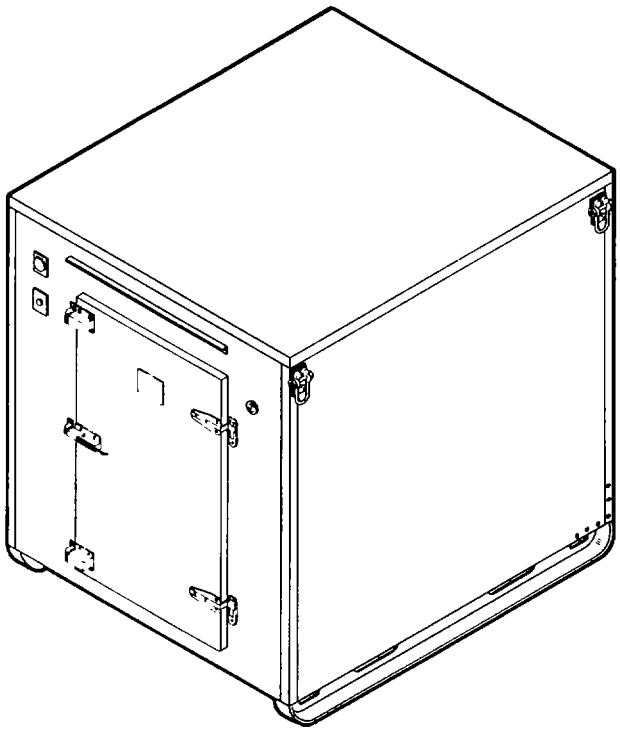
# OPERATOR'S, ORGANIZATIONAL AND DIRECT SUPPORT MAINTENANCE MANUAL WITH REPAIR PARTS AND SPECIAL TOOLS LIST



**REFRIGERATOR, MECHANICAL, FIELD, PORTABLE, WALK-IN, PLUG-IN (150 CUBIC FOOT), MDSI-150R (4110-01-143-0056)**

**HEADQUARTERS, DEPARTMENT OF THE ARMY**
**21 NOVEMBER 1983**

CHANGE

NO.5

HEADQUARTERS
DFPARTMENT OF THE ARMY
WASHINGTON, D. C., 26 MAY 1992

Operator's, Organizational, and Direct Support Maintenance Manual
With Repair Parts and Special Tools List
For

**REFRIGERATOR, MECHANICAL, FIELD, PORTABLE, WALK-IN, PLUG-IN, (150 CUBIC FOOT) MODELS MDSI-150R (4110-01-143-0056) AND AA-150-WPR (4110-01-269 3914)**

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TM 5-4110-240-13&P, 21 November 1983, is changed as follows:

1 Title is changed as shown above.

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| Remove pages | Insert pages |
|---|---|
| i and ii | i and ii |
| 4-39 through 4-41/(4 12 Blank) | 4-39 through 4-11 /(4 12 Blank) |
| B-5 and B-6 | B-5 and B-6 |
| ---------- | (C-12.1 Blank)/C-12.2 |
| ---------- | C-12.3/(C-12.4 Blank) |
| C-13 and C-14 | C-13 and C-14 |

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GORDON R.SULLIVAN
*Official: General, United States Army*
*Chief of Staff*

Official

MILTON H.HAMILTON
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NO 4

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Operator's, Organizational and
Direct Support Maintenance Manual
With Repair Parts and Special Tools List

**REFRIGERATOR, MECHANICAL, FIELD PORTABLE**
**WALK-IN, PLUG-IN (150 CUBIC FOOT),**
**MDSI-150R (4110-01-143-0056)**

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CHANGE

NO.3

HEADQUARTERS
DFPARTMENT OF THE ARMY
WASHINGTON, D. C., 30 SEPTEMBER 1988

Operator's, Organizational and
Direct Support Maintenance Manual
With Repair Parts and Special Tools List

REFRIGERATOR, MECHANICAL, FIELD PORTABLE,
WALK-IN, PLUG-IN (150 CUBIC FOOT),
MDSI-150R (4110-01-143-0056)

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NO.2

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DFPARTMENT OF THE ARMY
WASHINGTON, D. C., 22 JUNE 1988

Operator's, Organizational, and
Direct Support Maintenance Manual
With Repair Parts and Special Tools List

**REFRIGERATOR, MECHANICAL, FIELD PORTABLE,**
**WALK-IN, PLUG-IN (150 CUBIC FOOT),**
**MODELS MDSI-150OR AND REF 150**
**(4110-01-143-0056)**

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| Remove pages | Insert pages |
|---|---|
| i and ii | i and ii |
| 1-1 and 1-2 | 1-1 and 1-2 |
| 2-i and 2-2 | 2-1 and 2-2 |
| 2-9 through 2-12 | 2-9 through 2-12 |
| 3-3 and'3-4 | 3-3 and 3-4 |
| 3-9 through 3-12 | 3-9 through 3-12 |
| 4-7 and 4-8 | 4-7 and 4-8 |
| 4-19 through 4-22 | 4-19 through 4-22 |
| 4-27 and 4-28 | 4-27 and 4-28 |
| 4-31 through 4-34 | 4-31 through 4-34 |
| B-5 and B-6 | B-5 and B-6 |
| Index-1 and Index-2 | Index-I and Index-2 |

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CHANGE

NO.1

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WASHINGTON, D. C., 20 JANUARY 1988

TM 5-4110-240-13&P

Operator's, Organizational, and
Direct Support Maintenance Manual
With Repair Parts and Special Tools List

**REFRIGERATOR, MECHANICAL, FIELD PORTABLE,**
**WALK-IN, PLUG-IN (150 CUBIC FOOT),.**
**MDSI-150R**
**(4110-01-143-0056)**

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|---|---|
| i and ii | i and ii |
| 1-1 and 1-2 | 1-1 and 1-2 |
| A-1/A-2 | A-1/A-2 |
| C-5 and C-6 | C-5 and C-6 |
| C-13/C-14 | C-13/C-14 |

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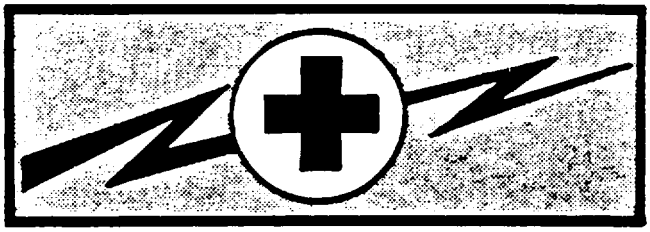
**WARNING**



**WARNING**

**HIGH VOLTAGE**
is used in the operation of this equipment

**DEATH ON CONTACT**

may result if personnel fail to observe safety precautions.

