box.
- (10) Slide grounding cable clamp over grounding rod.
- (11) Attach grounding cable to grounding rod with grounding clamp.
- (12) Attach grounding cable to grounding lug in laboratory electrical connector receptacle (refer to Figure 2-12.)

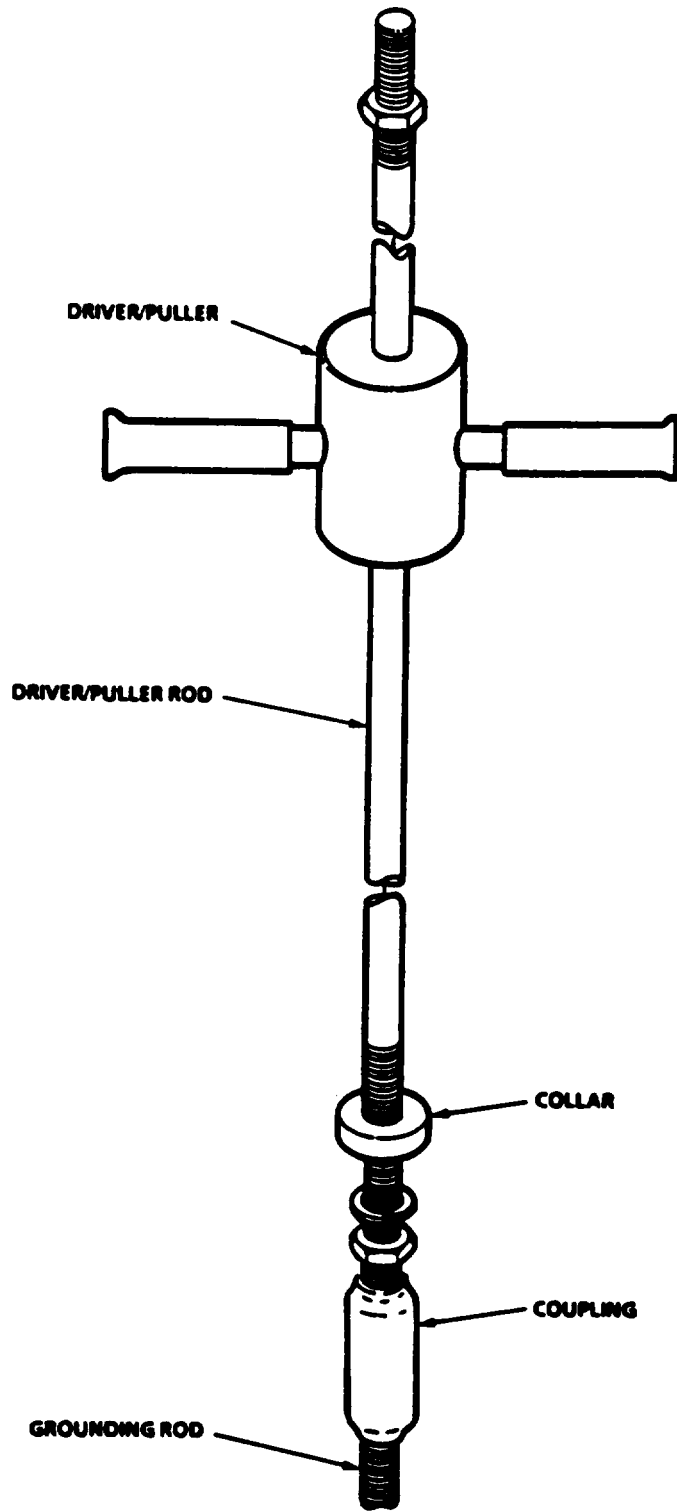


Figure 2-11. Grounding Rod and Driver/Puller

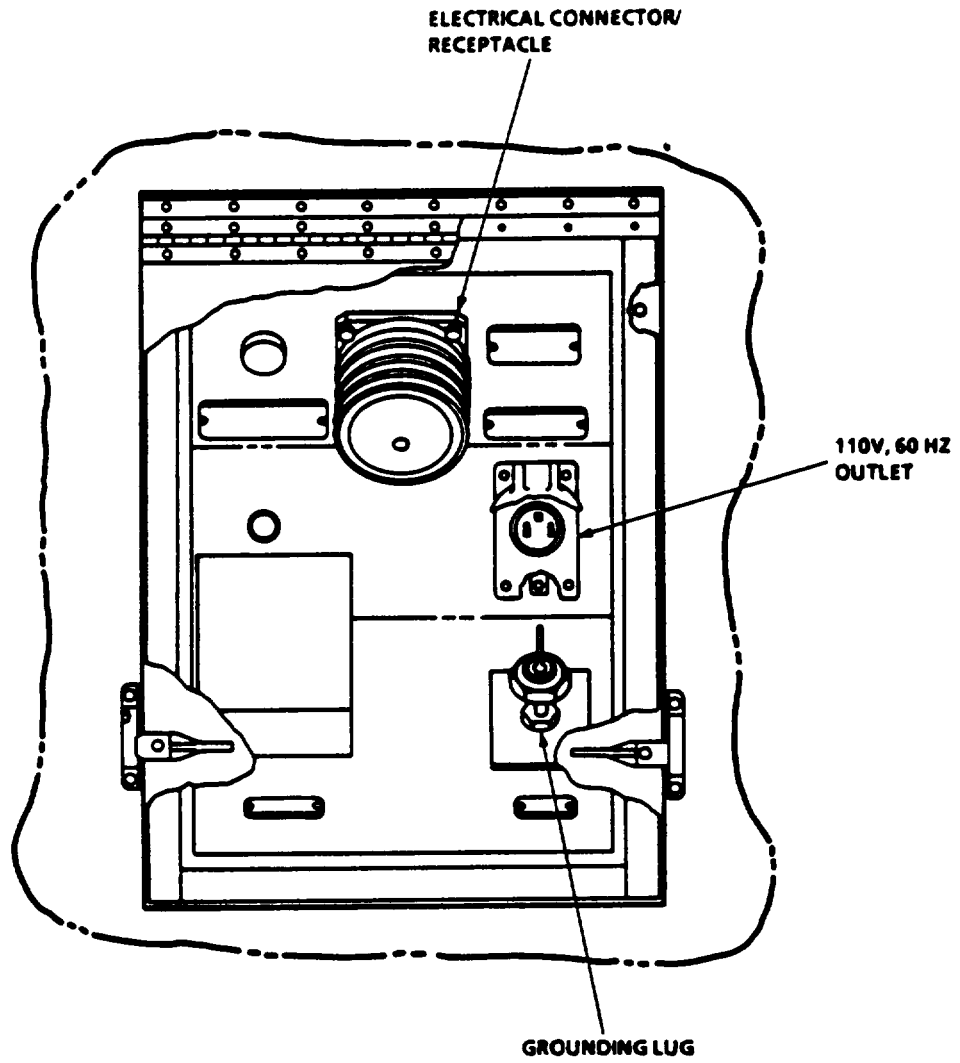


Figure 2-12. Laboratory Electrical Connector Receptacle

2-11. ASSEMBLY AND PREPARATION FOR USE - continued.

d. Laboratory Startup. The following procedure is used to power-up the Airmobile Laboratory (refer to Figure 2-13).

WARNING

Do not attempt to enter the laboratory during laboratory start up until automatic purge cycle (5 minutes) is completed. Dangerous combustible gases or vapors may be present which could ignite and cause death or serious injury.

- (1) Unlatch and position laboratory blower exhaust and purge port doors to the open position and the entrance door to the closed position.
- (2) Roll up and attach both ECU canvas covers to the up position.

CAUTION

Be sure that main power cable leads are properly connected to the generator set to prevent damage to the generator set or laboratory electrical system.

- (3) Attach main power cable leads to the generator set as follows: Black wire - (L1); Blue wire - (L2); Red wire - (L3); White wire - Neutral (LO); Green wire - Generator Set Ground (Gnd).
- (4) Remove protective cap from main power cable connector (Figure 2-12) in laboratory electrical connector receptacle.
- (5) Firmly connect the main input cable to the cable connector.

NOTE

Laboratory startup purging (ECUs operation) will automatically take place when power is applied to the laboratory if timer relay override switch (Figure 2-2) is on. The purging cycle will last for approximately 5 minutes.

- (6) Turn on power at external power generator set in accordance with applicable generator TM.
- (7) After purging cycle is complete (ECUs shut off), unlock and open laboratory entrance door.
- (8) Unstrap and remove overpack box and tiedown straps. Store straps in box.

e. Unpacking and Inspection. The following procedure is used to unpack and inspect the Airmobile Laboratory. Report any discrepancies to your maintenance supervisor.

- (1) Open panelboard assembly door and turn main power circuit breaker CB1 on (Figure 2-2).
- (2) Place all other circuit breakers on (Figure 2-2).

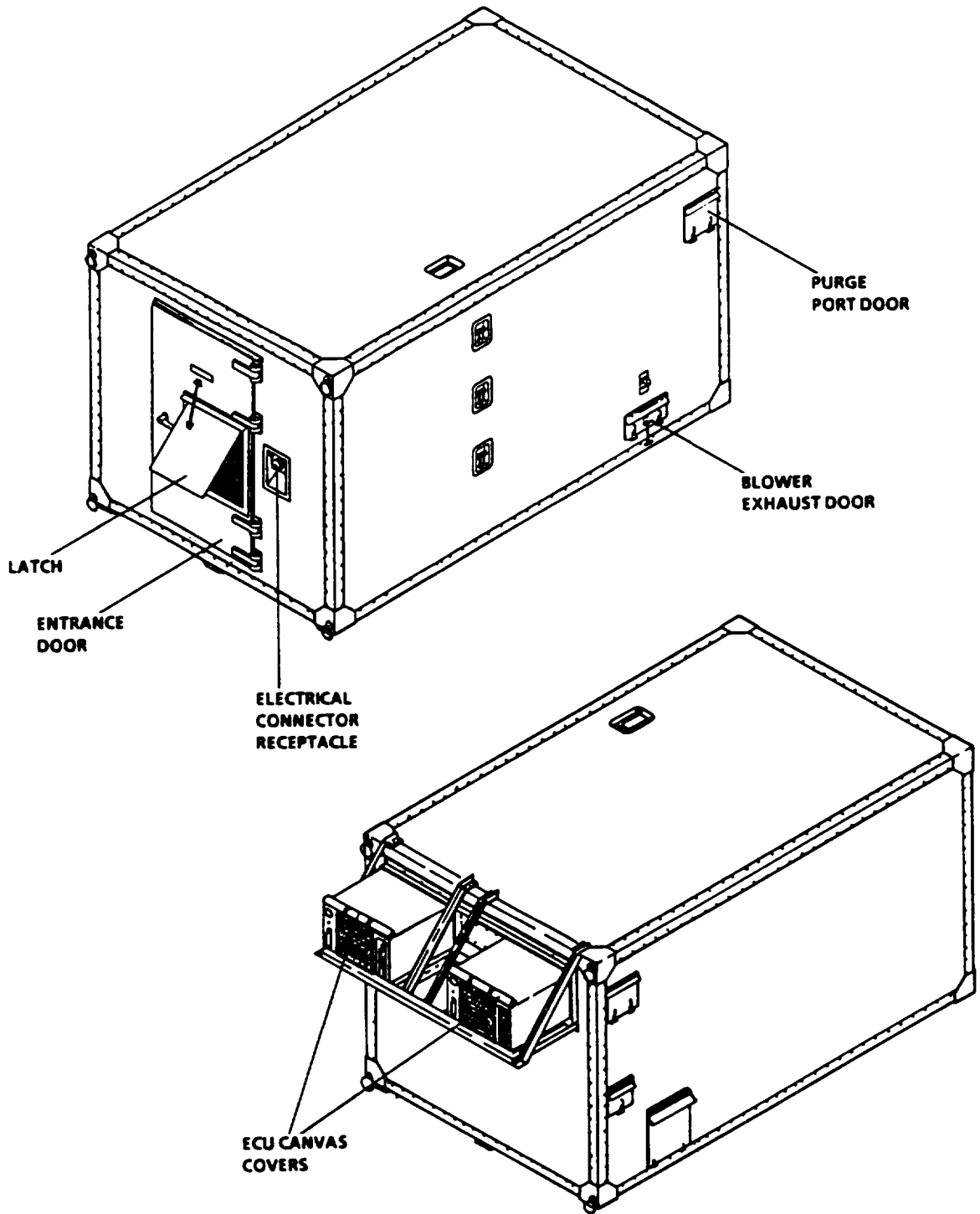


Figure 2-13. Laboratory Start-Up

2-11. ASSEMBLY AND PREPARATION FOR USE - continued.

- (3) Turn on ceiling LIGHT switch (Figure 2-3).
- (4) Turn on ECU compressor circuit breakers (Figure 2-8) and refer to TM 5-4120-378-14 for operation.
- (5) Close and secure entrance door.
- (6) Remove shipping straps from fire extinguishers (Figure 1-4) and RVP bombs. Store brackets in overpack box.
- (7) Unlatch analytical balance cover from vibration dampening support and remove cover.
- (8) Remove aneroid barometer from cabinet No. 8 top drawer and mount on roadside wall next to manometer on mounting hanger.
- (9) Remove flashpoint tester heater unit and accessories from storage cabinet No. 6, roadside, and mount on countertop below gas detector-alarm system as follows:
 - (a) Place the cover with operating mechanism into the test cup and then place on the air bath.
 - (b) Install the main gas line tube into the 1/4 inch pipe tee using 3/4 inch open end wrench.
 - (c) Place the test cup holder on the main gas line tube at a convenient height and tighten thumb screw.
 - (d) Install the motor support rod into the base and tighten set screw in base to secure rod.
 - (e) Install the stirrer motor on the support rod.
 - (f) Connect the flexible cable from the cover assembly to the motor and adjust motor to angle with best freedom of motion of flexible cable.
 - (g) Place propane cylinder into mounting cup next to flash point tester.
 - (h) Connect gas inlet to propane cylinder and verify that the gas line tube needle valve is closed.
- (10) Remove petroleum test bombs from cabinet No. 8 and mount on mounting hooks next to RVP bombs and gages.

2-12. OPERATING PROCEDURES.

This paragraph provides the operator of the Airmobile Laboratory with the procedures necessary to operate the basic laboratory systems such as the electrical system, water system, and vacuum-air

2.12. OPERATING PROCEDURES - continued.

pressure system. Also included are the operating instructions for the sampling and gaging kit and the anti-icing test kit.

For operating procedures pertaining to the specific laboratory equipment such as the RVP bath, convection oven, copper strip bath, flash point tester, distillation unit, etc., refer to the appropriate TM listed in Appendix A of this manual.

- a. Electrical System. The electrical system provides services to all laboratory electrical equipment, lights, and power receptacles. All circuits are either circuit breaker or fuse protected as described in Table 2-2.
- b. Water System Servicing and Operation. The water system can be serviced and is operated as follows. Refer to Figure 2-14.

- (1) Fill the Water Tank Manually.

- (a) Check that screen in receptacle is clear of any debris.

NOTE

Tank has 30 gal. (1141) capacity.

- (b) Check that tank fill gate valve is closed.
- (c) Pour water directly into receptacle until tank is full.
- (d) Close and latch access door.

- (2) Fill the Water Tank From Pressurized Source.

- (a) Unlatch and open utilities box access door.
- (b) Retrieve 50-foot (15.25 m) garden hose from overpack box and secure to connector marked FILL in utilities box.
- (c) Secure opposite end of hose to pressurized water source.
- (d) Check that the following water system valves are turned off.

Faucet Shutoff
Water System Drain Valve
Water Demineralize
Suction/Tank
Suction/Pump

- (e) Turn on water supply at source.
- (f) Crack open tank fill gate valve.

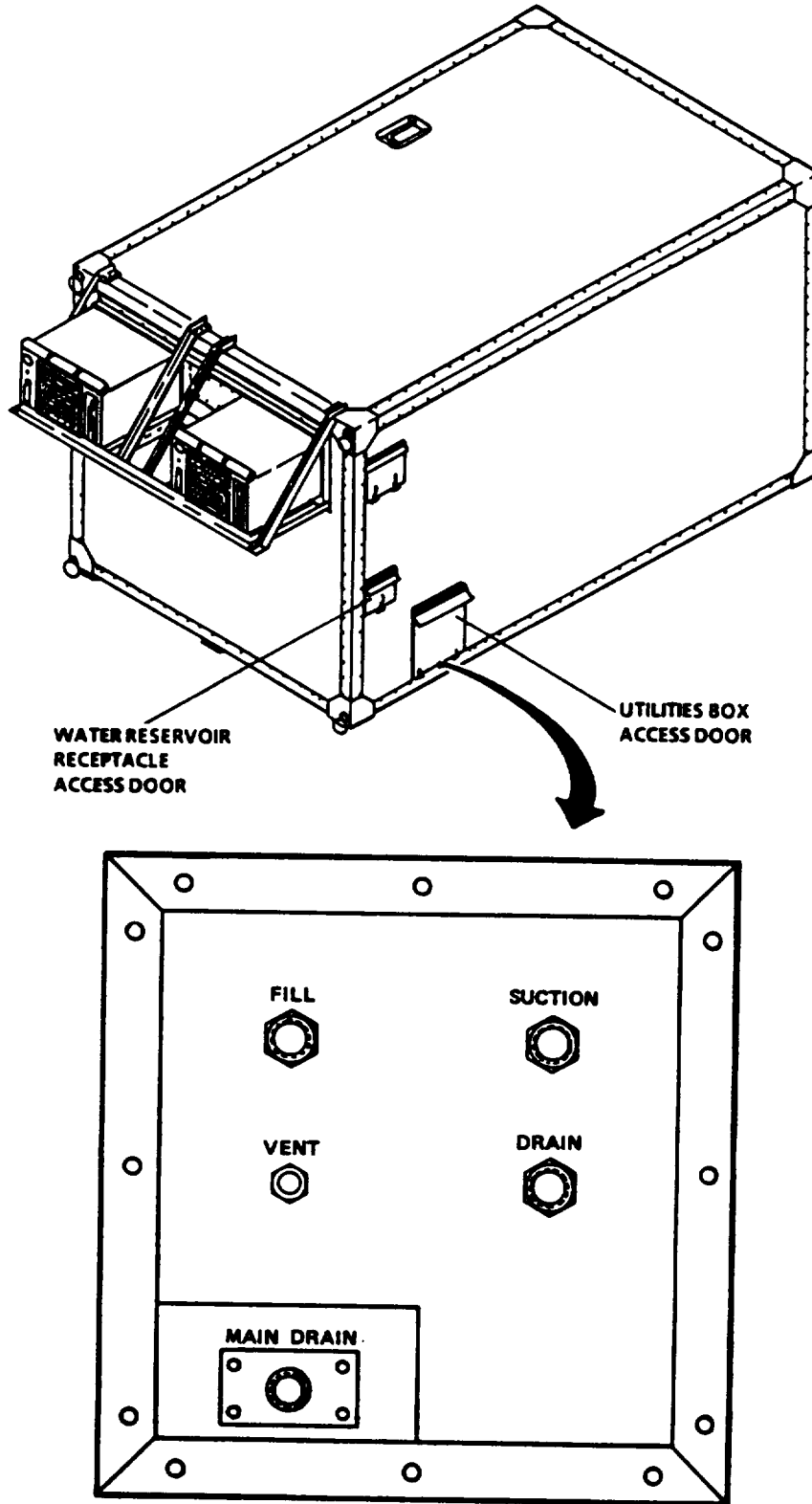


Figure 2-14. Water System Servicing and Operation (Sheet 1 of 2)

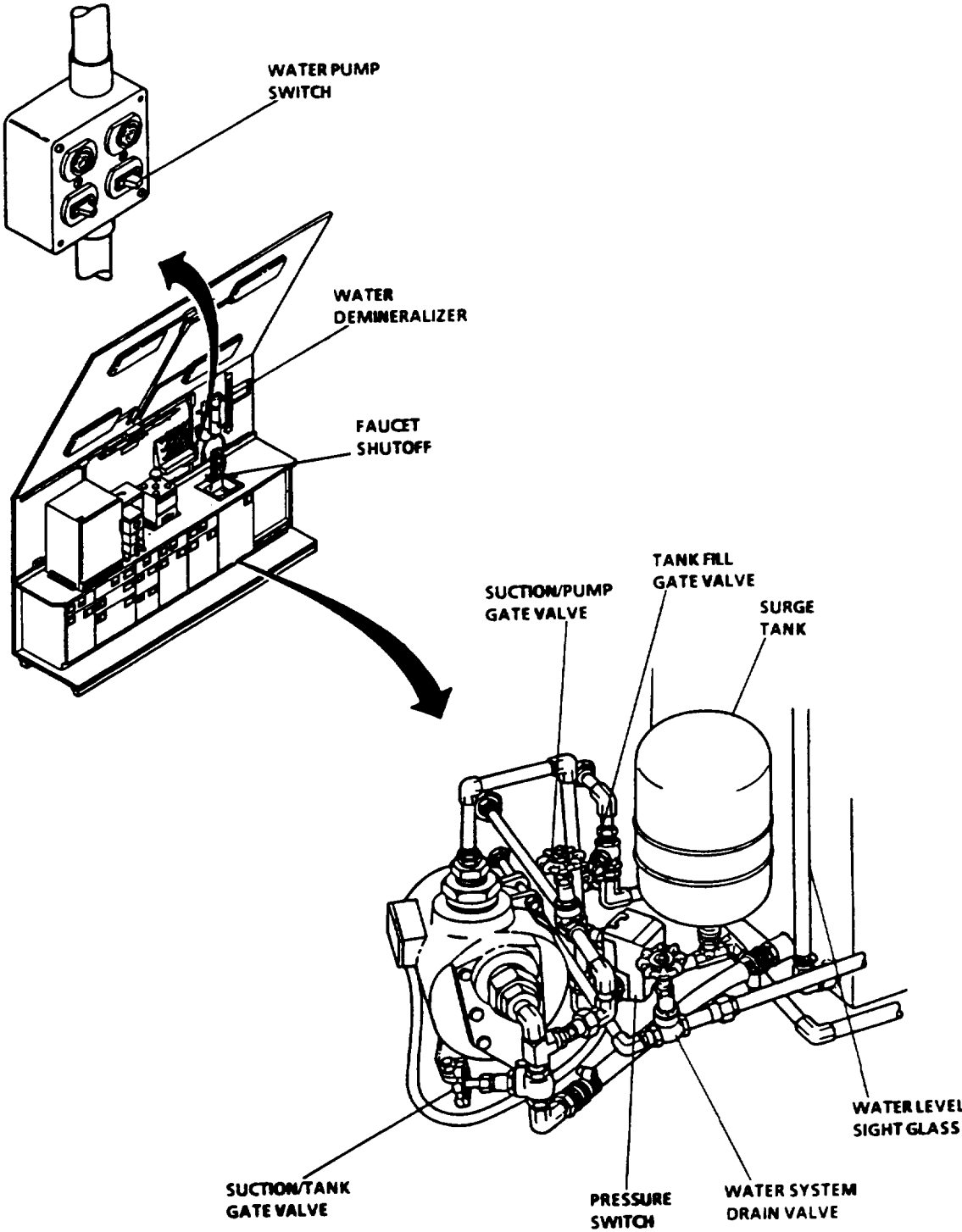


Figure 2-14. Water System Servicing and Operation (Sheet 2 of 2)

2-12. OPERATING PROCEDURES - continued.

- (g) Slowly open sink faucet to remove entrapped air from water system. Close faucet.
 - (h) Slowly open tank fill gate valve to full open position while checking for leaks in water system piping.
 - (i) Observe the water level gage on side of tank; when tank is full; close tank fill gate valve.
 - (j) Turn off water supply at source.
 - (k) Remove garden hose from water supply source and FILL connector. Drain and store hose in overpack box.
 - (l) Close and latch utilities box access door.
- (3) Operate the Water System Using Laboratory Water Tank.

CAUTION

Keep water tank level at least 1/4 full to ensure fail-free operation of water system.

NOTE

While using the laboratory water tank as the primary water supply source, monitor the water consumption by observing the water level gage mounted on side of water reservoir inside cabinet No. 4.

- (a) Verify that the suction/pump gate valve (Figure 2-14) is closed.
 - (b) Open suction/tank gate valve.
 - (c) Place pump switch in the on position. Pump should run until water pressure reaches cutoff point (20 psi).
 - (d) Open sink faucet to purge air from the system. Pump will start when water pressure drops to the starting point (10 psi).
 - (e) When a solid stream of water is flowing from the faucet, close faucet and check system for leaks.
- (4) Operate the Water System Directly from Unpressurized Source.
- (a) Unlatch and open utilities box access door.
 - (b) Secure 50-foot (15.25 m) garden hose to connector marked SUCTION in utilities box.
 - (c) Secure opposite end of hose to unpressurized water source and open water source outlet gate valve.

2-12. OPERATING PROCEDURES - continued.

- (d) Check that faucet is turned off.
 - (e) Place the suction/tank gate valve to the close position.
 - (f) Place the suction/pump gate valve to the open position.
 - (g) Place pump switch in the on position. Pump should run until water pressure reaches cutoff point (20 psi).
 - (h) Open sink faucet to purge air from system. Pump will start when water pressure drops to starting point (10 psi).
 - (i) When a solid stream of water flows from the faucet, close faucet and check system for leaks.
- c. Vacuum-Air Pressure System Operation. The vacuum-air pressure system is housed in cabinet No. 9. Refer to Figure 2-15.
- (1) Air Pressure System Operation.
 - (a) Open air pressure stopcock and vacuum stopcock to release air pressure and vacuum then close the air pressure stopcock.
 - (b) Open door of cabinet No. 9 and open the drain stopcock for the air surge tank and release all air pressure.
 - (c) After all air is released from system close the air surge tank drain stopcock.
 - (d) Verify that the manometer pressure regulator valve is closed.
 - (e) Place VAC-AIR switch on.
 - (f) Listen for any air leaks. Correct as necessary.
 - (g) Observe air pressure gage on pump for 18 psi (1.3 kg/cm²) indication. If pressure less than or greater than 18 psi, adjust pump air pressure regulator. Turn knob to right to increase pressure; left to decrease pressure.
 - (h) Close cabinet door.
 - (i) Open and close air pressure stopcock as needed.
 - (j) Place VAC-AIR switch off after use.
 - (2) RVP Gage Testing. The RVP gages must be tested for accuracy before and after each vapor test of aviation fuel. The accuracy of the gages is verified by using the manometer as a standard. To test RVP gage;
 - (a) Open door of cabinet No. 9.

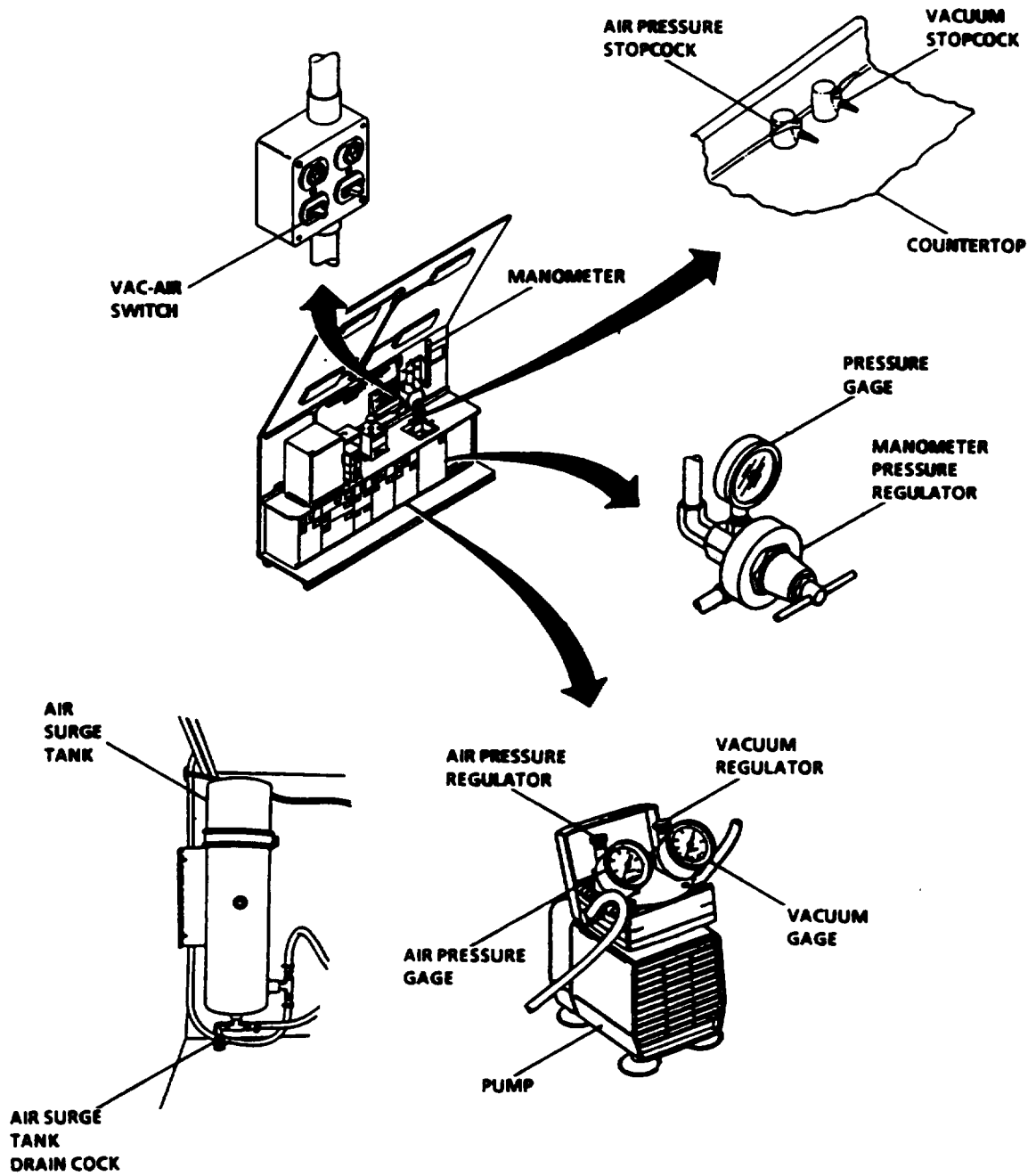
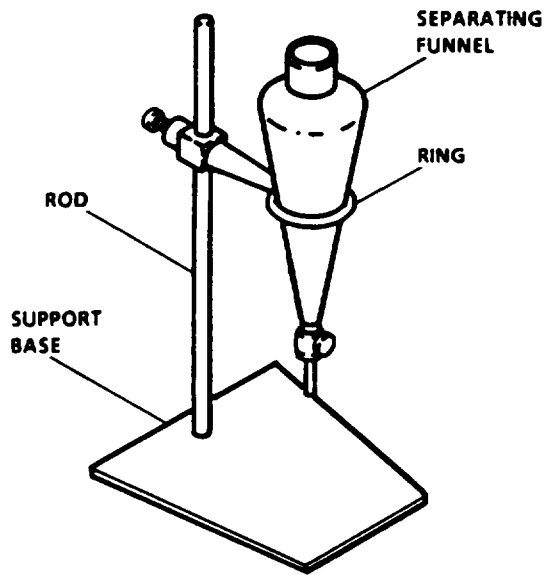


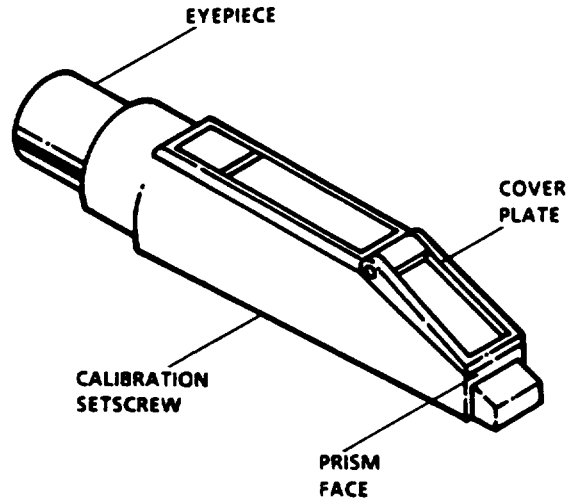
Figure 2-15. Vacuum-Air Pressure System Operation

2-12. OPERATING PROCEDURES - continued.

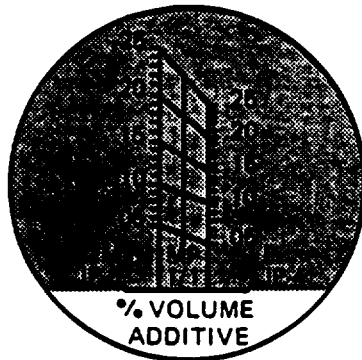
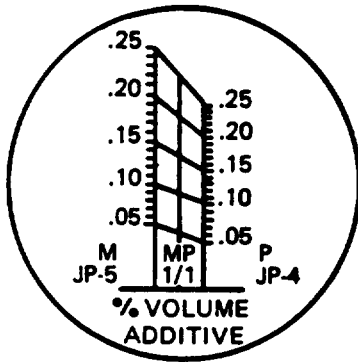
- (b) Place VAC-AIR switch on.
 - (c) Observe manometer pressure scale. Manometer should indicate 0 psi. If pressure greater than 0 psi, turn manometer pressure regulator valve to left until 0 psi is indicated.
 - (d) Remove plug from gage connector.
 - (e) Secure RVP gage to gage connector.
 - (f) Adjust manometer pressure regulator valve, as indicated on manometer, to level specified in ASTM Test Method D-323.
 - (g) If RVP gage reading differs from manometer reading by 1 percent or less, RVP gage is accurate i.e. gage correction factor must not be greater than 0.05 psi for 0 to 5 psi gage or 0.15 psi for 0-15 psi gage.
 - (h) If reading differs more than 1 percent, gage is considered inaccurate and must not be used.
 - (i) Reduce air pressure to 0 psi by adjusting manometer pressure regulator.
 - (j) Place VAC-AIR switch off.
 - (k) Remove RVP gage and install plug in gage connector.
- (3) Vacuum System Operation.
- (a) Open door of cabinet No. 9.
 - (b) Place VAC-AIR switch on.
 - (c) Observe air vacuum gage on pump and adjust vacuum level as specified by applicable ASTM Test Method. If vacuum is less than desired, turn knob on pump vacuum regulator to the right to increase vacuum; left to decrease vacuum.
 - (d) Open and close vacuum stopcock as needed.
- d. B/2 Anti-Icing Additive Test Kit Operation. The kit is portable and self-contained. It consists of the carrying case, refractometer, a separatory funnel, support base with rod and ring, aluminum dishes, piston pipets, a graduated cylinder and a bottle with screw cap. Set up and operate kit as follows:
- (1) Using a clean, dry container, procure a 1-pint (0.4731) sample of fuel to be tested.
 - (2) Set up the separatory funnel with its support base, rod and ring (see Figure 2-16, Detail A).
 - (3) Fill an aluminum dish one half full of water.



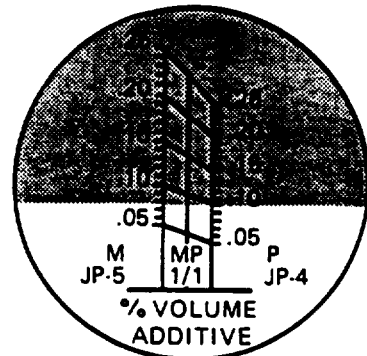
DETAIL A SEPARATORY FUNNEL



DETAIL B REFRACTOMETER



C-1



C-2

DETAIL C VIEW SHADOW LINE

Figure 2-16. B/2 Anti-Icing Additive Test Kit

2-12. OPERATING PROCEDURES - continued.

- (4) Using graduated cylinder, transfer exactly 160 ml. of the fuel (from step 1) to the separator funnel.
- (5) Using a piston pipet, add exactly 2 ml. of water from the aluminum dish to the separator funnel. Cap funnel and shake vigorously for 3 minutes. Place separator funnel in support stand.

NOTE

Refractometer should be treated as an optical instrument.

- (6) Open cover of prism face (see Figure 2-16, Detail B). Ensure prism face is clean.
- (7) Apply several drops of water from aluminum dish to prism face. Close cover and through eyepiece observe location of shadow line in viewer. Using plastic adjusting rod contained in the refractometers base, adjust setscrew located in the base so that shadow line intersects zero line of the scale (see Figure 2-16, Detail C1). Refractometer is now correctly zeroed.
- (8) Clean refractometer cover plate and prism face with lint free cloth.
- (9) Carefully rotate separator funnel drain cock so that a trickle of fluid can be collected in clean dry aluminum dish. Two to three drops is sufficient.
- (10) Open cover plate of prism face and transfer fluid from aluminum dish to prism face. Close cover and observe position of shadow line. Figure 2-16, Detail C-2 shows a typical test result for JP-4 fuel treated with anti-icing additive at 0.1% v. test run may show differently as fuel may have different % v. of additive, but readings will be accurate and reflect fuel condition.
- (11) Properly dispose of liquids. Wash apparatus with soap and water and dry thoroughly.
- (12) Report out of specification results at once.

e. Sampling and Gage Kit Operation (Cabinet No. 5). (Refer to Figure 2-17). This kit is completely portable and self-contained. It consists of the carrying case, which is divided into section to hold the major items of equipment, an API gravity computer, a cupcase thermometer, a hydrometer cylinder, gasoline indicating paste, water indicating paste, innage tape and bob, a weighted beaker sampler, and thermal hydrometers. Set up the kit for operation as follows:

- (1) Clean innage tape with cheesecloth. Ensure equipment is clean, dry, and free of dirt.
- (2) Check mercury columns in hydrometer and cupcase thermometer. If mercury column is separated or glass cracked, replace the instrument.

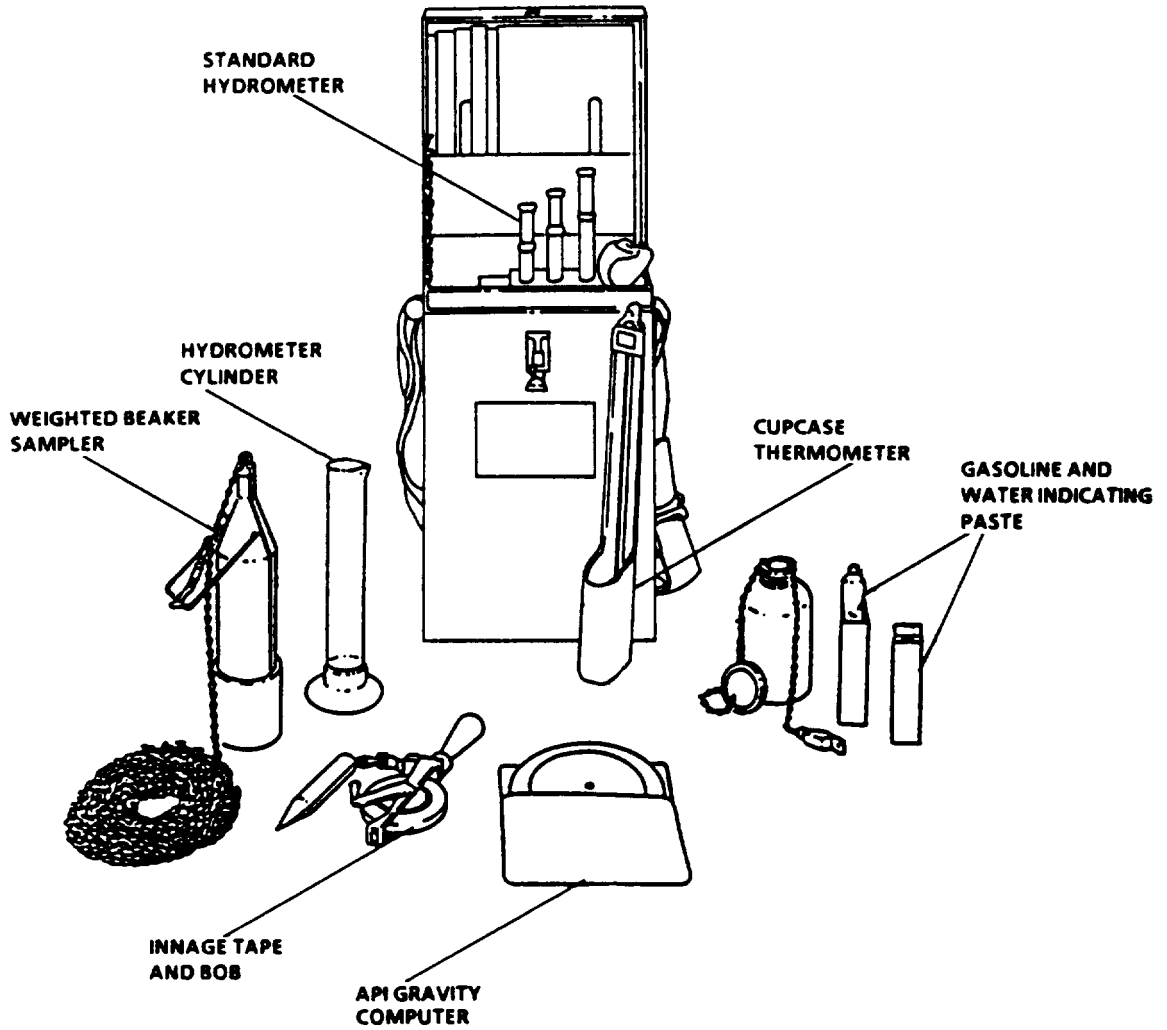


Figure 2-17. Sampling and Gage Kit

2-12. OPERATING PROCEDURES - continued.

- (3) Check thermometer reading with other thermometers in the area to ensure they read the same.
- (4) Before a product is sampled or gaged, rinse the containers with the same type of product to be sampled or gaged.

WARNING

Never gage or sample a product in a tank if there is an electrical storm or a source of sparks in the area. Failure to comply with this warning could result in serious injury or death.

- (5) Conduct tests in accordance with pamphlets stored in pocket of case which contain ASTM test methods.

2-13. PREPARATION FOR MOVEMENT.

The following paragraphs are used to prepare the Airmobile Laboratory for movement.

- a. **Interior.** Prepare the interior of the Airmobile Laboratory for movement as follows:
 - (1) Place all chemicals in their designated drawers. Ensure that caps are tight.
 - (2) Place all other loose test equipment and supplies in their designated drawers.
 - (3) Place cover over analytical balance and install snap clamps over case in position over analytical balance.
 - (4) Install fire extinguisher and RVP bomb shipping straps.
 - (5) Drain and clean RVP bath.
 - (6) Ensure that RVP bath retaining screws are tight.
 - (7) Remove thermoregulator and thermometer (if installed) from RVP bath and store both items in their designated drawers.
 - (8) Empty and clean interior and exterior of oven.
 - (9) Ensure that oven retaining bracket screws are tight.
 - (10) Place flash point tester electric stirrer, stirrer support stand, propane bottle electric heater and a associated parts in storage cabinet No. 6.
 - (11) Ensure that flash point tester mount screws are tight.
 - (12) Remove desiccant bags from desiccating cabinets and store bags in designated drawer.
 - (13) Clean interior and exterior of desiccant cabinet with a damp cloth.

2-13. PREPARATION FOR MOVEMENT - continued.

- (14) Perform a gas alarm system test.
- (15) Empty and clean interior and exterior of refrigerator.
- (16) Ensure that refrigerator retaining bracket screws are tight.
- (17) Drain and clean gas-oil distillation unit.
- (18) Ensure that gas-oil distillation unit and shield retaining bracket screws are tight.
- (19) Drain and clean copper strip corrosion bath.
- (20) Ensure that copper strip corrosion bath retaining bracket screws are tight.
- (21) Open vacuum-air pressure stopcocks to drain vacuum-air pressure system. Close stopcocks.
- (22) Open door cabinets No. 9 and No. 4 and remove any loose items. Store items in designated drawers.
- (23) Check contents of all cabinets to ensure items are properly stored for shipment.
- (24) Verify the following equipment power cords are disconnected:
 - (a) Refrigerator
 - (b) Distillation Unit
 - (c) Copper Strip Bath
 - (d) Vacuum-Air Pressure Pump (inside cabinet No. 9)
 - (e) RVP Bath
 - (f) Oven
 - (g) Analytical Balance
 - (h) Flash Point Tester
 - (i) Ice Maker (inside cabinet No. 6)
- (25) Verify that the aneroid barometer and RVP bombs have been stored in cabinet No. 8.
- (26) Set the circuit breakers and switches in the panelboard assembly as follows:

| | |
|-----------------|----|
| CB1 through CB4 | ON |
|-----------------|----|

2-13. PREPARATION FOR MOVEMENT - continued.

| | |
|------------------|-----|
| CB5 through CB17 | OFF |
|------------------|-----|

| | |
|----------------------------------|----|
| Timer Relay Override Switch (S1) | ON |
|----------------------------------|----|

b. Exterior. Prepare the exterior of the Airmobile Laboratory for movement as follows:

- (1) Unlatch and open utilities box access door.
- (2) Lay out hose so that discharge water will drain away from laboratory.

NOTE

Tank will drain immediately upon opening of hose quick disconnect.

- (3) Connect quick disconnect hose to connector marked TANK DRAIN and drain the tank.
- (4) Disconnect quick disconnect hose and store in overpack box.
- (5) Remove caps.
- (6) Close utilities box access door.
- (7) Close and latch laboratory entrance door vent cover.
- (8) Roll down canvas covers on ECUs and secure covers.
- (9) Check that purge and blower exhaust doors are closed.
- (10) Turn off external power at generator set.
- (11) Disconnect main power cable from laboratory electrical connector.
- (12) Install protective cap on laboratory electrical connector.
- (13) Disconnect main power cable leads from external power generator set.
- (14) Clean main power cable.
- (15) Roll up and store main power cable in overpack box.
- (16) Remove grounding cable from grounding lug in laboratory electrical connector receptacle.
- (17) Remove grounding cable and clamp from grounding rod.
- (18) With driver/puller attached to grounding rod, remove grounding rod from ground, uncoupling each rod section as it emerges from the ground.

2-13. PREPARATION FOR MOVEMENT - continued.

- (19) Clean and store grounding rods, driver/puller, grounding cable, and clamp in overpack box.
- (20) Stow any remaining loose items in overpack box.
- (21) Place overpack box on laboratory floor and secure with tiedown straps.
- (22) Check that secondary exit is secure.
- (23) Close and lock laboratory door.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

Alphabetical Index

| Paragraph Title | Paragraph |
|-------------------------------------|------------------|
| Emergency Stopping Procedure | 2-15 |
| Operation in Extreme Climates | 2-14 |

2-14. OPERATION IN EXTREME CLIMATES.

The Airmobile Laboratory is insulated and weatherproofed for operation in hot, cold, or moderate climates. The laboratory facility provides complete protection from the elements for personnel and equipment; however, under extreme conditions, the following precautions are necessary.

a. Cold Climates. Extreme cold causes cables and wires to become hard, brittle and difficult to handle. Be careful when handling the cables and connecting them to the laboratory, so that kinks and unnecessary loops will not result in permanent damage. Make sure that connectors in the entrance boxes are free of frost, snow, and ice. Replace connector covers on receptacles as soon as a cable is disconnected. Never drag or place an open cable connector in the snow.

b. Hot Climates. In hot, dry climates, connectors, and receptacles are subject to damage from dust and dirt. Replace connector covers on receptacles when they are not in use. Never place an open cable connector on the ground.

c. Warm, Damp Climates. In warm, damp climates, the equipment is subject to damage from moisture and fungi. Wipe all moisture and fungi from the equipment with a lint-free cloth.

2-15. EMERGENCY STOPPING PROCEDURE.

To turn the equipment off in an emergency, set the MAIN circuit breaker to OFF.

CHAPTER 3**OPERATOR MAINTENANCE**

- Section I. Lubrication Instructions**
 - Section II. Operator Troubleshooting Procedures**
 - Section III. Operator Maintenance Procedures**
 - Section IV. Administrative Storage**
-

Section I. LUBRICATION INSTRUCTIONS

3-1. LUBRICATION INSTRUCTIONS.

Lubrication instructions for the basic laboratory can be found in Chapter 3 of TM 10-5411-207-14. For lubrication instructions concerning the ECUs, refer to TM 5-4120-386-14. Lubrication requirements for other equipment found in the Airmobile Laboratory are contained in their respective TMs (see Appendix A for TM number).

Section II. TROUBLESHOOTING PROCEDURES

3-2 GENERAL

This section contains operator troubleshooting information and procedures for locating and correcting common malfunctions which may develop in the laboratory.

- a. Symptom Index. To facilitate locating a troubleshooting procedure a symptom index, Table 3-1 has been provided.
- b. Troubleshooting Table. Table 3-2 lists common malfunctions which you may find during operation or maintenance of the Airmobile Laboratory or its components. You should perform the test/inspection and corrective actions in the order listed.
- c. Unidentifiable Malfunctions. This manual cannot list all malfunctions that may occur, nor all test or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor.

Table 3-1. Symptom Index

**Troubleshooting
Table**

| Item Number | Title |
|--------------------|--|
| 1. | No electrical power to laboratory (purge system does not operate). |
| 2. | All ceiling lights fail to come on. |
| 3. | White ceiling lights fail to come on (blue lights are on). |
| 4. | Ceiling lights inoperative or dim. |
| 5. | No power at one or more power outlets. |
| 6. | Environmental control units fail to operate. |
| 7. | Water pump fails to operate with water pump switch on and water pressure needed. |
| 8. | Water tank will not drain. |
| 9. | Blower assembly fails to operate with blowers switch on. |
| 10. | Vacuum-Air pressure pump fails to operate with vat-air switch on. |
| 11. | Ice maker fails to operate with ice maker switch on. |
| 12. | Flash point tester, test flame fails to burn. |
| 13. | Flash point tester heating element fails to heat air bath. |
| 14. | Flash point tester stirrer fails to operate. |
| 15. | Distillation unit fails to heat flask containing test sample. |
| 16. | Distillation unit condenser assembly fails to maintain proper temperature. |
| 17. | RVP bath fails to operate (stirrer motor will not run and pilot light fails to come on). |
| 18. | Manometer gives no pressure reading. |
| 19. | Manometer gives inaccurate (High/Low) pressure reading. |
| 20. | Laboratory oven fails to operate (does not heat). |
| 21. | Copper strip corrosion bath fails to operate (does not heat). |
| 22. | Explosion proof refrigerator fails to operate. |

Table 3-2. Troubleshooting

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|-------------|---|--|
| 1. | NO ELECTRICAL POWER TO LABORATORY (PURGE SYSTEM DOES NOT OPERATE). | <p data-bbox="375 506 1045 534">Step 1. Check generator set power output switch is ON.</p> <p data-bbox="483 570 971 597">Place generator output power switch ON.</p> <p data-bbox="375 634 1122 661">Step 2. Check generator set output voltage for correct setting.</p> <p data-bbox="483 697 802 725">Adjust voltage to 208 VAC.</p> <p data-bbox="802 761 943 789" style="text-align: center;"><u>WARNING</u></p> <p data-bbox="451 793 1219 880">Do not come in contact with main power cable connections on generator set with power applied to laboratory. Death or serious injury may result.</p> <p data-bbox="375 917 1279 944">Step 3. Check that main power cable is properly connected to generator set.</p> <p data-bbox="483 981 1081 1072">a. Turn generator set output power switch OFF. b. Properly secure main power cable to connectors.</p> <p data-bbox="375 1108 1442 1166">Step 4. Check that main power cable is properly connected to laboratory electrical power receptacle.</p> <p data-bbox="802 1202 943 1229" style="text-align: center;"><u>WARNING</u></p> <p data-bbox="451 1234 1268 1321">Do not attempt to disconnect or connect main power cable to laboratory electrical receptacle with power applied to the laboratory. Death or serious injury may result.</p> <p data-bbox="451 1357 889 1385">Make proper power cable connection.</p> <p data-bbox="375 1421 938 1449">Step 5. Check that timer bypass switch is ON.</p> <p data-bbox="802 1485 943 1513" style="text-align: center;"><u>WARNING</u></p> <p data-bbox="451 1517 1284 1668">Automatic laboratory startup purging does not occur if environmental control units, or damper motors are inoperative. Do not enter the laboratory without first allowing the laboratory to vent to the atmosphere for a minimum of 20 minutes. Failure to comply with this warning may result in death or serious injury.</p> <p data-bbox="483 1704 1300 1791">a. Carefully open the personnel entrance door to full open position. b. After 20 minutes of venting, enter laboratory.</p> |

Table 3-2. Troubleshooting - continued.

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--|---------------------------|---|
| 1. NO ELECTRICAL POWER TO LABORATORY (PURGE SYSTEM DOES NOT OPERATE) - Continued. | | <ul style="list-style-type: none">c. Place power output switch on generator set to OFF.d. Place timer bypass switch ON.e. Reapply power to laboratory.f. If purge system fails to operate, notify unit maintenance. |
| 2. ALL CEILING LIGHTS FAIL TO COME ON. | | <p>Step 1. Check operation of LIGHT switch.</p> <p>Step 2. Check and reset circuit breaker CB17.</p> <p>If lights still fail to operate, notify unit maintenance.</p> |
| 3. WHITE CEILING LIGHTS FAIL TO COME ON (BLUE LIGHTS ARE ON). | | <p>Check operation of blackout limit switch.</p> <ul style="list-style-type: none">a. Place BLACKOUT OVERRIDE switch ON. White lights should come on.b. If white lights do not come on, notify unit maintenance. |
| 4. CEILING LIGHTS INOPERATIVE OR DIM. | | <p>Step 1. Check fixture for burned out or weak lamp(s).</p> <ul style="list-style-type: none">a. Replace defective lamp(s). Refer to paragraph 3-4.b. If ceiling light is still inoperative, notify unit maintenance. <p>Step 2. Check lamp starter by substituting with known good starter.</p> <ul style="list-style-type: none">a. Replace defective starter. Refer to paragraph 3-4.b. If ceiling light is still inoperative, notify unit maintenance. |

Table 3-2. Troubleshooting - continued.

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--|--|--|
| 5. NO POWER AT ONE OR MORE POWER OUTLETS. | Step 1. Check and reset associated circuit breakers. | If still no power at one or more power outlets notify unit maintenance. |
| 6. ENVIRONMENTAL CONTROL UNITS FAIL TO OPERATE. | Step 1. Check that electrical input connector(s) on ECU is secure. | Properly connect input connector. |
| | Step 2. Check and reset associated 20A circuit breaker(s). | If ECU still fails to operate notify unit maintenance. |
| 7. WATER PUMP FAILS TO OPERATE WITH WATER PUMP SWITCH ON AND WATER PRESSURE NEEDED. | Check that WATER PUMP switch light is on. | <ul style="list-style-type: none"> a. If not on, check and reset circuit breaker CB16. b. If water pump still fails to operate, notify unit maintenance. |
| 8. WATER TANK WILL NOT DRAIN. | Check hose connection at TANK DRAIN connector. | <ul style="list-style-type: none"> a. Properly seat hose connection. b. If water tank still will not drain, notify unit maintenance. |
| 9. BLOWER ASSEMBLY FAILS TO OPERATE WITH BLOWERS SWITCH ON. | Check that switch light is on. | <ul style="list-style-type: none"> a. If not on, check and reset circuit breaker CB2. b. If blower fails to operate notify unit maintenance. |

Table 3-2 Troubleshooting - continued.

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--|---|--|
| 10. VACUUM-AIR PRESSURE PUMP FAILS TO OPERATE WITH VAC-AIR SWITCH ON. | | |
| | Step 1. Check that VAC-AIR switch light is on. | If not on, check and reset circuit breaker CB5. |
| | Step 2. Check that vacuum-air pressure pump power cord plug is connected to receptacle. | Connect plug to receptacle. |
| | Step 3. Check that power switch on pump is on. | a. Place power switch on b. If vacuum-air pump still fails to operate, notify unit maintenance. |
| 11. ICE MAKER FAILS TO OPERATE WITH ICE MAKER SWITCH ON. | | |
| | Step 1. Check that ice maker power cord plug is connected to receptacle. | Connect plug to receptacle. |
| | Step 2. Check and reset circuit breaker CB15. | If ice maker still fails to operate, notify unit maintenance. |
| 12. FLASH POINT TESTER, TEST FLAME FAILS TO BURN | | |
| | Step 1. Check that gas bottle is not empty. | Replace gas bottle. |
| | Step 2. Verify the gas tube line is clean and free of obstructions. | Clean gas tube line. |
| | Step 3. Verify that gas test flame burner orifices are clean. | a. Clean gas test flame burner orifices. b. If flash point tester still fails to burn, notify unit maintenance. |

Table 3-2. Troubleshooting - continued.

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|---|---|---|
| 13. FLASH POINT TESTER HEATING ELEMENT FAILS TO HEAT AIR BATH. | Step 1. Check the rheostat control knob is mounted to shaft correctly. | Tighten rheostat control knob. |
| | Step 2. Check and reset circuit breaker for wall receptacle which tester is connected is not tripped. | If flash point tester heating element still fails to heat, notify unit maintenance. |
| 14. FLASH POINT TESTER STIRRER FAILS TO OPERATE | Check that power cord is plugged in and line switch is on. | |
| | <ul style="list-style-type: none"> a. Plug in power cord and turn on line switch. b. If flash point tester stirrer still fails to operate, notify unit maintenance. | |
| 15. DISTILLATION UNIT FAILS TO HEAT FLASK CONTAINING TEST SAMPLE. | Step 1. Check that power cord from shield assembly is plugged in to power receptacle. | |
| | Plug in power cord. | |
| | Step 2. Check that power cord from shield assembly is connected to condenser assembly. | |
| | Step 3. Check and reset circuit breaker CB12 for wall receptacle in which distillation unit is plugged into is not tripped. | |
| | If distillation unit still fails to heat flask, notify unit maintenance. | |
| 16. DISTILLATION UNIT CONDENSER ASSEMBLY FAILS TO MAINTAIN PROPER TEMPERATURE. | Step 1. Verify power cord from shield assembly is plugged into power receptacle. | |
| | Plug in power cord. | |

Table 3-2. Troubleshooting - continued.

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|-------------|---|---|
| 16. | DISTILLATION UNIT CONDENSER ASSEMBLY FAILS TO MAINTAIN PROPER TEMPERATURE - continued. | <p>Step 2. Verify immersion heater is located properly in condenser assembly.</p> <p>Place immersion heater in correct position within condenser assembly.</p> <p>Step 3. Check and reset circuit breaker CB12 for wall receptacle in which distillation unit is plugged into is not tripped.</p> <p>If distillation unit condenser assembly still fails to maintain proper temperature notify unit maintenance.</p> |
| 17. | RVP BATH FAILS TO OPERATE (STIRRER MOTOR WILL NOT RUN AND PILOT LIGHT FAILS TO COME ON). | <p>Step 1. Check operation of line switch.</p> <p>Place switch on.</p> <p>Step 2. Check and reset circuit breaker CB10 located in panelboard assembly.</p> <p>If RVP bath still fails to operate, notify unit maintenance.</p> |
| 18. | MANOMETER GIVES NO PRESSURE READING. | <p>Step 1. Check to see if pressure is not being supplied to either or both sides of the instrument.</p> <p>Step 2. Check for plugged or leaking pressure lines.</p> <p>Make applicable corrections.</p> <p>Step 3. Inspect atmosphere pressure connecting for proper venting to atmosphere.</p> <ul style="list-style-type: none">a. Make applicable correction to ensure proper venting.b. If manometer still fails to read pressure, notify unit maintenance. |
| 19. | MANOMETER GIVES INACCURATE (HIGH/LOW) PRESSURE READING. | <p>Step 1. Check zero setting.</p> <p>Adjust zero setting if required.</p> |

Table 3-2. Troubleshooting - continued.

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|-------------|--|--|
| 19. | MANOMETER GIVES INACCURATE (HIGH/LOW) PRESSURE READING - continued. | Step 2. Check for leaks or obstructions <ol style="list-style-type: none"> a. Make applicable corrections. b. If manometer still gives inaccurate readings, notify unit maintenance. |
| 20. | LABORATORY OVEN FAILS TO OPERATE (DOES NOT HEAT). | Step 1. Ensure unit's power cord is plugged into convenience outlet. <p style="margin-left: 40px;">Plug in power cord.</p> Step 2. Check position of line switch. <p style="margin-left: 40px;">Place line switch on.</p> Step 3. Check and reset circuit breaker CB9 located in panelboard assembly. <p style="margin-left: 40px;">If oven still fails to operate, notify unit maintenance.</p> |
| 21. | COPPER STRIP CORROSION BATH FAILS TO OPERATE (DOES NOT HEAT). | Step 1. Ensure unit's power cord is plugged into convenience outlet. <p style="margin-left: 40px;">Plug in power cord</p> Step 2. Check position of line switch. <p style="margin-left: 40px;">Place line switch on.</p> Step 3. Check and reset circuit breaker CB13 located in panelboard assembly. <p style="margin-left: 40px;">If bath still fails to operate, notify unit maintenance.</p> |
| 22. | EXPLOSION PROOF REFRIGERATOR FAILS COOPERATE. | Step 1. Ensure power cord is plugged into convenience outlet. <p style="margin-left: 40px;">Plug in power cord</p> Step 2. Check position of temperature control knob <p style="margin-left: 40px;">Turn temperature control knob clockwise to maximum cold setting.</p> Step 3. Check and reset circuit breaker CB11 <p style="margin-left: 40px;">If refrigerator still fails to operate, notify unit maintenance.</p> |

Section III. MAINTENANCE PROCEDURES

Alphabetical Index

| Maintenance Item | Paragraph |
|--------------------------------------|-----------|
| Desiccating Cabinet | 3-10 |
| ECU Plenum Intake Filter | 3-6 |
| Flash Point Tester Unit | 3-9 |
| Fluorescent Light Assembly | 3-4 |
| Introduction | 3-3 |
| Manometer. | 3-12 |
| Purge Port Door Filter | 3-5 |
| Storage Cabinets | 3-8 |
| Vacuum-Air Pressure Pump. | 3-7 |
| Water Demineralizer. | 3-11 |

3-3. INTRODUCTION.

This section contains instructions covering maintenance functions for the operator on the Airmobile Laboratory. Personnel required are listed only if the task requires more than one.

After completing each maintenance procedure, perform operational check to be sure that equipment is properly functioning.

NOTE

When maintenance is required for equipment that is portable and require no permanent mounting, this equipment should be removed from its storage in the laboratory and handled, packaged, adjusted, repaired, or replaced in accordance with its respective TM listed in Appendix A.

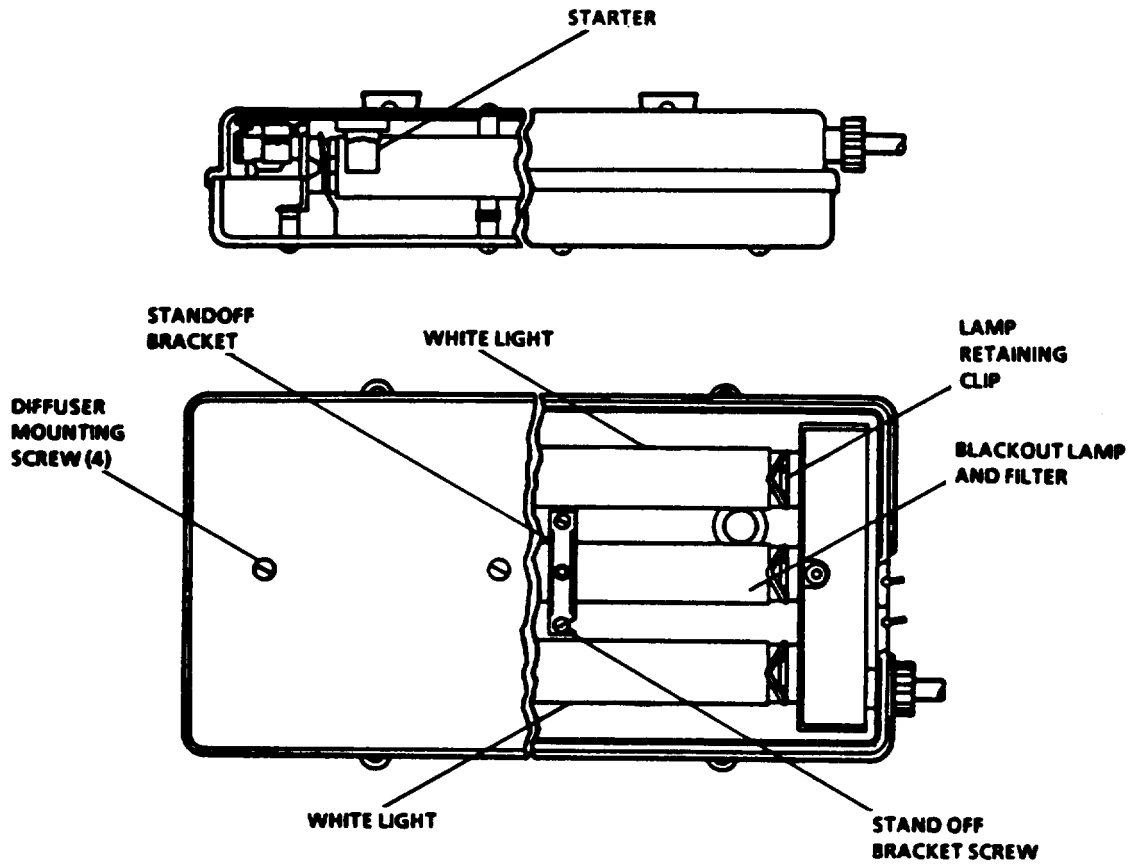


Figure 3-1. Fluorescent Lamp and Starter

3-4. REPAIR FLUORESCENT LIGHT FIXTURE LAMP AND STARTER - continued.

2. **Remove Fluorescent Lamp Starter. (Figure 3-1).**
 - a. Remove four captive screws holding diffuser to lamp fixture. Carefully remove diffuser from light fixture.
 - b. Rotate starter until prongs are free from slots and remove defective starter..

INSTALLATION

1. Install Fluorescent Lamp. (Figure 3-1).

NOTE

If new lamp is to be installed in the center (blackout lamp) position, install as per steps a through f. Perform steps c through f for fluorescent.

- a. Wrap one layer of 3/4 inch tape on both ends of lamp to extend onto the glass 3/8 inch.
 - b. Insert lamp into blue filter tube.
 - c. Position lamp retaining clips and align new lamp prongs with slots in light assembly.
 - d. Insert new lamp into slots and rotate 90 degrees, reposition lamp retaining clips. For blackout lights, rotate standoff brackets 90 degrees and tighten four screws.
 - e. Install lamp diffuser to lamp fixture with four captive screws.
 - f. Place circuit breaker CB17 in the ON position.
2. Install Fluorescent Lamp Starter. (Figure 3-1).
 - a. Align new starter prongs with starter slots in light fixture.
 - b. Insert new starter into slots and rotate 90 degrees.
 - c. Install lamp diffuser to lamp fixture with four captive screws.
 - d. Place circuit breaker CB17 in the ON position.

3-5. REMOVE/INSTALL PURGE PORT DOOR FILTERS.

This task consists of:

- a. Removal
- b. Cleaning
- c. Installation

INITIAL SET-UP

Tools Required

Flat-Tip Screwdriver, Appendix C, Item 89

Materials/Parts Required

Detergent, Appendix E, Item 8

Lockwashers, Appendix E

General Safety Instructions

WARNING

Compressed air used for cleaning should not exceed 30 psi (3.5 Kg/cm²). Do not direct compressed air against skin. Use goggles or full face shield.

REMOVAL

Remove Purge Port Door Filter. (Figure 3-2).

- a. Unlatch and open purge port door if required.
- b. Remove four screws four lockwashers and four flat washers from purge port door filter. Remove filter.

WARNING

Compressed air used for cleaning should not exceed 30 psi (3.5 Kg/cm²). Do not direct compressed air against skin. Use goggles or full face shield.

CLEANING

Clean Purge Port Door.

Clean filter by washing in soapy water and blowing dry with low pressure air.

INSTALLATION

Install Purge Port Door Filter. (Figure 3-2).

Install filter and fasten in place with four screws, lockwashers, and flatwashers.

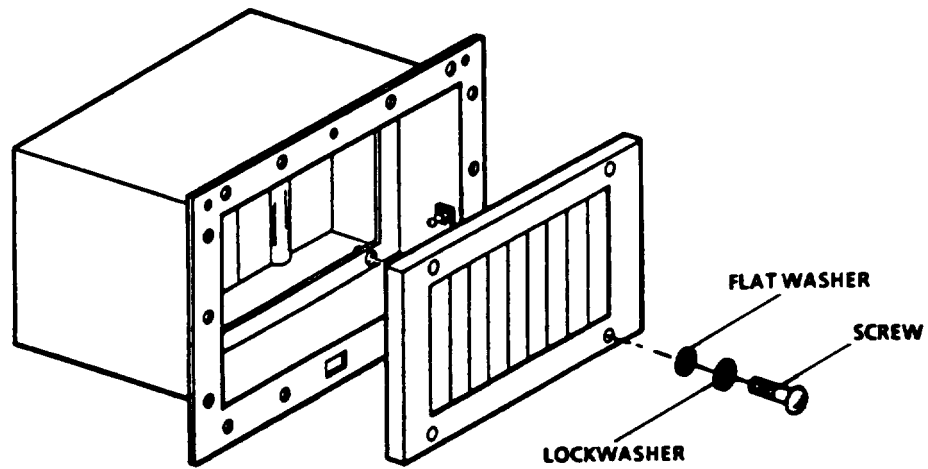


Figure 3-2. Purge Port Door Filter

3-6. REMOVE/INSTALL ECU PLENUM INTAKE FILTER.

This task consists of:

- a. Removal
- b. Cleaning
- b. Installation

INITIAL SET-UP

Materials/Parts

Detergent, Appendix E, Item 8

Equipment Conditions

ECUs turned off.

General Safety Instructions

WARNING

Compressed air used for cleaning should not exceed 30 psi (3.5 Kg/cm²). Do not direct compressed air against skin. Use goggles or full face shield.

REMOVAL

Remove ECU Plenum Intake Filter. (Figure 3-3).

Grasp filter firmly and slide from bracket.

CLEANING

WARNING

Compressed air used for cleaning should not exceed 30 psi (3.5 Kg/cm²). Do not direct compressed air against skin. Use goggles or full face shield.

Clean ECU plenum intake filter.

Clean filter by washing in soapy water and blowing dry with low pressure air.

INSTALLATION

Install ECU Plenum Intake Filter. (Figure 3-3).

Install filter by sliding into retaining bracket.

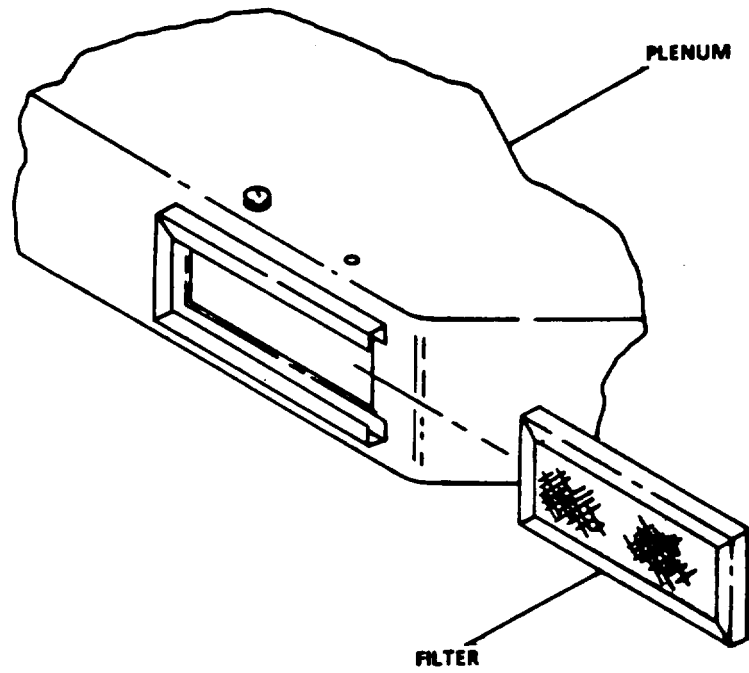


Figure 3-3. ECU Intake Filter

3-7. REMOVE/INSTALL VACUUM-AIR PRESSURE PUMP.

This task consists of a. Removal b. Installation

INITIAL SET-UP

Tools Required

Flat-Tip Screwdriver, Appendix C, Item 89

Cross-Tip Screwdriver, Appendix C, Item 86

General Safety Instructions

WARNING

ELECTRICAL SHOCK

Before performing any maintenance actions on electrical equipment, ensure all electrical power has been turned off. Death or serious injury may occur from failure to do this.

REMOVAL

Remove Vacuum-Air Pressure Pump. (Figure 3-4).

- a. Position the AIR-VAC switch to the off position.
- b. Inside cabinet No. 4, unplug pump power cord from wall receptacle.
- c. Open draincock for air surge tank and bleed air pressure from system.
- d. Loosen screws for hose clamps on both sides of pump.
- e. Tag and disconnect hoses and hose clamps from both sides of pump.
- f. Remove four mounting screws and remove pump and mounting board to working surface.
- g. Remove wooden mounting board from defective pump.

INSTALLATION

Install Vacuum-Air Pressure Pump. (Figure 3-4).

- a. On a working surface install new pump to wooden mount.
- b. Align wooden mount to mounting platform in base of cabinet N0.9.

3-7. REMOVE/INSTALL VACUUM-AIR PRESSURE PUMP - continued.

- c. Install four mounting screws for wooden mount.
- d. Connect hoses and hose clamps on both sides of the pump. Remove tags.
- e. Tighten hose clamp screws on both sides of pump.
- f. Plug in the pump power cord into wall receptacle.
- g. Position the AIR-VAC switch to the on position.

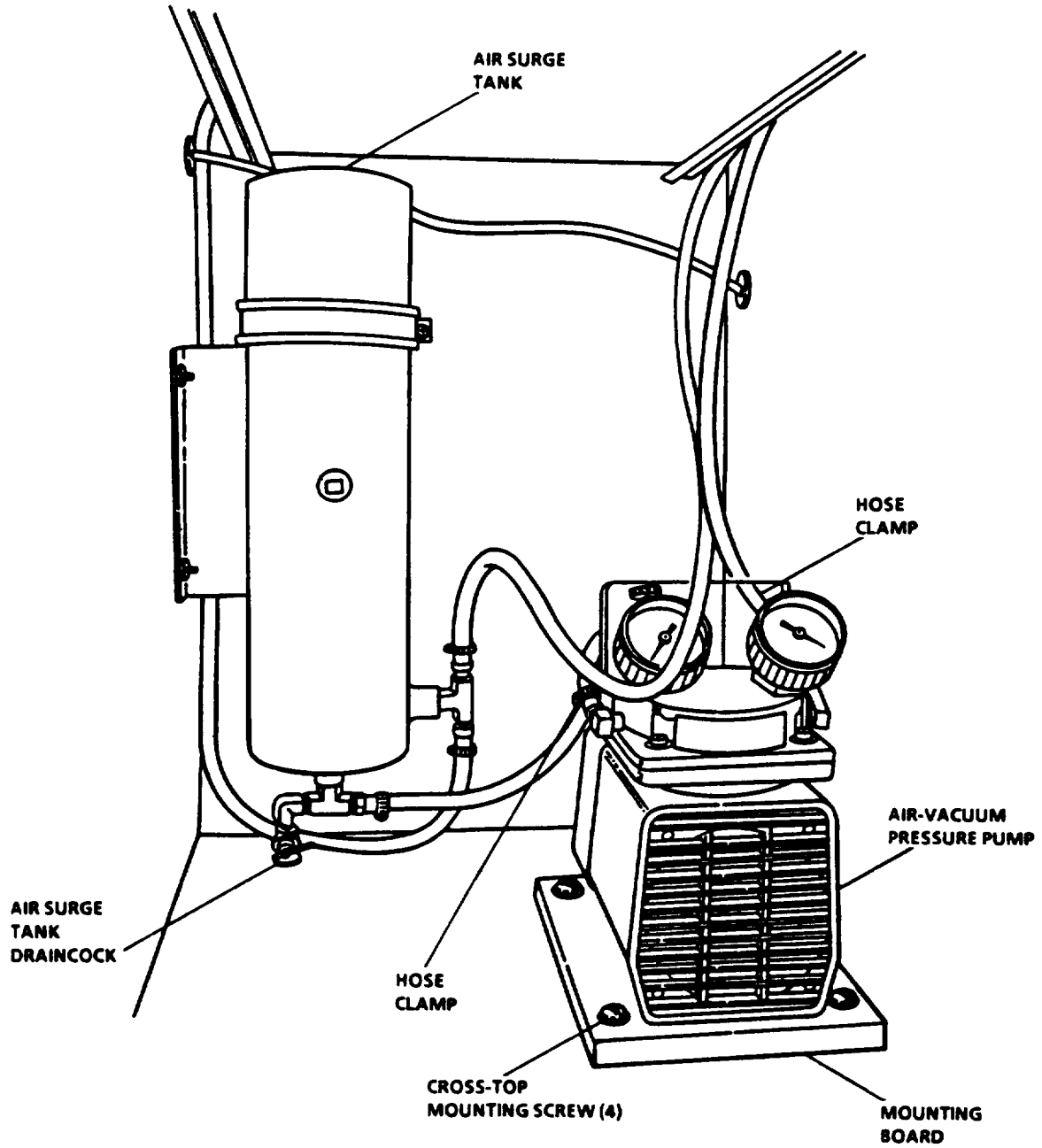


Figure 3-4. Vacuum-Air Pressure Pump

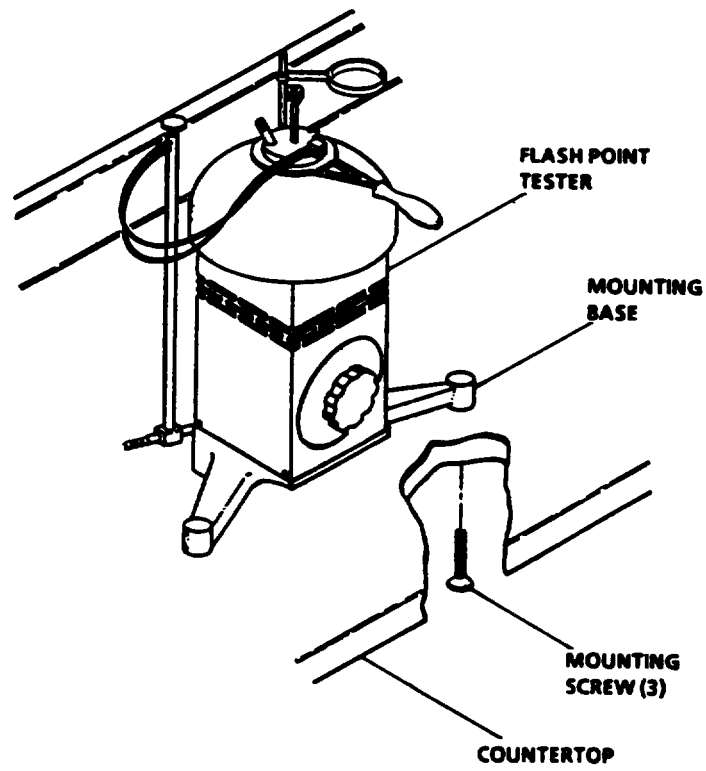


Figure 3-5 Flash Point Tester Unit

3-9. REMOVE/INSTALL WATER DEMINERALIZE CARTRIDGE.

This task consists of:

- a. Removal
- b. Service
- c. Installation

INITIAL SET-UP:Tools Required

Cross-Tip Screwdriver, Appendix C, Item 7

General Safety Instructions**WARNING**

Resins contained in the water demineralize cartridges will cause eye irritation. In case of eye contact, flush eyes with water for at least fifteen minutes and contact a physician. Failure to comply with this warning could result in serious eye damage. Refer to material for safety data sheet.

NOTE

Procedures apply to both cartridges. Always replace cartridges as a set.

REMOVAL

Remove Water Demineralize Cartridge. (Figure 3-6).

- a. Be sure the water valve is closed.
- b. Disconnect rubber tubing from the top and bottom of the cartridge by hand pull pressure.
- c. Remove defective cartridge.

INSTALLATION

Install Water Demineralize Cartridge. (Figure 3-6).

NOTE

Left cartridge is mixed BED DI. Right Cartridge is organic removal.

- a. Place new cartridge with flow arrow pointing up into cartridge retainer on roadside wall above sink.
- b. Connect rubber tubing on the top and bottom of the cartridge.

3-9. REMOVE/INSTALL WATER DEMINERALIZE CARTRIDGE - continued.

- c. Place outlet hose into an empty container.
- d. Open water valve and check for leaks, and verify proper operations.
- e. Shut the water valve.

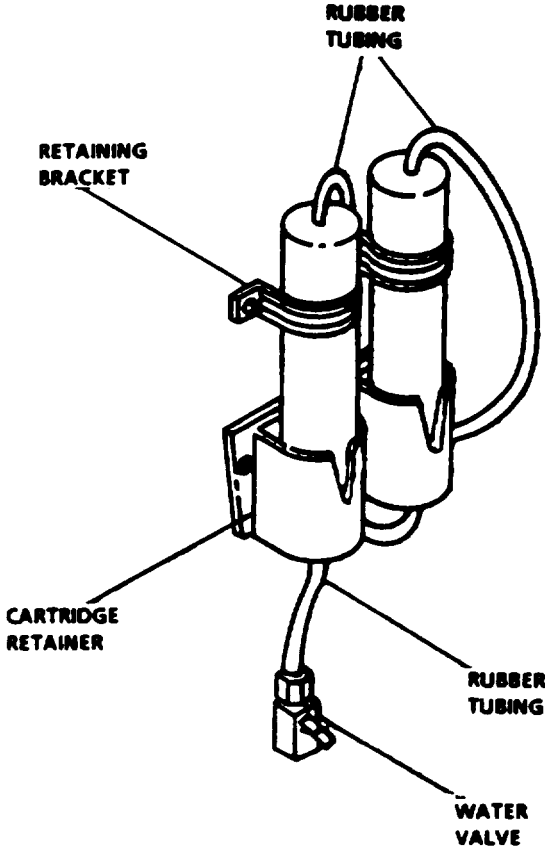


Figure 3-6. Water Demineralize Cartridge

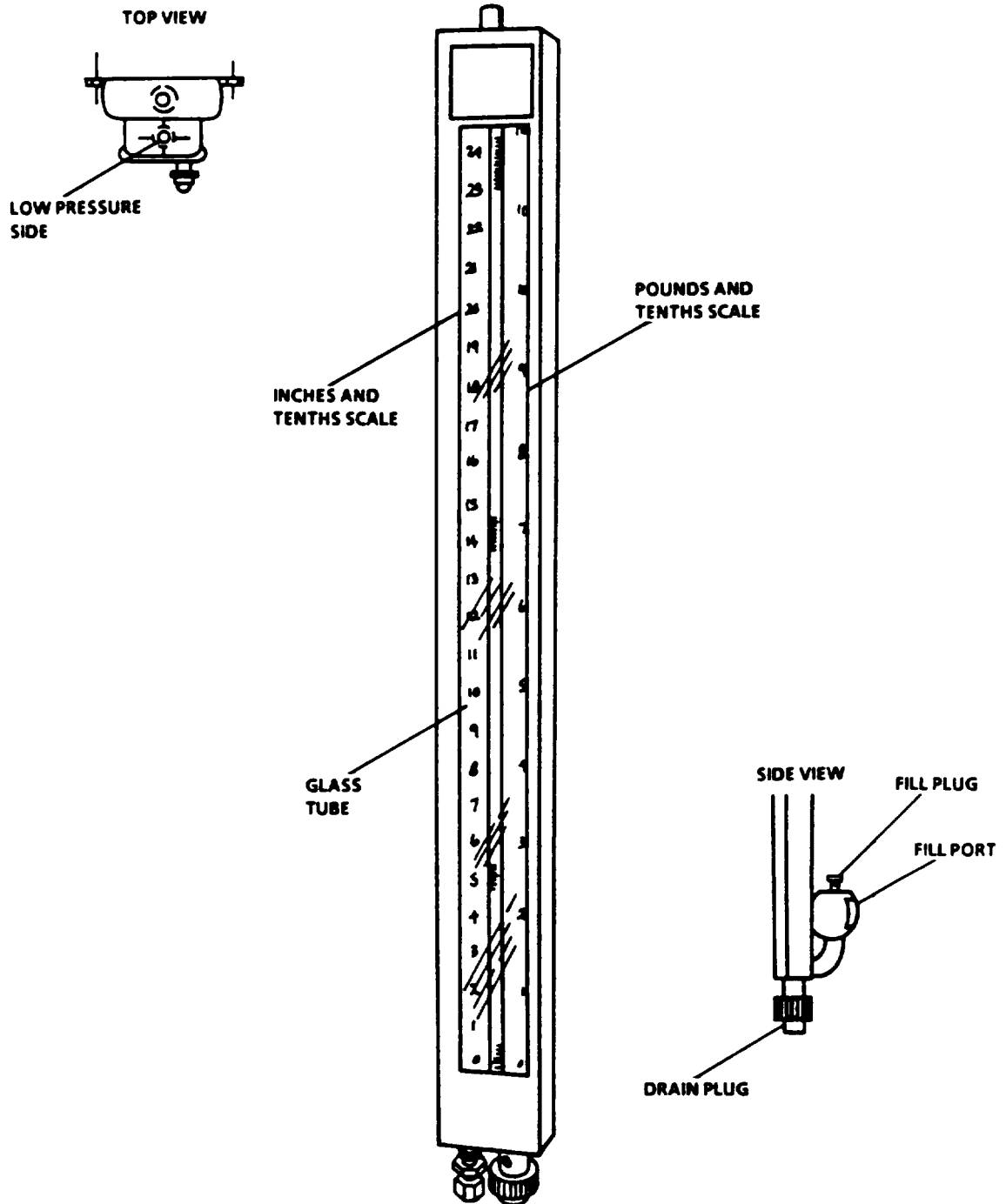


Figure 3-7. Manometer

3-10. REMOVE/INSTALL MANOMETER - continued.

SERVICE

Service Manometer. (Figure 3-7).

WARNING

Mercury is a poisonous material which may enter the body by ingestion, inhalation, or skin absorption. Mercury has such density, high surface tension, and low viscosity that pouring without splashing and spilling is almost impossible. When mercury is poured, always use a funnel and make the transfer over spill trays. If a mercury spill occurs, do not vacuum or sweep the area. This will disperse mercury throughout the laboratory. Spills may be cleaned up by using a glass tube of about 1 mm and connected by rubber tubing to a filter flask connected with a vacuum pump or aspirator, the flask acting as a trap. Control of mercury vapor should not be attempted with Flowers or Sulfur as this is not effective. Spills must be reported to the Environmental Science Officer providing services to the unit. Protective equipment must be worn when handling mercury.

Dry cleaning solvent P-D-680 (safety or Stoddard's Solvent) is potentially dangerous. Avoid repeated and prolonged breathing of vapors and skin contact with the liquid. Do not use near open flame, arcing equipment or other ignition sources. Always wear eye protection and protective clothing. The flash point of P-D-680 is 100° to 138°F (30° to 59°C).

- a. Remove drain plug and drain the liquid into appropriate container.
- b. Remove top plug on the glass tube.
- c. Clean the manometer tube with naphtha. Rinse manometer with acetone until the glass is dry.

INSTALLATION

Install Manometer. (Figure 3-7).

- a. Align new manometer mounting holes and install three mounting screws.
- b. Connect hose to manometer hose connection and tighten hose clamp screw.
- c. Install the drain plug and the top plug on the glass tube.
- d. Remove the fill plug.
- e. Vent the instrument on the low pressure side. Be sure of zero (0) adjustment at midscale.

3-10. REMOVE/INSTALL MANOMETER - continued.

- f. Using a glass funnel slowly pour the liquid in the fill port until the indicating level is approximately at the zero at (0) graduation on the scale.
- g. Install the fill plug. Be sure it is tight.
- h. Adjust the scale for the correct zero position in relation to the liquid meniscus.
- i. For consistent results in reading the manometer the same way, always read the meniscus at eye level. The accuracy of the manometer is verified by using a certified master gage. Recommended A-level calibration frequency is 180 days.

Section IV. ADMINISTRATIVE STORAGE

Alphabetical Index

| Paragraph Title | Paragraph |
|--|-----------|
| Introduction | 3-12 |
| Prior to Placing Unit in Storage | 3-12b |
| Storage Length and Readiness | 3-12a |
| Storage Site Selection | 3-12c |

3-12. INTRODUCTION.

This section contains information on administrative storage procedures. If additional information is required, refer to TM 740-90-1.

- a. Storage Length and Readiness. Placement of equipment in administrative storage should be for short periods of time (1 to 45 days) when a shortage of maintenance efforts exists. Items should be in mission readiness within 24 hours or within the time factors as determined by the directing authority. During the storage period, appropriate maintenance records will be kept.

- b. Prior to Placing Unit in Storage. Before placing equipment in administrative storage, perform the next monthly/quarterly preventive maintenance checks and services. Refer to paragraph 2-13 to prepare Airmobile Laboratory for movement. All shortcomings and deficiencies should be corrected, and all Modification Work Orders (MWOs) should be applied.

- c. Storage Site Selection. inside storage is preferred for items selected for administrative storage. If inside storage is not available, the sites selected should provide required protection from the elements and allow access for visual inspection when applicable.

CHAPTER 4
UNIT MAINTENANCE

**Section I. REPAIR PARTS, SPECIAL TOOLS, TEST, MEASUREMENT,
AND DIAGNOSTIC EQUIPMENT (TMDE) AND
SUPPORT EQUIPMENT**

Alphabetical Index

| Paragraph Title | Paragraph |
|---|------------------|
| Common Tools and Equipment | 4-1 |
| Repair Parts | 4-3 |
| Special Tools; Test, Measurement and Diagnostic Equipment. | 4-2 |

4-1. COMMON TOOLS AND EQUIPMENT.