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it.

]Be careful not to contact high-voltage connections of 11 5 V ac input connections when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body.

**WARNING: Do not be misled by the term "low voltage". Potentials as low as 50 volts may cause death under adverse conditions.**

**For Artificial Respiration, refer to FM 21-1 1.**

TECHNICAL MANUAL

5-4110-240-13&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 21 November 1983

Operator's, Organizational, and Direct Support Maintenance Manual
With Repair Parts and Special Tools List

**For**
**REFRIGERATOR, MECHANICAL, FIELD, PORTABLE, WALK-IN, PLUG-IN, (150 CUBIC FOOT) MODELS MDSI-150R (4110-01-143-0056) AND AA-150-WPR (4110-01-269-3914)**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Troop Support Command, ATTN: AMSTR-MMTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

Approved for public release; distribution is unlimited

**TABLE OF CONTENTS**

**TABLE OF CONTENTS (Continued)**

# CHAPTER 1

# INTRODUCTION



## Section I. GENERAL INFORMATION

### 1-1. SCOPE.

**TYPE OF MANUAL:**

Operator's, Organizational, and Direct Support Maintenance Manual with Repair Parts and Special Tools List

**MODEL NUMBER AND EQUIPMENT NAME:**

Refrigerator, Mechanical, Field, Portable, Walk-In, Plug-In (150 Cubic Foot) Models, MDSI- 150R and REF 150

**PURPOSE OF EQUIPMENT**:

This unit is ;a field refrigerator box supplied without refrigeration equipment. Mechanical refrigeration equipment can be installed to provide cold storage for perishable items

### 1-2. MAINTENANCE FORMS AND RECORDS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS).

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

Refer to TM 750-244-3 for procedures covering the destruction of Army materiel to prevent enemy use.

### 1-4. HAND RECEIPT MANUAL.

This manual has a companion document with a TM number followed by "-HR" (which stands for Hand Receipt). The TM 5-4110-240-13&P-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (i.e., COEI, Bll, and AAL) you must account for. As an aid to property accountability, additional -HR manuals may be requisitioned from the following source in accordance with the procedures in Chapter 3, AR310-2:

The US Army Adjutant General Publications Center
ATTN: AGLD-OD
2800 Eastern Boulevard
Baltimore, MD 21220-2896

### 1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR's).

If your refrigerator 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 (Quality Deficiency Report). Mail it to us at: Commander, US Army Troop Support Command, Al I N: AMSTR-QX, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. We'll send you a reply.

## Section II. EQUIPMENT DESCRIPTION AND DATA

### 1-6. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

**CHARACTERISTICS**:

The unit is a field refrigerator box supplied without refrigeration equipment. The box Is a secure, insulated, 1 50 cubic foot container into which mechanical refrigeration equipment can be installed. The unit is skid-mounted and equipped with lifting loops.

**CAPABILITIES AND FEATURES**:

The refrigerator is provided with an external power receptacle, inside light and switch, and an outside pilot light. An outside-mounted dial thermometer which displays the Inside temperature is also supplied. The hinged refrigerator door is equipped with two-point latches, top and bottom, and a safety latch handle. A padlock and chain are provided for securing the latch handle. The pilot light indicates when the inside light is on.

### 1-7. EQUIPMENT DATA.

| | |
|---|---|
| Weight | 800 pounds |
| Length | 88 inches |
| Width | 78 inches |
| Height | 78 inches |
| Capacity (Volume) | 1 50 cubic feet |
| Electrical Requirements | 1 25 V ac, 50/60 Hz (interior vapor proof light and exterior pilot light). |

## Section III. TECHNICAL PRINCIPLES OF OPERATION

**1-8.** The walls, floor, and ceiling of the box are aluminum-framed, filled with densely-packed insulating foam, and covered with sheet metal This provides an insulating barrier which helps maintain temperatures inside the box.

A dial thermometer, mounted outside the box, displays the inside temperature.

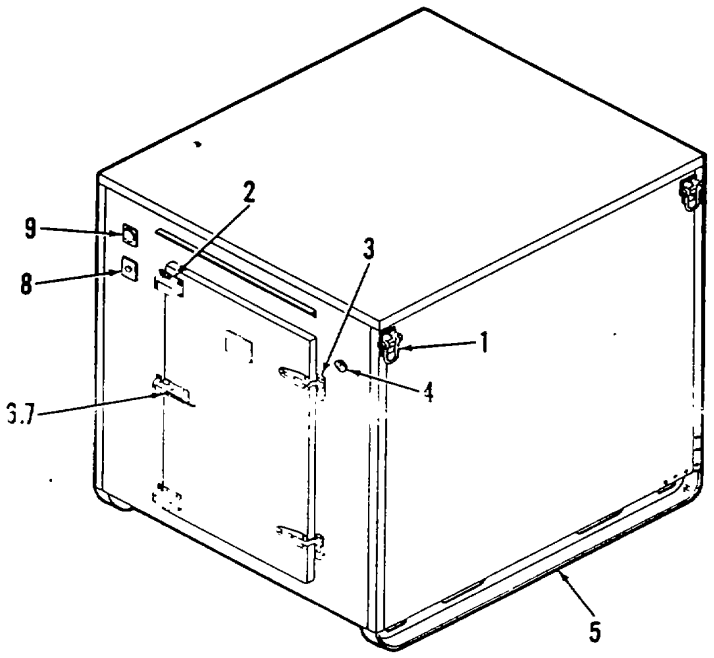
The external power receptacle, mounted outside the box, is connected to a toggle switch, vapor. proof light, and pilot light. The toggle switch is mounted inside the box and controls the inside vapor proof light. The pilot light is outside the box and indicates when the inside vapor proof light is on. This circuit requires a 1 25 V ac Input to power the lights.

## CHAPTER 2
## OPERATING INSTRUCTIONS

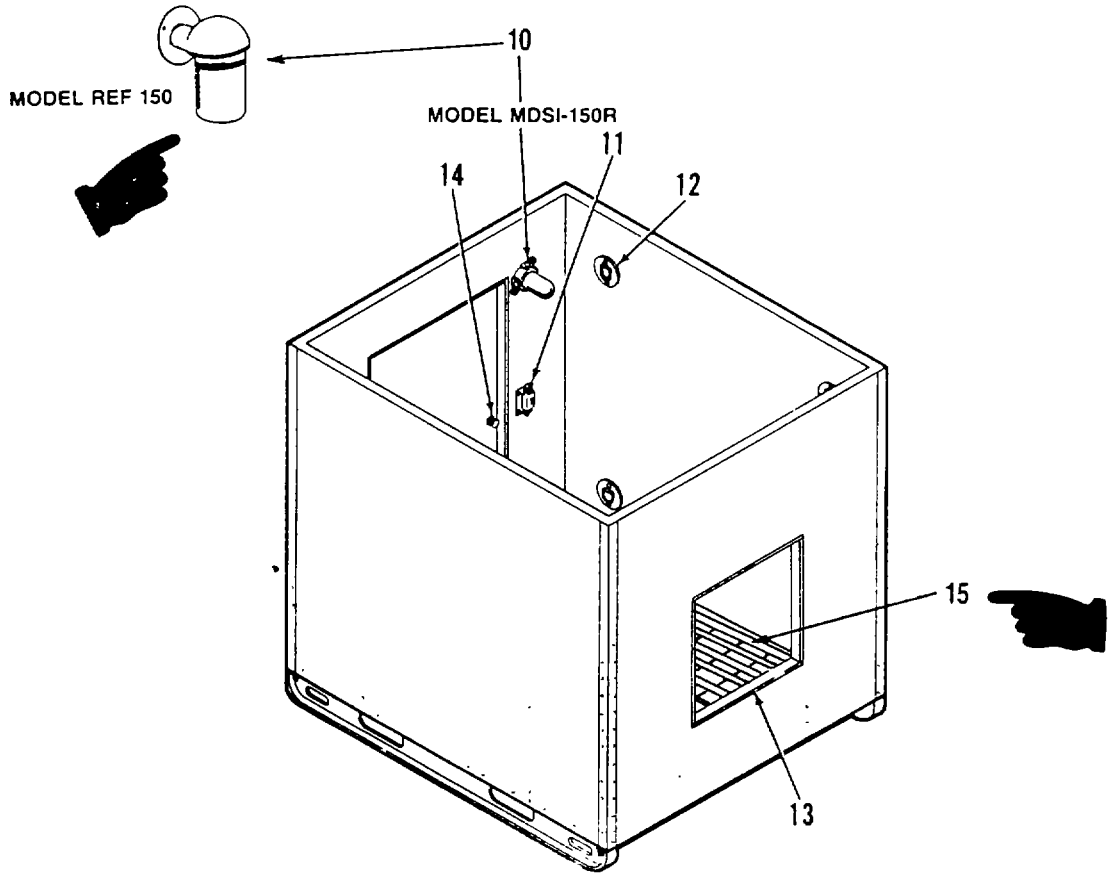


### Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INSTRUMENTS

**2-1. CONTROLS AND INDICATORS.**




| KEY | CONTROL OR INDICATOR | FUNCTION |
|---|---|---|
| 1 - | Lifting Loop | Provides lifting point for use with a hoist, crane, or helicopter. |
| 2 | Two Point Latch | Helps retain door in closed position. |
| 3 | Hinge | Mounts door to box and allows opening and closing of the door. |
| 4 | Dial thermometer | Displays inside temperature. |
| 5 | | Skid Base Provides stable base for moving unit with a forklift. |
| 6 | Safety Latch | Provides outside handle for opening and closing door, latches to secure door in closed position. Supplied with push rod used to open door from inside. |
| 7 | Padlock and Chain | Provides means of positively locking box to prevent theft. |
| 8 | Pilot Light | Lights to indicate when inside vapor proof light is on. |
| 9 | Power Receptacle | Used to connect 1 25 V ac input to inside vapor proof and outside pilot lights. |




| KEY | CONTROL OR INDICATOR | FUNCTION |
|---|---|---|
| 10 | Vapor Proof Light | Provides interior lighting. |
| 11 | Toggle Switch | Controls vapor proof light and pilot light. |
| 12 | | Cargo Ring Provides tie-down points for securing cargo. |
| 13 | Closure Plug | Closes opening in rear of box. This is removed when mechanical refrigeration equipment is added to the refrigerator box. |
| 14 | Safety Latch Push rod | Provides means of unlatching door from the inside. |
| 15 | Floor Grate | Provides ventilation underneath contents. |

## Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

### 2-2. GENERAL.

- Before you operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your before (B) PMCS.
- While you operate. Always keep in mind the CAUTIONS and WARNINGS. Perform your during (D) PMCS.
- Each week. Be sure to perform your weekly (W) PMCS.
- Once a month. Be sure to perform your monthly (M) PMCS.
- If your equipment fails to operate. Troubleshoot with proper equipment. Report any deficiencies using the proper forms. See TM 38-750.
- Why perform PMCS? PMCS check procedures are to see that the unit is working properly. PMCS service procedures are to help keep the unit working properly.
- When to perform PMCS? PMCS procedures shall be performed at the times indicated in the INTERVAL column of the PMCS table. The PMCS intervals are before operation (B), during operation (D), weekly (W), and monthly (M). The item numbers indicate the sequence of
- procedures to be performed.
- Equipment is Not Ready/Available If. Guidelines which identify the refrigerator as "not ready/available" for use appear in the EQUIPMENT IS NOT READY/AVAILABLE IF column of the table. If the refrigerator is identified as not ready for use, the problem must be corrected before the unit can be used.
- Reporting Deficiencies. Report any deficiencies found during PMCS. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System (TAMMS).