Appendix B, Section III contains the authorized common tools. For authorized equipment, refer to Modified Table of Organization and Equipment (MTOE) applicable to your unit.

4-2. SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT.

No special tools; test, measurement, and diagnostic equipment; or support equipment are required for the repair of the Airmobile Laboratory at the unit level of maintenance.

4-3. REPAIR PARTS.

Repair parts for the Airmobile Laboratory are listed in Appendix F, Repair Parts and Special Tools List (RPSTL), covering operator, unit, and direct support maintenance of the Airmobile Laboratory.

Section II. SERVICE UPON RECEIPT OF EQUIPMENT

Alphabetical Index

| Paragraph Title | Paragraph |
|--|------------------|
| General | 4-4 |
| Inspecting and Servicing Equipment Upon Receipt..... | 4-5 |

4-4. GENERAL.

When new, used or reconditioned equipment is first received, it is the responsibility of the person in charge to determine whether the equipment has been properly prepared for service by the supplying organization and to be sure it is in condition to perform its function. For this purpose, inspect all assemblies, subassemblies, and accessories to be sure they are properly assembled, secure, clean and correctly adjusted and/or lubricated. Check all tools and equipment to be sure every item is present, in good condition, clean and properly mounted or stowed.

4-5. INSPECTING AND SERVICING OF EQUIPMENT UPON RECEIPT.

- a. General Procedures.
 - (1) Visually inspect the Airmobile Laboratory body exterior starting at the rear to cover rear, curbside, roadside, front, top, and bottom. Inspect for damage, tears, breaks, or corrosion.
 - (2) Service Airmobile Laboratory exterior in accordance with TM 10-5411-207-14.
 - (3) Inspect and service the ECUs in accordance with TM 5-4120-386-14.
 - (4) Remove the overpack boxes.
 - (5) Enter Airmobile Laboratory and inspect for broken equipment or equipment loose and not secured.
 - (6) Close doors/vents to determine if light leaks exist.
 - (7) Inspect doors for damage, torn or rotted seals, and tightness of closure.
 - (8) Inspect interior for evidence of water damage, fungi, mildew, and corrosion.
 - (9) Inventory section contents against Airmobile Laboratory Hand Receipt Manual TM 10-6640-216-10HR.
 - (10) Inventory consumable supplies contained in section as shown in Appendix E.

4-5. INSPECTING AND SERVICING OF EQUIPMENT UPON RECEIPT - continued.

- b. Special Procedures.
 - (1) Set Airmobile Laboratory up for operation and conduct operational checks on equipment in accordance with chapter 2 in this manual when operators are available and power can be safely provided to the van body.
 - (2) Report damage or discrepancies in accordance with AR 735-11 and AR 735-11-2.

Section III. UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Alphabetical Index

| Paragraph Title | Paragraph |
|-----------------------------|------------------|
| General | 4-6 |
| PMCS Columnar Entries | 4-7 |
| Specific Procedures | 4-8 |

4-6. GENERAL

To ensure that the Airmobile Laboratory is ready for operation at all times, it must be inspected within designated intervals so that defects may be discovered and corrected before they result in serious damage or failure. Table 4-1 contains a tabulated listing of preventive maintenance checks and services to be performed by unit maintenance personnel. All deficiencies and shortcomings will be recorded as well as the corrective action taken on DA Form 2404 at the earliest possible opportunity.

- a. Quarterly Maintenance. Do your quarterly (Q) preventive maintenance once each 3 months.
- b. Semi-Annual Maintenance. Do your semi-annual (S) preventive maintenance once each 6 months.
- c. Annual Maintenance. Do your annual (A) preventive maintenance once each year.
- d. Biannual Maintenance. Do your biannual (B) preventive maintenance once each 2 years.
- e. General Procedures.
 - (1) If something doesn't work, troubleshoot it with the instructions in this manual or notify your supervisor.
 - (2) Always do your preventive maintenance in the same order, so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.
 - (3) If anything looks wrong and you can't fix it, write it down on your DA Form 2404. If you find something seriously wrong, report it to your supervisor as soon as possible.
 - (a) Keep it clean: Dirt, grease, oil and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use soap and water when you clean rubber or plastic material.
 - (b) Bolts, nuts and screws: Check that they are not loose, missing, bent or broken. You can't try them all with a tool, of course, but look for chipped paint, bare metal, or rust around bolt heads. Tighten any that you find loose.

4-6. GENERAL - continued.

- (c) Welds: Look for loose or chipped paint, rust or gaps where parts are welded together. If you find a bad weld, report it to you supervisor.
- (d) Electric wires and connectors: Look for cracked or broken insulation, bare wires and loose or broken connectors. Tighten loose connections and make sure the wires are in good condition.
- (e) Hoses and fluid lines: Look for wear, damage, and leaks. Make sure clamps and fittings are tight. Wet spots show leaks, of course, but a stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, either correct it or report it to your supervisor
- (f) Leakage: It is necessary for you to know how fluid leaks affect the status of your equipment. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your equipment. Learn and be familiar with them and REMEMBER - WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR.

CAUTION

- . Equipment operation is allowable with minor leakages (Class I or II). Of course, you must consider the fluid capacity in the item/system being checked/inspected.
- . When operating with Class I or Class II leaks, continue to check fluid levels as required in your PMCS.
- . Class III leaks should be reported to your supervisor.

Leakage definitions for unit PMCS

- CLASS I Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.
- CLASS II Leakage of fluid great enough to form drops but not enough to cause drops to drip from the item being checked/inspected.
- CLASS III Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

4-7. PMCS COLUMNAR ENTRIES.

- a. Item Number Column. This is the order in which you perform your PMCS on the Airmobile Laboratory. The entry in this column will also be used as a source of item numbers for the "TM ITEM NUMBER" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.
- b. Interval Columns. The interval column of your PMCS table tells you when to do a certain check or service.
- c. Item To Be Inspected Column. Identification of item to be inspected.
- d. Procedures Column. The procedures column of your PMCS table tells you how to do the required checks and services. Carefully follow these instructions.

4-8. PMCS PROCEDURES.

Specific procedures for performance of preventive maintenance checks and services are given in Table 4-1.

Unit PMCS procedures for equipments covered by their own individual TMs will be outlined in those TMs (refer to Appendix A for TM numbers).

Table 4-1. Unit Preventive Maintenance Checks and Services

Q - Quarterly S - Semi-annually A - Annually B - Bi-annually

.NOTE: Within designated interval, these checks are to be performed in the order listed.

| ITEM NO. | INTERVAL | | | | ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, REPLACED FILLED OR ADJUSTED AS NEEDED |
|----------|----------|---|---|---|---|
| | Q | S | A | B | |
| 1 | ● | | | | <u>UTILITIES BOX</u> |
| | ● | | | | a. Check box door and gasket for correct assembly and good condition. |
| | ● | | | | b. Check water connectors for correct assembly and good condition. |
| 2 | ● | | | | c. Check breather vent for good condition. |
| | | | | | <u>ELECTRICAL SYSTEM</u> |
| | ● | | | | a. Check power cable and its connectors for damage. |
| | ● | | | | b. Check emergency light for good condition. No missing or loose fasteners. No loose electrical connections. |
| | ● | | | | c. Check panelboard assembly for good condition. No damage to door. No missing or loose fasteners. No loose electrical connections. No broken or damage fuseholders. |
| | | ● | | | d. Check explosive proof distribution box for good condition. No damage to cover or gaskets. No missing or loose fasteners. No loose electrical connections. |
| | | ● | | | e. Check all wall switches and electrical receptacles for good condition. No damaged covers. No missing fasteners. No loose or broken electrical connections. |
| 3 | ● | | | | f. Check blackout microswitch for proper operation and good condition. No missing hardware or loose electrical connections. |
| | | ● | | | g. Check all air conditioner remote controls for good condition and proper operation. No missing control knobs. No missing fasteners. No loose electrical connectors. |
| | | | | | <u>ENVIRONMENTAL CONTROL UNITS</u> |
| | ● | | | | Perform PMCS in accordance with TM 5-4120-386-14. |

Table 4-1. Unit Preventive Maintenance Checks and Services - continued

| ITEM NO. | INTERVAL | | | | ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, REPLACED FILLED OR ADJUSTED AS NEEDED |
|----------|----------|---|---|---|---|
| | Q | S | A | B | |
| 4 | | | | | <u>PURGE SYSTEM</u> |
| | • | | | | a. Check purge portdoors for good condition. No damage to hinges, gaskets or latches. No damage to screens or filters. No missing or loose Fasteners. |
| | • | | | | b. Check purge port door dampers and motors for good condition. No missing or loose fasteners. No loose or broken motor electrical connections. |
| | • | | | | c. Check ECU intake ducts for good condition. No missing or loose fasteners. No damage to gaskets, or filters. Dampers operate properly. No broken or loose electrical connections to damper motors. |
| | • | | | | d. Check purge door limit switches for proper operation. No missing hardware or loose electrical connections. |
| | • | | | | e. Check blower exhaust door for correct assembly and good condition. |
| 5 | • | | | | f. Check that exhaust blower is securely mounted. No loose fasteners. No loose or broken electrical connections. |
| | | | | | <u>WATER SYSTEM</u> |
| | • | | | | a. Check water pump for good condition and proper operation. No missing or loose mounting hardware or fasteners. No loose or broken electrical connections. Refer to TM 10-6640-217-13&P for further PMCS instructions. |
| | • | | | | b. Check water reservoir for good condition. No leaks from tank or fittings. No missing or loose tank mounting hardware or fasteners. |
| | • | | | | c. Check surge tank for good condition. No leaks from tank or fittings. No missing or loose tank mounting hardware or fasteners. |
| | • | | | | d. Check water pressure switch and gage for good condition and proper operation. No broken or loose electrical connections to the pressure switch. |
| • | | | | e. Check eyewash for good condition. No leaks. No loose fittings. | |
| | | | | | f. Check water system tubing, piping and valves for good condition. No leaks. |

Table 4-1. Unit Preventive Maintenance Checks and Services - continued

| ITEM NO. | INTERVAL | | | | ITEM TO BE INSPECTED PROCEDURE: CHECK FOR AND HAVE REPAIRED, REPLACED FILLED OR ADJUSTED AS NEEDED |
|----------|----------|---|---|---|--|
| | Q | S | A | B | |
| 5 | | | | | <p><u>WATER SYSTEM</u> - continued</p> <ul style="list-style-type: none"> • g. Check drain tubing, piping, valves and hose connections for good condition. No physical damage. No leaks. • h. Check demineralize cartridges for good water flow (10 gpm). No leaks. |
| 6 | | | | | <p><u>GAS ALARM SYSTEM</u></p> <ul style="list-style-type: none"> • Check gas alarm control unit and gas detector for good condition and proper operation. No physical damage. No missing or loose mounting hardware or fasteners. No broken or loose electrical connections. Refer to TM 10-6665-297-13&P for further PMCS instructions. |

Section IV. UNIT TROUBLESHOOTING PROCEDURES

4.9 UNIT TROUBLESHOOTING PROCEDURES.

Unit troubleshooting procedures listed in Table 4-2 cover the most common malfunctions that may be repaired at the unit level. Troubleshooting procedures used by the operator should be conducted in addition to the unit troubleshooting procedures. This manual cannot list all the possible malfunctions or every possible test/inspection and corrective action. If a malfunction is not listed or corrected by a listed corrective action, notify your supervisor.

Table 4-1. Symptom Index

| Troubleshooting Table Item Number | Title |
|--|--|
| 1. | No electrical power to laboratory (generator output switch on and power cable properly connected). |
| 2. | Fluorescent light bulb fails to light (other bulbs in fixture light). |
| 3. | Emergency light fails to come on when normal power is lost. |
| 4. | No power available in laboratory. |
| 5. | Ceiling lights fails to operate. |
| 6. | Door blackout (micro) switch does not operate properly. |
| 7. | Convenience outlet (receptacle) inoperative. |
| 8. | A/C (ECU) remote control unit fails to operate properly (power available). |
| 9. | Environmental control unit fails to operate properly (power available). |
| 10. | Purge damper (intake, exhaust, or ECU intake) fails to operate. |
| 11. | Purge door limit switch fails to operate. |
| 12. | Exhaust blower does not operate when switch S2 is placed in the on position. |
| 13. | Leaks in vacuum-air pressure system. |
| 14. | Water pump fails to run (power available to motor). |
| 15. | Water pressure low due to leaks in the system. |
| 16. | Water pressure switch fails to operate properly. |
| 17. | Gas alarm system fails to operate or operates improperly. |

Table 4-2. Troubleshooting

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--|---|--|
| ELECTRICAL SYSTEM | | |
| <u>WARNING</u> | | |
| Before performing any maintenance actions on electrical equipment, ensure all electrical power has been turned off. Failure to comply with this warning may result in serious injury or death. | | |
| NOTE | | |
| Refer to electrical schematic diagram FO-1 located in back of manual when troubleshooting electrical system. | | |
| 1. | NO ELECTRICAL POWER TO LABORATORY (GENERATOR OUTPUT SWITCH ON AND POWER CABLE PROPERLY CONNECTED). | <u>WARNING</u> |
| | | Do not come in contact with main power cable connections on generator set with power applied to laboratory. Death or serious injury may result. |
| | Step 1. Place generator output switch OFF and shut generator down. | |
| | Step 2. Disconnect power cable from both generator and petroleum laboratory. | |
| | Step 3. Using multimeter, check power cable for open or shorted leads. | |
| | | If open or shorted lead is found, replace power cable. See paragraph 2-11d., steps (4) through (7). |
| | Step 4. Reset circuit breaker CB1. | |
| | | If power still not available, replace circuit breaker CB1. See Paragraph 4-20. |
| 2. | EMERGENCY LIGHT FAILS TO COME ON WHEN NORMAL POWER IS LOST. | |
| | Step 1. Check for blown fuse, loose or broken electrical connections. Electrical connections are good. | |
| | Step 2. Replace emergency light. See paragraph 4-37 | |
| 3. | ALL CEILING LIGHTS FAIL TO OPERATE. | <u>WARNING</u> |
| | | Before performing any maintenance actions on electrical equipment, ensure all electrical power has been turned off. Failure to comply with this warning may result in serious injury or death. |

Table 4-2. Troubleshooting - continued

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|-------------|--|---|
| 3. | ALL CEILING LIGHTS FAIL TO OPERATE - continued. | <p>Step 1. Remove cover plate to switch S3 and using multimeter check switch for continuity.</p> <p style="padding-left: 40px;">If no continuity is found replace switch. Refer to paragraph 4-21.</p> <p>Step 2. Check and reset circuit breaker CB17.</p> <p style="padding-left: 40px;">If power still not available, replace circuit breaker CB17. See paragraph 4-20.</p> |
| 4. | DOOR BLACKOUT (MICRO) SWITCH DOES NOT OPERATE PROPERLY. (WHITE LIGHTS DO NOT GO OUT WHEN DOOR IS OPENED, BLACKOUT OVERRIDE IS IN OFF POSITION.) | <p style="padding-left: 40px;">Check switch electrical connections.</p> <p style="padding-left: 40px;">If switch still fails to operate properly, replace the blackout interlock switch. See paragraph 4-22.</p> |
| 5. | CONVENIENCE OUTLET (RECEPTACLE) INOPERATIVE. | <p>Step 1. Check that power is available to outlet.</p> <p style="padding-left: 40px;">a. If power is available, replace outlet. See paragraph 4-23.</p> <p style="padding-left: 40px;">b. If power is not available, proceed to step 2.</p> <p>Step 2. Check and reset appropriate circuit breaker.</p> <p style="padding-left: 40px;">If power is still not available, replace circuit breaker. See paragraph 4-20.</p> |

PURGE SYSTEM

6. **PURGE DAMPER (INTAKE, OR ECU INTAKE) FAILS TO OPERATE.**

WARNING

Before performing any maintenance actions on electrical equipment, ensure all electrical power has been turned off. Failure to comply with this warning may result in serious injury or death.

- Step 1. Check that damper operating linkage is not loose or broken.
- Step 2. Remove cover to explosion proof distribution box and check that electrical power is available to damper motor.
- If linkage is connected and power available to motor, replace motor. See paragraphs 4-16 or 4-17.

Table 4-2. Troubleshooting - continued

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--------------------|---------------------------|--------------------------|
|--------------------|---------------------------|--------------------------|

7. PURGE DOOR LIMIT SWITCH FAILS TO OPERATE.

Step 1. Shut generator down and disconnect power cable.

Step 2. Remove cover to explosion proof distribution box.

Step 3. Refer to FO-1 and perform continuity check of switch.

If power is available, replace switch. See paragraph 4-16.

EXHAUST BLOWER

8. EXHAUST BLOWER DOES NOT OPERATE WHEN SWITCH S2 IS PLACED IN THE ON POSITION.

Check that power is available at the outlet.

If blower is plugged into convenience outlet and power is available, replace the motor. See paragraph 4-18.

VACUUM-AIR PRESSURE SYSTEM

9. LEAKS IN VACUUM-AIR PRESSURE SYSTEM.

Tighten/adjust leaking component to stop leak.

If leak cannot be stopped, replace the faulty component. See paragraph 4-27.

WATER SYSTEM

10. WATER PUMP FAILS TO RUN (POWER AVAILABLE TO MOTOR CONTROLLER).

Step 1. Check operation of motor ON/OFF switch (refer to FO- 1).

Step 2. Check operation of water pressure switch.

Step 3. If controller and pressure switch are operating properly, continue troubleshooting in accordance with TM 10-6640-217-13&P.

If problem cannot be resolved, notify your supervisor.

Table 4-2. Troubleshooting - continued

| MALFUNCTION |
|---------------------------|
| TEST OR INSPECTION |
| CORRECTIVE ACTION |

GAS ALARM SYSTEM

11. GAS ALARM SYSTEM FAILS TO OPERATE OR OPERATE IMPROPERLY.

Step 1. Calibrate system in accordance with TM 10-6665-293-13&P.

System will not calibrate or adjust.

Step 2. Troubleshoot system in accordance with TM 10-6665-293-13&P.

If problem cannot be resolved, replace detector element and/or alarm control cabinet. See paragraph 4-28.

Section V. UNIT MAINTENANCE PROCEDURES

4-10. INTRODUCTION.

This section contains instructions covering maintenance functions for unit level maintenance, on the Airmobile Laboratory. Personnel required are listed only if the task requires more than one.

After completing each maintenance procedure, perform operational check to be sure that equipment is properly functioning.

Alphabetical Index

| Maintenance Title | Paragraph |
|---|-----------|
| Blackout Microswitch | 4-22 |
| Blower Exhaust Door | 4-14 |
| Blower Assembly | 4-18 |
| Corrosion Test Bath | 4-34 |
| Distillation Unit. | 4-33 |
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| Emergency Light Fixture. | 4-37 |
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| Wall Switches | 4-21 |
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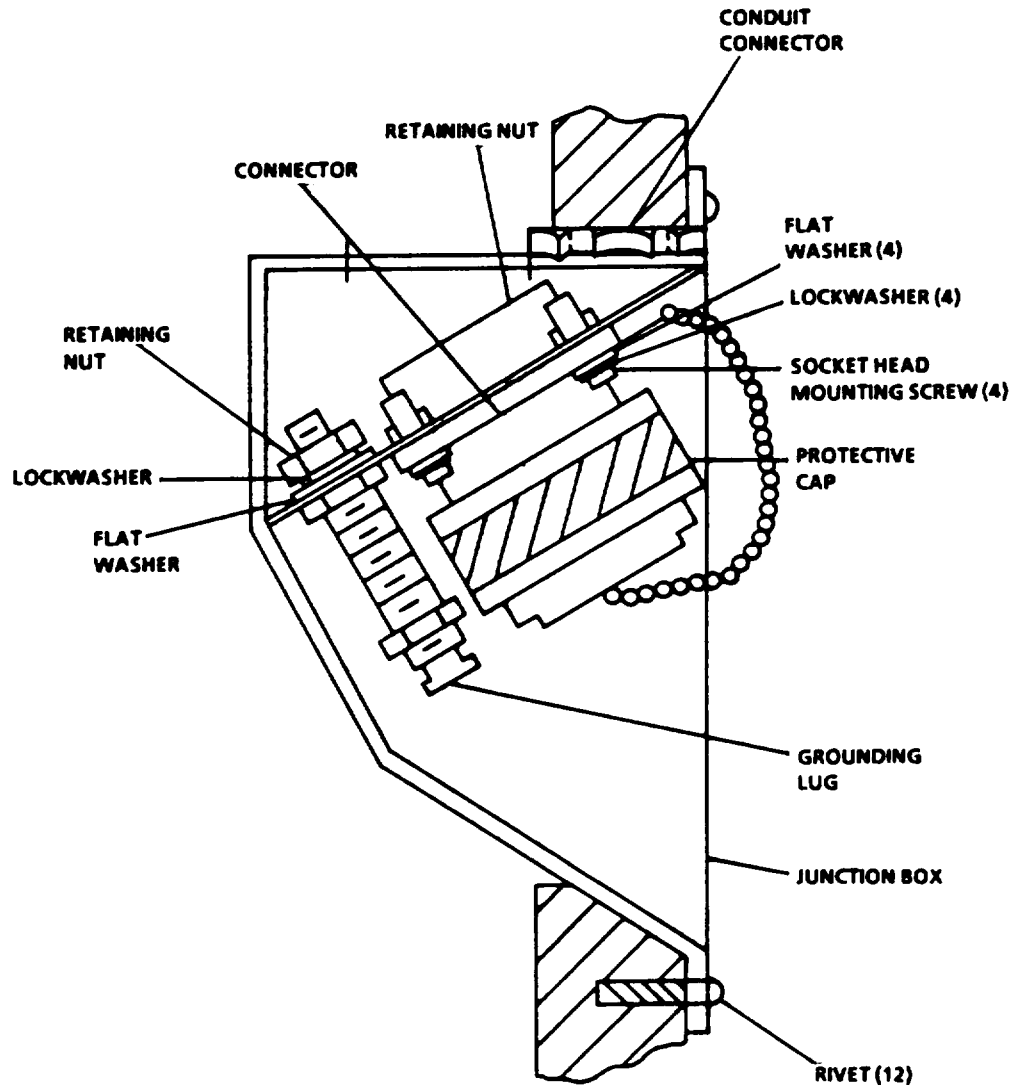


Figure 4-1. Power Entry Panel

4-11. REMOVE/INSTALL POWER ENTRY PANEL-continued.

REMOVAL

1. Remove junction box from laboratory. See figure 4-1.
 - a. Remove conduit connector.
 - b. Drill out twelve rivets and remove junction box from laboratory.
 - c. Remove seal (double backed adhesive tape) from junction box and laboratory.
2. Remove grounding lug. See figure 4-1.
 - a. Remove grounding lug, retaining nut, lockwasher, and flat washer.
 - b. Remove grounding lug from junction box.

INSTALLATION

1. Install grounding lug. See figure 4-1.
 - a. Insert threaded end of new grounding lug through mounting hole in junction box.
 - b. Install flat washer, lockwasher and retaining nut.
 - c. Tighten retaining nut.
2. Install junction box. See figure 4-1.
 - a. Ensure that sealing surface of both junction box and laboratory wall are clean and then apply seal (adhesive tape).
 - b. Insert junction box into laboratory wall.
 - c. Rivet junction box into place.
 - d. Install conduit connector.

ASSEMBLY

Assembly power input connector and protective cap. See figure 4-1.

- a. Attach tagged leads to proper connection points on new connector and solder in place.
- b. Install retaining nut.
- c. Insert connector into mounting hole on junction box and fasten in place with three socket head mounting screws.
- d. Slip eye of protective cap chain onto the fourth mounting screw, install on screw.
- e. Insert mounting screw and tighten all four mounting screws.
- f. Connect leads as tagged to panelboard. Remove tags.

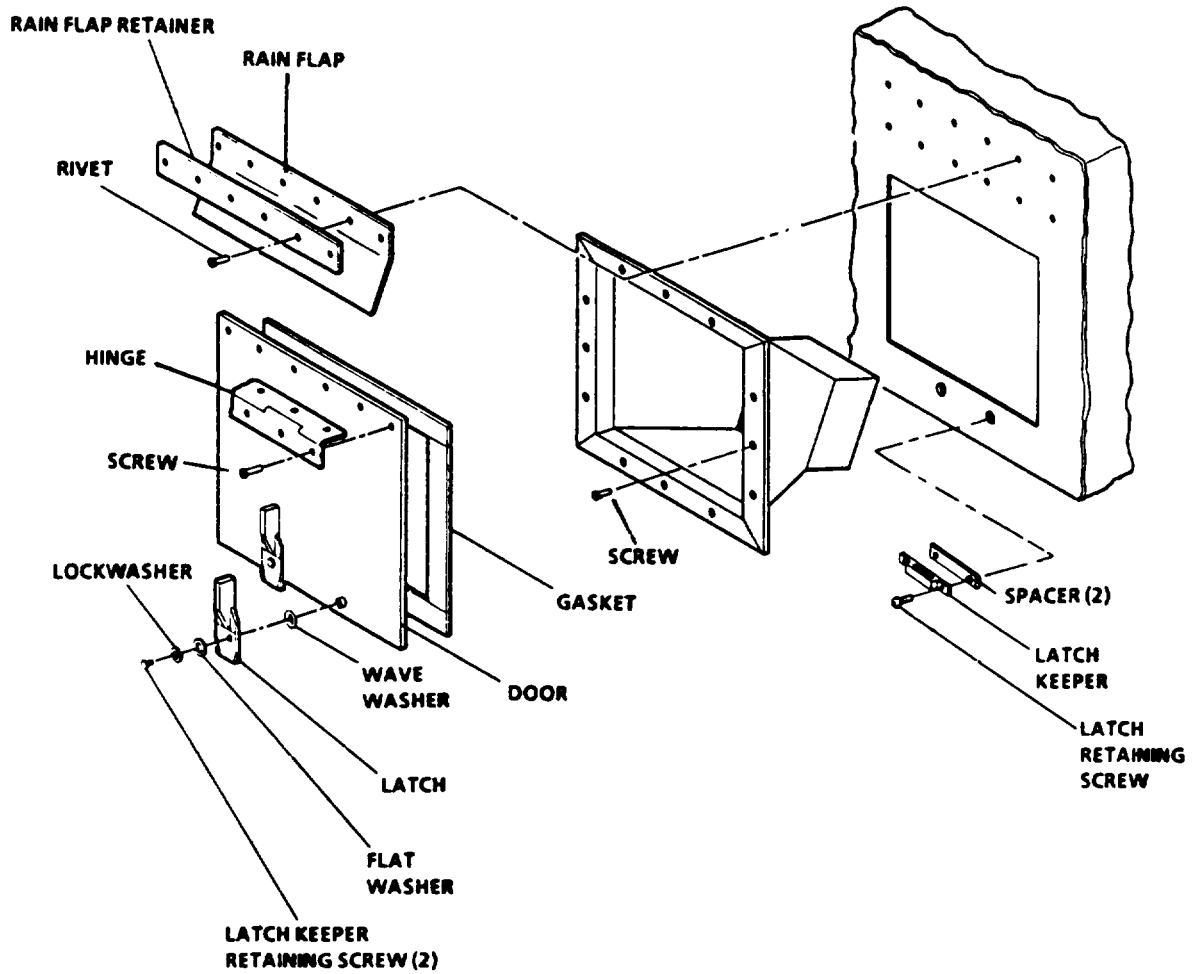


Figure 4-2. Water Reservoir Door

4-12. REMOVE/INSTALL WATER RESERVOIR DOOR - continued.

5. Remove rain flaps. See figure 4-2.
 - a. Remove five rivets from rain flap.
 - b. Remove rain flap and retaining bar.

INSTALLATION

1. Install door latch and wave washer. See figure 4-2.
 - a. Install new wave washer and latch on spacer and fasten in place with flat washer, lockwasher, and latch retaining screw.
 - b. Tighten retaining screw.
2. Install latch keeper. See figure 4-2.
 - a. Install new latch keeper and spacer plate on laboratory wall and fasten in place with two retaining screws.
 - b. Tighten retaining screws.
3. Install water reservoir door weatherstripping. See figure 4-2.
 - a. Ensure all remnants of old weatherstripping are removed from door bonding surface and surface is clean.
 - b. Cut sufficient weatherstripping from bulk material to replace old weatherstripping.
 - c. Align weatherstripping bonding surface and firmly attach to door.
4. Install water reservoir door. See figure 4-2.
 - a. Align new door hinge with rivet holes on laboratory wall.
 - b. Rivet door in place.
 - c. Close water reservoir door and secure with door latch.
5. Install rain flap. See figure 4-2.
 - a. Cut replacement rain flap from bulk material listed in Appendix G.
 - b. Align rain flap and retain bar with rivet holes on laboratory wall.
 - c. Rivet retaining bar and rain flap in place

4-13 REMOVE/INSTALL UTILITIES BOX AND DOOR - continued.

2. Remove latch keepers. See figure 4-3.
 - a. Remove two retaining screws from each latch keeper.
 - b. Remove two latch keepers and spacers.
3. Remove panel keeper. See figure 4-3.
 - a. Drill out four rivets attaching panel keeper to door.
 - b. Remove panel keeper from door.
4. Remove latches from utilities box door. See figure 4-3.
 - a. Remove retaining screw, lockwasher snap flat washer from latch.
 - b. Remove latch and wave washer.
 - c. Remove the second door latch by repeating steps a and b of this procedure.
5. Remove weatherstripping from utilities box door. See figure 4-3.
 - a. Remove weatherstripping from door.
 - b. Ensure that no remnants of the weatherstripping is left adhering to the door.

INSTALLATION

1. Install the utilities box. See figure 4-3.
 - a. Install pipe adapter plate and gasket in utilities box and fasten in place with, four flat washers, lockwashers and screws. Tighten screws.
 - b. Insert new utilities box in laboratory wall and align rivet holes.
 - c. Attach utilities box to laboratory wall using 12 rivets.
2. Install the latch keepers. See figure 4-3.
 - a. Attach new latch keeper and spacer to laboratory wall with two retaining screws.
 - b. Tighten screws.
 - c. Replace the second latch keeper by repeating steps a and b of this procedure.

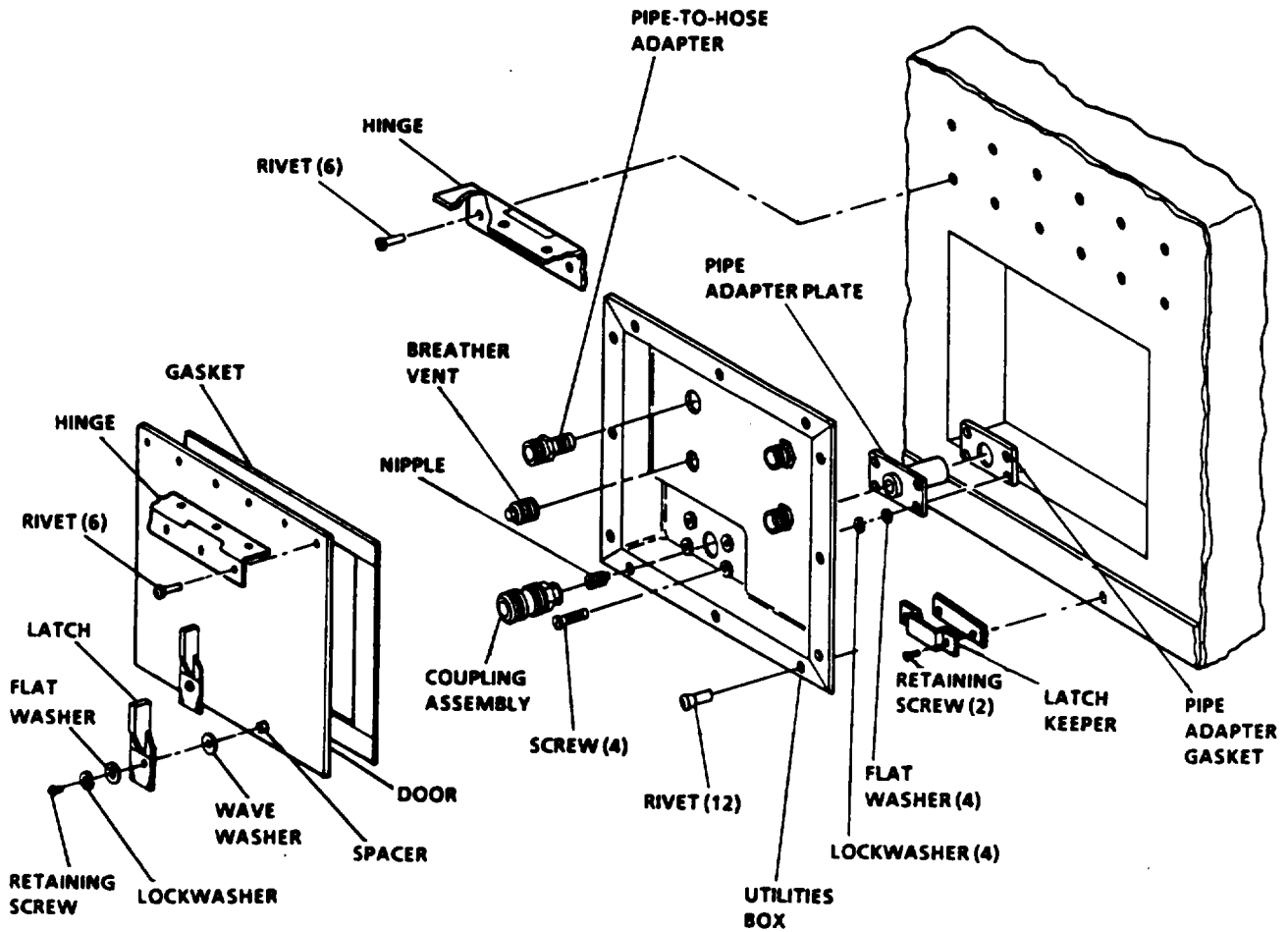


Figure 4-3. Utilities Box and Door

4-13. REMOVE/INSTALL UTILITIES BOX AND DOOR - continued.

3. Install panel keeper. See figure 4-3.
 - a. Place new panel keeper on door and align rivet holes
 - b. Attach panel keeper to door, using four rivets.
4. Install latches on utilities box door. See figure 4-3.
 - a. Place new wave washer and latch on retaining screw and fasten in place with flat washer, lockwasher, and retaining screws.
 - b. Tighten retaining screw.
 - c. Replace the second latch by repeating steps a and b of this procedure.
5. Install weatherstripping on utilities box door. See figure 4-3
 - a. Cut sufficient weatherstripping from bulk material to replace old weatherstripping.
 - b. Ensure all remnants of old weatherstripping is removed from bonding surface
 - c. Apply weatherstripping to door.

ASSEMBLY

Assemble utilities box. See figure 4-3.

- a. Insert coupling assembly with nipple into pipe adapter plate.
- b. Insert breather vent and three pipe-to-hose adapters into utilities box. Tighten in place.
- c. Install utilities box door by aligning hinge rivet holes, attach door hinge to laboratory wall using 6 rivets.

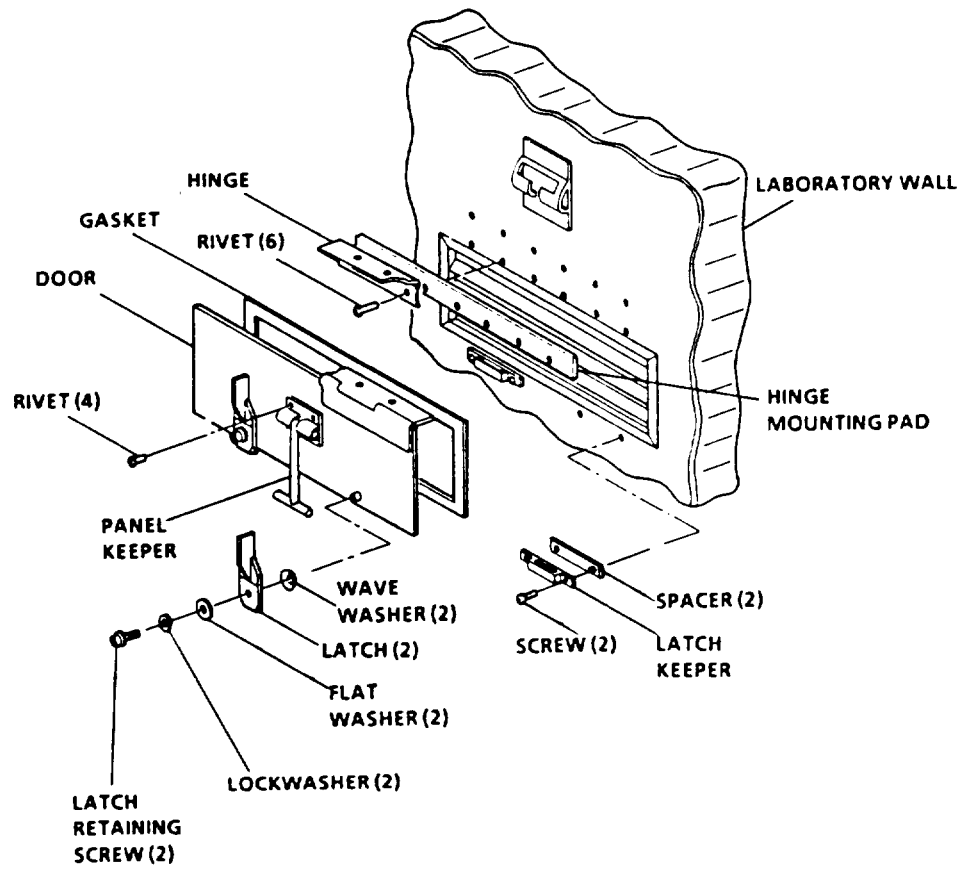


Figure 4-4. Blower Exhaust Door

4-14. REMOVE/INSTALL BLOWER EXHAUST DOOR - continued.

INSTALLATION

1. Install door latch and wave washer. See figure 4-4.
 - a. Install new wave washer and latch on door and fasten in place with flat washer, lockwasher and latch retaining screw.
 - b. Tighten retaining screw.
2. Install latch keeper. See figure 4-4.
 - a. Install new latch keeper and spacer on laboratory wall and fasten in place with two retaining screws.
 - b. Tighten retaining screws.
3. Install panel keeper. See figure 4-4.
 - a. Align new panel keeper with rivet holes on door.
 - b. Rivet panel keeper in place.
4. Install door weatherstripping. See figure 4-4.
 - a. Cut sufficient weatherstripping from bulk material to replace old weatherstripping.
 - b. Ensure all remnants of weatherstripping are removed from door bonding surface and surface is clean.
 - c. Align new weatherstripping with bonding surface and firmly attach to door.
5. Install blower exhaust door. See figure 4-4.
 - a. Align new door hinge with rivet holes on laboratory wall.
 - b. Rivet door in place.
 - c. Close blower exhaust door and secure with door latches.

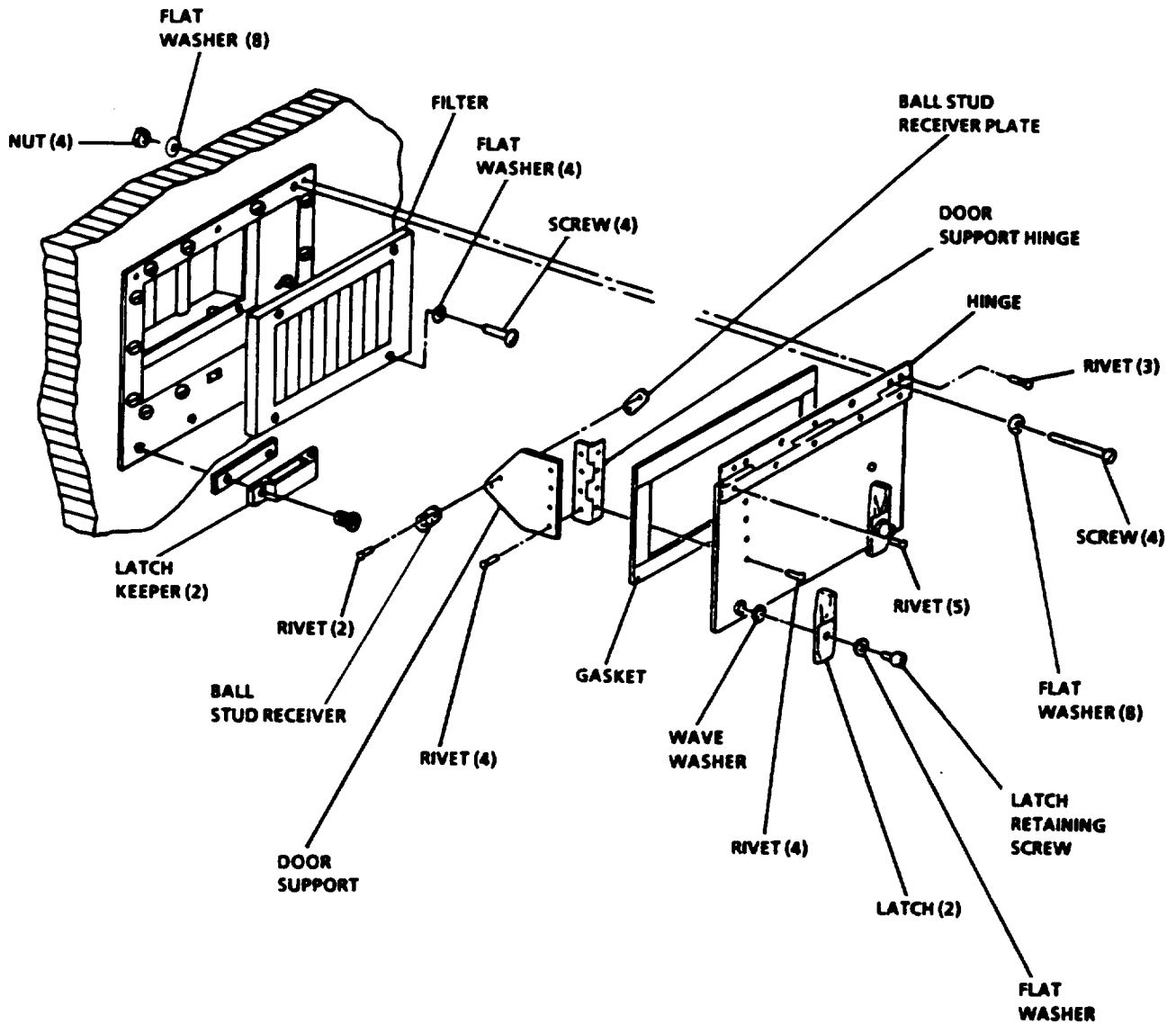


Figure 4-5. Purge Port Door

| |
|--|
| 4-14. REMOVE/INSTALL PURGE PORT DOOR - continued. |
|--|

- b. Remove four screws, lock washers, four flat washers, and four nuts attaching hinge to damper flange.
- c. Remove defective hinge.

INSTALLATION

1. Install door latch and wave washer. See figure 4-5.
 - a. Install new wave washer and latch and fasten in place with lockwasher, flat washer and latch retaining screw.
 - b. Tighten retaining screw.
2. Install latch keeper. See figure 4-5.
 - a. Place new latch keeper and spacer on laboratory wall and align rivet holes
 - b. Attach in place using four rivets.
3. Install door support, support hinge, and ball stud receiver. See figure 4-5.
 - a. Install new door support on new support hinge and align rivet holes.
 - b. Attach door support to hinge using rivets.
 - c. Place new ball stud receiver and receiver plate on door support and align rivet holes.
 - d. Attach ball stud receiver and plate to door support.
 - e. Place new door support with hinge attached on purge port door and align hinge rivet holes.
 - f. Attach door support hinge to purge port door using rivets.
4. Install purge port door weatherstripping. See figure 4-5
 - a. Cut sufficient weatherstripping from bulk material to replace old weatherstripping.
 - b. Ensure all remnants of old weatherstripping is removed from door bonding surface and surface is clear.
 - c. Apply weatherstripping to door
5. Install purge port door and hinge. See figure 4-5
 - a. Place new door with hinge attached on laboratory wall and fasten to damper flange with four screws, lockwasher, flat washers, and nuts.
 - b. Tighten screws and nuts.
 - c. Rivet door to damper flange in three places

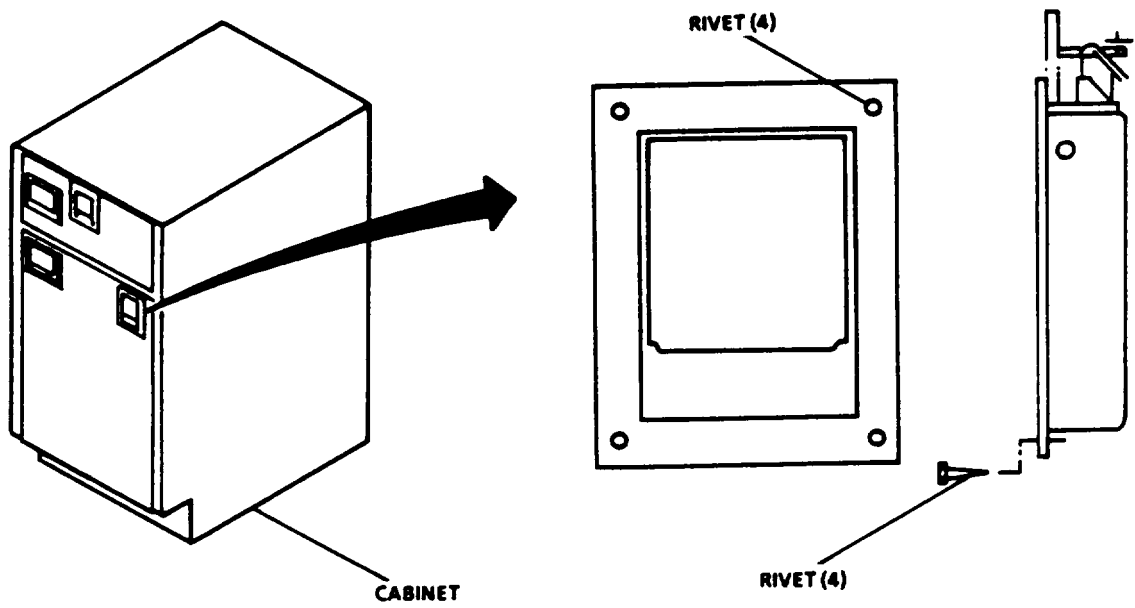


Figure 4-6. Storage Cabinet Paddle Latch

4-16. REMOVE/INSTALL PURGE PORT DAMPER ASSEMBLY.

This task covers:

| | |
|-------------|-----------------|
| a. Removal | b. Disassembly |
| c. Assembly | d. Installation |

INITIAL SET-UPTools Required

General Mechanics Tool Kit, Appendix B, Item 1

Personnel Required

Two

General Safety Instructions

WARNING
ELECTRICAL SHOCK

Before performing any maintenance actions on electrical equipment, ensure all electrical power has been turned off. Death or serious injury may occur from failure to do this.

Equipment Condition

All power to laboratory turned off by shutting down the external generator.

NOTE

Refer to F0-1 Electrical Schematic for electrical disconnections/connections required.

REMOVAL

Remove the purge port damper assembly. See figure 4-7

- a. Disconnect damper motor electrically from distribution box and tag for reconnection.
- b. Open purge port door, remove four screws and flat washers from filter.
- c. Remove filter and set aside for reassembly
- d. Remove four screws that extend through door hinge, damper flange, purge opening frame and laboratory wall. Remove nut and two flat washers from each screw. Drill out two rivets.
- e. Remove damper housing with motor attached from purge opening in laboratory wall.

DISASSEMBLY

1. Remove purge door limit switch. See figure 4-7
 - a. Disconnect purge door limit switch electrically from distribution box.

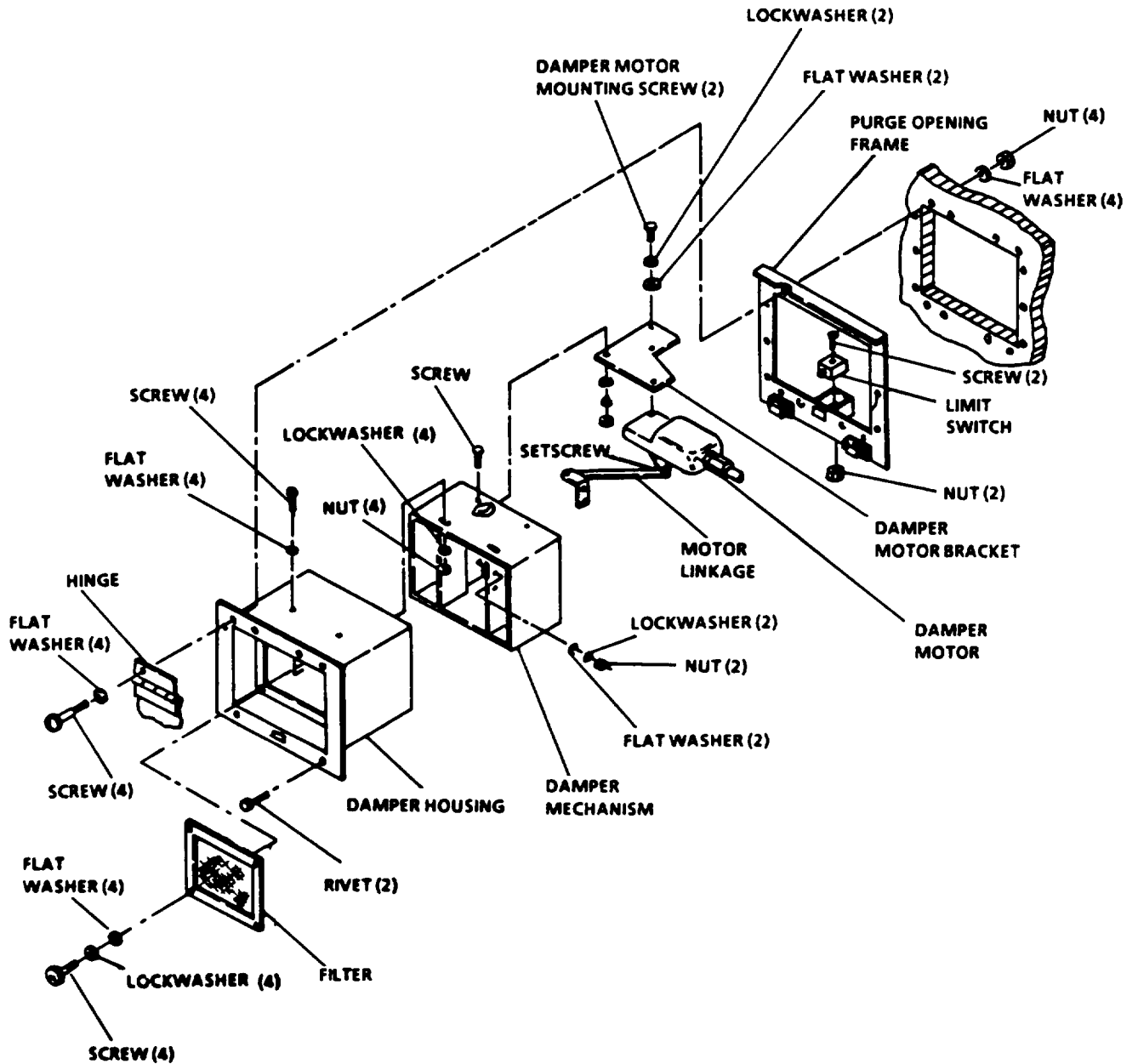


Figure 4-7. Purge Port Damper Assembly

4-16. REMOVE/INSTALL PURGE PORT DAMPER ASSEMBLY - continued.

- b. Drill out eight rivets securing purge opening frame to laboratory wall.
 - c. Remove two screws and nuts attaching limit switch to laboratory.
 - d. Remove switch,
2. Remove damper mechanism from damper housing. See figure 4-7.
 - a. Remove four screws, nuts, lockwashers and flat washers attaching damper mechanism to damper housing.
 - b. Remove damper mechanism with motor attached.
3. Remove damper motor and motor bracket. See figure 4-7.
 - a. Loosen setscrew attaching motor linkage to damper mechanism. Unsnap linkage from motor and retain.
 - b. Remove two screws, lockwashers, and flat washers attaching damper motor to damper motor bracket and remove motor.
 - c. Remove two screws, nuts, lockwashers, and flat washers attaching motor bracket to damper mechanism and remove defective bracket.

ASSEMBLY

1. Install purge door limit switch. See figure 4-7,
 - a. Install new limit switch by fastening in place on laboratory wall with two screws and nuts, tighten in place.
 - b. Install eight rivets securing purge opening frame to laboratory wall.
 - c. Reconnect switch electrically at junction box.
2. Install motor bracket and motor in damper mechanism. See figure 4-7.
 - a. Install new motor bracket by fastening bracket to new damper mechanism with two screws, flat washers, lockwashers, and nuts.
 - b. Tighten bracket mounting screws and nuts.
 - c. Attach new motor to motor bracket with two screws, flat washers, and lockwashers.
 - d. Tighten motor mounting screws.
 - e. Attach motor linkage to motor by snapping in place.
 - f. Tighten setscrew

4-16. REMOVE/INSTALL PURGE PORT DAMPER ASSEMBLY - continued.

3. Install damper mechanism with motor attached in damper housing. See figure 4-7.
 - a. Place new damper mechanism into new damper housing and attach with four screws, flat washers, lockwashers, and nuts.
 - b. Tighten damper mechanism mounting screws and nuts.

INSTALLATION

Install the purge port damper assembly. See figure 4-7.

- a. Place purge opening frame on damper housing and insert housing with damper mechanism and motor attached into laboratory purge opening.
- b. Fasten damper housing in place with two rivets
- c. Insert four long screws with flat washers through door hinge, damper flange, purge opening frame, and laboratory wall, install flat washers and nuts, tighten screws and nuts.
- d. Place filter on damper housing, attach with four screws and flat washers, tighten screws.
- e. Connect motor electrically and remove tags.
- f. Restore power to the laboratory and run an operational test of the purge system.

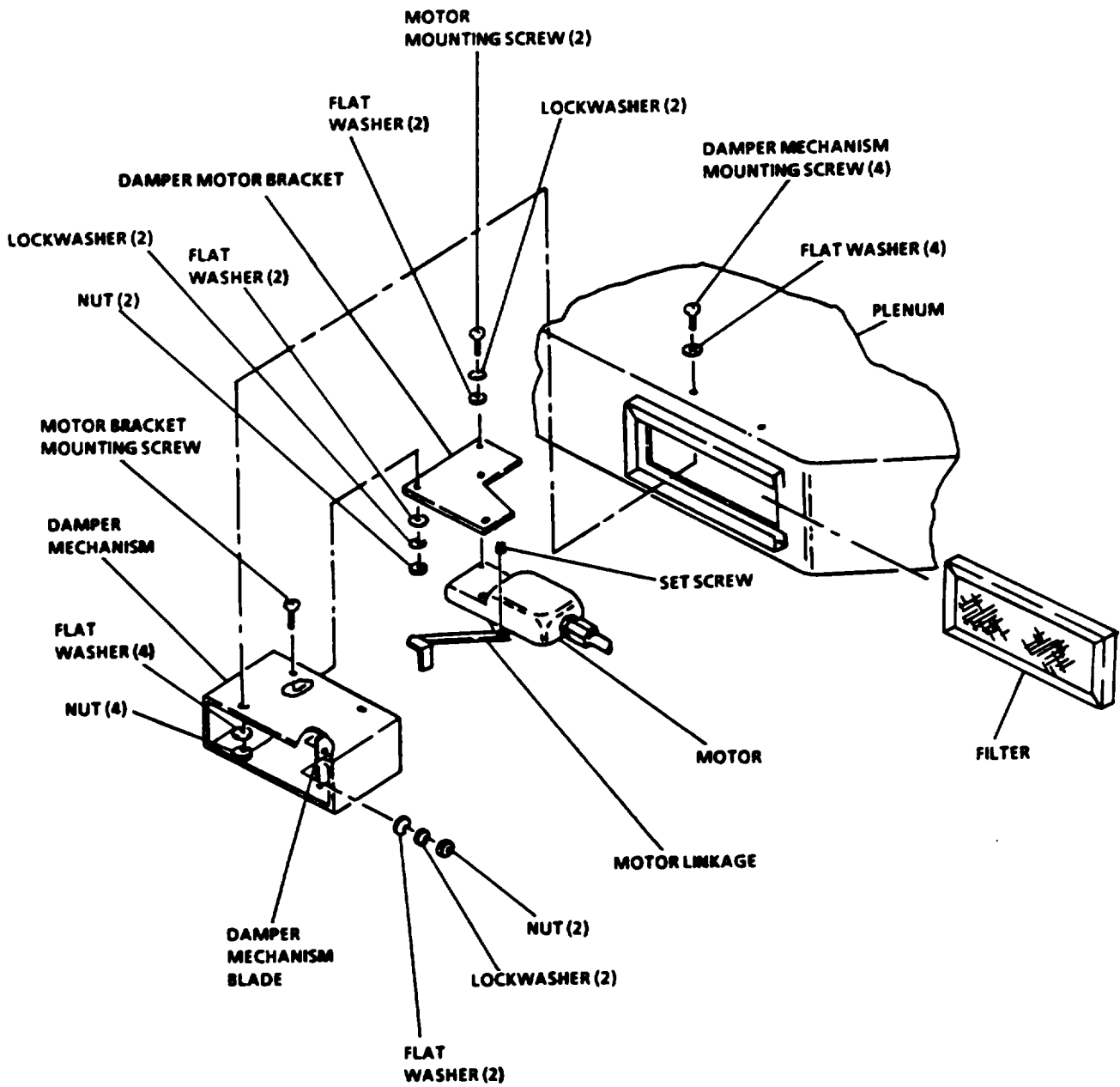


Figure 4-8. ECU Damper Assembly

4-17. REMOVE/INSTALL ECU DAMPER ASSEMBLY - continued.

ASSEMBLY

Install motor bracket and motor in damper mechanism. See figure 4-8.

- a. Install new motor bracket by fastening bracket to new damper mechanism with two screws, flat washers, lockwashers, and nuts.
- b. Tighten bracket mounting screws and nuts.
- c. Attach new motor to motor bracket with two screws, flat washers, and lockwashers.
- d. Tighten motor mounting screws and nuts.
- e. Attach motor linkage to motor by snapping in place.
- f. Tighten setscrew.

INSTALLATION

Install the ECU damper assembly. See figure 4-8.

- a. Insert damper assembly with motor attached into plenum and attach with four screws, eight flat washers, and four nuts.
- b. Tighten screws and nuts.
- c. Install plenum using eight screws, lockwasher and flat washers.
- d. Install purge port damper assembly. (Paragraph 4-16).
- e. Connect motor electrically and remove tags.
- f. Restore power to the laboratory and run an operational test of the purge system.

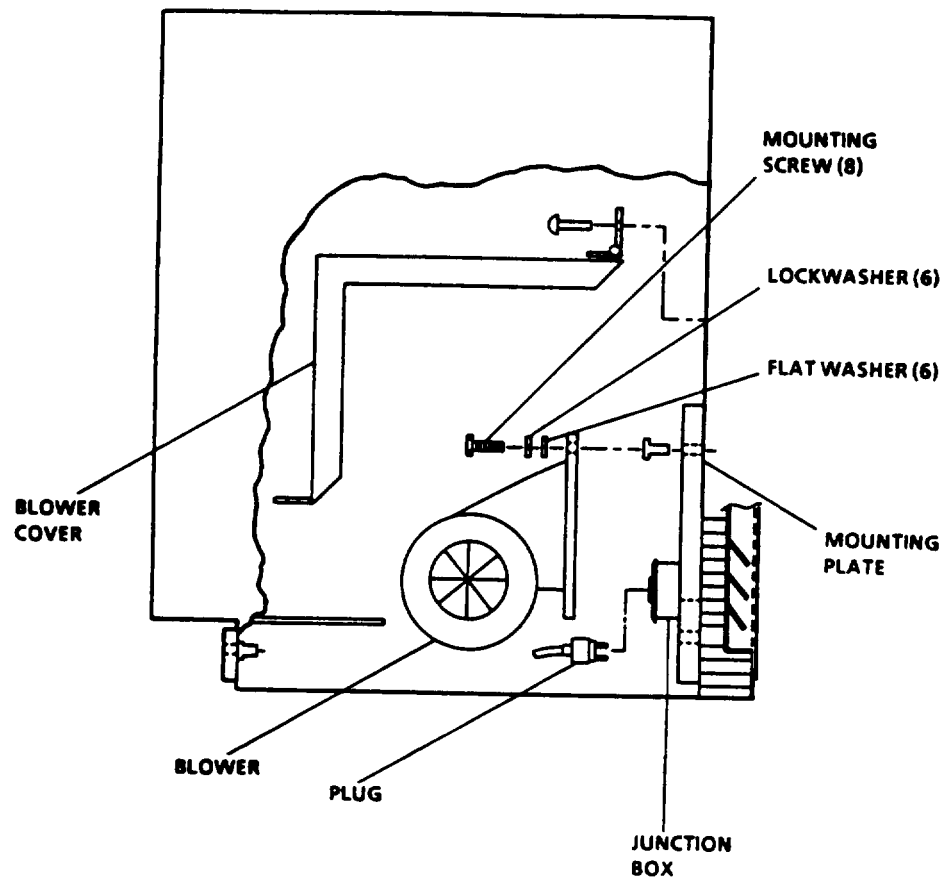


Figure 4-9. Replace Blower Assembly

4-19. REMOVE/INSTALL FLUORESCENT LIGHT BALLAST - continued.

- c. Fasten ballast cover in place with two screws.
- d. Tighten ballast cover screws.
- e. Fasten diffuser in place with four screws.
- f. Tighten diffuser mounting screws,
- g. Restore power to lights by placing circuit breaker CB17 in the ON position.

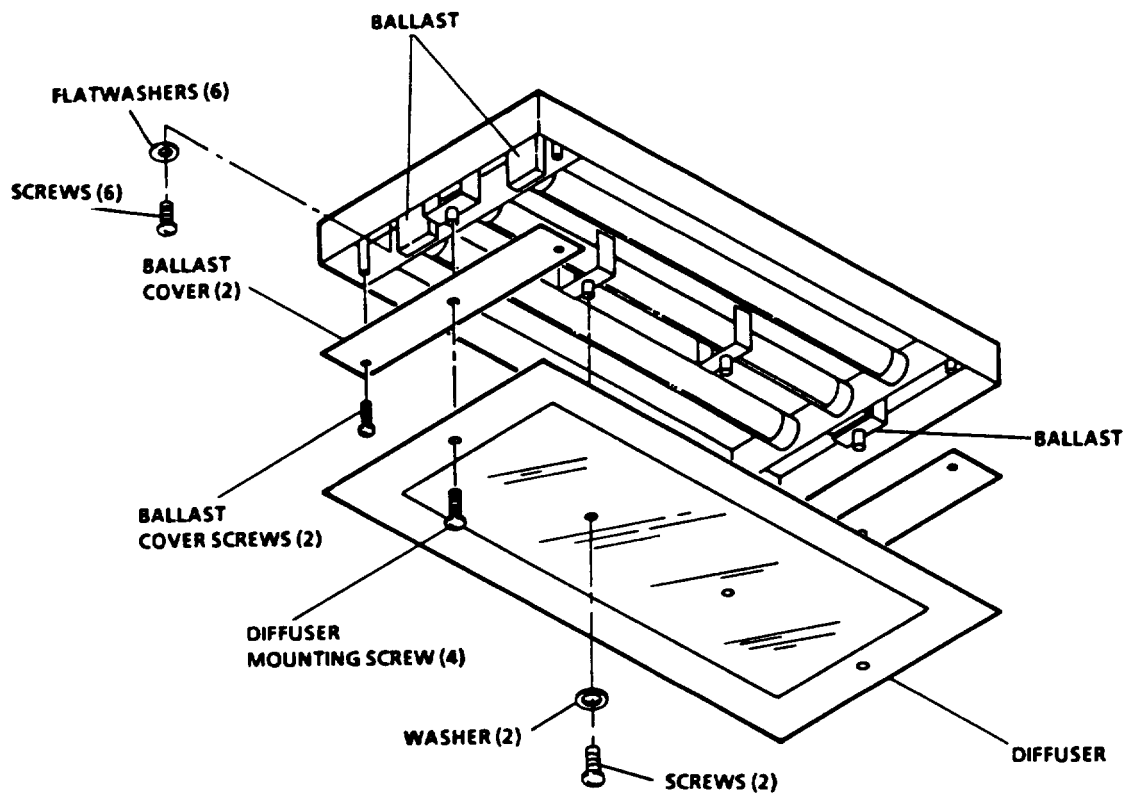


Figure 4-10. Replace Fluorescent Light Ballast

4-20. REMOVE/INSTALL PANELBOARD ASSEMBLY - continued.

- b. Remove four mounting screws and withdraw circuit breaker.
 - c. Remove 100A circuit breaker.
3. Remove 20A circuit breaker. See figure 4-11.
 - a. Loosen all terminal *screws*, then tag and disconnect all wires.
 - b. Remove one mounting screw and withdraw circuit breaker.
 - c. Remove 20A circuit breaker.
4. Remove 15A circuit breaker. See figure 4-11.
 - a. Loosen one terminal screw, then tag and disconnect all wires.
 - b. Remove one mounting screw and withdraw circuit breaker.
 - c. Remove defective 15A circuit breaker.
5. Remove relay timer. See figure 4-11.
 - a. Tag and disconnect two spade lugs from terminal lugs.
 - b. Remove two mounting screws.
 - c. Remove relay to the working surface. Remove the 6 Mohm resistors from the relay.
6. Remove relay and socket. See figure 4-11.
 - a. Grasp defective relay and remove relay from socket.
 - b. Loosen all terminal screws on socket, then tag and disconnect all wires.
 - c. Remove two mounting screws and remove socket.
7. Remove fuse and fuseholder. See figure 4-11.
 - a. Remove fuses from fuseholder.
 - b. Tag and remove all wires from the terminal lugs.
 - c. Remove four mounting screws.
 - d. Remove fuseholder.

4-20. REMOVE/INSTALL PANELBOARD ASSEMBLY - continued.

ASSEMBLY

1. Install fuseholder and fuse. See figure 4-11.
 - a. Install new fuseholder by installing four mounting screws.
 - b. Install wires to terminal lugs and remove tags.
 - c. Replace new fuse into the appropriate fuse block.
2. Install socket and relay. See figure 4-11.
 - a. Install new socket by installing two mounting screws.
 - b. Install wires into appropriate terminals and tighten all terminal screws.
 - c. Grasp new relay and install into the socket.
3. Install relay timer. See figure 4-11.
 - a. Install new 6 Mohm resistors to the two inside lugs of the relay.
 - b. Install new relay timer and install two mounting screws.
 - c. Connect wires to two spade lugs.
4. Install 15A circuit breaker. See figure 4-11.
 - a. Connect all wires to terminal and tighten terminal screw and remove tags.
 - b. Guide new circuit breaker into the panelboard and install mounting screw.
5. Install 20A circuit breaker. See figure 4-11.
 - a. Connect all wires to terminal and tighten terminal screws and remove tags.
 - b. Guide new circuit breaker into the panelboard and install mounting screw.
6. Install 100A circuit breaker. See figure 4-11.
 - a. Guide new circuit breaker into the panelboard and install with four mounting screws,
 - b. Connect all wires and remove tags.

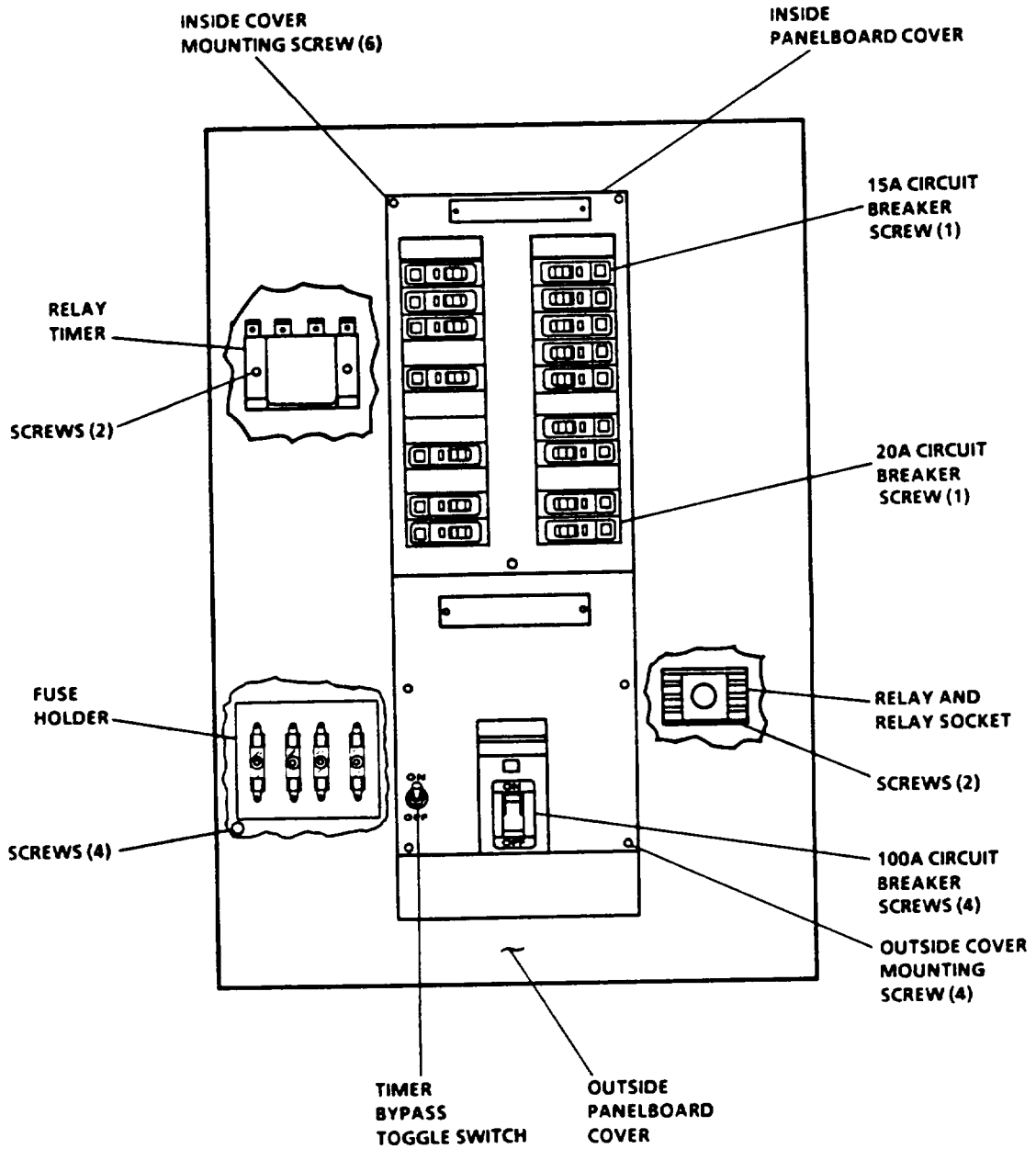


Figure 4-11. Panelboard Assembly

4-20. REMOVE/INSTALL PANELBOARD ASSEMBLY - continued.

7. Install timer bypass toggle switch. See figure 4-11.
 - a. Connect all wires and tighten all terminal screws.
 - b. Push new switch through front panel cover.

INSTALLATION

Install panelboard assembly. See figure 4-11.

- a. Place inside panel cover on panelboard and replace six screws.
- b. Install toggle switch lockwashers, locking ring and hex nut.
- c. Place outside panelboard cover on panelboard and replace four mounting screws.
- d. Connect power cable to the laboratory.
- e. Start the generator.
- f. Close circuit breakers.
- g. Turn on equipment and verify proper operations.

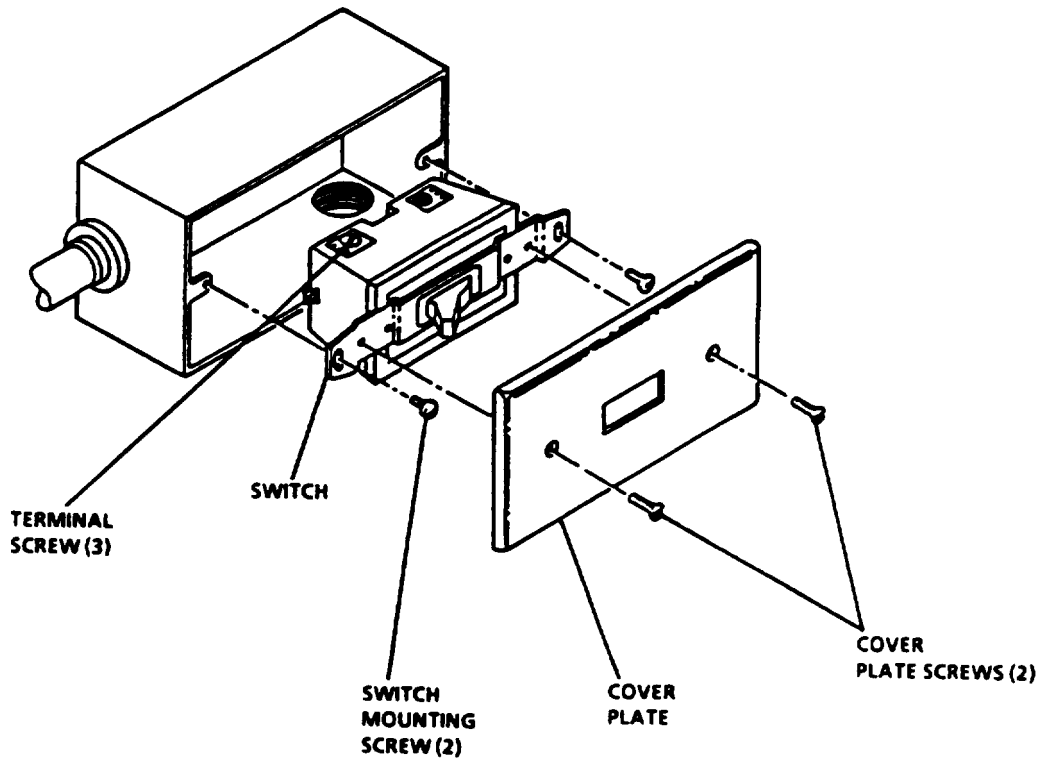


Figure 4-12. Single Switch

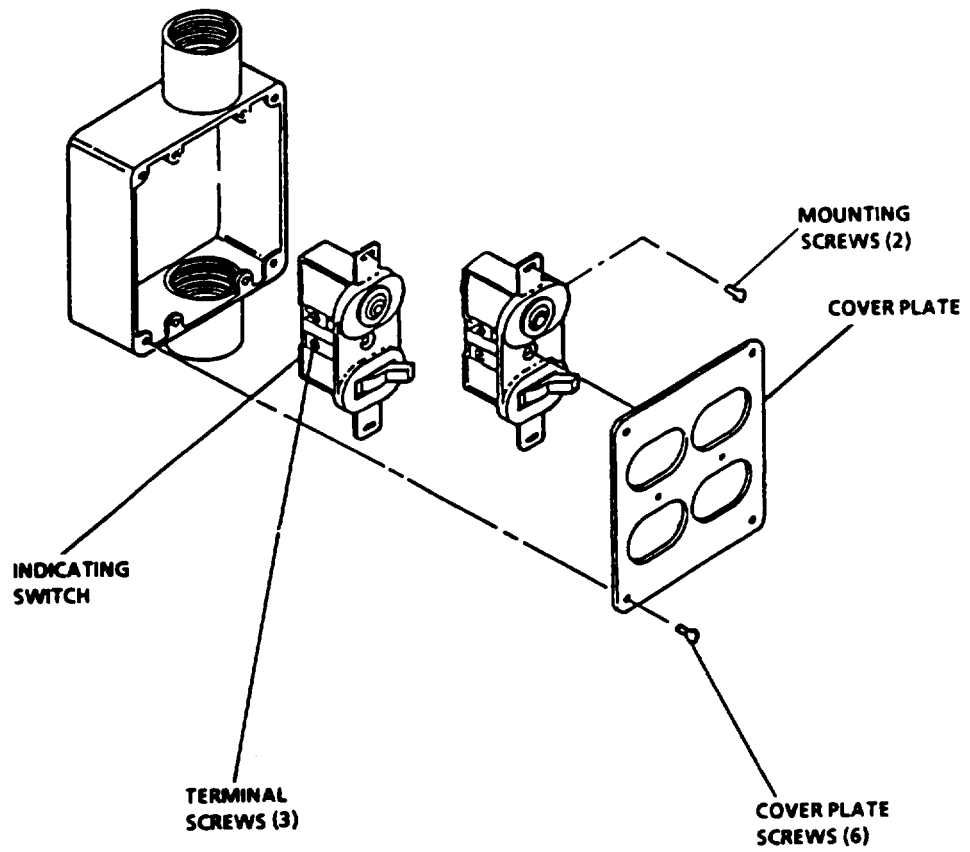


Figure 4-13. Multi-Gang Switch

4-21. REMOVE/INSTALL WALL SWITCHES - continued.

INSTALLATION

1. Install ice maker wall switch. See figure 4-12.
 - a. Connect wires to new switch and tighten three terminal screws. Remove tags.
 - b. Guide new switch into junction box. Be sure wires are not kinked or strained.
 - c. Install two switch mounting screws.
 - d. Place cover plate on junction box, install two cover plate screws.
2. Install vat-air/water pump switch. See figure 4-12.
 - a. Connect wires and tighten three terminal screws.
 - b. Guide new switch into junction box. Be sure wires are not kinked or strained.
 - c. Place cover on switches and install two switch mounting screws.
 - d. Place cover plate on junction box. Install two cover plate screws.
3. Install light/blackout override switch. See figure 4-13.
 - a. Connect wires to new switch and tighten three terminal screws. Remove tags.
 - b. Guide new switch into junction box. Be sure wires are not kinked or strained.
 - c. Install two switch mounting screws.
 - d. Place cover plate on junction box. Install six cover plate screws.
4. Turn an electrical power.
 - a. Close appropriate circuit breaker.
 - b. Turn the new switch to the on position and verify proper operation.

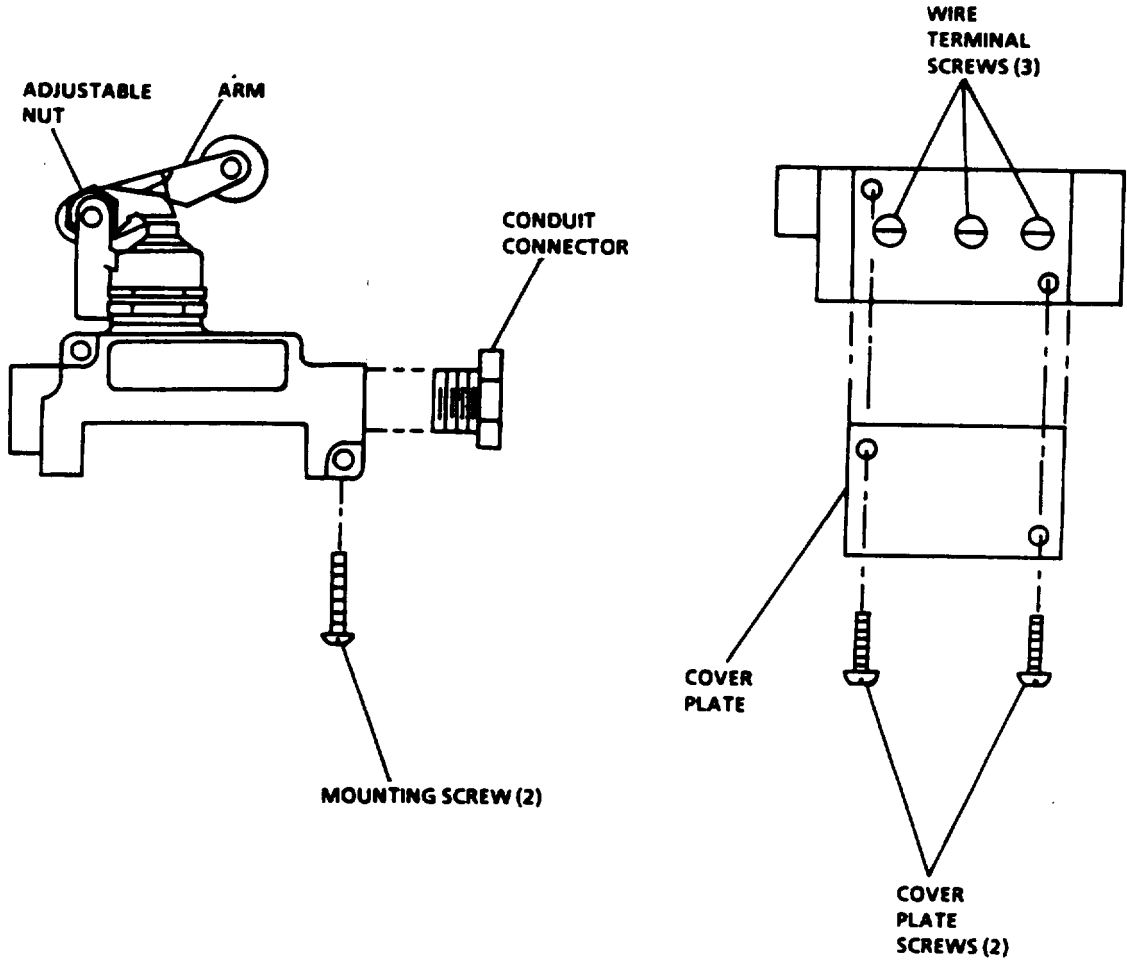


Figure 4-14. Blackout Microswitch

4-22. REMOVE/INSTALL BLACKOUT MICROSWITCH.

- c. Tighten conduit connector to microswitch.
- d. Align new microswitch on rear wall, install two microswitch mounting screws.
- e. Close circuit breaker CB17 and verify proper operation.

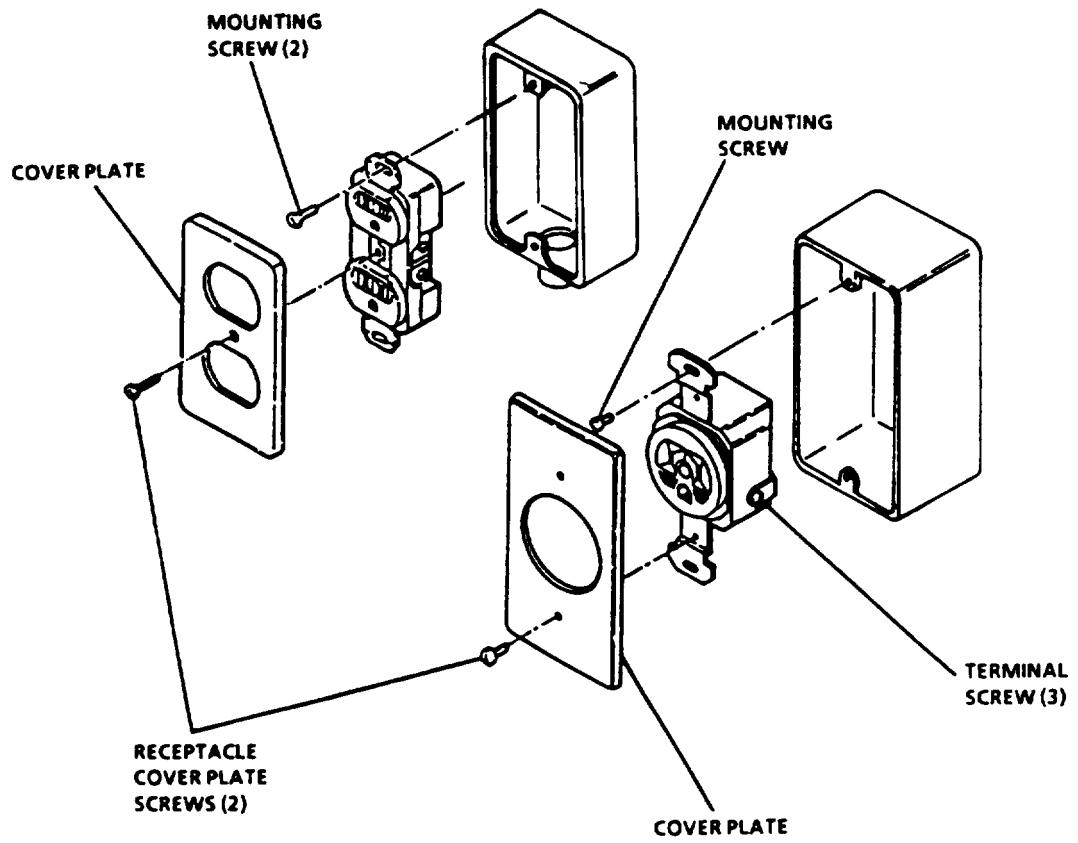


Figure 4-15. Receptacles

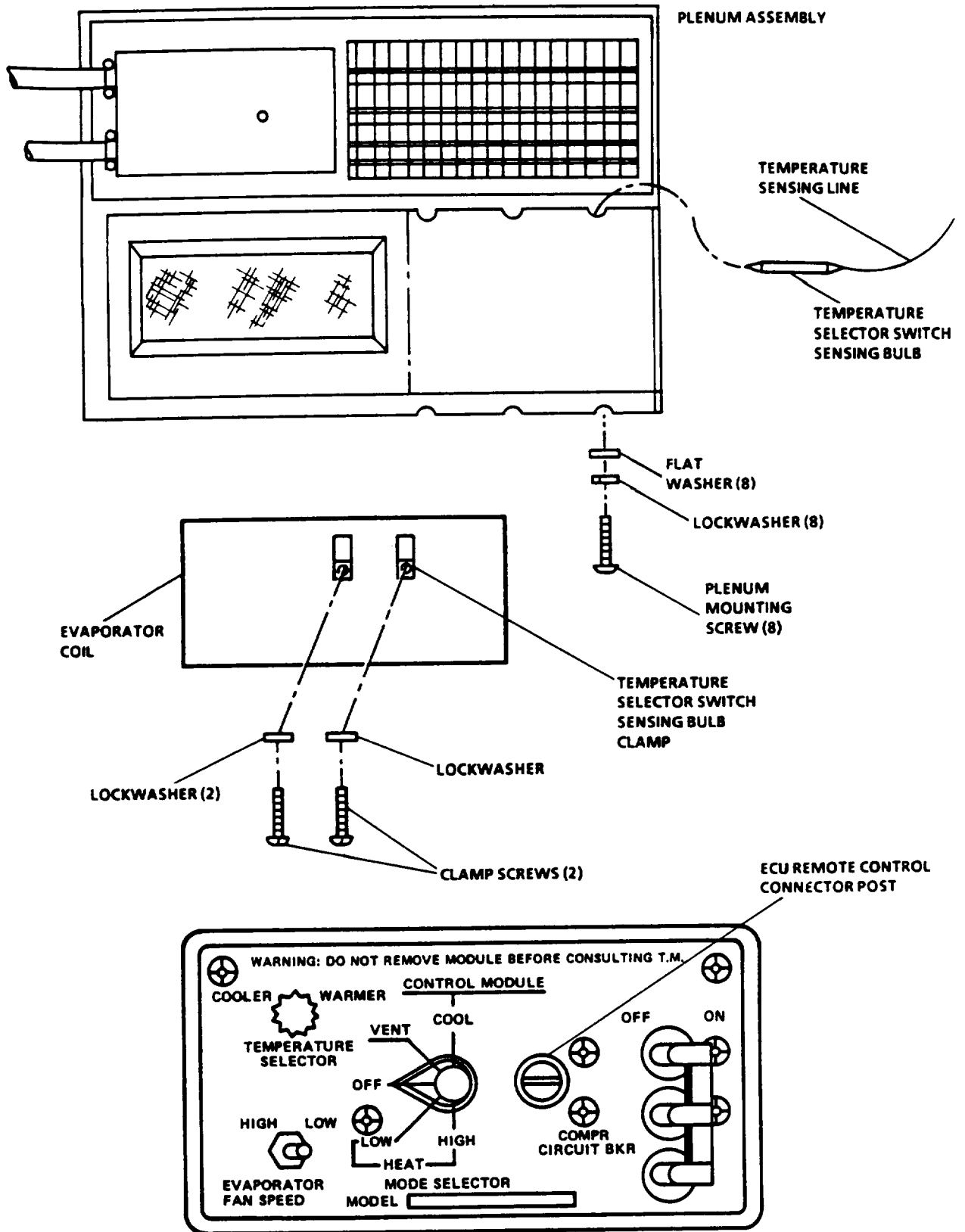


Figure 4-16. Environmental Control Unit Remote Control

4-24. REPLACE ENVIRONMENTAL CONTROL UNIT REMOTE CONTROL- continued.

- d. Attach the temperature selector switch sensing bulb into the bulb mount atop of the evaporator coil.
- e. Install two clamp screws and two lockwashers.
- f. Install damper assembly. (Paragraph 4-17)
- g. Close appropriate circuit breaker.
- h. Turn the environmental control unit on and verify proper operations.

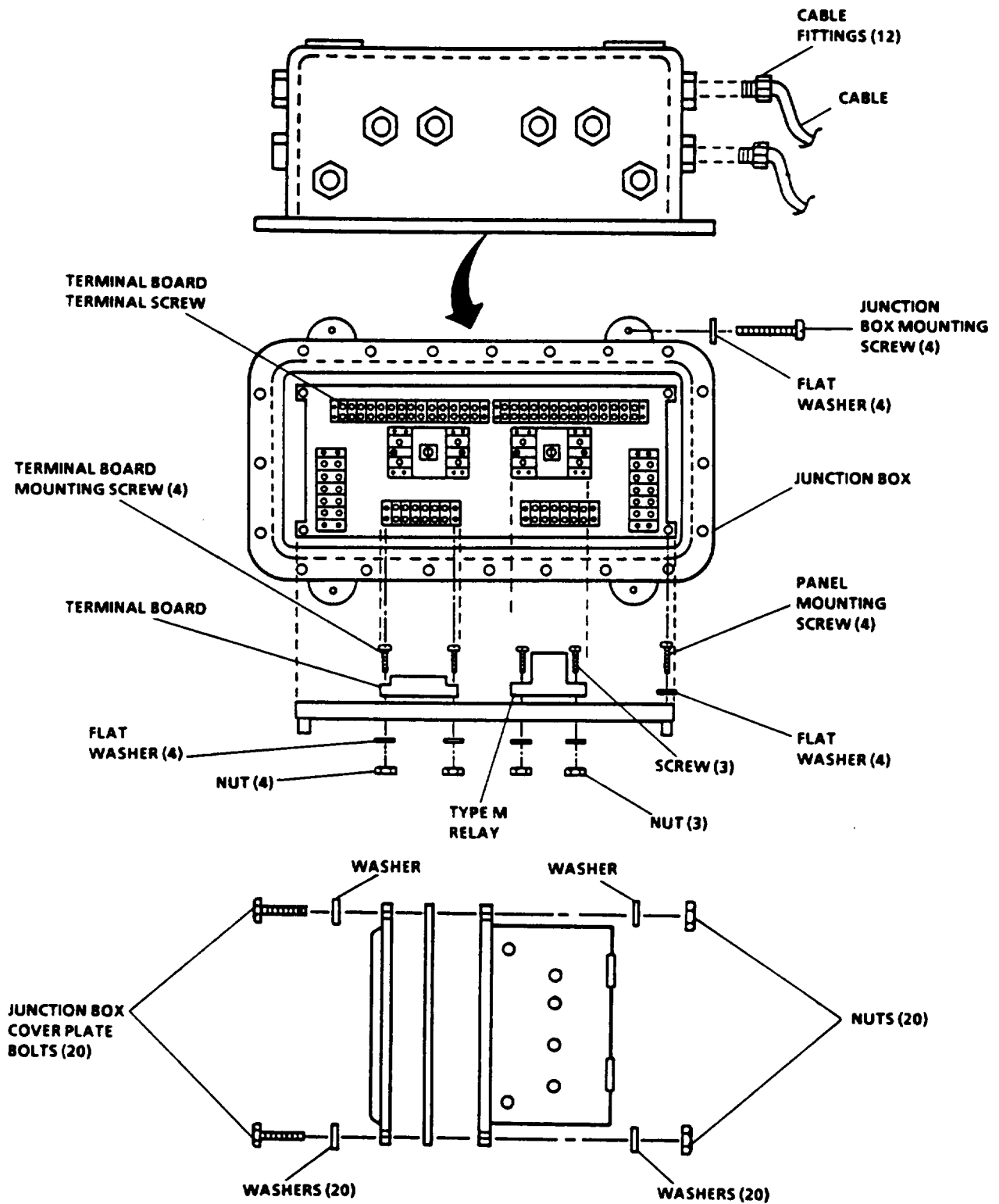


Figure 4-17. Distribution Box

4-21. REMOVE/INSTALL EXPLOSION PROOF DISTRIBUTION BOX ASSEMBLY
continued.

3. Remove junction box. See figure 4-17.
 - a. See paragraph 1 and perform steps a. b. and c.
 - b. Remove twelve cable fittings. Six on top of the box and three on each side.
 - c. Slide cables out through the slots on top and sides of the box.
 - d. Remove four junction box mounting screws and flat washers.
 - e. Unscrew box from cable conduit.
 - f. Remove junction box.

ASSEMBLY

1. Install junction box. See figure 4-17.
 - a. Align new junction box onto junction box mount located below the environmental control unit remote control module and screw junction box onto cable conduit.
 - b. Install four junction box mounting screws and flat washers.
 - c. Carefully insert cables through slots on top and side of box. Install twelve cable fittings, six on top and three on each side of box.
 - d. Connect all terminal wires and tighten terminal screws.
2. Install type M relay. See figure 4-17.
 - a. Place new relay on mounting panel. Install three screws, flat washers and nuts,
 - b. Connect relay terminal wires and tighten terminal screws.
3. Install terminal board. See figure 4-17.
 - a. Place new terminal board on mounting panel. Install four terminal board screws, flat washers, and nuts to the mounting panel.
 - b. Connect all terminal board terminal wires and tighten terminal screws.

INSTALLATION

Install junction box assembly. See figure 4-17.

- a. Place mounting panel in junction box. Install four mounting screws.
- b. Align the junction box cover plate onto the junction box. install 20 cover plate bolts.
- c. Close all circuit breakers and verify proper operation.

4-26. REMOVE/INSTALL CONTROL UNIT 9,000 BTU.

This task covers: a. Removal b. Installation

INITIAL SET-UP:

Tools Required

General Mechanics Tool Kit, Appendix B, Item I

Materials / Parts

Dry Cleaning Solvent, Appendix E, Item 40

Weatherstripping, Appendix G, Item 1

Packing Compound, Appendix E, Item 28

Weather Shield, Appendix G, Item 3

Personnel Required

Three

General Safety Instructions

WARNING
ELECTRICAL SHOCK

Before performing any maintenance actions on electrical equipment, ensure all electrical power has been turned off. Death or serious injury may occur from failure to do this.

REMOVAL

Remove environmental control unit (ECU) 9,000 BTU. See figure 4-18.

- a. Open circuit breaker CB3 and CB4 located in the panelboard assembly.
- b. Disconnect ECU main input power cable
- c. Turn hex head of connector rod and remove remote plug.
- d. Remove eight plenum mounting screws.
- e. Remove packing compound located around plenum area and capillary tubing below the ECU.
- f. Be sure plenum area and capillary tubing is free of packing compound.
- g. Remove temperature selector switch sensing bulb clamp located on top of evaporator coil by removing two clamp screws and two lock washers and retain for reuse.
- h. Remove sensing bulb from mount plate. Be sure not to break or kink sensing line during removal.
- i. Remove outside weather shield.
- j. Remove four isolation mounting bolts, washers, and lower isolation mounts.

4-26. REMOVE/INSTALL CONTROL UNIT 9,000 BTU - continued.

- k. Lift and slide out defective ECU until all lifting handles are free.
- l. Remove weather stripping.

WARNING

Serious injury to personnel or damage to equipment may occur unless two or more personnel are used to remove air conditioner because of weight and balance of the ECU.

- m. Carefully maneuver ECU onto pallet or flat-bed light truck. Remove upper isolation mounts.

CAUTION

Hole in laboratory body must be covered to prevent dirt, dust or moisture from entering laboratory body, unless replacement is to be immediately installed.

INSTALLATION

Install ECU. See figure 4-18.

WARNING

Dry cleaning solvent P-D-680 (safety or Stoddard's Solvent) is potentially dangerous. Avoid repeated and prolonged breathing of vapors and skin contact with the liquid. Do not use near open flame, arching equipment or other ignition sources. Always wear eye protection and protective clothing. The flash point of P-D-680 is 100° to 138°F (30° to 59°C).

- a. Clean sealant from the laboratory body opening using solvent, Item 40, Appendix E.

WARNING

Serious injury to personnel or damage to equipment may occur unless two or more personnel are used to remove air conditioner because of weight and balance of the ECU.

- b. Cut sufficient weatherstripping from bulk material to replace old weatherstripping and install weatherstripping in laboratory opening.
- c. Carefully maneuver new ECU onto the ECU mounting bracket.
- d. Insert upper isolation mounts and slide ECU into place.
- e. Install four lower isolation mounts, washers, and isolation mounting bolts.
- f. Replace any deteriorated or damaged gaskets and install weather shield.

4-26. REMOVE/INSTALL CONTROL UNIT 9,000 BTU - continued.

- g. Attach the temperature selector switch sensing bulb into the temperature selector switch mount located on top of evaporator coil.
- h. Install bulb clamp screws and two lockwashers.
- i. Align the plenum assembly to the plenum mount plate and install eight plenum mounting screws.
- j. Replace packing compound around the plenum and capillary tubing.
- k. Connect the ECU main input cable.
- l. Push in remote plug and tighten hex head of rod connector.
- m. Close appropriate circuit breaker and verify proper operations.

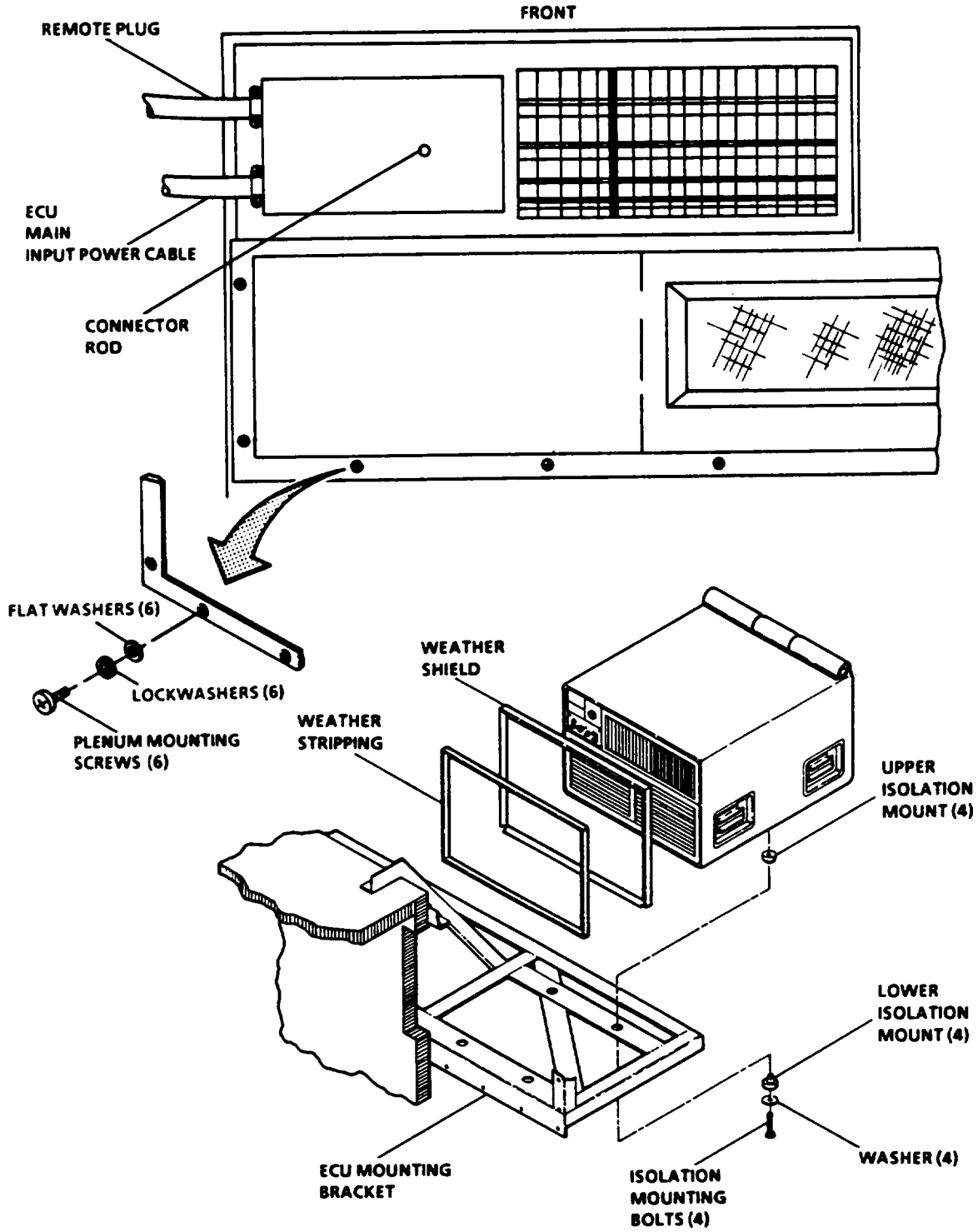


Figure 4-18. Environmental Control Unit

4-27. REMOVE/INSTALL VACUUM-AIR PRESSURE SYSTEM-continued

- i. Clean teflon tape from pipe and fittings.
3. Remove stopcock assembly. See figure 4-19.
 - a. Remove drawer No. 9.
 - b. Loosen hose clamps and remove hoses from hose barb.
 - c. Remove reducer and hose barb from elbow.
 - d. Remove stopcock mounting nut.
 - e. Remove nipple fitting from stopcock assembly
 - f. Remove stopcock from countertop.
 - g. Clean teflon tape from all male pipe and threads fittings.

INSTALLATION

1. Install air surge tank. See figure 4-19.
 - a. Apply teflon tape, to male fittings. Be sure to wrap teflon tape in same direction of pipe thread.
 - b. Install drain relief valve.
 - c. Install the two "T" fittings to side and bottom of tank.
 - d. Install drain cock to bottom "T" fitting. Place air surge tank strap over top of surge tank and place new air surge tank into storage cabinet No. 9. Install two mounting screws, flat washers, lockwashers and nuts.
 - e. Install the air surge tank strap screw to cabinet wall.
 - f. Secure three hoses and hose clamps at side and bottom of the tank.
2. Install stopcock assembly. See figure 4-19.
 - a. Apply teflon tape to all male fittings. Be sure to wrap teflon tape in same direction of pipe thread.
 - b. Install pipe nipple onto stopcock assembly.
 - c. Place stopcock assembly into stopcock mounting on countertop.

4-27. REMOVE/INSTALL VACUUM-AIR PRESSURE SYSTEM - continued

- d. Install washer and mounting nut onto pipe nipple.

NOTE

When installed bottom of elbow must face front wall of laboratory.

- e. Install elbow onto pipe nipple.
- f. Attach hose clamp and hose to hose barb
- g. Plug pump in wall, turn on pump and check for proper operation

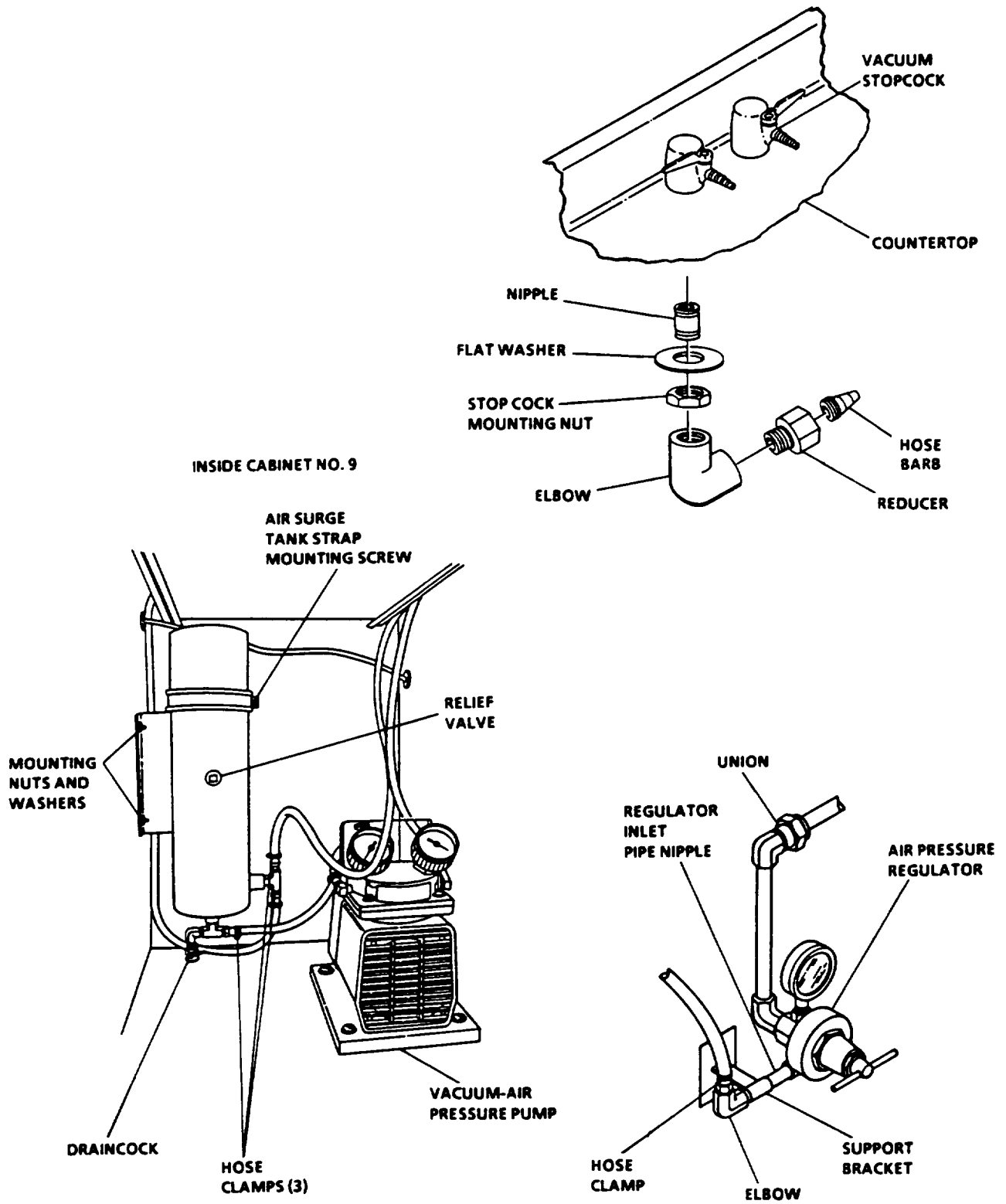


Figure 4-19. Vacuum-Air Pressure System

4-28. REMOVE/INSTALL GAS ALARM SYSTEM - continued.

2. Remove gas alarm buzzer. See figure 4-21.
 - a. Unplug power input cable to Airmobile Laboratory.
 - b. Loosen two cover plate screws and remove.
 - c. Remove and tag two wires from buzzer.
 - d. Remove one mounting screw and remove defective buzzer.
3. Remove gas alarm detector element. See figure 4-22.
 - a. Unplug power input cable to Airmobile Laboratory.
 - b. Loosen setscrew on shield assembly. Remove shield assembly.
 - c. Unplug defective detector element

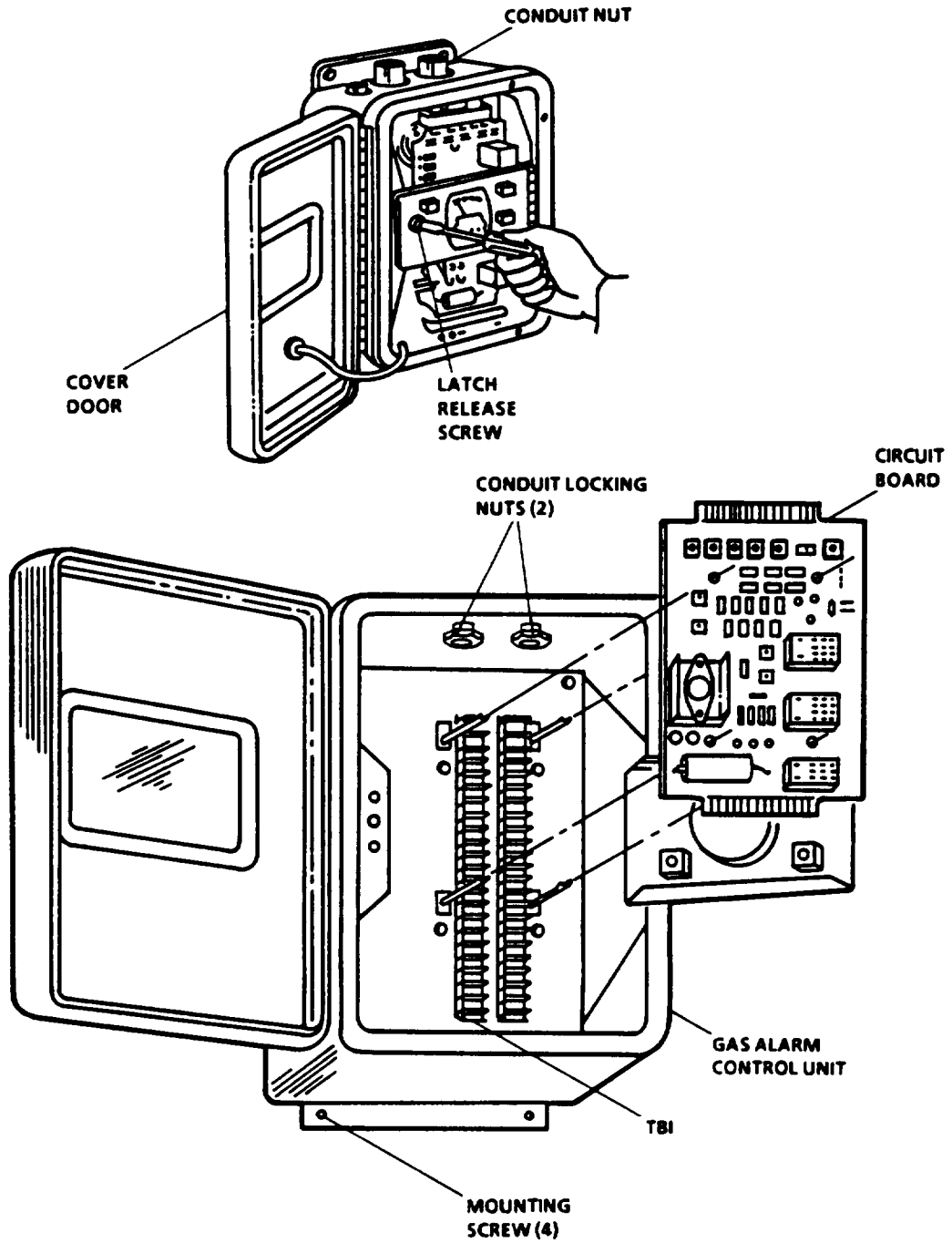


Figure 4-20. Gas Alarm Alarm Control Unit

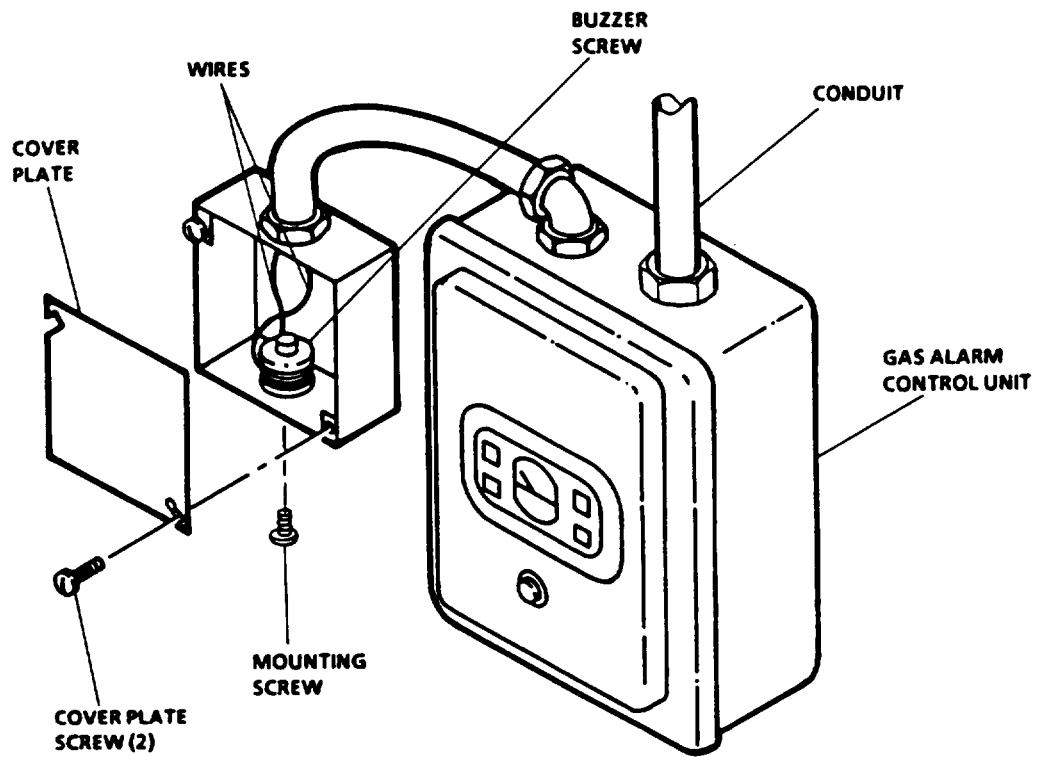


Figure 4-21. Gas Alarm Buzzer

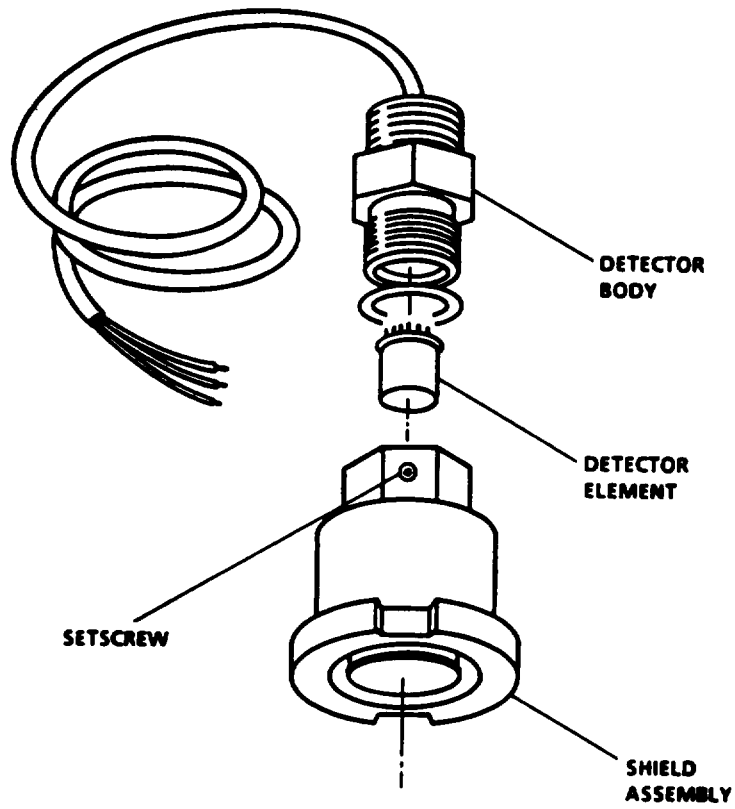


Figure 4-22 Gas Alarm Detector Element

4-28. REMOVE/INSTALL GAS ALARM SYSTEM -continued.**INSTALLATION**

1. Install gas alarm control unit. See figure 4-20.
 - a. Place new gas alarm unit onto conduit located on the curbside wall above first aid kit and install with four mounting screws.
 - b. Connect gas alarm and conduit with conduit locking nut.
 - c. Connect flexible conduit from buzzer with conduit locking nut.
 - d. Connect terminal wires and tighten terminal screws. Remove tags.
 - e. Install circuit board.
 - f. Swing panel in and secure with one captive screw.
 - g. Close door cover. Tighten captive screw and door latch
2. Install gas alarm buzzer See figure 4-21.
 - a. Place new buzzer on the mount located on curbside wall above first aid kit. Secure with one mounting screw.
 - b. Connect two wires to tapped connection on buzzer. Remove tags.
 - c. Align cover plate mounting holes with cover plate screws and install cover.
 - e. For calibration procedure, refer to TM 10-6665-297- 13&P.
3. Install gas alarm detector element. See figure 4-22.
 - a. Plug new detector element into detector body.
 - b. Install shield assembly over detector element.
 - c. Tighten setscrew on shield assembly.
 - d. For calibration procedure, refer to TM 10-6665-297- 13&P.

TEST

- a. Connect power inlet cable to Airmobile Laboratory. Turn on electrical power.
- b. Depress the alarm warning test pushbutton located on the gas alarm panel.
- c. Depress the alarm reset pushbutton located on the gas alarm cover.

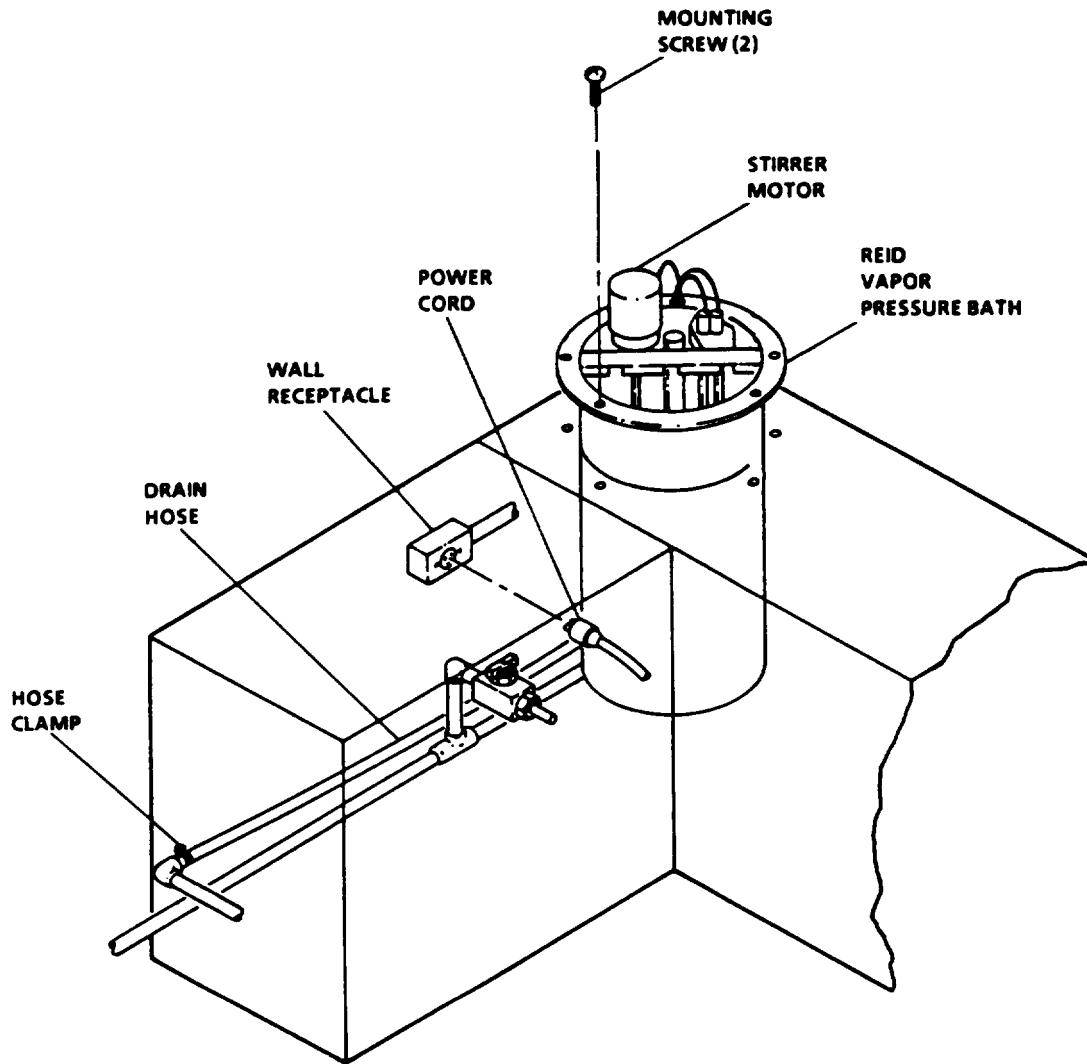


Figure 4-23. Reid Vapor Pressure

4-29. REMOVE/INSTALL REID VAPOR PRESSURE BATH - continued.

- b. Carefully maneuver RVP bath into RVP bath mounting opening in countertop.
- c. Install two mounting screws and washers.
- d. Open screen door to left of cabinet No. 8 and connect RVP bath drain hose.
- e. Open screen door to right of cabinet No. 8 and plug in power cord to wall receptacle. Verify proper operations.
- f. Install ECU damper assembly (paragraph 4-17).

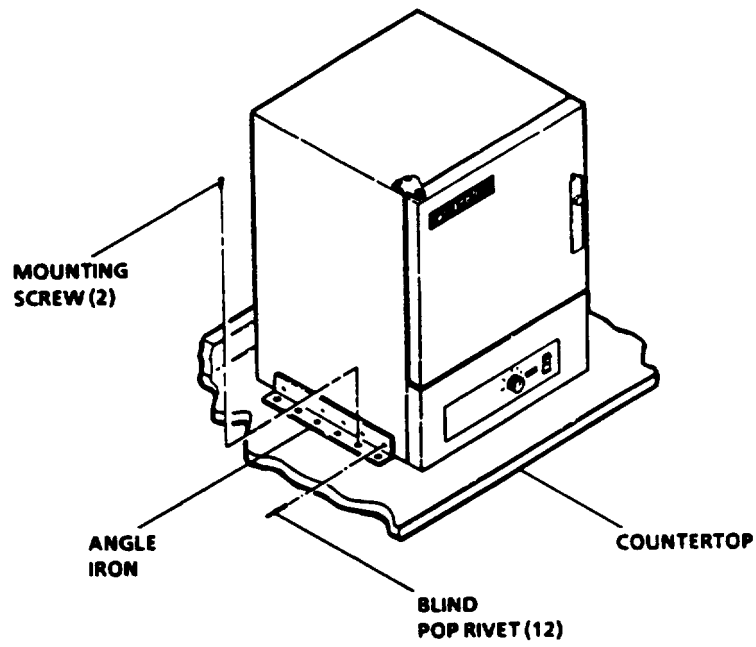


Figure 4-24. Laboratory Oven

4-31. REMOVE/INSTALL ICE MAKER - continued.

- b. Wedge counter top up at cabinets 6 & 7. Insert tygon tubing in drain hole in the floor of the laboratory. Slide ice maker in between cabinets No. 6 & 7 while feeding water supply line and power cord into cabinet No. 6.
- c. Secure ice maker to laboratory floor with two mounting screws.
- d. Connect the water input hose (7/8 inch rubber tubing) and hose clamp to water line piping inside cabinet No. 6.
- e. Tighten hose clamp.
- f. Secure countertop to cabinets No. 6 & 7 using four mounting screws. Install drawers 6 and 7.
- g. Start the water pump and check for leaks.
- h. Place the grill panel into the front panel.
- i. Install two panel screws.
- j. Plug in the ice maker power cord and verify proper operation.

NOTE

For Maintenance on the ice maker, refer to TM 10-6640-226-13&P.

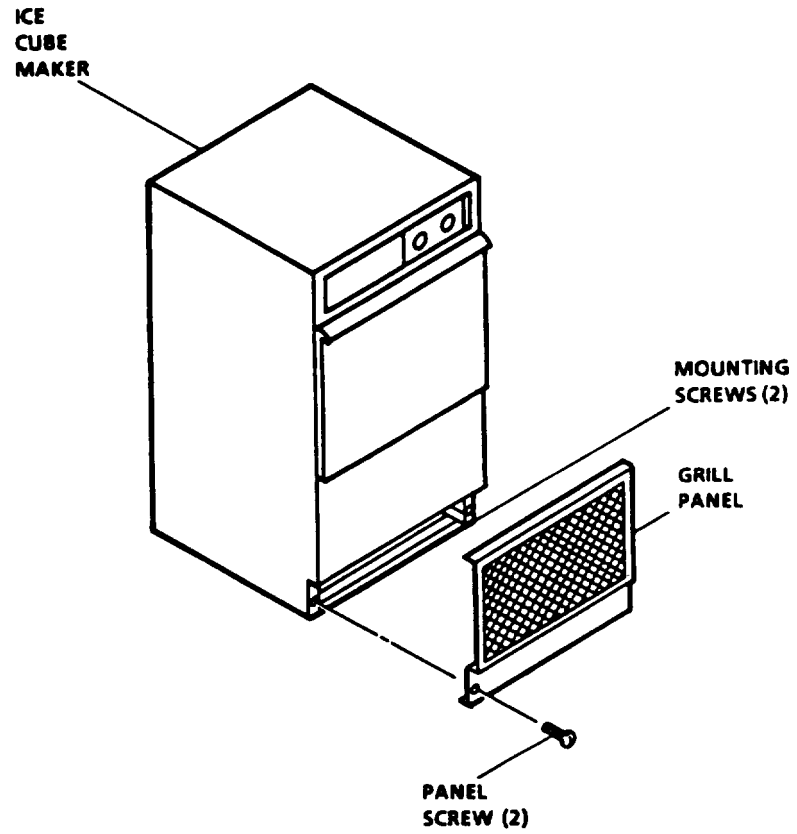


Figure 4-25. Ice Maker

4-32. REMOVE/INSTALL REFRIGERATOR - continued.

- e. Tighten the hose clamp.
- f. Install twelve mounting screws, attaching refrigerator to the countertop.
- g. Plug in the refrigerator power cord and verify proper operations.

NOTE

For maintenance on the refrigerator, refer to TM 10-6640-219-13&P.

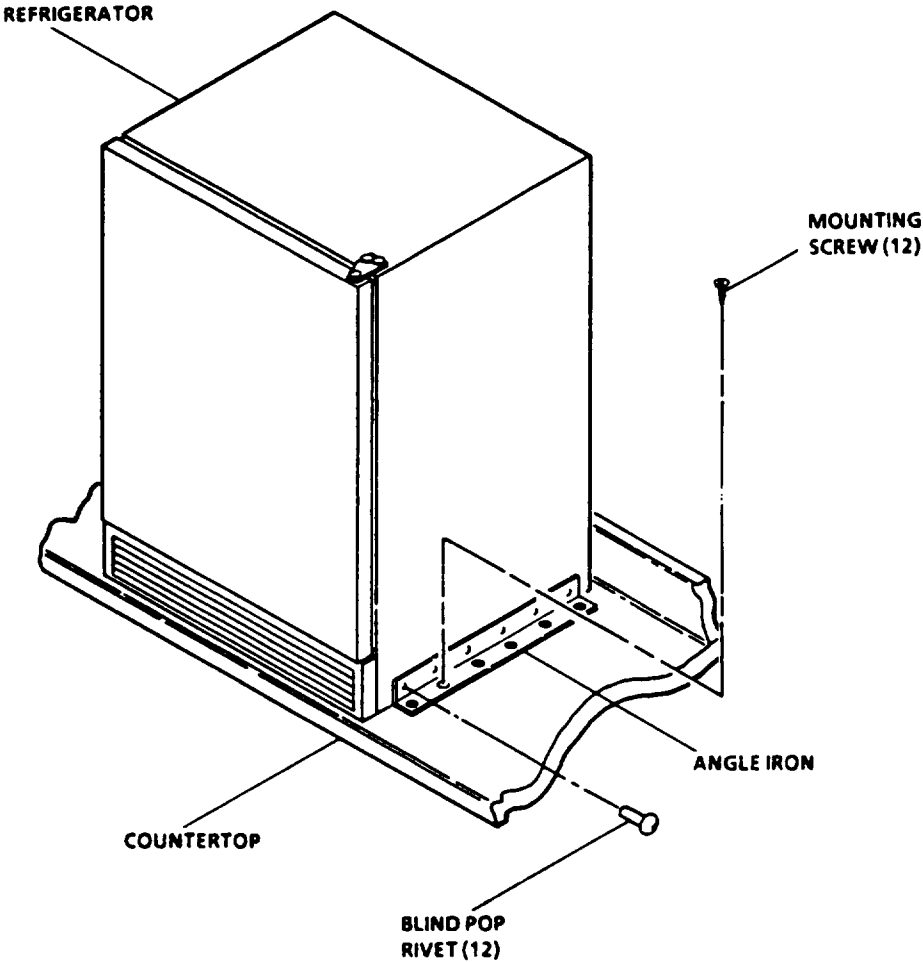


Figure 4-26. Refrigerator

4-33. REPAIR DISTILLATION UNIT - continued.

- g. Remove condenser assembly and attached angle iron to a working surface.
- h. Drill out twelve blind pop rivets from the condenser assembly angle iron.
- i. Remove angle iron from defective condenser assembly.

INSTALLATION

1. Install condenser assembly. See figure 4-27.
 - a. Place angle iron onto the new condenser assembly and drill twelve holes.
 - b. Rivet twelve .125 in. diameter blind pop rivets, six on each side connecting angle iron, to the assembly.
 - c. Place the condenser assembly and attached angle iron on countertop above storage cabinets No. 1A and 2 and connect drain line.
 - d. Install fourteen condenser assembly mounting screws, seven on each side of the unit, attaching assembly to the countertop.
 - e. Install the shield assembly.
2. Install shield assembly. See figure 4-27.
 - a. Place angle iron onto the new shield assembly and drill ten holes.
 - b. Rivet ten .125 in. diameter blind pop rivets, five on each side connecting angle iron, to the assembly.
 - c. Place the shield assembly unit and attached angle iron on countertop above storage cabinets NO. 1A and 2.
 - d. Plug the shield assembly into the condense assembly receptacle.
 - e. Carefully lift the assembly and connect it to the condenser assembly.
 - f. Install ten mounting screws, five on each side of the unit, attaching assembly to the countertop
 - g. Plug in the condenser power cord and verify proper operations.

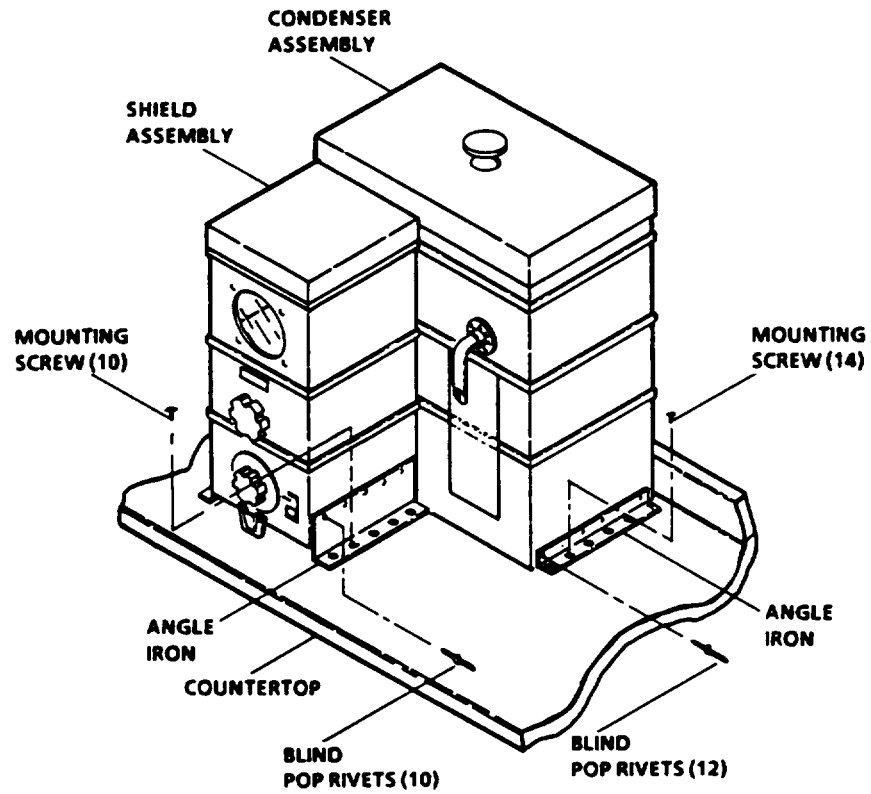


Figure 4-27. Distillation Unit

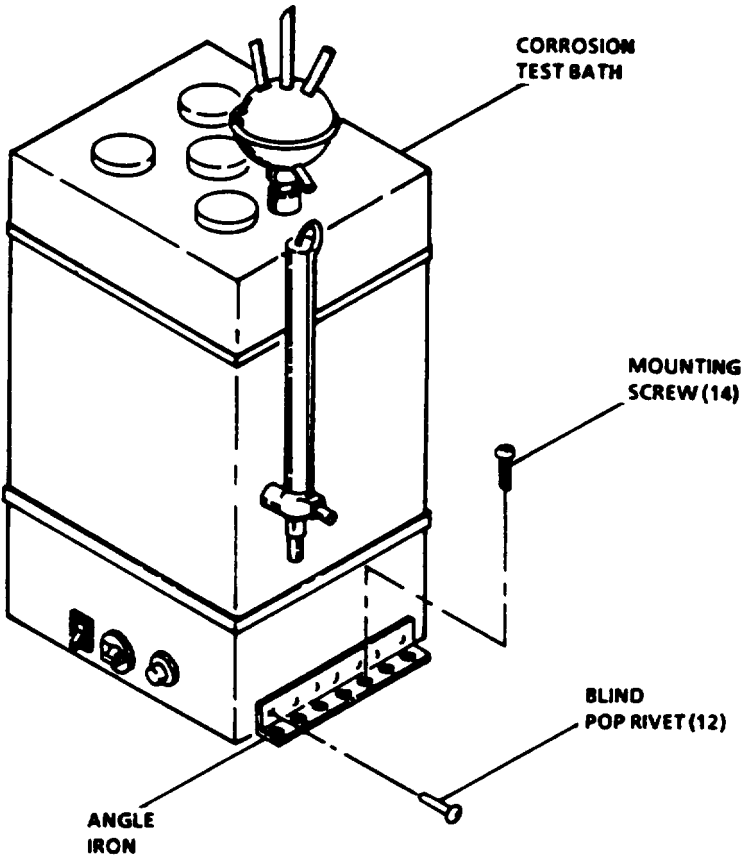


Figure 4-28. Corrosion Test Bath

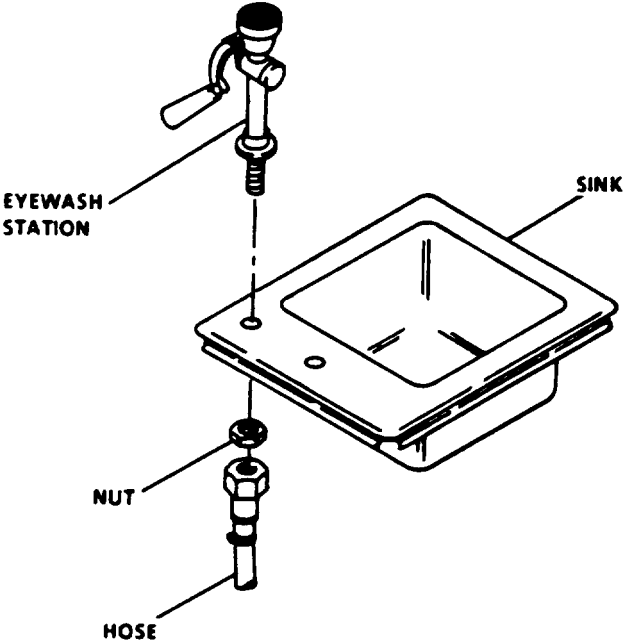


Figure 4-29. Eyewash Station

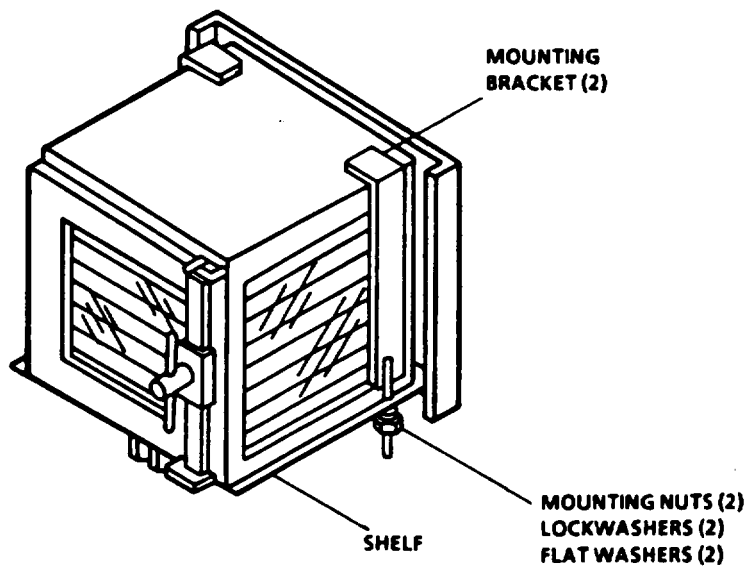


Figure 4-30. Desiccating Cabinet

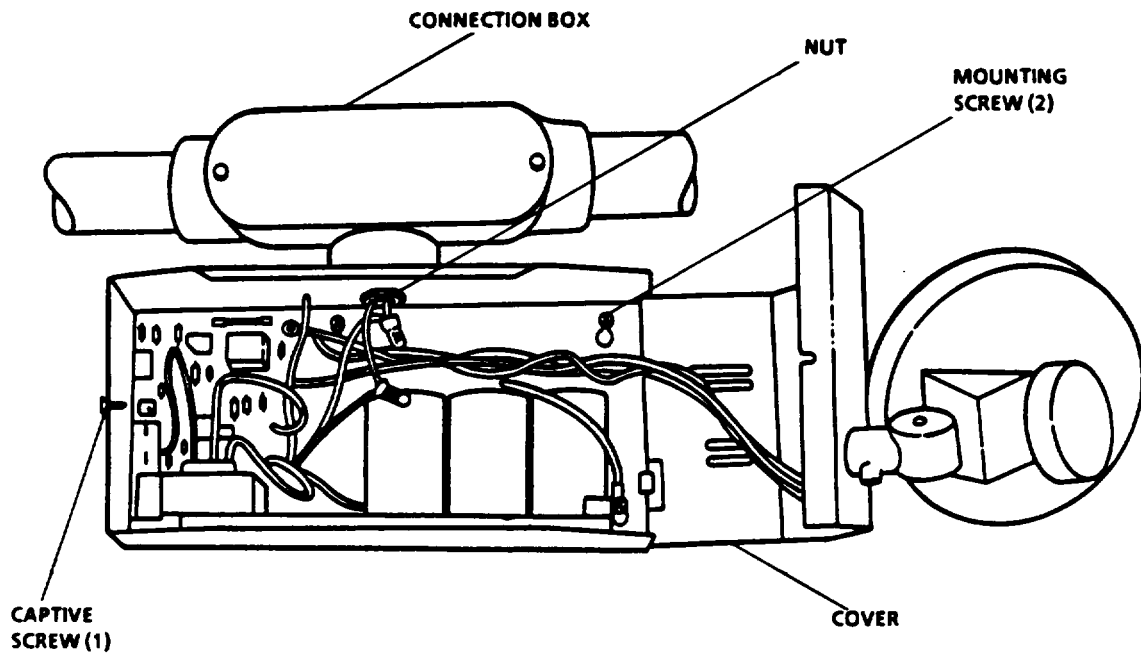


Figure 4-31. Emergency Light Fixture

CHAPTER 5
DIRECT SUPPORT MAINTENANCE

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

Alphabetical Index

| Paragraph Title | Paragraph |
|---|------------------|
| Common Tools and Equipment | 5-1 |
| Repair Parts | 5-3 |
| Special Tools; Test, Measurement, and Diagnostic Equipment; and Support Equipment . . | 5-2 |

5-1. COMMON TOOLS AND EQUIPMENT.

Appendix B, Section III contains the authorized common tools. For authorized equipment, refer to Modified Table of Organization and Equipment (MTOE) applicable to your unit.

5-2. SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT; AND SUPPORT EQUIPMENT.

No special tools; test, measurement, and diagnostic equipment; or support equipment are required for the repair of the Airmobile Laboratory at the direct support level of maintenance.

5-3. REPAIR PARTS.

Repair parts for the Airmobile Laboratory are listed and illustrated in Appendix F, Repair Parts and Special Tools List (RPSTL), covering operator, unit, and direct support maintenance of the Airmobile Laboratory.

Section II. MAINTENANCE PROCEDURES

Alphabetical Index

| Paragraph Title | Paragraph |
|------------------------|------------------|
| Introduction | 5-4 |

5-4. INTRODUCTION.

This section contains instructions covering maintenance functions for direct support maintenance on the Airmobile Laboratory. Personnel required are listed only if the task requires more than one.

After completing each maintenance procedure, perform operational check to be sure that equipment is properly functioning.

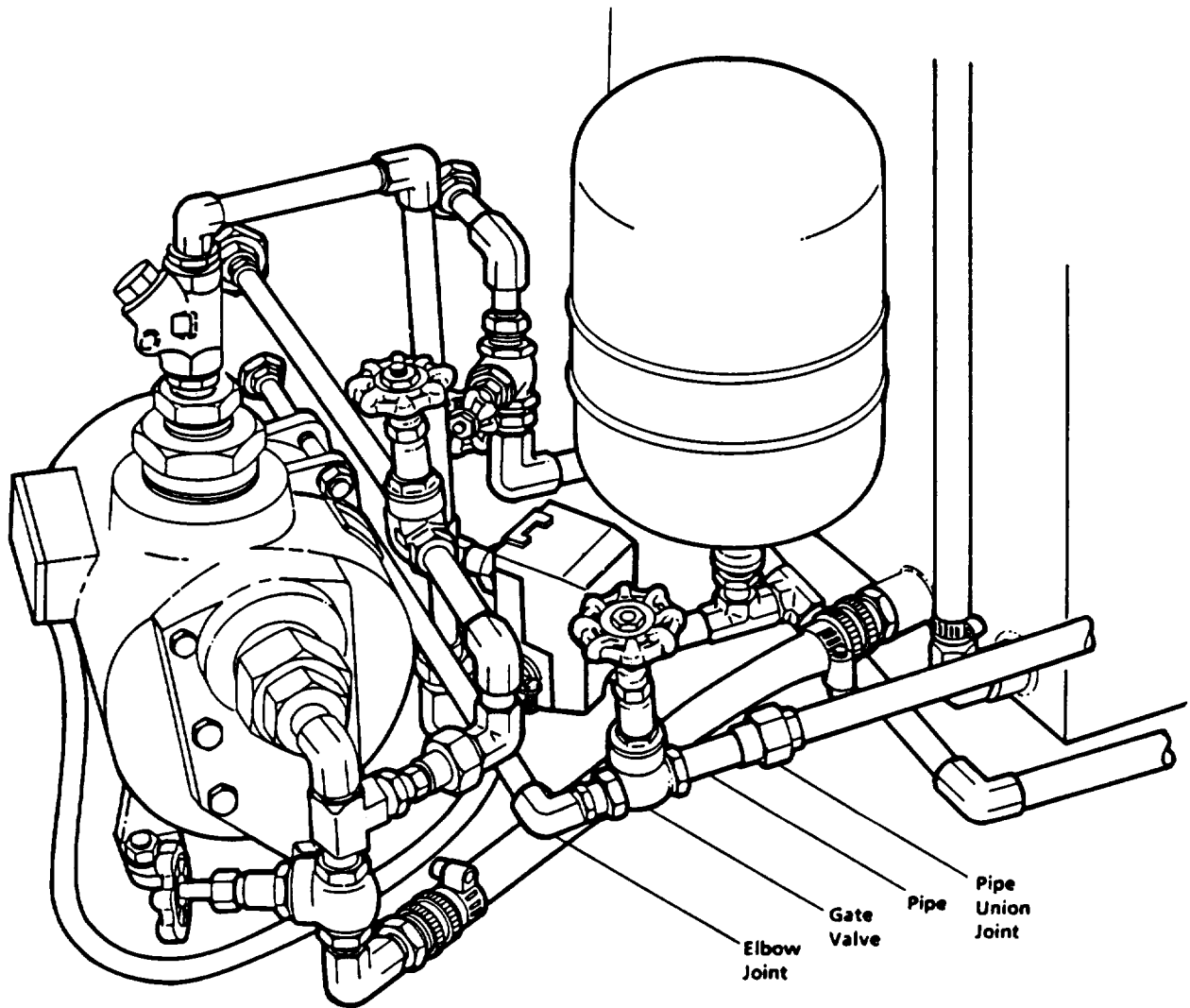


Figure 5-1. Gate Valve

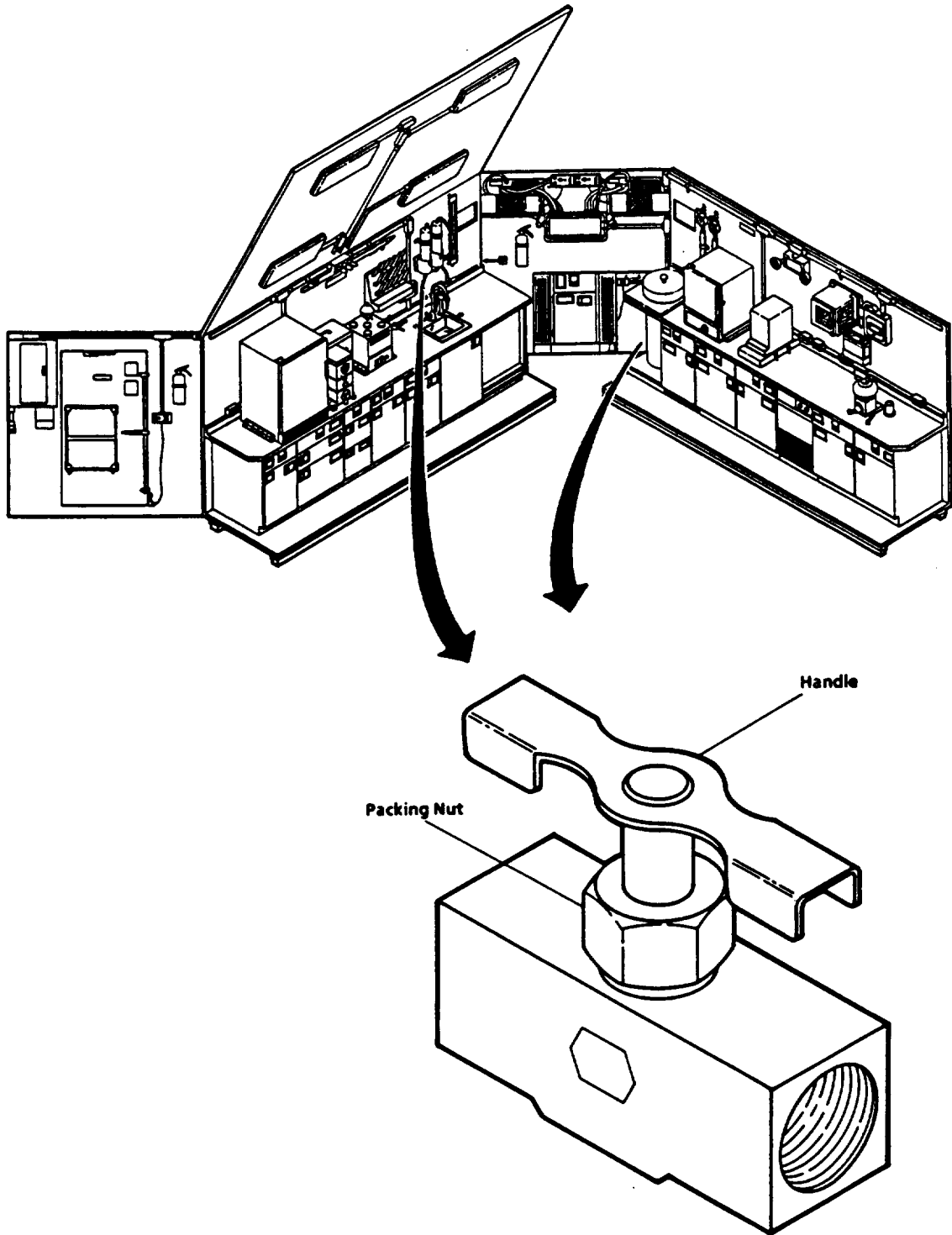


Figure 5-2. Needle Valve

5-6. REMOVE/INSTALL NEEDLE VALVE - Continued.

INSTALLATION

1. Install Needle Valve. (Figure 5-2).
 - a. Remove packing nut and handle from new needle valve.
 - b. Apply teflon tape, to all male fittings. Be sure to wrap teflon tape in same direction of pipe thread.
 - c. Install the reducer and hose barb on needle valve.
 - d. Install new needle valve on pipe.
 - e. Install packing nut and handle on needle valve.
 - f. Connect filter plastic tubing to the reducer.
 - g. Check needle valve for proper operation.
 - h. Close water faucet.
 - i. Close circuit breaker CB16 located in the panelboard assemble.
 - j. Turn the WATER PUMP switch to the ON position.
 - k. Check for leaks and verify proper operations. (Refer to operating procedures contained in paragraph 2-12. b.)

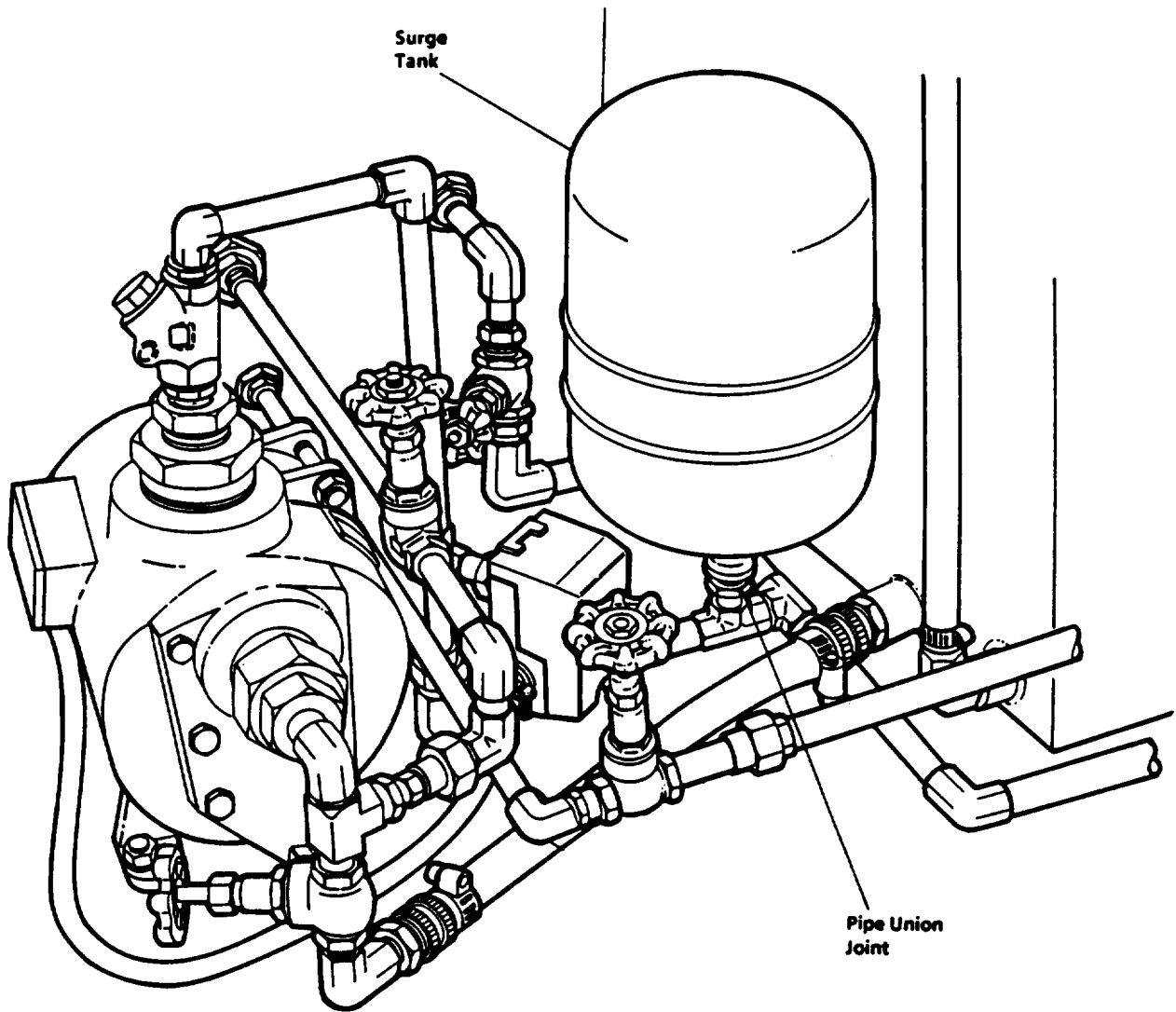


Figure 5-3. Surge Tank

5-7. REMOVE/INSTALL SURGE TANK - Continued.

INSTALLATION

Install Surge Tank. (Figure 5-3).

- a. Apply teflon tape to male fittings. Be sure to wrap teflon tape in same direction of pipe thread.
- b. Install pipe and union fitting to surge tank.
- c. Position surge tank into storage cabinet and connect union joint.
- d. Tighten union joint.
- e. The surge tank must have 20 psi before operation.
- f. Close water faucet.
- g. Close circuit breaker CB16 located in the panelboard assemble.
- h. Turn the WATER PUMP switch to the ON position.
- i. Check for leaks and verify proper operations. (Refer to operating procedures contained in paragraph 2- 12.b.)

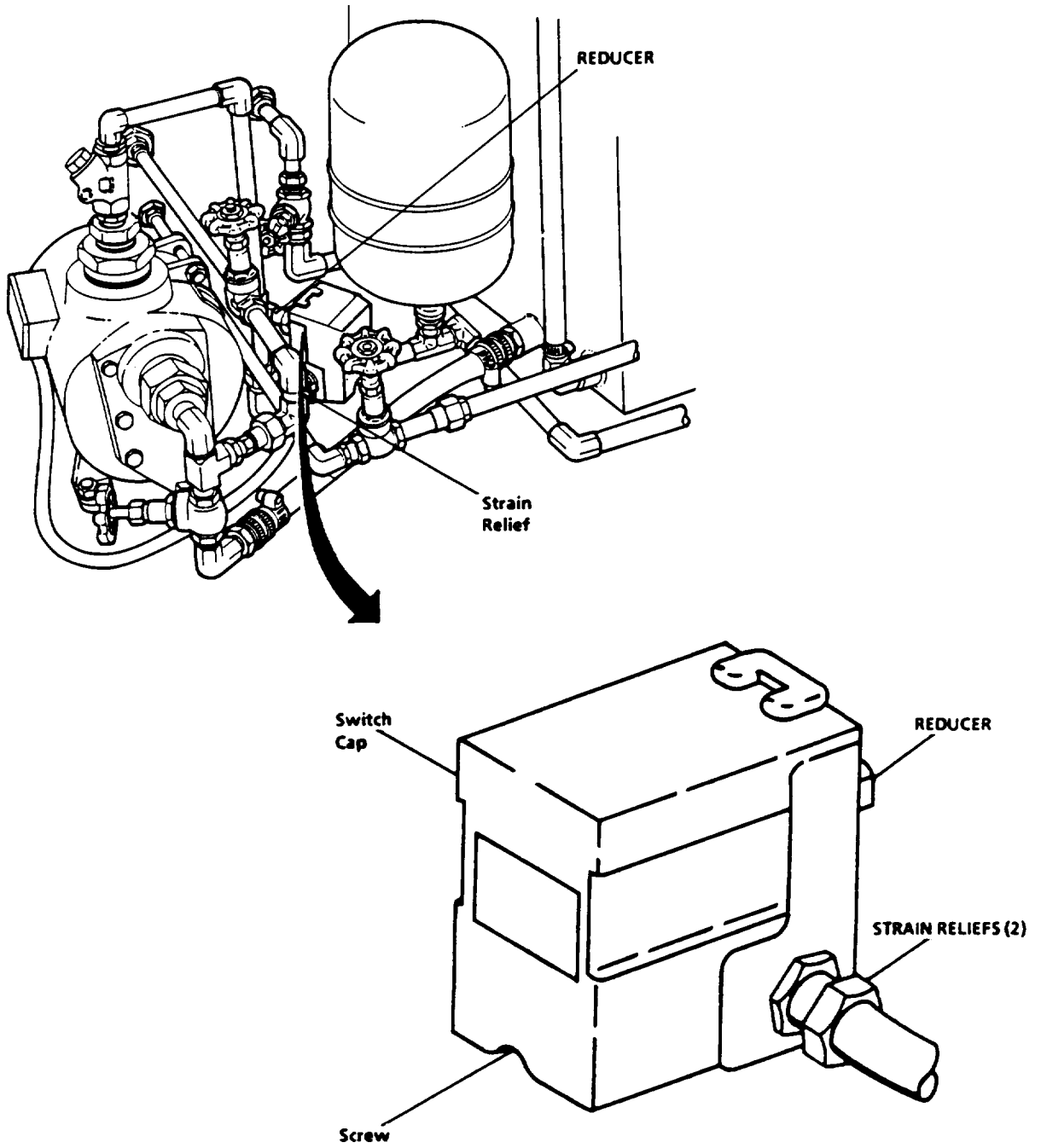


Figure 5-4. Water Pressure Switch

5-8. REMOVE/INSTALL WATER PRESSURE SWITCH - continued.

INSTALLATION

Install Water Pressure Switch. (Figure 5-4).

- a. Be sure water pressure range adjustable screw is set to 20 PSI.
- b. Be sure water differential adjustment screw is set to 33.
- c. Apply teflon tape to male fittings. Be sure to wrap teflon tape in same direction of pipe thread.
- d. Hold the reducer and install the new pressure switch by rotating the switch.
- e. Position electric leads to switch and install lock nuts on the two (2) strain reliefs.
- f. Connect five (5) wires to switch terminal.
- g. Snap on the pressure switch cap.
- h. Place activation lever in the AUTO position.
- i. Close water faucet.
- j. Close circuit breaker CB16 located in the panelxmrd assemble.
- k. Turn the WATER PUMP switch to the ON position.
- l. Check for leaks and verify proper operations. (Refer to operating procedures contained in paragraph 2-12. b.)

ADJUSTMENT

Adjust Water Pressure Switch. (Figure 5-4).

- a. Snap off switch cap.
- b. Install test gage in water system, turn water system on to pressurize system, pump should cut off at 20 psi and cut on at 10 psi.
- c. Adjust the water differential adjustment screws to required setting by turning clockwise to increase and counterclockwise to decrease pressure. Refer to information on switch cap for additional information.
- d. Install pressure switch cap.
- e. Remove test gage.

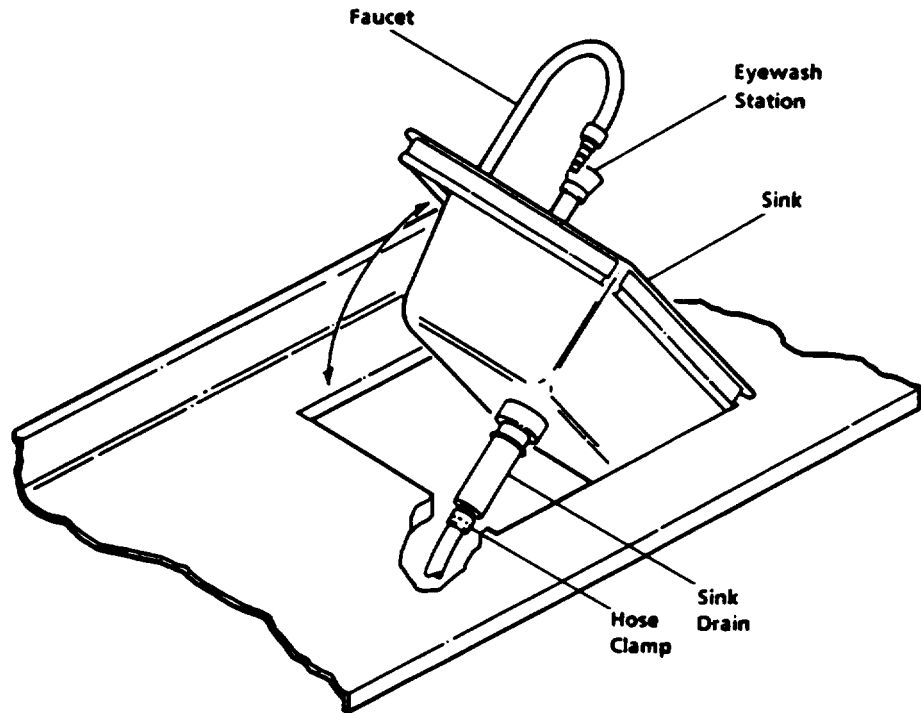


Figure 5-5. Sink

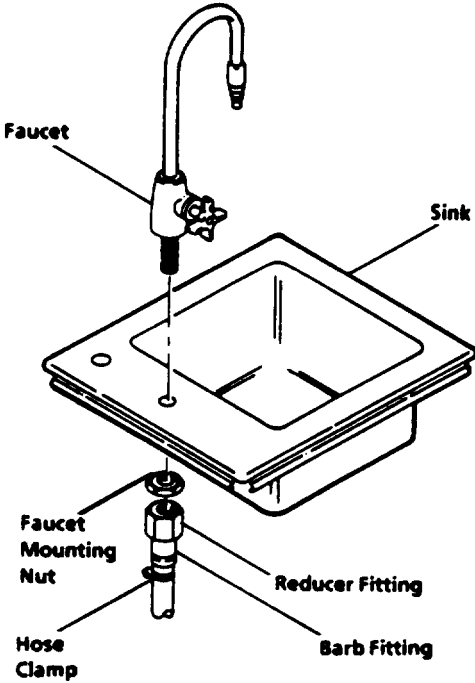


Figure 5-6. Faucet Assembly

5-10. REMOVE/INSTALL FAUCET ASSEMBLY - continued.

- b. Install the faucet mounting nut, lockwasher and gasket.
- c. Apply teflon tape to male fitting. Be sure to wrap teflon tape in same direction of pipe thread.
- d. Install hose onto reducer fitting.
- e. Snap sink back into cabinet.

5-11. REMOVE/INSTALL WATER PUMP AND MOTOR - continued.**WARNING**

Serious injury to personnel or damage to equipment may occur unless two or more personnel are used to remove water pump and motor because of weight of water pump and motor.

- i. Remove the water pump and motor to a working surface.
- j. Remove water pump suction and discharge fittings.
- k. Remove teflon tape from pipe and fittings.

INSTALLATION

Install Water Pump and Motor (Figure 5-7).

- a. Place water pump on working surface.
- b. Apply teflon tape to all male fittings. Be sure to wrap teflon tape in same direction of pipe thread.
- c. Install water pump suction and discharge fittings.

WARNING

Serious injury to personnel or damage to equipment may occur unless two or more personnel are used to install water pump and motor because of weight of water pump and motor.

- d. Install new water pump and motor into storage cabinet 4.
- e. Mount water pump with four flat washers, lockwashers, and mounting nuts.
- f. Connect reducer fittings on discharge line from pump.
- g. Connect union on suction line from utility box.
- h. Connect suction hose to pump.
- i. Connect pump electrically to pressure switch and remove tags.

APPENDIX A
REFERENCES

A-1. SCOPE

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

A-2. FORMS

| | |
|---|--------------------------------|
| Recommended Changes to Publications and Blank Forms. | DA Form 2028 DA Form 2028-2 |
| Quality Deficiency Report | SF 368 |
| Equipment Inspection and Maintenance Work Sheet | DA Form 2404 |
| Hand Receipts | DA Form 2062 |

A-3. FIELD MANUALS.

| | |
|---|--------------|
| Petroleum Testing Facilities: Laboratories and Kits | FM 10-72 |
| Inspecting and Testing Petroleum Products | FM 10-70 |
| ASTM Test.Method Supplement to. | FM10-92C1/C2 |

A-4. TECHNICAL MANUALS.

| | |
|---|---------------------|
| Operator's Organizational, Direct Support and General Support Maintenance Manual; Air Conditioner Horizontal, Compact, 9,000 BTU/HR, 208 Volt Single Phase 50/60 Hz | TM 5-4120-386-14 |
| Fuel Sampling and Gaging Kit.... | TM 5-6630-216-12 |
| Operator's Unit, Direct Support and General Support Maintenance Manual Procedure For Shelters, Electrical Equipment | TM 10-5411-207-14 |
| Destruction of Material to Prevent Enemy Use | TM 750-244-3 |
| Significance of ASTM Test for Petroleum Products. | TM 10-1165 |
| Vacuum Pump (Millipore) | TM 10-6640-217-13&P |
| Gas Alarm & Calibration Data..... | TM 10-6665-297-13&P |
| General Purpose Ovens | TM 10-6640-218-13&P |
| Explosion Proof Refrigerator | TM 10-6640-219-13&P |
| Gas-Oil Distilling Test Equipment.. . . . | TM 10-6630-219-13&P |
| Cooper Strip Corrosion Bomb Bath.. . . . | TM 10-6640-220-13&P |
| Aqua Glo Water Detector | TM 10-6640-221-13&P |
| Mini-Monitor Fuel Sampling Kit.. . . . | TM 10-6630-230-13&P |
| Elect Pensky-Martens Tester | TM 10-6630-231-13&P |
| Pensky-Martens Flash Testers.. . . . | TM 10-6630-232-13&P |
| Heater Instructions and Parts Manual | TM 10-6640-223-13&P |

A-4. TECHNICAL MANUALS --continued.

| | |
|---|----------------------|
| Differential Pressure Gages | TM10-6685-364-13&P |
| Distillation Apparatus | TM10-6630-233-13&P |
| Instrument Vibration Mount | TM10-6670-276-13&P |
| Slo-Speed Stirrer | TM10-6640-224-13&P |
| OM39FilterHolder | TM10-6640-225-13&P |
| Analytic Balance | TM10-6670-277-13&P |
| Cartridge Resins | TM10-4610-236-13&P |
| Reid VaporPressure Bath..... | TM 10-6640-226-1 3&P |
| CSWICuber(Scottsman) | TM 10-6640-227- 13&P |
| Teel Self-PrimingCentrifugal Water Pump | TM10-6640-217-13&P |

A-5. MISCELLANEOUS PUBLICATIONS.

| | |
|---|---|
| The Army Maintenance Management System (TAMMS) | DA Pam 738-750 |
| The Army Integrated Publishing and Printing Program. | AR 25-30 |
| Laboratory, Airmobile, Aviation Fuel. | MIL-L-52733A(ME) |
| Apparatus, Instruments, Chemicals, Furniture, and Supplies for Industrial, Clinical, College, and Government Laboratories | Fischer Scientific Laboratories Catalog |
| Petroleum-Petrochemical Testing Equipment | Precision Scientific Catalog |

APPENDIX B MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. GENERAL.

- a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.
- b. The Maintenance Allocation Chart (MAC) in Section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.
- c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.
- d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS.

Maintenance functions will be limited to and defined as follows:

- a. Inspect. To determine the serviceability of an item by comparing its physical mechanical, red/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).
- b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.
- c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.
- d. Adjust. To maintain Or regulate, within prescribed limits, by bringing into proper Or exact position, or by setting the operating characteristics to specified parameters.
- e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.
- f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

B-2. MAINTENANCE FUNCTIONS - continued.

- g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
- h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the third position code of the SMR code.
- i. Repair. The application Of maintenance services¹ including fault location/troubleshooting², removal/installation, and disassembly/assembly³s procedures, and maintenance actions⁴ 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.
- i. 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 (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.
- k. Rebuild. Consists of those services actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC - SECTION II.

- a. Column 1. Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group numbers shall be "00".
- b. Column 2. Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.
- c. Column 3. Maintenance Function. Column 3 lists the functions to be performed on the item listed in Column 2. (For a detailed explanation of these functions, see paragraph B-2).

1 Services - inspect, test, service, adjust, aline calibrate, and/or replace.

2 Fault locate/troubleshoot - 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).

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

4 Actions - welding, grinding, riveting, straightening, facing, remachinery, and/or resurfacing.

B-3. EXPLANATION OF COLUMNS IN THE MAC - SECTION II - continued.

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

- C Operator or *crew*
- O. Unit Maintenance
- F Direct Support Maintenance
- H General Support Maintenance
- D Depot Maintenance

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

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

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

- a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.
- b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tool or test equipment.
- c. Column 3, Nomenclature. Name or identification of the tool or test equipment.
- d. Column 4, National Stock Number. The national stock number of the tool or test equipment.
- e. Column 5, Tool Number. The manufacturer's part number.

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

- a. Column 1, Reference Code. The code recorded in the MAC, Section II, column 6.
- b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL | | | | | (5) TOOLS & EQUIP. | (6) RE- MARKS |
|------------------------|---------------------------------------|--------------------------------|--------------------------|-------------------|----|----|-------|--------------------------|---------------------|
| | | | UNIT | | DS | GS | DEPOT | | |
| | | | C | O | F | H | D | | |
| 00 | Airmobile Aviation Fuel Laboratory | | | | | | | | |
| 01 | Shelter Assembly | | | | | | | A | |
| | Power Entry Panel | Inspect Replace | 0.1 | 2.0 | | | | 1, 2 | |
| | Door Access Water Reservoir | Inspect Repair Replace | 0.3 | 1.0 2.0 | | | | 1, 2 1, 2 | |
| | Door Utilities | Inspect Repair Replace | 0.1 | 1.0 2.5 | | | | 1, 2, 3, 2, 3 | |
| | Utilities Box | Inspect Repair Replace | 0.1 | 1.0 1.0 | | | | | |
| 02 | Electrical System Assembly | | | | | | | | |
| | Power Cable | Inspect Test Replace | 0.1 | 0.2 0.1 | | | | 2 | |
| | Fluorescent Light Fixture | Inspect Repair | 0.1 0.2 | 0.2 | | | | 1 1 | |
| | Emergency Light | Inspect Test Replace | 0.1 0.1 | 0.3 | | | | 1 | |
| | Panelboard | Inspect Test Repair | 0.1 | 0.4 1.0 | | | | 1 | |
| | Wall Switches | Test Replace | | 0.1 0.5 | | | | 2 1 | |
| | Blackout Microswitch | Test Adjust Replace | | 0.1 0.1 0.3 | | | | 2 1 1 | |

Section II. MAINTENANCE ALLOCATION CHART - continued

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL | | | | | (5) TOOLS & EQUIP. | (6) RE- MARKS | |
|-----------------------------|--|--------------------------------|--------------------------|-----|-----|----|-------|--------------------------|---------------------|---------|
| | | | UNIT | | DS | GS | DEPOT | | | |
| | | | C | O | F | H | D | | | |
| 03 | Receptacles | Test | | 0.1 | | | | 2 | A | |
| | | Replace | | 0.3 | | | | 1 | | |
| | Explosive Proof Distribution Box | Inspect | | 0.2 | | | | | | |
| | | Repair | | 2.0 | | | | | | |
| 04 | Environmental Control Unit 9,000 BTU | Inspect | | 0.2 | | | | | | |
| | | Replace | | 1.5 | | | | 1 | | |
| 05 | A/C Remote Control | Inspect | | 0.1 | | | | | | |
| | | Replace | | 0.7 | | | | 1 | | |
| | Purge System | Blower Exhaust Door | Inspect | 0.1 | | | | | | |
| | | | Repair | | 1.0 | | | | | 1, 2, 3 |
| | | | Replace | | 1.0 | | | | 1, 2, 3 | |
| | Purge Port Doors | Exhaust Blower | Inspect | 0.1 | | | | | | |
| | | | Replace | | 0.5 | | | | | |
| | | | Inspect | 0.4 | | | | | | |
| | Purge Port Door Limit Switches | Service Repair Replace | Service | 0.2 | | | | | | |
| | | | Repair | | 0.6 | | | | 1, 2, 3 | |
| | | | Replace | | 0.6 | | | | 1, 2, 3 | |
| | | | Test | | 0.1 | | | | | |
| Purge Port Damper Motors | Replace | Replace | 0.2 | | | | | | | |
| | | Replace | | 1.0 | | | | 1, 2 | | |
| | | Inspect | 0.1 | | | | | | | |
| | | Service | 0.2 | | | | | | | |
| 05 | ECU Intake Damper Doors | Inspect | 0.2 | | | | | | | |
| | | Service | | 1.0 | | | | 1, 2 | | |
| | ECU Intake Damper Motors | Service | | 1.0 | | | | 1 | | |
| | | Replace | | 1.0 | | | | | | |
| 05 | Vacuum-Air Pressure System | Inspect Replace | Inspect | 0.1 | | | | | | |
| | | | Replace | 0.5 | | | | | | |
| | Air Surge Tank | Inspect | | 0.1 | | | | | | |
| | | Replace | | 0.6 | | | | 1 | | |
| Stopcock Assembly | Inspect | 0.1 | | | | | 1 | | | |
| | Replace | 0.2 | | | | | | | | |

Section II. MAINTENANCE ALLOCATION CHART - continued

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL | | | | | (5) TOOLS & EQUIP. | (6) RE- MARKS |
|------------------------|------------------------------------|--------------------------------|--------------------------|-----|-----|------|---------|--------------------------|---------------------|
| | | | UNIT | | DS | GS | DEPOT | | |
| | | | C | O | F | H | D | | |
| 06 | Air Pressure Regulator | Inspect | 0.1 | | | | | 1, 2 | B |
| | | Replace | 0.2 | | | | | | |
| | Water System | Inspect | | | | | | 1, 2 | A |
| | | Replace | | | 0.1 | | | | |
| | Gate Valve | Inspect | | | 0.1 | | | 1, 2 | |
| | | Replace | | | 0.2 | | | | |
| | Needle Valve | Inspect | | | 0.1 | | | 1, 2 | |
| | | Replace | | | 0.2 | | | | |
| | Surge Tank | Inspect | | | 0.1 | | | 1, 2 | |
| | | Replace | | | 0.2 | | | | |
| Water Pressure Switch | Inspect | | | 0.1 | | | 4 | | |
| | Test | | | 0.2 | | | | | |
| | Adjust | | | 0.2 | | | | | |
| | Replace | | | 0.3 | | 1, 2 | | | |
| Water Sink | Inspect | | | 0.1 | | | 1 | | |
| | Replace | | | 0.5 | | | | | |
| Faucet Assembly | Inspect | | | 0.1 | | | 1, 2 | | |
| | Replace | | | 0.3 | | | | | |
| Water Pump | Inspect | | | 0.1 | | | 1, 2 | | |
| | Replace | | | 1.0 | | | | | |
| 07 | Gas Alarm System | Test | | 0.1 | | | 1 | A | |
| | | Repair | | 0.6 | | | | | |
| | Gas Alarm | Replace | | 1.0 | | | 1 | | |
| 08 | Storage Cabinets and Related Parts | Service | 0.3 | | | | 1, 2, 3 | | |
| | | Repair | 0.5 | | | | | | |
| 09 | Reid Vapor Pressure Bath | Inspect | 0.2 | | | | 1 | A | |
| | | Replace | | 0.6 | | | | | |
| 10 | Laboratory Oven | Inspect | 0.2 | | | | 1 | A | |
| | | Replace | | 0.8 | | | | | |
| 11 | Flash Point Tester | Inspect | 0.1 | | | | 1 | A | |
| | | Repair | 0.4 | | | | | | |
| | | Replace | 0.2 | | | | | | |

Section II. MAINTENANCE ALLOCATION CHART - continued

| (1) GROUP NUMBER | (2) COMPONENT/ ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL | | | | | (5) TOOLS & EQUIP. | (6) RE- MARKS |
|------------------------|------------------------------------|--------------------------------|--------------------------|-----|----|----|-------|--------------------------|---------------------|
| | | | UNIT | | DS | GS | DEPOT | | |
| | | | C | O | F | H | D | | |
| 12 | Ice Maker | Inspect | 0.1 | | | | | 1 | A |
| | | Replace | | 1.0 | | | | | |
| 13 | Refrigerator | Inspect | 0.1 | | | | | 1, 2, 3 | A |
| | | Replace | | 0.8 | | | | | |
| 14 | Distillation Unit | Inspect | 0.1 | | | | | 1, 2, 3 | A |
| | | Replace | | 1.2 | | | | | |
| 15 | Corrosion Test Bath | Inspect | 0.1 | | | | | 1, 2, 3 | A |
| | | Replace | | 0.6 | | | | | |
| 16 | Balance | Inspect | 0.1 | | | | | | A |
| | | Replace | 0.1 | | | | | | |
| 17 | Water Detector Kit | Inspect | 0.1 | | | | | | A |
| | | Replace | 0.1 | | | | | | |
| 18 | Fuel Sampling Kit | Inspect | 0.1 | | | | | | A |
| | | Replace | 0.1 | | | | | | |
| 19 | Fuel System Icing Inhibitor Kit | Inspect | 0.1 | | | | | | A |
| | | Replace | 0.1 | | | | | | |
| | | Calibrate | 0.1 | | | | | | |
| 20 | Support Items | | | | | | | | |
| | First Aid kit | Inspect | 0.1 | | | | | | A |
| | | Replace | 0.1 | | | | | | |
| | Eyewash | Inspect | 0.1 | | | | | 1 | |
| | | Replace | | 0.5 | | | | | |
| | Manometer | Inspect | 0.1 | | | | | | |
| | | Service | 0.5 | | | | | | |
| | | Replace | 0.2 | | | | | | |
| | Desiccating Cabinet | Inspect | 0.1 | | | | | | |
| | | Replace | 0.4 | | | | | | |
| | Water Demineral- izer Cartridge | Replace | 0.2 | | | | | | |
| | Fire Extinguisher | Inspect | 0.1 | | | | | | |
| | | Replace | 0.1 | | | | | | |
| | Aneroid Barometer | Inspect | 0.1 | | | | | | |
| Replace | | 0.1 | | | | | | | |
| Overpack Box | Inspect | 0.1 | | | | | | | |
| | Replace | 0.3 | | | | | | | |

Section III. TOOLS AND TEST EQUIPMENT REQUIREMENTS

| (1) REFERENCE CODE | (2) MAINTENANCE CATEGORY | (3) NOMENCLATURE | (4) NATIONAL STOCK NUMBER (NSN) | (5) TOOL NUMBER |
|--------------------------|--------------------------------|--|---------------------------------------|--------------------------|
| 1 | C, O | General Mechanics Tool Kit | 5180-00-177-7033 | (50980)SC 5180-90-CL-N26 |
| 2 | C, O, F | Shop Equipment, Automotive Maintenance and Repair, Unit Maintenance Common #1 (Less Power) | 4910-00-754-0654 | (19204) SC4910-95-CL-A74 |
| 3 | O, F | Riveter, Blind | 5120-01-289-5310 | (10054) HP2 |
| 4 | O, F | Gage, Pressure, Air | 6685-01-257-5730 | |

Section IV. REMARKS

| REFERENCE CODE | REMARKS |
|----------------|--|
| A | Refer to this equipment's technical manual for testing, calibration, maintenance, repair and replacement parts authorized at the operator, unit, and direct support levels of maintenance. |

APPENDIX C

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

C-1. SCOPE.