### 2-3. PREVENTIVE MAINTENANCE CHECKS AND SERVICES TABLE.

**NOTE**

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

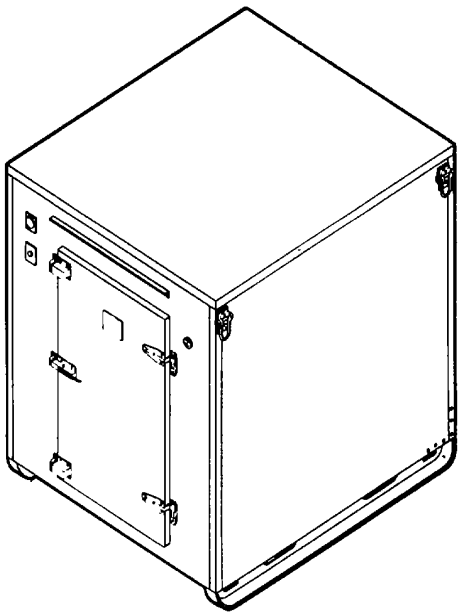
Perform weekly (W) as well as before operation (B)

PMCS if:

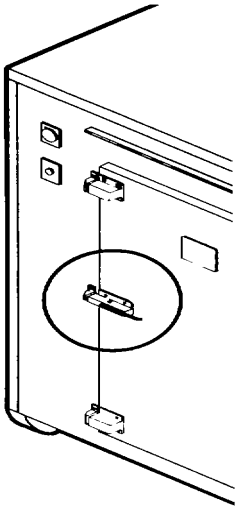
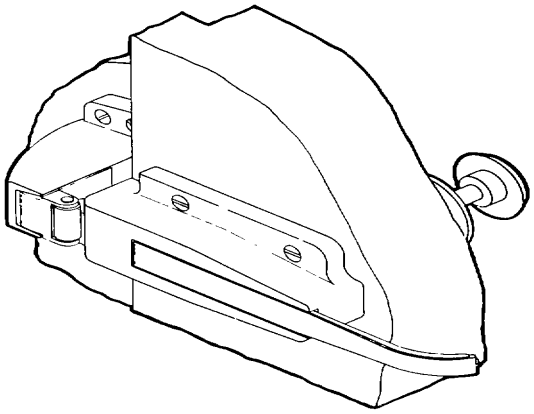
- You are the assigned operator and have not operated the item since the last weekly PMCS.
- You are operating the item for the first time.

Item numbers which appear on this table are to be used in the "TM Number" column on DA Form 2404, Equipment Inspection and Maintenance Workshop, in recording the results of PMCS.

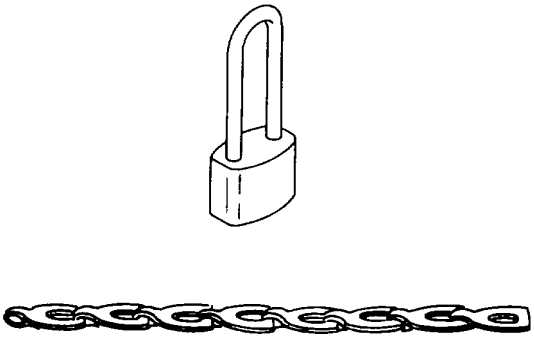
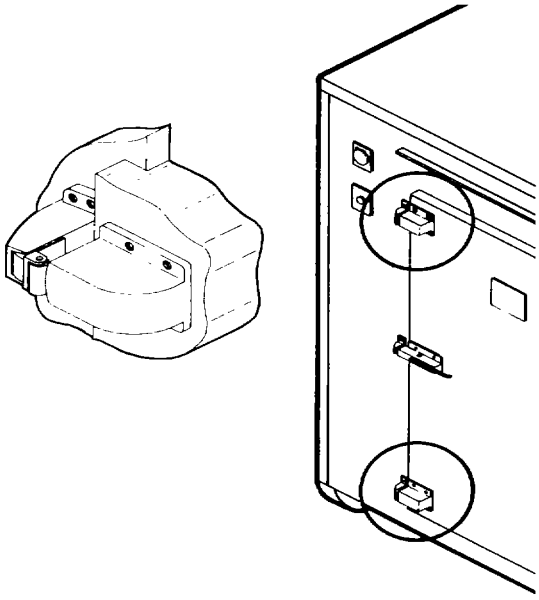
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 1 | • | · | | | Refrigerator Box and Door Assembly Visually inspect refrigerator box and door assembly for cracking or visible holes.  | Any holes or cracks through unit are visible. |
| 2· | | | | • | Refrigerator Box and Door Assembly. Wash interior with baking soda and water. Wash and dry thoroughly. | |
| 3· | • | | | | Door Assembly. Check for proper mounting. Door must open and close easily, and all three latches shall close with their strikes. | Door fails to open properly. |

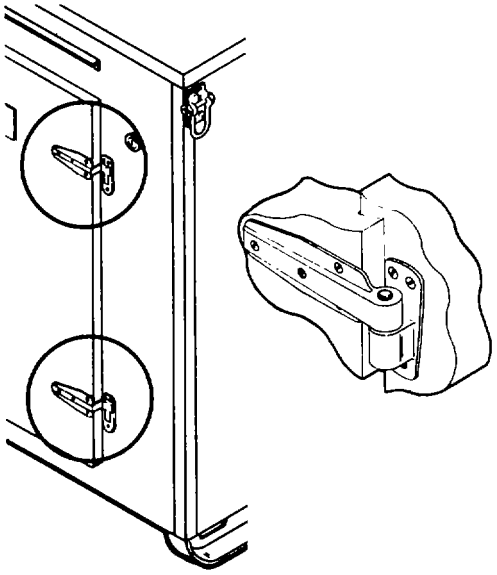
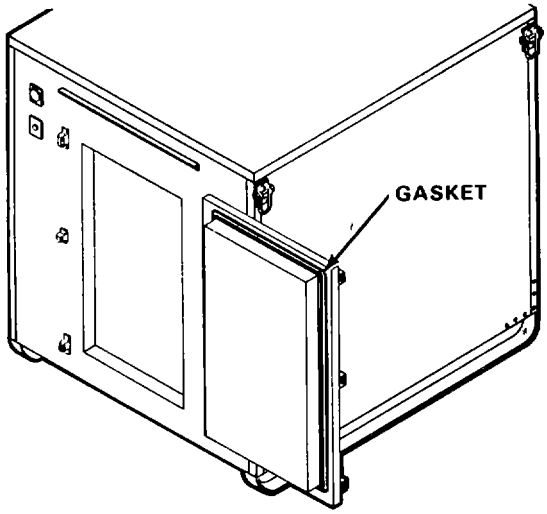
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 4 | • | | | | Safety Latch. Check for cracks, breaks, excessive wear, and loose or missing hardware. Operate push rod to ensure it opens latch<br>  <br>  <br>CUT-AWAY | Latch is damaged, mounting hardware is loose or missing, or push rod fails to open latch. |
| 5 | | | | • | Safety Latch. Lubricate with low viscosity SAE oil once a month. | Latch sticks. |