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

C-2. GENERAL.

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

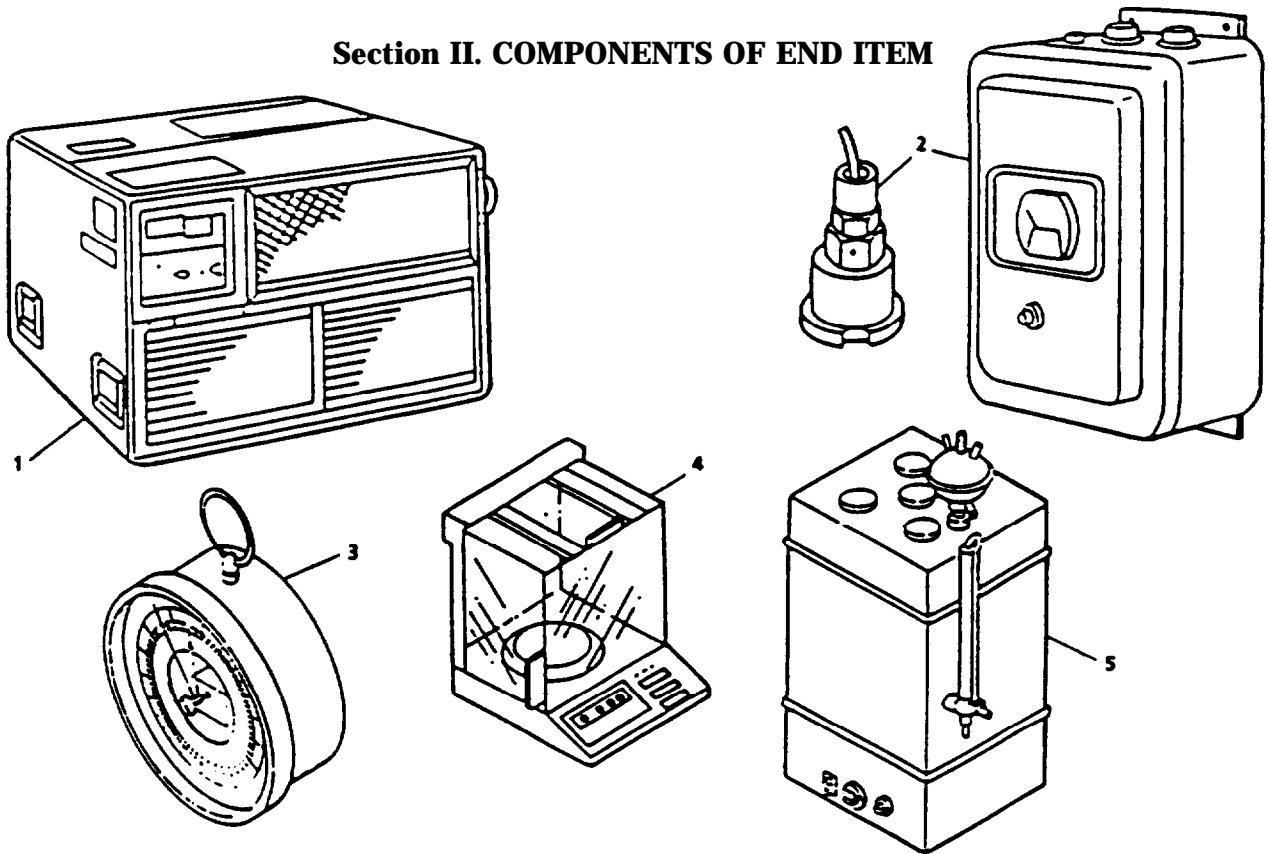
- a. Section II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.
- b. Section III. Basic Issue Items. These are the minimum essential items required to place the airmobile laboratory in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the Airmobile Laboratory during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item.

C-3. EXPLANATION OF COLUMNS.

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

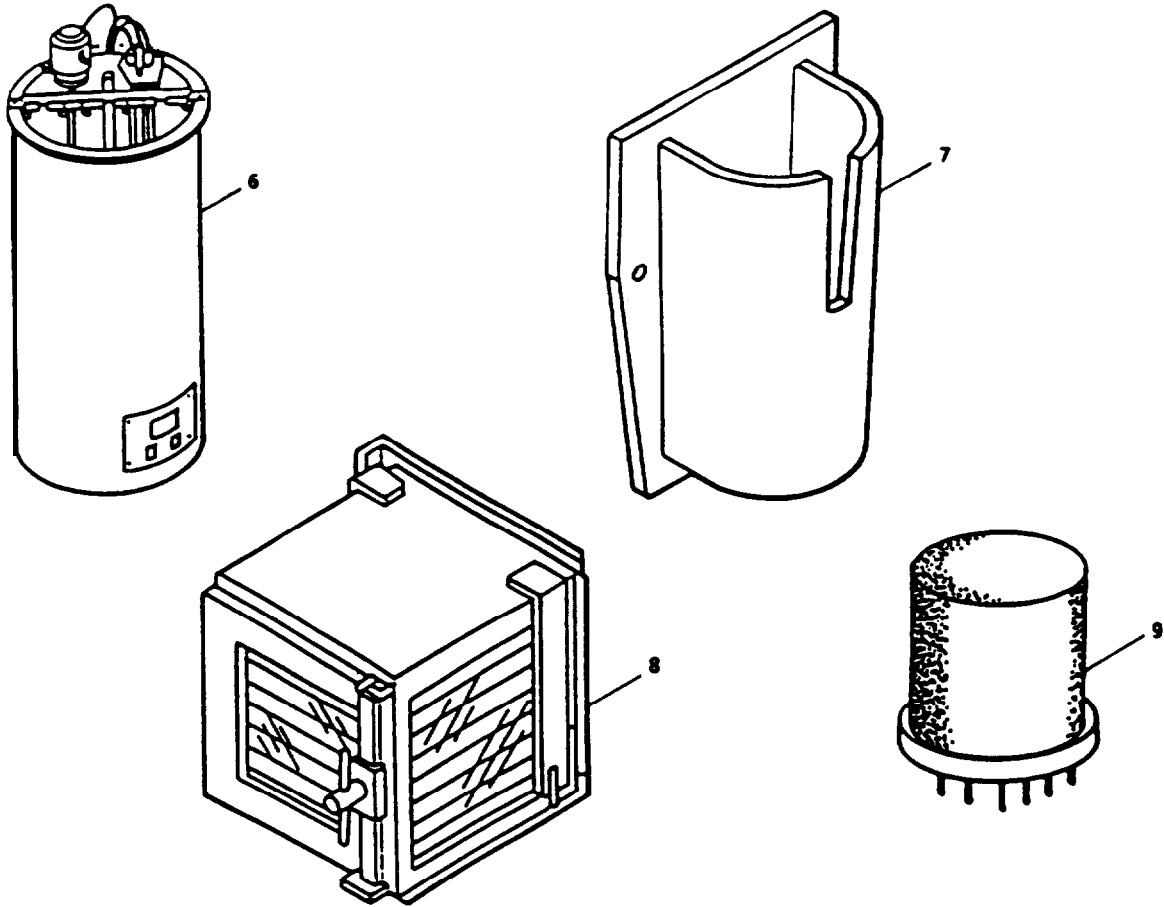
- a. Column (1) - Illustration Number (Illus Number). This column indicates the number of the illustration in which the item is shown.
- b. Column (2) - National Stock Number. Indicates the national stock number assigned to the item and will be used for requisitioning purposes.
- c. Column (3) - Description. Indicates the Federal Item name, and if required, a minimum description to identify and locate the item. The last line for each item indicates the (CAGEC) contractor and government entity code (in parentheses) followed by the part number.
- d. Column (4) - Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR).
- e. Column (5) - Quantity required Qty rqr). Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM



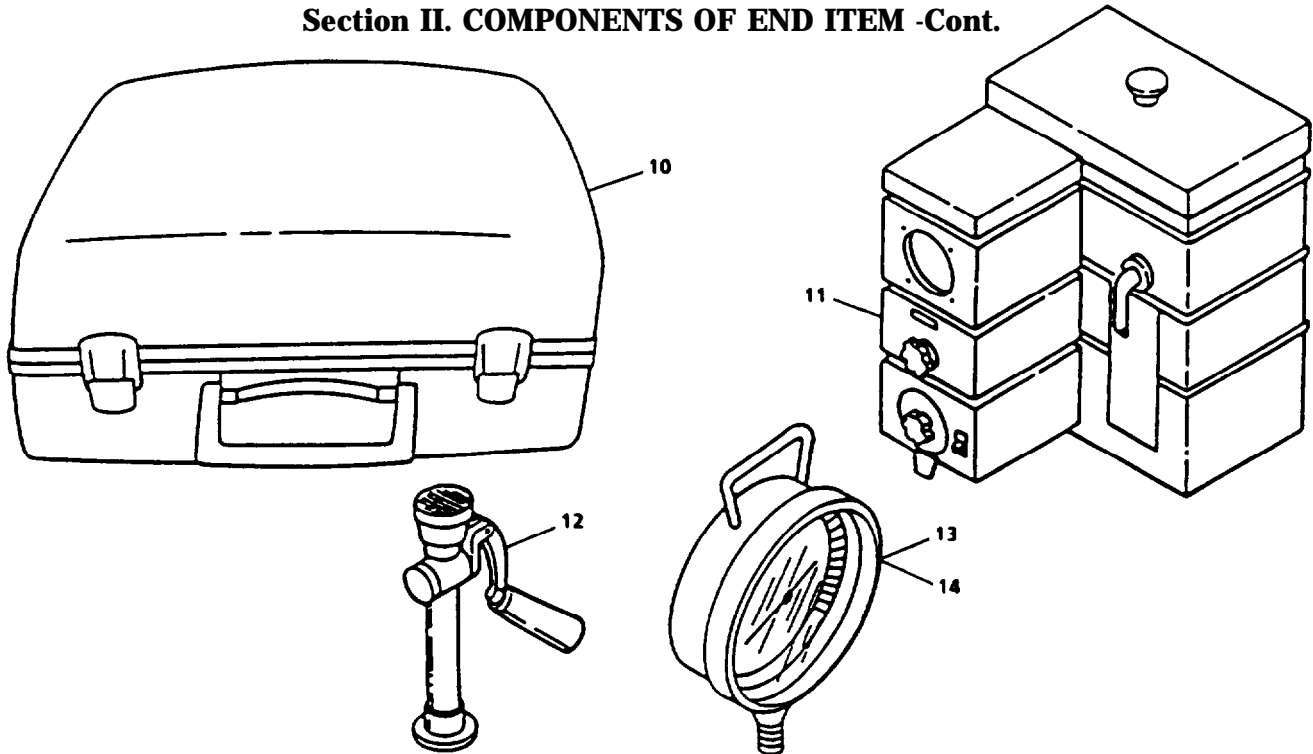
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 1 | 4120-01-193-4998 | AIR CONDITIONER: 9,000 BTU/Hr, horizontal, noise abated, 208 volt, 50/60 Hz (59458) ECU-9HC326 | EA | 2 |
| 2 | 6665-00-410-4942 | ALARM, GAS, AUTOMATIC: W/detector housing No. 23-4012, mtd bracket No. 23-4028 MDL-CD800 W (05083) No. 23-7180 | EA | 1 |
| 3 | 6685-00-255-9507 | BAROMETER, ANEROID: (Top Drawer No. 8) (22527) 2-405 | EA | 1 |
| 4 | 6670-00-280-2396 | BALANCE, ANALYTICAL: Fully automatic, top loading Sartorius (IHF87) P/N A200S | EA | 1 |
| 5 | 6640-00-522-1886 | BATH CORROSION, LABORATORY: for ASTM TEST D- 130 (23035) K253-1 | EA | 1 |

Section II. COMPONENTS OF END ITEM -Cont.



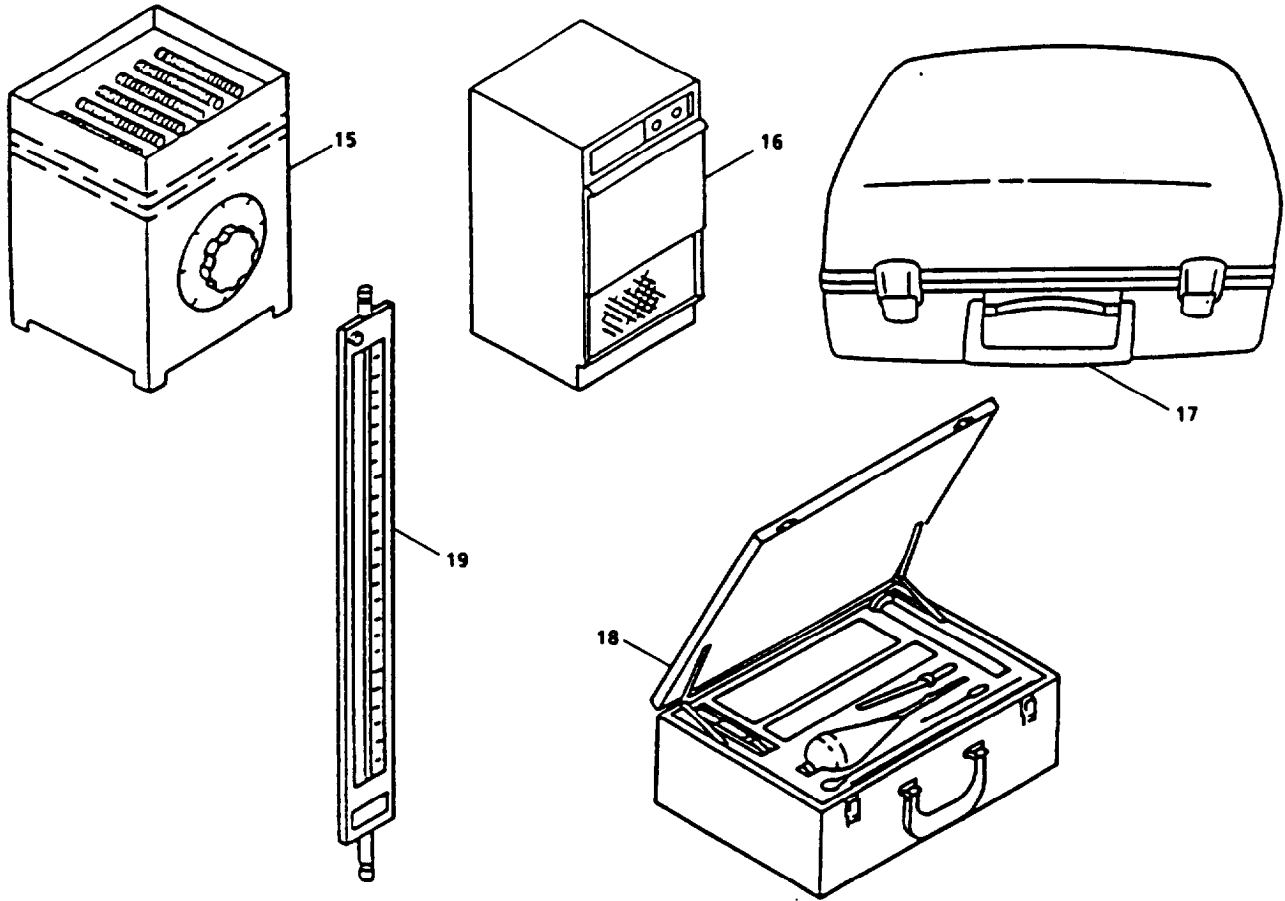
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 6 | 6640-00-359-9629 | BATH, R.V.P.: for ASTM TEST D-232 (48619) No. 74893 | EA | 1 |
| 7 | 4610-00-522-1882 | BRACKET, WATER DEMINERALIZER: (80740) No. 30-867-10 | EA | 2 |
| 8 | 6640-00-986-5033 | CABINET, DESICCATING: (96906) MS36217-3 | EA | 1 |
| 9 | 6665-00-410-4951 | DETECTOR ELEMENT, GENERAL PURPOSES: (05083) No. 800-080-20 | EA | 1 |

Section II. COMPONENTS OF END ITEM -Cont.



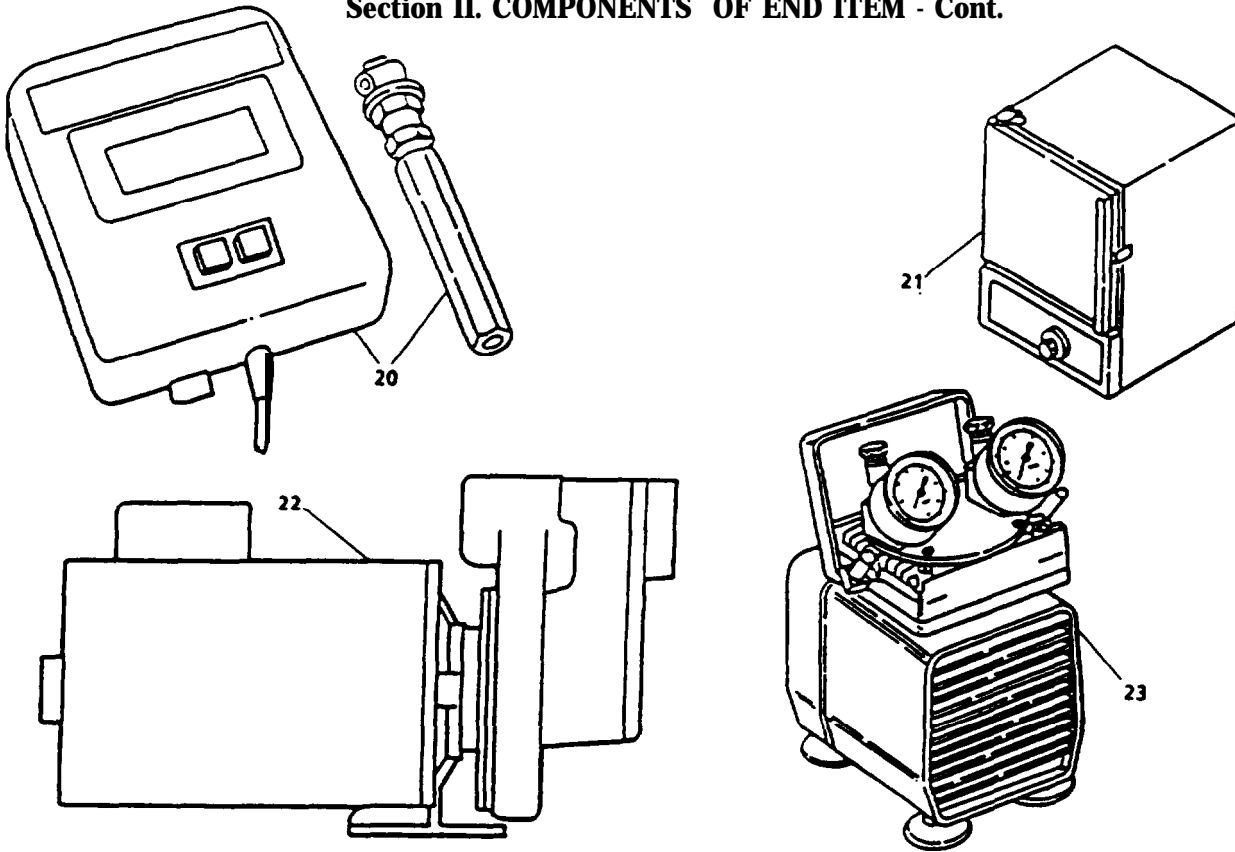
| (1) ILLUS UMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|-----------------------|---------------------------------|---|------------|--------------------|
| 10 | 6640-00-244-9478 | DETECTOR KIT, AUTOMOTIVE-AVIATION FUEL WATER AND SOLID CONTAMINATOR: U/W COUPLING QUICK DISCONNECT: 1/4 in. internal 4730-00-978-8760 (32218) GTP-323, Series III | EA | 1 |
| 11 | 6630-00-251-2118 | DISTILLATION TEST APPARATUS, GAS/OIL: For ASTM TEST D-86 (48619) No. 76002 | EA | 1 |
| 12 | | EYE WASH: (22527191581 | EA | 1 |
| 13 | 6685-00-194-1699 | GAGE, (RVP) PETROLEUM TEST: for ASTM TEST D-323 (80740) No. 69-110-0-5 | EA | 1 |
| 14 | 6685-00-194-1683 | GAGE, (RVP) PETROLEUM TEST: for ASTM TEST D-323 (48619) No. 74886 | EA | 1 |

Section II. COMPONENTS OF END ITEM - Cont.



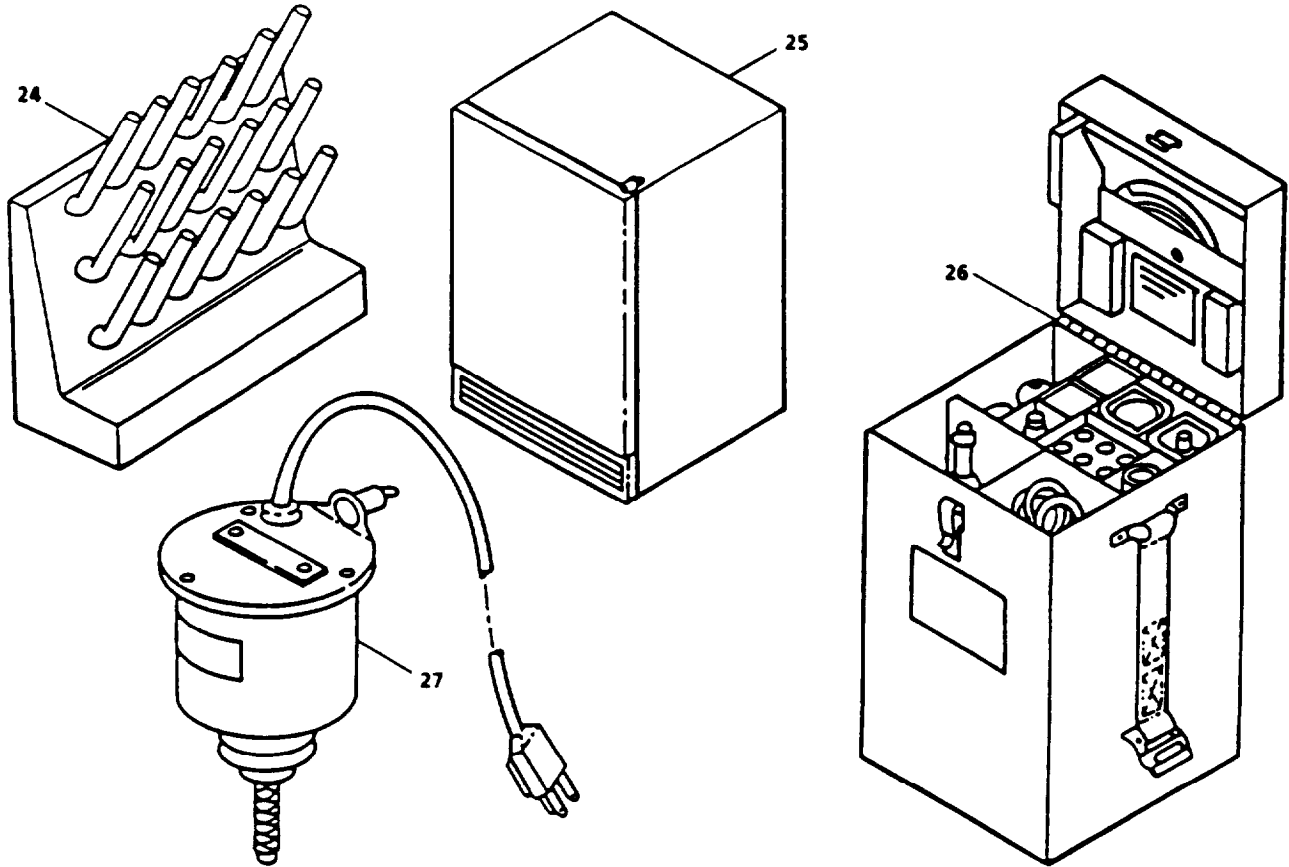
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 15 | 6640-00-980-5002 | HEATER ELECTRIC: (48619) No. 61600 | EA | 1 |
| 16 | 4110-01-013-9324 | ICE MAKER: 115 V; 60 Hz, commercial ice systems (49524) CSW1AE-1A | EA | 1 |
| 17 | 6630-00-403-1906 | KIT, FLUID-FUEL SAMPLING: (08071) XX64-037-30 | EA | 1 |
| 18 | 6630-01-165-7133 | KIT, ANTI-ICING: Battery operated (62935) P/N B/2 | EA | 1 |
| 19 | 6685-00-842-4565 | MANOMETER: Wall mtd.; 24 in.; w/No. SC 4606-Duplex Scale PSI mercury; calibrated (39739) No. 30EA15WM | EA | 1 |

Section II. COMPONENTS OF END ITEM - Cont.



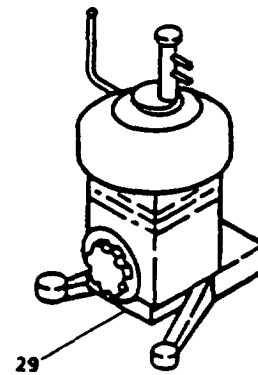
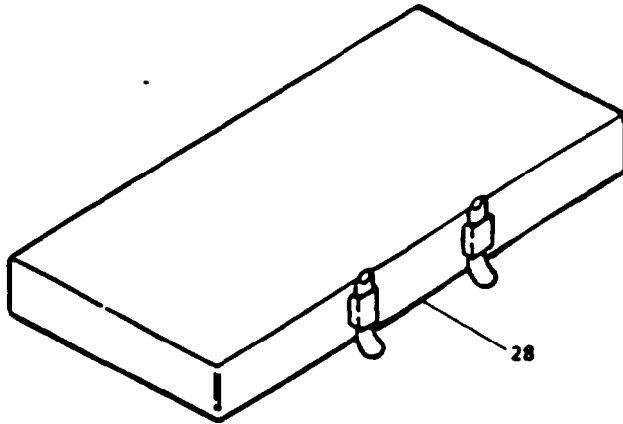
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 20 | 6630-01-115-2398 | METER, CONDUCTIVITY: Battery operated (23299) No. 1152 | EA | 1 |
| 21 | 6640-00-359-9880 | OVEN, LABORATORY: Integral heat source; 110/120 V, ac 60 Hz; ambient to 200 deg C; 650 W; for ASTM TEST D-2276 (48619) 31477 | EA | 1 |
| 22 | | PUMP SELF PRIMING: (TEEL) No. ZPOO4 | EA | 1 |
| 23 | 6640-00-845-0749 | PUMP, VACUUM-PRESSURE, DIAPHRAGM DRIVEN: vacuum to 25 in. mercury and pressure to 60 psi, 115 V, 60 Hz, incl pressure and vacuum gages, for ASTM TEST D-2276 (08071) XX55-000-00 | EA | 1 |

Section II. COMPONENTS OF END ITEM - Cont.



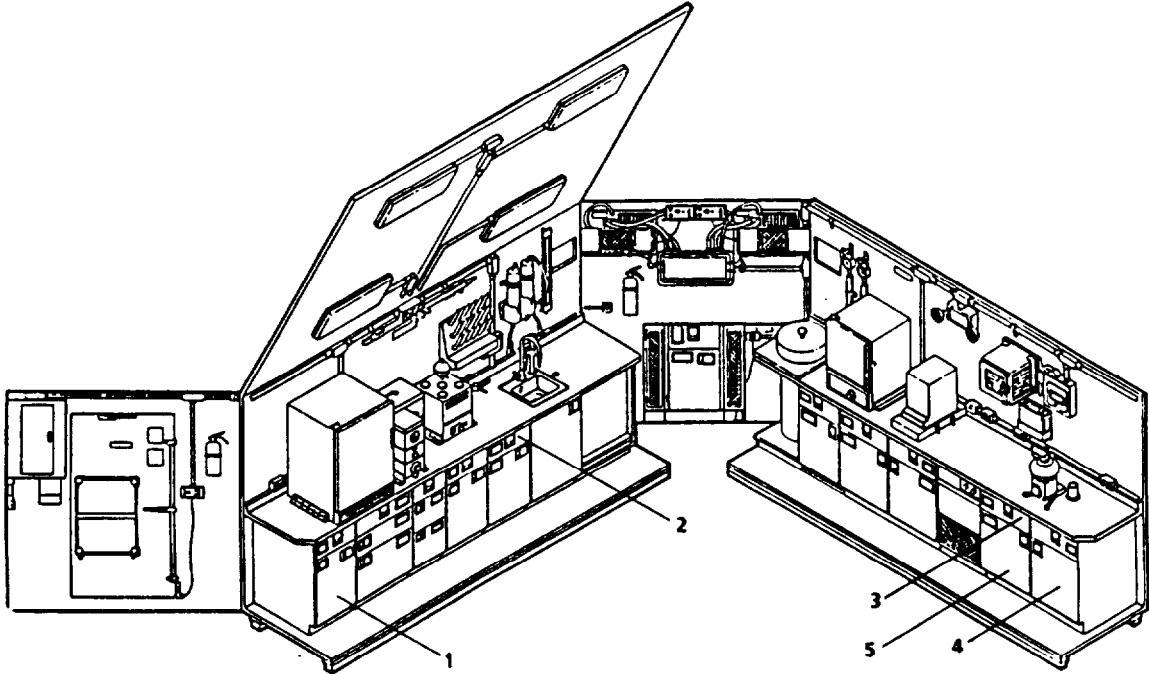
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 24 | 6640-00-411-5486 | RACK, DRYING: Plastic; bench; 3 tiers; sloped back; front tray, w/scalloped edges for holding tubes (80740) H-18932 | EA | 1 |
| 25 | | REFRIGERATOR, EXPLOSION PROOF: (95632) No. 3557 | EA | 1 |
| 26 | 6630-00-151-5310 | SAMPLING AND GAGING KIT: ptbl (81349) MIL-S-51028 | | |
| 27 | 6640-00-531-5022 | STIRRER, ELECTRIC, LABORATORY: 110 V, 50/60 Hz, ac; 80 to 115 rpm; w/on-off toggle switch; universal clamp mtg; for ASTM TEST D-93 (486191) No. 75765 | EA | 1 |

Section II. COMPONENTS OF END ITEM -Cont.



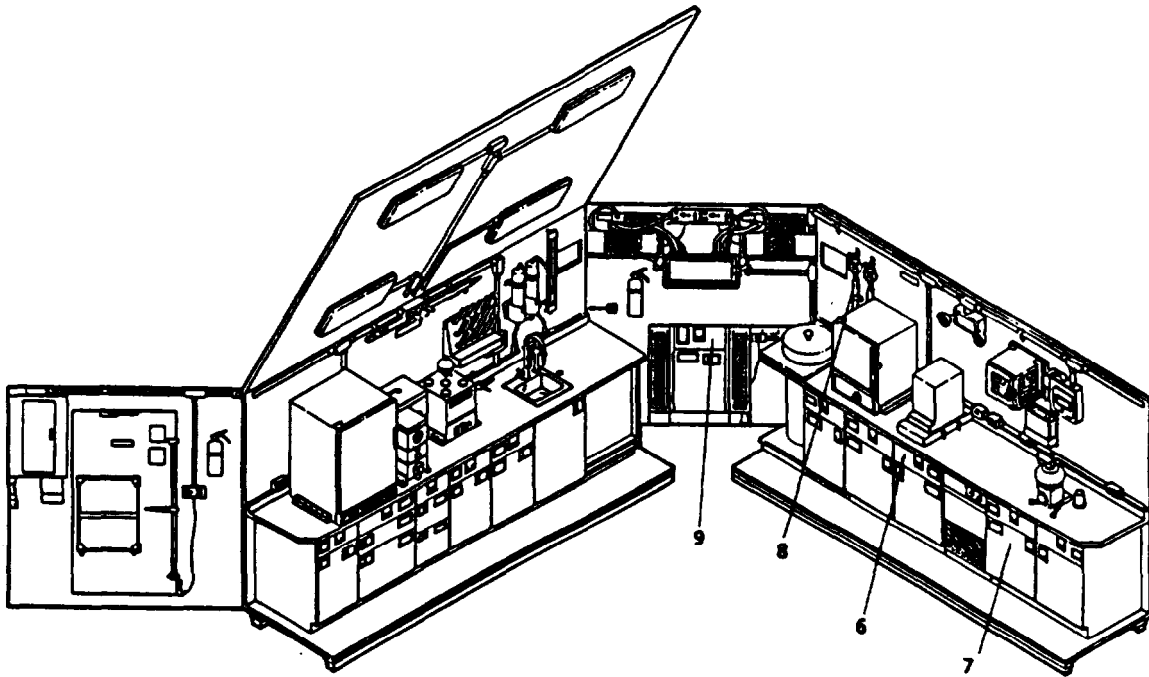
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 28 | 6670-00-494-8153 | SUPPORT, VIBRATION DAMPING, ANALYTICAL BALANCE: Non- magnetic, nonferrous reinforced concrete platform, mtd on 4 shock absorbers, 10 Hz per minute minimum frequencies absorbed; w/thd insert for support rod (80740)No.78-902 | EA | 1 |
| 29 | 6630-00-530-0987 | TESTER, FLASHPOINT: 1 test unit; electrically heated; 2 thermometers ; one 20 to 230 deg F and one 200 to 700 deg F range; w/l flexible metal shaft; 110 V, 60 Hz, ac, closed; for ASTM TEST D-93; MIL-T-36385 (48619) No. 74537 | EA | 1 |

Section II. BASIC ISSUE ITEMS



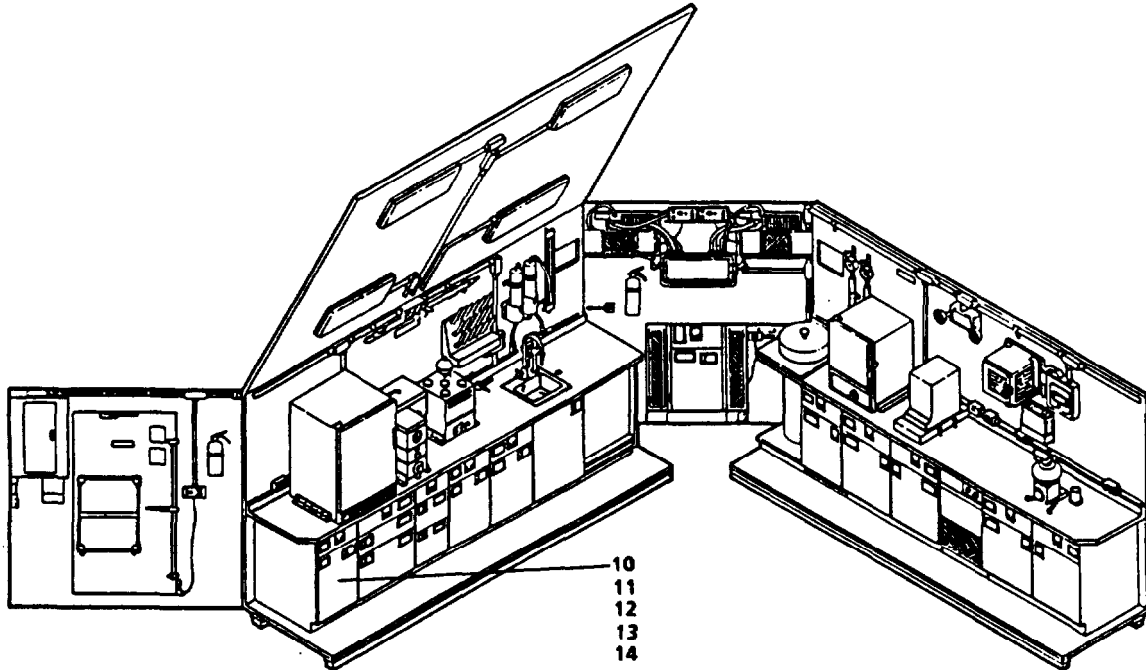
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 1 | 5935-00-032-6486 | ADAPTER, TEST SOCKET: (Sliding Shelf No. 1) (05083) 23-4027 | EA | 1 |
| 2 | 8415-00-082-6108 | APRON, UTILITY: (Top Drawer No. 9) (81349) MIL-A-41829 | EA | 2 |
| 3 | 6640-00-403-1500 | BEAKER, LABORATORY: 50 ml (Top Left Drawer No. 7) (96906) X335992-4 | EA | 2 |
| 4 | 6640-00-942-4394 | BEAKER, LABORATORY: 400 ml (Sliding Shelf No. 7) (96906) MS35992-7 | EA | 4 |
| 5 | 6640-00-942-4397 | BEAKER, LABORATORY: 1000 ml (Sliding Shelf No. 7) (96906) MS35992-9 | EA | 3 |

Section II. BASIC ISSUE ITEMS - Cont.



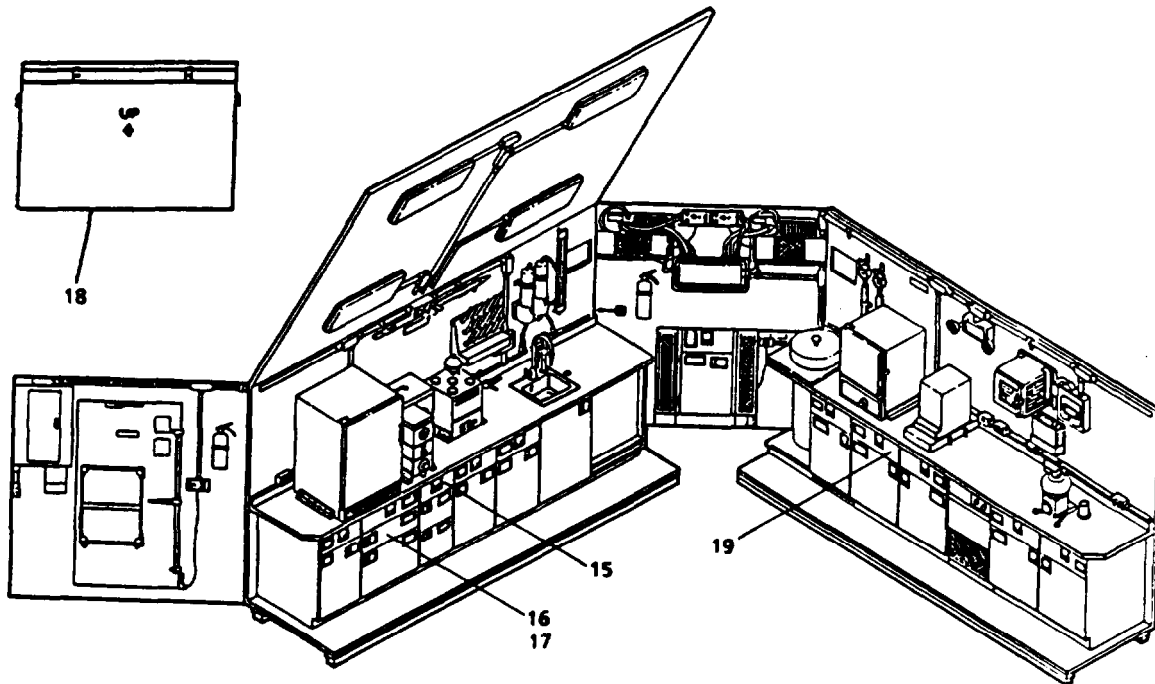
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY, RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 6 | | BEAKER, STAINLESS STL: 1200 ml (Top Right Drawer No. 6) (1V571) No. G1782D | EA | 1 |
| 7 | 3030-00-478-8368 | BELT, DRIVE (FLASH POINT TESTER): (Bottom Drawer No. 7) (80740) 95-67-905 | EA | 1 |
| 8 | 6630-00-399-2964 | BOMB, (RVP) PETROLEUM TEST: w/air liquid chambers, gage coupling and two O-ring gaskets; w/o gage (48619) 74877 | EA | 2 |
| 9 | 6630-00-522-1893 | BOMB, TEST, PETROLEUM: (Top Drawer No. 8) (22527) No. 13-420-20 | EA | 2 |

Section II. BASIC ISSUE ITEMS - Cont.



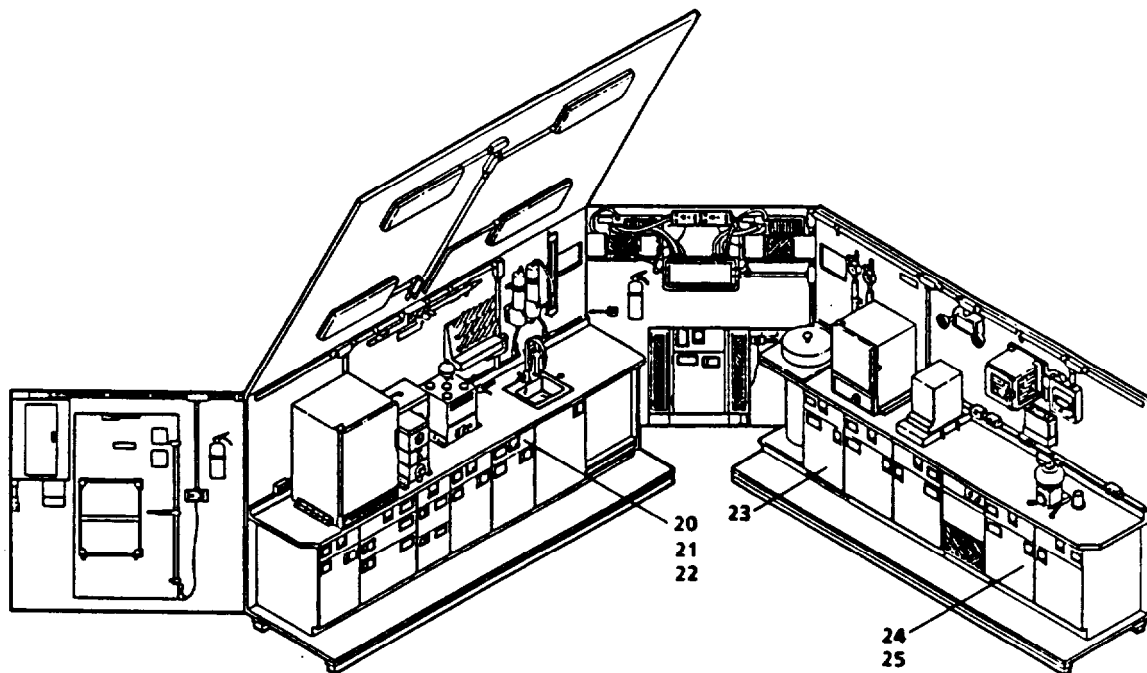
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 10 | | BOOKS: (Bottom Cabinet No. 1) ASTM TEST method supplement to FM 10-92C1/2 | EA | 1 |
| 11 | | CATALOG: Apparatus, Instruments, Chemicals, Furniture and Supplies for Industrial, Clinical, College and Government Laboratories; Fischer Scientific | EA | 1 |
| 12 | | CATALOG; PETROLEUM - Petro- chemical Testing Equipment; Precision Scientific | EA | 1 |
| 13 | | Military Specifications; for Petroleum Products | EA | 19 |
| 14 | | Significance of ASTM Test for Petroleum Products; Special Technical Publication No. 7-B; TM10-1165 | EA | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



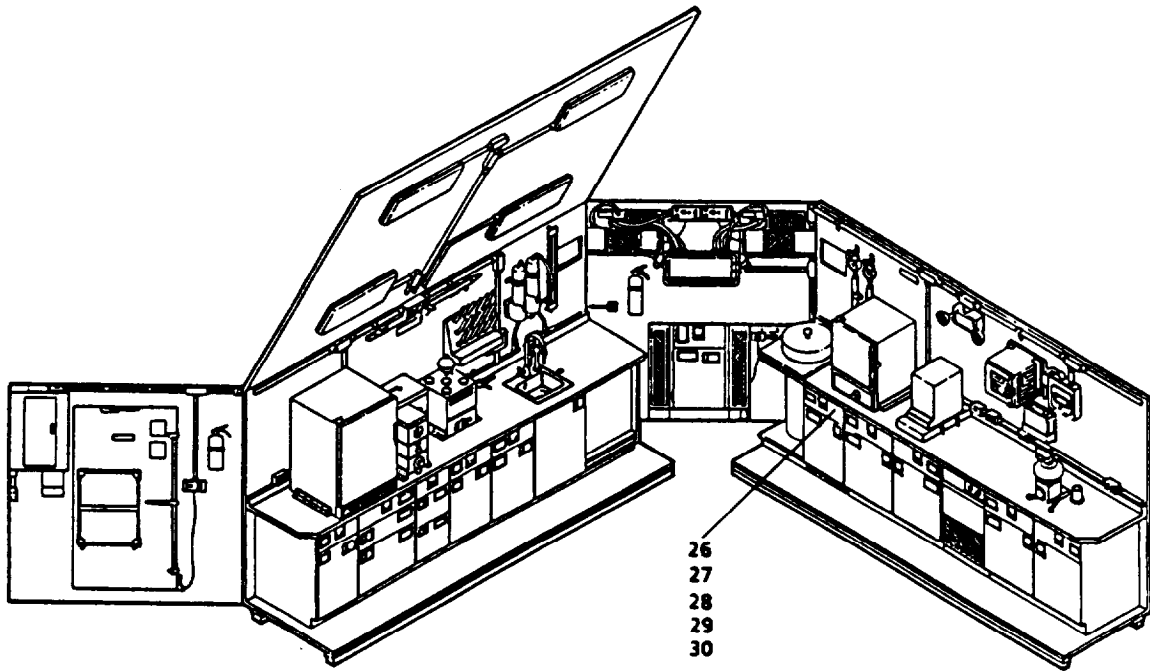
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 15 | 6640-00-131-4566 | BORER SET, CORK: (Top Drawer No. 2) (21519) 27-084 | EA | 1 |
| 16 | 6640-00-197-9878 | BOTTLE, POLYETHYLENE (Bottom Drawer No. 1A) (05178) 2002-0032 | EA | 6 |
| 17 | 8125-00-174-0852 | BOTTLE, SCREW CAP: (Bottom Drawer No. 1A) (81349) MIL-B-26701 | EA | 2 |
| 18 | | BOX, OVERPACK: (97403) 13227E7468 | EA | 1 |
| 19 | 7920-00-205-0565 | BRUSH, DUSTING, LENS AND PHOTOGRAPHIC NEGATIVE: (Top Right Drawer No. 6) (81348) H-B-1654 | EA | 1 |

Section II. BASIC ISSUE ITEMS -Cont.



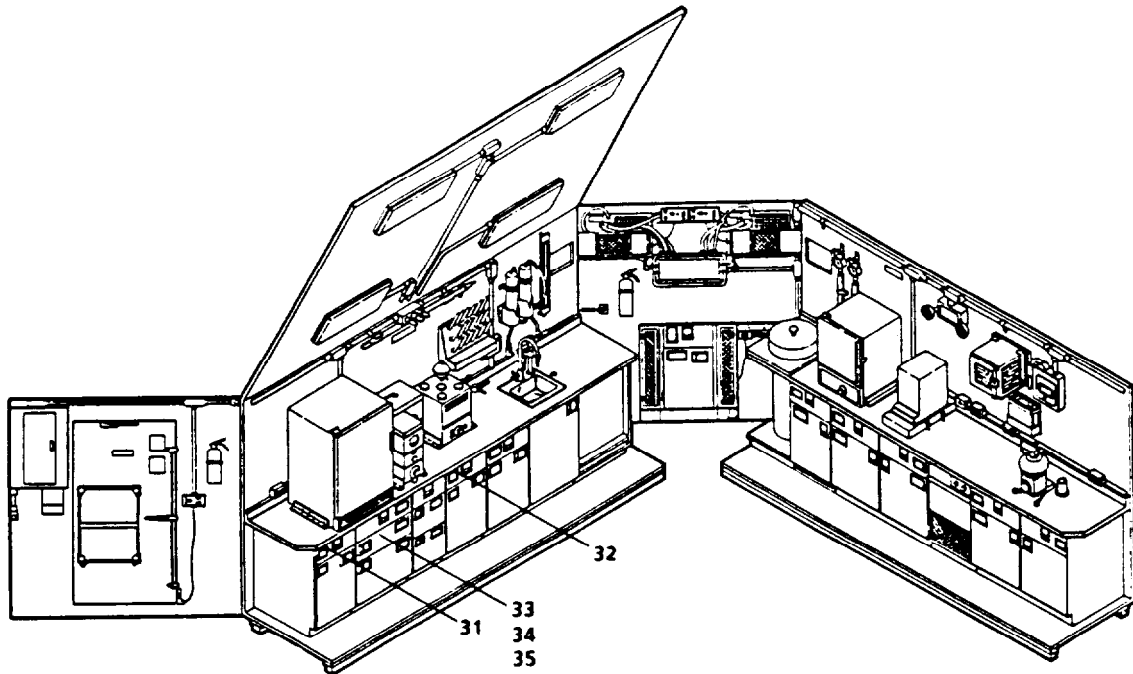
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 20 | 7920-00-234-7317 | BRUSH, BEAKER: (Top Drawer No. 9) (80740) No. 7-740 | EA | 2 |
| 21 | 7920-00-494-3688 | BRUSH, FLASK: (Top Drawer No. 9) (80740) No. 1929-M10 | EA | 1 |
| 22 | 7920-00-282-7784 | BRUSH, TESTTUBE: (Top Drawer No. 9) (80244) H-B-1051 | EA | 3 |
| 23 | | BURN KIT: (Bottom Drawer No. 8) | EA | 1 |
| 24 | 4610-00-729-4886 | CARTRIDGE, WATER DEMINERALIZER: (Bottom Drawer No. 7) (21519) 30-867-02 | EA | 3 |
| 25 | 4610-00-222-8261 | CARTRIDGE, WATER DEMINERALIZER: Organic (Bottom Drawer No. 7) (80740) 30-867-04 | EA | 3 |

Section II. BASIC ISSUE ITEMS - Cont.



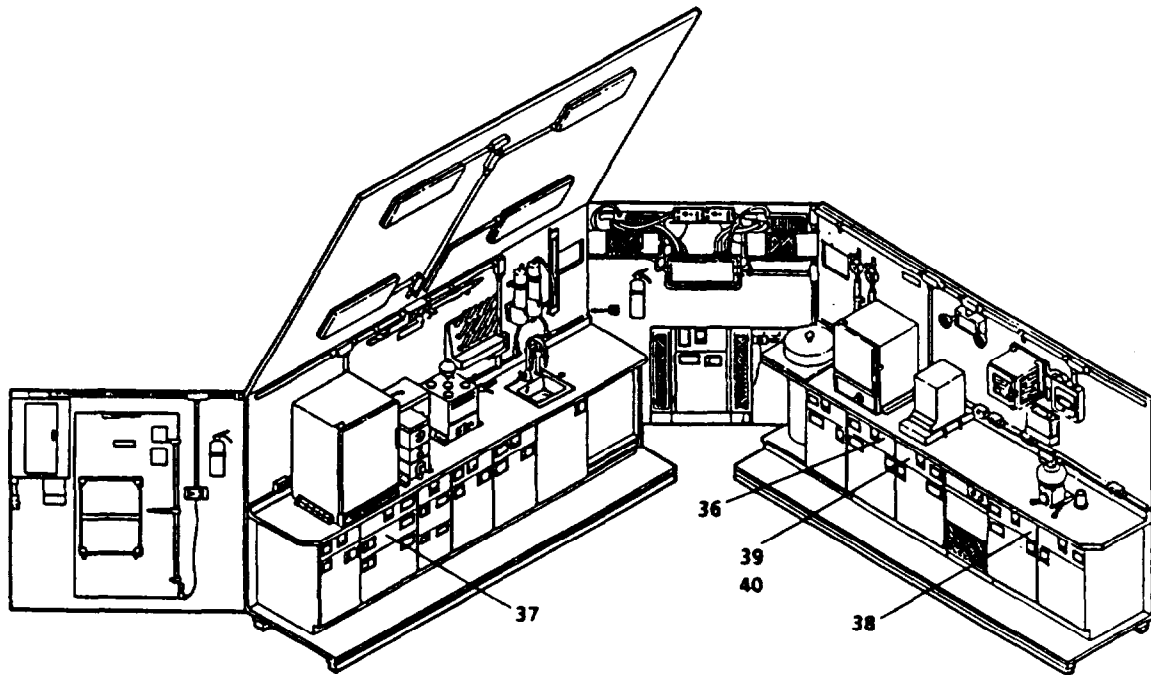
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 26 | 6640-00-290-2255 | CLAMP, LABORATORY SUPPORT ROD: (Top Drawer No. 5) (96906) MS36001-1 | EA | 2 |
| 27 | 6640-00-428-2460 | CLAMP, LABORATORY SUPPORT ROD: (Top Drawer No. 5) (96906) MS36001-3 | EA | 6 |
| 28 | 6640-00-024-2279 | CLAMP, RUBBERTUBING, REGULATING: (Top Drawer No. 5) (96906) MS36003-1 | EA | 3 |
| 29 | 6640-00-264-5024 | CLAMP, UTILITY, LABORATORY: (Top Drawer No. 5) (96906) MS36012-4 | EA | 2 |
| 30 | 6640-00-417-5000 | CLAMP, UTILITY, SWIVEL JAW: (Top Drawer No. 5) (96906) MS36013-1 | EA | 2 |

Section II. BASIC ISSUE ITEMS - Cont.



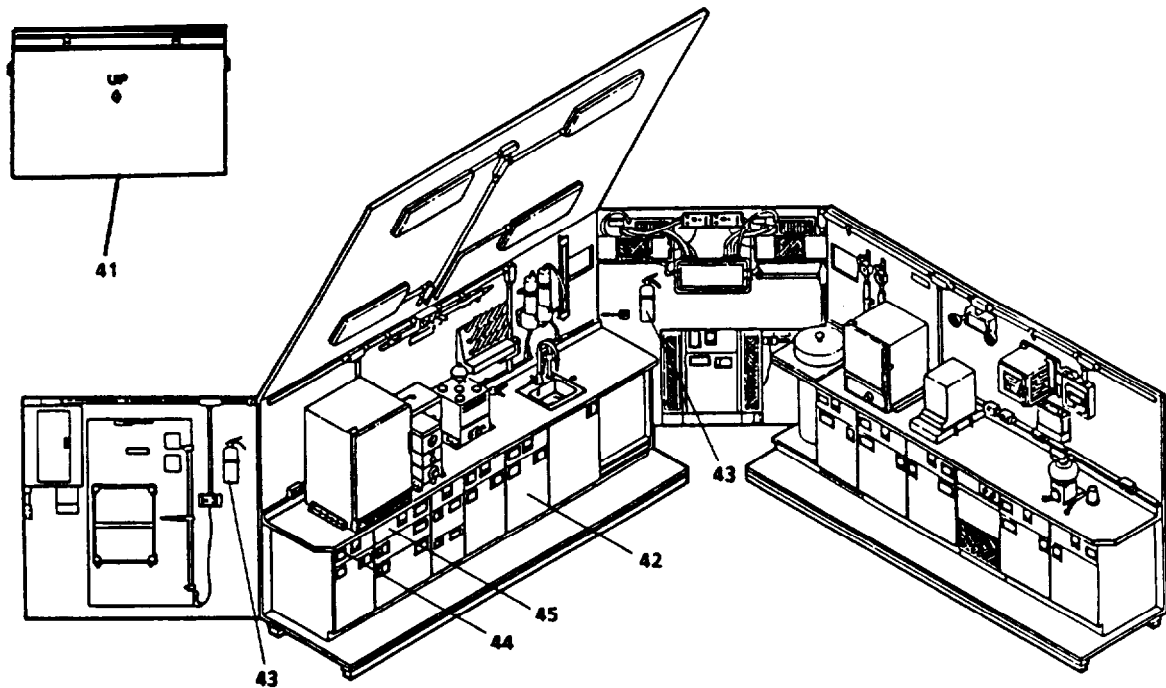
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 31 | 5999-00-549-0997 | CLIP, ELECTRICAL: (Top Drawer No. 1) (81348) W-C-440 | EA | 10 |
| 32 | 6640-00-074-3339 | COPPER STRIP CORROSION: STANDARDS (Top Drawer No. 3) (81346) No. 66-940-12 | EA | 1 |
| 33 | 7320-00-234-3512 | CRUSHER, ICE: (Bottom Drawer No. 1A) (45168) No. 571-06 | EA | 1 |
| 34 | 6640-00-912-8656 | CYLINDER, GRADUATED: 5 ml (Bottom Drawer No. 1A-2) (21519) No. 28-476-5 | EA | 3 |
| 35 | 6640-00-883-8516 | CYLINDER, GRADUATED: 100 ml (Top Drawer No. 1A) (Bottom Drawer No. 1A-2) (21519) No. 28-476 | EA | 6 |

Section II. BASIC ISSUE ITEMS - Cont



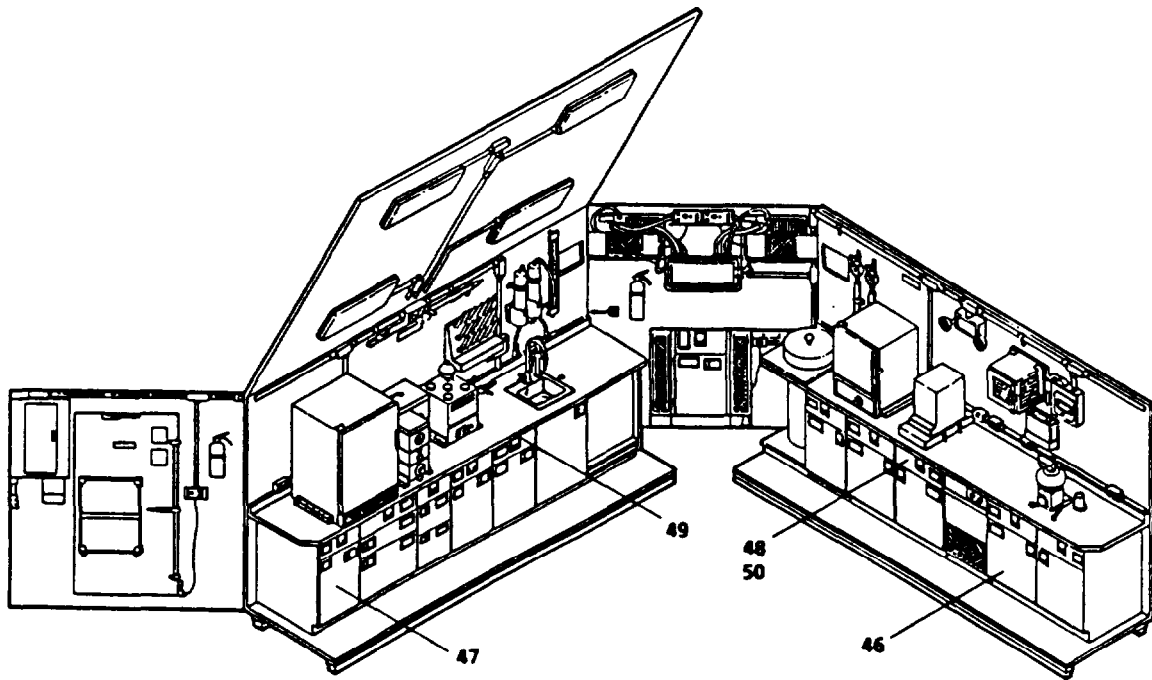
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 36 | 6640-00-420-6000 | CYLINDER, GRADUATED: 100 ml (Top Left Drawer No. 6) (96906) MS35947-6 | EA | 1 |
| 37 | 6640-00-420-3000 | CYLINDER, GRADUATED: 1000 ml (Middle Drawer No. 2) (96906) MS35943-10 | EA | 2 |
| 38 | 6640-00-244-4341 | CYLINDER, UNGRADUATED LABORATORY: (Top Left Drawer No. 7) (21519) No. 28-395 | EA | 3 |
| 39 | 6640-00-422-5000 | DISH, BIOLOGICAL PREPARATION (Top Right Drawer No. 6) (81349) MIL-D-36622 | EA | 1 |
| 40 | 6640-00-688-7882 | DISPENSER, FILTERING SOLVENT: (Sliding Shelf No. 6) (808071) XX6602500 | EA | 2 |

Section II. BASIC ISSUE ITEMS - Cont.



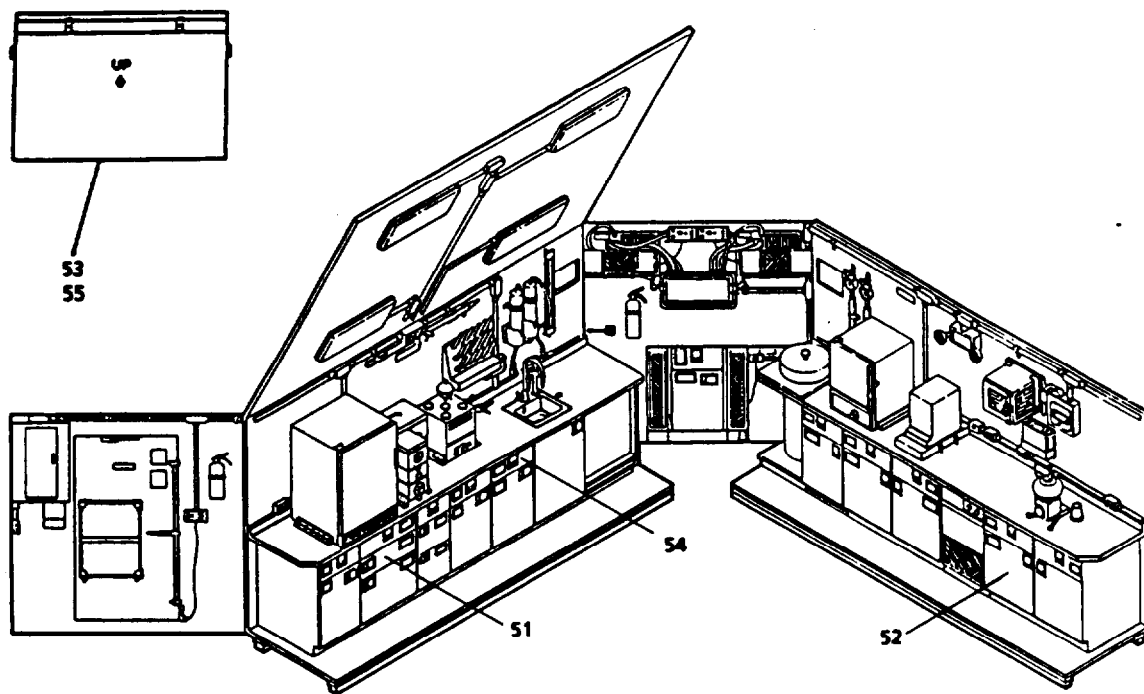
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 41 | | DRIVER/PULLER, GROUND ROD: (Overpack Box) (97403) 13226E7741 | EA | 1 |
| 42 | 4240-00-202-9473 | FACESHIELD, INDUSTRIAL: (Bottom Drawer No. 9) (81349) L-F-36 | EA | 1 |
| 43 | 4210-01-087-4989 | FIRE EXTINGUISHER: Halon 1211,5 lbs. (98752) IRA 4210-031 | EA | 2 |
| 44 | 6230-00-269-3034 | FLASHLIGHT: Explosion Proof (Top Drawer No. 1) (80058) MX-9923/4 | EA | 1 |
| 45 | 6640-00-423-8500 | FLASK, DISTILLING: 125 ml (Top Drawer No. 1A) (Drawer No. 1A-2) (96906) MS36058-3 | EA | 6 |

Section II. BASIC ISSUE ITEMS - Cont.



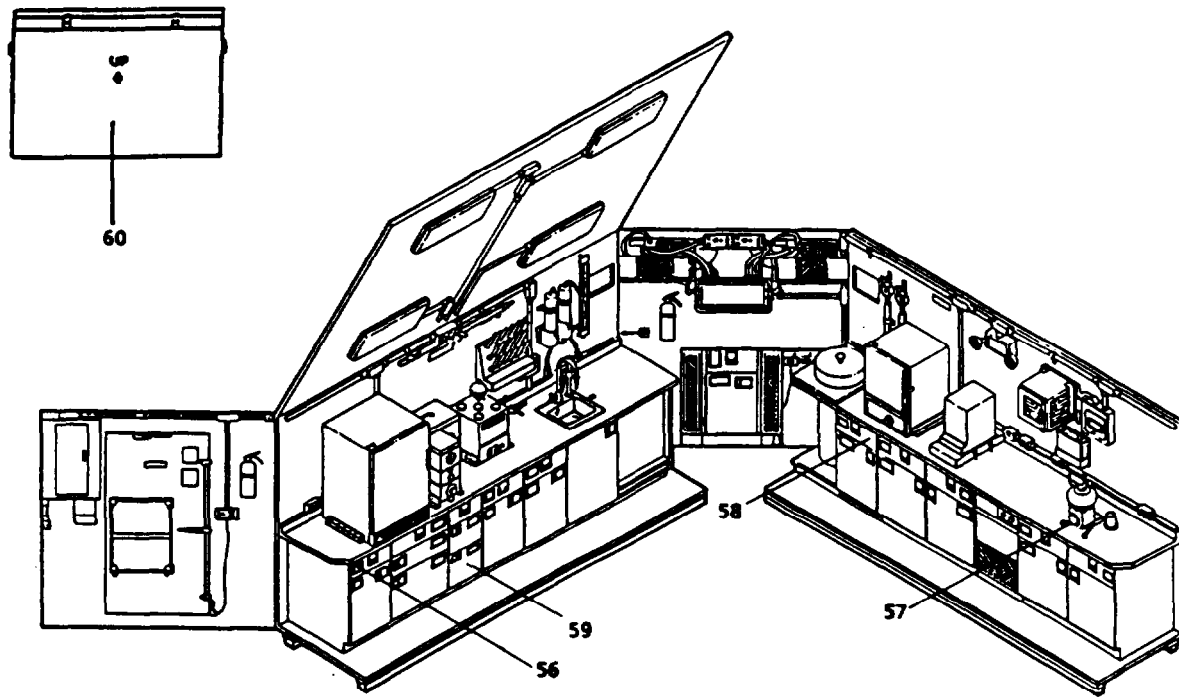
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 46 | 6640-00-424-9000 | FLASK, FILTERING: 1000 ml (Sliding Shelf No. 7) (96906) MS36066-5 | EA | 2 |
| 47 | 6640-00-522-1889 | FLASK, FILTERING: 4000 ml (Sliding Shelf No. 1) (Shelf No. 3) (22527) No. 10-181-5-4000 | EA | 2 |
| 48 | 6640-00-426-0300 | FORCEPS, FLAT BLADED: (Top Right Drawer No. 6) (08071) XX62-000-06 | EA | 2 |
| 49 | 6640-00-359-9805 | FORCEPS, GENERAL PURPOSE: (Top Drawer No. 9) (21519) 36-580 | EA | 1 |
| 50 | 6640-00-426-8060 | FUNNEL, COMMON, LABORATORY: (Top Right Drawer No. 6) (96906) MS36084-7 | EA | 2 |

Section II. BASIC ISSUE ITEMS - Cont.



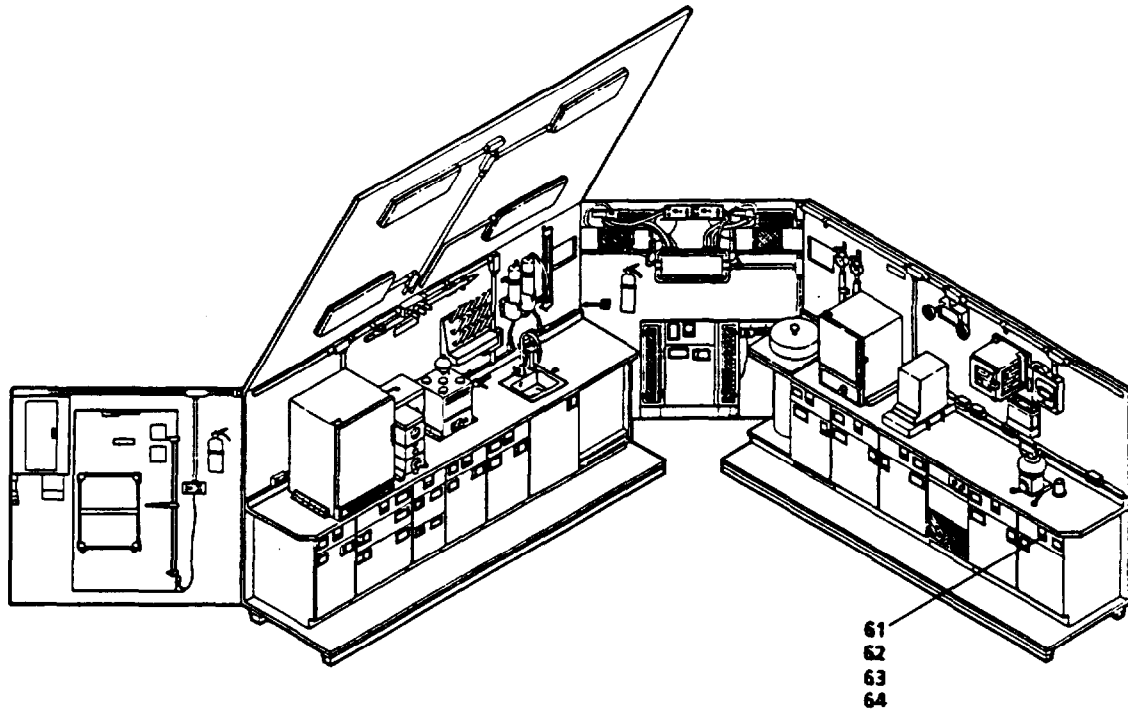
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 51 | 7240-01-115-4738 | FUNNEL, POLYETHYLENE HEAVY DUTY: (Bottom Drawer No. 1A) (22527) NAL 4260-0040 | EA | 1 |
| 52 | 6640-00-926-1313 | FUNNEL, SEPARATORY: 125 ml (Sliding Shelf No. 7) (81348) NNN-F-800 | EA | 4 |
| 53 | | GAGE, LIQUID LEVEL: (Overpack Box) American Deval No. RE-49900-AD-V | EA | 1 |
| 54 | 8415-00-261-7015 | GLOVES, CLOTH: (Top Drawer No. 9) (81349) HH-G-450 | PR | 1 |
| 55 | 6685-00-179-2533 | GUARD, THERMO REGULATOR: Aluminum: 1/4 in. dia perforation; (Overpack Box) (80740) No. 81-608-11 | EA | 1 |

Section II. BASIC ISSUE ITEMS. Cont.



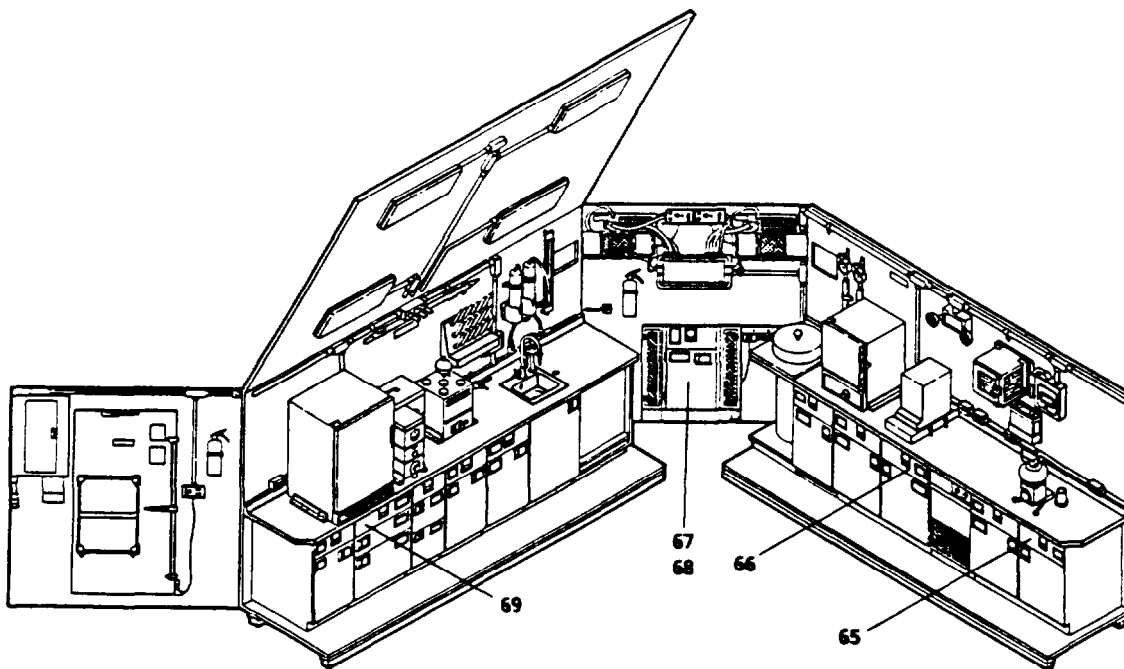
| (1) ILLUS UMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (3) QTY. RQR |
|-----------------------|---------------------------------|--|------------|--------------------|
| 56 | 5120-00-061-8541 | HAMMER, MACHINIST: 8 oz. (Top Drawer No. 1) (80244) GGG-H-86 | EA | 1 |
| 57 | | HEATER, ELECTRIC: (48619) No. 42-170 | EA | 1 |
| 58 | 4540-00-134-4236 | HEATING ELEMENT, ELECTRICAL: (Top Drawer No. 5) (80740) No. 42-685 | EA | 1 |
| 59 | 6640-00-299-8691 | HOLDER, MICROPOROUS BACTERIAL FILTERING DISC: (Bottom Drawer No. 2) (08071) Xx20-047-20 | EA | 1 |
| 60 | 4720-00-203-3912 | HOSE ASSY: NONMETALLIC (Overpack Box) (81348) No. L-H-520 | EA | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



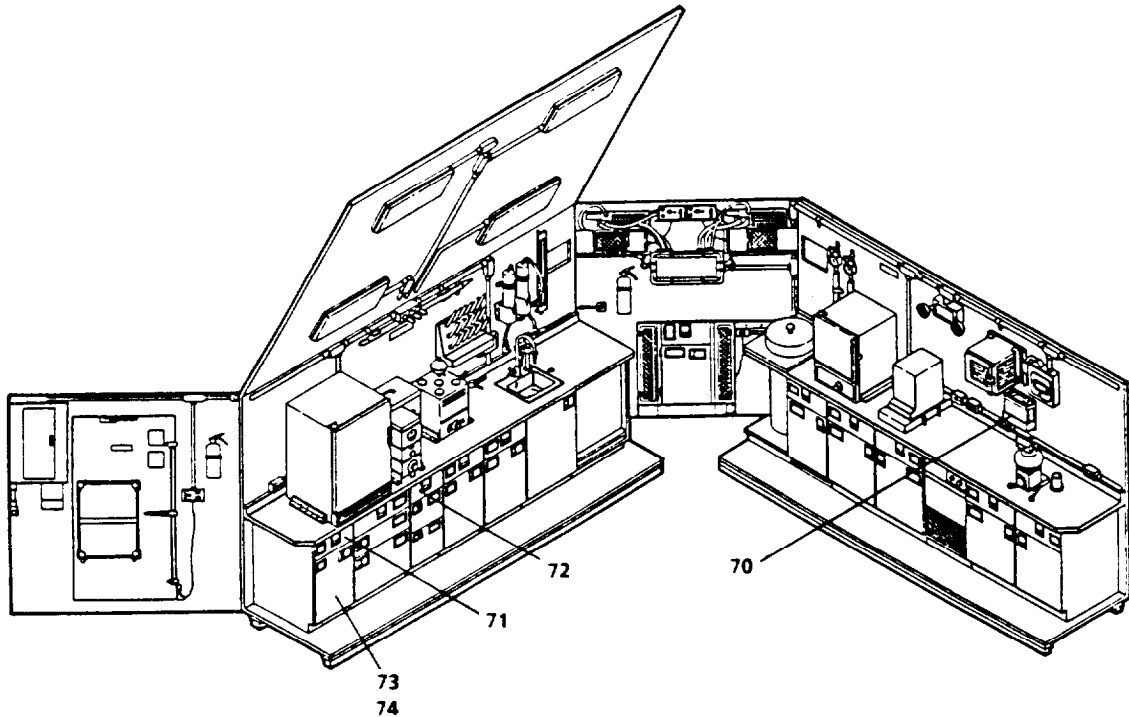
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 61 | 6630-00-265-7758 | HYDROMETER, GRADUATED SCALE: 29 to 41 degrees F (Top Right Drawer No. 7) (81349) MIL-H-36343 | EA | 2 |
| 62 | 6630-00-265-7759 | HYDROMETER, GRADUATED SCALE: 39 to 51 degrees F (Top Right Drawer No. 7) (81349) MIL-H-36343 | EA | 3 |
| 63 | 6630-00-265-7764 | HYDROMETER, GRADUATED SCALE: 49 to 61 degrees F (Top Right Drawer No. 7) (81349) MIL-H-36343 | EA | 4 |
| 64 | 6630-00-265-7765 | HYDROMETER, GRADUATED SCALE: 59 to 71 degrees F (Top Right Drawer No. 7) (81349) MIL-H-36343 | EA | 4 |

Section II. BASIC ISSUE ITEMS - Cont.



| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 65 | 6630-00-815-2267 | HYDROMETER, GRADUATEDSCALE: 69 to 81 degrees F (Top Right Drawer No. 7) (81349) MIL-H-36343 | EA | 4 |
| 66 | 5120-00-965-0326 | IGNITOR, FRICTION: (Top Right Drawer No. 6) (90598) No. TJ212 | EA | 1 |
| 67 | 6640-00-522-1892 | IONIZER, PETROLEUM TEST: Arm Base (Sliding Shelf No. 8) Model BF-1 (21519) No. 3-997-03 | EA | 1 |
| 68 | 6640-00-522-1890 | IONIZER, PETROLEUM TEST: (Sliding Shelf No. 8) (07818) No. 3-997-02 | EA | 1 |
| 69 | 6640-00-359-9870 | JAR, CYLINDRICAL, LABORATORY: (Top Drawer No. 1A) (80740) No. 49-750 | EA | 2 |

Section II. BASIC ISSUE ITEMS - Cont.

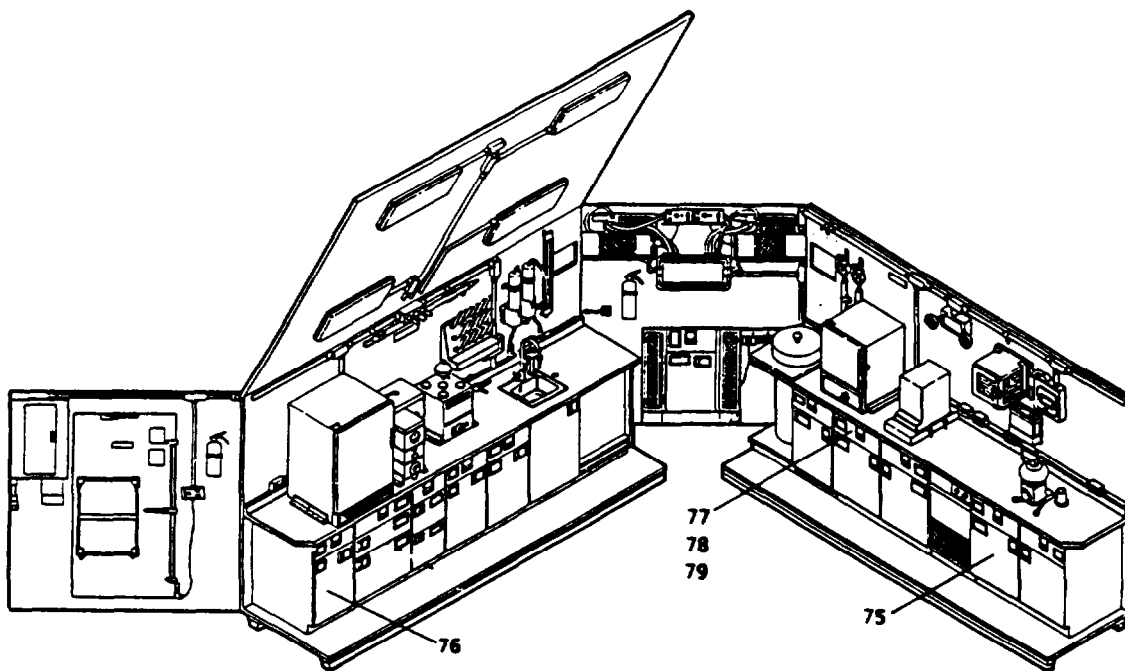


| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 70 | | KIT, FIRST AID: (22527) 10-021-10 | EA | 1 |
| 71 | 4820-00-557-0182 | KIT, PRESSURE REGULATOR: (Top Drawer No. 1) (53477) No. 3562-8000 | EA | 1 |
| 72 | 6640-00-179-2559 | KIT, SPARE PARTS: Vacuum Pressure Pump (Top Drawer No. 2) (08071) SDIS-532-V4 | EA | 1 |
| 73 | 6240-00-155-7906 | LAMP, INCANDESCENT: (Sliding Shelf No. 1) (96906) MS15587-2 | EA | 1 |
| 74 | 6240-00-473-6138 | LAMP, INDICATOR: (Sliding Shelf No 1) (05083) 354059 | EA | 5 |

Section II. BASIC ISSUE ITEMS - Cont.

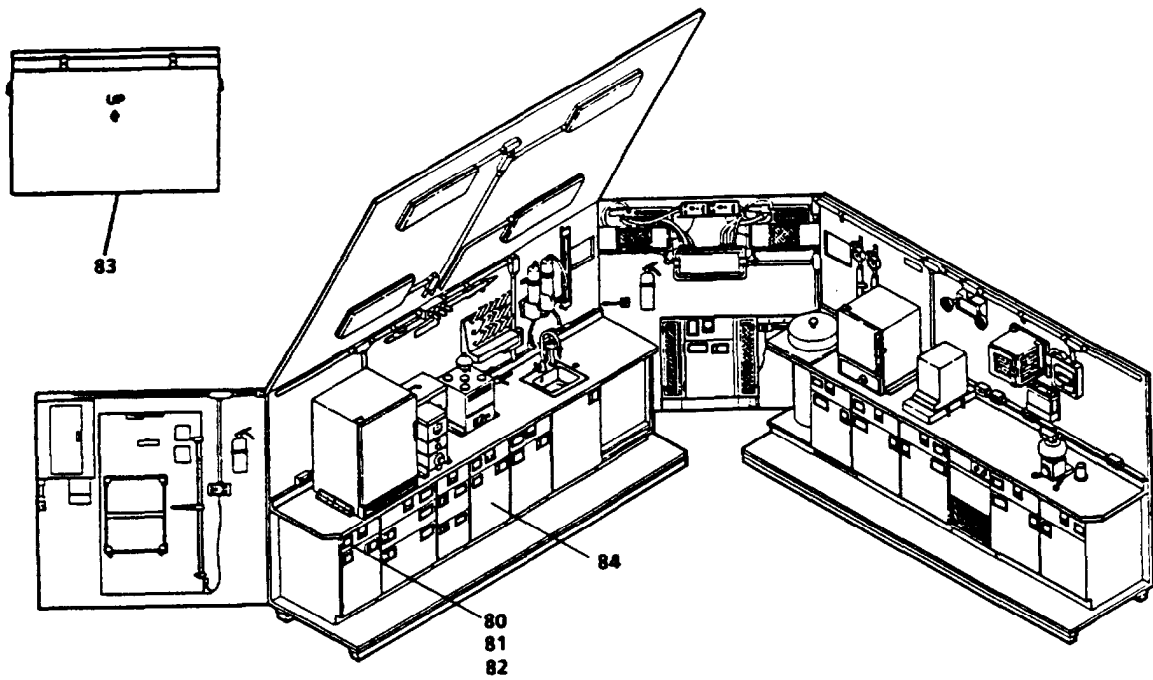
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| | | Gas-Oil Distillation Testing Equipment TM 10-6630-219-13&P | EA | 1 |
| | | Copper Strip Corrosion Bomb Bath TM 10-6640-220-13&P | EA | 1 |
| | | Aqua Glo Water Detector TM 10-6640-221-13&P | EA | 1 |
| | | Mini-Monitor Fuel Sampling Kit TM 10-6630-230-13&P | EA | 1 |
| | | Elect Pensky-Martens Tester TM 10-6630-231-13&P | EA | 1 |
| | | Pensky-Martens Flash Testers TM 10-6630-232-13&P | EA | 1 |
| | | Heater Instructions and Parts Manual TM 10-6640-223-13&P | EA | 1 |
| | | Distillation Apparatus TM 10-6630-233-13&P | EA | 1 |
| | | Teel Self Priming Centrifugal Pump TM 10-4320-321-13&P | EA | 1 |
| | | Slo-Speed Stirrer TM 10-6640-224-13&P | EA | 1 |
| | | OM 39 Filter Holder TM 10-6640-225-13&P | EA | 1 |
| | | Analytic Balance TM 10-6670-277-13&P | EA | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



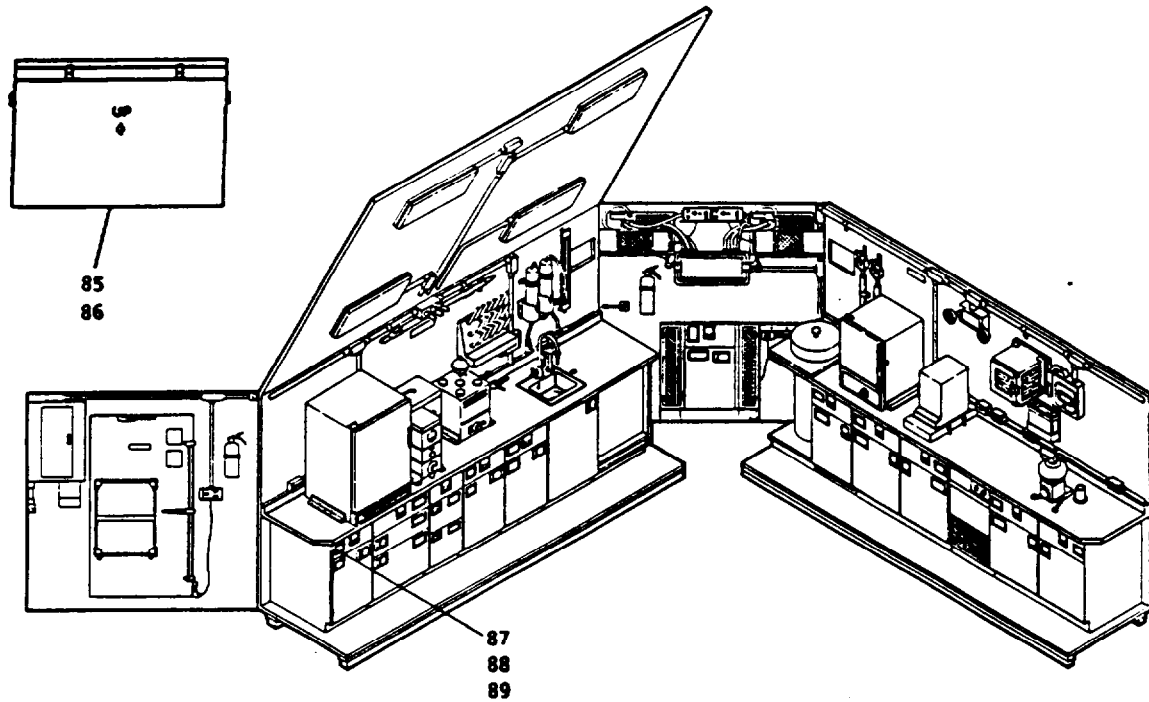
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| | | Reid Vapor Pressure Bath TM 10-6640-226-13&P | E A | 1 |
| | | CSWI Cuber (Scottsman) TM 10-6640-227-13&P | EA | 1 |
| 77 | 6640-00-437-8000 | PIPET, VOLUMETRIC: 5 ml (Top Left Drawer No. 6) (96906) MS35985-5 | EA | 4 |
| 78 | 6640-00-437-9000 | PIPET, VOLUMETRIC: 10 ml (Top Left Drawer No. 6) (96906) MS35985-6 | EA | 4 |
| 79 | 6640-00-438-0000 | PIPET, VOLUMETRIC: 25 ml (Top Left Drawer No. 6) (96906) MS35985-9 | EA | 4 |

Section II. BASIC ISSUE ITEMS - Cont.



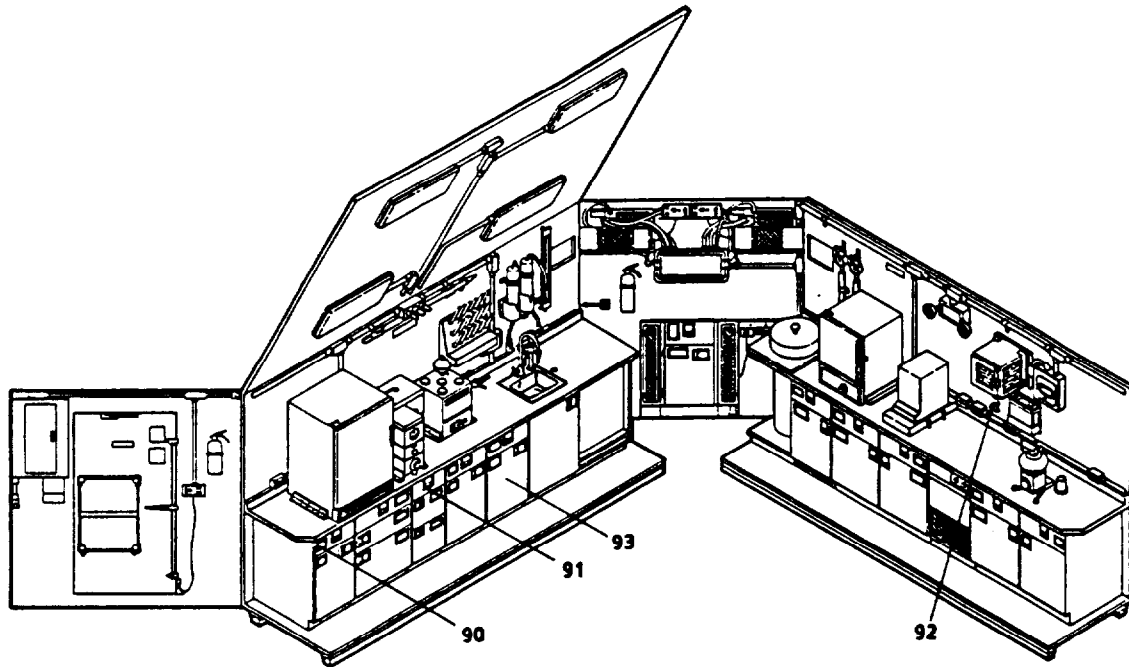
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 80 | 5120-00-247-5177 | PLIERS: 6 in.; long nose with cutter (Top Drawer No. 1) (80244) Ccc-P-471 | EA | 1 |
| 81 | 5120-00-278-0352 | PLIERS, SLIP JOINT: Angle nose, multiple tongue and groove; 10 in. long (Top Drawer No. 1) (80244) GGG-P-471 | EA | 1 |
| 82 | 5120-00-223-7396 | PLIERS, STRAIGHT NOSE: Combination with cutter 6 in. long (Top Drawer No. 1) (80244) GGG-P-471 | EA | 1 |
| 83 | 5945-00-434-2525 | RELAY STANDARD: (Overpack Box) (05083) No. 361-070 | EA | 1 |
| 84 | 6640-00-835-0896 | RING-LABORATORY APPARATUS SUPPORT: 2-3/8 ID with clamp (Shelf No. 3) (96906) MS35944-2 | EA | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



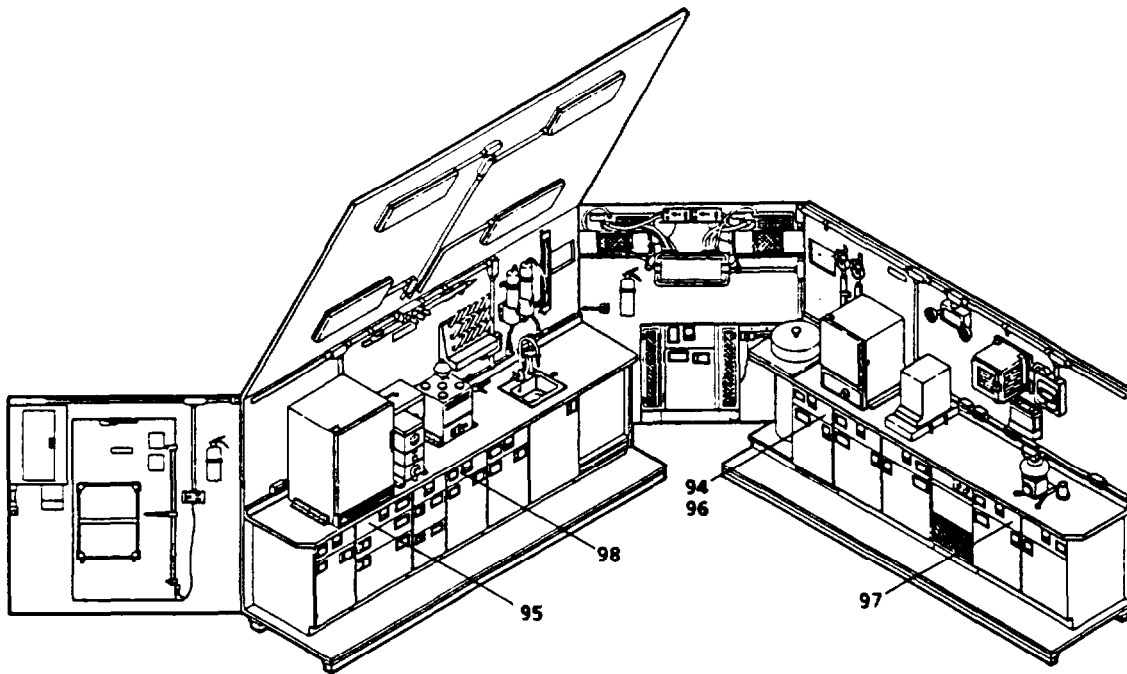
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 85 | | ROD, GROUND: W/attachments: (Overpack Box) W-R-550, Type III, Class B | EA | 1 |
| 86 | 7240-00-248-9620 | SAFETY CAN: 3 gallon (Overpack Box) (81348) RR-S-30 | EA | 1 |
| 87 | 5120-00-542-3438 | SCREWDRIVER, CROSS TIP: No. 2 tip, 8 in. long blade (Top Drawer No. 1) (80244) GGG-S-121 | EA | 1 |
| 88 | 5120-00-236-2140 | SCREWDRIVER, FLAT TIP: 1/8 in. tip, 2 in. long (Top Drawer No. 1) (81348) GGG-S-121 | EA | 1 |
| 89 | 5120-00-278-1283 | SCREWDRIVER, FLAT TIP: 5/16 in. tip, 6 in. long (Top Drawer No. 1) (80244) GGG-S-121 | EA | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



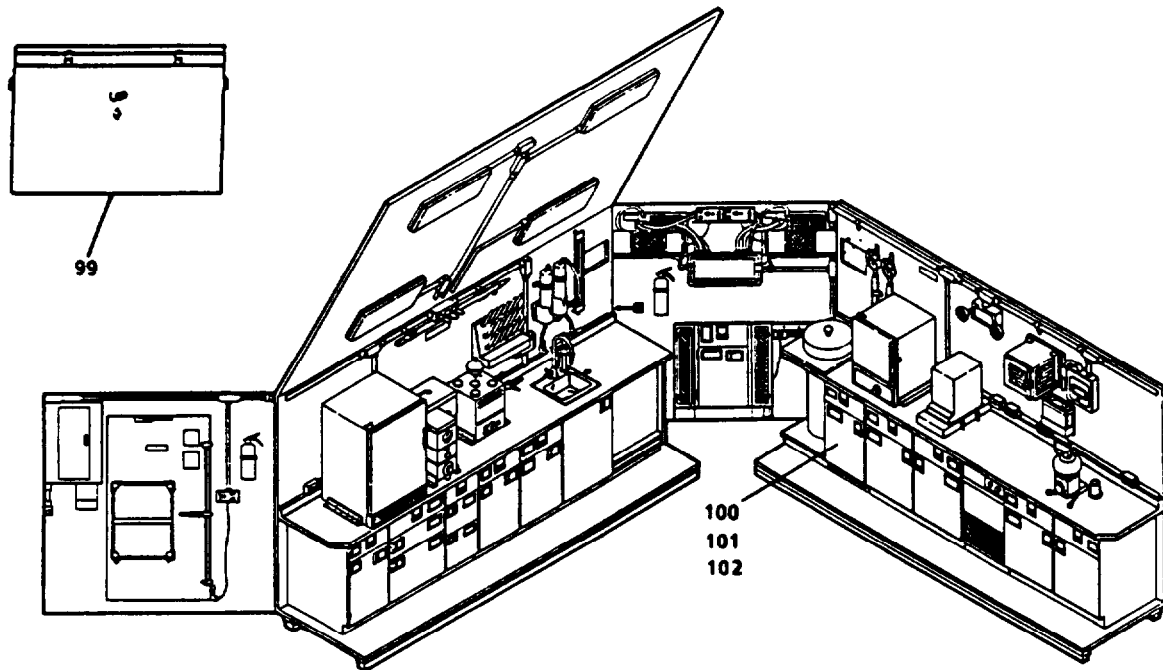
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 90 | 5120-00-2604837 | SCREWDRIVER, FLAT TIP: 3/16 in. tip, 8 in. long (Top Drawer No. 1) (81348) GGG-S-121 | EA | 1 |
| 91 | 5110-00-113-0045 | SHARPENER, CORK BORER: 22 mm (Top Drawer No. 2) (13134) No. C8285 | EA | 1 |
| 92 | | SHARPENER, PENCIL | EA | 1 |
| 93 | 6640-00-17 1-5198 | SPATULA, LABORATORY: 7 in. long, 4 in. blade (Top Drawer No. 9) (81348) NNN-S-001356 | EA | 2 |

Section II. BASIC ISSUE ITEMS - Cont.



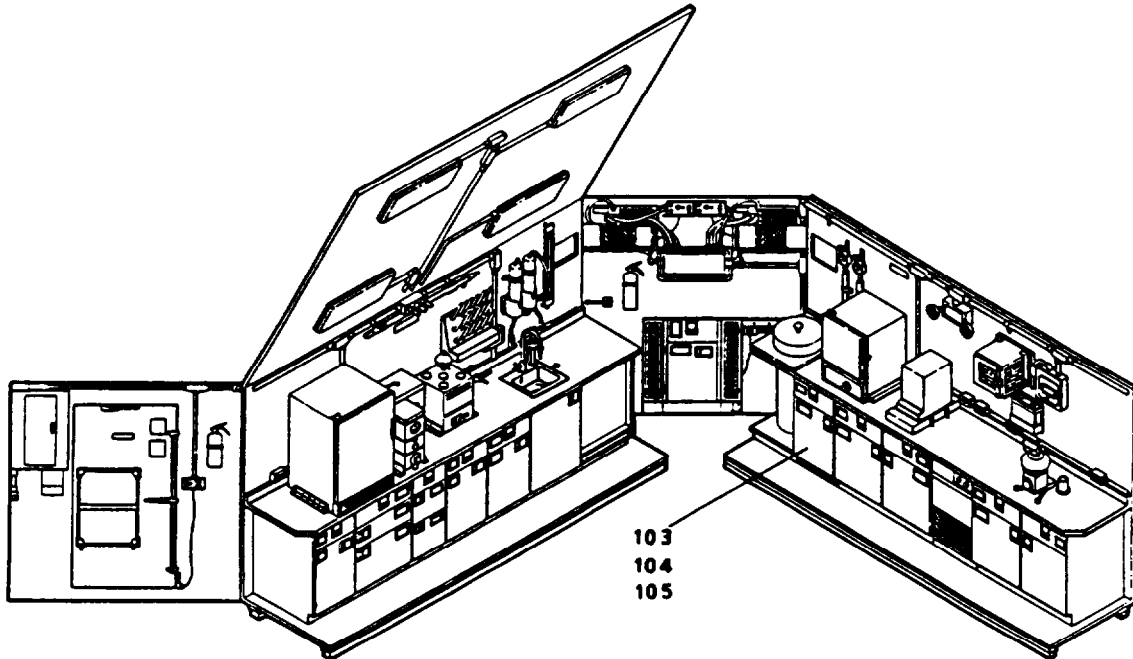
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) CM | (5) QTY. RQR |
|------------------------|---------------------------------|--|-----------|--------------------|
| 94 | 6640-00-290-6717 | STAND, LABORATORY APPARATUS SUPPORT: (Shelf No. 3) (Top Drawer No. 5) (96906) MS36019-1 | EA | 2 |
| 95 | 6645-00-126-0286 | STOP WATCH. Laboratory nonmagnetic, 30 min. register (Top Drawer No. 1A) (81348) GG-S-764 | EA | 1 |
| 96 | 6640-00-235-3821 | STOPPER, BOTTLE: (Top Drawer No. 5) (08071) XX10-047-08 | EA | 6 |
| 97 | 6640-00-086-6326 | SYRINGE, LABORATORY: (Top Left Drawer No. 7) (08071) XX62-00-35 | EA | 2 |
| 98 | 6640-00-06 1-8967 | TEST TUBE:: Culture; general purpose, 55 ml (Top Drawer No. 3) (81348) NNN-T-189 | BX | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



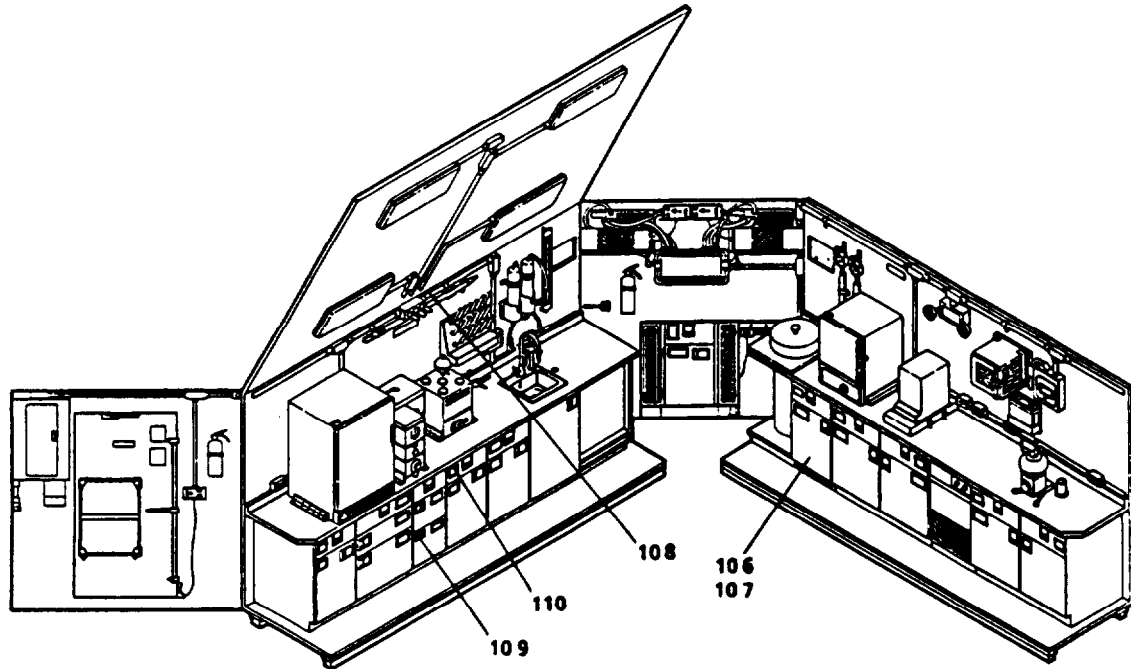
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 99 | 6685-00-179-2534 | THERMOREGULATOR (MICRO SET): (Overpack Box) (80740) No. 81-608-01 | EA | 1 |
| 100 | | THERMOMETER, SELF-INDICATING: LIQUID IN GLASS: -20 to + 102 deg. C (Cabinet No. 5) for ASTM E 1 No. 12C; ASTM Test D-130 | EA | 2 |
| 101 | | THERMOMETER, SELF-INDICATING: LIQUID IN GLASS: -34 to + 49 deg. C (Cabinet No. 5) for ASTM E1 No. 58C; ASTM Test D-323 | EA | 2 |
| 102 | 6685-01-070-0716 | THERMOMETER, SELF-INDICATING: LIQUID IN GLASS: -7 to + 110 deg. C (Cabinet No. 5) (81346) for ASTM E1 No. 9C; ASTM Test D-93 | EA | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



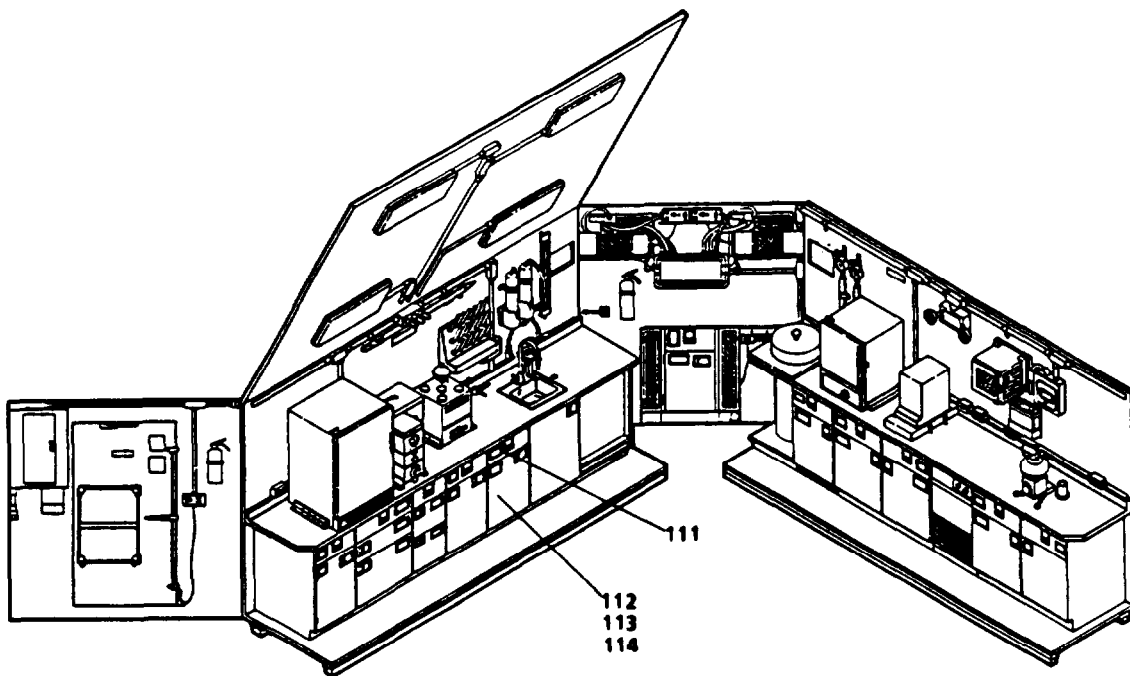
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 103 | 6685-01-070-1821 | THERMOMETER, SELF-INDICATING: LIQUID IN GLASS: -2 to + 300 deg. C (Cabinet No. 5) (81346) for ASTM E1 No. 7C; ASTM Test D-86 | EA | 6 |
| 104 | 6685-01-070-1821 | THERMOMETER, SELF-INDICATING: LIQUID IN GLASS: + 34 to + 42 deg. C (Cabinet No. 5) for ASTM E1 No. 18C; ASTM Test D-323 | EA | 2 |
| 105 | 6685-01-070-1821 | THERMOMETER, SELF-INDICATING: LIQUID IN GLASS: +90 to +370 deg. C (Cabinet No. 5) for ASTM E1 No. 10C; ASTM Test D-93 | EA | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



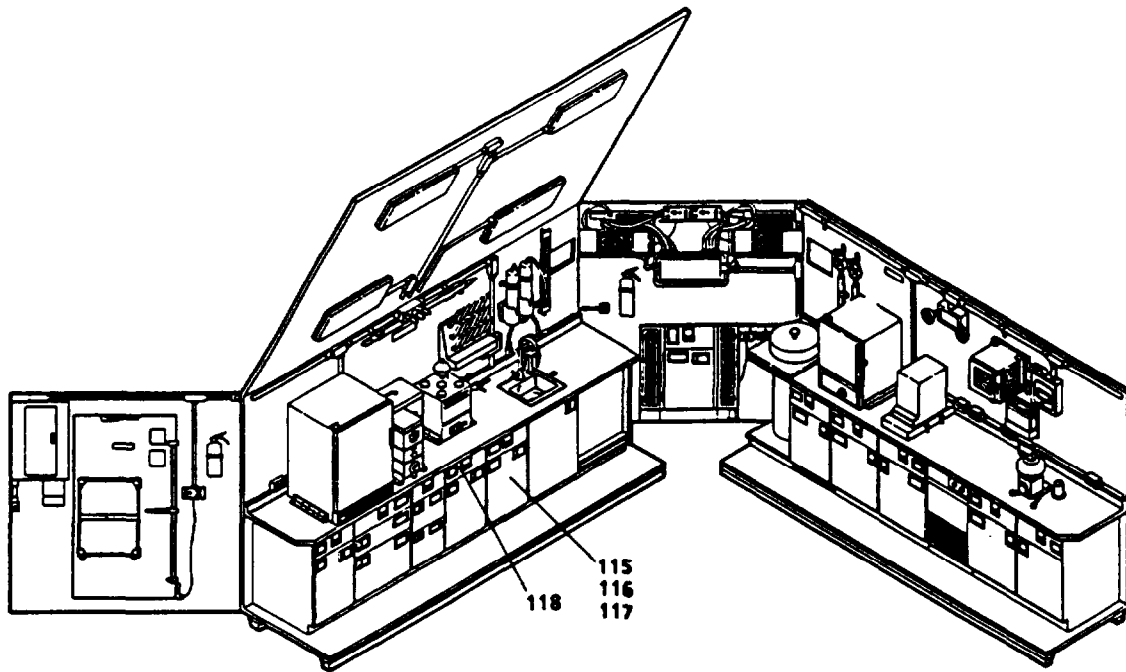
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 1 0 6 | 6685-00-904-4233 | THERMOMETER, ASTM CERTIFIED: 25 to 55 deg. C range (Cabinet No. 5) (81346) ASTM E1 No. 64C | EA | 1 |
| 1 0 7 | 6685-00-485-9635 | THERMOMETER, ASTM CERTIFIED: 145 to 205 deg. C range (Cabinet No. 5) (81346) ASTM E1 No. 68C | EA | 1 |
| 1 0 8 | 6695-00-496-9624 | THIEF, OIL: Resine 40 in. long for ASTM Test D-270; (21519) No. 68-875-40 | EA | 1 |
| 1 0 9 | 6645-00-732-7789 | TIMER, INTERVAL: (Bottom Drawer No. 2) (81348) GG-T-416 | EA | 2 |
| 1 1 0 | 6640-00-444-8000 | TONG, LABORATORY: Cres; Riveted joint, 9 in. long (Top Drawer No. 9) (96906) MS36023-2 | EA | 1 |

Section II. BASIC ISSUE ITEMS - Cont.



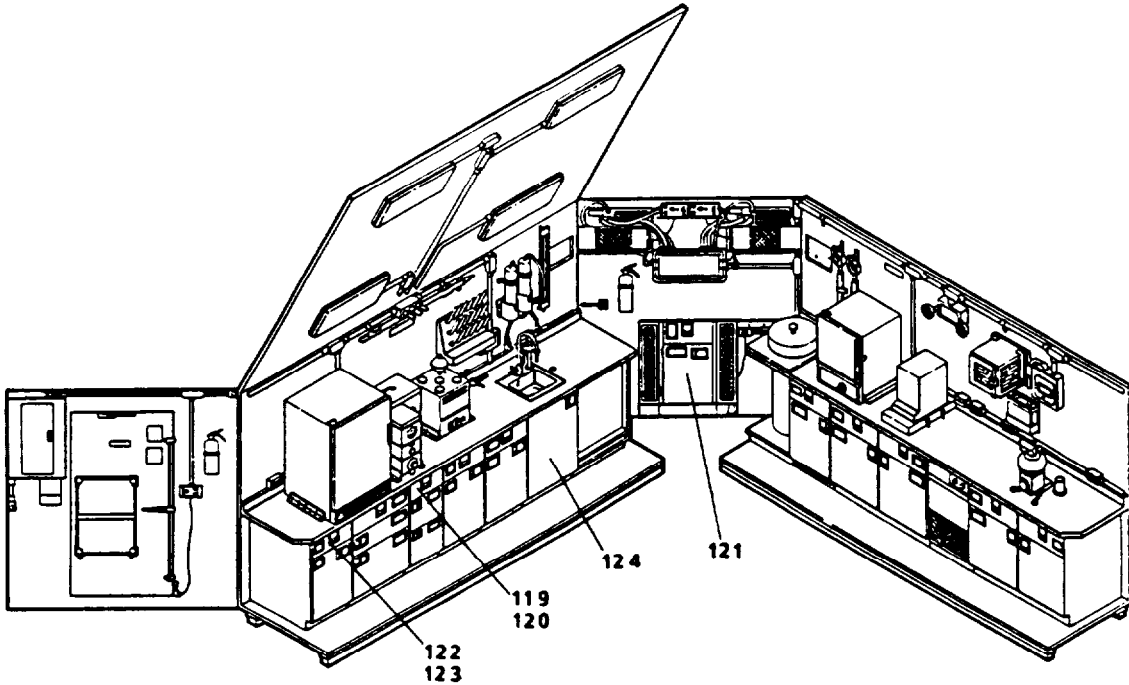
| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|---|------------|--------------------|
| 111 | 6640-00-360-0021 | TONG, LABORATORY: Utility 7 in. long; serrated jaws (Top Drawer No. 9) (22527) 15-202 | EA | 1 |
| 112 | 4720-00-22 1-8658 | TUBING, PLASTIC: Tygon 1/16 in. wall, 3/16 in. ID (Bottom Drawer No. 9) (21519) No. 74-995 | FT | 10 |
| 113 | 4720-00-221-8659 | TUBING, PLASTIC: Tygon 1/16 in. wall, 1/4 in. ID (Bottom Drawer No. 9) (21519) No. 74-995 | FT | 10 |
| 114 | 4720-00-236-6273 | TUBING, PLASTIC: Tygon 1/16 in. wall, 5/16 in. ID (Bottom Drawer No. 9) (21519) No. 74-995 | FT | 10 |

Section II. BASIC ISSUE ITEMS - Cont.



| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) QTY. RQR |
|------------------------|---------------------------------|--|------------|--------------------|
| 115 | 4720-00-640-0329 | TUBING, RUBBER: Natural 3000 psi, 3/8 in. ID, 1/4 In. wall (Bottom Drawer No. 9) for ASTM Test D-2276 (81348) ZZ-T-831 | FT | 4 |
| 116 | 4720-00-927-5538 | TUBING, RUBBER: Natural 3/16 in. ID, 3/32 In. wall (Bottom Drawer No. 9) (81348) ZZ-T-831 | FT | 12 |
| 117 | 4720-00-087-1417 | TUBING, VACUUM: 5/8 in. ID (Bottom Drawer No. 9) (21519) No. 75-090 | FT | 4 |
| 118 | 6640-00-299-8493 | WASH BOTTLE, LABORATORY: (Top Drawer No. 3) (96906) .MS36070-1 | EA | 2 |

Section II. BASIC ISSUE ITEMS - Cont.



| (1) ILLUS NUMBER | (2) NATIONAL STOCK NUMBER | (3) DESCRIPTION CAGEC and Part Number | (4) U/M | (5) RQR |
|------------------------|---------------------------------|---|------------|------------|
| 119 | | WEIGHT, BALANCE: (Top Drawer No. 2) Cadium plated; 1 gm (22527) 02-219-10A | EA | 1 |
| 120 | | WEIGHT, BALANCE: Tantalum; (Top Drawer No. 2) fractional; 100 mg (22527) 02-219-20D | EA | 1 |
| 121 | 6145-00-299-5186 | WIRE, ELECTRICAL: No. 16 AWG 875.20 ohms per mile - lb. (Sliding Shelf No. 8) (81348) QQ-W-343 | LB | 1 |
| 122 | 5120-00-240-5328 | WRENCH, OPEN END, ADJUSTABLE: 8 in. (Top Drawer No. 1) (96906) MS15461-3 | EA | 1 |
| 123 | 5120-00-264-3796 | WRENCH, OPEN END, ADJUSTABLE: 12 in. (Top Drawer No. 1) (80244) GGG-W-631 | EA | 1 |

APPENDIX D
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

D-1. SCOPE.

This appendix lists additional items you are authorized for the support of the Airmobile Laboratory.

D-2. GENERAL. 1

This list identifies items that do not have to accompany the Airmobile Laboratory and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA, or JTA.

D-3. EXPLANATION OF LISTING.

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name under the type document (i.e., CTA, MTOE, TDA, or JTA) which authorizes the item(s) to you.

Section II. ADDITIONAL AUTHORIZATION LIST

| (1) National Stock Number | (2) Description | (3) U/M | (4) Qty Auth |
|---------------------------------|--|------------|--------------------|
| 6115-00-394-9577 | GENERATOR, 15KW: 3-phase, 4-wire 120/ 208/240/416 VVOLT, Trailer Mounted (PU-405) | E A | 1 |
| 6150-00-487-3037 | POWER INPUTCABLE | E A | 1 |

APPENDIX E

EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1. SCOPE.

This appendix lists expendable supplies and materials you will need to operate and maintain the Airmobile Laboratory. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items. (Except medical, class U repair parts, and heraldic items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

E-2. EXPLANATION OF COLUMNS.

- a. Column 1- Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, Item 5, Appendix D").
- b. Column 2- Level. This column identifies the lowest level of maintenance that requires the listed item:

C - Operator/Crew
0- Unit Maintenance
- c. Column 3- National Stock Number. This is the national stock number assigned to the item; use it to request or requisition the item.
- d. Column 4- Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity Code (CAGEC) in parentheses followed by the part number.
- e. Column 5- Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

| SECTION II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST | | | | |
|--|-------|------------------|--|-----|
| (1) | (2) | (3) | (4) | (5) |
| Item Number | Level | Stock Number | Description | U/M |
| 1 | C | 6810-00-753-4780 | ACETONE, ACS: LIQUID 1 PINT, MIL-STD-1218 (81348)O-C-265 | OZ |
| 2 | C | 6135-00-542-6216 | BATTERY, DRY: CYL; 1.344 IN. DIA. 2.406 IN. H; TERMINAL 1 FLAT SURFACE, CLASS 10 SIZE D (81348) W-B-101 | EA |
| 3 | C | 5350-00-184-6255 | CARBORUNDUM POWER: SILICON CARBIDE; 140 MESH, 1 LB. CAN; MIL-A-21380, TYPE III | GM |
| 4 | C | 6640-00-179-2558 | CORK, PETROLEUM TEST (80740) NO. 27-000 | EA |
| 5 | C | 6640-00-323-8689 | CORROSION TEST STRIP, COPPER MS36252-1 | OZ |
| 6 | C | 6510-00-201-4000 | COTTON, PURIFIED: ROLLED USP (80244) JJJ-C-561 | FT |
| 7 | C | 6850-00-281-1837 | DESICCANT, ACTIVATED (22527) 07-578-3A | OZ |
| 8 | C | 7930-00-558-1111 | DETERGENT, GENERAL PURPOSE: WATER SOLUBLE, POWDER 5 LB; P-D- 1526 | OZ |
| 9 | C | 6640-00-299-8689 | DISH, CULTURE, PETRI: TOP AND BOTTOM; FOR ASTM TEST D-2276 | EA |
| 10 | C | 6640-00-985-0099 | DISK, FILTERING, MICROPOROUS: 25 MM DIA.; FOR ASTM TEST D-2276 (08071) HAWP-025-00 | EA |
| 11 | C | 6640-00-967-0501 | DISK, FILTER, PLAIN: AEROSOL, 47 M DIA. FOR ASTM TEST D-2276 (08071) AAWP-047-00 | EA |
| 12 | C | 6820-00-529-3248 | DYE, SOLVENT RED 27: (26125) COLOR INDEX NUMBER | OZ |

| SECTION II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST-Continued | | | | |
|--|-------|------------------|--|-----|
| (1) | (2) | (3) | (4) | (5) |
| Item Number | Level | Stock Number | Description | U/M |
| 13 | C | 6810-00-264-8997 | ETHYLENE GLYCOL MONO-METHYL ETHER, TECHNICAL: LIQUID (81348) O-E-780 | OZ |
| 14 | C | 6630-00-764-5761 | FILTER UNIT, CONTAMINATION: (08071) MAWP037PM | EA |
| 15 | C | 6630-00-445-3662 | FILTER UNIT, CONTAMINATION: (08071) MAW0037PO | EA |
| 16 | C | 5920-00-850-6092 | FUSE: 110/120V AC (05083) NO. 355-709 | EA |
| 17 | C | 5920-01-NIIN | FUSE: 12V DC (05083) NO. 355-713, OR EQUAL | EA |
| 18 | C | 5330-00-169-0557 | GASKET, (RVP) PETROLEUM TEST: (48619) F69-055 | EA |
| 19 | C | 5330-00-292-0570 | GASKET, (RVP) PETROLEUM TEST: (48619) 23-2069 | EA |
| 20 | C | 8415-00-682-6786 | GLOVES, PLASTIC, DISPOSABLE: MEDIUM SIZE (80740) NO. 74-769-04 | PR |
| 21 | C | 9150-00-965-2408 | GREASE, GROUND GLASS JOINT: SILICONE; 2 OZ. JAR (71984) | OZ |
| 22 | C | 6850-00-294-0860 | GREASE: SILICONE COMPOUND (71984) DC111 | OZ |
| 23 | C | 6810-00-145-0250 | ISO-OCTANE ACS: FTMS-F-5340; MIL-STD-1218 (81348) O-C-265 | OZ |
| 24 | C | | MATING: ROUND RIBBED VINYL RUNNER (2E878) PN A603 | YD |
| 25 | C | 6810-00-281-7453 | MERCURY, ACS: LIQUID, 1 LB. BOTTLE; MIL-STD-1218 (81348) O-C-265 | OZ |
| 26 | C | 9535-00-541-2453 | METAL FOIL ALUMINUM: ALLOY; QQ-A-1876, TYPE 1, GRADE B | FT |
| 27 | C | 6810-00-839-8942 | NAPHTHA | OZ |

| SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST -Continued | | | | |
|---|-------|-----------------------|---|-----|
| (1) | | (3) | (4) | (5) |
| Item Number | Level | National Stock Number | Description | U/M |
| 28 | O | 9150-00-823-8068 | OIL, LUBRICATING: FLUID (71984) DC 510 FLUID | OZ |
| 29 | O | 6850-01-051-1435 | PACKING, COMPOUND: POTTING (71984) 3110RTV | OZ |
| 30 | C | 6640-00-235-3820 | PAD, WATER DETECTOR KIT: (32218) GTP-25 | EA |
| 31 | C | 5350-00-721-8117 | PAPER, ABRASIVE: SILICON CARBIDE; GRIT NO. 180 | SH |
| 32 | C | 6640-00-543-6045 | PAPER, FILTER: 15 CM DIA.; NNN-P-1475, TYPE I, CLASS I | EA |
| 33 | C | 7510-00-174-3205 | PENCIL: WAX, BLACK, EXTRA THICK LEAD; SS-P-196 | EA |
| 34 | C | 6810-00-753-4990 | PETROLEUM ETHER, ACS: LIQUID; 30'C INITIAL BP TEMP; 60'C FINAL TEMP; 90 PCT MIN. DISTILLED MIL-STD-1218 (81348) O-C-265 | OZ |
| 35 | C | 6810-00-051-5872 | PETROLEUM ETHER, ACS: LIQUID; 30'C INITIAL BP TEMP; 60'C FINAL TEMP; 90 PCT MIN. DISTILLED MIL-STD-1218 (81348) O-C-265 | OZ |
| 36 | C | 6810-00-137-5000 | POTASSIUM DIHYDROGEN PHOSPHATE MONOBASIC, ACS: SORENSEN; 1/4 LB. BOTTLE MIL-STD-1218 (81348) O-C-265 | OZ |
| 37 | C | 6810-00-270-3255 | POTASSIUM PHOSPHATE, DIBASIC ANHYDROUS, ANALYZED REAGENT: POWDER; 98 PCT MIN. ASSAY AS POTASSIUM PHOSPHATE DIBASIC; 1/4 LB. BOTTLE MIL-STD-1218 (81348) O-C-265 | OZ |
| 38 | C | 6830-00-584-3041 | PROPANE: 95 PCT PURE ODORIZED, 14.1 OZ. CYL. ICC DESIGNATION: NO. BOC-ICC-41-4186-4-58 DISPOSABLE CYLINDER (70785) | OZ |

SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST- Continued

| (1) | (3) | (4) | (5) | |
|-------------|-------|-----------------------|--|-----|
| Item Number | Level | National Stock Number | Description | U/M |
| 39 | C | 6810-00-234-8380 | SODIUM THIOSULFATE, PENTAHYDRATE, ACS: CRYSTAL; 1 LB. BOTTLE MIL-STD-1218 (81348) O-C-265 | GM |
| 40 | C | 6850-00-264-9037 | SOLVENT: DRY CLEANING; (81348) P-D-680 | OZ |
| 41 | C | 7920-00-240-2559 | SPONGE, CELLULOSE: RECTANGULAR, TYPE II, CLASS 2, POROSITY A | EA |
| 42 | C | 5350-00-240-2920 | STEEL WOOL: 1 LB. ROLL; FINE (81348) FF-W-1825, CLASS 00, TYPE I | EA |
| 43 | C | 6640-00-116-2823 | STOPPER, CORK: STANDARD TAPPER; NO. 4 STOPPER; (80740) NO. 26-790-4 | EA |
| 44 | C | 6810-00-282-9710 | SULFUR, TECHNICAL: (81349) MIL-S-487 | OZ |
| 45 | C | 5970-00-184-2002 | TAPE, ELECTRICAL: | RL |
| 46 | C | 6640-00-315-3022 | TAPE, TEFLON: RIBBON 1/2 X 260 IN. ROLL (08071) TP00-013-26 | YD |
| 47 | C | | GASKET, DOOR MOLDED: RUBBER | EA |

UNIT AND DIRECT 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 unit and direct support maintenance of the Airmobile Aviation Fuel Laboratory. 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).

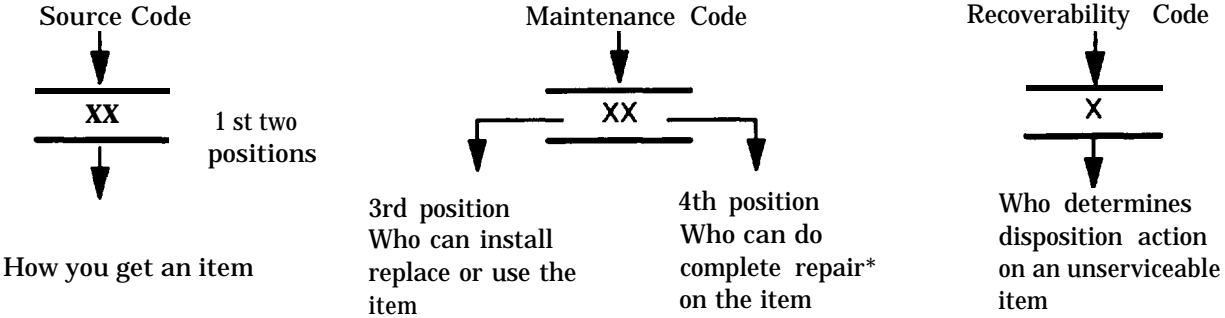
b. **Section III. Special Tools List.** A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

c. **Section IV. Cross-reference Indexes.** 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. The figure and item number index lists figure and item number in alphanumeric sequence and cross references NSN, CAGEC and part number.

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:



*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 item/equipment. Explanations of source codes follows:

| Code | Explanation |
|--|--|
| PA PB PC** PD PE PF PG | <p>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 3rd position of the SMR code.</p> <p>**NOTE: Items coded PC are subject to deterioration.</p> |
| KD KF KB | <p>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 3rd position of the SMR code. The complete kit must be requisitioned and applied.</p> |
| MO — (Made at org AVUM Level) MF — (Made at DS/AVUM Level) MH — (Made at GS Level) ML — (Made at Specialized Repair Activity (SRA)) MD — (Made at Depot) | <p>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 this RPSTL. If the item is authorized to you by the 3rd 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.</p> |
| AO — (Assembled by org/AVUM Level) AF — (Assembled by DS/AVUM Level) AH — (Assembled by GS Category) AL — (Assembled by SRA) AD — (Assembled by Depot) | <p>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 3rd 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.</p> |
| XA — Do not requisition "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 CAGEC and part number given. | |
| XC — Installation drawing, diagram, instruction sheet, field service drawing, that is identified by Reciprocating Compressor manufacturer's part number. | |
| XD — Item is not stocked. Order an "XD" -coded item through normal supply channels using the CAGEC 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 750-1.

(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. |
| H — | General Support is the lowest level that can do complete repair of the item. |
| L — | Specialized repair activity is the lowest level that can do complete 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 y 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 third position of SMR Code. |
| O — | Reparable item. When not economically reparable, condemn and dispose of the item at organizational or aviation unit level |
| F — | Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate level |
| H — | Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support level. |
| 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. **CAGEC** (Column (3)). The Commercial and Government Entity Code (CAGEC) 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 an 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., PhySec 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 lastline(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.

(10) The indenture, shown as dots appearing before the repairpart, indicates that the item is a repair part of the next higher assembly,

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.

NSN
 5305-01-574-1467
 NIIN

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 O through 9 and each following letter or digit in like order).

(1) **CAGEC column.** The Commercial and Government Entity Code (CAGEC) is a 5-digit 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 manufacture (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 CAGEC 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.

c. FIGURE AND ITEM NUMBER INDEX.

(1) FIG. column. This column lists the number of the figure where the item is identified/located in Section II and III.

(2) ITEM column. The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

(3) STOCK NUMBER column. This column lists the NSN for the item.

(4) CAGEC column. The Commercial and Government Entity Code (CAGEC) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(5) 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.

5. SPECIAL INFORMATION.

a. USABLE ON CODE. The usable on code appears in the lower corner of the Description column heading. Usable on codes are shown as "UOC:" in the Description Column (justified left) on the last line applicable item description/nomenclature. Uncoded items are applicable to all models.

b. ASSOCIATED PUBLICATIONS. Refer to Appendix A, References.

6. HOW TO LOCATE REPAIR PARTS.

a. When National Stock Number or Part Number is NOT Known.

(1) First. Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) Third. Identify the item on the figure and note the item number.

(4) Fourth. Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.

(5) Fifth. Refer to the Part Number Index to find the NSN, if assigned.

b. When National Stock Number or Part Number Is Known.

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see c-4a.(1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see paragraph c-4.b). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

(2) Second. After finding the figure and item number, verify that the item is the one you are looking for, then locate the item number in the repair parts list for the figure.

7. **ABBREVIATIONS.** Abbreviations used in this manual are listed in MIL-STD-12.

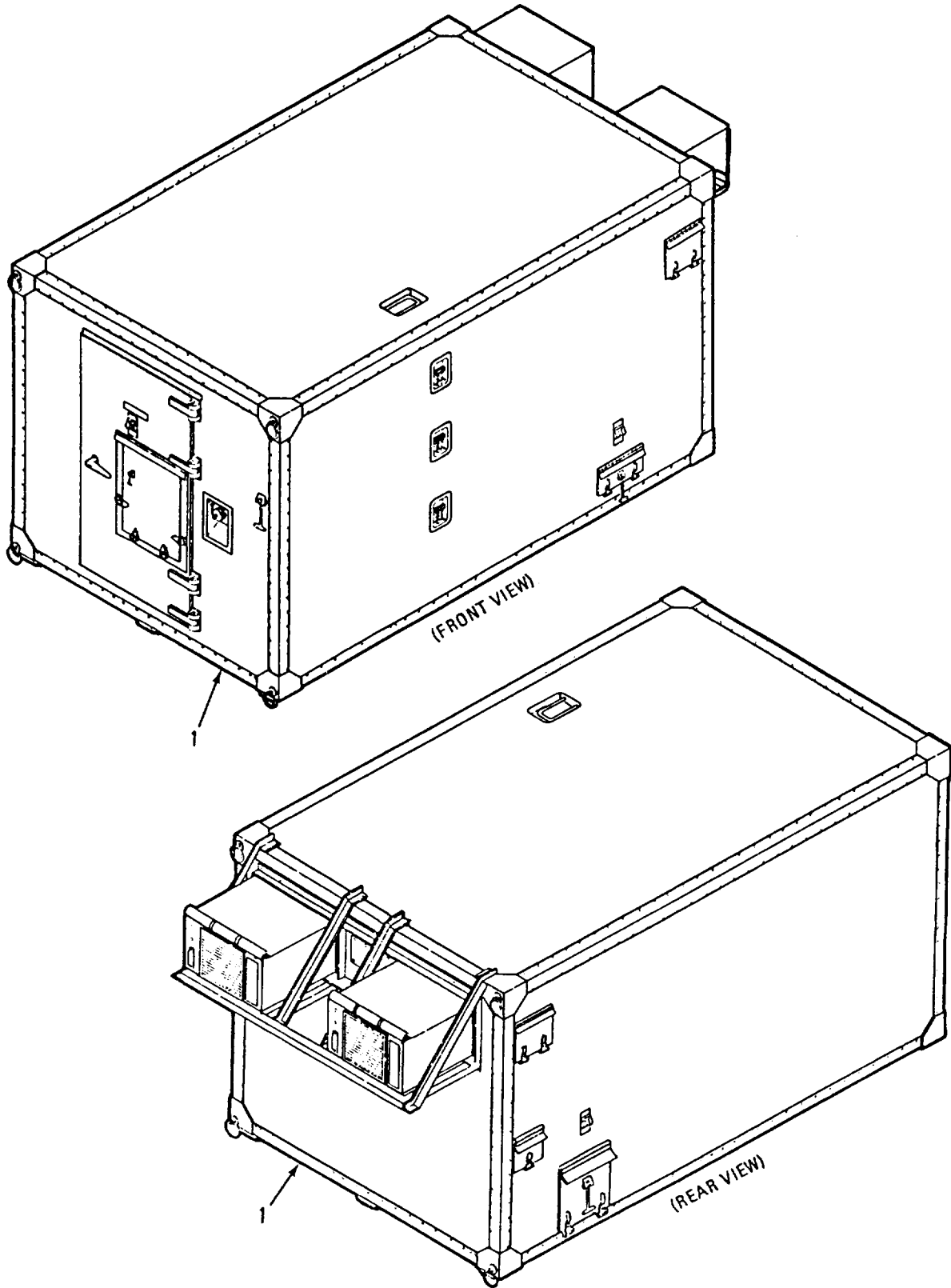


Figure F-1. Airmobile Aviation Fuel Laboratory

15
16 THRU 21

30
31 THRU 37

38
39 THRU 42

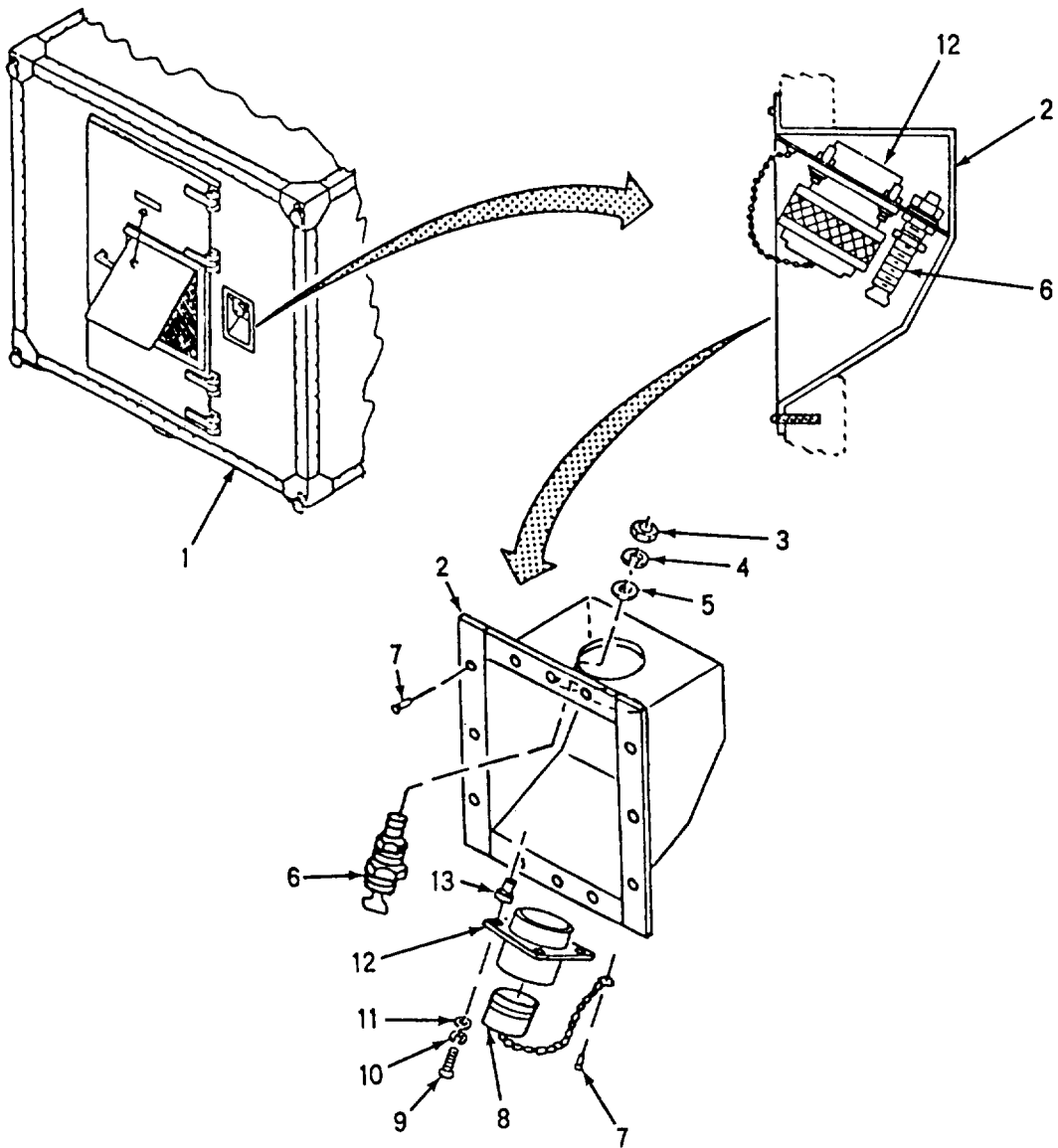


Figure F-2. Shelter Assembly (Sheet 1 of 2)

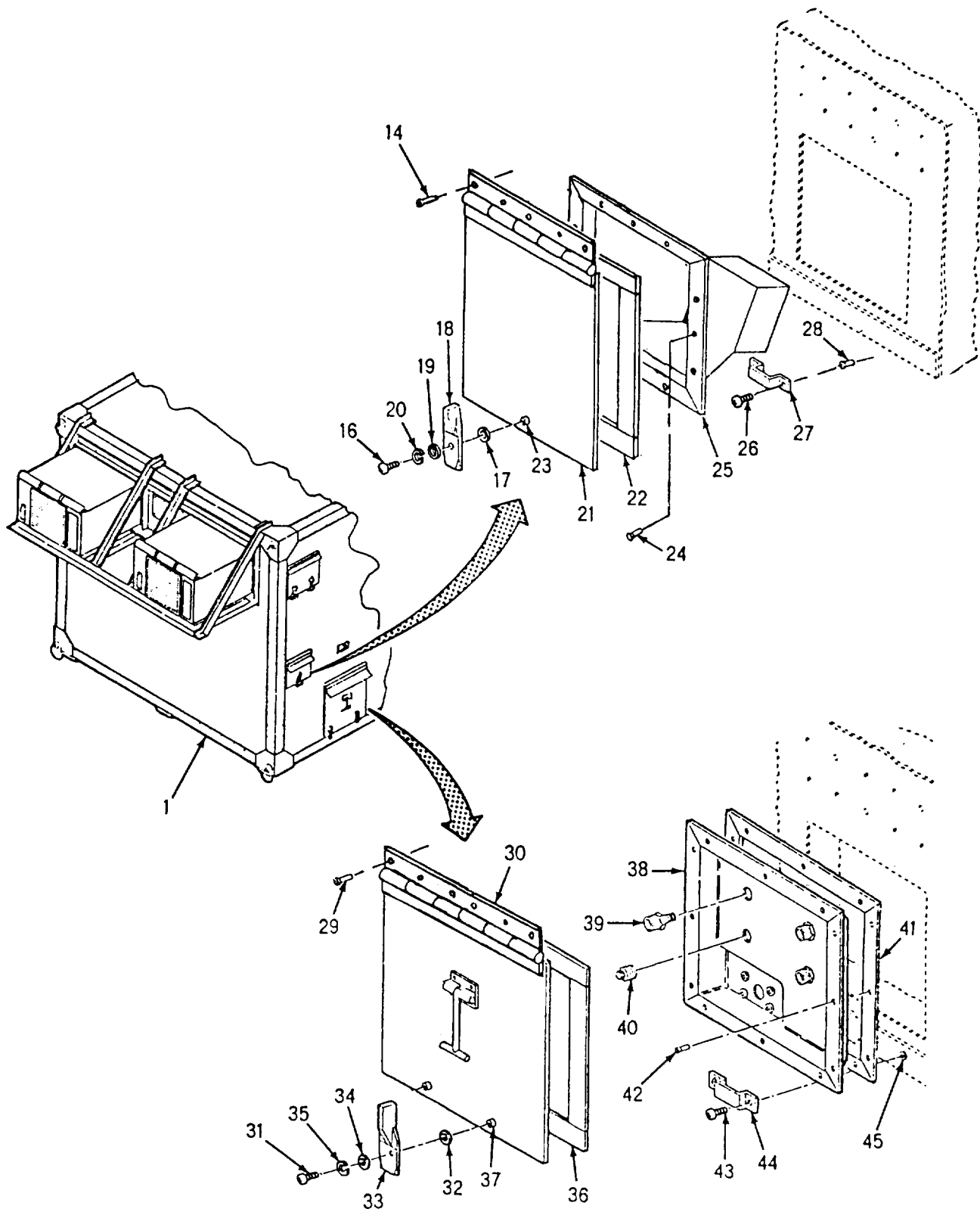


Figure F-2. Shelter Assembly (Sheet 2 of 2)

| SECTION II (1) ITEM NO | (2) SMR CODE | (3) CAGEC | TM10-6640-216-13&P (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) GROUP 01 SHELTER ASSEMBLY FIG. 2 SHELTER ASSEMBLY | (6) QTY |
|---------------------------------|--------------------|--------------|---|--|------------|
| 1 | PDOFH | 97403 | 13227E7469 | SHELTER, ASSEMBLY | 1 |
| 2 | XDOZZ | 97403 | 13219E1399 | JUNCTION BOX, ELEC | 1 |
| 3 | PAOZO | 96906 | MS51971-5 | NUT, PLAIN, HEXAGON | 1 |
| 4 | PAOZZ | 96906 | MS35338-143 | WASHER, LOCK | 1 |
| 5 | PAOZO | 96906 | MS15795-818 | WASHER, FLAT | 1 |
| 6 | PAOZZ | 30554 | 69-692-1 | TERMINAL, LOAD | 1 |
| 7 | PAOZZ | 81349 | M24243/1-A404 | RIVET, BLIND | 12 |
| 8 | PAOZZ | 96906 | MS90564-7C | COVER, ELECTRICAL CO | 1 |
| 9 | PAOZZ | 96906 | MS16996-24 | SCREW, CAP, SCH | 4 |
| 10 | PAOZO | 96906 | MS35338-139 | WASHER, LOCK | 4 |
| 11 | PAOZZ | 96906 | MS15795-810 | WASHER, FLAT | 4 |
| 12 | PAOZF | 96906 | MS90558C44413P | CONNECTOR, RECEPTAC | 1 |
| 13 | XDOZZ | 80205 | NAS1330-4-151 | NUT, PLAIN BLIND | 4 |
| 14 | PAOZZ | 81349 | M24243/1-A404 | RIVET, BLIND | 5 |
| 15 | XDOOO | 97403 | 13219E1571 | DOOR, ASSY WATER | 1 |
| 16 | PAOZZ | 96906 | MS16995-16 | SCREW, CAP, SOCKET HE | 1 |
| 17 | PAOZZ | 80063 | BSC-B-539596 | WASHER, SPG | 1 |
| 18 | PAOZZ | 81349 | CSC-C-539594 | LATCH | 1 |
| 19 | PAOZZ | 96906 | MS15795-805 | WASHER, FLAT | 1 |
| 20 | PAOZZ | 96906 | MS35338-136 | WASHER, LOCK | 1 |
| 21 | XDOZZ | 97403 | 13219E1536 | DOOR, ACCESS WTR | 1 |
| 22 | MOOZZ | 97403 | 13219E1536-1 | SHEET, RUBBER MAKE FROM RUBBER SHEET, P/N B46089-MSB1, CUT AS REQD | 1 |
| 23 | PAOZZ | 96384 | BS0S-632-10 | NUT, PLAIN, CLINCH | 1 |
| 24 | PAOZZ | 81349 | M24243/1-A404 | RIVET, BLIND | 12 |
| 25 | XDOZZ | 97403 | 13219E1565 | RECEPTACLE, WATER | 1 |
| 26 | PAOZZ | 96906 | MS35191-274 | SCREW, MACHINE | 2 |
| 27 | PAOZZ | 80063 | BSC-B-539597 | KEEPER | 1 |
| 28 | PAOZO | 96906 | MS27130-A26 | NUT, PLAIN, BLIND RIV | 2 |
| 29 | PAOZZ | 81349 | M24243/1-A404 | RIVET, BLIND | 12 |
| 30 | XDOOO | 97403 | 13219E1519 | DOOR, ACCESS UTIL | 1 |
| 31 | PAOZZ | 96906 | MS16995-16 | SCREW, CAP, SOCKET HE | 2 |
| 32 | PAOZZ | 80063 | BSC-B-539596 | WASHER, SPG | 2 |
| 33 | PAOZZ | 81349 | CSC-C-539594 | LATCH | 2 |
| 34 | PAOZZ | 96906 | MS15795-805 | WASHER, FLAT | 2 |
| 35 | PAOZZ | 96906 | MS51415-1 | WASHER, LOCK | 2 |
| 36 | MOOZZ | 97403 | 13219E1519-1 | SHEET, RUBBER MAKE FROM RUBBER SHEET, P/N B46089-MSB1, CUT AS REQD | 1 |
| 37 | PAOZZ | 96384 | BS0S-632-10 | NUT, PLAIN, CLINCH | 2 |
| 38 | XDOOO | 97403 | 13219E1545 | BOX, UTILITIES | 1 |
| 39 | PAOZZ | 97403 | 13218E0479-52 | ADAPTER, STRAIGHT | 3 |
| 40 | PAOZZ | 16799 | BV-2 | BREATHER | 1 |
| 41 | XDOZZ | 97403 | 13228E1210 | UTILITIES, FRAME | 1 |
| 42 | PAOZZ | 81349 | M24243/1-A404 | RIVET, BLIND | 12 |
| 43 | PAOZZ | 96906 | MS35191-274 | SCREW, MACHINE | 4 |
| 44 | PAOZZ | 80063 | BSC-B-539597 | KEEPER | 2 |
| 45 | PAOZO | 96906 | MS27130-A26 | NUT, PLAIN, BLIND RIV | 4 |

END OF FIGURE

| SECTION II (1) | ITEM (2) | (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|---|-------------|-------|---------------------------|---|-----|
| NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 02 ELECTRICAL SYSTEM ASSEMBLY | | | | | |
| FIG. 3 ELECTRICAL SYSTEM POWER CABLE AND FLUORESCENT LIGHT | | | | | |
| 1 | PBOZZ | 97403 | 13228E1215 | CABLE, POWER | 1 |
| 2 | PAOZZ | 96906 | MS35207-307 | SCREW, MACH, PNH | 4 |
| 3 | PAOZZ | 96906 | MS27130-A61K | NUT, KEYED | 4 |
| 4 | PAOOO | 81349 | M16377-12-341-1 | FIXTURE, LIGHT, FLUOR | 1 |
| 5 | PAOZZ | 81349 | M16377/12-003 | WINDOW, LIGHTING INCLUDES ATTACHING SCREWS | 1 |
| 6 | PAOZZ | 81348 | W-L-116/18 | LAMP, FLUORESCENT | 3 |
| 7 | PAOZZ | 8149 | M16377/42-005 | FILTER, INDICATOR | 1 |
| 8 | PAOZF | 81348 | WS755TYPE3 | STARTER, FLUORESCENT 8W, TYPE 111 | 3 |
| 9 | PAOZZ | 81349 | M16377/44-001 | BALLAST, LAMP | 3 |
| 10 | PAOZZ | 81349 | MIL-L-970/11 | LAMPHOLDER | 6 |
| 11 | PAOZZ | 81349 | MIL-L-970/13 | SOCKET, LAMP STARTER | 3 |
| 12 | PAOZZ | 96906 | MS16569-1 | SWITCH, TOGGLE | 1 |

END OF FIGURE

CHANGE 1

F-15/(F-16 BLANK)

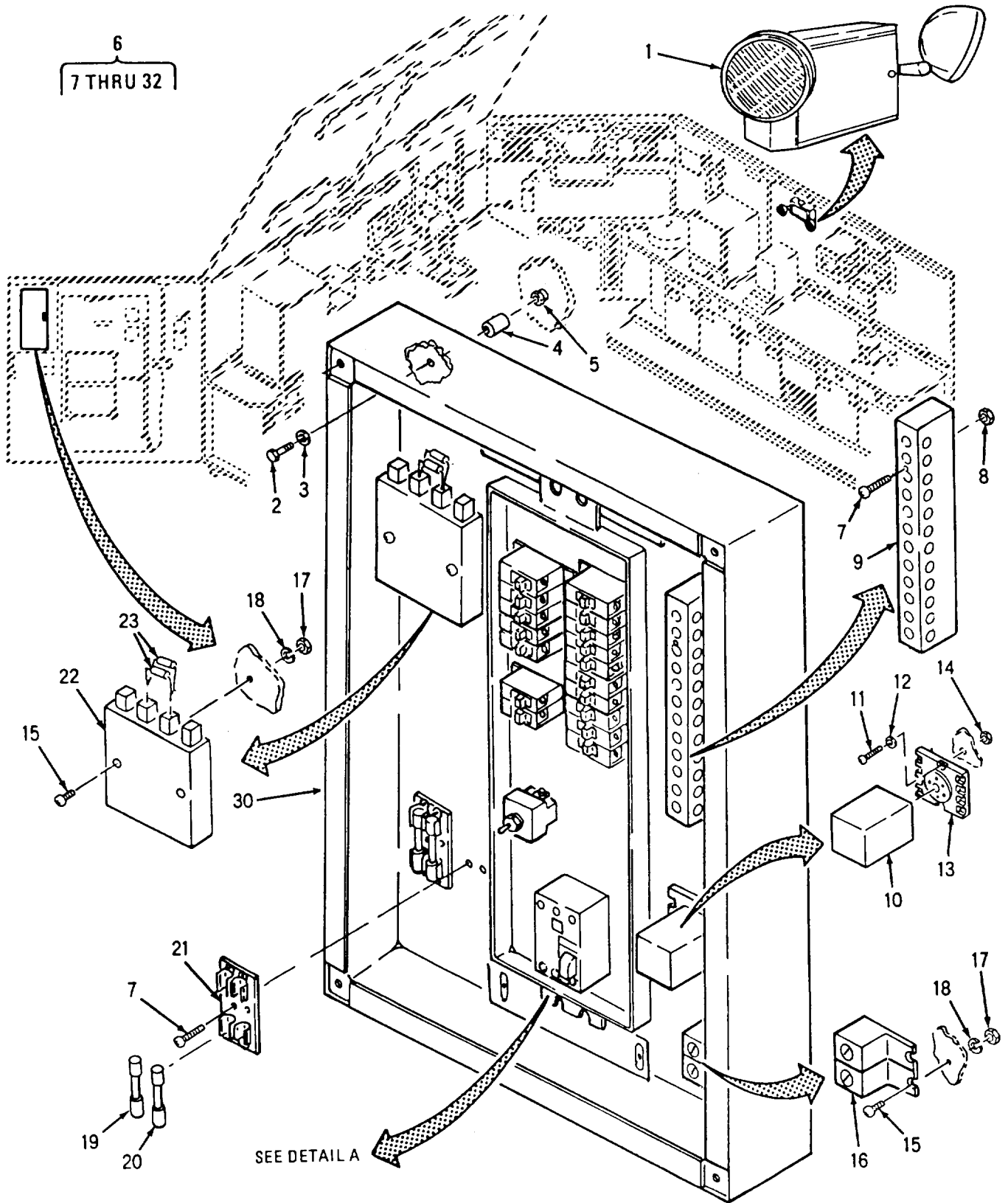


Figure F-4. Electrical System Emergency Light and Panelboard (Sheet 1 of 2)

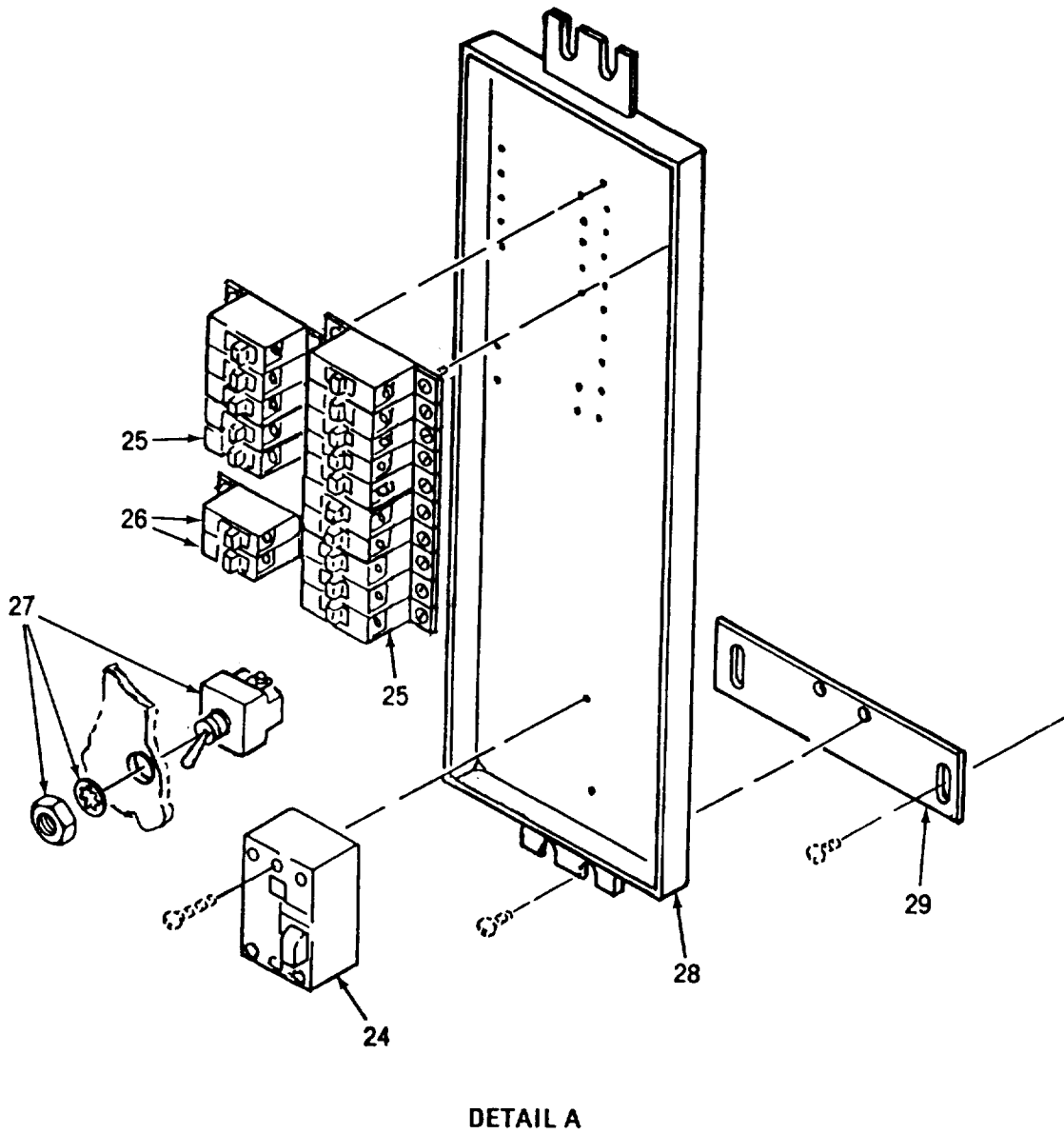


Figure F-4. Electrical System Emergency Light and Panelboard (Sheet 2 of 2)

| SECTION II (1) | SMR (2) | (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|--|------------|-------|---------------------------|---------------------------------------|-----|
| ITEM NO | CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 02 ELECTRICAL SYSTEM ASSEMBLY | | | | | |
| FIG. 4 ELECTRICAL SYSTEM EMERGENCY LIGHT AND PANELBOARD | | | | | |
| 1 | PBOOO | 54319 | SW62 | FIXTURE EMER LIGHT | 1 |
| 2 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 4 |
| 3 | PAOZZ | 96906 | MS27183-8 | WASHER, FLAT | 4 |
| 4 | XDOZZ | 97403 | 13228E1219-2 | SPACER | 4 |
| 5 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 4 |
| 6 | XDOOO | 97403 | 13219E1487 | PANELBOARD ASSY | 1 |
| 7 | PAOZZ | 96906 | MS35207-279 | SCREW, MACHINE | 2 |
| 8 | PAOZZ | 96906 | MS21044C4 | NUT, SELF, LOCKING, HE | 2 |
| 9 | PBOZZ | 56305 | PK15GTA | BAR, GROUND | 1 |
| 10 | PBOZZ | 44655 | DOSHXP-47T | RELAY 115VAC COIL | 1 |
| 11 | PAOZO | 96906 | MS35265-30 | SCREW, MACHINE | 2 |
| 12 | PAOZZ | 96906 | MS35338-41 | WASHER, LOCK | 2 |
| 13 | PAOZZ | 12148 | 27E122 | SOCKET, PLUG-INN ELEC | 1 |
| 14 | PAOZZ | 96906 | MS35649-262 | NUT, PLAIN, HEXAGON | 2 |
| 15 | PAOZZ | 96906 | MS51957-32 | SCREW, MACHINE | 2 |
| 16 | PAOZZ | 56305 | Q070AN | LUG, NEUTRAL | 1 |
| 17 | PAOZF | 96906 | MS35649-264 | NUT, PLAIN, HEXAGON | 2 |
| 18 | PAOZZ | 96906 | MS35338-135 | WASHER, LOCK | 2 |
| 19 | PAOZZ | 81349 | F03B125V5A | FUSE CARTRIDGE | 1 |
| 20 | PAOZZ | 81349 | F03B125V15A | FUSE CARTRIDGE | 3 |
| 21 | PAOZZ | 81349 | FH23BM | FUSE HOLDER BLOCK | 2 |
| 22 | PAOZZ | 95692 | 438U | RELAY, TIMER | 1 |
| 23 | PAOZZ | 81349 | RCR32G625JS | RESISTOR, FIXED | 2 |
| 24 | PBOZZ | 56365 | FAL32100-1121-8F -24 | BREAKER, CIRCUIT | 1 |
| 25 | PBOZZ | 09710 | QOB115 | CIRCUIT BREAKER | 15 |
| 26 | PBOZZ | 56365 | QOB320 | CIRCUIT BREAKER | 2 |
| 27 | PAOZZ | 96906 | MS35059-23 | SWITCH, TOGGLE | 1 |
| 28 | PAOZZ | 56305 | NQOD424L100 | MOUNT, INTR | 1 |
| 29 | PAOZZ | 56305 | NQODQ2 | BRACKET, INTR | 1 |
| 30 | XDOZZ | 56365 | MH-29 | BOX, ELEC | 1 |

END OF FIGURE

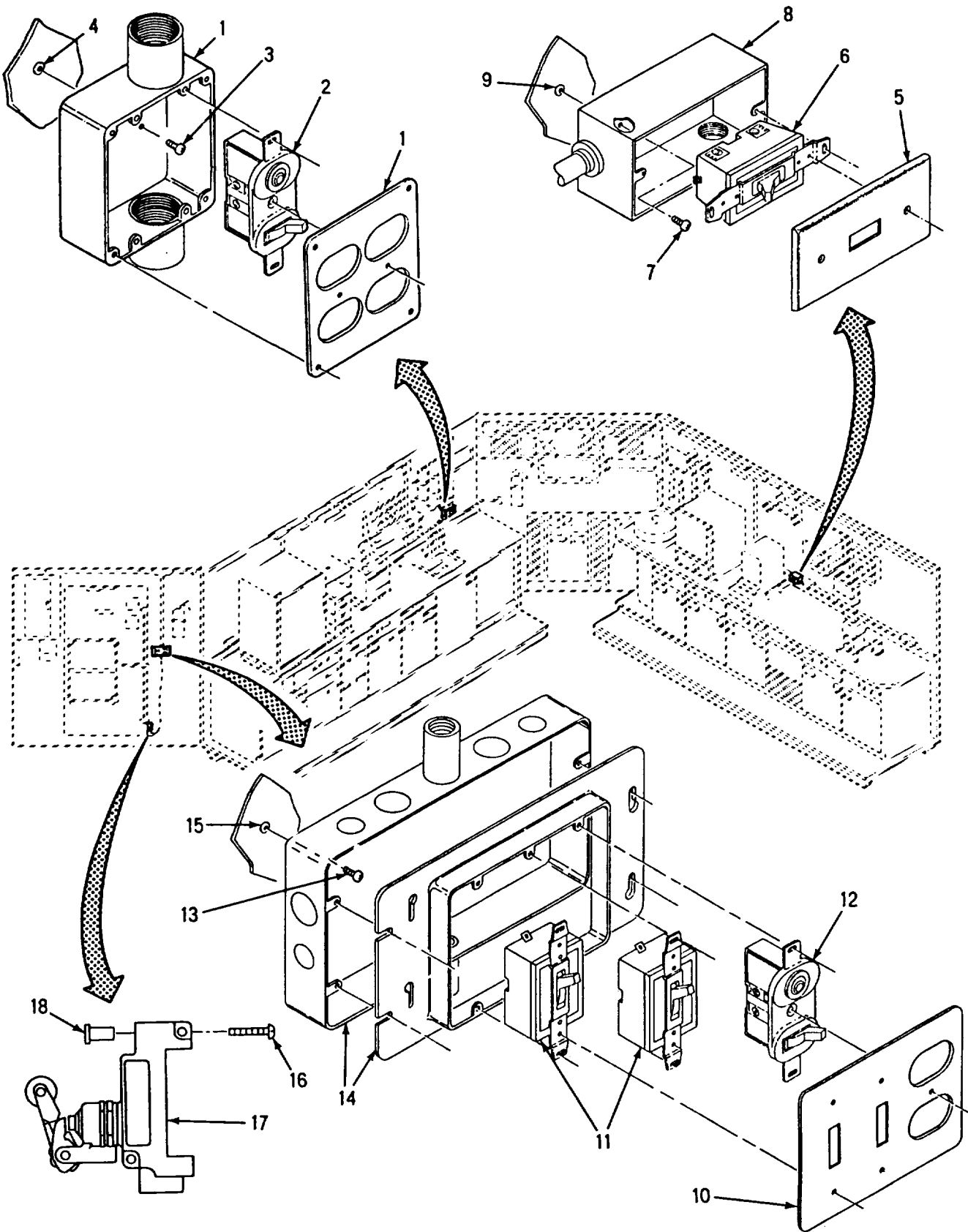


Figure F-5. Electrical System Wall Switches and Blackout Switch

| SECTION II (1) | SMR (2) | CAGEC (3) | TM10-6640-216-13&P (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|---|------------|--------------|---|--|------------|
| GROUP 02 ELECTRICAL SYSTEM ASSEMBLY | | | | | |
| FIG. 5 ELECTRICAL SYSTEM WALL SWITCHES AND BLACKOUT SWITCH | | | | | |
| 1 | XDOZZ | 81348 | W-J-800 | BOX CONNECTOR TYVITISIZED STY30 | 1 |
| 2 | PAOZZ | 75582 | 5226 | SWITCH, TOGGLE LIGHT | 3 |
| 3 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 10 |
| 4 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 10 |
| 5 | PAOZZ | 75282 | 1FT | COVER, CONDUIT | 1 |
| 6 | PAOZF | 81348 | WS896/2-03A | SWITCH, TOGGLE | 3 |
| 7 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 10 |
| 8 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FOR M1STYL | 1 |
| 9 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 10 |
| 10 | PAOZZ | 75282 | 3FTTA | COVER, JUNCTION BOX | 1 |
| 11 | PAOZF | 81348 | WS896/2-03A | SWITCH, TOGGLE | 3 |
| 12 | PAOZZ | 75582 | 5226 | SWITCH, TOGGLE LIGHT WITH NEON LAMP | 1 |
| 13 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 10 |
| 14 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM3STYE | 1 |
| 15 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 10 |
| 16 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 10 |
| 17 | PAOZZ | 91929 | BZG1-2RN2 | SWITCH, MICRO | 1 |
| 18 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 10 |

END OF FIGURE

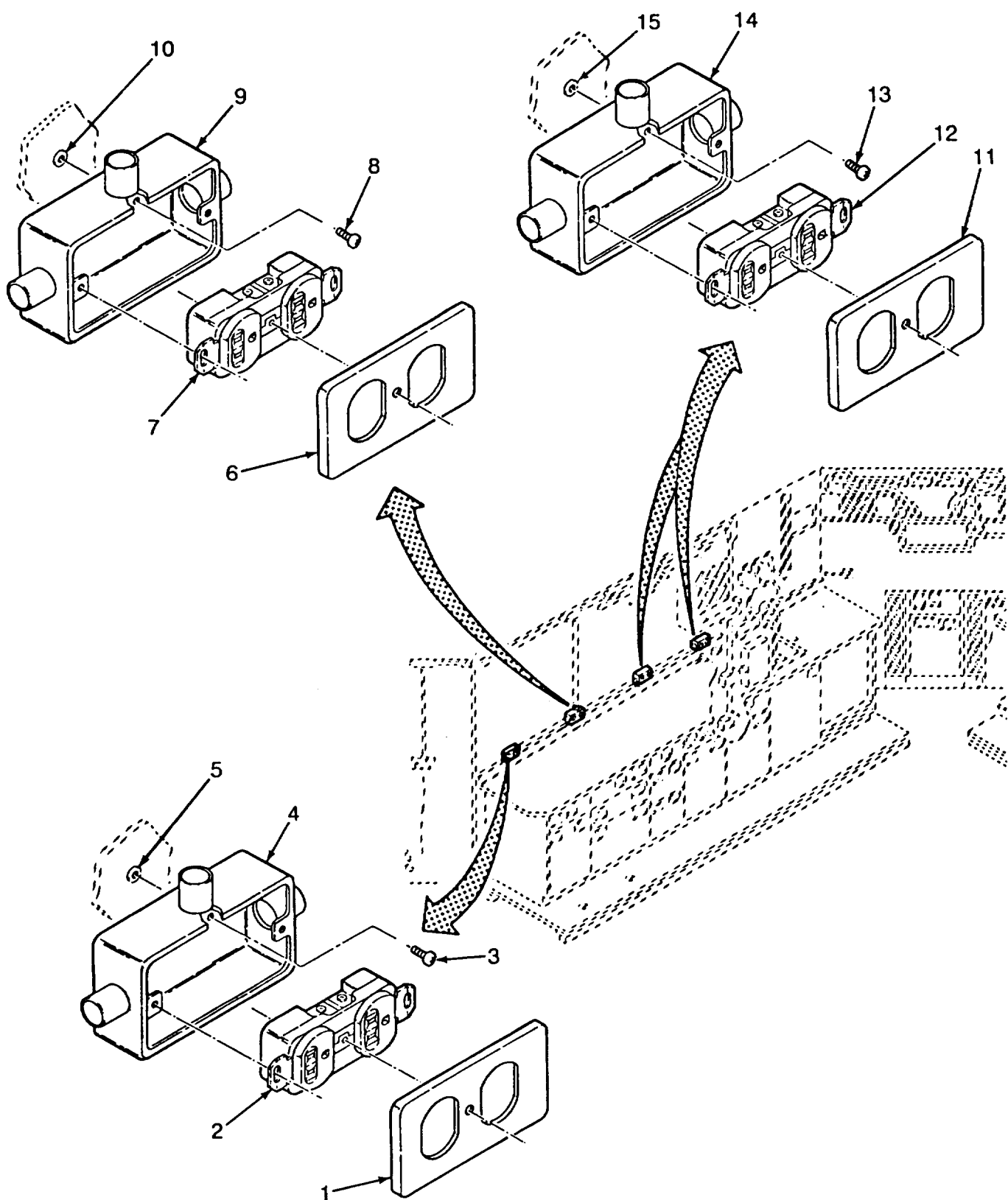


Figure F-6. Electrical System Receptacles (Sheet 1 of 3)

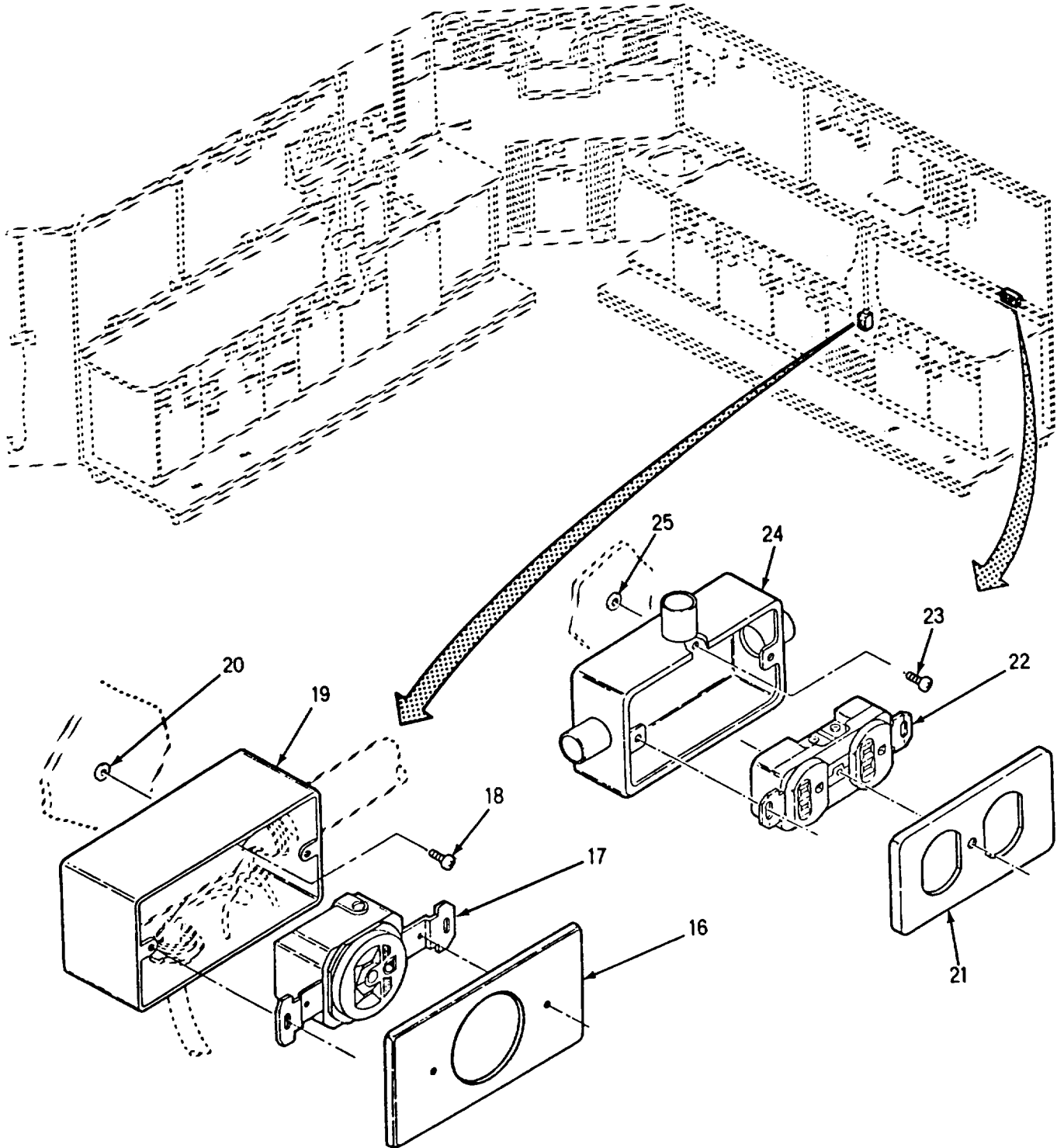


Figure F-6. Electrical System Receptacles (Sheet 2 of 3)

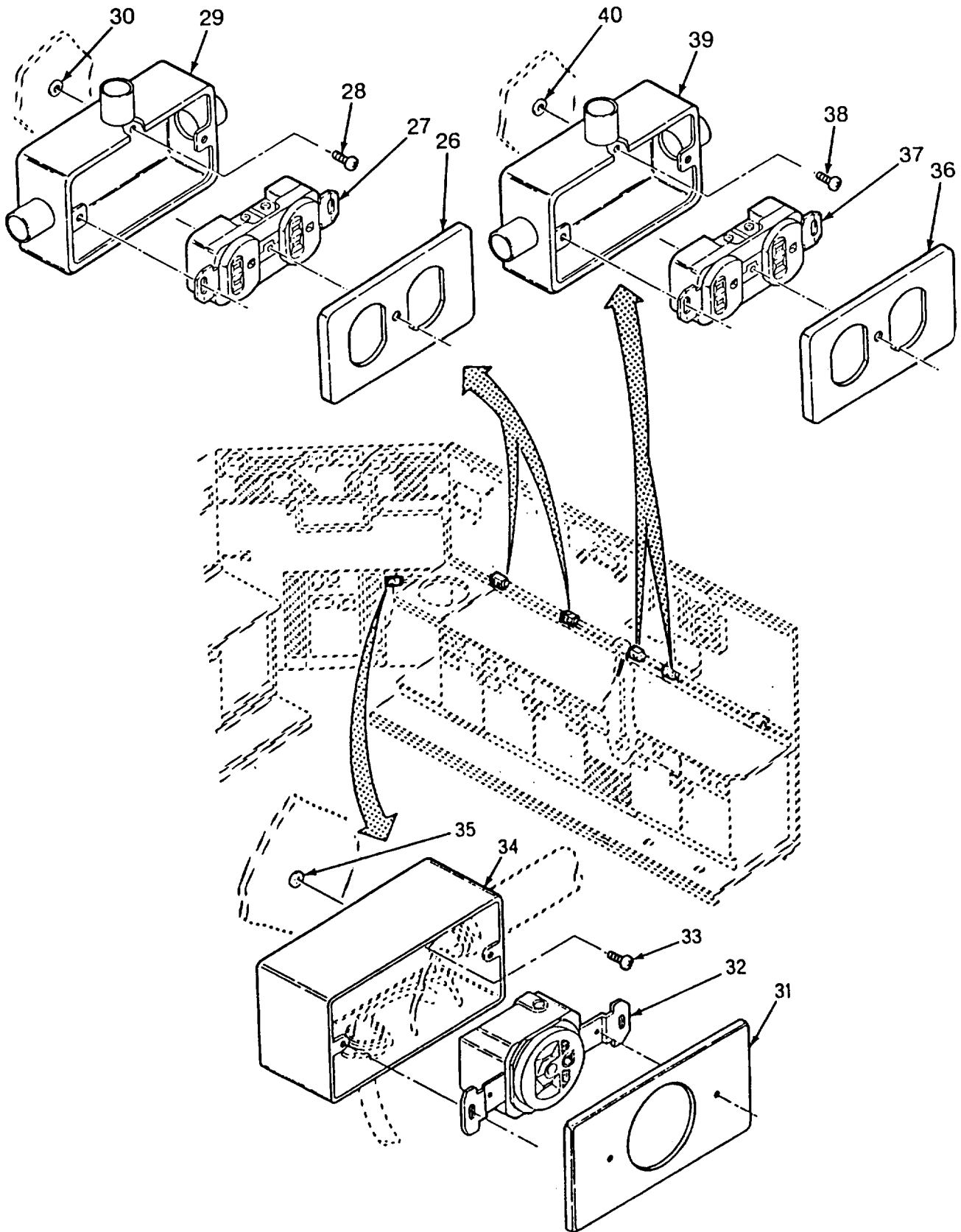


Figure F-6. Electrical System Receptacles (Sheet 3 of 3)

| SECTION II (1) ITEM NO | (2) SMR CODE | (3) CAGEC | TM10-6640-216-13&P (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|---|--------------------|--------------|---|--|------------|
| GROUP 02 ELECTRICAL SYSTEM ASSEMBLY | | | | | |
| FIG. 6 ELECTRICAL SYSTEM RECEPTACLES | | | | | |
| 1 | PAOZZ | 75282 | 1FA | COVER, CONDUIT | 6 |
| 2 | PAOZZ | 74545 | 5252 | CONNECTOR, RECEPT | 6 |
| 3 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 2 |
| 4 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM1STYE | 2 |
| 5 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 2 |
| 6 | PAOZZ | 75282 | 1FA | COVER, CONDUIT | 6 |
| 7 | PAOZZ | 74545 | 5252 | CONNECTOR, RECEPT | 6 |
| 8 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 16 |
| 9 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM1STYCT | 2 |
| 10 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 16 |
| 11 | PAOZZ | 75282 | 1FA | COVER, CONDUIT | 6 |
| 12 | PAOZZ | 74545 | 5252 | CONNECTOR, RECEPT | 6 |
| 13 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 16 |
| 14 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM1STYCT | 2 |
| 15 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 16 |
| 16 | PAOZZ | 81348 | W-J-800 | COVER, CONDUIT TY8SIZEFSTY58 | 1 |
| 17 | PAOZZ | 81348 | WC596/11-2 | CONNECTOR, RECEPTACL | 2 |
| 18 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 16 |
| 19 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM1STYL | 2 |
| 20 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 16 |
| 21 | PAOZZ | 75282 | 1FA | COVER, CONDUIT | 6 |
| 22 | PAOZZ | 74545 | 5252 | CONNECTOR, RECEPT | 6 |
| 23 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 16 |
| 24 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM1STYCT | 2 |
| 25 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 16 |
| 26 | PAOZZ | 75282 | 1FA | COVER, CONDUIT | 6 |
| 27 | PAOZZ | 74545 | 5252 | CONNECTOR, RECEPT | 6 |
| 28 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 16 |
| 29 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM1STYE | 2 |
| 30 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 16 |
| 31 | PAOZZ | 81348 | W-J-800 | COVER, CONDUIT TY8SIZEFSTY58 | 2 |
| 32 | PAOZZ | 81348 | WC596/11-2 | CONNECTOR, RECEPTACL | 2 |
| 33 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 16 |
| 34 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM1STYL | 2 |
| 35 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 16 |
| 36 | PAOZZ | 75282 | 1FA | COVER, CONDUIT | 6 |
| 37 | PAOZZ | 74545 | 5252 | CONNECTOR, RECEPT | 6 |
| 38 | PAOZZ | 96906 | MS35207-263 | SCREW, MACHINE | 16 |
| 39 | XDOZZ | 81348 | WC586 | BOX, CONDUIT TYIIDESIGN8FORM1STYCT | 2 |
| 40 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 16 |