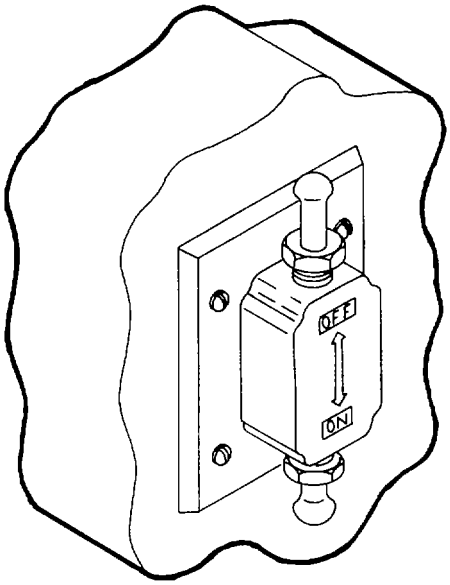
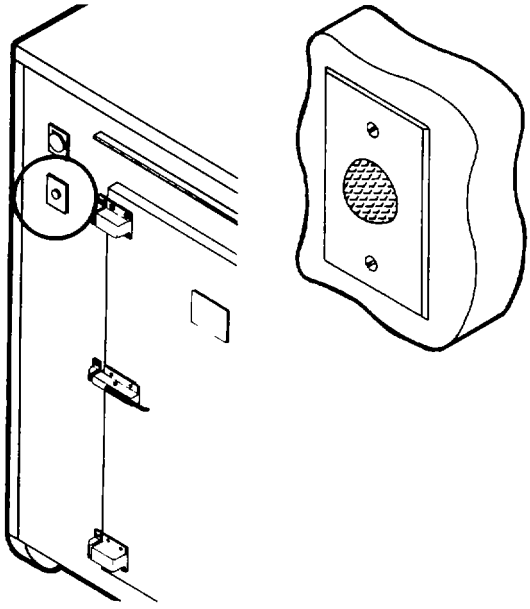
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 6 | • | | | | Padlock and Chain. Inspect padlock for cracks, breaks, and operability. Check chain for distorted or damaged links Undamaged portion of chain must be long enough to secure door.  | Padlock is inoperable or undamaged portion of chain is too short. |
| 7 | | | | • | Two Point Latches. Inspect for cracks, breaks, excessive wear, and loose or missing hardware  | Latch is damaged or mounting hardware is loose or missing. |
| 8 | | | | • | Two Point Latches. Lubricate with low viscosity SAE-oil once a month. | Latches stick. |

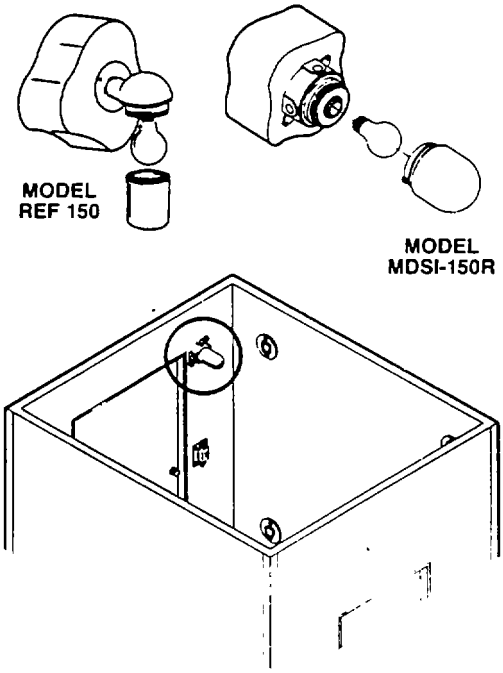
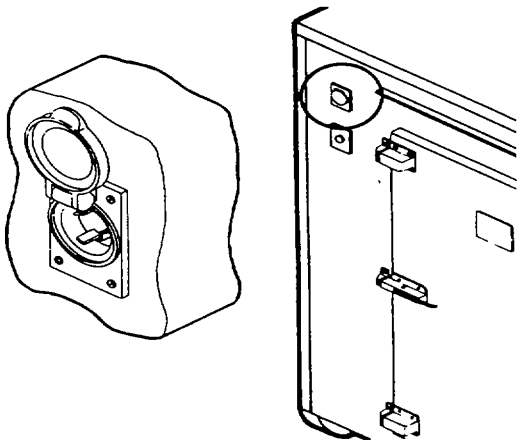
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 9 | • | | | · | Hinge. Check for cracks, breaks, excessive wear, and loose or missing hardware. Open and close door to be sure hinge works.  | Hinge is damaged, insecurely mounted, or does not work. |
| 10 | | | | • | Hinges. Lubricate with low viscosity SAE oil once a month. | Hinges- stick. |
| 11 | | | | • | Door Gasket. With inside vapor proof light switched on, close door. There shall be no light visible around door. Visually check gasket for tears, loose mounting, wear, or aging.   | Gasket is worn or damaged. |

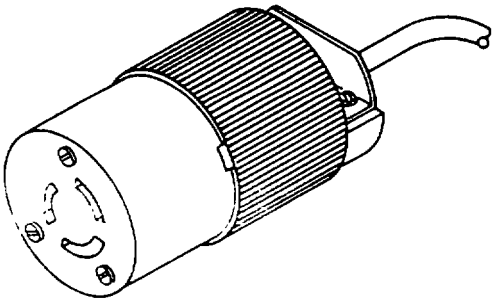
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 12 | • | | | · | Switch Cover. Check for cracks or breaks. Set switch cover to ON and to OFF to make sure it's working   | Switch cover is damaged or doesn't trip switch. |
| 13 · | • | | | | Pilot Light Cover. Check for cracks, breaks, and loose or missing hardware  | Pilot light cover is damaged. |