END OF FIGURE

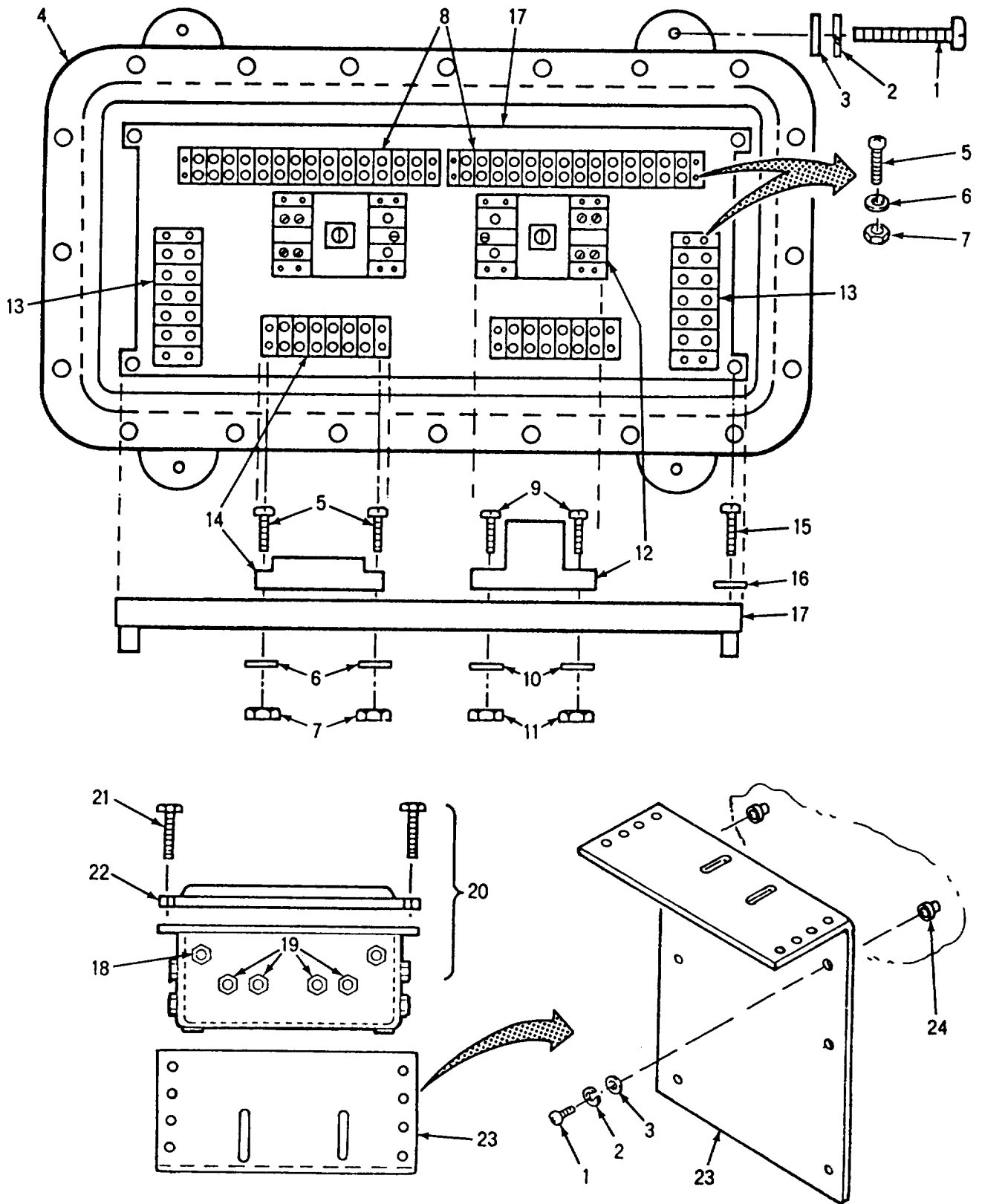


Figure F-7. Electrical System

| SECTION II (1) | SMR (2) | (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|--|------------|-------|---------------------------|--|-----|
| ITEM NO | CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 02 ELECTRICAL SYSTEM ASSEMBLY | | | | | |
| FIG. 7 ELECTRICAL SYSTEM DISTRIBUTION BOX | | | | | |
| 1 | PAOZZ | 96906 | MS90728-8 | SCREW,CAP,HEXAGON H | 4 |
| 2 | PAOZZ | 96906 | MS35338-44 | WASHER, LOCK | 4 |
| 3 | PAOZZ | 96906 | MS27183-10 | WASHER, FLAT | 4 |
| 4 | XDOOO | 97403 | 13219E1496 | BOX,DISTRIBUTION | 1 |
| 5 | PAOZZ | 96906 | MS35206-247 | SCREW,MACHINE | 24 |
| 6 | PAOZO | 96906 | MS27183-7 | WASHER, FLAT | 24 |
| 7 | PAOZF | 96906 | MS35649-284 | NUT, PLAIN, HEXAGON | 24 |
| 8 | PBOZZ | 81349 | 38TB14Z | TERMINAL BOARD | 2 |
| 9 | PAOZZ | 96906 | MS35206-266 | SCREW,MACHINE | 4 |
| 10 | PAOZZ | 96906 | MS27183-8 | WASHER, FLAT | 4 |
| 11 | PAOZO | 96906 | MS35649-204 | NUT, PLAIN, HEXAGON | 3 |
| 12 | PBOZZ | 15605 | D26MR33A | RELAY, ELECTROMATIC | 2 |
| 13 | PBOZZ | 81349 | 39TB5Z | TERMINAL BOARD | 2 |
| 14 | PBOZZ | 81349 | 38TB6Z | TERMINAL BOARD | 2 |
| 15 | PAOZZ | 96906 | MS35206-282 | SCREW,MACHINE | 4 |
| 16 | PAOZO | 96906 | MS27183-9 | WASHER, FLAT | 4 |
| 17 | SDOZZ | 97403 | 13228E1226 | SPACER, PANEL | 1 |
| 18 | XDOZZ | 81348 | W-F-406 | BOX CONNECTOR TYICL4STYM KINDN SIZE 3/4 | 8 |
| 19 | XDOZZ | 81348 | W-F-406 | BOX CONNECTOR TYICL4SYTM KINDN SIZE 1 | 4 |
| 20 | PBOOO | 97403 | 13228E9970 | BOX,EXPLOSION PROOF | 1 |
| 21 | PAOZZ | 96906 | MS16208-53 | BOLT,MACHINE | 20 |
| 22 | PBOZZ | 98245 | YE-1808ACGH | COVER ASSY | 1 |
| 23 | XDOZZ | 97403 | 13228E1217 | BRACKET, SHELTT | 1 |
| 24 | XDOZZ | 96906 | MS27130-A133 | NUT, PLAIN, BLIND | 6 |

END OF FIGURE

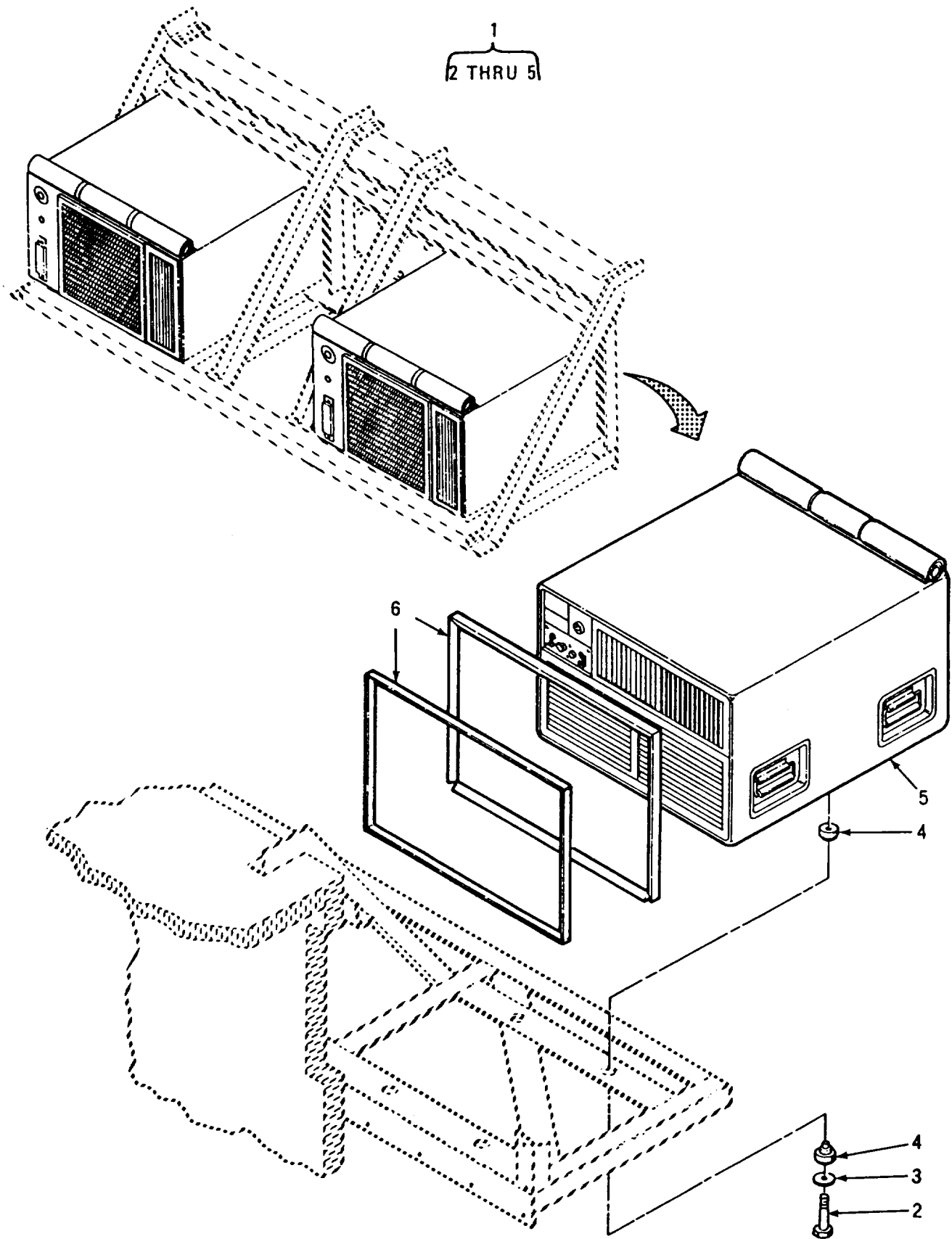


Figure F-8. Environmental Control - Air Conditioner

| SECTION II | | | | TM10-6640-216-13&P | |
|------------|----------|-------|-------------|--|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | GROUP 03 ENVIRONMENTAL CONTROL UNIT 9,000 BTU | |
| | | | | FIG. 8 ENVIRONMENT CONTROL - AIR CONDITIONER | |
| 1 | XCOOO | 97403 | 13228E1206 | INSTALLATION, ECU | 1 |
| 2 | PAOZZ | 96906 | MS35308-369 | SCREW, CAP, HEX HD | 8 |
| 3 | PAOZZ | 81860 | 9810145-02 | WASHER, FLAT | 8 |
| 4 | PAOZZ | 81860 | 22002-11 | ISOLATION MOUNT | 8 |
| 5 | PAOOO | 81349 | MIL-A-52767 | AIR CONDITIONER TYIISIZEA CL3 | 2 |
| 6 | PAOZZ | 76385 | ZX-5399 | THERMAL BREAK, RUBBE | 4 |
| | | | | END OF FIGURE | |

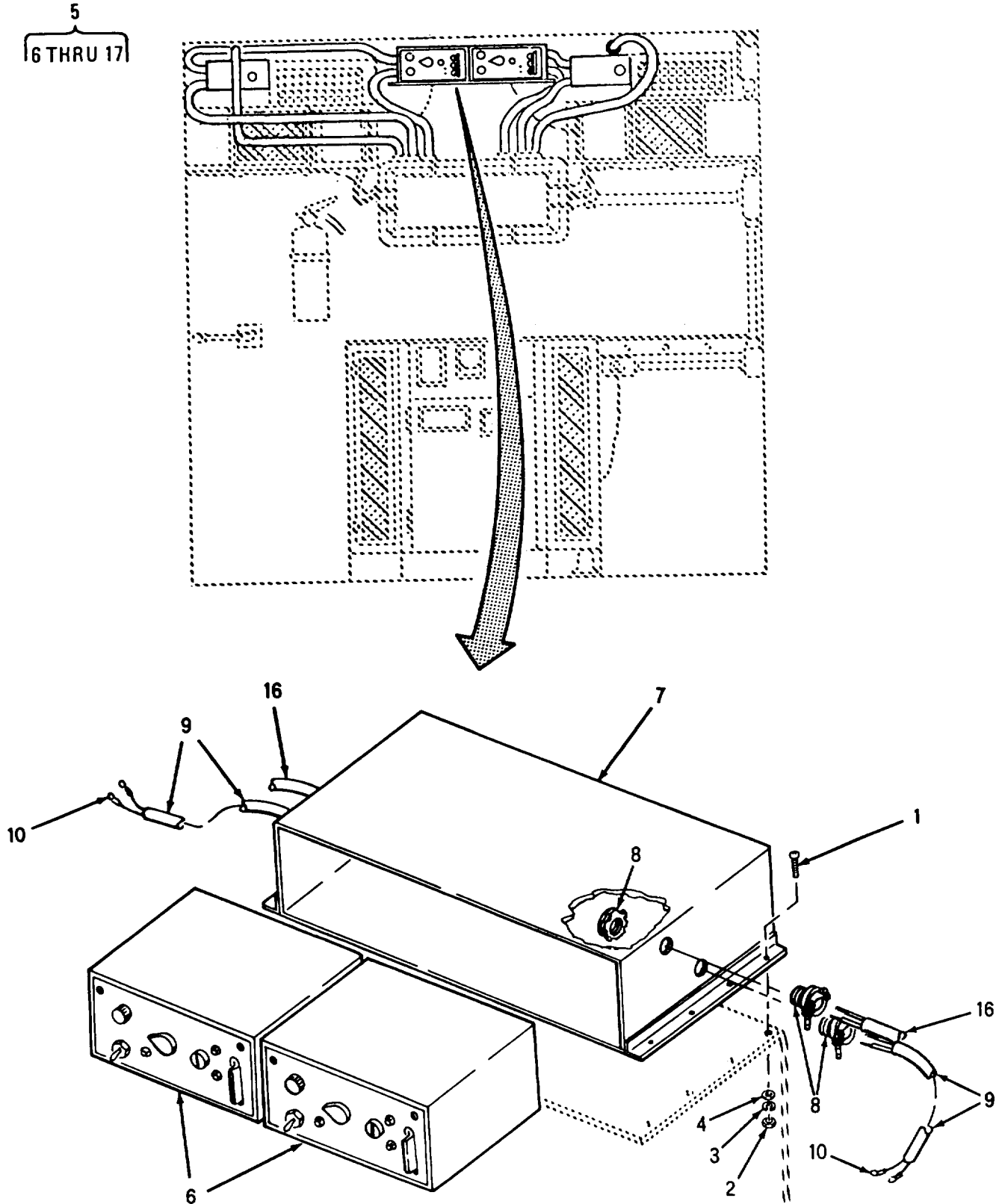


Figure F-9. Environmental Control - Air Conditioner Control Assembly (Sheet 1 of 2)

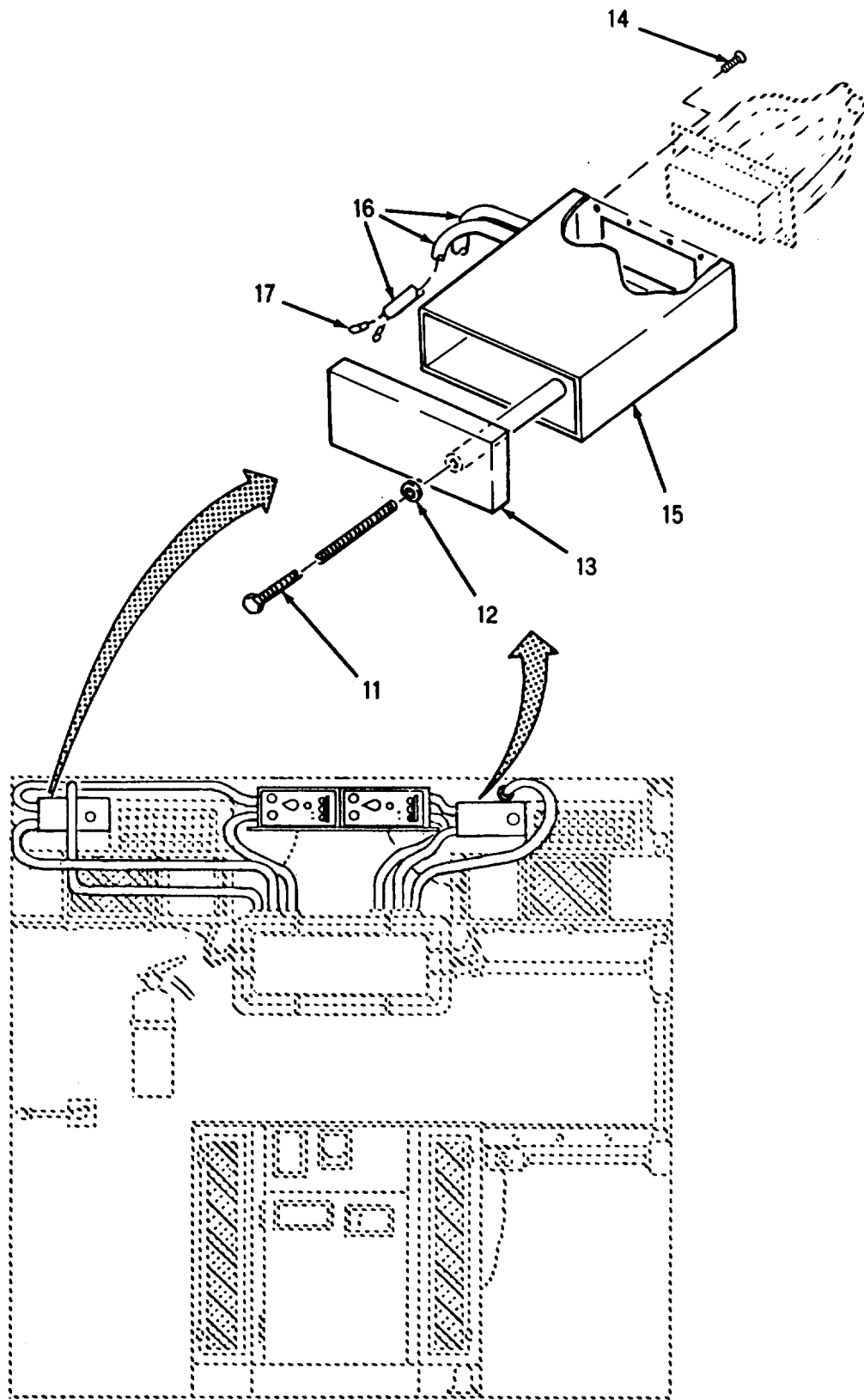


Figure F-9. Environmental Control - Air Conditioner Control Assembly (Sheet 2 of 2)

SECTION II

TM 10-6640-216-13&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGEC | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|-------------------|--------------------|--------------|-----------------------|---|------------|
| | | | | GROUP 03 ENVIRONMENTAL CONTROL UNIT 9,000 BTU | |
| | | | | FIG.9 ENVIRONMENTAL CONTROL - AIR CONDITIONER CONTROL ASSEMBLY | |
| 1 | PAOZZ | 96906 | MS35207-265 | SCREW, MACHINE | 8 |
| 2 | PAOZZ | 96906 | MS35650-304 | NUT, PLAIN, HEXAGON | 8 |
| 3 | PAOZF | 96906 | MS35338-43 | WASHER, LOCK..... | 8 |
| 4 | PAOZZ | 96906 | MS27183-8 | WASHER, FLAT | 8 |
| 5 | XDOOO | 97403 | 13228E1227 | REMOTE, CONTROL ASSY..... | 1 |
| 6 | PBOZZ | 97403 | 13225E8465 | .CONTROL MODULE ASSE..... | 2 |
| 7 | XDOZZ | 97403 | 13228E1225 | .HOUSING, REMOTE A/C | 1 |
| 8 | XDOZZ | 81348 | W-F406 | .BOX CONNECTOR TYISTYMKIND N..... | 8 |
| 9 | XDOZZ | 97403 | 13228E9978-1 | .CABLE, ASSY A/C | 2 |
| 10 | PAOZZ | 96906 | MS25036-107 | ..TERMINAL, LUG..... | 8 |
| 11 | XDOZZ | 97403 | 13226E6637-2 | .BOLT | 2 |
| 12 | PAOZZ | 96906 | MS15795-810 | .WASHER, FLAT..... | 2 |
| 13 | XDOZZ | 97403 | 13228E9977 | .COVER, BACKSHELL | 2 |
| 14 | PAOZZ | 96906 | MS24693-26 | .SCREW, MACH | 16 |
| 15 | XDOZZ | 97403 | 13228E9969 | .BACKSHELL | 2 |
| 16 | XDOZZ | 97403 | 13228E9978-2 | .CABLE, ASSY A/C | 2 |
| 17 | PAOZZ | 96906 | MS25036-107 | ..TERMINAL, LUG..... | 8 |

END OF FIGURE

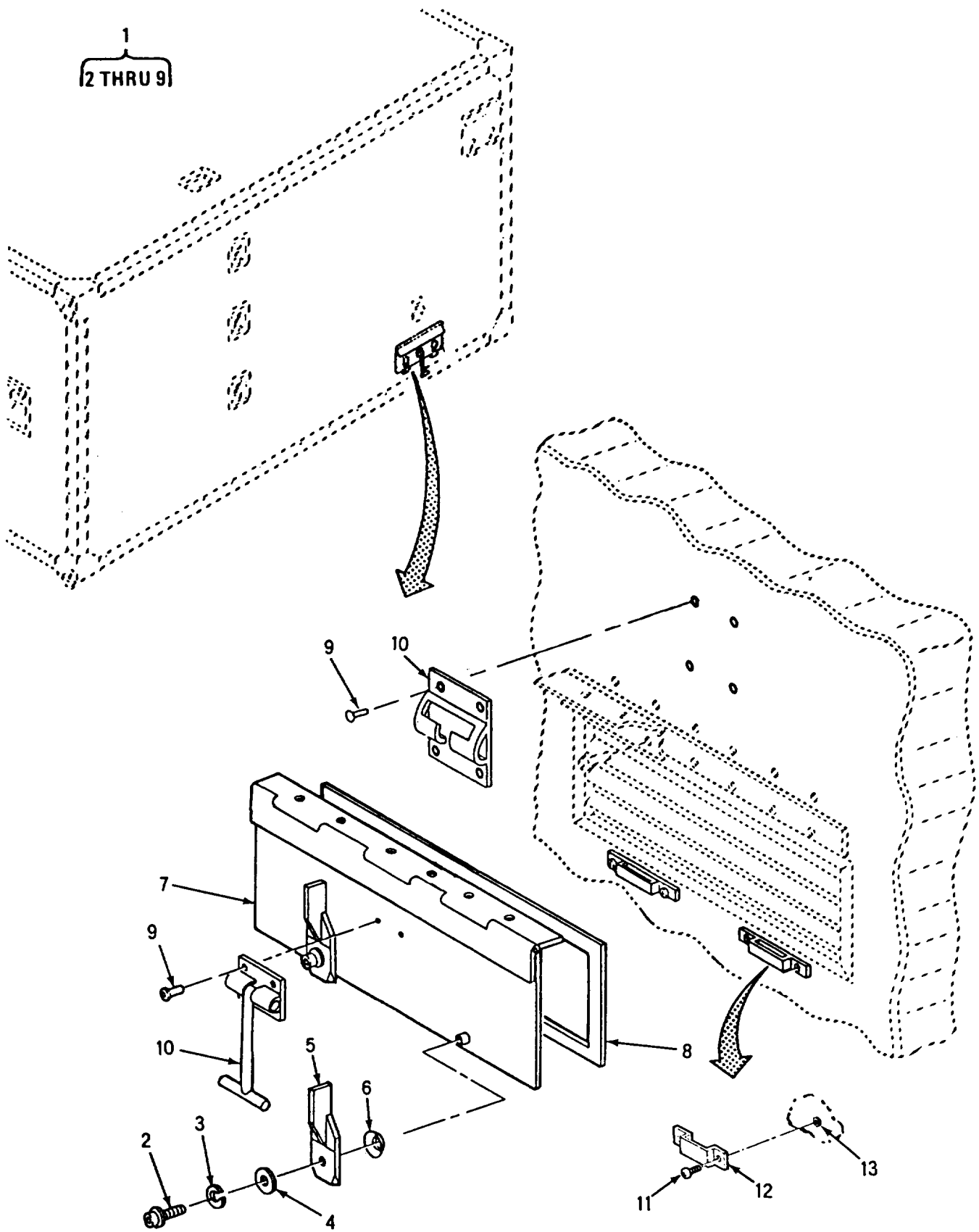


Figure F-10. Purge System Blower Exhaust Door

| SECTION II (1) | SMR (2) | CAGEC (3) | PART (4) | DESCRIPTION AND USABLE ON CODES (UOC) (5) | QTY (6) |
|---|------------|--------------|--------------|--|------------|
| NO | CODE | | NUMBER | | |
| TM10-6640-216-13&P | | | | | |
| GROUP 04 PURGE SYSTEM | | | | | |
| FIG. 10 PURGE SYSTEM BLOWER EXHAUST DOOR | | | | | |
| 1 | XDOOO | 97403 | 13219E1573 | DOOR,ASSY BLOWER | 1 |
| 2 | PAOZZ | 96906 | MS16995-16 | SCREW,CAP, SOCKET HE | 2 |
| 3 | PAOZZ | 96906 | MS35338-136 | WASHER, LOCK | 2 |
| 4 | PAOZZ | 96906 | MS15795-805 | WASHER, FLAT | 2 |
| 5 | PAOZZ | 81349 | CSC-C-539594 | LATCH | 2 |
| 6 | PAOZZ | 80063 | BSC-B-539596 | WASHER, SPG | 2 |
| 7 | XDOOO | 97403 | 13219E1568 | DOOR,ACCESS BLOWER | 1 |
| 8 | MOOZZ | 97403 | 13219E1568-3 | SHEET,RUBBER MAKE FROM RUBBER SHEET, P/N B46089-MSB1, CUT AS REQD | 1 |
| 9 | PAOZZ | 61957 | AD64BS | RIVET,BLIND | 8 |
| 10 | XDOZZ | 11543 | 320001513 | KEEPER,PANEL | 1 |
| 11 | PAOZZ | 96906 | MS35191-274 | SCREW,MACHINE | 4 |
| 12 | PAOZZ | 80063 | BSC-B-539597 | KEEPER | 2 |
| 13 | PAOZO | 96906 | MS27130-A26 | NUT,PLAIN,BLIND RIV | 4 |
| END OF FIGURE | | | | | |

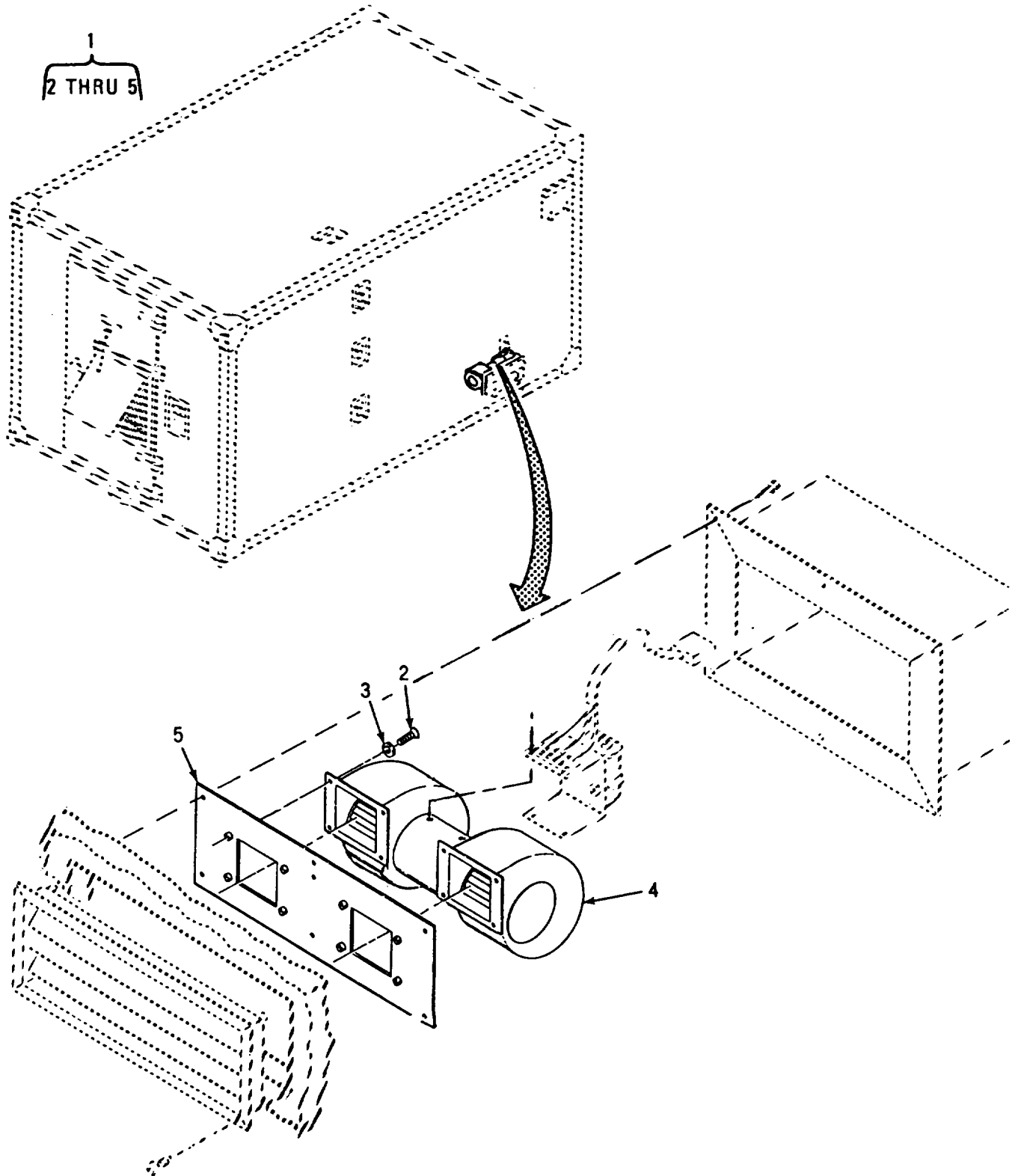


Figure F-11. Purge System Exhaust Blower

| SECTION II | | | | TM10-6640-216-13&P | |
|-------------------------------------|-------|-------|-------------|---------------------------------------|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM | SMR | | PART | | |
| NO | CODE | CAGEC | NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 04 PURGE SYSTEM | | | | | |
| FIG. 11 PURGE SYSTEM EXHAUST BLOWER | | | | | |
| 1 | XDOOO | 97403 | 13219E1560 | BLOWER ASSEMBLY | 1 |
| 2 | PAOZZ | 96906 | MS35207-265 | SCREW, MACHINE | 8 |
| 3 | PAOZZ | 96906 | MS27183-8 | WASHER, FLAT | 8 |
| 4 | PBOOO | 06223 | KBB36-36 | BLOWER, CENTRIFUGAL | 1 |
| 5 | XDOZZ | 97403 | 13219E1554 | PLATE, MOUNTING | 1 |
| END OF FIGURE | | | | | |

CHANGE 1

F-37/(F-38 BLANK)

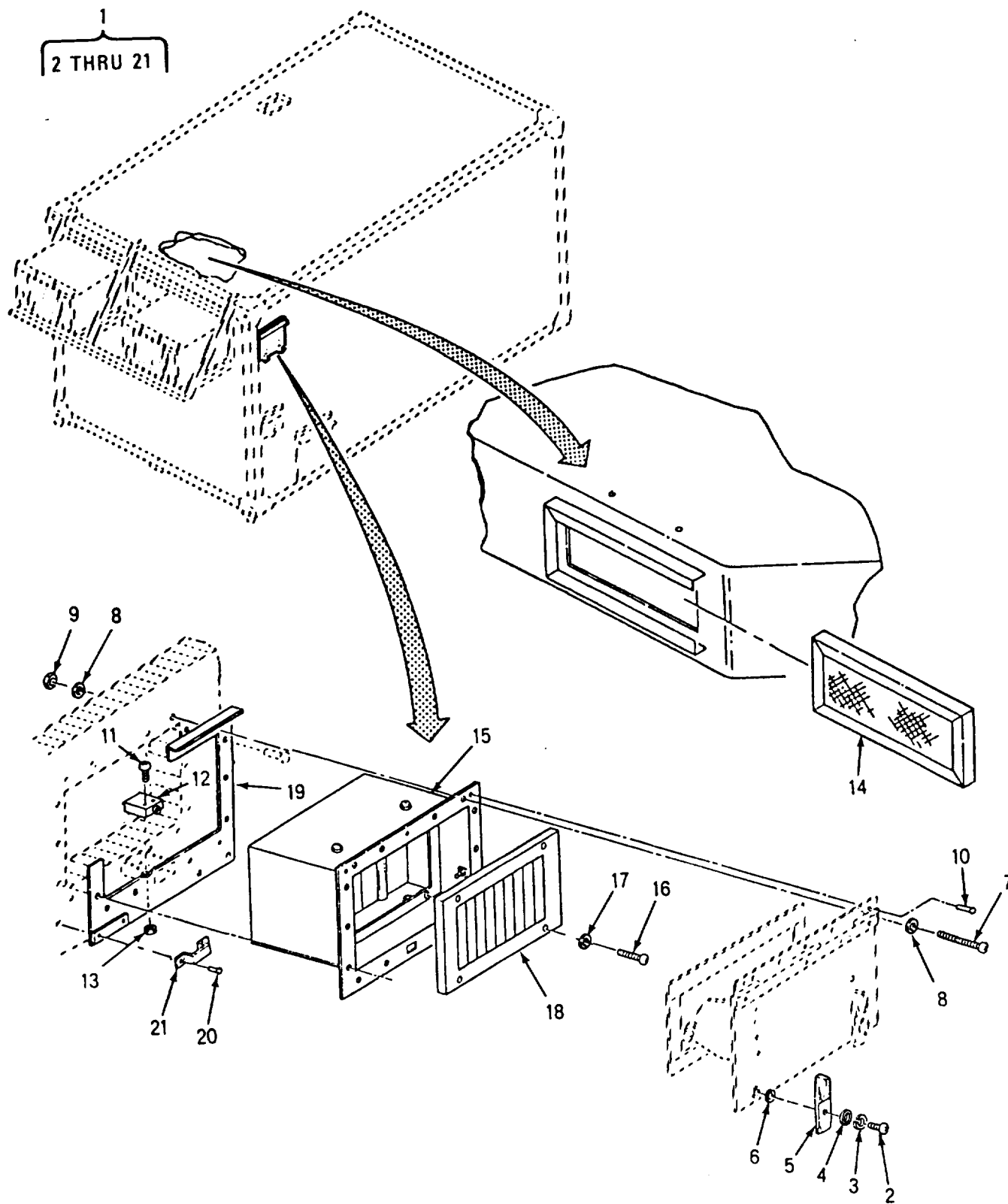


Figure F-12. Purge System Port Doors and Limit Switches,
Left Hand (Sheet 1 of 2)

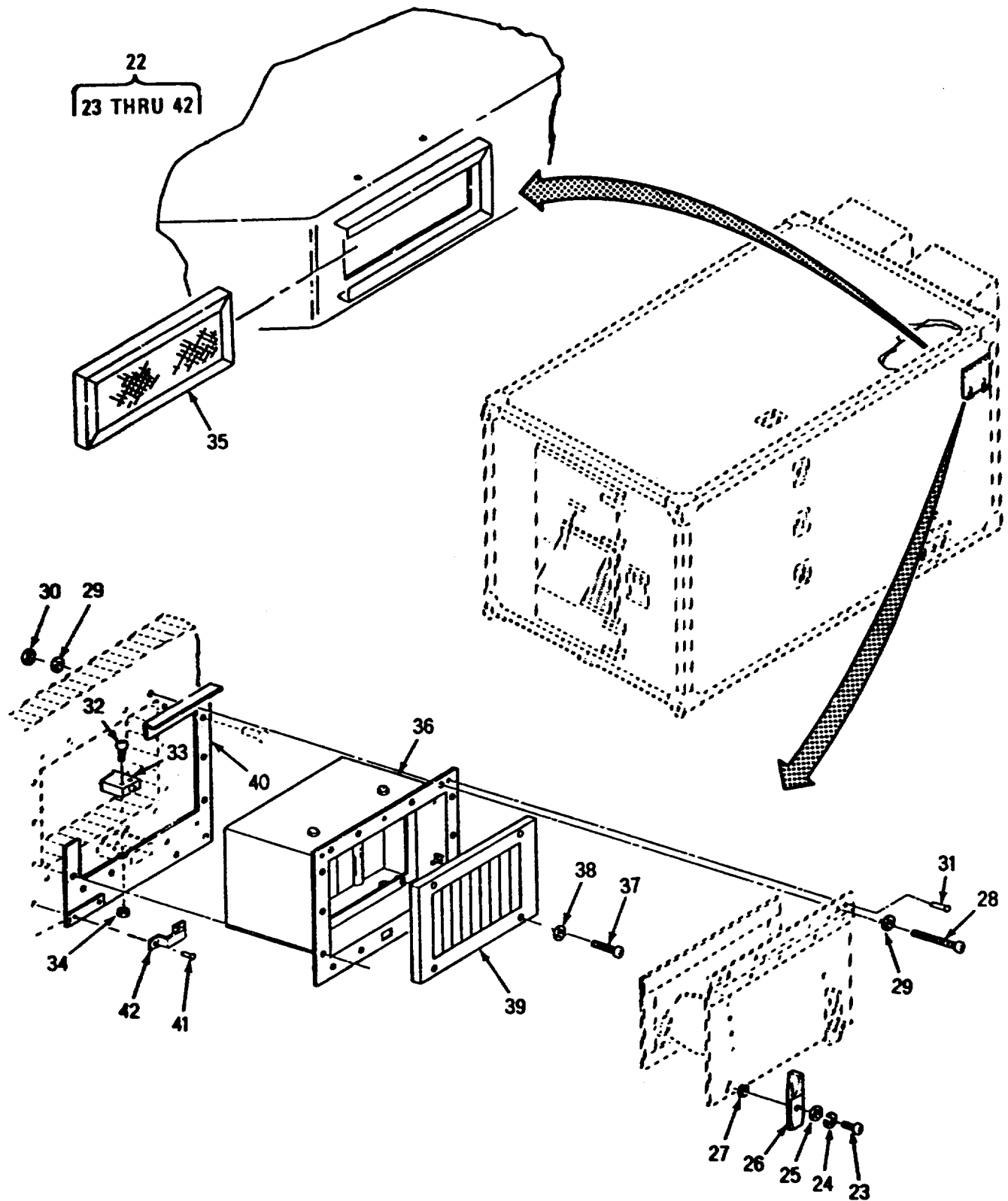


Figure F-12. Purge System Port Doors and Limit Switches, Right Hand (Sheet 2 of 2)

| SECTION II (1) ITEM NO | (2) SMR CODE | (3) CAGEC | TM10-6640-216-13&P (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|--|--------------------|--------------|---|--|------------|
| GROUP 04 PURGE SYSTEM | | | | | |
| FIG. 12 PURGE SYSTEM PORT DOORS AND LIMIT SWITCHES, LEFT HAND AND RIGHT HAND | | | | | |
| 1 | XCOOO | 97403 | 13228E9967 | DUCT INSTL,LH | 1 |
| 2 | PAOZZ | 96906 | MS51957-27 | SCREW,MACHINE | 2 |
| 3 | PAOZZ | 96906 | MS35338-136 | WASHER,LOCK | 4 |
| 4 | PAOZO | 96906 | MS15795-806 | WASHER,FLAT | 2 |
| 5 | PAOZO | 80063 | SCC539594 | FASTENER,CASEMENT | 2 |
| 6 | PAOZZ | 80063 | SCC539596 | WASHER,SPG WAVE | 2 |
| 7 | PAOZZ | 96906 | MS35206-272 | SCREW,MACHINE | 4 |
| 8 | PAOZZ | 96906 | MS27183-8 | WASHER,FLAT | 8 |
| 9 | PAOZO | 96906 | MS35649-202 | NUT,PLAIN,HEXAGON | 4 |
| 10 | PAOZZ | 96906 | MS20601AD4W4 | RIVET,BLIND | 8 |
| 11 | PAOZO | 96906 | MS35207-267 | SCREW,MACHINE | 2 |
| 12 | PAOZZ | 56365 | XA7309E | SWITCH,LIMIT | 1 |
| 13 | PAOZZ | 96906 | MS27130-A100K | NUT,PLAIN,BLIND | 2 |
| 14 | PAOZZ | 97403 | 13228E9967-4 | FILTER 4.5 X 9 NOMINAL | 1 |
| 15 | XDOOO | 97403 | 13228E9974 | PURGE PORT ASSY | 1 |
| 16 | PAOZO | 96906 | MS35206-232 | SCREW,MACHINE | 4 |
| 17 | PAOZO | 96906 | MS27183-5 | WASHER,FLAT | 4 |
| 18 | XDOZZ | 97403 | 13228E9974-2 | FILTER 5.75 X 8.25 | 1 |
| 19 | XDOOO | 97403 | 13228E9973 | FRAME,PURGE OPENING | 1 |
| 20 | PAOZZ | 96906 | MS20601B6W6 | RIVET,BLIND | 8 |
| 21 | PAOZZ | 80063 | SCB539597 | STRIKE,CATCH | 4 |
| 22 | XCOOO | 97403 | 13228E9968 | DUCT INSTL,RH | 1 |
| 23 | PAOZO | 96906 | MS51957-27 | SCREW,MACHINE | 2 |
| 24 | PAOZZ | 96906 | MS35338-136 | WASHER,LOCK | 2 |
| 25 | PAOZO | 96906 | MS15795-806 | WASHER,FLAT | 2 |
| 26 | PAOZO | 80063 | SCC539594 | FASTENER,CASEMENT | 2 |
| 27 | PAOZZ | 80063 | SCC539596 | WASHER,SPG WAVE | 2 |
| 28 | PAOZZ | 96906 | MS35206-272 | SCREW,MACHINE | 4 |
| 29 | PAOZZ | 96906 | MS27183-8 | WASHER,FLAT | 4 |
| 30 | PAOZO | 96906 | MS35649-202 | NUT,PLAIN,HEXAGON | 4 |
| 31 | PAOZZ | 96906 | MS20601AD4W4 | RIVET,BLIND | 6 |
| 32 | PAOZO | 96906 | MS35207-267 | SCREW,MACHINE | 2 |
| 33 | PAOZZ | 56365 | XA7309E | SWITCH,LIMIT | 1 |
| 34 | PAOZZ | 96906 | MS27130-A100K | NUT,PLAIN,BLIND | 2 |
| 35 | XDOZZ | 97403 | 13228E9968-8 | FILTER 4.5 X 9 X 1/2 NOMINAL | 1 |
| 36 | XDOOO | 97403 | 13228E9974 | PURGE PORT ASSY | 1 |
| 37 | PAOZO | 96906 | MS35206-232 | SCREW,MACHINE | 4 |
| 38 | PAOZO | 96906 | MS27183-5 | WASHER,FLAT | 4 |
| 39 | XDOZZ | 97403 | 13228E9974-2 | FILTER 5.75 X 8.25 | 1 |
| 40 | XDOOO | 97403 | 13228E9973 | FRAME,PURGE OPENING | 1 |
| 41 | PAOZZ | 96906 | MS20601B6W6 | RIVET,BLIND | 8 |
| 42 | PAOZZ | 80063 | SCB539597 | STRIKE,CATCH | 4 |

END OF FIGURE

CHANGE 1

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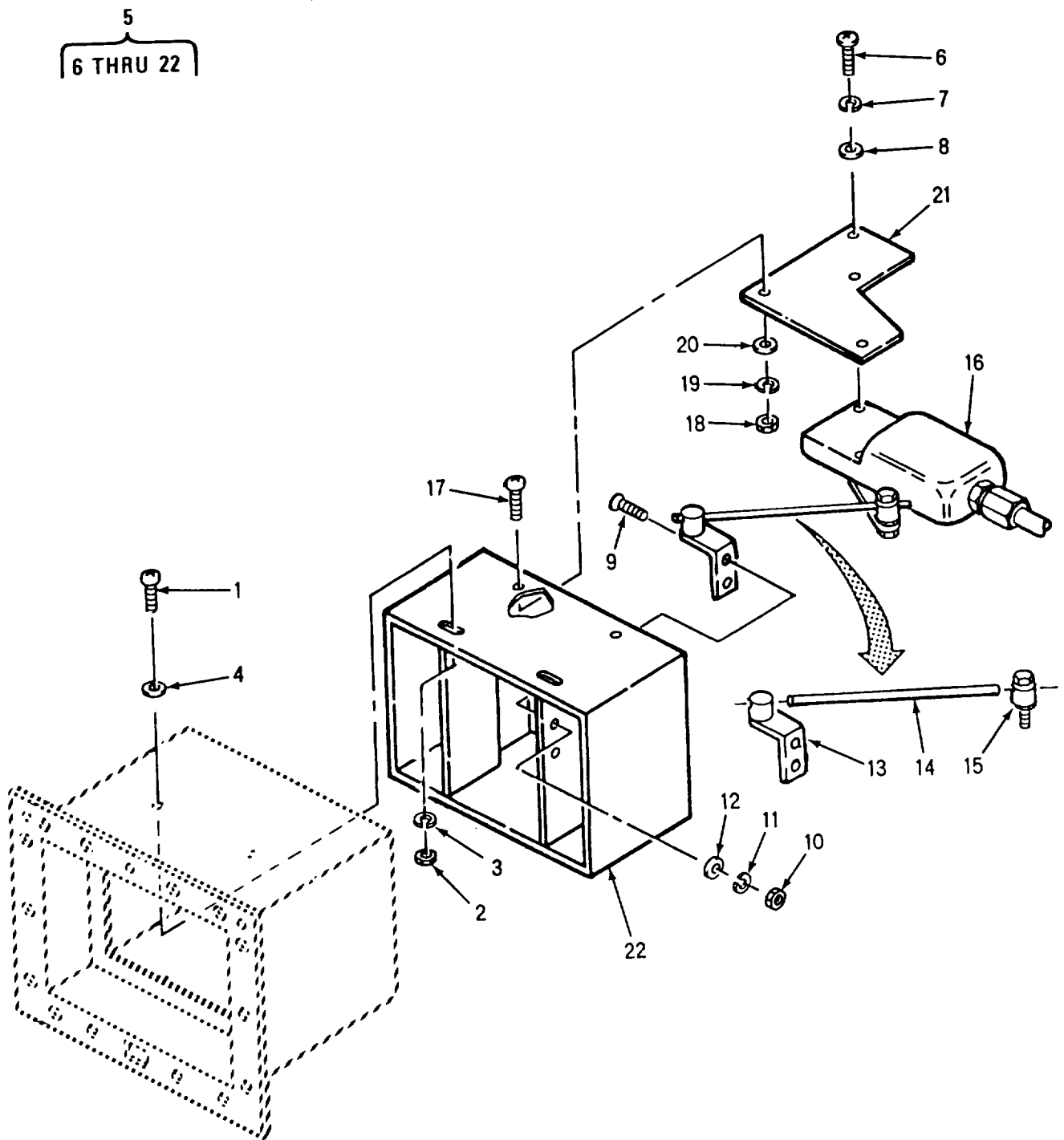


Figure F-13. Purge Port Damper Motors (Sheet 1 of 2)

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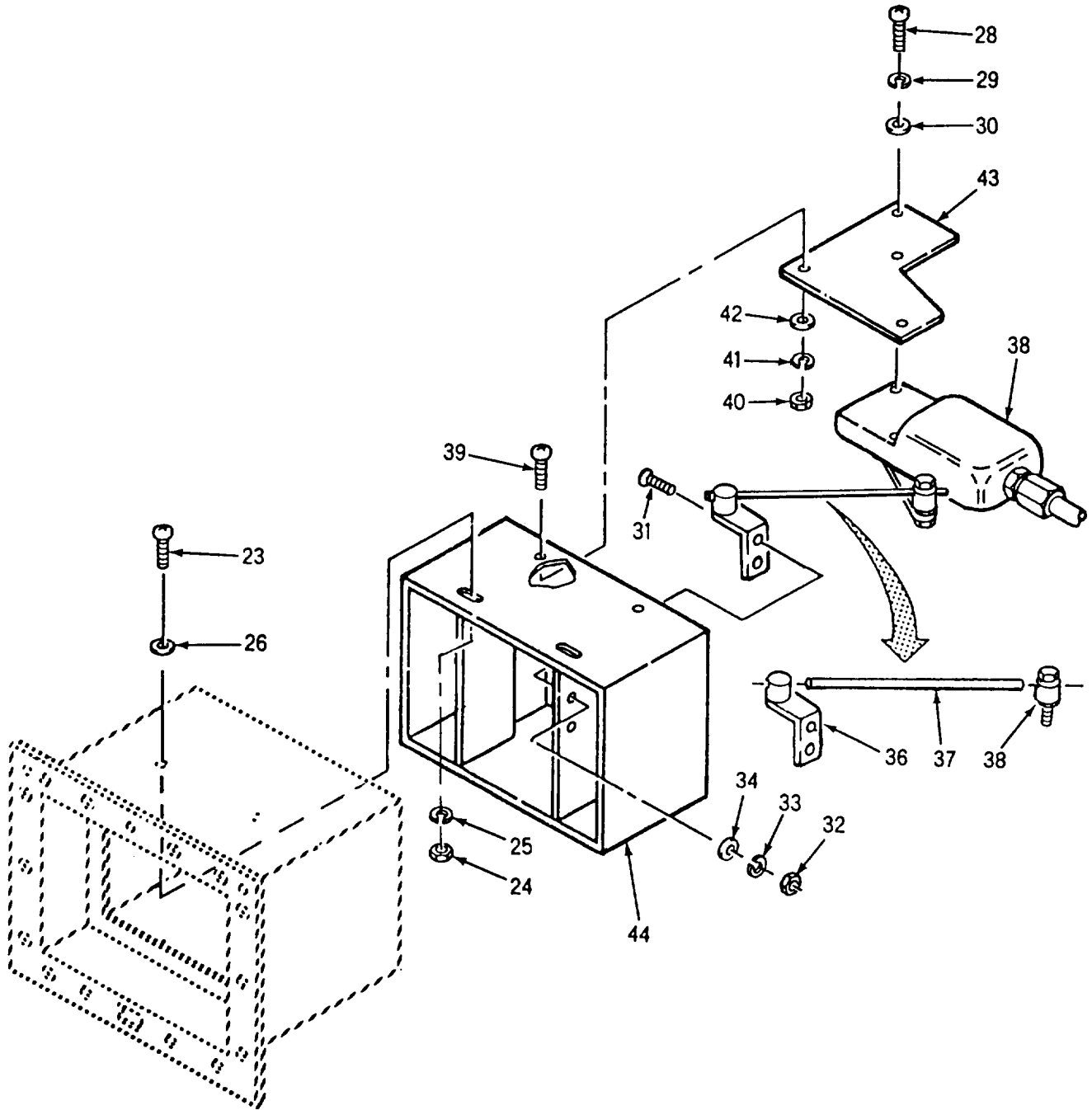


Figure F-13. Purge Port Damper Motors (Sheet 2 of 2)

| SECTION II (1) | (2) | (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|----------------------------------|-------------|-------|---------------------------|---------------------------------------|-----|
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 04 PURGE SYSTEM | | | | | |
| FIG. 13 PURGE PORT DAMPER MOTORS | | | | | |
| 1 | PAOZZ | 96906 | MS35207-265 | SCREW, MACHINE | 4 |
| 2 | PAOZZ | 96906 | MS35650-302 | NUT, PLAIN, HEXAGON | 4 |
| 3 | PAOZF | 96906 | MS35338-43 | WASHER, LOCK | 4 |
| 4 | PAOZO | 96906 | MS27183-42 | WASHER, FLAT | 4 |
| 5 | XDOOO | 97403 | 13228E9979 | DAMPER ASSY | 1 |
| 6 | PAOZZ | 96906 | MS35206-246 | SCREW, MACHINE | 2 |
| 7 | PAOZZ | 96906 | MS35338-42 | WASHER, LOCK | 2 |
| 8 | PAOZZ | 96906 | MS15795-841 | WASHER, FLAT | 2 |
| 9 | PAOZZ | 96906 | MS51958-63 | SCREW, MACHINE | 2 |
| 10 | PAOZZ | 96906 | MS35650-304 | NUT, PLAIN, HEXAGON | 2 |
| 11 | PAOZZ | 96906 | MS35338-138 | WASHER, LOCK | 2 |
| 12 | PAOZZ | 96906 | MS15795-842 | WASHER, FLAT | 2 |
| 13 | XDOZZ | 01167 | OB-1 | BRACKET, DMPR BL | 1 |
| 14 | PAOZZ | 05624 | AM125 | ROD, DAMPER | 1 |
| 15 | PAOZZ | 05624 | AM132 | BALL JOINT | 1 |
| 16 | PAOZZ | 63384 | 2296-24V | MOTOR, ACTUATING | 1 |
| 17 | PAOZO | 96906 | MS35206-281 | SCREW, MACHINE | 2 |
| 18 | XDOZZ | 96906 | MS51907-2 | NUT, HEX | 2 |
| 19 | PAOZZ | 96906 | MS35338-44 | WASHER, LOCK | 2 |
| 20 | PAOZZ | 96906 | MS27183-10 | WASHER, FLAT | 2 |
| 21 | XDOZZ | 97403 | 13226E6730 | BRACKET, DAMPER MTR | 1 |
| 22 | XDOZZ | 63384 | CDA-OB | CONTROL DAMPER | 1 |
| 23 | PAOZZ | 96906 | MS35207-265 | SCREW, MACHINE | 4 |
| 24 | PAOZZ | 96906 | MS35650-302 | NUT, PLAIN, HEXAGON | 4 |
| 25 | PAOZF | 96906 | MS35338-43 | WASHER, LOCK | 4 |
| 26 | PAOZO | 96906 | MS27183-42 | WASHER, FLAT | 4 |
| 27 | XDOOO | 97403 | 13228E9979 | DAMPER ASSY | 1 |
| 28 | PAOZZ | 96906 | MS35206-246 | SCREW, MACHINE | 2 |
| 29 | PAOZZ | 96906 | MS35338-42 | WASHER, LOCK | 2 |
| 30 | PAOZZ | 96906 | MS15795-841 | WASHER, FLAT | 2 |
| 31 | PAOZZ | 96906 | MS51958-63 | SCREW, MACHINE | 2 |
| 32 | PAOZZ | 96906 | MS35650-304 | NUT, PLAIN, HEXAGON | 2 |
| 33 | PAOZZ | 96906 | MS35338-138 | WASHER, LOCK | 2 |
| 34 | PAOZZ | 96906 | MS15795-842 | WASHER, FLAT | 2 |
| 35 | XDOZZ | 01167 | OB-1 | BRACKET, DMPR BL | 1 |
| 36 | PAOZZ | 05624 | AM125 | ROD, DAMPER | 1 |
| 37 | PAOZZ | 05624 | AM132 | BALL JOINT | 1 |
| 38 | PAOZZ | 63384 | 2296-24V | MOTOR, ACTUATING | 1 |
| 39 | PAOZO | 96906 | MS35206-281 | SCREW, MACHINE | 2 |
| 40 | XDOZZ | 96906 | MS51907-2 | NUT, HEX | 2 |
| 41 | PAOZZ | 96906 | MS35338-44 | WASHER, LOCK | 2 |
| 42 | PAOZZ | 96906 | MS27183-10 | WASHER, FLAT | 2 |
| 43 | XDOZZ | 97403 | 13226E6730 | BRACKET, DAMPER MTR | 1 |
| 44 | XDOZZ | 63384 | CDA-OB | CONTROL DAMPER | 1 |

END OF FIGURE

CHANGE 1

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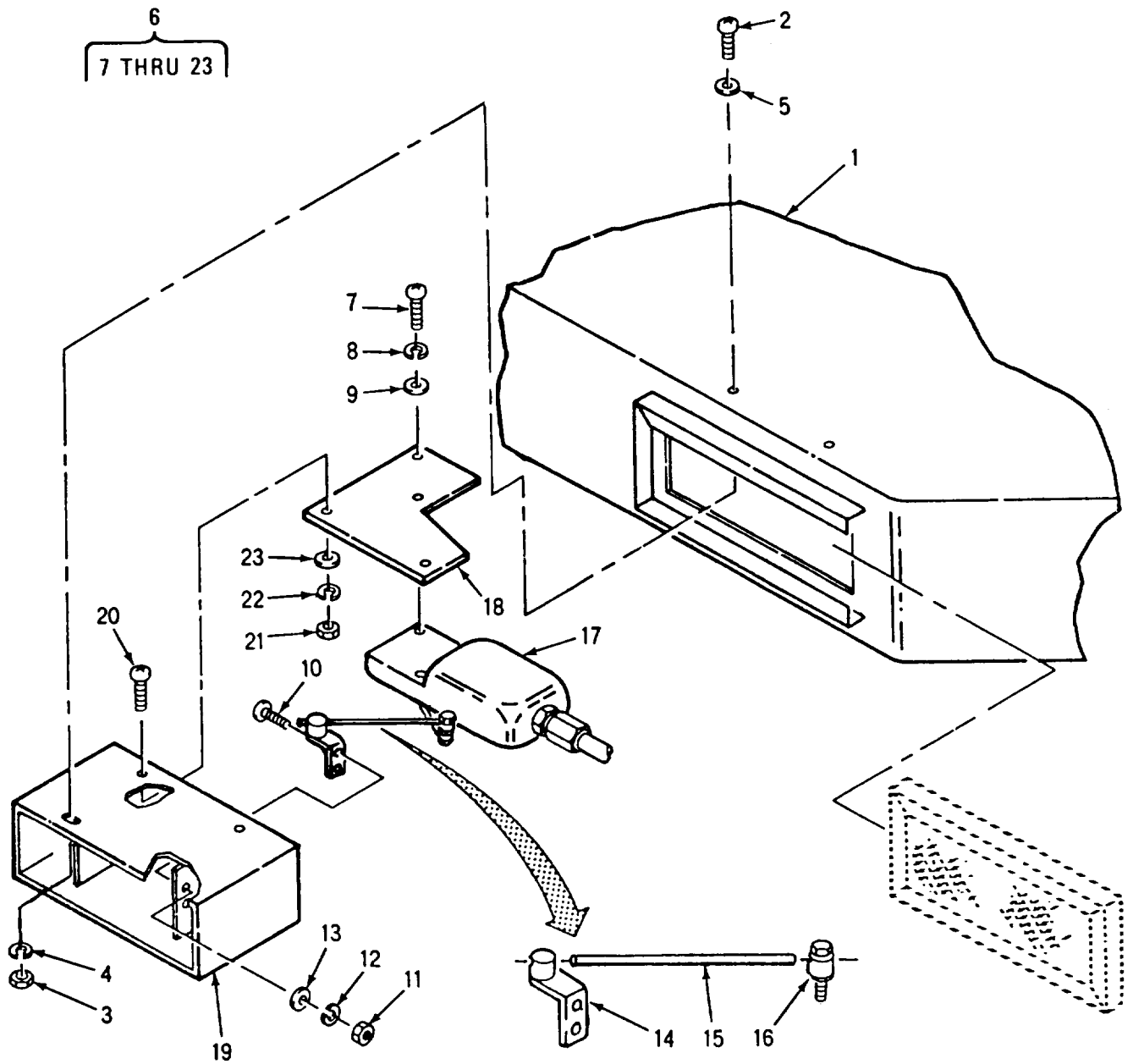


Figure F-14. ECU Intake Damper Doors (Sheet 1 of 2)

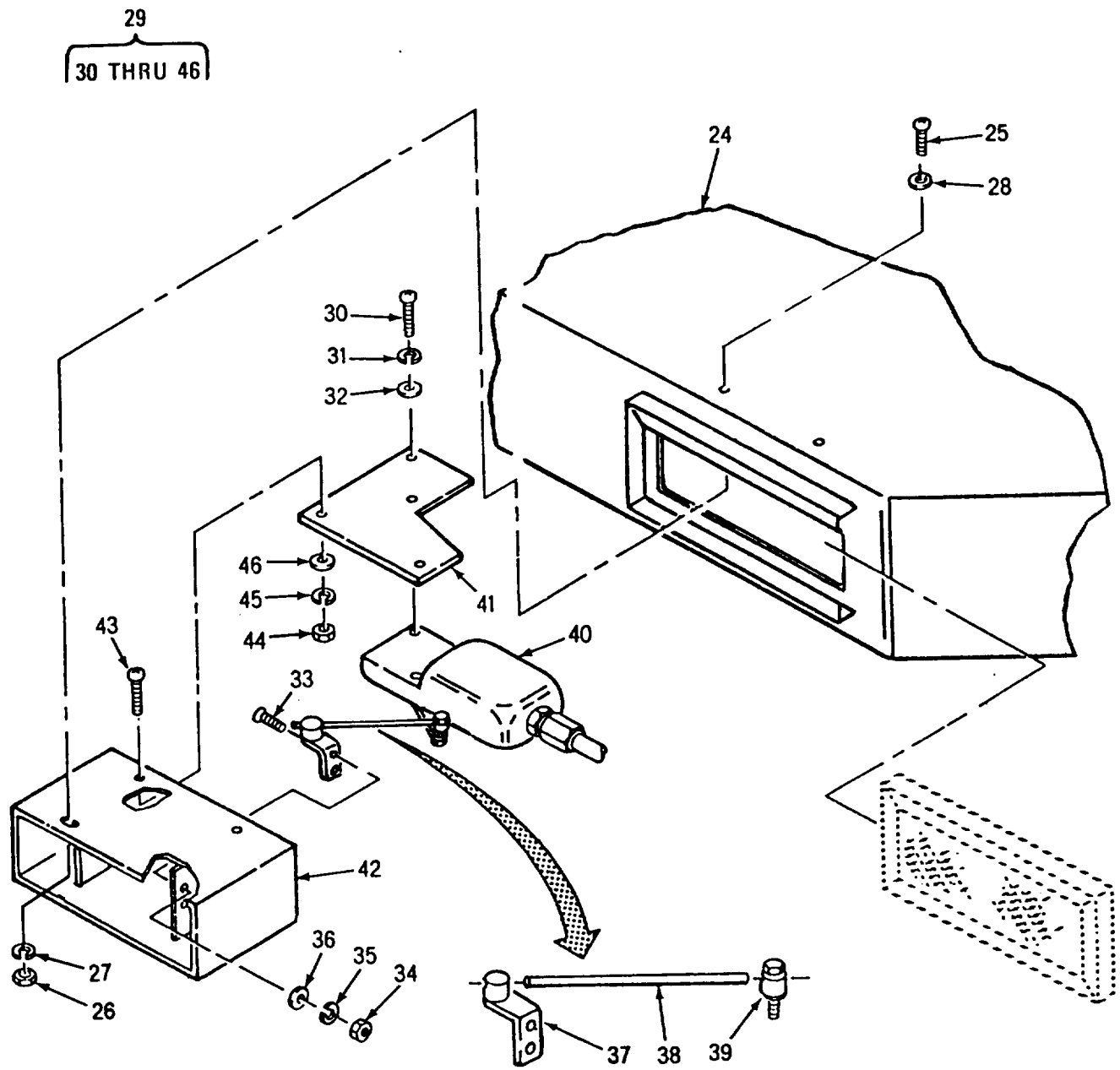


Figure F-14. ECU Intake Damper Doors (Sheet 2 of 2)

| SECTION II (1) ITEM NO | (2) SMR CODE | (3) CAGEC | TM10-6640-216-13&P (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|---------------------------------|--------------------|--------------|---|--|------------|
| GROUP 04 PURGE SYSTEM | | | | | |
| FIG. 14 ECU INTAKE DAMPER DOORS | | | | | |
| 1 | XDOOO | 97403 | 13228E9971 | PLENUM, ASSY | 1 |
| 2 | PAOZZ | 96906 | MS35207-265 | SCREW, MACHINE | 2 |
| 3 | PAOZZ | 96906 | MS35650-302 | NUT, PLAIN, HEXAGON | 4 |
| 4 | PAOZF | 96906 | MS35338-43 | WASHER, LOCK | 4 |
| 5 | PAOZO | 96906 | MS27183-42 | WASHER, FLAT | 4 |
| 6 | XDOOO | 97403 | 13228E9980 | DAMPER ASSY | 1 |
| 7 | PAOZZ | 96906 | MS35206-246 | SCREW, MACHINE | 2 |
| 8 | PAOZZ | 96906 | MS35338-42 | WASHER, LOCK | 2 |
| 9 | PAOZZ | 96906 | MS15795-841 | WASHER, FLAT | 2 |
| 10 | PAOZZ | 96906 | MS51958-63 | SCREW, MACHINE | 2 |
| 11 | PAOZZ | 96906 | MS35650-304 | NUT, PLAIN, HEXAGON | 2 |
| 12 | PAOZZ | 96906 | MS35338-138 | WASHER, LOCK | 2 |
| 13 | PAOZZ | 96906 | MS15795-842 | WASHER, FLAT | 2 |
| 14 | XDOZZ | 01167 | OB-1 | BRACKET, DMPR BL | 1 |
| 15 | PAOZZ | 05624 | AM125 | ROD, DAMPER | 1 |
| 16 | PAOZZ | 05624 | AM132 | BALL JOINT | 1 |
| 17 | PAOZZ | 63384 | 2296-24V | MOTOR, ACTUATING | 1 |
| 18 | XDOZZ | 97403 | 13226E6730 | BRACKET, DAMPER MTR | 1 |
| 19 | XDOZZ | 63384 | CDA-OB | CONTROL, DAMPER | 1 |
| 20 | PAOZO | 96906 | MS35206-281 | SCREW, MACHINE | 2 |
| 21 | XDOZZ | 96906 | MS51907-2 | NUT, HEX | 2 |
| 22 | PAOZZ | 96906 | MS35338-44 | WASHER, LOCK | 2 |
| 23 | PAOZZ | 96906 | MS27183-10 | WASHER, FLAT | 2 |
| 24 | XDOOO | 97403 | 13228E9971 | PLENUM ASSY | 1 |
| 25 | PAOZZ | 96906 | MS35207-265 | SCREW, MACHINE | 2 |
| 26 | PAOZZ | 96906 | MS35650-302 | NUT, PLAIN, HEXAGON | 4 |
| 27 | PAOZF | 96906 | MS35338-43 | WASHER, LOCK | 4 |
| 28 | PAOZO | 96906 | MS27183-42 | WASHER, FLAT | 4 |
| 29 | XDOOO | 97403 | 13228E9980 | DAMPER ASSY | 1 |
| 30 | PAOZZ | 96906 | MS35206-246 | SCREW, MACHINE | 2 |
| 31 | PAOZZ | 96906 | MS35338-42 | WASHER, LOCK | 2 |
| 32 | PAOZZ | 96906 | MS15795-841 | WASHER, FLAT | 2 |
| 33 | PAOZZ | 96906 | MS51958-63 | SCREW, MACHINE | 2 |
| 34 | PAOZZ | 96906 | MS35650-304 | NUT, PLAIN, HEXAGON | 2 |
| 35 | PAOZZ | 96906 | MS35338-138 | WASHER, LOCK | 2 |
| 36 | PAOZZ | 96906 | MS15795-842 | WASHER, FLAT | 2 |
| 37 | XDOZZ | 01167 | OB-1 | BRACKET, DMPR BL | 1 |
| 38 | PAOZZ | 05624 | AM125 | ROD, DAMPER | 1 |
| 39 | PAOZZ | 05624 | AM132 | BALL JOINT | 1 |
| 40 | PAOZZ | 63384 | 2296-24V | MOTOR, ACTUATING | 1 |
| 41 | XDOZZ | 97403 | 13226E6730 | BRACKET, DAMPER MTR | 1 |
| 42 | XDOZZ | 63384 | CDA-OB | CONTROL, DAMPER | 1 |
| 43 | PAOZO | 96906 | MS35206-281 | SCREW, MACHINE | 2 |
| 44 | PAOZZ | 96906 | MS51907-2 | NUT, HEX | 2 |
| 45 | PAOZZ | 96906 | MS35338-44 | WASHER, LOCK | 2 |
| 46 | PAOZZ | 96906 | MS27183-10 | WASHER, FLAT | 2 |

END OF FIGURE

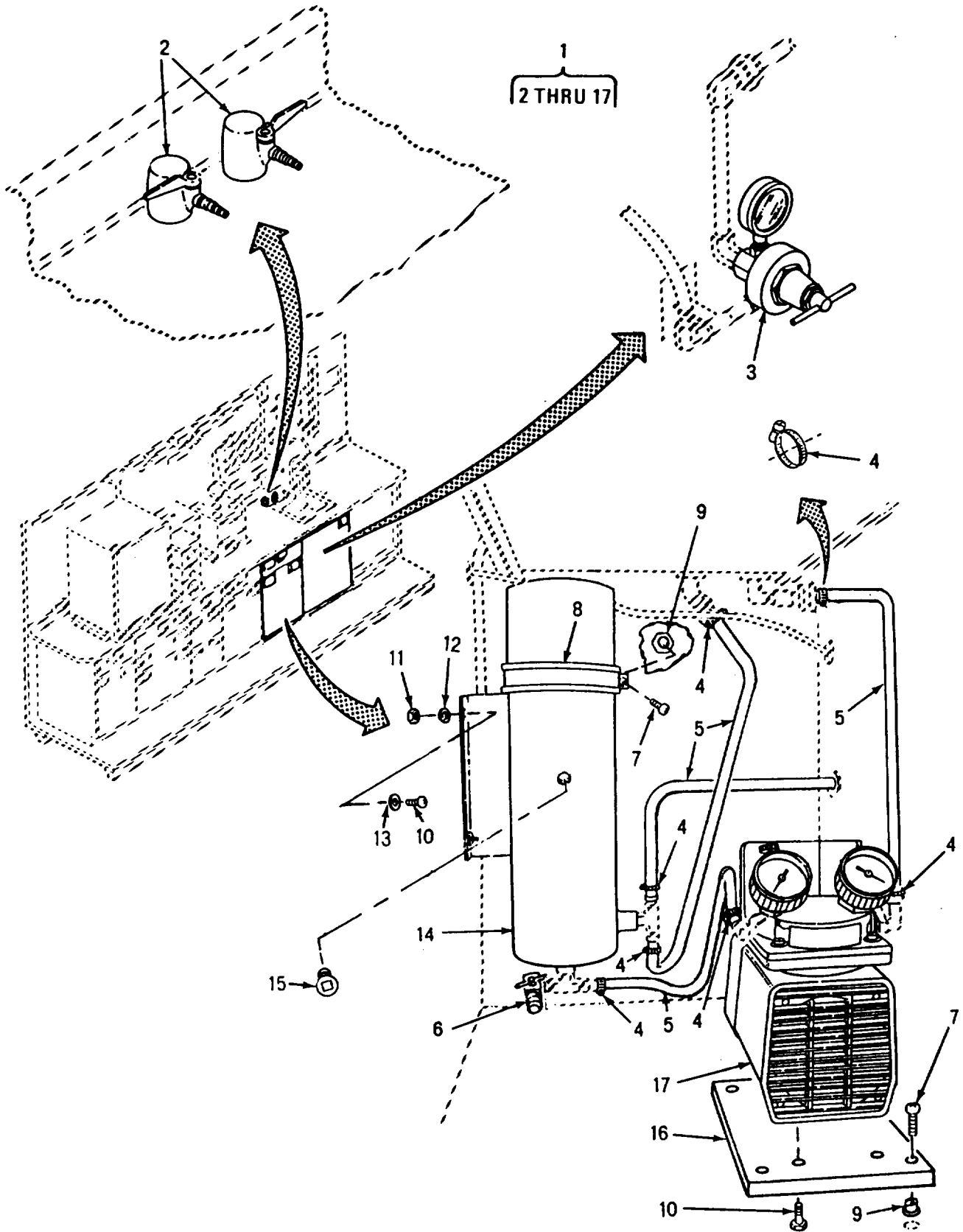


Figure F-15. Vacuum - Air Pressure Pump, Air Surge Tank, Stopcock Assembly and Pressure Regulator

| SECTION II (1) | (2) | (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|---|-------------|-------|---------------------------|---|-----|
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 05 VACUUM-AIR PRESSURE SYSTEM | | | | | |
| FIG. 15 VACUUM - AIR PRESSURE PUMP, AIR SURGE TANK, STOPCOCK ASSEMBLY AND PRESSURE REGULATOR | | | | | |
| 1 | XCOOO | 97403 | 13219E1514 | DIAGRAM,AIR SYS | 1 |
| 2 | PAOZZ | 22577 | 91-450 | STOPCOCK | 1 |
| 3 | PAOZZ | 22527 | 1-088 | VALVE,REGULATING,FL | 1 |
| 4 | XDOZZ | 96906 | MS35842-6 | CLAMP,HOSE | 7 |
| 5 | MOOZZ | 97403 | 13219E1514-8 | HOSE,NONMETALLIC MAKE FROM NONMETALLIC HOSE, P/N 801-4, CUT AS REQD | 8 |
| 6 | PAOZZ | 96906 | MS35785-2 | COCK,DRAIN | 1 |
| 7 | PAOZF | 96906 | MS35206-284 | SCREW,MACHINE | 4 |
| 8 | XDOZZ | 97403 | 13219E1445 | STRAP | 1 |
| 9 | XDOZZ | 96906 | MS27130-A32 | NUT,PLAIN,BLIND | 4 |
| 10 | PAOZO | 96906 | MS35207-267 | SCREW,MACHINE | 8 |
| 11 | PAOZZ | 96906 | MS35650-302 | NUT,PLAIN,HEXAGON | 2 |
| 12 | PAOZF | 96906 | MS35338-43 | WASHER,LOCK | 2 |
| 13 | PAOZO | 96906 | MS27183-42 | WASHER,FLAT | 4 |
| 14 | XDOZZ | 97403 | 13219E1443 | TANK,AIR SURGE | 1 |
| 15 | PAOZZ | 98437 | B-4CPA2-3 | VALVE,RELIEF ADJ | 1 |
| 16 | XDOZZ | 97403 | 13229E3735 | BASE,VACUUM PUMP | 1 |
| 17 | PAOOO | 08071 | XX55-000-00 | PUMP,VACUUM SEE TM10-6640-217- 13&P FOR REPAIR PARTS | 1 |

END OF FIGURE

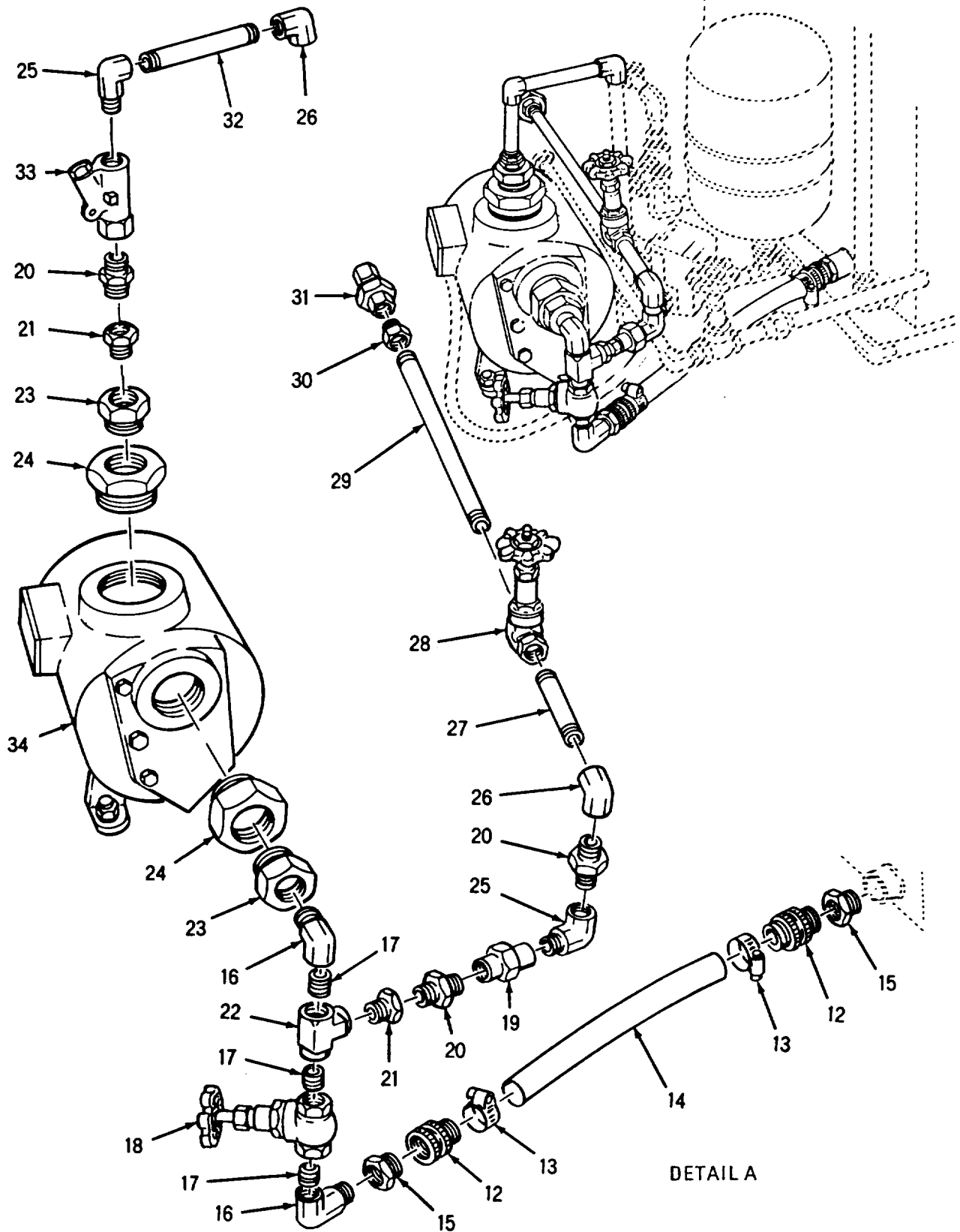
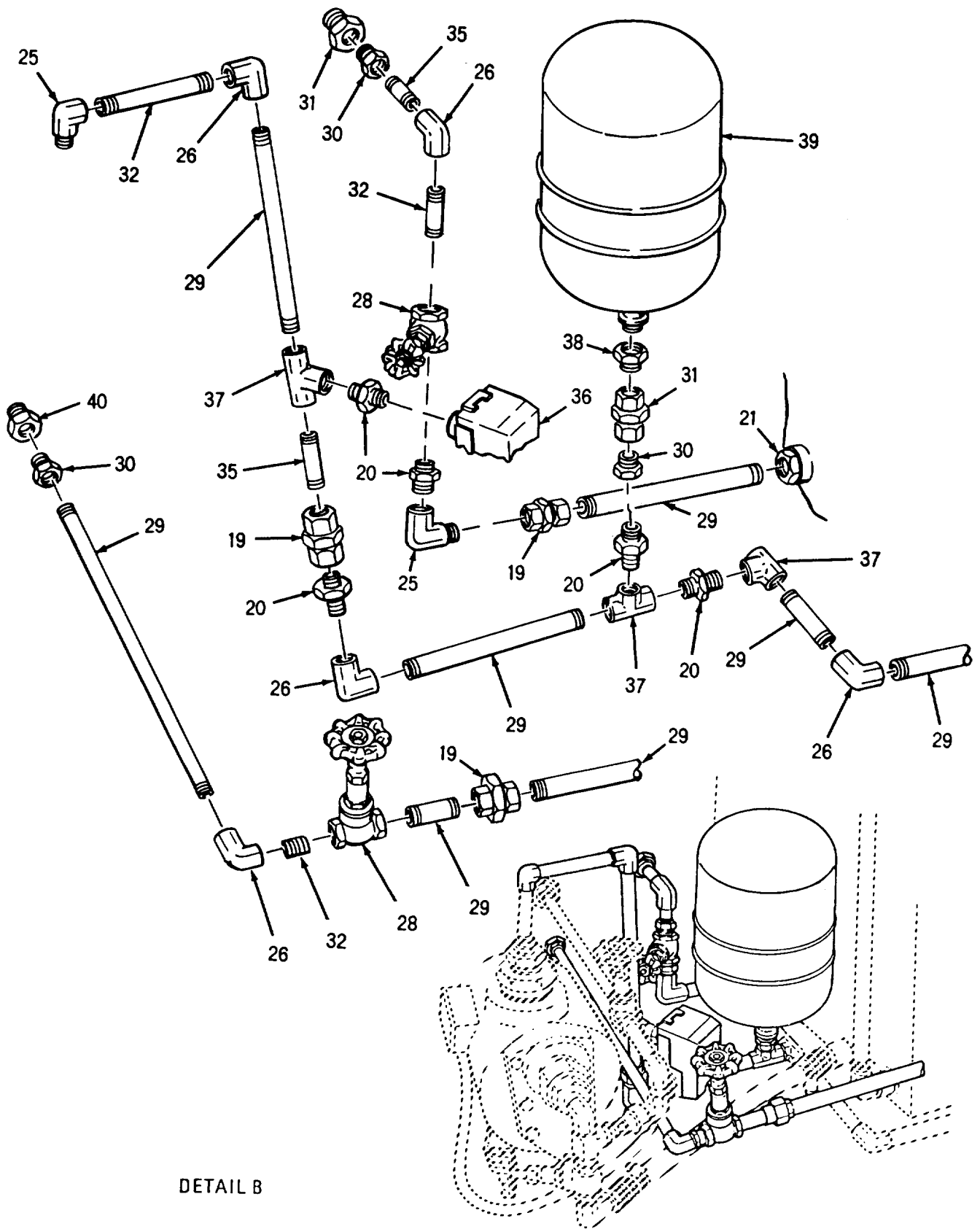


Figure 16. Water System, Gate Valves, Needle Valves, Surge Tank, Pressure Switch, Sink, Faucet and Water Pump (Sheet 2 of 3)



DETAIL B

Figure F-16. Water System, Gate Valves, Needle Valves, Surge Tank, Pressure Switch, Sink, Faucet and Water Pump (Sheet 3 of 3)

| SECTION II (1) ITEM NO | (2) SMR CODE | (3) CAGEC | TM10-6640-216-13&P (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|---|--------------------|--------------|---|---|------------|
| GROUP 06 WATER SYSTEM | | | | | |
| FIG. 16 WATER SYSTEM, GATE VALVES, NEEDLE VALVES, SURGE TANK, PRESSURE SWITCH, SINK, FAUCET AND WATER PUMP | | | | | |
| 1 | XCFFF | 97403 | 13219E1547 | WATER SYSTEM SCHEM | 1 |
| 2 | PAFZZ | 30327 | 242-BL-2A | VALVE,LINE 1/4 INCH | 1 |
| 3 | XDFZZ | 89337 | 91-470 | FAUCET ASSY | 1 |
| 4 | XDFZZ | 97483 | SLX-1815-A-GR-1 | SINK,LAB WITH SINK DRAIN | 1 |
| 5 | XDFZZ | 97403 | 13219E1491 | DRAIN,SINK | 1 |
| 6 | PAFZZ | 79470 | 6805 | COCK,SHUTOFF,SCREW 1/4-18NPT | 1 |
| 7 | PAOZO | 96906 | MS35206-281 | SCREW,MACHINE | 3 |
| 8 | PAOZF | 96906 | MS35649-2254 | NUT,PLAIN,HEXAGON | 3 |
| 9 | PAOZZ | 96906 | MS35338-44 | WASHER,LOCK | 3 |
| 10 | PAOZZ | 96906 | MS27183-10 | WASHER,FLAT | 6 |
| 11 | XDFFF | 8R545 | 89079P | RESERVOIR,WATER | 1 |
| 12 | XDFZZ | 93061 | 91GH-12-8 | CONNECTOR,SWIVEL | 2 |
| 13 | PAOZZ | 96906 | MS35842-11 | CLAMP,HOSE | 2 |
| 14 | MOOZZ | 97403 | 13212E3705-1 | TUBING,TYGON MAKE FROM NONMETALLIC TUBING, P/N B44-3, CUT AS REQD | 4 |
| 15 | XDFZZ | 93061 | 69HGH-12-6 | ADAPTER,STRAIGHT 3/4 HOSE TO 3/8- 18NPT | 2 |
| 16 | PAFZZ | 09505 | 116-B-06 | ELBOW,PIPE 3/8NPT | 2 |
| 17 | PAFZZ | 79470 | 3326X6 | NIPPLE,PIPE 3/8-18NPT | 3 |
| 18 | PAFZZ | 59646 | MSS-SP-80TYIICLA | VALVE,GATE,3/8 IN | 1 |
| 19 | PAFZZ | 79470 | 3250X4 | UNION,PIPE 1/4NPT | 5 |
| 20 | PAFZZ | 97403 | 13219E1547-9 | NIPPLE,PIPE 1/4NPT | 7 |
| 21 | PAFZZ | 79470 | 3220X6X4 | BUSHING,PIPE 3/8-18NPT TO 1/4-NPT | 3 |
| 22 | PAFZZ | 82271 | 101-B-06 | TEE,PIPE 3/8NPT | 1 |
| 23 | XDFZZ | 81343 | 16-6-140140 | REDUCER 1-11.5 TO 3/8-18NPT | 2 |
| 24 | XDFZZ | 81343 | 24-16-140140 | REDUCER 1-1/2-11.5NPT TO 1-11.5NPT | 2 |
| 25 | PAFZZ | 30327 | 116-B-04 | ELBOW,PIPE 90 DEGREE 1/4NPT | 3 |
| 26 | PAFZZ | 30327 | 100-B-04 | ELBOW,PIPE | 6 |
| 27 | XDFZZ | 30327 | 113-B-04X48 | NIPPLE,PIPE | 1 |
| 28 | PAFZZ | 39428 | 4619K11 | VALVE,GATE 1/4 INCH | 2 |
| 29 | MFFZZ | 97403 | 13219E1547-16 | PIPE,STANDARD WALL MAKE FROM BRASS PIPE, P/N 02270201, CUT & THREAD AS REQD | 9 |
| 30 | PAFZZ | 79470 | 3220X8X4 | REDUCER,PIPE 1/2-14NPT TO 1/4- 18NPT | 4 |
| 31 | PAFZZ | 30327 | 104-B-04 | UNION,PIPE 3/8NPT | 2 |
| 32 | PAFZZ | 30327 | 113B1-4NPTX3-1-2 | NIPPLE,PIPE 1/4NPT X 3.5 L | 3 |
| 33 | XDFZZ | 59646 | MSS-SP-60TYIVCLA | VALVE,CHECK 1/4NPT | 1 |
| 34 | PBFFF | 25795 | 2P373 | PUMP,BRONZE SEE TM10-4320-321- 13&P FOR REPAIR PARTS | 1 |
| 35 | PAFZZ | 30327 | 113-B1-4X2-1-2 | NIPPLE,PIPE 1/4NPT X 2.5 | 2 |
| 36 | PBFZZ | 25795 | 6X535 | SWITCH,PUMP PRESS | 1 |
| 37 | PAFZZ | 13174 | 101-B-04 | TEE,PIPE 1/4-18NPT | 3 |
| 38 | XDFZZ | 79470 | 3200X12X8 | REDUCER,PIPE 1/2NPT TO 3/4NPT | 1 |

CHANGE 1

F-55

| SECTION II | | | | TM10-6640-216-13&P | |
|---------------|-------|-------|----------|---------------------------------------|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM | SMR | | PART | | |
| NO | CODE | CAGEC | NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| 39 | PBFZZ | 16327 | 3P676 | TANK,SURGE | 1 |
| 40 | PAFZZ | 79470 | 3220X8X6 | BUSHING,PIPE 3/8NPT TO 1/2NPT | 1 |
| END OF FIGURE | | | | | |