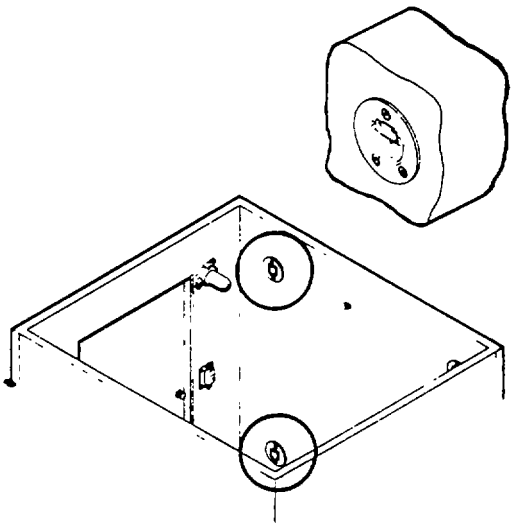
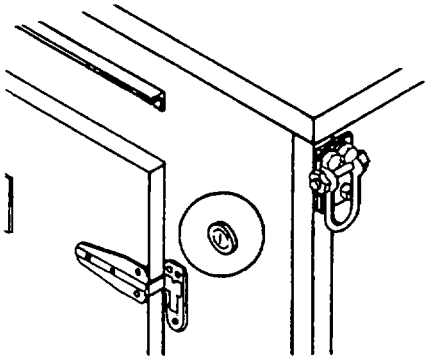
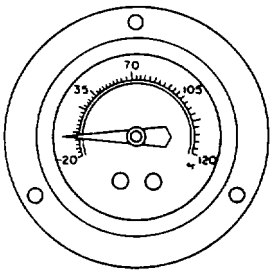
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 14 | • | | | | Vapor Proof Light and Bulb. Check for cracks, breaks, and loose or missing hardware.   | Vapor proof light fixture or globe are damaged. |
| 15 | | | • | | Vapor Proof Light Bulb. Unscrew globe to expose bulb. Inspect bulb for serviceability. | Vapor proof light bulb is unusable. |
| 16 | • | | | | Power Receptacle. Check for cracks, damaged pins or cover, and loose or missing hardware.  | Power receptacle is damaged. |

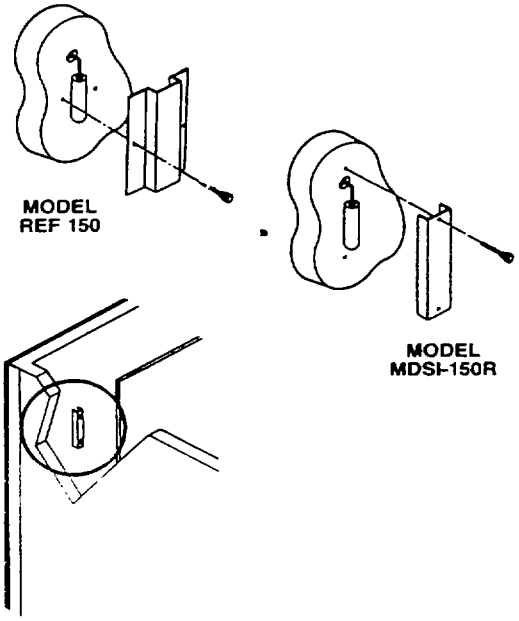
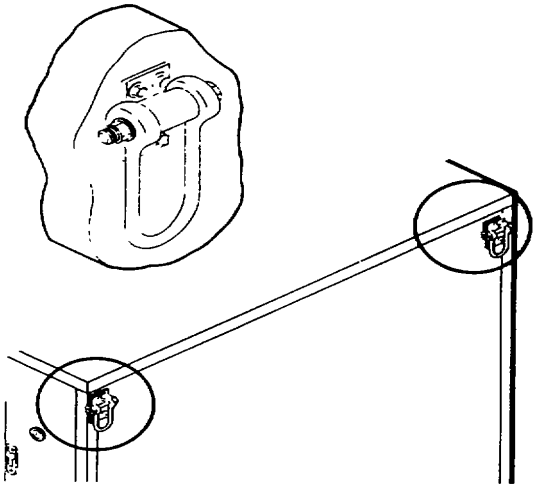
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 17 | • | | | | Plug, Twist Lock damaged.<br><br>**WARNING**<br>This plug is used to connect 1 25 V ac to the refrigerator. Disconnect the wire from the power source or shut off power at switch before inspecting this plug.<br><br>Check plug for cracks, breaks, and loose or missing hardware.<br><br>  | Twist lock plug is |
| 18 | | | • | | Triple Seal Cover. Visually inspect for cracks, scorching, or signs of excessive wear. | Cover is damaged. |

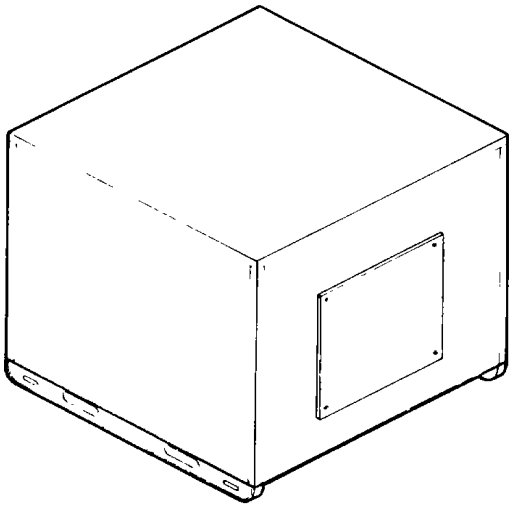
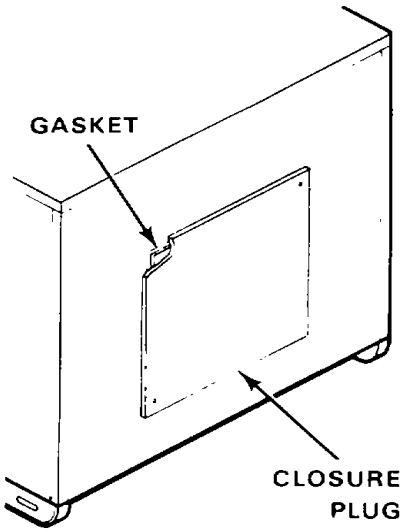
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 19 | | | • | | Cargo Rings. Check for cracks or breaks, loose or missing hardware, and security of mounting.  | Cargo rings are damaged or missing. |
| 20 | • | | | | Dial thermometer. Check for cracked or broken face  | Dial thermometer :faces damaged. |
| 21 | | • | | • | Dial thermometer. Check that reading is within range specified by your supervisor   | Dial thermometer reading is outside proper operating range. |

**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

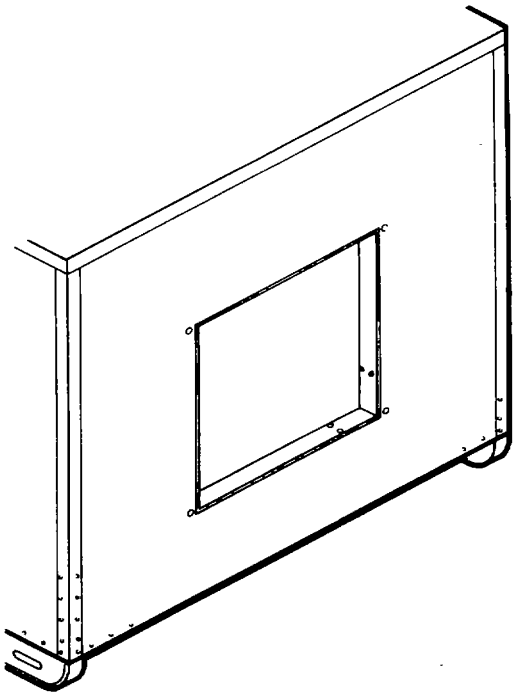
| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 22 | | | • | | Capillary and Bulb Cover. Check for cracks and loose or missing hardware Remove screws to remove cover and visually inspect capillary for breaks or cracking.   | Capillary is cracked or broken; bulb cover is insecurely mounted. |
| 23 | | | • | | Lifting Loop. Inspect for cracks, breaks, loose or missing hardware, and secure mounting.  | Lifting loop is damaged or improperly mounted. |

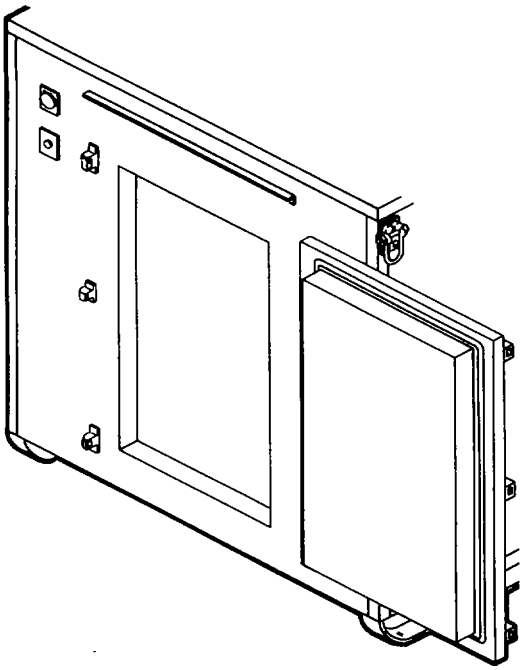
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 24 | | | • | | Closure Plug Assembly. Check for cracks, breaks, loose or missing hardware, and loose mounting.<br><br>**NOTE**<br><br>Closure plug may be removed when mechanical refrigeration is installed.<br><br>  | Closure plug is damaged or loose. |
| 25 | | | | • | Gasket. Check gasket for wear or damage<br><br>  | Gasket is worn or damaged. |

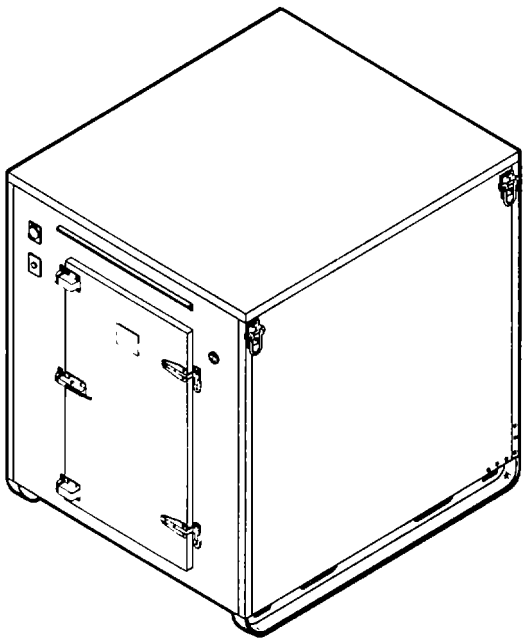
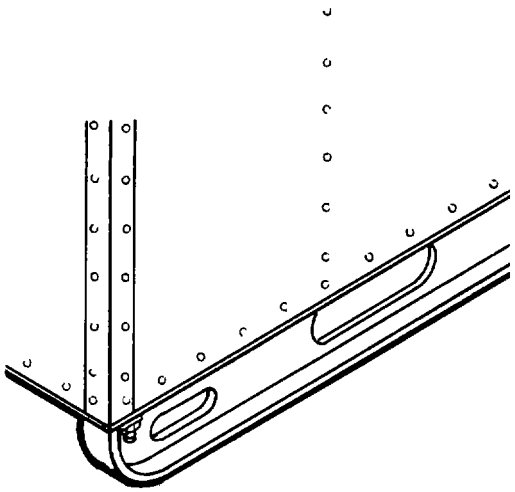
**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 26 | | | • | | Exterior Trim<br>exterior trim for damage or loose mounting | Check all Exterior trim is damaged or improperly mounted. |





**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT WILL BE REPORTED NOT READY IF: |
|---|---|---|---|---|---|---|
| 27 | | | • | | 150 Cubic Foot Box Inspect the box itself for damage such as holes in the skin, roof, or floor Check for loose hardware.   | Box is damaged. |