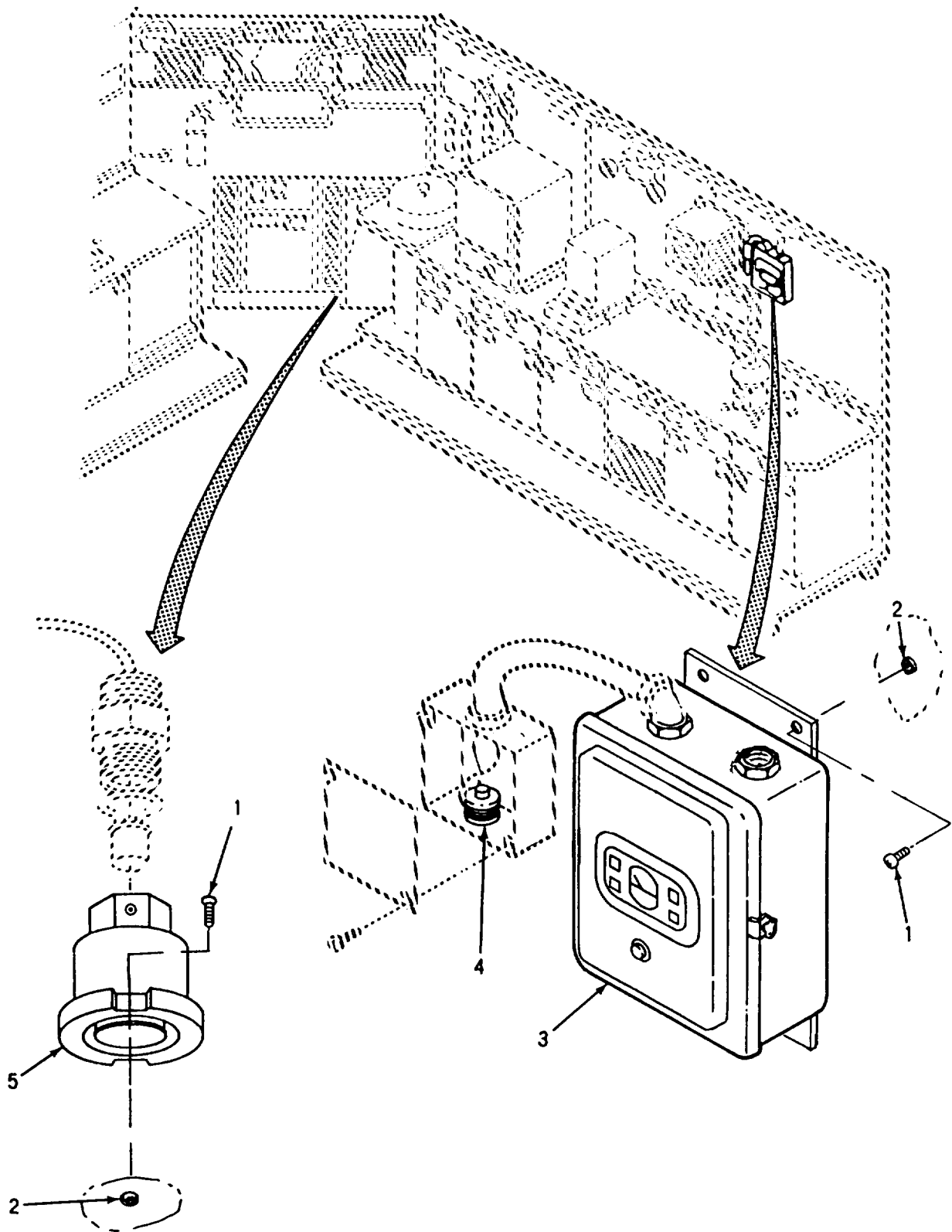


Figure F-17. Gas Alarm System

| SECTION II (1) | SMR (2) | CAGEC (3) | PART (4) | DESCRIPTION AND USABLE ON CODES (UOC) (5) | QTY (6) |
|---------------------------|------------|--------------|-------------|---|------------|
| ITEM NO | CODE | | NUMBER | | |
| TM10-6640-216-13&P | | | | | |
| GROUP 07 GAS ALARM SYSTEM | | | | | |
| FIG. 17 GAS ALARM SYSTEM | | | | | |
| 1 | PAOZZ | 96906 | MS35207-263 | SCREW,MACHINE | 4 |
| 2 | PAOZZ | 96906 | MS27130A25 | NUT,PLAIN,BLIND RIV | 4 |
| 3 | PAOFF | 05083 | 23-7180 | ALARM,GAS MODEL CD800W, SEE TM10- 6665-297-13&P FOR REPAIR PARTS | 1 |
| 4 | PAOZZ | 77342 | BU120VAC | BUZZER | 1 |
| 5 | XDOZZ | 97403 | 13219E1510 | GUARD,DETECTOR | 1 |
| END OF FIGURE | | | | | |

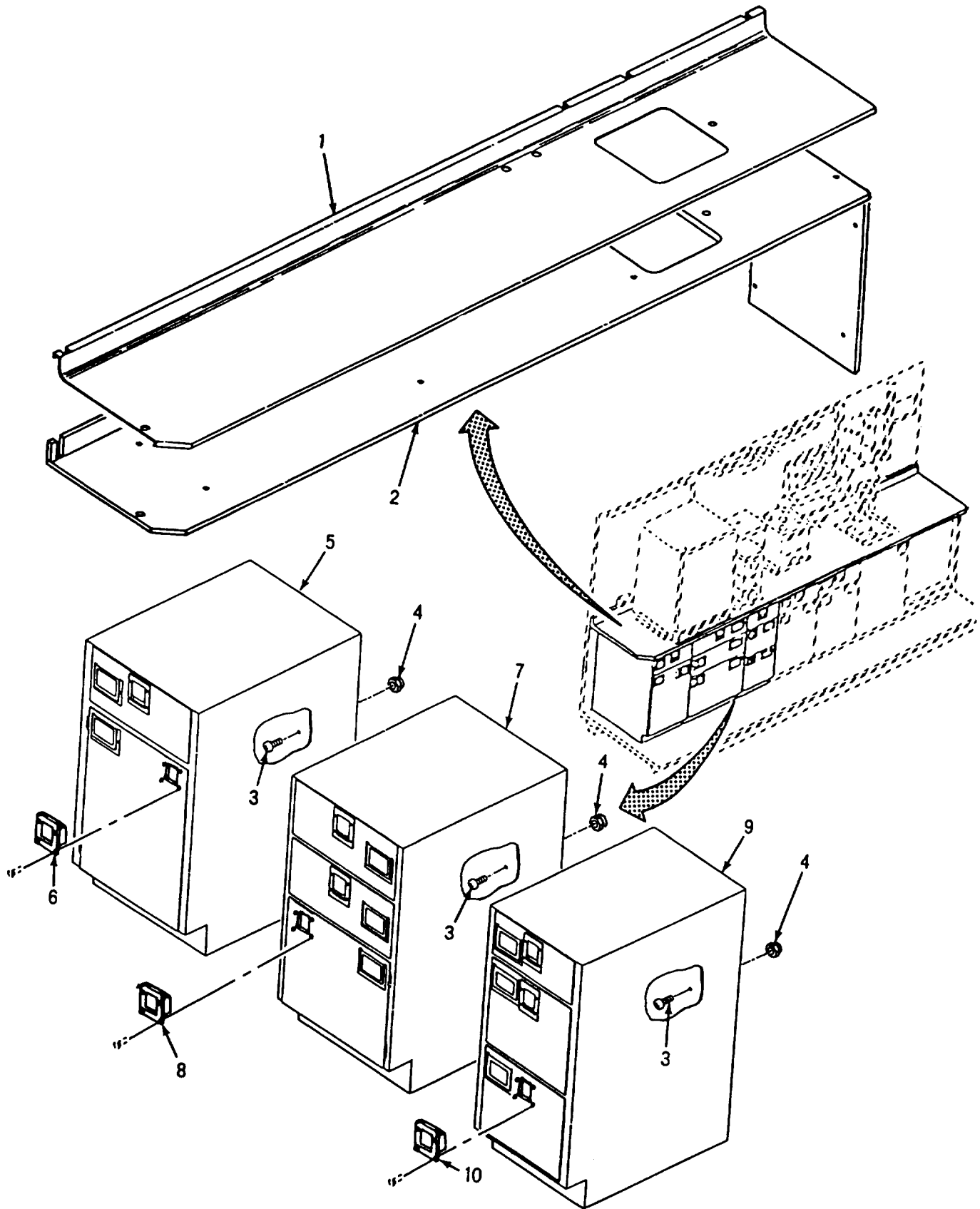


Figure F-18. Storage Cabinets and Related Parts

| SECTION II (1) | SMR (2) | CAGEC (3) | TM10-6640-216-13&P (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|-------------------|------------|--------------|---|--|------------|
| | | | | GROUP 08 STORAGE CABINETS AND RELATED PARTS | |
| | | | | FIG. 18 STORAGE CABINETS AND RELATED PARTS | |
| 1 | XDHZZ | 97403 | 13219E1433 | TOP, LABORATORY LH | 1 |
| 2 | XDHZZ | 97403 | 13219E1432 | TOP, CABINET ASSY LH | 1 |
| 3 | PAOZZ | 96906 | MS35207-265 | SCREW, MACHINE | 3 |
| 4 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 3 |
| 5 | XDHO0 | 97403 | 13219E1566 | CABINET, STORAGE ALTERED FROM CABINET, STORAGE, CUPBOARD AND DRAWER P/N200924 GSS MINT | 1 |
| 6 | PAOZZ | 0BJJ7 | 1-MSS | LATCH, PADDLE | 2 |
| 7 | XDHO0 | 97403 | 13227E7466 | CABINET, STORAGE ALTERED FROM CABINET, STORAGE, CUPBOARD AND DRAWER P/N203934 MINT | 1 |
| 8 | PAOZZ | 0BJJ7 | 1-MSS | LATCH, PADDLE | 3 |
| 9 | XDHO0 | 97403 | 13219E1430 | CABINET, STORAGE ALTERED FROM CABINET, STORAGE AND DRAWER, P/N 213714 MINT | 1 |
| 10 | PAOZZ | 0BJJ7 | 1-MSS | LATCH, PADDLE | 3 |

END OF FIGURE

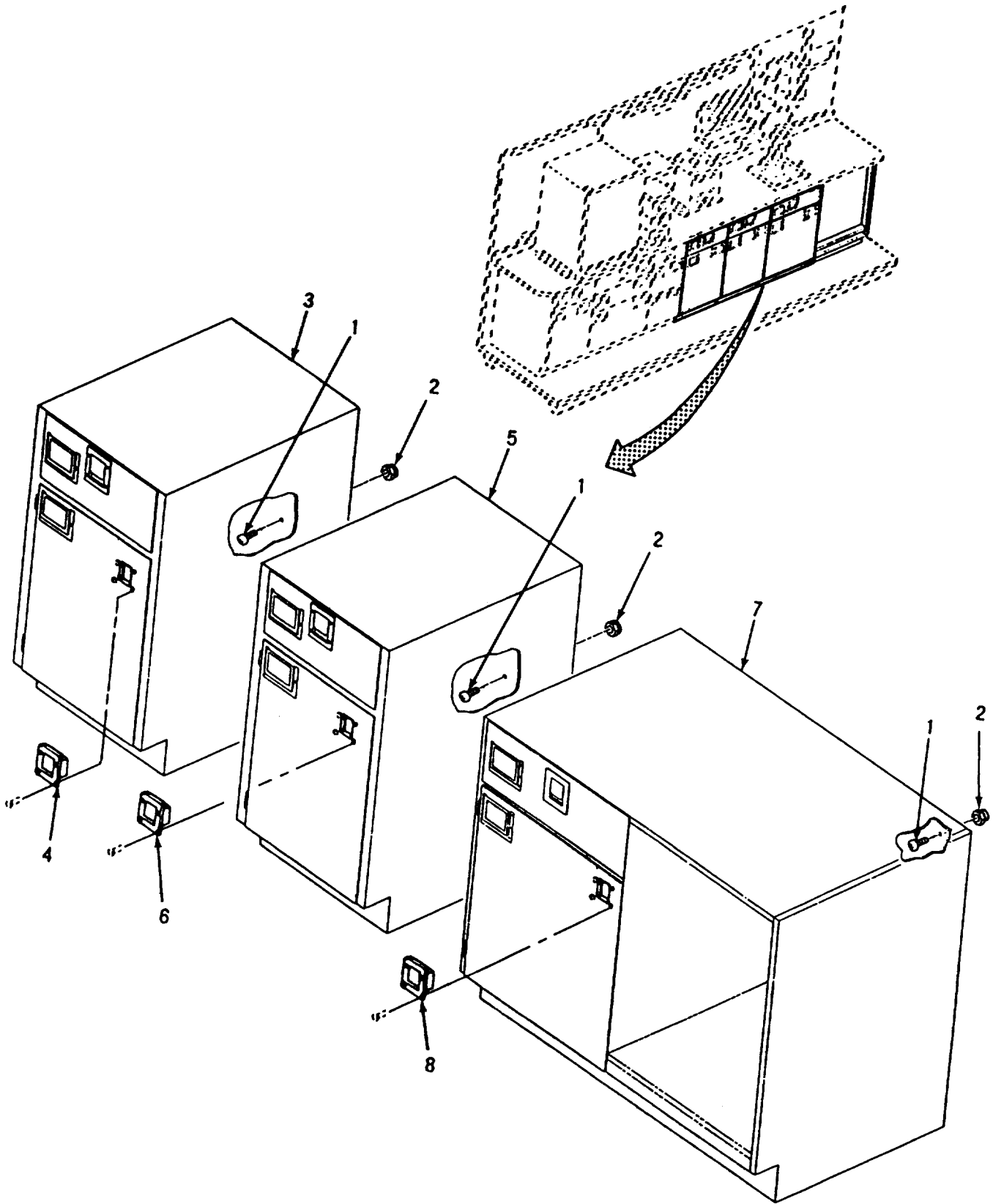


Figure F-19. Storage Cabinets and Related Parts

| SECTION II (1) | (2) | (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|-------------------|-------------|--------|---------------------------|---|-----|
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | GROUP 08 STORAGE CABINETS AND RELATED PARTS | |
| | | | | FIG. 19 STORAGE CABINETS AND RELATED PARTS | |
| 1 | PAOZZ | 96906 | MS35207-265 | SCREW,MACHINE | 3 |
| 2 | PAOZZ | 96906 | MS27130A25 | NUT,PLAIN,BLIND RIV | 3 |
| 3 | XDHOO | 97403 | 13219E1567 | CABINET,STORAGE ALTERED FROM CABINET, STORAGE, CUPBOARD AND DRAWER P/N200924 GSS MINT | 1 |
| 4 | PAOZZ | 0BJJ7 | 1-MSS | LATCH,PADDLE | 2 |
| 5 | XDHOO | 97403 | 13228E1214 | CABINET,STORAGE ALTERED FROM CABINET, STORAGE, CUPBOARD AND DRAWER P/N200924 GSS MINT | 1 |
| 6 | PAOZZ | 0BJJ7 | 1-MSS | LATCH,PADDLE | 2 |
| 7 | XDHOO | 97403 | 13219E1450 | CABINET,SINK/WATER ALTERED FROM CABINET, STORAGE AND CUPBOARD, P/N 200564MINT | 1 |
| 8 | PAOZZ | 0BJJJ7 | 1-MSS | LATCH,PADDLE | 1 |
| | | | | END OF FIGURE | |

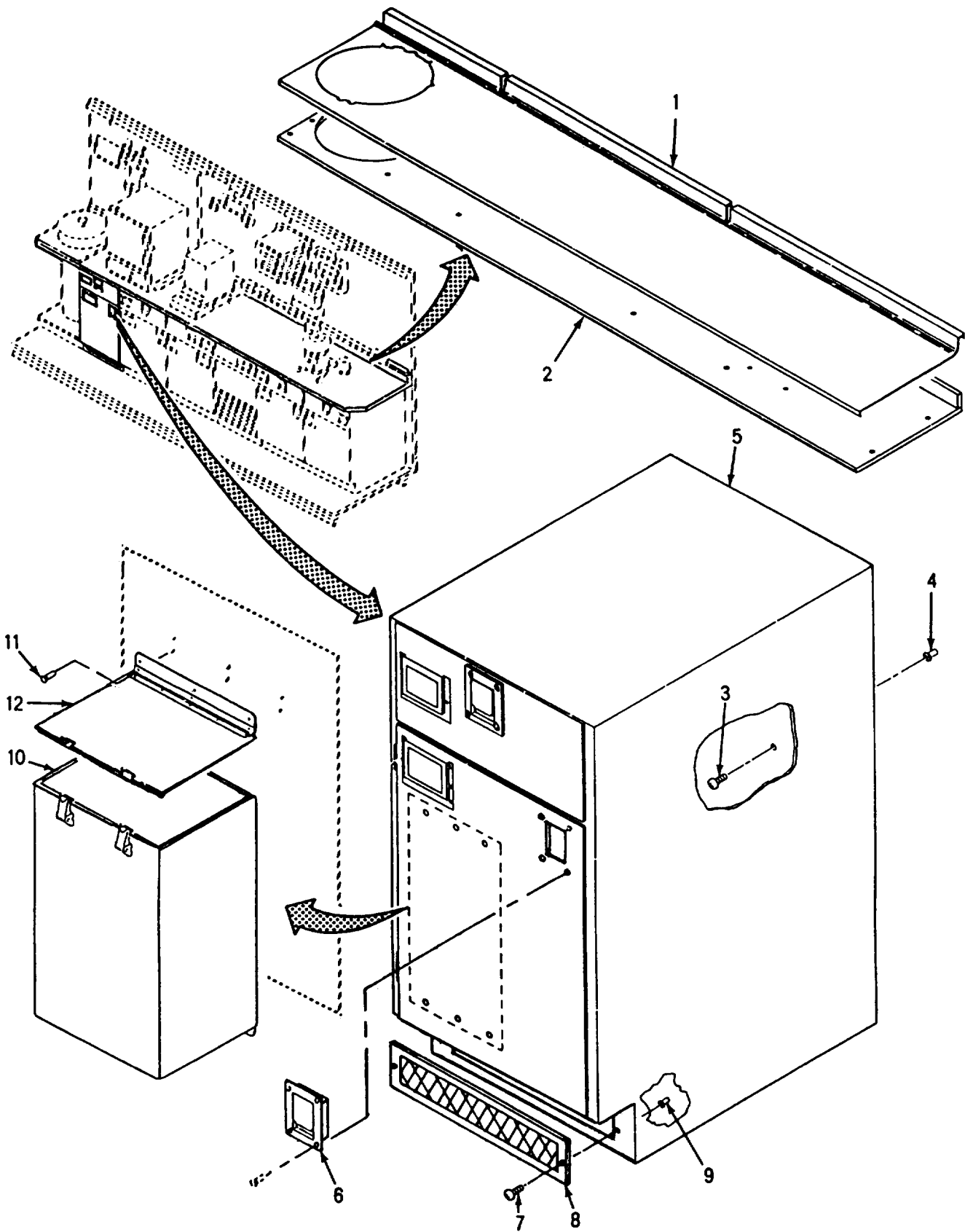


Figure F-20. Storage Cabinets and Related Parts

| SECTION II (1) | SMR (2) | CAGEC (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|-------------------|------------|--------------|---------------------------|---|-----|
| ITEM NO | CODE | | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | GROUP 08 STORAGE CABINETS AND RELATED PARTS | |
| | | | | FIG. 20 STORAGE CABINETS AND RELATED PARTS | |
| 1 | XDHZZ | 97403 | 13219E1434 | TOP,LAB TABLE RH | 1 |
| 2 | XDHZZ | 97403 | 13219E1507 | TOP,CABINET ASSY | 1 |
| 3 | PAOZZ | 96906 | MS35207-265 | SCREW,MACHINE | 3 |
| 4 | PAOZZ | 96906 | MS27130A25 | NUT,PLAIN,BLIND RIV | 3 |
| 5 | XDHOO | 97403 | 13219E1460 | CABINET,STORAGE ALTERED FROM CABINET, STORAGE, CUPBOARD AND DRAWER, P/N 200924 GSS MINT | 1 |
| 6 | PAOZZ | 0BJJ7 | 1-MSS | LATCH,PADDLE | 2 |
| 7 | PAOZZ | 96906 | MS35206-265 | SCREW,MACHINE | 4 |
| 8 | XDOZZ | 97403 | 13219E1548 | VENT,INTAKE | 1 |
| 9 | PAOZZ | 96906 | MS27130A25 | NUT,PLAIN,BLIND RIV | 4 |
| 10 | XDOOO | 97403 | 13219E1550 | CONTAINER ASSEMBLY | 1 |
| 11 | PAOZZ | 96906 | MS20426A4-6 | RIVET,SOLID | 8 |
| 12 | XDOZZ | 97403 | 13219E1551 | COVER | 1 |
| | | | | END OF FIGURE | |

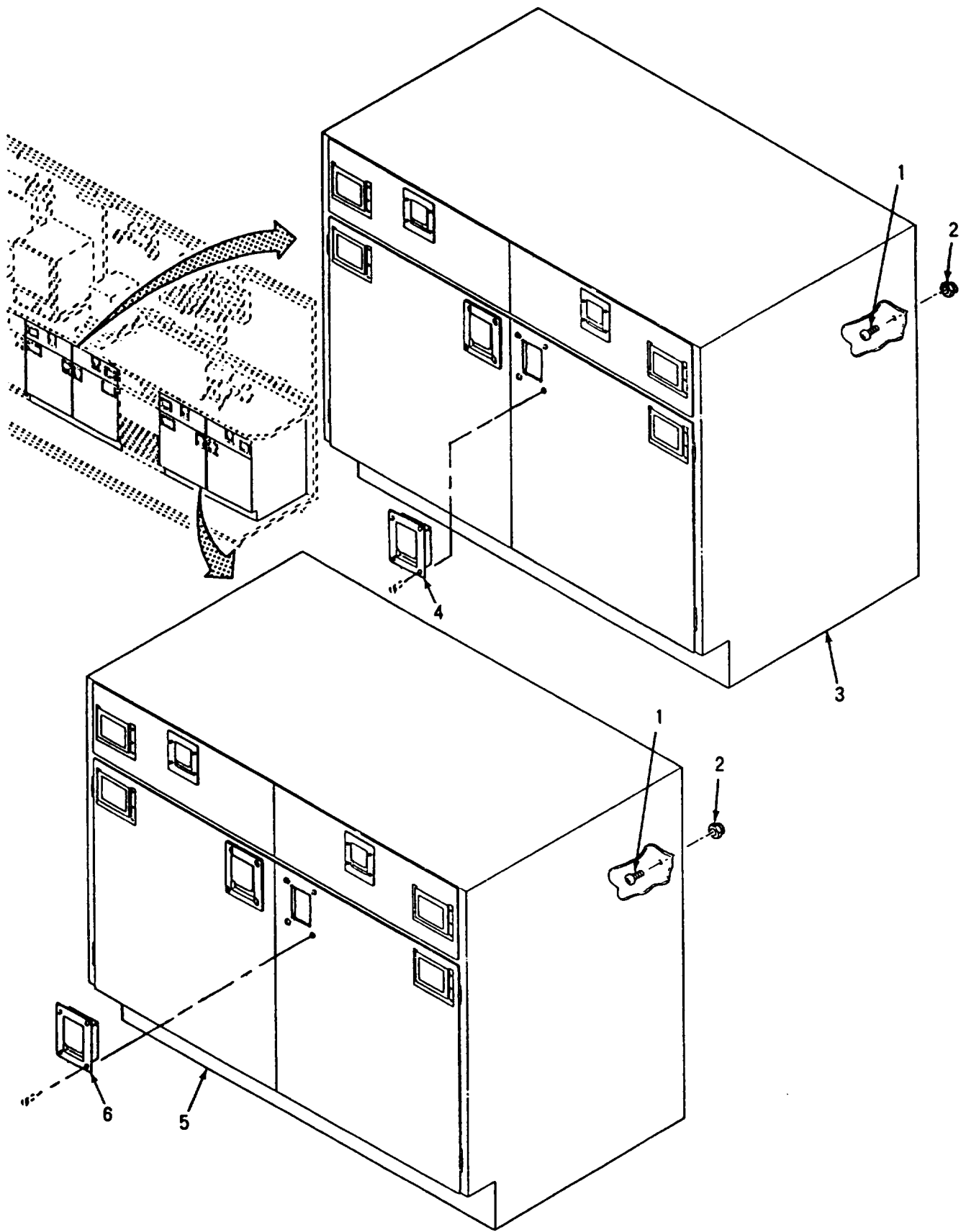


Figure F-21. Storage Cabinets and Related Parts

| SECTION II | | | | | |
|------------|-------|-------|--------------------|---|-----|
| (1) | (2) | (3) | TM10-6640-216-13&P | (4) | (6) |
| ITEM | SMR | | PART | | |
| NO | CODE | CAGEC | NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | GROUP 08 STORAGE CABINETS AND RELATED PARTS | |
| | | | | FIG. 21 STORAGE CABINETS AND RELATED PARTS | |
| 1 | PAOZZ | 96906 | MS35207-265 | SCREW,MACHINE | 4 |
| 2 | PAOZZ | 96906 | MS27130A25 | NUT,PLAIN,BLIND RIV | 4 |
| 3 | XDHO0 | 97403 | 13219E1470 | CABINET,STORAGE ALTERED FROM CABINET, STORAGE, CUPBOARD AND DRAWER, P/N 201764 GSS MINT | 1 |
| 4 | PAOZZ | 0B447 | 1-MSS | LATCH,PADDLE | 4 |
| 5 | XDHO0 | 97403 | 13219E1480 | CABINET,STORAGE ALTERED FROM CABINET, STORAGE, CUPBOARD AND DRAWER, P/N 201754 GSS MINT | 1 |
| 6 | PAOZZ | 0BJJ7 | 1-MSS | LATCH,PADDLE | 4 |
| | | | | END OF FIGURE | |

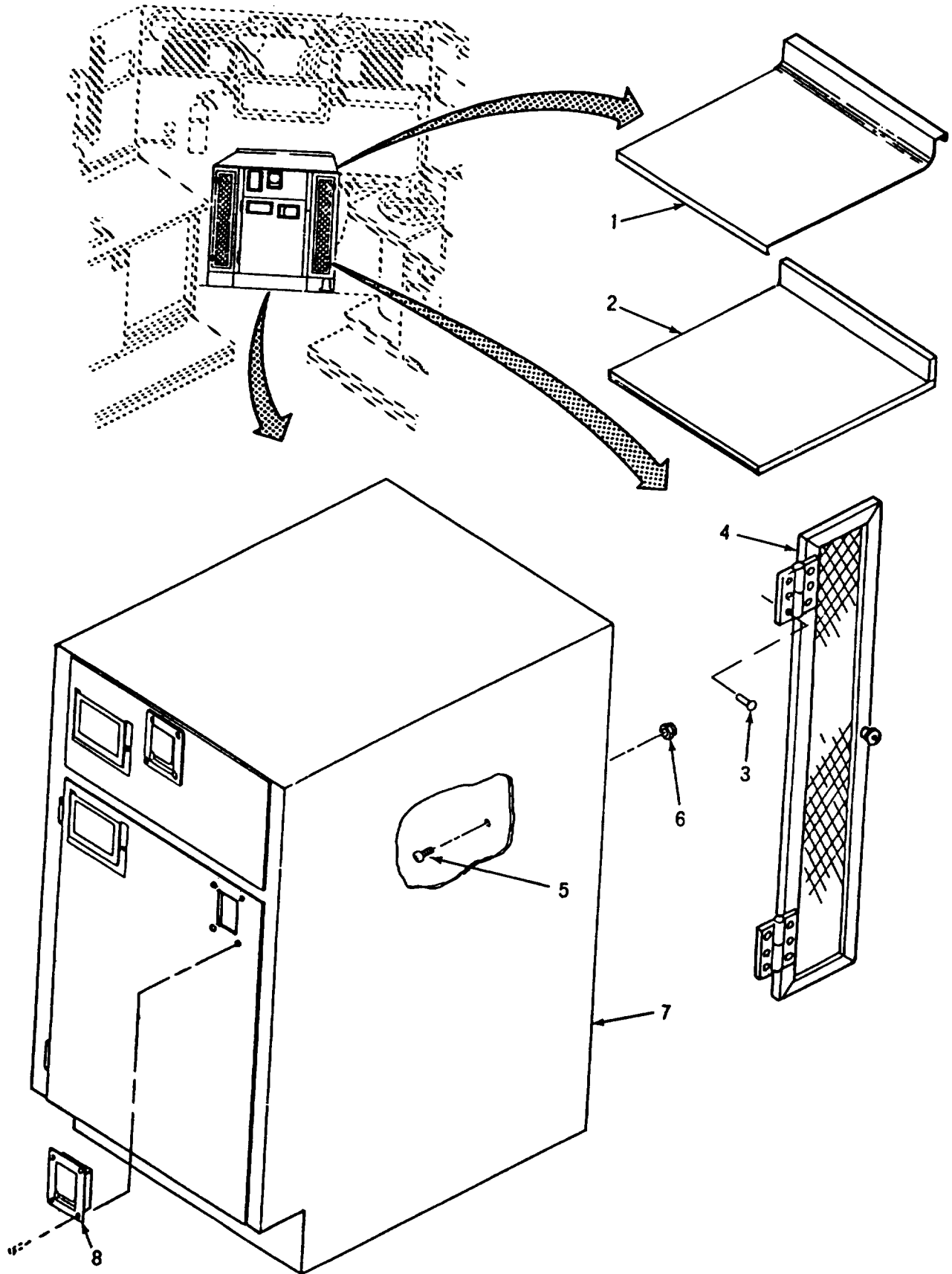


Figure F-22. Storage Cabinets and Related Parts

| SECTION II | | | | TM10-6640-216-13&P | |
|---|----------|-------|--------------|---------------------------------------|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 08 STORAGE CABINETS AND RELATED PARTS | | | | | |
| FIG. 22 STORAGE CABINETS AND RELATED PARTS | | | | | |
| 1 | XDHZZ | 97403 | 13227E7460 | COUNTER, TOP END | 1 |
| 2 | XDHZZ | 97403 | 13227E7461 | CORE, COUNTER TOP | 1 |
| 3 | PAOZZ | 96906 | MS20470AD3-6 | RIVET, SOLID | 12 |
| 4 | XDOZZ | 97403 | 13227E7459 | DOOR, ACCESS CABINET | 2 |
| 5 | PAOZZ | 96906 | MS35207-265 | SCREW, MACHINE | 3 |
| 6 | PAOZZ | 96906 | MS27130A25 | NUT, PLAIN, BLIND RIV | 3 |
| 7 | XDHZZ | 97403 | 13219E1481 | CABINET, STORAGE | 1 |
| 8 | PAOZZ | 0BJJ7 | 1-MSS | LATCH, PADDLE | 2 |
| END OF FIGURE | | | | | |

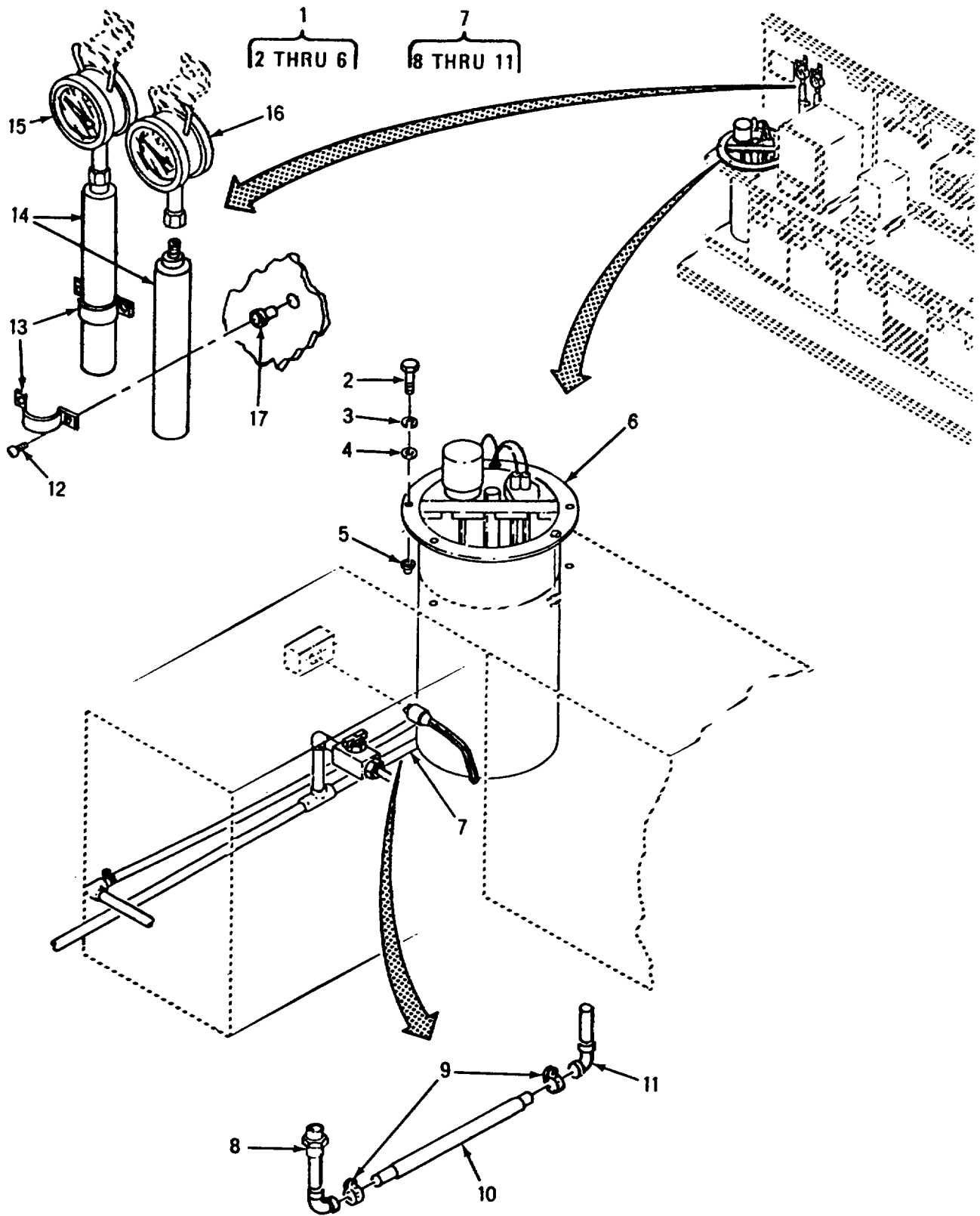


Figure F-23. Reid Vapor Pressure Bath and RVP Bomb

| SECTION II (1) | ITEM (2) | (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|--|-------------|-------|---------------------------|---|-----|
| NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 09 REID VAPOR PRESSURE BATH | | | | | |
| FIG. 23 REID VAPOR PRESSURE BATH AND RVP BOMB | | | | | |
| 1 | XCOOO | 97403 | 13229E3740 | BATH,RVP INSTAL | 1 |
| 2 | PAOZZ | 96906 | MS90725-13 | BOLT,MACHINE | 4 |
| 3 | PAOZZ | 96906 | MS35333-40 | WASHER,LOCK | 4 |
| 4 | PAOZZ | 96906 | MS27183-10 | WASHER,FLAT | 4 |
| 5 | PAOZZ | 96906 | MS51941-10 | NUT,PLAIN,PLATE | 4 |
| 6 | PDOFZ | 48619 | 74893 | BATH,CONSTANT TEM SEE TM10-6640- 226-13&P FOR REPAIR PARTS | 1 |
| 7 | XDOOO | 97403 | 13219E1499 | DRAIN ASSY,RVP UNIT | 1 |
| 8 | XDOZZ | 97403 | 13227E7453 | ADAPTER | 1 |
| 9 | PAOZO | 96906 | MS35842-10 | CLAMP,HOSE | 2 |
| 10 | MOOZZ | 97403 | 13219E1499-3 | HOSE,RUBBER,FLEX MAKE FROM FLEX RUBBER HOSE, P/N L-H-520, CUT AS REQD | 1 |
| 11 | XDOZZ | 97403 | 13227E7452 | ELBOW | 1 |
| 12 | PAOZZ | 96906 | MS35207-265 | SCREW,MACHINE | 4 |
| 13 | PAOZZ | 97403 | 13219E1436 | RETAINER,SHIPMENT | 2 |
| 14 | PAOZZ | 48619 | 74877 | VAPOR PRESSURE BOMB | 2 |
| 15 | PAOZZ | 48619 | 74885 | GAGE,PRESSURE RANGE,P0.000/P5.000 POUNDS PRESSURE P/S/I | 1 |
| 16 | PAOZZ | 48619 | 74886 | GAGE,PRESSURE RANGE,P0.000/P15.000 POUNDS PRESSURE P/S/I | 1 |
| 17 | PAOZZ | 96906 | MS27130A25 | NUT,PLAIN,BLIND RIV | 2 |
| END OF FIGURE | | | | | |

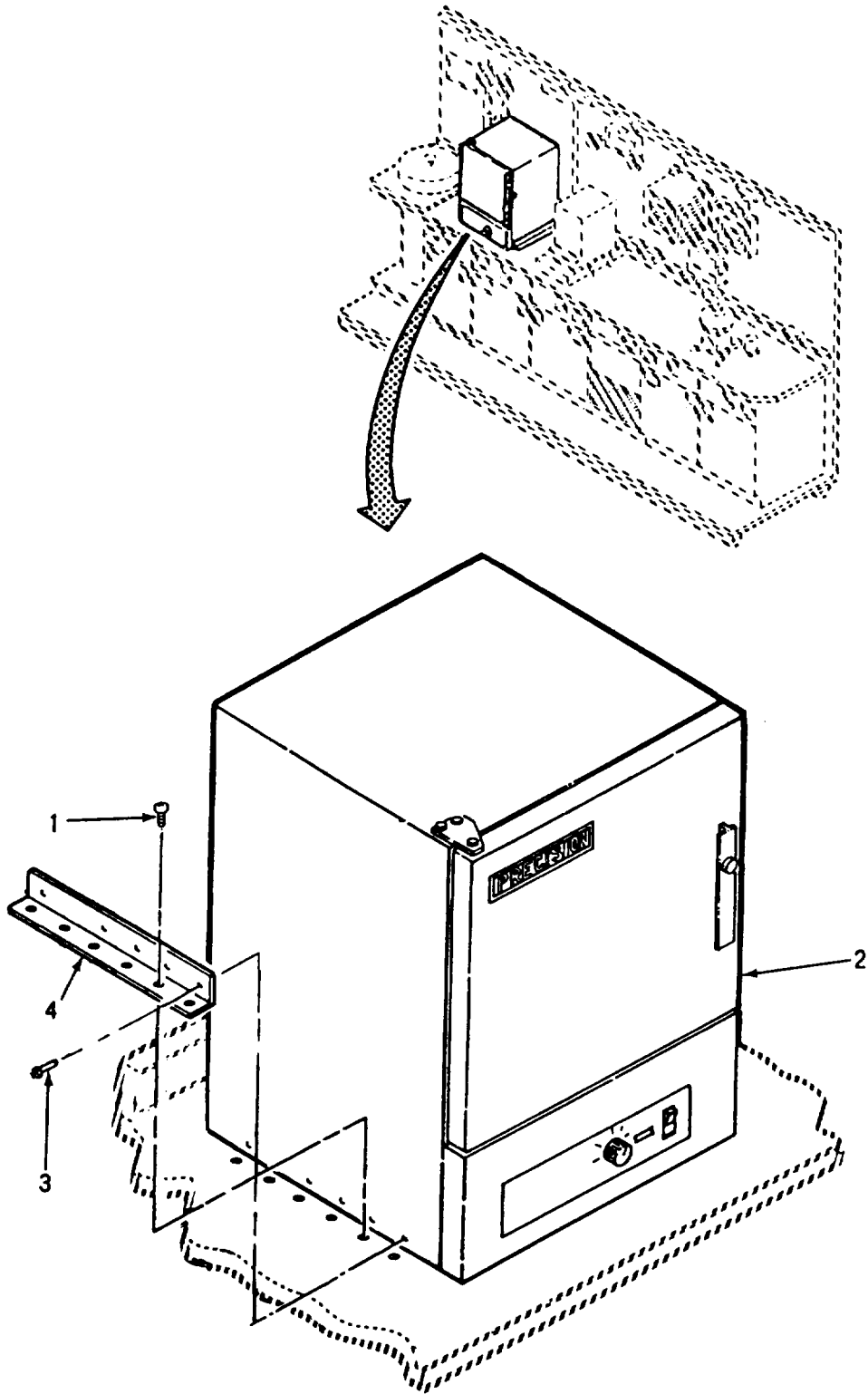


Figure F-24. Laboratory Oven

| SECTION II | | | | | |
|------------|----------|-------|---------------|---|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | GROUP 01 LABARATORY OVEN | |
| | | | | FIG. 24 LABORATORY OVEN | |
| 1 | PAOZZ | 96906 | MS35493-76 | SCREW,WOOD | 12 |
| 2 | PBOFF | 48619 | 31477 | OVEN,LABORATORY SEE TM10-6640-218-13&P FOR REPAIR PARTS | 1 |
| 3 | XDOZZ | 81349 | M24243/1-F602 | RIVET,BLIND | 12 |
| 4 | XDOZZ | 97403 | 13219E1775 | ANGLE | 2 |
| | | | | END OF FIGURE | |

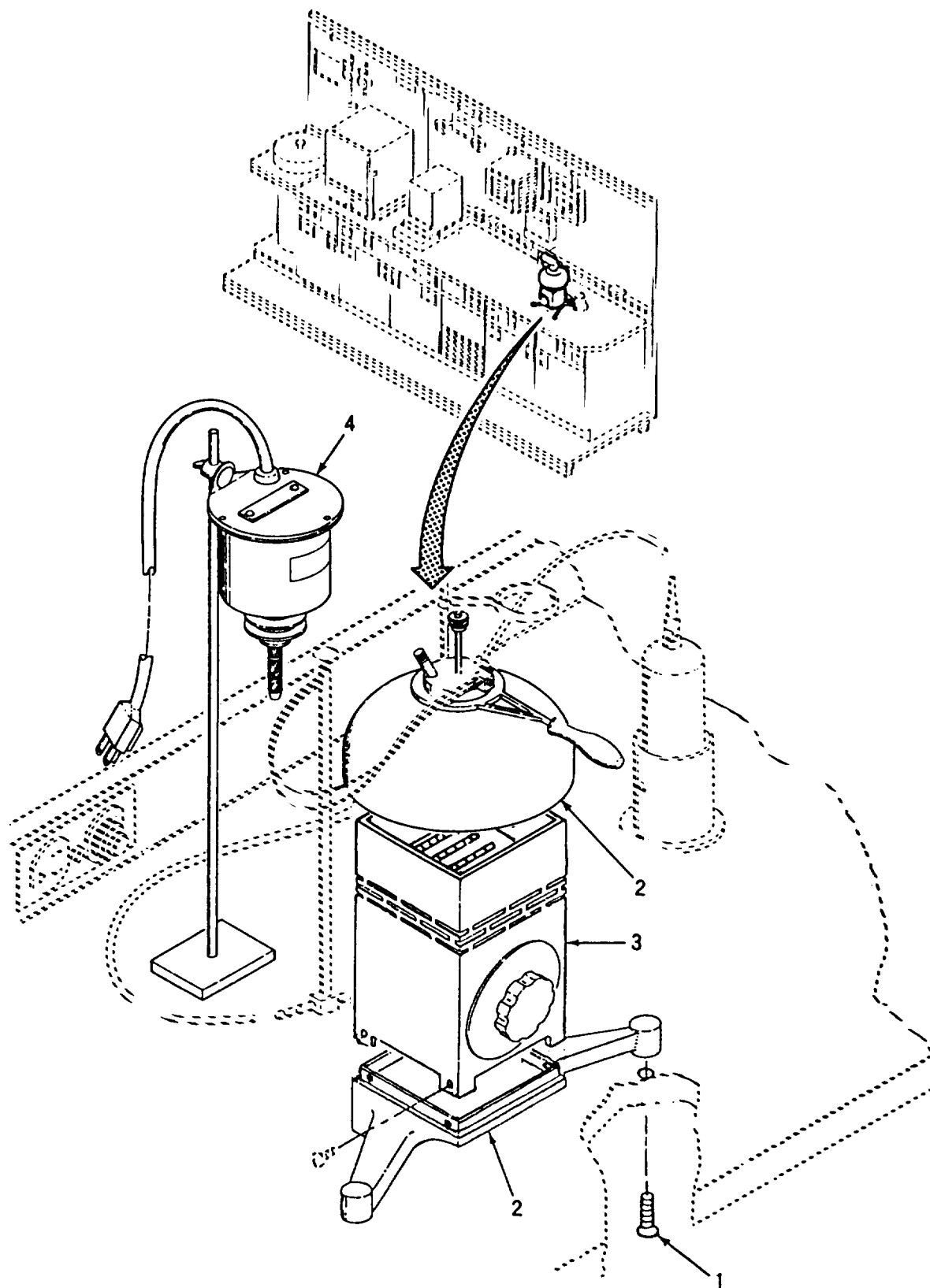


Figure F-25. Flash Point Tester

| SECTION II | | | | | |
|------------|----------|-------|-------------|--|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | GROUP 11 FLASH POINT TESTER | |
| | | | | FIG. 25 FLASH POINT TESTER | |
| 1 | PAOZO | 96906 | MS35207-267 | SCREW,MACHINE | 3 |
| 2 | PAOFZ | 48619 | 74537 | TESTER,FLASH POINT SEE TM10-6630-231-13&P FOR REPAIR PARTS | 1 |
| 3 | PDOOF | 48619 | 61600 | HEATER,ELECTRIC | 1 |
| 4 | PAOOZ | 48619 | 75765 | STIRRER,ELECTRIC,LA | 1 |
| | | | | END OF FIGURE | |

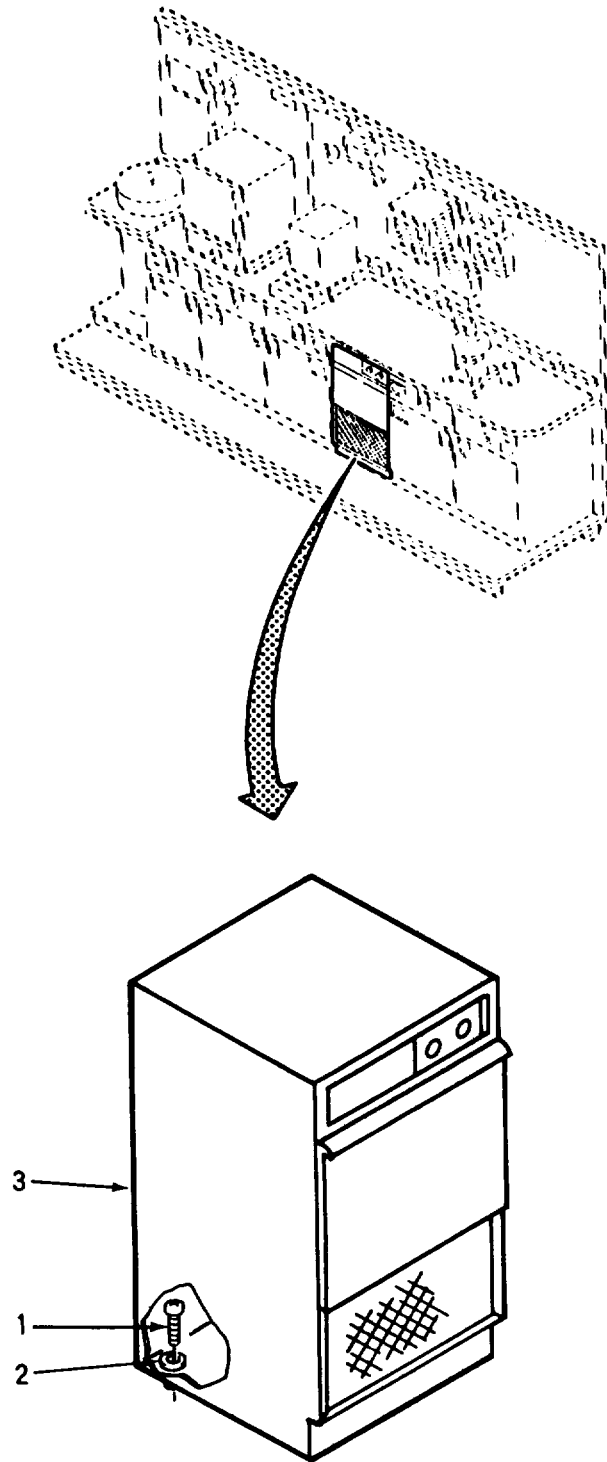


Figure F-26. Ice Maker

| SECTION II (1) | ITEM (2) | SMR (3) | CAGEC (4) | TM10-6640-216-13&P PART NUMBER | (5) | (6) |
|-------------------|-------------|------------|--------------|--------------------------------------|--|-----|
| NO | CODE | | | | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | | GROUP 12 ICE MAKER | |
| | | | | | FIG. 26 ICE MAKER | |
| 1 | PAOZZ | 96906 | MS35207-265 | | SCREW,MACHINE | 4 |
| 2 | PAOZZ | 96906 | MS27130A25 | | NUT,PLAIN,BLIND RIV | 4 |
| 3 | PAOFF | 49524 | CSW1AE-1A | | ICE MACHINE MACH SEE TM10-6640-227- 13&P FOR REPAIR PARTS | 1 |
| | | | | | END OF FIGURE | |

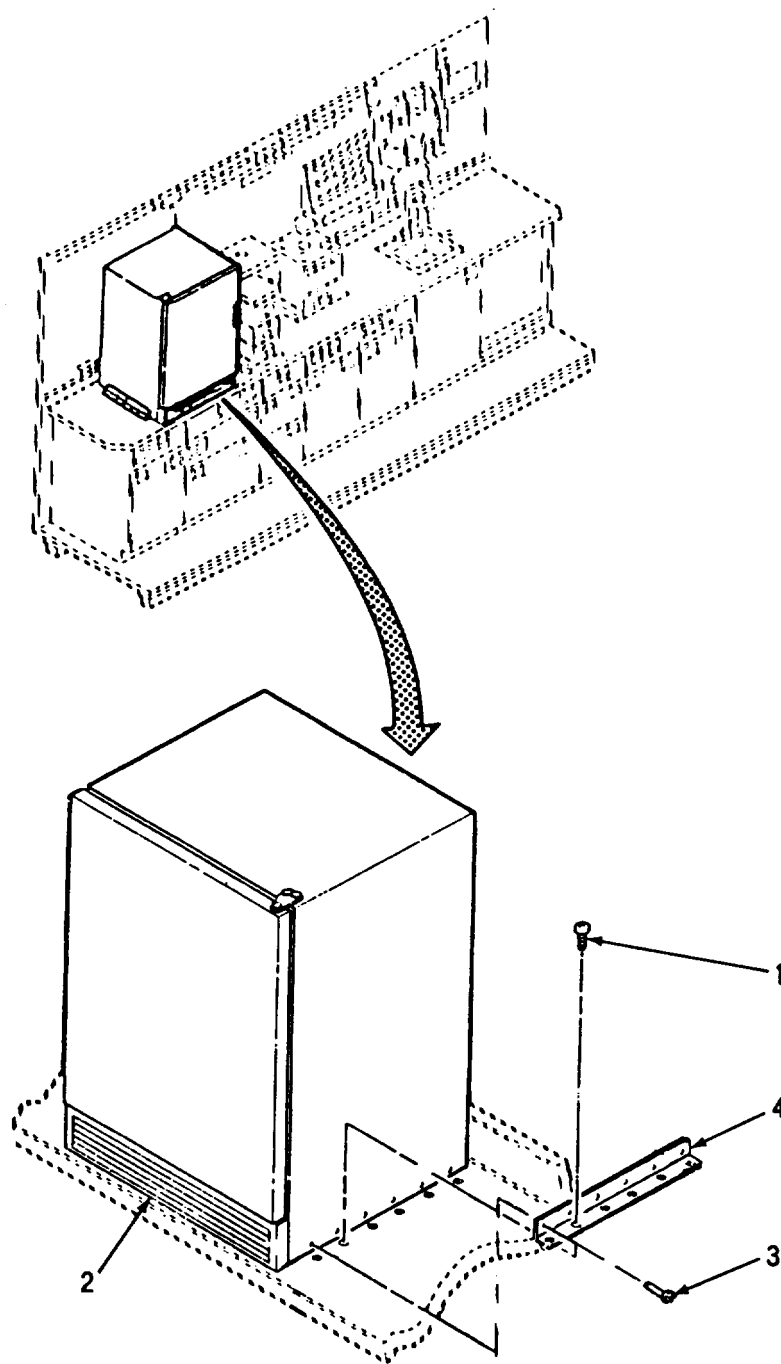


Figure F-27. Refrigerator

| SECTION II (1) | SMR (2) | CAGEC (3) | TM10-6640-216-13&P PART (4) | DESCRIPTION AND USABLE ON CODES (UOC) (5) | QTY (6) |
|-------------------|------------|--------------|-----------------------------------|---|------------|
| ITEM NO | CODE | | NUMBER | | |
| | | | | GROUP 13 REFRIGERATOR | |
| | | | | FIG. 27 REFRIGERATOR | |
| 1 | PAOZZ | 96906 | MS35493-76 | SCREW,WOOD | 12 |
| 2 | PAOFF | 95632 | 3557 | REFRIGERATOR,MECH SEE TM10-6640- 219-13&P FOR REPAIR PARTS | 1 |
| 3 | XDOZZ | 81349 | M24243/1-F602 | RIVET,BLIND | 12 |
| 4 | XDOZZ | 97403 | 13219E1775 | ANGLE | 2 |
| | | | | END OF FIGURE | |

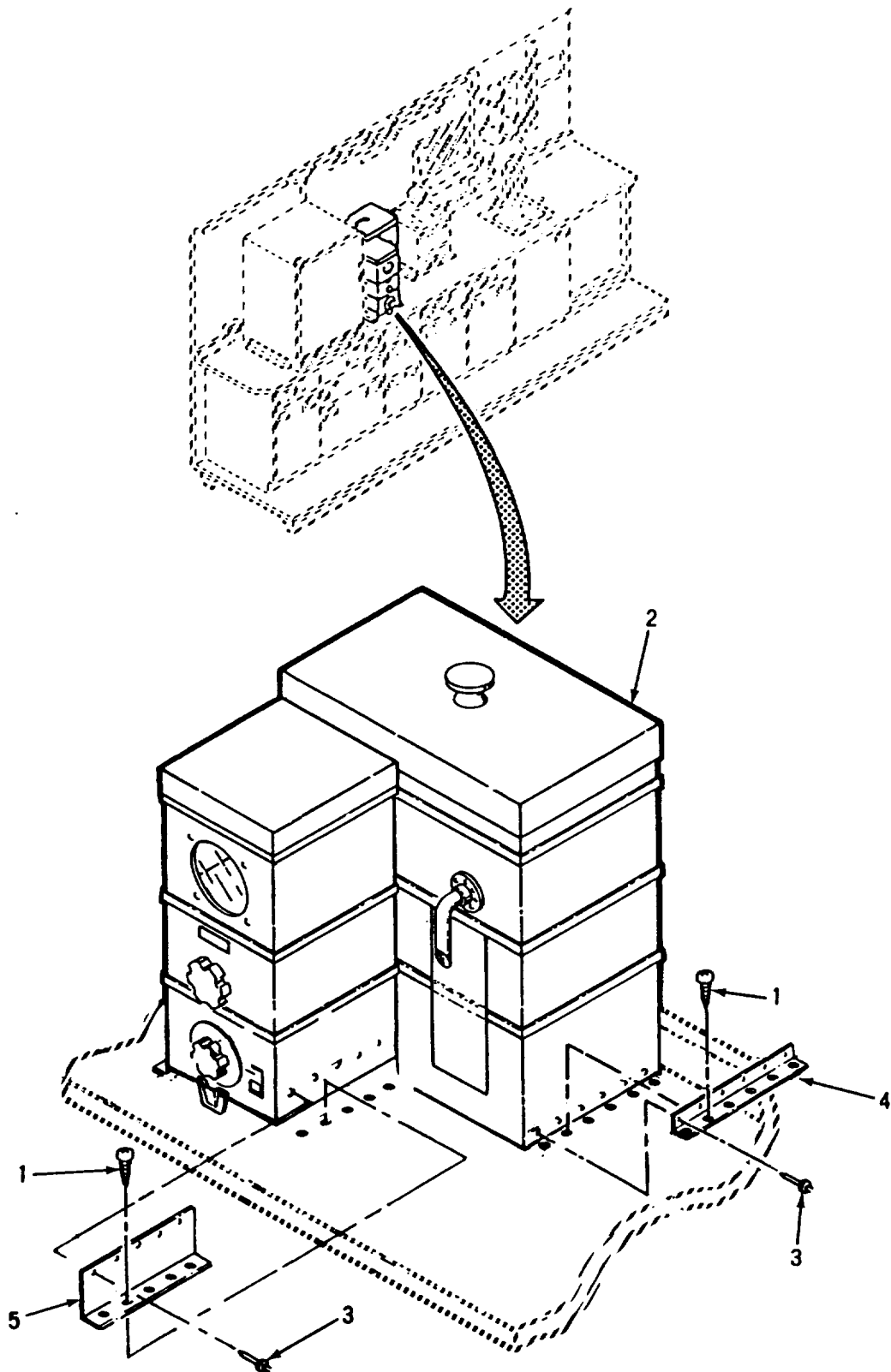


Figure F-28. Distillation Unit

| SECTION II (1) | SMR (2) | CAGEC (3) | TM10-6640-216-13&P (4) PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) (5) | QTY (6) |
|-------------------|------------|--------------|---|---|------------|
| NO | CODE | | | | |
| | | | | GROUP 14 DISTILLATION UNIT | |
| | | | | FIG. 28 DISTILLATION UNIT | |
| 1 | PAOZZ | 96906 | MS35493-76 | SCREW,WOOD | 24 |
| 2 | PAOFF | 48619 | 76002 | DISTILLATION TEST A SEE TM10-6630- 219-13&P FOR REPAIR PARTS | 1 |
| 3 | XDOZZ | 96906 | MS20604R4W2 | RIVET,BLIND | 24 |
| 4 | XDOZZ | 94703 | 13219E1619 | ANGLE | 2 |
| 5 | XDOZZ | 97403 | 13219E1620 | BRACKET | 1 |
| | | | | END OF FIGURE | |

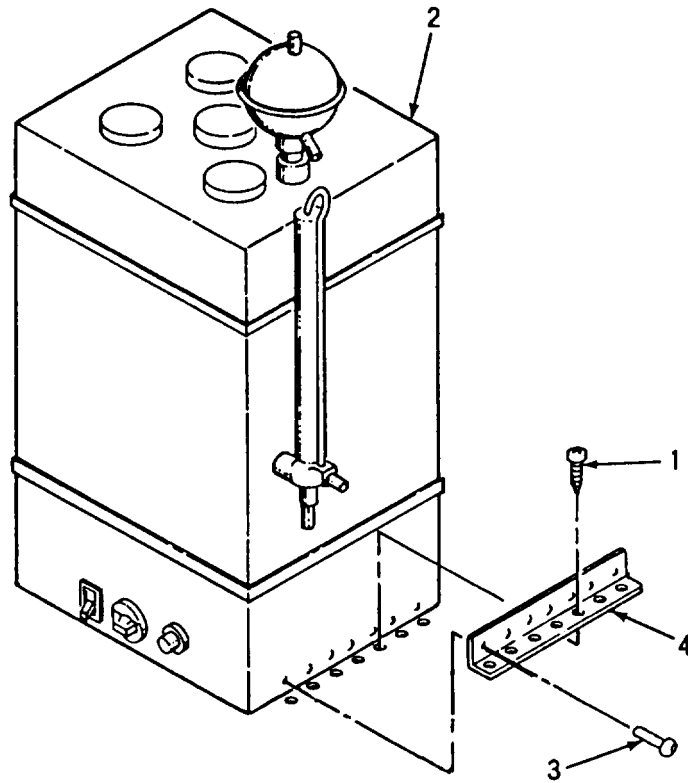
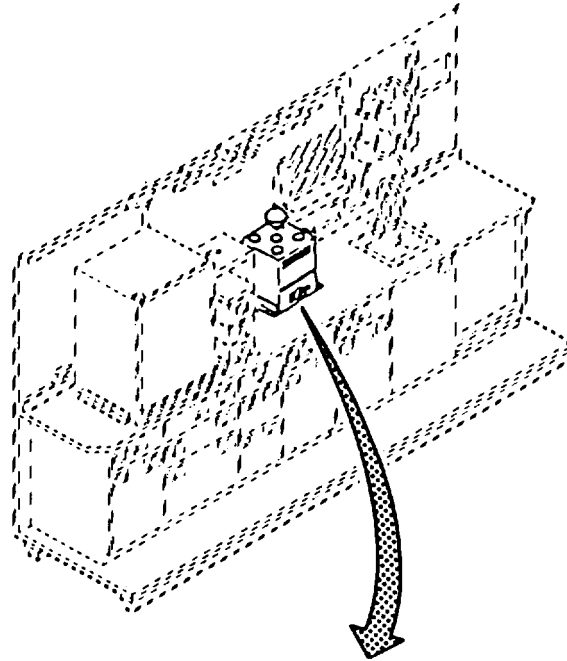


Figure F-29. Corrosion Test Bath

| SECTION II | | | | | |
|------------|----------|-------|-------------|---|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | GROUP 15 CORROSION TEST BATH | |
| | | | | FIG. 29 CORROSION TEST BATH | |
| 1 | PAOZZ | 96906 | MS35493-76 | SCREW,WOOD | 12 |
| 2 | PAOOF | 23035 | K253-1 | BATH,CORROSION TEST SEE TM10-6640-220-13&P FOR REPAIR PARTS | 1 |
| 3 | XDOZZ | 96906 | MS20604R4W2 | RIVET,BLIND | 12 |
| 4 | XDOZZ | 97403 | 13219E1619 | ANGLE | 2 |
| | | | | END OF FIGURE | |

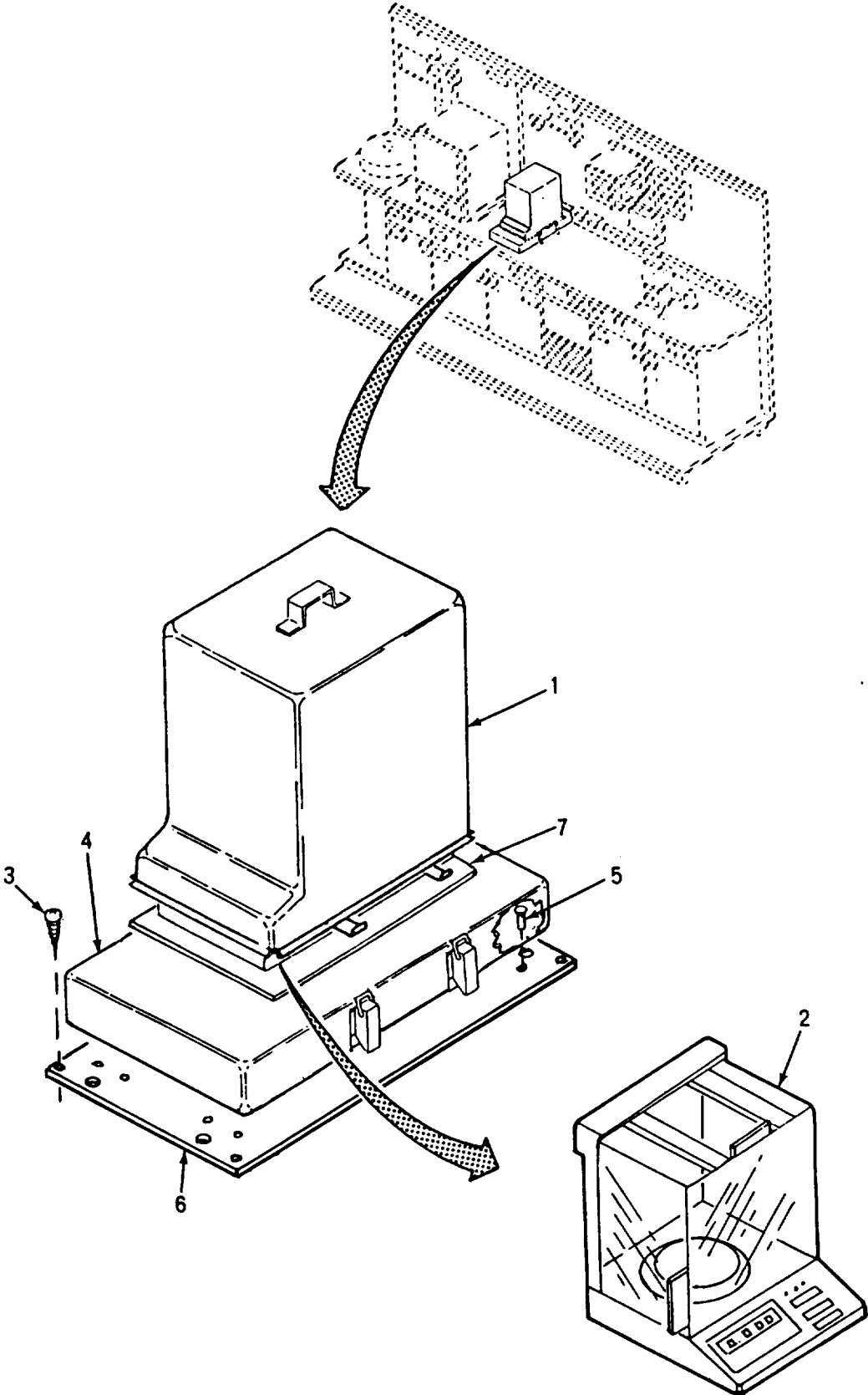


Figure F-30. Balance

| SECTION II | | | | TM10-6640-216-13&P | |
|------------------|----------|-------|-------------|---|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 16 BALANCE | | | | | |
| FIG. 30 BALANCE | | | | | |
| 1 | PAOZZ | 97403 | 13229E3733 | COVER ASSY | 1 |
| 2 | PDOFF | 1HF87 | A200S | BALANCE, ANALYTICAL SEE TM10-6670-277-13&P FOR REPAIR PARTS | 1 |
| 3 | PAOZZ | 96906 | MS35493-76 | SCREW, WOOD | 4 |
| 4 | PAOZZ | 80740 | 78-902 | SUPPORT, VIBRATION | 1 |
| 5 | PAOZZ | 96906 | MS20426B6-5 | RIVET, SOLID | 8 |
| 6 | XDOZZ | 97403 | 13219E1494 | PLATE, MOUNTING | 1 |
| 7 | XDOZZ | 97403 | 13219E1521 | GASKET | 1 |
| END OF FIGURE | | | | | |

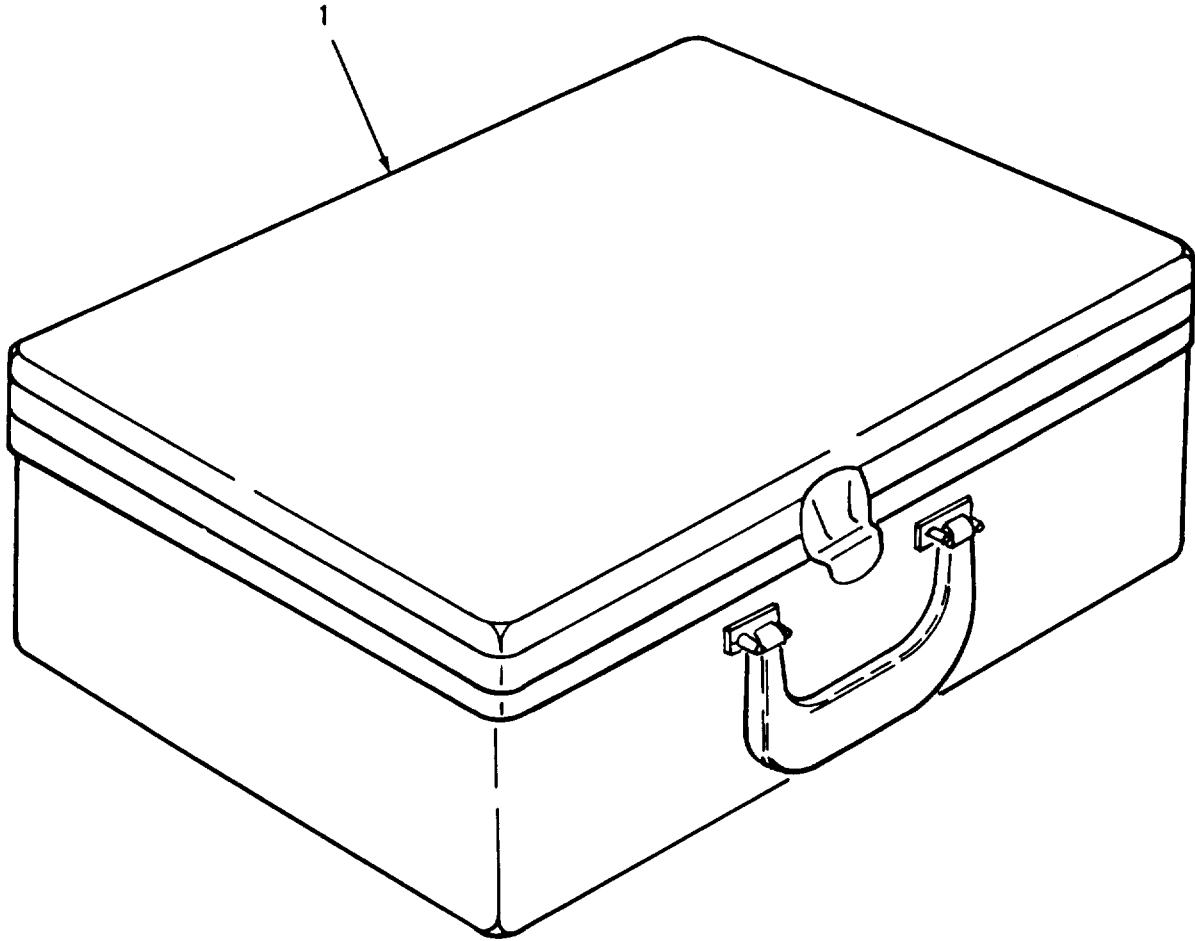


Figure F-31. Water Detector Kit

| SECTION II (1) | SMR (2) | CAGEC (3) | TM10-6640-216-13&P PART NUMBER (4) | DESCRIPTION AND USABLE ON CODES (UOC) GROUP 17 WATER DETECTOR KIT FIG. 31 WATER DETECTOR KIT DETECTOR KIT,AUTOMO SEE TM10-6640- 221-13&P FOR REPAIR PARTS END OF FIGURE | (6) |
|-------------------|------------|--------------|---|--|-----|
| ITEM NO | CODE | | | | QTY |
| 1 | PAOFF | 33218 | GTP-323 | | 1 |

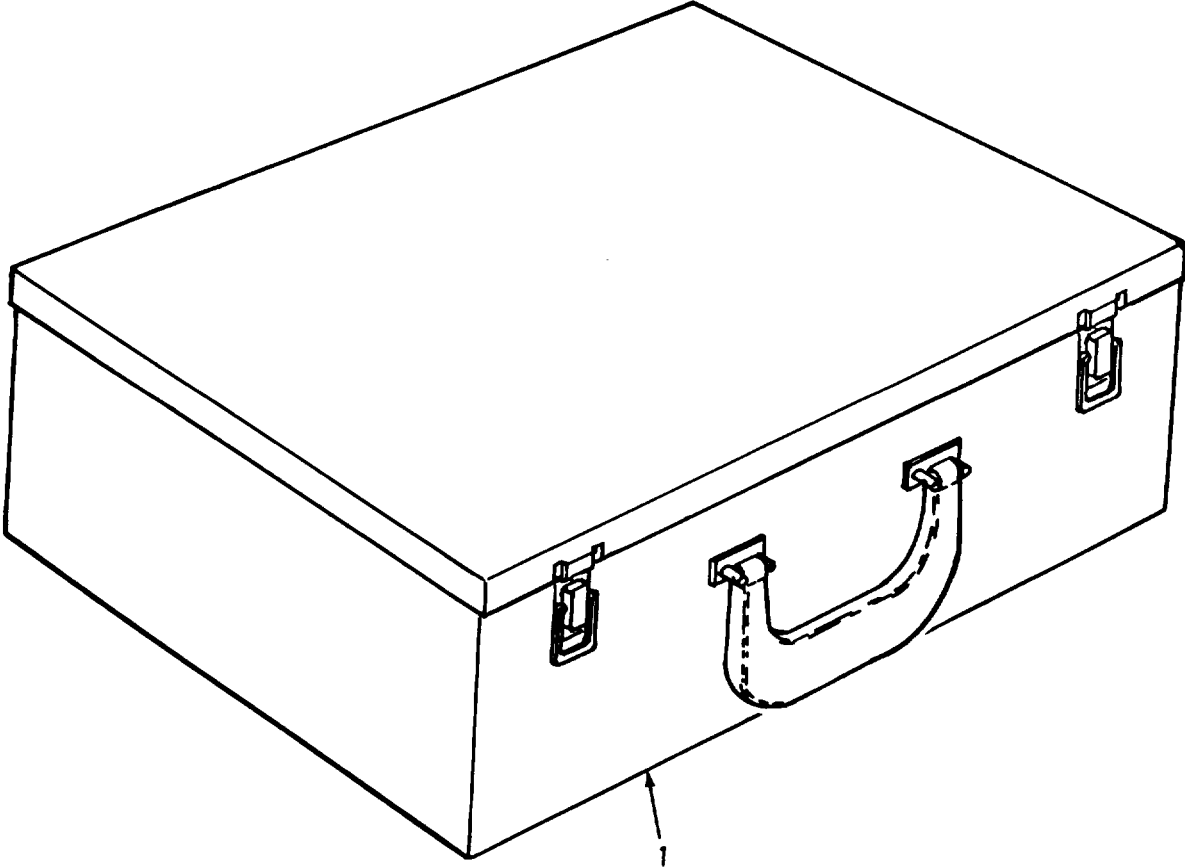


Figure F-32. Fuel Sampling Kit

| SECTION II (1) | SMR (2) | CAGEC (3) | PART (4) | DESCRIPTION AND USABLE ON CODES (UOC) (5) | QTY (6) |
|-------------------|------------|--------------|-------------|--|------------|
| ITEM NO | CODE | | NUMBER | | |
| | | | | GROUP 18 FUEL SAMPLING KIT | |
| | | | | FIG. 32 FUEL SAMPLING KIT | |
| 1 | PAOHZ | 08071 | XX64-037-30 | KIT, FUEL SAMPLING SEE TM10-6630- 230-13&P FOR REPAIR PARTS | 1 |
| | | | | END OF FIGURE | |

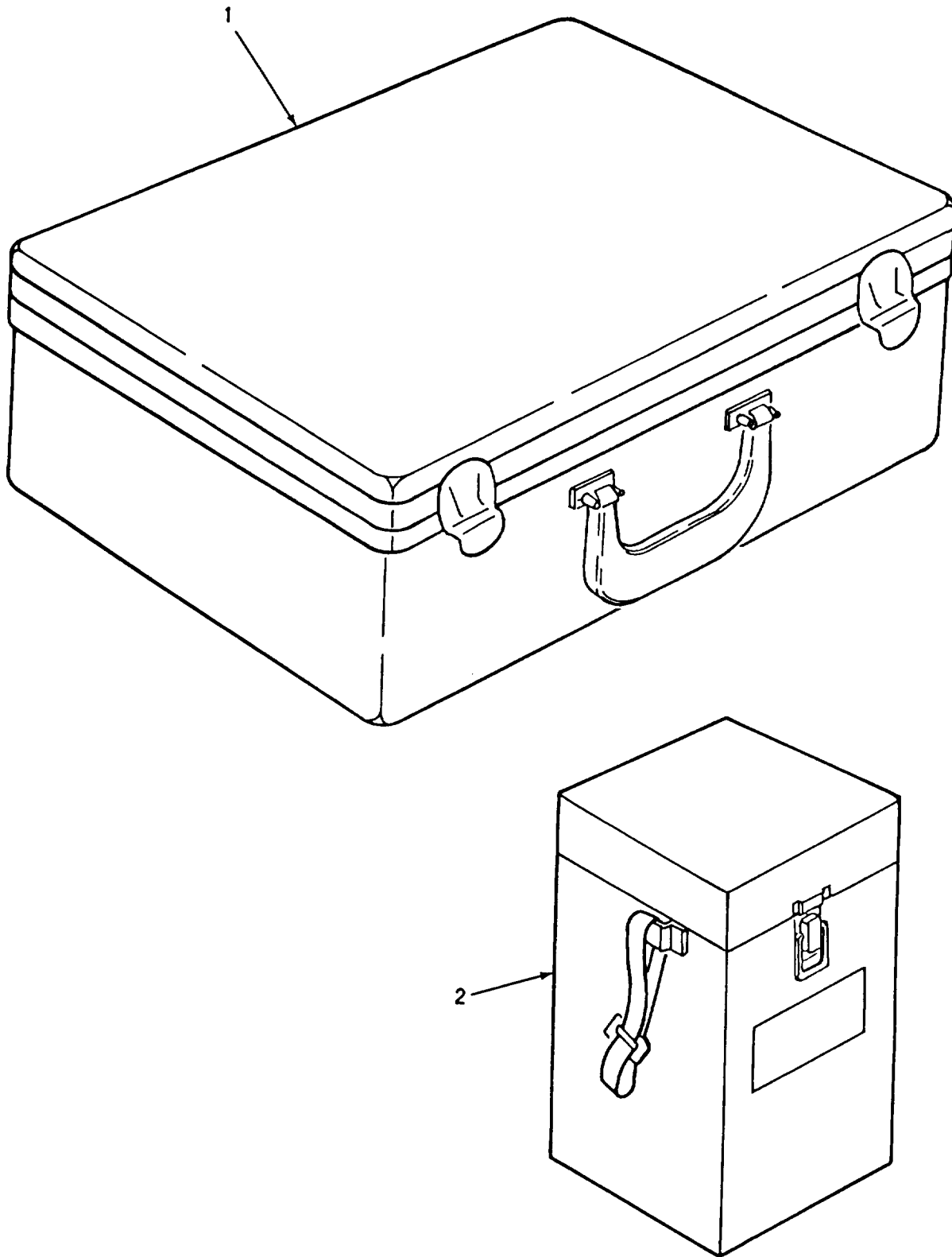


Figure F-33. Fuel System Icing Inhibitor Kit And Petroleum Sampling and Gaging Kit

| SECTION II | | | | | |
|------------|-------|-------|-------------|---|-----|
| (1) | (2) | (3) | (4) | (5) | (6) |
| ITEM | SMR | | PART | | |
| NO | CODE | CAGEC | NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| | | | | GROUP 19 FUEL SYSTEM ICING INHIBITOR KIT | |
| | | | | FIG. 33 FUEL SYSTEM ICING INHIBITOR KIT AND PETROLEUM SAMPLING AND GAGING KIT | |
| 1 | PAOZF | 62935 | B/2 | TEST KIT, FUEL ADDIT | 1 |
| 2 | PDOZH | 81349 | MIL-T-51028 | SAMPLING AND GAGING | 1 |
| | | | | END OF FIGURE | |

CHANGE 1

F-91/(F-92 BLANK)

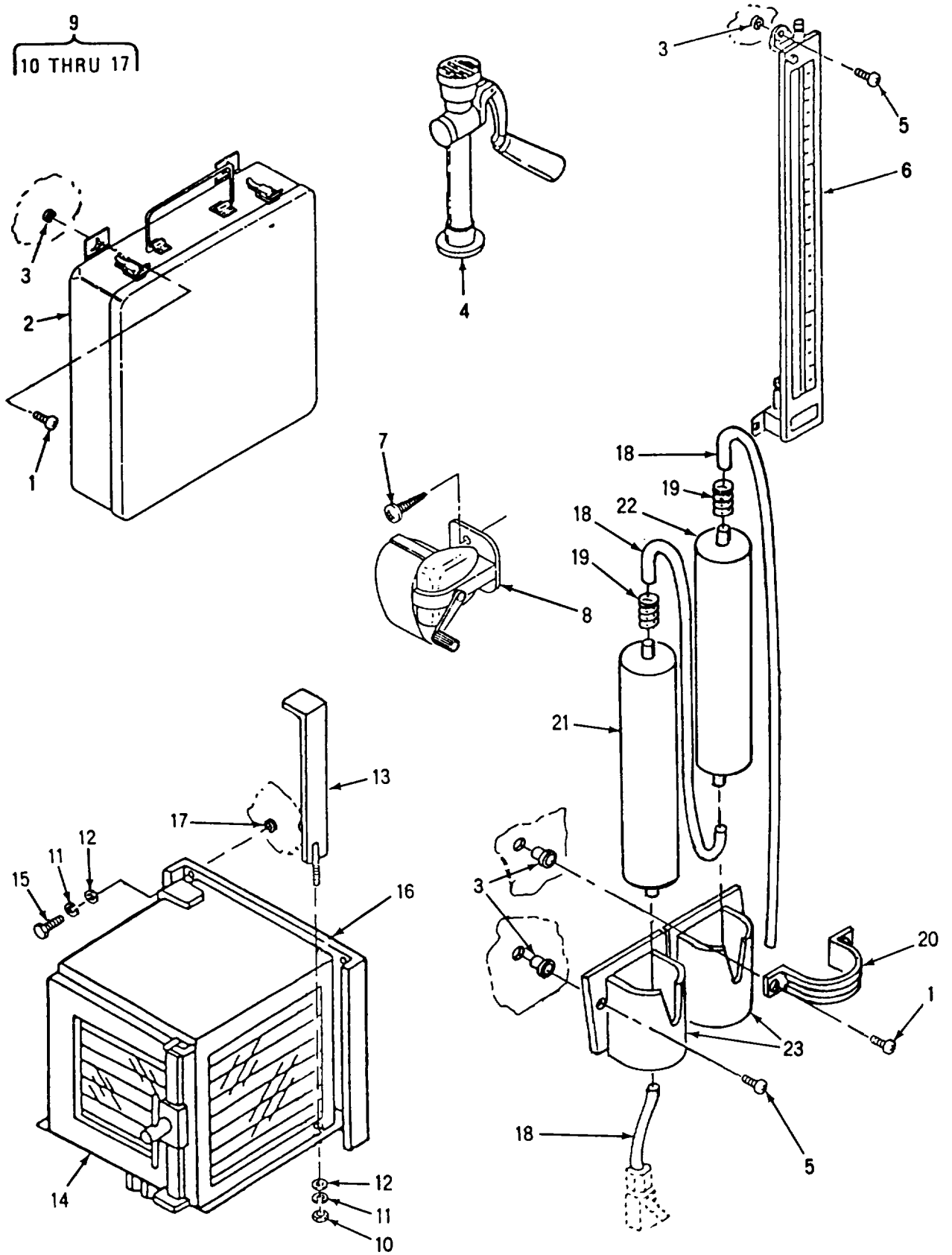


Figure F-34. Support Items (Sheet 1 of 2)

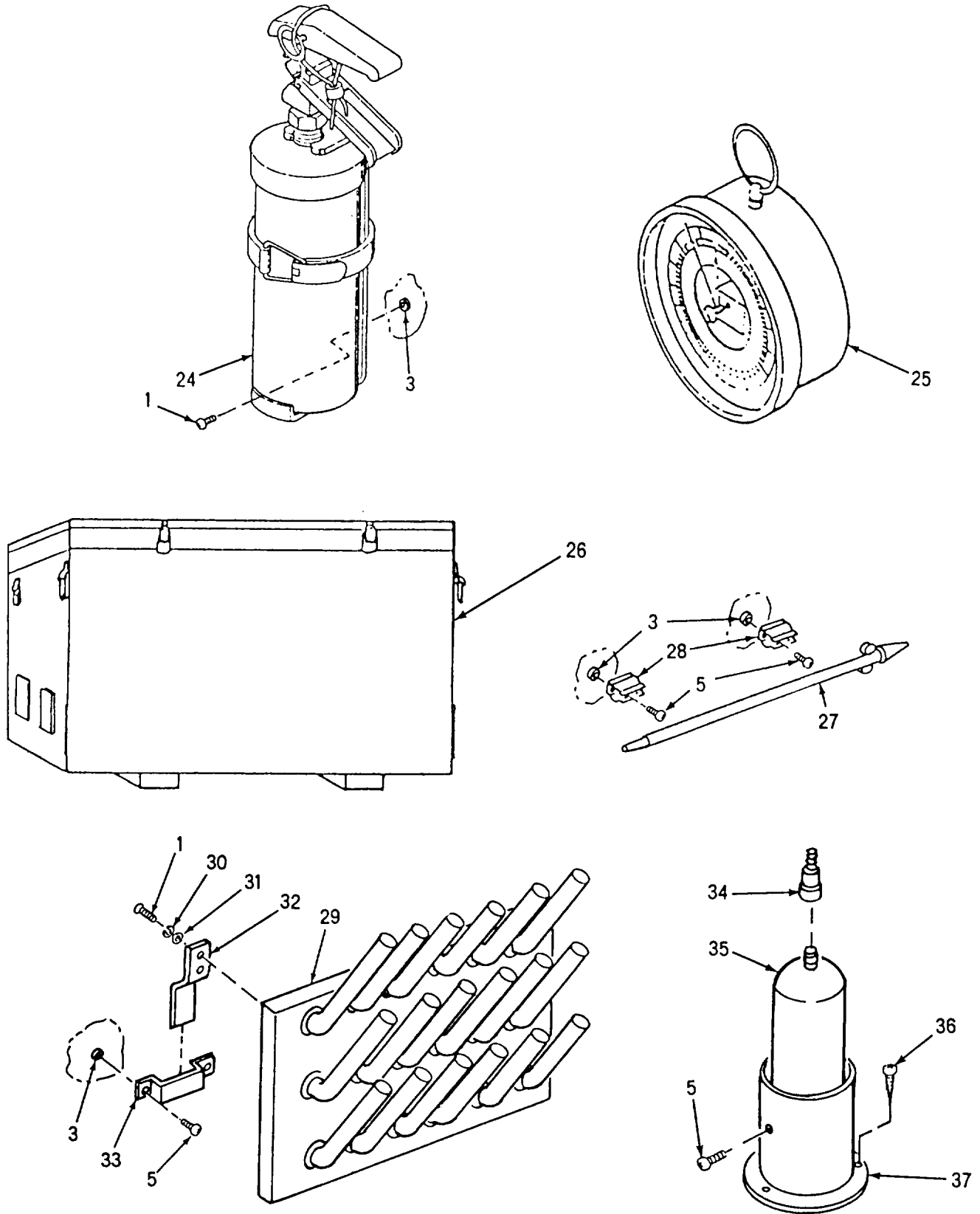


Figure F-34. Support Items (Sheet 2 of 2)

| SECTION II (1) | ITEM (2) | (3) | TM10-6640-216-13&P (4) | (5) | (6) |
|------------------------|-------------|-------|---------------------------|--|-----|
| NO | SMR CODE | CAGEC | PART NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 20 SUPPORT ITEMS | | | | | |
| FIG. 34 SUPPORT ITEMS | | | | | |
| 1 | PAOZZ | 96906 | MS35207-265 | SCREW,MACHINE | 2 |
| 2 | PAOZZ | 22527 | 10-021-10 | KIT,FIRST AID | 1 |
| 3 | PAOZZ | 96906 | MS27130A25 | NUT,PLAIN,BLIND RIV | 2 |
| 4 | PBOZZ | 22527 | 91581 | EYEWASH | 1 |
| 5 | PAOZZ | 96906 | MS35207-263 | SCREW,MACHINE | 3 |
| 6 | PBOZZ | 39739 | 30EA15WM | MANOMETER,VERTICAL | 1 |
| 7 | PAOZZ | 96906 | MS24629-23 | SCREW,TAPPING,THREA | 3 |
| 8 | PAOZZ | 81349 | GG-S-236 | SHARPENTAR,PENCIL | 1 |
| 9 | XCOOO | 97403 | 13229E3720 | CABINET INSTL | 1 |
| 10 | PAOZF | 96906 | MS35649-2254 | NUT,PLAIN,HEXAGON | 2 |
| 11 | PAOZO | 96906 | MS35338-139 | WASHER,LOCK | 6 |
| 12 | PAOZZ | 96906 | MS15795-810 | WASHER,FLAT | 6 |
| 13 | XDOZZ | 97403 | 13226E6816 | BRACKET | 2 |
| 14 | PBOOF | 96906 | MS36217-3 | CABINET,DESICCATING | 1 |
| 15 | PAOZZ | 96906 | MS35307-308 | SCREW,CAP,HEXAGON H | 4 |
| 16 | XDOZZ | 97403 | 13229E3721 | SHELF,CABINET | 1 |
| 17 | PAOZZ | 96906 | MS27130-S31 | NUT,PLAIN,BLIND RIV | 4 |
| 18 | MOOZZ | 97403 | 13219E1400-64 | TUBING,NONMETALLIC MAKE FROM NONMETALLIC TUBING, P/N ZZ-T-831, CUT AS REQD | 2 |
| 19 | PAOZZ | 96906 | MS24585C241 | SPRING,HELICAL | 2 |
| 20 | XDOZZ | 97403 | 13219E1488 | RETAINER | 2 |
| 21 | PAOZZ | 80740 | 30-867-04 | CARTRIDGE,WTR | 1 |
| 22 | PAOZZ | 80740 | 30-867-02 | CARTRIDGE,WTR | 1 |
| 23 | PAOZZ | 80740 | 30-867-10 | BRACKET,WTR DEMIN | 2 |
| 24 | PAOZF | 12183 | 1211 | EXTINGUISHER,FIRE V | 2 |
| 25 | PAOZO | 22527 | 2-405 | BAROMETER,ANEROID | 1 |
| 26 | PDOFF | 97403 | 13227E7468 | BOX,OVERPACK | 1 |
| 27 | PAOZZ | 21519 | 68-875-41 INCH | THIEF,OIL PETROLEUM | 1 |
| 28 | PAOZZ | 81349 | M24066/2-142 | CLIP,SPRING TENSION | 2 |
| 29 | PAOZZ | 80740 | H-18932 | RACK,DRYING | 1 |
| 30 | PAOZF | 96906 | MS35338-43 | WASHER,LOCK | 4 |
| 31 | PAOZO | 96906 | MS27183-42 | WASHER,FLAT | 4 |
| 32 | XDOZZ | 97403 | 13229E3739 | BRACKET,DRYING RACK | 2 |
| 33 | XDOZZ | 97403 | 13229E3732 | KEEPER,DRYING RACK | 2 |
| 34 | XDOZZ | 97403 | 13219E1509 | ADAPTER,PRPNE BTL | 1 |
| 35 | PAOZZ | 81348 | BB-G-110 | PROPANE | 1 |
| 36 | PAOZZ | 96906 | MS35493-76 | SCREW,WOOD | 2 |
| 37 | XDOZZ | 97403 | 13219E1486 | HOLDER,ASSY CYL GAS | 1 |

END OF FIGURE

| SECTION II | | | | | |
|-------------------------|-------|-------|--------------------|---------------------------------------|-----|
| (1) | (2) | (3) | TM10-6640-216-13&P | (4) | (6) |
| ITEM | SMR | | PART | | |
| NO | CODE | CAGEC | NUMBER | DESCRIPTION AND USABLE ON CODES (UOC) | QTY |
| GROUP 21 BULK MATERIALS | | | | | |
| FIG. BULK | | | | | |
| 1 | PAOZZ | 45681 | 801-4 | HOSE, NONMETALLIC | V |
| 2 | PAOZZ | 81349 | L-H-520 TYPE I | HOSE, RUBBER, FLEX | V |
| 3 | PAOZZ | 11292 | 02270201 | PIPE, BRASS | V |
| 4 | PAOZZ | 81349 | B46089-MSB1 | SHEET RUBBER | V |
| 5 | PAOZZ | 61501 | B44-3 | TUBING, NONMETALLIC | V |
| 6 | PAOZZ | 81349 | ZZ-T-831 | TUBING, NONMETALLIC | V |
| END OF FIGURE | | | | | |

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

| STOCK NUMBER | FIG. | ITEM | STOCK NUMBER | FIG. | ITEM |
|------------------|------|------|------------------|------|------|
| 5310-00-014-5850 | 13 | 4 | 5305-00-207-8253 | 34 | 15 |
| | 13 | 26 | 4730-00-222-1838 | 16 | 17 |
| | 14 | 5 | 4730-00-222-1860 | 16 | 19 |
| | 14 | 28 | 5305-00-225-3843 | 7 | 1 |
| | 15 | 13 | 5310-00-225-5328 | 13 | 8 |
| | 34 | 31 | | 13 | 30 |
| 5305-00-014-9926 | 24 | 1 | | 14 | 9 |
| | 27 | 1 | | 14 | 32 |
| | 28 | 1 | 5305-00-225-7774 | 2 | 9 |
| | 29 | 1 | 5310-00-250-9477 | 16 | 8 |
| | 30 | 3 | | 34 | 10 |
| | 34 | 36 | 6630-00-251-2118 | 28 | 2 |
| 5310-00-045-3296 | 9 | 3 | 6685-00-255-9507 | 34 | 25 |
| | 13 | 3 | 4730-00-278-4824 | 16 | 25 |
| | 13 | 25 | 6250-00-284-0481 | 3 | 10 |
| | 14 | 4 | 6250-00-295-2738 | 3 | 11 |
| | 14 | 27 | 6250-00-299-2884 | 3 | 8 |
| | 15 | 12 | 6640-00-359-9629 | 23 | 6 |
| | 34 | 30 | 6640-00-359-9880 | 24 | 2 |
| 5310-00-045-3299 | 13 | 7 | 6630-00-399-2964 | 23 | 14 |
| | 13 | 29 | 6665-00-496-9623 | 32 | 1 |
| | 14 | 8 | 6695-00-496-9624 | 34 | 27 |
| | 14 | 31 | 4730-00-504-1908 | 16 | 37 |
| 5310-00-045-4007 | 4 | 12 | 6640-00-522-1886 | 29 | 2 |
| 5930-00-051-4448 | 5 | 6 | 6630-00-530-0987 | 25 | 2 |
| | 5 | 11 | 6640-00-531-5022 | 25 | 4 |
| 5305-00-051-6751 | 2 | 16 | 5310-00-550-1130 | 23 | 3 |
| | 2 | 31 | 6250-00-569-9502 | 3 | 9 |
| | 10 | 2 | 5305-00-579-2139 | 4 | 11 |
| 5305-00-054-6651 | 12 | 2 | 5320-00-582-3502 | 12 | 10 |
| | 12 | 23 | | 12 | 31 |
| 5305-00-054-6656 | 4 | 15 | 5310-00-582-5965 | 7 | 2 |
| 5305-00-059-3659 | 13 | 9 | | 13 | 19 |
| | 13 | 31 | | 13 | 41 |
| | 14 | 10 | | 14 | 22 |
| | 14 | 33 | | 14 | 45 |
| 5940-00-113-8179 | 9 | 10 | | 16 | 9 |
| | 9 | 17 | 6830-00-584-3041 | 34 | 35 |
| 5320-00-117-6817 | 22 | 3 | 5930-00-655-1582 | 4 | 27 |
| 5320-00-117-6963 | 20 | 11 | 5930-00-719-9659 | 3 | 12 |
| 5340-00-134-3470 | 12 | 5 | 5310-00-722-5998 | 2 | 19 |
| | 12 | 26 | | 2 | 34 |
| 5310-00-141-3062 | 2 | 28 | | 10 | 4 |
| | 2 | 45 | 5925-00-728-1968 | 4 | 26 |
| | 10 | 13 | 5310-00-767-9425 | 2 | 5 |
| 6680-00-151-5310 | 33 | 2 | 5310-00-768-0321 | 2 | 3 |
| 5320-00-165-8784 | 30 | 5 | 5310-00-809-4058 | 7 | 3 |
| 4730-00-196-1973 | 16 | 35 | | 13 | 20 |
| 4820-00-197-4984 | 15 | 6 | | 13 | 42 |
| 4730-00-202-6491 | 16 | 21 | | 14 | 23 |

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NATIONAL STOCK NUMBER INDEX

| STOCK NUMBER | FIG. | ITEM | STOCK NUMBER | FIG. | ITEM |
|------------------|------|------|------------------|------|------|
| 5310-00-809-4058 | 14 | 46 | 5310-00-934-9765 | 14 | 11 |
| | 16 | 10 | | 14 | 34 |
| | 23 | 4 | 4820-00-957-5639 | 15 | 3 |
| 5310-00-809-8544 | 7 | 6 | 6640-00-980-5002 | 25 | 3 |
| 5310-00-809-8546 | 4 | 3 | 5310-00-983-8483 | 12 | 17 |
| | 7 | 10 | | 12 | 38 |
| | 9 | 4 | 5925-00-984-2163 | 4 | 25 |
| | 11 | 3 | 5305-00-984-4992 | 12 | 16 |
| | 12 | 8 | | 12 | 37 |
| | 12 | 29 | 5305-00-984-6194 | 13 | 6 |
| 4730-00-817-6578 | 16 | 40 | | 13 | 28 |
| 5310-00-823-8804 | 7 | 16 | | 14 | 7 |
| 6685-00-842-4565 | 34 | 6 | | 14 | 30 |
| 5305-00-855-0972 | 34 | 7 | 5305-00-984-6195 | 7 | 5 |
| 4820-00-865-6946 | 16 | 6 | 5305-00-984-6212 | 20 | 7 |
| 5310-00-880-5976 | 12 | 4 | 5305-00-984-6213 | 7 | 9 |
| | 12 | 25 | 5305-00-984-6219 | 12 | 7 |
| 5310-00-883-9384 | 13 | 12 | | 12 | 28 |
| | 13 | 34 | 5305-00-984-7342 | 2 | 26 |
| | 14 | 13 | | 2 | 43 |
| | 14 | 36 | | 10 | 11 |
| 5310-00-889-2589 | 4 | 8 | 6640-00-986-5033 | 34 | 14 |
| 4730-00-908-3194 | 16 | 13 | 5305-00-988-1170 | 15 | 7 |
| 4730-00-908-3195 | 23 | 9 | 5305-00-988-1725 | 13 | 17 |
| 5310-00-929-6395 | 2 | 20 | | 13 | 39 |
| | 10 | 3 | | 14 | 20 |
| | 12 | 3 | | 14 | 43 |
| | 12 | 24 | | 16 | 7 |
| 5310-00-933-8118 | 4 | 18 | 5305-00-988-1726 | 7 | 15 |
| 5310-00-933-8120 | 13 | 11 | 5305-00-989-7434 | 4 | 2 |
| | 13 | 33 | | 5 | 3 |
| | 14 | 12 | | 5 | 7 |
| | 14 | 35 | | 5 | 13 |
| 5310-00-933-8121 | 2 | 10 | | 5 | 16 |
| | 34 | 11 | | 6 | 3 |
| 5310-00-933-8778 | 2 | 4 | | 6 | 8 |
| 5310-00-934-9747 | 4 | 14 | | 6 | 13 |
| 5310-00-934-9751 | 13 | 2 | | 6 | 18 |
| | 13 | 24 | | 6 | 23 |
| | 14 | 3 | | 6 | 28 |
| | 14 | 26 | | 6 | 33 |
| | 15 | 11 | | 6 | 38 |
| 5310-00-934-9758 | 12 | 9 | | 17 | 1 |
| | 12 | 30 | | 34 | 5 |
| 5310-00-934-9759 | 7 | 7 | 5305-00-993-1848 | 9 | 1 |
| 5310-00-934-9760 | 7 | 11 | | 11 | 2 |
| 5310-00-934-9761 | 4 | 17 | | 13 | 1 |
| 5310-00-934-9765 | 9 | 2 | | 13 | 23 |
| | 13 | 10 | | 14 | 2 |
| | 13 | 32 | | 14 | 25 |

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NATIONAL STOCK NUMBER INDEX

| STOCK NUMBER | FIG. | ITEM | STOCK NUMBER | FIG. | ITEM | |
|------------------|------------------|------|------------------|------|------|--|
| 5305-00-993-1848 | 18 | 3 | 6640-01-138-2563 | 31 | 1 | |
| | 19 | 1 | 5935-01-140-8059 | 4 | 13 | |
| | 20 | 3 | 5935-01-147-9446 | 2 | 8 | |
| | 21 | 1 | 6630-01-165-7133 | 33 | 1 | |
| | 22 | 5 | 4130-01-186-6917 | 9 | 6 | |
| | 23 | 12 | 4730-01-246-5123 | 16 | 22 | |
| | 26 | 1 | 4730-01-247-8496 | 16 | 16 | |
| | 34 | 1 | 5306-01-303-2815 | 23 | 2 | |
| | 5305-00-993-1851 | 12 | 11 | | | |
| | | 12 | 32 | | | |
| 15 | | 10 | | | | |
| 25 | | 1 | | | | |
| 4 | | 7 | | | | |
| 5305-00-993-2463 | 2 | 6 | | | | |
| 5940-01-009-4763 | 4 | 5 | | | | |
| 5310-01-009-9785 | 4 | 4 | | | | |
| | 5 | 9 | | | | |
| | 5 | 15 | | | | |
| | 5 | 18 | | | | |
| | 6 | 5 | | | | |
| | 6 | 10 | | | | |
| | 6 | 15 | | | | |
| | 6 | 20 | | | | |
| | 6 | 25 | | | | |
| | 6 | 30 | | | | |
| | 6 | 35 | | | | |
| | 6 | 40 | | | | |
| | 17 | 2 | | | | |
| | 18 | 4 | | | | |
| | 19 | 2 | | | | |
| | 20 | 4 | | | | |
| | 20 | 9 | | | | |
| | 21 | 2 | | | | |
| | 22 | 6 | | | | |
| | 23 | 17 | | | | |
| | 26 | 2 | | | | |
| | 34 | 3 | | | | |
| | 5935-01-012-3081 | 6 | 17 | | | |
| | | 6 | 32 | | | |
| | 5310-01-015-1021 | 34 | 17 | | | |
| | 5320-01-023-2529 | 2 | 7 | | | |
| | | 2 | 14 | | | |
| 2 | | 24 | | | | |
| 2 | | 29 | | | | |
| 2 | | 42 | | | | |
| 5310-01-091-1248 | 2 | 11 | | | | |
| | 9 | 12 | | | | |
| | 34 | 12 | | | | |
| 5935-01-092-4269 | 2 | 12 | | | | |
| 4210-01-092-4420 | 34 | 24 | | | | |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|-------------------------|-----------------------------------|------|------|
| 61957 | AD64BS | | 10 | 9 |
| 05624 | AM125 | | 13 | 14 |
| | | | 13 | 36 |
| | | | 14 | 15 |
| | | | 14 | 38 |
| 05624 | AM132 | | 13 | 15 |
| | | | 13 | 37 |
| | | | 14 | 16 |
| | | | 14 | 39 |
| IHF87 | A200S | | 30 | 2 |
| 98437 | B-4CPA2-3 | | 15 | 15 |
| 62935 | B/2 | 6630-01-165-7133 | 33 | 1 |
| 81348 | BB-G-110 | 6830-00-584-3041 | 34 | 35 |
| 80063 | BSC-B-539596 | | 2 | 17 |
| | | | 2 | 32 |
| | | | 10 | 6 |
| 80063 | BSC-B-539597 | | 2 | 27 |
| | | | 2 | 44 |
| | | | 10 | 12 |
| 96384 | BS0S-632-10 | | 2 | 23 |
| | | | 2 | 37 |
| 77342 | BU120VAC | | 17 | 4 |
| 16799 | BV-2 | | 2 | 40 |
| 91929 | BZG1-2RN2 | | 5 | 17 |
| 61501 | B44-3 | | BULK | 5 |
| 81349 | B46089-MSB1 | | BULK | 4 |
| 63384 | CDA-0B | | 13 | 22 |
| | | | 13 | 44 |
| | | | 14 | 19 |
| | | | 14 | 42 |
| 81349 | CSC-C-539594 | | 2 | 18 |
| | | | 2 | 33 |
| | | | 10 | 5 |
| 49524 | CSW1AE-1A | | 26 | 3 |
| 44655 | DOSHFX-47T | | 4 | 10 |
| 15605 | D26MR33A | | 7 | 12 |
| 56365 | FAL32100-1121-8F -24 | | 4 | 24 |
| 81349 | FH23BM | | 4 | 21 |
| 81349 | F03B125V15A | | 4 | 20 |
| 81349 | F03B125V5A | | 4 | 19 |
| 81349 | GG-S-236 | | 34 | 8 |
| 32218 | GTP-323 | 6640-01-138-2563 | 31 | 1 |
| 80740 | H-18932 | | 34 | 29 |
| 06223 | KBB36-36 | | 11 | 4 |
| 23035 | K253-1 | 6640-00-522-1886 | 29 | 2 |
| 81349 | L-H-520 TYPEI | | BULK | 2 |
| 56365 | MH-29 | | 4 | 30 |
| 81349 | MIL-A-52767 | | 8 | 5 |
| 81349 | MIL-L-970/11 | 6250-00-284-0481 | 3 | 10 |
| 81349 | MIL-L-970/13 | 6250-00-295-2738 | 3 | 11 |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|------------------|-----------------------------------|------|------|
| 81349 | MIL-T-51028 | 6680-00-151-5310 | 33 | 2 |
| 59646 | MSS-SP-60TYIVCLA | | 16 | 33 |
| 59646 | MSS-SP-80TYIICLA | | 16 | 18 |
| 96906 | MS15795-805 | 5310-00-722-5998 | 2 | 19 |
| | | | 2 | 34 |
| | | | 10 | 4 |
| 96906 | MS15795-806 | 5310-00-880-5976 | 12 | 4 |
| | | | 12 | 25 |
| 96906 | MS15795-810 | 5310-01-091-1248 | 2 | 11 |
| | | | 9 | 12 |
| | | | 34 | 12 |
| 96906 | MS15795-818 | 5310-00-767-9425 | 2 | 5 |
| 96906 | MS15795-841 | 5310-00-225-5328 | 13 | 8 |
| | | | 13 | 30 |
| | | | 14 | 9 |
| | | | 14 | 32 |
| 96906 | MS15795-842 | 5310-00-883-9384 | 13 | 12 |
| | | | 13 | 34 |
| | | | 14 | 13 |
| | | | 14 | 36 |
| 96906 | MS16208-53 | | 7 | 21 |
| 96906 | MS16569-1 | 5930-00-719-9659 | 3 | 12 |
| 96906 | MS16995-16 | 5305-00-051-6751 | 2 | 16 |
| | | | 2 | 31 |
| | | | 10 | 2 |
| 96906 | MS16996-24 | 5305-00-225-7774 | 2 | 9 |
| 96906 | MS20426A4-6 | 5320-00-117-6963 | 20 | 11 |
| 96906 | MS20426B6-5 | 5320-00-165-8784 | 30 | 5 |
| 96906 | MS20470AD3-6 | 5320-00-117-6817 | 22 | 3 |
| 96906 | MS20601AD4W4 | 5320-00-582-3502 | 12 | 10 |
| | | | 12 | 31 |
| 96906 | MS20601B6W6 | | 12 | 20 |
| | | | 12 | 41 |
| 96906 | MS20604R4W2 | | 28 | 3 |
| | | | 29 | 3 |
| 96906 | MS21044C4 | 5310-00-889-2589 | 4 | 8 |
| 96906 | MS24585C241 | | 34 | 19 |
| 96906 | MS24629-23 | 5305-00-855-0972 | 34 | 7 |
| 96906 | MS24693-26 | | 9 | 14 |
| 96906 | MS25036-107 | 5940-00-113-8179 | 9 | 10 |
| | | | 9 | 17 |
| 96906 | MS27130-A100K | | 12 | 13 |
| | | | 12 | 34 |
| 96906 | MS27130-A133 | | 7 | 24 |
| 96906 | MS27130-A26 | 5310-00-141-3062 | 2 | 28 |
| | | | 2 | 45 |
| | | | 10 | 13 |
| 96906 | MS27130-A32 | | 15 | 9 |
| 96906 | MS27130-A61K | | 3 | 3 |
| 96906 | MS27130-S31 | 5310-01-015-1021 | 34 | 17 |
| 96906 | MS27130A25 | 5310-01-009-9785 | 4 | 5 |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM | | | |
|-------|-------------|-----------------------------------|-------|------------|------------------|----|----|
| 96906 | MS27130A25 | 5310-01-009-9785 | 5 | 4 | | | |
| | | | 5 | 9 | | | |
| | | | 5 | 15 | | | |
| | | | 5 | 18 | | | |
| | | | 6 | 5 | | | |
| | | | 6 | 10 | | | |
| | | | 6 | 15 | | | |
| | | | 6 | 20 | | | |
| | | | 6 | 25 | | | |
| | | | 6 | 30 | | | |
| | | | 6 | 35 | | | |
| | | | 6 | 40 | | | |
| | | | 17 | 2 | | | |
| | | | 18 | 4 | | | |
| | | | 19 | 2 | | | |
| | | | 20 | 4 | | | |
| | | | 20 | 9 | | | |
| | | | 21 | 2 | | | |
| | | | 22 | 6 | | | |
| | | | 23 | 17 | | | |
| | | | 26 | 2 | | | |
| 34 | 3 | | | | | | |
| 96906 | MS27183-10 | 5310-00-809-4058 | 7 | 3 | | | |
| | | | 13 | 20 | | | |
| | | | 13 | 42 | | | |
| | | | 14 | 23 | | | |
| | | | 14 | 46 | | | |
| | | | 16 | 10 | | | |
| | | | 23 | 4 | | | |
| | | | 96906 | MS27183-42 | 5310-00-014-5850 | 13 | 4 |
| | | | | | | 13 | 26 |
| | | | | | | 14 | 5 |
| 14 | 28 | | | | | | |
| 15 | 13 | | | | | | |
| 96906 | MS27183-5 | 5310-00-983-8483 | 34 | 31 | | | |
| | | | 12 | 17 | | | |
| 96906 | MS27183-7 | 5310-00-809-8544 | 12 | 38 | | | |
| | | | 7 | 6 | | | |
| 96906 | MS27183-8 | 5310-00-809-8546 | 4 | 3 | | | |
| 96906 | MS27183-9 | 5310-00-823-8804 | 7 | 10 | | | |
| | | | 9 | 4 | | | |
| | | | 11 | 3 | | | |
| | | | 12 | 8 | | | |
| | | | 12 | 29 | | | |
| | | | 7 | 16 | | | |
| | | | 4 | 27 | | | |
| | | | 2 | 26 | | | |
| 96906 | MS35059-23 | 5930-00-655-1582 | 2 | 43 | | | |
| | | | 2 | 11 | | | |
| | | | 10 | 11 | | | |
| 96906 | MS35191-274 | 5305-00-984-7342 | 12 | 16 | | | |
| | | | 12 | 16 | | | |
| | | | 12 | 37 | | | |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|-------------|-----------------------------------|------|------|
| 96906 | MS35206-246 | 5305-00-984-6194 | 13 | 6 |
| | | | 13 | 28 |
| | | | 14 | 7 |
| | | | 14 | 30 |
| 96906 | MS35206-247 | 5305-00-984-6195 | 7 | 5 |
| 96906 | MS35206-265 | 5305-00-984-6212 | 20 | 7 |
| 96906 | MS35206-266 | 5305-00-984-6213 | 7 | 9 |
| 96906 | MS35206-272 | 5305-00-984-6219 | 12 | 7 |
| 96906 | MS35206-281 | 5305-00-988-1725 | 12 | 28 |
| | | | 13 | 17 |
| | | | 13 | 39 |
| | | | 14 | 20 |
| | | | 14 | 43 |
| | | | 16 | 7 |
| 96906 | MS35206-282 | 5305-00-988-1726 | 7 | 15 |
| 96906 | MS35206-284 | 5305-00-988-1170 | 15 | 7 |
| 96906 | MS35207-263 | 5305-00-989-7434 | 4 | 2 |
| | | | 5 | 3 |
| | | | 5 | 7 |
| | | | 5 | 13 |
| | | | 5 | 16 |
| | | | 6 | 3 |
| | | | 6 | 8 |
| | | | 6 | 13 |
| | | | 6 | 18 |
| | | | 6 | 23 |
| | | | 6 | 28 |
| | | | 6 | 33 |
| | | | 6 | 38 |
| | | | 17 | 1 |
| | | | 34 | 5 |
| 96906 | MS35207-265 | 5305-00-993-1848 | 9 | 1 |
| | | | 11 | 2 |
| | | | 13 | 1 |
| | | | 13 | 23 |
| | | | 14 | 2 |
| | | | 14 | 25 |
| | | | 18 | 3 |
| | | | 19 | 1 |
| | | | 20 | 3 |
| | | | 21 | 1 |
| | | | 22 | 5 |
| | | | 23 | 12 |
| | | | 26 | 1 |
| | | | 34 | 1 |
| 96906 | MS35207-267 | 5305-00-993-1851 | 12 | 11 |
| | | | 12 | 32 |
| | | | 15 | 10 |
| | | | 25 | 1 |
| 96906 | MS35207-279 | 5305-00-993-2463 | 4 | 7 |
| 96906 | MS35207-307 | | 3 | 2 |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|--------------|-----------------------------------|------|------|
| 96906 | MS35265-30 | 5305-00-579-2139 | 4 | 11 |
| 96906 | MS35307-308 | 5305-00-207-8253 | 34 | 15 |
| 96906 | MS35308-369 | | 8 | 2 |
| 96906 | MS35333-40 | 5310-00-550-1130 | 23 | 3 |
| 96906 | MS35338-135 | 5310-00-933-8118 | 4 | 18 |
| 96906 | MS35338-136 | 5310-00-929-6395 | 2 | 20 |
| | | | 10 | 3 |
| | | | 12 | 3 |
| | | | 12 | 24 |
| 96906 | MS35338-138 | 5310-00-933-8120 | 13 | 11 |
| | | | 13 | 33 |
| | | | 14 | 12 |
| | | | 14 | 35 |
| 96906 | MS35338-139 | 5310-00-933-8121 | 2 | 10 |
| | | | 34 | 11 |
| 96906 | MS35338-143 | 5310-00-933-8778 | 2 | 4 |
| 96906 | MS35338-41 | 5310-00-045-4007 | 4 | 12 |
| 96906 | MS35338-42 | 5310-00-045-3299 | 13 | 7 |
| | | | 13 | 29 |
| | | | 14 | 8 |
| | | | 14 | 31 |
| 96906 | MS35338-43 | 5310-00-045-3296 | 9 | 3 |
| | | | 13 | 3 |
| | | | 13 | 25 |
| | | | 14 | 4 |
| | | | 14 | 27 |
| | | | 15 | 12 |
| | | | 34 | 30 |
| 96906 | MS35338-44 | 5310-00-582-5965 | 7 | 2 |
| | | | 13 | 19 |
| | | | 13 | 41 |
| | | | 14 | 22 |
| | | | 14 | 45 |
| | | | 16 | 9 |
| 96906 | MS35493-76 | 5305-00-014-9926 | 24 | 1 |
| | | | 27 | 1 |
| | | | 28 | 1 |
| | | | 29 | 1 |
| | | | 30 | 3 |
| | | | 34 | 36 |
| 96906 | MS35649-202 | 5310-00-934-9758 | 12 | 9 |
| | | | 12 | 30 |
| 96906 | MS35649-204 | 5310-00-934-9760 | 7 | 11 |
| 96906 | MS35649-2254 | 5310-00-250-9477 | 16 | 8 |
| | | | 34 | 10 |
| 96906 | MS35649-262 | 5310-00-934-9747 | 4 | 14 |
| 96906 | MS35649-264 | 5310-00-934-9761 | 4 | 17 |
| 96906 | MS35649-284 | 5310-00-934-9759 | 7 | 7 |
| 96906 | MS35650-302 | 5310-00-934-9751 | 13 | 2 |
| | | | 13 | 24 |
| | | | 14 | 3 |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|-----------------|-----------------------------------|------|------|
| 96906 | MS35650-302 | 5310-00-934-9751 | 14 | 26 |
| | | | 15 | 11 |
| 96906 | MS35650-304 | 5310-00-934-9765 | 9 | 2 |
| | | | 13 | 10 |
| | | | 13 | 32 |
| | | | 14 | 11 |
| | | | 14 | 34 |
| 96906 | MS35785-2 | 4820-00-197-4984 | 15 | 6 |
| 96906 | MS35842-10 | 4730-00-908-3195 | 23 | 9 |
| 96906 | MS35842-11 | 4730-00-908-3194 | 16 | 13 |
| 96906 | MS35842-6 | | 15 | 4 |
| 96906 | MS36217-3 | 6640-00-986-5033 | 34 | 14 |
| 96906 | MS51415-1 | | 2 | 35 |
| 96906 | MS51907-2 | | 13 | 18 |
| | | | 13 | 40 |
| | | | 14 | 21 |
| | | | 14 | 44 |
| 96906 | MS51941-10 | | 23 | 5 |
| 96906 | MS51957-27 | 5305-00-054-6651 | 12 | 2 |
| | | | 12 | 23 |
| 96906 | MS51957-32 | 5305-00-054-6656 | 4 | 15 |
| 96906 | MS51958-63 | 5305-00-059-3659 | 13 | 9 |
| | | | 13 | 31 |
| | | | 14 | 10 |
| | | | 14 | 33 |
| 96906 | MS51971-5 | 5310-00-768-0321 | 2 | 3 |
| 96906 | MS90558C44413P | 5935-01-092-4269 | 2 | 12 |
| 96906 | MS90564-7C | 5935-01-147-9446 | 2 | 8 |
| 96906 | MS90725-13 | 5306-01-303-2815 | 23 | 2 |
| 96906 | MS90728-8 | 5305-00-225-3843 | 7 | 1 |
| 81349 | M16377-12-341-1 | | 3 | 4 |
| 81349 | M16377/12-003 | | 3 | 5 |
| 81349 | M16377/42-005 | | 3 | 7 |
| 81349 | M16377/44-001 | 6250-00-569-9502 | 3 | 9 |
| 81349 | M24066/2-142 | | 34 | 28 |
| 81349 | M24243/1-A404 | 5320-01-023-2529 | 2 | 7 |
| | | | 2 | 14 |
| | | | 2 | 24 |
| | | | 2 | 29 |
| | | | 2 | 42 |
| 81349 | M24243/1-F602 | | 24 | 3 |
| | | | 27 | 3 |
| 80205 | NAS1330-4-151 | | 2 | 13 |
| 56305 | NQODQ2 | | 4 | 29 |
| 56305 | NQOD424L100 | | 4 | 28 |
| 56305 | PK15GTA | | 4 | 9 |
| 09710 | QOB115 | 5925-00-984-2163 | 4 | 25 |
| 56365 | QOB320 | 5925-00-728-1968 | 4 | 26 |
| 56305 | Q070AN | | 4 | 16 |
| 81349 | RCR32G625JS | | 4 | 23 |
| 80063 | SCB539597 | | 12 | 21 |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|-----------------|-----------------------------------|------|------|
| 80063 | SCB539597 | | 12 | 42 |
| 80063 | SCC539594 | 5340-00-134-3470 | 12 | 5 |
| | | | 12 | 26 |
| 80063 | SCC539596 | | 12 | 6 |
| | | | 12 | 27 |
| 97483 | SLX-1815-A-GR-1 | | 16 | 4 |
| 54319 | SW62 | | 4 | 1 |
| 81348 | W-F-406 | | 7 | 18 |
| | | | 7 | 19 |
| | | | 9 | 8 |
| 81348 | W-J-800 | | 5 | 1 |
| | | | 6 | 16 |
| | | | 6 | 31 |
| 81348 | W-L-116/18 | | 3 | 6 |
| 81348 | WC586 | | 5 | 8 |
| | | | 5 | 14 |
| | | | 6 | 4 |
| | | | 6 | 9 |
| | | | 6 | 14 |
| | | | 6 | 19 |
| | | | 6 | 24 |
| | | | 6 | 29 |
| | | | 6 | 34 |
| | | | 6 | 39 |
| 81348 | WC596/11-2 | 5935-01-012-3081 | 6 | 17 |
| | | | 6 | 32 |
| 81348 | WS755TYPE3 | 6250-00-299-2884 | 3 | 8 |
| 81348 | WS896/2-03A | 5930-00-051-4448 | 5 | 6 |
| | | | 5 | 11 |
| 56365 | XA7309E | | 12 | 12 |
| | | | 12 | 33 |
| 08071 | XX55-000-00 | | 15 | 17 |
| 08071 | XX64-037-30 | 6665-00-496-9623 | 32 | 1 |
| 98245 | YE-1808ACGH | | 7 | 22 |
| 76385 | ZX-5399 | | 8 | 6 |
| 81349 | ZZ-T-831 | | BULK | 6 |
| 01167 | 0B-1 | | 13 | 13 |
| | | | 13 | 35 |
| | | | 14 | 14 |
| | | | 14 | 37 |
| 11292 | 02270201 | | BULK | 3 |
| 0BJJ7 | 1-MSS | | 18 | 6 |
| | | | 18 | 8 |
| | | | 18 | 10 |
| | | | 19 | 4 |
| | | | 19 | 6 |
| | | | 19 | 8 |
| | | | 20 | 6 |
| | | | 21 | 4 |
| | | | 21 | 6 |
| | | | 22 | 8 |

CROSS-REFERENCE INDEXES

| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|------------------|-----------------------------------|------|------|
| 22527 | 1-088 | 4820-00-957-5639 | 15 | 3 |
| 75282 | 1FA | | 6 | 1 |
| | | | 6 | 6 |
| | | | 6 | 11 |
| | | | 6 | 21 |
| | | | 6 | 26 |
| | | | 6 | 36 |
| 75282 | 1FT | | 5 | 5 |
| 22527 | 10-021-10 | | 34 | 2 |
| 30327 | 100-B-04 | | 16 | 26 |
| 13174 | 101-B-04 | 4730-00-504-1908 | 16 | 37 |
| 82271 | 101-B-06 | 4730-01-246-5123 | 16 | 22 |
| 30327 | 104-B-04 | | 16 | 31 |
| 30327 | 113-B-04X48 | | 16 | 27 |
| 30327 | 113-B1-4X2-1-2 | 4730-00-196-1973 | 16 | 35 |
| 30327 | 113B1-4NPTX3-1-2 | | 16 | 32 |
| 30327 | 116-B-04 | 4730-00-278-4824 | 16 | 25 |
| 09505 | 116-B-06 | 4730-01-247-8496 | 16 | 16 |
| 12183 | 1211 | 4210-01-092-4420 | 34 | 24 |
| 97403 | 13212E3705-1 | | 16 | 14 |
| 97403 | 13218E0479-52 | | 2 | 39 |
| 19099 | 13219E1000 | | 1 | 1 |
| 97403 | 13219E1399 | | 2 | 2 |
| 97403 | 13219E1400-64 | | 34 | 18 |
| 97403 | 13219E1430 | | 18 | 9 |
| 97403 | 13219E1432 | | 18 | 2 |
| 97403 | 13219E1433 | | 18 | 1 |
| 97403 | 13219E1434 | | 20 | 1 |
| 97403 | 13219E1436 | | 23 | 13 |
| 97403 | 13219E1443 | | 15 | 14 |
| 97403 | 13219E1445 | | 15 | 8 |
| 97403 | 13219E1450 | | 19 | 7 |
| 97403 | 13219E1460 | | 20 | 5 |
| 97403 | 13219E1470 | | 21 | 3 |
| 97403 | 13219E1480 | | 21 | 5 |
| 97403 | 13219E1481 | | 22 | 7 |
| 97403 | 13219E1486 | | 34 | 37 |
| 97403 | 13219E1487 | | 4 | 6 |
| 97403 | 13219E1488 | | 34 | 20 |
| 97403 | 13219E1491 | | 16 | 5 |
| 97403 | 13219E1494 | | 30 | 6 |
| 97403 | 13219E1496 | | 7 | 4 |
| 97403 | 13219E1499 | | 23 | 7 |
| 97403 | 13219E1499-3 | | 23 | 10 |
| 97403 | 13219E1507 | | 20 | 2 |
| 97403 | 13219E1509 | | 34 | 34 |
| 97403 | 13219E1510 | | 17 | 5 |
| 97403 | 13219E1514 | | 15 | 1 |
| 97403 | 13219E1514-8 | | 15 | 5 |
| 97403 | 13219E1519 | | 2 | 30 |
| 97403 | 13219E1519-1 | | 2 | 36 |

SECTION IV

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PART NUMBER INDEX

| CAGEC | PART NUMBER | STOCK NUMBER | FIG. | ITEM |
|-------|---------------|------------------|------|------|
| 97403 | 13219E1521 | | 30 | 7 |
| 97403 | 13219E1536 | | 2 | 21 |
| 97403 | 13219E1536-1 | | 2 | 22 |
| 97403 | 13219E1545 | | 2 | 38 |
| 97403 | 13219E1547 | | 16 | 1 |
| 97403 | 13219E1547-16 | | 16 | 29 |
| 97403 | 13219E1547-9 | | 16 | 20 |
| 97403 | 13219E1548 | | 20 | 8 |
| 97403 | 13219E1550 | | 20 | 10 |
| 97403 | 13219E1551 | | 20 | 12 |
| 97403 | 13219E1554 | | 11 | 5 |
| 97403 | 13219E1560 | | 11 | 1 |
| 97403 | 13219E1565 | | 2 | 25 |
| 97403 | 13219E1566 | | 18 | 5 |
| 97403 | 13219E1567 | | 19 | 3 |
| 97403 | 13219E1568 | | 10 | 7 |
| 97403 | 13219E1568-3 | | 10 | 8 |
| 97403 | 13219E1571 | | 2 | 15 |
| 97403 | 13219E1573 | | 10 | 1 |
| 94703 | 13219E1619 | | 28 | 4 |
| | | | 29 | 4 |
| 97403 | 13219E1620 | | 28 | 5 |
| 97403 | 13219E1775 | | 24 | 4 |
| | | | 27 | 4 |
| 97403 | 13225E8465 | 4130-01-186-6917 | 9 | 6 |
| 97403 | 13226E6637-2 | | 9 | 11 |
| 97403 | 13226E6730 | | 13 | 21 |
| | | | 13 | 43 |
| | | | 14 | 18 |
| | | | 14 | 41 |
| 97403 | 13226E6816 | | 34 | 13 |
| 97403 | 13227E7452 | | 23 | 11 |
| 97403 | 13227E7453 | | 23 | 8 |
| 97403 | 13227E7459 | | 22 | 4 |
| 97403 | 13227E7460 | | 22 | 1 |
| 97403 | 13227E7461 | | 22 | 2 |
| 97403 | 13227E7466 | | 18 | 7 |
| 97403 | 13227E7468 | | 34 | 26 |
| 97403 | 13227E7469 | | 2 | 1 |
| 97403 | 13228E1206 | | 8 | 1 |
| 97403 | 13228E1210 | | 2 | 41 |
| 97403 | 13228E1214 | | 19 | 5 |
| 97403 | 13228E1215 | | 3 | 1 |
| 97403 | 13228E1217 | | 7 | 23 |
| 97403 | 13228E1219-2 | | 4 | 4 |
| 97403 | 13228E1225 | | 9 | 7 |
| 97403 | 13228E1226 | | 7 | 17 |
| 97403 | 13228E1227 | | 9 | 5 |
| 97403 | 13228E9967 | | 12 | 1 |
| 97403 | 13228E9967-4 | | 12 | 14 |
| 97403 | 13228E9968 | | 12 | 22 |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|--------------|-----------------------------------|------|------|
| 97403 | 13228E9968-8 | | 12 | 35 |
| 97403 | 13228E9969 | | 9 | 15 |
| 97403 | 13228E9970 | | 7 | 20 |
| 97403 | 13228E9971 | | 14 | 1 |
| | | | 14 | 24 |
| 97403 | 13228E9973 | | 12 | 19 |
| | | | 12 | 40 |
| 97403 | 13228E9974 | | 12 | 15 |
| | | | 12 | 36 |
| 97403 | 13228E9974-2 | | 12 | 18 |
| | | | 12 | 39 |
| 97403 | 13228E9977 | | 9 | 13 |
| 97403 | 13228E9978-1 | | 9 | 9 |
| 97403 | 13228E9978-2 | | 9 | 16 |
| 97403 | 13228E9979 | | 13 | 5 |
| | | | 13 | 27 |
| 97403 | 13228E9980 | | 14 | 6 |
| | | | 14 | 29 |
| 97403 | 13229E3720 | | 34 | 9 |
| 97403 | 13229E3721 | | 34 | 16 |
| 97403 | 13229E3732 | | 34 | 33 |
| 97403 | 13229E3733 | | 30 | 1 |
| 97403 | 13229E3735 | | 15 | 16 |
| 97403 | 13229E3739 | | 34 | 32 |
| 97403 | 13229E3740 | | 23 | 1 |
| 81343 | 16-6-140140 | | 16 | 23 |
| 22527 | 2-405 | 6685-00-255-9507 | 34 | 25 |
| 25795 | 2P373 | | 16 | 34 |
| 81860 | 22002-11 | | 8 | 4 |
| 63384 | 2296-24V | | 13 | 16 |
| | | | 13 | 38 |
| | | | 14 | 17 |
| | | | 14 | 40 |
| 05083 | 23-7180 | | 17 | 3 |
| 81343 | 24-16-140140 | | 16 | 24 |
| 30327 | 242-BL-2A | | 16 | 2 |
| 12148 | 27E122 | 5935-01-140-8059 | 4 | 13 |
| 75282 | 3FTTA | | 5 | 10 |
| 16327 | 3P676 | | 16 | 39 |
| 80740 | 30-867-02 | | 34 | 22 |
| 80740 | 30-867-04 | | 34 | 21 |
| 80740 | 30-867-10 | | 34 | 23 |
| 39739 | 30EA15WM | 6685-00-842-4565 | 34 | 6 |
| 48619 | 31477 | 6640-00-359-9880 | 24 | 2 |
| 79470 | 3200X12X8 | | 16 | 38 |
| 11543 | 320001513 | | 10 | 10 |
| 79470 | 3220X6X4 | 4730-00-202-6491 | 16 | 21 |
| 79470 | 3220X8X4 | | 16 | 30 |
| 79470 | 3220X8X6 | 4730-00-817-6578 | 16 | 40 |
| 79470 | 3250X4 | 4730-00-222-1860 | 16 | 19 |
| 79470 | 3326X6 | 4730-00-222-1838 | 16 | 17 |

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| CAGEC | PART NUMBER | PART NUMBER INDEX STOCK NUMBER | FIG. | ITEM |
|-------|---------------|-----------------------------------|------|------|
| 95632 | 3557 | | 27 | 2 |
| 81349 | 38TB14Z | | 7 | 8 |
| 81349 | 38TB6Z | | 7 | 14 |
| 81349 | 39TB5Z | | 7 | 13 |
| 95692 | 438U | | 4 | 22 |
| 39428 | 4619K11 | | 16 | 28 |
| 75582 | 5226 | | 5 | 2 |
| | | | 5 | 12 |
| 74545 | 5252 | | 6 | 2 |
| | | | 6 | 7 |
| | | | 6 | 12 |
| | | | 6 | 22 |
| | | | 6 | 27 |
| | | | 6 | 37 |
| 25795 | 6X535 | | 16 | 36 |
| 48619 | 61600 | 6640-00-980-5002 | 25 | 3 |
| 21519 | 68-875-41INCH | 6695-00-496-9624 | 34 | 27 |
| 79470 | 6805 | 4820-00-865-6946 | 16 | 6 |
| 30554 | 69-692-1 | 5940-01-009-4763 | 2 | 6 |
| 93061 | 69GH-12-6 | | 16 | 15 |
| 48619 | 74537 | 6630-00-530-0987 | 25 | 2 |
| 48619 | 74877 | 6630-00-399-2964 | 23 | 14 |
| 48619 | 74885 | | 23 | 15 |
| 48619 | 74886 | | 23 | 16 |
| 48619 | 74893 | 6640-00-359-9629 | 23 | 6 |
| 48619 | 75765 | 6640-00-531-5022 | 25 | 4 |
| 48619 | 76002 | 6630-00-251-2118 | 28 | 2 |
| 80740 | 78-902 | | 30 | 4 |
| 45681 | 801-4 | | BULK | 1 |
| 8R545 | 89079P | | 16 | 11 |
| 22577 | 91-450 | | 15 | 2 |
| 89337 | 91-470 | | 16 | 3 |
| 93061 | 91GH-12-8 | | 16 | 12 |
| 22527 | 91581 | | 34 | 4 |
| 81860 | 9810145-02 | | 8 | 3 |

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| FIG. | ITEM | FIGURE AND ITEM NUMBER INDEX | | PART NUMBER |
|------|------|------------------------------|-------|----------------|
| | | STOCK NUMBER | CAGEC | |
| BULK | 1 | | 45681 | 801-4 |
| BULK | 2 | | 81349 | L-H-520 TYPEI |
| BULK | 3 | | 11292 | 02270201 |
| BULK | 4 | | 81349 | B46089-MSB1 |
| BULK | 5 | | 61501 | B44-3 |
| BULK | 6 | | 81349 | ZZ-T-831 |
| 1 | 1 | | 19099 | 13219E1000 |
| 2 | 1 | | 97403 | 13227E7469 |
| 2 | 2 | | 97403 | 13219E1399 |
| 2 | 3 | 5310-00-768-0321 | 96906 | MS51971-5 |
| 2 | 4 | 5310-00-933-8778 | 96906 | MS35338-143 |
| 2 | 5 | 5310-00-767-9425 | 96906 | MS15795-818 |
| 2 | 6 | 5940-01-009-4763 | 30554 | 69-692-1 |
| 2 | 7 | 5320-01-023-2529 | 81349 | M24243/1-A404 |
| 2 | 8 | 5935-01-147-9446 | 96906 | MS90564-7C |
| 2 | 9 | 5305-00-225-7774 | 96906 | MS16996-24 |
| 2 | 10 | 5310-00-933-8121 | 96906 | MS35338-139 |
| 2 | 11 | 5310-01-091-1248 | 96906 | MS15795-810 |
| 2 | 12 | 5935-01-092-4269 | 96906 | MS90558C44413P |
| 2 | 13 | | 80205 | NAS1330-4-151 |
| 2 | 14 | 5320-01-023-2529 | 81349 | M24243/1-A404 |
| 2 | 15 | | 97403 | 13219E1571 |
| 2 | 16 | 5305-00-051-6751 | 96906 | MS16995-16 |
| 2 | 17 | | 80063 | BSC-B-539596 |
| 2 | 18 | | 81349 | CSC-C-539594 |
| 2 | 19 | 5310-00-722-5998 | 96906 | MS15795-805 |
| 2 | 20 | 5310-00-929-6395 | 96906 | MS35338-136 |
| 2 | 21 | | 97403 | 13219E1536 |
| 2 | 22 | | 97403 | 13219E1536-1 |
| 2 | 23 | | 96384 | BS0S-632-10 |
| 2 | 24 | 5320-01-023-2529 | 81349 | M24243/1-A404 |
| 2 | 25 | | 97403 | 13219E1565 |
| 2 | 26 | 5305-00-984-7342 | 96906 | MS35191-274 |
| 2 | 27 | | 80063 | BSC-B-539597 |
| 2 | 28 | 5310-00-141-3062 | 96906 | MS27130-A26 |
| 2 | 29 | 5320-01-023-2529 | 81349 | M24243/1-A404 |
| 2 | 30 | | 97403 | 13219E1519 |
| 2 | 31 | 5305-00-051-6751 | 96906 | MS16995-16 |
| 2 | 32 | | 80063 | BSC-B-539596 |
| 2 | 33 | | 81349 | CSC-C-539594 |
| 2 | 34 | 5310-00-722-5998 | 96906 | MS15795-805 |
| 2 | 35 | | 96906 | MS51415-1 |
| 2 | 36 | | 97403 | 13219E1519-1 |
| 2 | 37 | | 96384 | BS0S-632-10 |
| 2 | 38 | | 97403 | 13219E1545 |
| 2 | 39 | | 97403 | 13218E0479-52 |
| 2 | 40 | | 16799 | BV-2 |
| 2 | 41 | | 97403 | 13228E1210 |
| 2 | 42 | 5320-01-023-2529 | 81349 | M24243/1-A404 |
| 2 | 43 | 5305-00-984-7342 | 96906 | MS35191-274 |
| 2 | 44 | | 80063 | BSC-B-539597 |

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| FIG. | ITEM | FIGURE AND ITEM NUMBER INDEX | | PART NUMBER |
|------|------|------------------------------|-------|-------------------------|
| | | STOCK NUMBER | CAGEC | |
| 2 | 45 | 5310-00-141-3062 | 96906 | MS27130-A26 |
| 3 | 1 | | 97403 | 13228E1215 |
| 3 | 2 | | 96906 | MS35207-307 |
| 3 | 3 | | 96906 | MS27130-A61K |
| 3 | 4 | | 81349 | M16377-12-341-1 |
| 3 | 5 | | 81349 | M16377/12-003 |
| 3 | 6 | | 81348 | W-L-116/18 |
| 3 | 7 | | 81349 | M16377/42-005 |
| 3 | 8 | 6250-00-299-2884 | 81348 | WS755TYPE3 |
| 3 | 9 | 6250-00-569-9502 | 81349 | M16377/44-001 |
| 3 | 10 | 6250-00-284-0481 | 81349 | MIL-L-970/11 |
| 3 | 11 | 6250-00-295-2738 | 81349 | MIL-L-970/13 |
| 3 | 12 | 5930-00-719-9659 | 96906 | MS16569-1 |
| 4 | 1 | | 54319 | SW62 |
| 4 | 2 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 4 | 3 | 5310-00-809-8546 | 96906 | MS27183-8 |
| 4 | 4 | | 97403 | 13228E1219-2 |
| 4 | 5 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 4 | 6 | | 97403 | 13219E1487 |
| 4 | 7 | 5305-00-993-2463 | 96906 | MS35207-279 |
| 4 | 8 | 5310-00-889-2589 | 96906 | MS21044C4 |
| 4 | 9 | | 56305 | PK15GTA |
| 4 | 10 | | 44655 | DOSHXP-47T |
| 4 | 11 | 5305-00-579-2139 | 96906 | MS35265-30 |
| 4 | 12 | 5310-00-045-4007 | 96906 | MS35338-41 |
| 4 | 13 | 5935-01-140-8059 | 12148 | 27E122 |
| 4 | 14 | 5310-00-934-9747 | 96906 | MS35649-262 |
| 4 | 15 | 5305-00-054-6656 | 96906 | MS51957-32 |
| 4 | 16 | | 56305 | Q070AN |
| 4 | 17 | 5310-00-934-9761 | 96906 | MS35649-264 |
| 4 | 18 | 5310-00-933-8118 | 96906 | MS35338-135 |
| 4 | 19 | | 81349 | F03B125V5A |
| 4 | 20 | | 81349 | F03B125V15A |
| 4 | 21 | | 81349 | FH23BM |
| 4 | 22 | | 95692 | 438U |
| 4 | 23 | | 81349 | RCR32G625JS |
| 4 | 24 | | 56365 | FAL32100-1121-8F -24 |
| 4 | 25 | 5925-00-984-2163 | 09710 | QOB115 |
| 4 | 26 | 5925-00-728-1968 | 56365 | QOB320 |
| 4 | 27 | 5930-00-655-1582 | 96906 | MS35059-23 |
| 4 | 28 | | 56305 | NQOD424L100 |
| 4 | 29 | | 56305 | NQODQ2 |
| 4 | 30 | | 56365 | MH-29 |
| 5 | 1 | | 81348 | W-J-800 |
| 5 | 2 | | 75582 | 5226 |
| 5 | 3 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 5 | 4 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 5 | 5 | | 75282 | 1FT |
| 5 | 6 | 5930-00-051-4448 | 81348 | WS896/2-03A |
| 5 | 7 | 5305-00-989-7434 | 96906 | MS35207-263 |

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| FIG. | ITEM | FIGURE AND ITEM NUMBER INDEX | | PART NUMBER |
|------|------|------------------------------|-------|-------------|
| | | STOCK NUMBER | CAGEC | |
| 5 | 8 | | 81348 | WC586 |
| 5 | 9 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 5 | 10 | | 75282 | 3FTTA |
| 5 | 11 | 5930-00-051-4448 | 81348 | WS896/2-03A |
| 5 | 12 | | 75582 | 5226 |
| 5 | 13 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 5 | 14 | | 81348 | WC586 |
| 5 | 15 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 5 | 16 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 5 | 17 | | 91929 | BZG1-2RN2 |
| 5 | 18 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 6 | 1 | | 75282 | 1FA |
| 6 | 2 | | 74545 | 5252 |
| 6 | 3 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 6 | 4 | | 81348 | WC586 |
| 6 | 5 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 6 | 6 | | 75282 | 1FA |
| 6 | 7 | | 74545 | 5252 |
| 6 | 8 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 6 | 9 | | 81348 | WC586 |
| 6 | 10 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 6 | 11 | | 75282 | 1FA |
| 6 | 12 | | 74545 | 5252 |
| 6 | 13 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 6 | 14 | | 81348 | WC586 |
| 6 | 15 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 6 | 16 | | 81348 | W-J-800 |
| 6 | 17 | 5935-01-012-3081 | 81348 | WC596/11-2 |
| 6 | 18 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 6 | 19 | | 81348 | WC586 |
| 6 | 20 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 6 | 21 | | 75282 | 1FA |
| 6 | 22 | | 74545 | 5252 |
| 6 | 23 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 6 | 24 | | 81348 | WC586 |
| 6 | 25 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 6 | 26 | | 75282 | 1FA |
| 6 | 27 | | 74545 | 5252 |
| 6 | 28 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 6 | 29 | | 81348 | WC586 |
| 6 | 30 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 6 | 31 | | 81348 | W-J-800 |
| 6 | 32 | 5935-01-012-3081 | 81348 | WC596/11-2 |
| 6 | 33 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 6 | 34 | | 81348 | WC586 |
| 6 | 35 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 6 | 36 | | 75282 | 1FA |
| 6 | 37 | | 74545 | 5252 |
| 6 | 38 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 6 | 39 | | 81348 | WC586 |
| 6 | 40 | 5310-01-009-9785 | 96906 | MS27130A25 |

SECTION IV

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CROSS REFERENCE INDEXES

FIGURE AND ITEM NUMBER INDEX
STOCK NUMBER

| FIG. | ITEM | STOCK NUMBER | CAGEC | PART NUMBER |
|------|------|------------------|-------|---------------|
| 7 | 1 | 5305-00-225-3843 | 96906 | MS90728-8 |
| 7 | 2 | 5310-00-582-5965 | 96906 | MS3533844 |
| 7 | 3 | 5310-00-809-4058 | 96906 | MS27183-10 |
| 7 | 4 | | 97403 | 13219E1496 |
| 7 | 5 | 5305-00-984-6195 | 96906 | MS35206-247 |
| 7 | 6 | 5310-00-809-8544 | 96906 | MS27183-7 |
| 7 | 7 | 5310-00-934-9759 | 96906 | MS35649-284 |
| 7 | 8 | | 81349 | 38TB14Z |
| 7 | 9 | 5305-00-984-6213 | 96906 | MS35206-266 |
| 7 | 10 | 5310-00-809-8546 | 96906 | MS27183-8 |
| 7 | 11 | 5310-00-934-9760 | 96906 | MS35649-204 |
| 7 | 12 | | 15605 | D26MR33A |
| 7 | 13 | | 81349 | 39TBSZ |
| 7 | 14 | | 81349 | 38TB6Z |
| 7 | 15 | 5305-00-988-1726 | 96906 | MS35206-282 |
| 7 | 16 | 5310-00-823-8804 | 96906 | MS27183-9 |
| 7 | 17 | | 97403 | 13228E 1226 |
| 7 | 18 | | 81348 | W-F406 |
| 7 | 19 | | 81348 | W-F406 |
| 7 | 20 | | 97403 | 13228E9970 |
| 7 | 21 | | 96906 | MS 16208-53 |
| 7 | 22 | | 98245 | YE- I 808ACGH |
| 7 | 23 | | 97403 | 13228E1217 |
| 7 | 24 | | 96906 | MS27130-A133 |
| 8 | 1 | | 97403 | 13228E 1206 |
| 8 | 2 | | 96906 | MS35308-369 |
| 8 | 3 | | 81860 | 9810145-02 |
| 8 | 4 | | 81860 | 22002-11 |
| 8 | 5 | | 81349 | MIL-A-52767 |
| 8 | 6 | | 76385 | ZX-5399 |
| 9 | 1 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 9 | 2 | 5310-00-934-9765 | 96906 | MS35650-304 |
| 9 | 3 | 5310-00-045-3296 | 96906 | MS3533843 |
| 9 | 4 | 5310-00-809-8546 | 96906 | MS27183-8 |
| 9 | 5 | | 97403 | 13228E1227 |
| 9 | 6 | 4130-01-186-6917 | 97403 | 13225E8465 |
| 9 | 7 | | 97403 | 13228E1225 |
| 9 | 8 | | 81348 | W-F406 |
| 9 | 9 | | 97403 | 13228E9978-1 |
| 9 | 10 | 5940-00-113-8179 | 96906 | MS25036-107 |
| 9 | 11 | | 97403 | 13226E6637-2 |
| 9 | 12 | 5310-01-091-1248 | 96906 | MS15795-810 |
| 9 | 13 | | 97403 | 13228E9977 |
| 9 | 14 | | 96906 | MS24693-26 |
| 9 | 15 | | 97403 | 13228E9969 |
| 9 | 16 | | 97403 | 13228E9978-2 |
| 9 | 17 | 5940-00-113-8179 | 96906 | MS25036-107 |
| 10 | 1 | | 97403 | 13219EIS573 |
| 10 | 2 | 5305-00-051-6751 | 96906 | MS 16995-16 |
| 10 | 3 | 5310-00-929-6395 | 96906 | MS35338-136 |
| 10 | 4 | 5310-00-722-5998 | 96906 | MS15795-805 |

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| | | STOCK NUMBER | CAGEC | |
| 10 | 5 | | 81349 | CSC-C-539594 |
| 10 | 6 | | 80063 | BSC-B-539596 |
| 10 | 7 | | 97403 | 13219E1568 |
| 10 | 8 | | 97403 | 13219E1568-3 |
| 10 | 9 | | 61957 | AD64BS |
| 10 | 10 | | 11543 | 320001513 |
| 10 | 11 | 5305-00-984-7342 | 96906 | MS35191-274 |
| 10 | 12 | | 80063 | BSC-B-539597 |
| 10 | 13 | 5310-00-141-3062 | 96906 | MS27130-A26 |
| 11 | 1 | | 97403 | 13219E1560 |
| 11 | 2 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 11 | 3 | 5310-00-809-8546 | 96906 | MS27183-8 |
| 11 | 4 | | 06223 | KBB36-36 |
| 11 | 5 | | 97403 | 13219E1554 |
| 12 | 1 | | 97403 | 13228E9967 |
| 12 | 2 | 5305-00-054-6651 | 96906 | MS51957-27 |
| 12 | 3 | 5310-00-929-6395 | 96906 | MS35338-136 |
| 12 | 4 | 5310-00-880-5976 | 96906 | MS15795-806 |
| 12 | 5 | 5340-00-134-3470 | 80063 | SCC539594 |
| 12 | 6 | | 80063 | SCC539596 |
| 12 | 7 | 5305-00-984-6219 | 96906 | MS35206-272 |
| 12 | 8 | 5310-00-809-8546 | 96906 | MS27183-8 |
| 12 | 9 | 5310-00-934-9758 | 96906 | MS35649-202 |
| 12 | 10 | 5320-00-582-3502 | 96906 | MS20601AD4W4 |
| 12 | 11 | 5305-00-993-1851 | 96906 | MS35207-267 |
| 12 | 12 | | 56365 | XA7309E |
| 12 | 13 | | 96906 | MS27130-A100K |
| 12 | 14 | | 97403 | 13228E9967-4 |
| 12 | 15 | | 97403 | 13228E9974 |
| 12 | 16 | 5305-00-984-4992 | 96906 | MS35206-232 |
| 12 | 17 | 5310-00-983-8483 | 96906 | MS27183-5 |
| 12 | 18 | | 97403 | 13228E9974-2 |
| 12 | 19 | | 97403 | 13228E9973 |
| 12 | 20 | | 96906 | MS20601B6W6 |
| 12 | 21 | | 80063 | SCB539597 |
| 12 | 22 | | 97403 | 13228E9968 |
| 12 | 23 | 5305-00-054-6651 | 96906 | MS51957-27 |
| 12 | 24 | 5310-00-929-6395 | 96906 | MS35338-136 |
| 12 | 25 | 5310-00-880-5976 | 96906 | MS15795-806 |
| 12 | 26 | 5340-00-134-3470 | 80063 | SCC539594 |
| 12 | 27 | | 80063 | SCC539596 |
| 12 | 28 | 5305-00-984-6219 | 96906 | MS35206-272 |
| 12 | 29 | 5310-00-809-8546 | 96906 | MS27183-8 |
| 12 | 30 | 5310-00-934-9758 | 96906 | MS35649-202 |
| 12 | 31 | 5320-00-582-3502 | 96906 | MS20601AD4W4 |
| 12 | 32 | 5305-00-993-1851 | 96906 | MS35207-267 |
| 12 | 33 | | 56365 | XA7309E |
| 12 | 34 | | 96906 | MS27130-A100K |
| 12 | 35 | | 97403 | 13228E9968-8 |
| 12 | 36 | | 97403 | 13228E9974 |
| 12 | 37 | 5305-00-984-4992 | 96906 | MS35206-232 |

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| | | STOCK NUMBER | CAGEC | |
| 12 | 38 | 5310-00-983-8483 | 96906 | MS27183-5 |
| 12 | 39 | | 97403 | 13228E9974-2 |
| 12 | 40 | | 97403 | 13228E9973 |
| 12 | 41 | | 96906 | MS20601B6W6 |
| 12 | 42 | | 80063 | SCB539597 |
| 13 | 1 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 13 | 2 | 5310-00-934-9751 | 96906 | MS35650-302 |
| 13 | 3 | 5310-00-045-3296 | 96906 | MS35338-43 |
| 13 | 4 | 5310-00-014-5850 | 96906 | MS27183-42 |
| 13 | 5 | | 97403 | 13228E9979 |
| 13 | 6 | 5305-00-984-6194 | 96906 | MS35206-246 |
| 13 | 7 | 5310-00-045-3299 | 96906 | MS35338-42 |
| 13 | 8 | 5310-00-225-5328 | 96906 | MS15795-841 |
| 13 | 9 | 5305-00-059-3659 | 96906 | MS51958-63 |
| 13 | 10 | 5310-00-934-9765 | 96906 | MS35650-304 |
| 13 | 11 | 5310-00-933-8120 | 96906 | MS35338-138 |
| 13 | 12 | 5310-00-883-9384 | 96906 | MS15795-842 |
| 13 | 13 | | 01167 | OB-1 |
| 13 | 14 | | 05624 | AM125 |
| 13 | 15 | | 05624 | AM132 |
| 13 | 16 | | 63384 | 2296-24V |
| 13 | 17 | 5305-00-988-1725 | 96906 | MS35206-281 |
| 13 | 18 | | 96906 | MS51907-2 |
| 13 | 19 | 5310-00-582-5965 | 96906 | MS35338-44 |
| 13 | 20 | 5310-00-809-4058 | 96906 | MS27183-10 |
| 13 | 21 | | 97403 | 13226E6730 |
| 13 | 22 | | 63384 | CDA-OB |
| 13 | 23 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 13 | 24 | 5310-00-934-9751 | 96906 | MS35650-302 |
| 13 | 25 | 5310-00-045-3296 | 96906 | MS35338-43 |
| 13 | 26 | 5310-00-014-5850 | 96906 | MS27183-42 |
| 13 | 27 | | 97403 | 13228E9979 |
| 13 | 28 | 5305-00-984-6194 | 96906 | MS35206-246 |
| 13 | 29 | 5310-00-045-3299 | 96906 | MS35338-42 |
| 13 | 30 | 5310-00-225-5328 | 96906 | MS15795-841 |
| 13 | 31 | 5305-00-059-3659 | 96906 | MS51958-63 |
| 13 | 32 | 5310-00-934-9765 | 96906 | MS35650-304 |
| 13 | 33 | 5310-00-933-8120 | 96906 | MS35338-138 |
| 13 | 34 | 5310-00-883-9384 | 96906 | MS15795-842 |
| 13 | 35 | | 01167 | OB-1 |
| 13 | 36 | | 05624 | AM125 |
| 13 | 37 | | 05624 | AM132 |
| 13 | 38 | | 63384 | 2296-24V |
| 13 | 39 | 5305-00-988-1725 | 96906 | MS35206-281 |
| 13 | 40 | | 96906 | MS51907-2 |
| 13 | 41 | 5310-00-582-5965 | 96906 | MS35338-44 |
| 13 | 42 | 5310-00-809-4058 | 96906 | MS27183-10 |
| 13 | 43 | | 97403 | 13226E6730 |
| 13 | 44 | | 63384 | CDA-OB |
| 14 | 1 | | 97403 | 13228E9971 |
| 14 | 2 | 5305-00-993-1848 | 96906 | MS35207-265 |

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| | | STOCK NUMBER | CAGEC | |
| 14 | 3 | 5310-00-934-9751 | 96906 | MS35650-302 |
| 14 | 4 | 5310-00-045-3296 | 96906 | MS35338-43 |
| 14 | 5 | 5310-00-014-5850 | 96906 | MS27183-42 |
| 14 | 6 | | 97403 | 13228E9980 |
| 14 | 7 | 5305-00-984-6194 | 96906 | MS35206-246 |
| 14 | 8 | 5310-00-045-3299 | 96906 | MS35338-42 |
| 14 | 9 | 5310-00-225-5328 | 96906 | MS15795-841 |
| 14 | 10 | 5305-00-059-3659 | 96906 | MS51958-63 |
| 14 | 11 | 5310-00-934-9765 | 96906 | MS35650-304 |
| 14 | 12 | 5310-00-933-8120 | 96906 | MS35338-138 |
| 14 | 13 | 5310-00-883-9384 | 96906 | MS15795-842 |
| 14 | 14 | | 01167 | OB-1 |
| 14 | 15 | | 05624 | AM125 |
| 14 | 16 | | 05624 | AM132 |
| 14 | 17 | | 63384 | 2296-24V |
| 14 | 18 | | 97403 | 13226E6730 |
| 14 | 19 | | 63384 | CDA-OB |
| 14 | 20 | 5305-00-988-1725 | 96906 | MS35206-281 |
| 14 | 21 | | 96906 | MS51907-2 |
| 14 | 22 | 5310-00-582-5965 | 96906 | MS35338-44 |
| 14 | 23 | 5310-00-809-4058 | 96906 | MS27183-10 |
| 14 | 24 | | 97403 | 13228E9971 |
| 14 | 25 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 14 | 26 | 5310-00-934-9751 | 96906 | MS35650-302 |
| 14 | 27 | 5310-00-045-3296 | 96906 | MS35338-43 |
| 14 | 28 | 5310-00-014-5850 | 96906 | MS27183-42 |
| 14 | 29 | | 97403 | 13228E9980 |
| 14 | 30 | 5305-00-984-6194 | 96906 | MS35206-246 |
| 14 | 31 | 5310-00-045-3299 | 96906 | MS35338-42 |
| 14 | 32 | 5310-00-225-5328 | 96906 | MS15795-841 |
| 14 | 33 | 5305-00-059-3659 | 96906 | MS51958-63 |
| 14 | 34 | 5310-00-934-9765 | 96906 | MS35650-304 |
| 14 | 35 | 5310-00-933-8120 | 96906 | MS35338-138 |
| 14 | 36 | 5310-00-883-9384 | 96906 | MS15795-842 |
| 14 | 37 | | 01167 | OB-1 |
| 14 | 38 | | 05624 | AM125 |
| 14 | 39 | | 05624 | AM132 |
| 14 | 40 | | 63384 | 2296-24V |
| 14 | 41 | | 97403 | 13226E6730 |
| 14 | 42 | | 63384 | CDA-OB |
| 14 | 43 | 5305-00-988-1725 | 96906 | MS35206-281 |
| 14 | 44 | | 96906 | MS51907-2 |
| 14 | 45 | 5310-00-582-5965 | 96906 | MS35338-44 |
| 14 | 46 | 5310-00-809-4058 | 96906 | MS27183-10 |
| 15 | 1 | | 97403 | 13219E1514 |
| 15 | 2 | | 22577 | 91-450 |
| 15 | 3 | 4820-00-957-5639 | 22527 | 1-088 |
| 15 | 4 | | 96906 | MS35842-6 |
| 15 | 5 | | 97403 | 13219E1514-8 |
| 15 | 6 | 4820-00-197-4984 | 96906 | MS35785-2 |
| 15 | 7 | 5305-00-988-1170 | 96906 | MS35206-284 |

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| | | STOCK NUMBER | CAGEC | |
| 15 | 8 | | 97403 | 13219E1445 |
| 15 | 9 | | 96906 | MS27130-A32 |
| 15 | 10 | 5305-00-993-1851 | 96906 | MS35207-267 |
| 15 | 11 | 5310-00-934-9751 | 96906 | MS35650-302 |
| 15 | 12 | 5310-00-045-3296 | 96906 | MS35338-43 |
| 15 | 13 | 5310-00-014-5850 | 96906 | MS27183-42 |
| 15 | 14 | | 97403 | 13219E1443 |
| 15 | 15 | | 98437 | B-4CPA2-3 |
| 15 | 16 | | 97403 | 13229E3735 |
| 15 | 17 | | 08071 | XX55-000-00 |
| 16 | 1 | | 97403 | 13219E1547 |
| 16 | 2 | | 30327 | 242-BL-2A |
| 16 | 3 | | 89337 | 91-470 |
| 16 | 4 | | 97483 | SLX-1815-A-GR-1 |
| 16 | 5 | | 97403 | 13219E1491 |
| 16 | 6 | 4820-00-865-6946 | 79470 | 6805 |
| 16 | 7 | 5305-00-988-1725 | 96906 | MS35206-281 |
| 16 | 8 | 5310-00-250-9477 | 96906 | MS35649-2254 |
| 16 | 9 | 5310-00-582-5965 | 96906 | MS35338-44 |
| 16 | 10 | 5310-00-809-4058 | 96906 | MS27183-10 |
| 16 | 11 | | 8R545 | 89079P |
| 16 | 12 | | 93061 | 91GH-12-8 |
| 16 | 13 | 4730-00-908-3194 | 96906 | MS35842-11 |
| 16 | 14 | | 97403 | 13212E3705-1 |
| 16 | 15 | | 93061 | 69GH-12-6 |
| 16 | 16 | 4730-01-247-8496 | 09505 | 116-B-06 |
| 16 | 17 | 4730-00-222-1838 | 79470 | 3326X6 |
| 16 | 18 | | 59646 | MSS-SP-80TYIICLA |
| 16 | 19 | 4730-00-222-1860 | 79470 | 3250X4 |
| 16 | 20 | | 97403 | 13219E1547-9 |
| 16 | 21 | 4730-00-202-6491 | 79470 | 3220X6X4 |
| 16 | 22 | 4730-01-246-5123 | 82271 | 101-B-06 |
| 16 | 23 | | 81343 | 16-6-140140 |
| 16 | 24 | | 81343 | 24-16-140140 |
| 16 | 25 | 4730-00-278-4824 | 30327 | 116-B-04 |
| 16 | 26 | | 30327 | 100-B-04 |
| 16 | 27 | | 30327 | 113-B-04X48 |
| 16 | 28 | | 39428 | 4619K11 |
| 16 | 29 | | 97403 | 13219E1547-16 |
| 16 | 30 | | 79470 | 3220X8X4 |
| 16 | 31 | | 30327 | 104-B-04 |
| 16 | 32 | | 30327 | 113B1-4NPTX3-1-2 |
| 16 | 33 | | 59646 | MSS-SP-60TYIVCLA |
| 16 | 34 | | 25795 | 2P373 |
| 16 | 35 | 4730-00-196-1973 | 30327 | 113-B1-4X2-1-2 |
| 16 | 36 | | 25795 | 6X535 |
| 16 | 37 | 4730-00-504-1908 | 13174 | 101-B-04 |
| 16 | 38 | | 79470 | 3200X12X8 |
| 16 | 39 | | 16327 | 3P676 |
| 16 | 40 | 4730-00-817-6578 | 79470 | 3220X8X6 |
| 17 | 1 | 5305-00-989-7434 | 96906 | MS35207-263 |

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| | | STOCK NUMBER | CAGEC | |
| 17 | 2 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 17 | 3 | | 05083 | 23-7180 |
| 17 | 4 | | 77342 | BU120VAC |
| 17 | 5 | | 97403 | 13219E1510 |
| 18 | 1 | | 97403 | 13219E1433 |
| 18 | 2 | | 97403 | 13219E1432 |
| 18 | 3 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 18 | 4 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 18 | 5 | | 97403 | 13219E1566 |
| 18 | 6 | | OBJJ7 | 1-MSS |
| 18 | 7 | | 97403 | 13227E7466 |
| 18 | 8 | | OBJJ7 | 1-MSS |
| 18 | 9 | | 97403 | 13219E1430 |
| 18 | 10 | | OBJJ7 | 1-MSS |
| 19 | 1 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 19 | 2 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 19 | 3 | | 97403 | 13219E1567 |
| 19 | 4 | | OBJJ7 | 1-MSS |
| 19 | 5 | | 97403 | 13228E1214 |
| 19 | 6 | | OBJJ7 | 1-MSS |
| 19 | 7 | | 97403 | 13219E1450 |
| 19 | 8 | | OBJJ7 | 1-MSS |
| 20 | 1 | | 97403 | 13219E1434 |
| 20 | 2 | | 97403 | 13219E1507 |
| 20 | 3 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 20 | 4 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 20 | 5 | | 97403 | 13219E1460 |
| 20 | 6 | | OBJJ7 | 1-MSS |
| 20 | 7 | 5305-00-984-6212 | 96906 | MS35206-265 |
| 20 | 8 | | 97403 | 13219E1548 |
| 20 | 9 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 20 | 10 | | 97403 | 13219E1550 |
| 20 | 11 | 5320-00-117-6963 | 96906 | MS20426A4-6 |
| 20 | 12 | | 97403 | 13219E1551 |
| 21 | 1 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 21 | 2 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 21 | 3 | | 97403 | 13219E1470 |
| 21 | 4 | | OBJJ7 | 1-MSS |
| 21 | 5 | | 97403 | 13219E1480 |
| 21 | 6 | | OBJJ7 | 1-MSS |
| 22 | 1 | | 97403 | 13227E7460 |
| 22 | 2 | | 97403 | 13227E7461 |
| 22 | 3 | 5320-00-117-6817 | 96906 | MS20470AD3-6 |
| 22 | 4 | | 97403 | 13227E7459 |
| 22 | 5 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 22 | 6 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 22 | 7 | | 97403 | 13219E1481 |
| 22 | 8 | | OBJJ7 | 1-MSS |
| 23 | 1 | | 97403 | 13229E3740 |
| 23 | 2 | 5306-01-303-2815 | 96906 | MS90725-13 |
| 23 | 3 | 5310-00-550-1130 | 96906 | MS35333-40 |

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| | | STOCK NUMBER | CAGEC | |
| 23 | 4 | 5310-00-809-4058 | 96906 | MS27183-10 |
| 23 | 5 | | 96906 | MS51941-10 |
| 23 | 6 | 6640-00-359-9629 | 48619 | 74893 |
| 23 | 7 | | 97403 | 13219E1499 |
| 23 | 8 | | 97403 | 13227E7453 |
| 23 | 9 | 4730-00-908-3195 | 96906 | MS35842-10 |
| 23 | 10 | | 97403 | 13219E1499-3 |
| 23 | 11 | | 97403 | 13227E7452 |
| 23 | 12 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 23 | 13 | | 97403 | 13219E1436 |
| 23 | 14 | 6630-00-399-2964 | 48619 | 74877 |
| 23 | 15 | | 48619 | 74885 |
| 23 | 16 | | 48619 | 74886 |
| 23 | 17 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 24 | 1 | 5305-00-014-9926 | 96906 | MS35493-76 |
| 24 | 2 | 6640-00-359-9880 | 48619 | 31477 |
| 24 | 3 | | 81349 | M24243/1-F602 |
| 24 | 4 | | 97403 | 13219E1775 |
| 25 | 1 | 5305-00-993-1851 | 96906 | MS35207-267 |
| 25 | 2 | 6630-00-530-0987 | 48619 | 74537 |
| 25 | 3 | 6640-00-980-5002 | 48619 | 61600 |
| 25 | 4 | 6640-00-531-5022 | 48619 | 75765 |
| 26 | 1 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 26 | 2 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 26 | 3 | | 49524 | CSW1AE-1A |
| 27 | 1 | 5305-00-014-9926 | 96906 | MS35493-76 |
| 27 | 2 | | 95632 | 3557 |
| 27 | 3 | | 81349 | M24243/1-F602 |
| 27 | 4 | | 97403 | 13219E1775 |
| 28 | 1 | 5305-00-014-9926 | 96906 | MS35493-76 |
| 28 | 2 | 6630-00-251-2118 | 48619 | 76002 |
| 28 | 3 | | 96906 | MS20604R4W2 |
| 28 | 4 | | 94703 | 13219E1619 |
| 28 | 5 | | 97403 | 13219E1620 |
| 29 | 1 | 5305-00-014-9926 | 96906 | MS35493-76 |
| 29 | 2 | 6640-00-522-1886 | 23035 | K253-1 |
| 29 | 3 | | 96906 | MS20604R4W2 |
| 29 | 4 | | 97403 | 13219E1619 |
| 30 | 1 | | 97403 | 13229E3733 |
| 30 | 2 | | 1HF87 | A200S |
| 30 | 3 | 5305-00-014-9926 | 96906 | MS35493-76 |
| 30 | 4 | | 80740 | 78-902 |
| 30 | 5 | 5320-00-165-8784 | 96906 | MS20426B6-5 |
| 30 | 6 | | 97403 | 13219E1494 |
| 30 | 7 | | 97403 | 13219E1521 |
| 31 | 1 | 6640-01-138-2563 | 32218 | GTP-323 |
| 32 | 1 | 6665-00-496-9623 | 08071 | XX64-037-30 |
| 33 | 1 | 6630-01-165-7133 | 62935 | B/2 |
| 33 | 2 | 6680-00-151-5310 | 81349 | MIL-T-51028 |
| 34 | 1 | 5305-00-993-1848 | 96906 | MS35207-265 |
| 34 | 2 | | 22527 | 10-021-10 |

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| 34 | 3 | 5310-01-009-9785 | 96906 | MS27130A25 |
| 34 | 4 | | 22527 | 91581 |
| 34 | 5 | 5305-00-989-7434 | 96906 | MS35207-263 |
| 34 | 6 | 6685-00-842-4565 | 39739 | 30EA15WM |
| 34 | 7 | 5305-00-855-0972 | 96906 | MS24629-23 |
| 34 | 8 | | 81349 | GG-S-236 |
| 34 | 9 | | 97403 | 13229E3720 |
| 34 | 10 | 5310-00-250-9477 | 96906 | MS35649-2254 |
| 34 | 11 | 5310-00-933-8121 | 96906 | MS35338-139 |
| 34 | 12 | 5310-01-091-1248 | 96906 | MS15795-810 |
| 34 | 13 | | 97403 | 13226E6816 |
| 34 | 14 | 6640-00-986-5033 | 96906 | MS36217-3 |
| 34 | 15 | 5305-00-207-8253 | 96906 | MS35307-308 |
| 34 | 16 | | 97403 | 13229E3721 |
| 34 | 17 | 5310-01-015-1021 | 96906 | MS27130-S31 |
| 34 | 18 | | 97403 | 13219E1400-64 |
| 34 | 19 | | 96906 | MS24585C241 |
| 34 | 20 | | 97403 | 13219E1488 |
| 34 | 21 | | 80740 | 30-867-04 |
| 34 | 22 | | 80740 | 30-867-02 |
| 34 | 23 | | 80740 | 30-867-10 |
| 34 | 24 | 4210-01-092-4420 | 12183 | 1211 |
| 34 | 25 | 6685-00-255-9507 | 22527 | 2-405 |
| 34 | 26 | | 97403 | 13227E7468 |
| 34 | 27 | 6695-00-496-9624 | 21519 | 68-875-41INCH |
| 34 | 28 | | 81349 | M24066/2-142 |
| 34 | 29 | | 80740 | H-18932 |
| 34 | 30 | 5310-00-045-3296 | 96906 | MS35338-43 |
| 34 | 31 | 5310-00-014-5850 | 96906 | MS27183-42 |
| 34 | 32 | | 97403 | 13229E3739 |
| 34 | 33 | | 97403 | 13229E3732 |
| 34 | 34 | | 97403 | 13219E1509 |
| 34 | 35 | 6830-00-584-3041 | 81348 | BB-G-110 |
| 34 | 36 | 5305-00-014-9926 | 96906 | MS35493-76 |
| 34 | 37 | | 97403 | 13219E1486 |

APPENDIX G

ILLUSTRATED LIST OF MANUFACTURED ITEMS

G-1. SCOPE

This appendix includes complete instructions for making items authorized to be manufactured or fabricated at organizational maintenance. A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria. All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list of illustration.

BULK ITEMS LIST

| (1) ITEM NO | (2) SMR CODE | (3) CAGEC | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) U/M |
|-------------------|--------------------|--------------|-----------------------|---|------------|
| 1 | PAOZZ | | 5680-00-794-0785 | "STRIPPING, WEATHER" | FT |
| 2 | PAOZZ | | 9320-01-149-8822 | "SHEET, RUBBER" | SH |
| 3 | PAOZZ | 76385 | 2X5579 | "SHIELD, WEATHER" | FT |
| 4 | PAOZZ | 18682 | "B-44-3, 1/2IN.ID" | "TUBING, TYGON" | FT |
| 5 | PAOZZ | 81348 | 4720-00-640-0329 | "TUBING, RUBBER: NATURAL 3000 PSI" "3/8 IN. ID., 1/4 IN. WALL" | FT |

By order of the Secretary of the Army:

CARL E. VUONO

*General, United States Army
Chief of Staff*

THOMAS F. SIKORA

*Brigadier General, United States Army
The Adjutant General*

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COA, 3d ENGINEER BN
FT. LEONARDWOOD, MA 03108
 DATE SENT

PUBLICATION NUMBER: **TM 10-6640-216-13&P**
 PUBLICATION DATE: **24 October 1990**
 PUBLICATION TITLE: **AIRMOBILE AVIATION FUEL LABORATORY**

| BE EXACT PIN-POINT WHERE IT IS | | | | IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT: |
|--------------------------------|------------------|------------|----------|--|
| PAGE NO | PARA-GRAPH | FIGURE NO | TABLE NO | |
| 6 | 2-1 a | | | In line 6 of paragraph 2-1a the manual states the engine has <u>6</u> Cylinders. The engine on my set only has <u>4</u> Cylinders. Change the manual to show <u>4</u> Cylinders. |
| B1 | | 4-3 | | Callout 16 on figure 4-3 is pointing at a <u>bolt</u>. In key to figure 4-3, item 16 is called a <u>shim</u> - Please correct one or the other. |
| 125 | line 20 | | | I ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN |

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
JOHN DOE, PFC (268) 317-7111

SIGN HERE **John DOE**
JOHN DOE

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OFFICIAL BUSINESS

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U S ARMY TROOP SUPPORT COMMAND
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4300 GOODFELLOW BOULEVARD
ST. LOUIS, MO 63120-1796

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| PUBLICATION NUMBER TM 10-6640-216-13&P | PUBLICATION DATE 24 October 1990 | PUBLICATION TITLE AIRMOBILE AVIATION FUEL LABORATORY |
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| BE EXACT PIN-POINT WHERE IT IS | | | | IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT: |
|--------------------------------|------------|-----------|----------|--|
| PAGE NO | PARA-GRAPH | FIGURE NO | TABLE NO | |
| | | | | |

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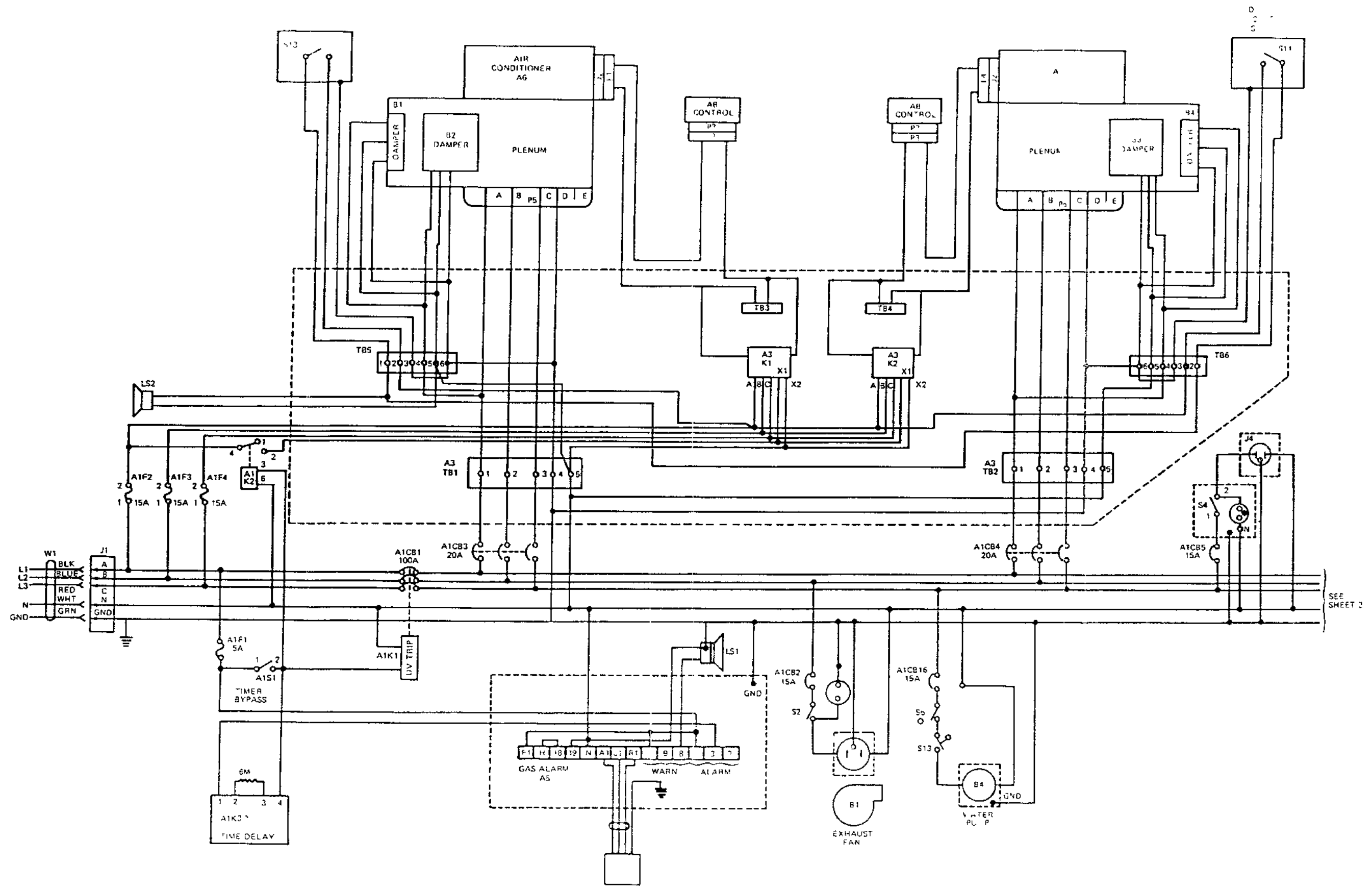
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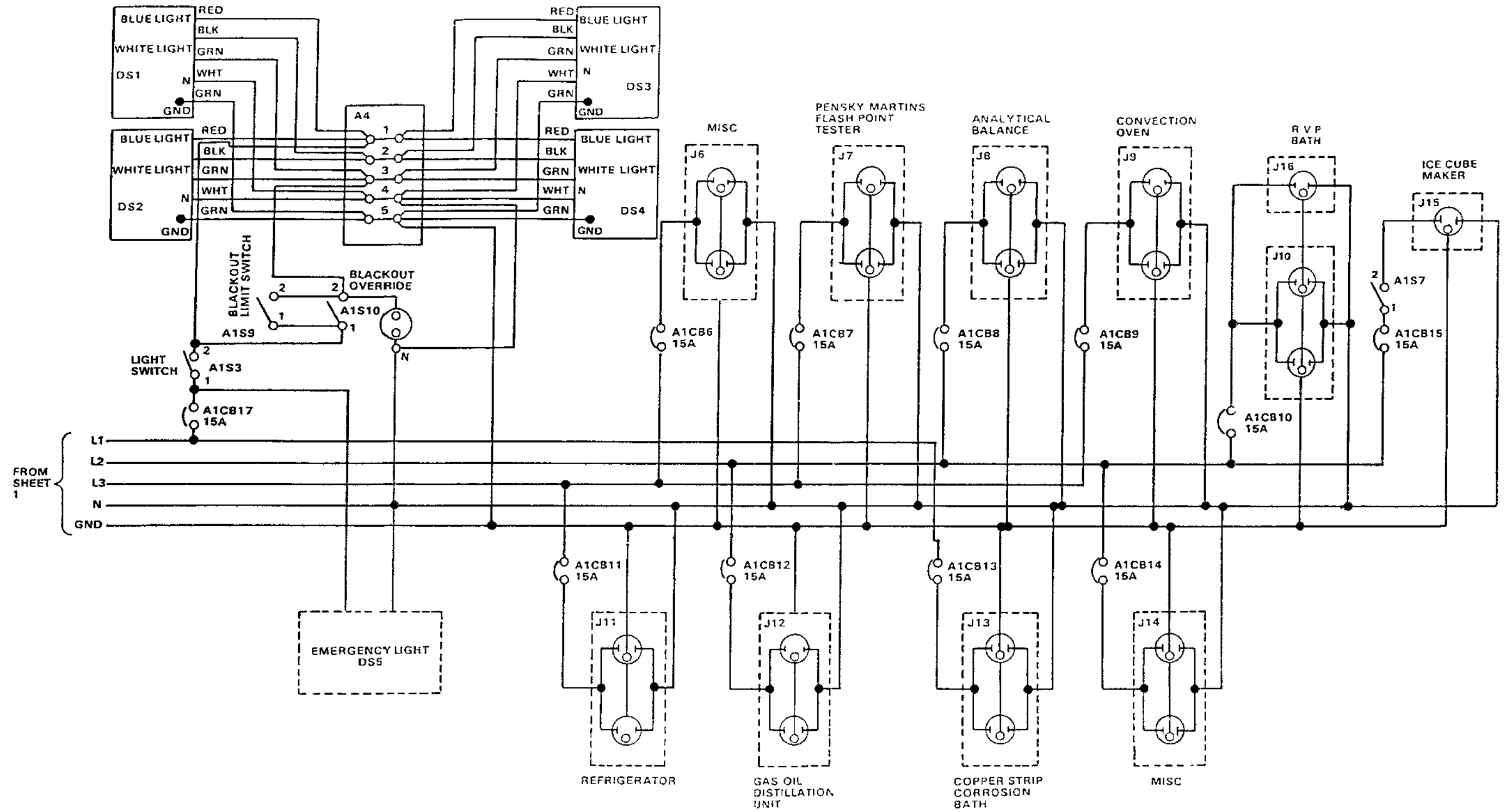
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TEAM ALONG PERFORATED LINE



FO-1. Laboratory Electrical Schematic (Sheet 1 of 2)



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

| To change | To | Multiply by | To change | To | Multiply by |
|---------------|--------------------|-------------|--------------------|---------------|-------------|
| 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 |
|----|------------------------|----------------------------|---------------------|----|