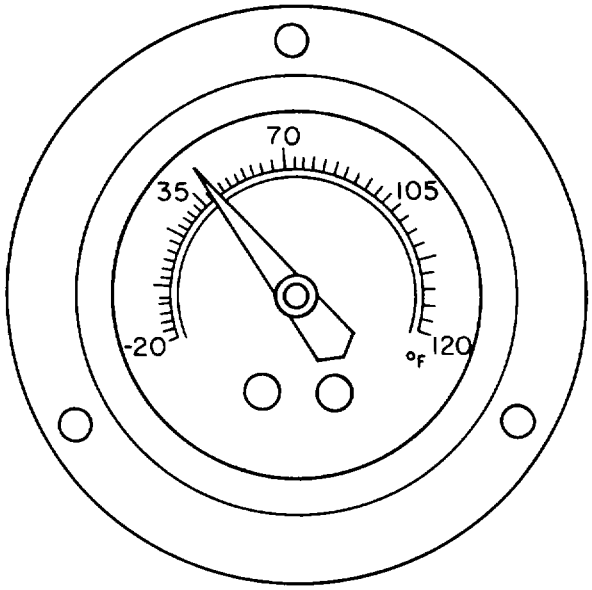
## Section III. OPERATION UNDER USUAL CONDITIONS

**2-4.** In normal operation, mechanical refrigeration equipment will be used with this refrigerator. After v installation, refer to the technical manual covering the cooling unit used in your refrigerator and operate the unit as instructed.

**NOTE**

Be sure door is closed securely when not in use to prevent heat from entering refrigerator.

Observe the dial thermometer regularly to be sure the temperature range established by your supervisor is maintained.




## Section IV. OPERATION UNDER UNUSUAL CONDITIONS

**2-5. OPERATION UNDER RAINY OR HUMID CONDITIONS**. If the refrigerator is installed outdoors, protect the hinges and latches by coating them with a waterproof substance, such as grease (MIL-G-23549C) or heavy oil (MIL-C-40084B or MIL-C-22235A(2)) to prevent rust or corrosion. Use canvas or other waterproof material to protect the unit as much as possible in order to reduce the rusting and corrosion action.

**2-6. OPERATION IN SALT-WATER AREAS.**

A. Wash the outside of the refrigerator with clean, fresh water, every other day if possible.

B. Coat exposed surfaces with rust proofing compound (MIL-C-23050).

C. Remove any rust or corrosion immediately, apply rust arresting coating (MIL-R-10036D) and repaint area.

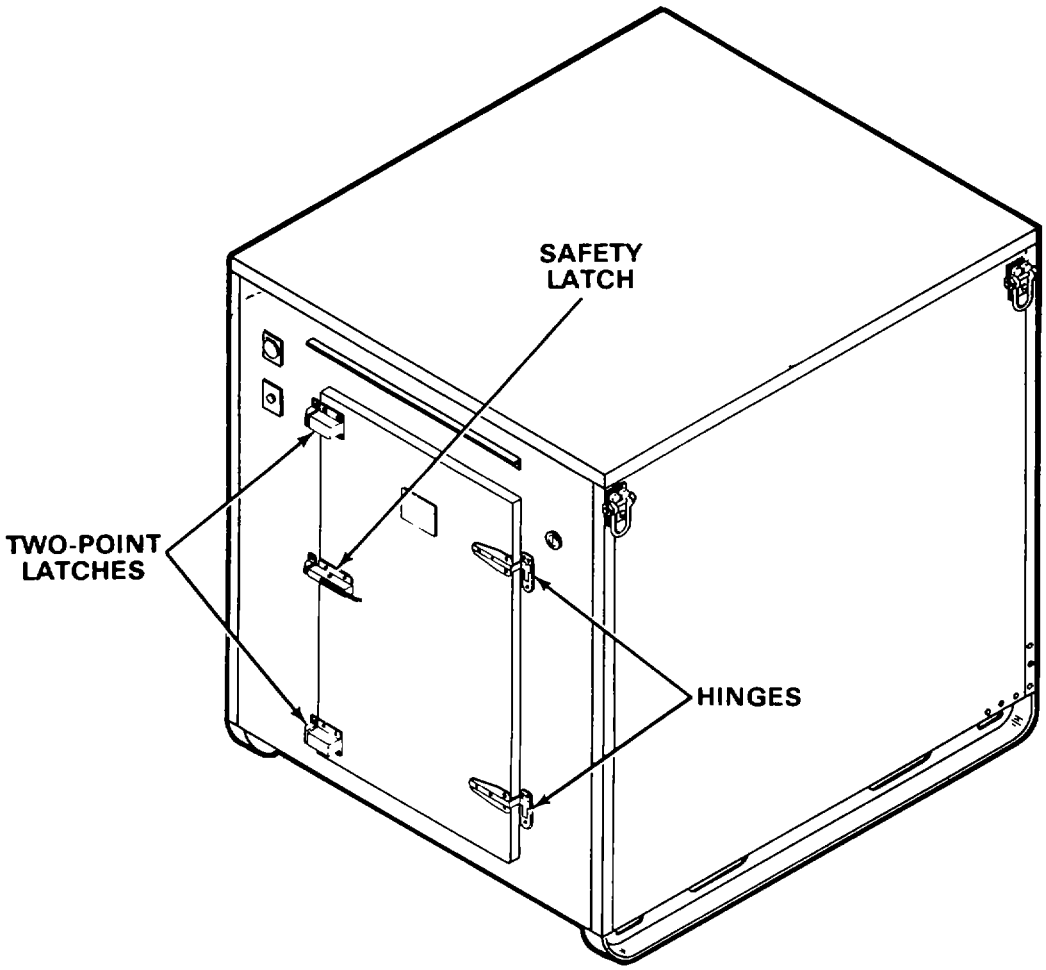
# CHAPTER 3
# OPERATOR'S MAINTENANCE INSTRUCTIONS'



## Section I. LUBRICATION INSTRUCTIONS

**3-1.** The door hinges and latches are the only parts of the refrigerator which require lubrication. Use a low viscosity SAE oil on these parts once a month.

**LUBE IT**




**NOTE: THESE LUBRICATION INSTRUCTIONS ARE MANDATORY.**

## Section II. TROUBLESHOOTING

**3-2.** The table lists the common malfunctions which you may find during the operation or " A maintenance of the refrigerator or its components. You should perform the tests/inspections and corrective actions in the order listed.

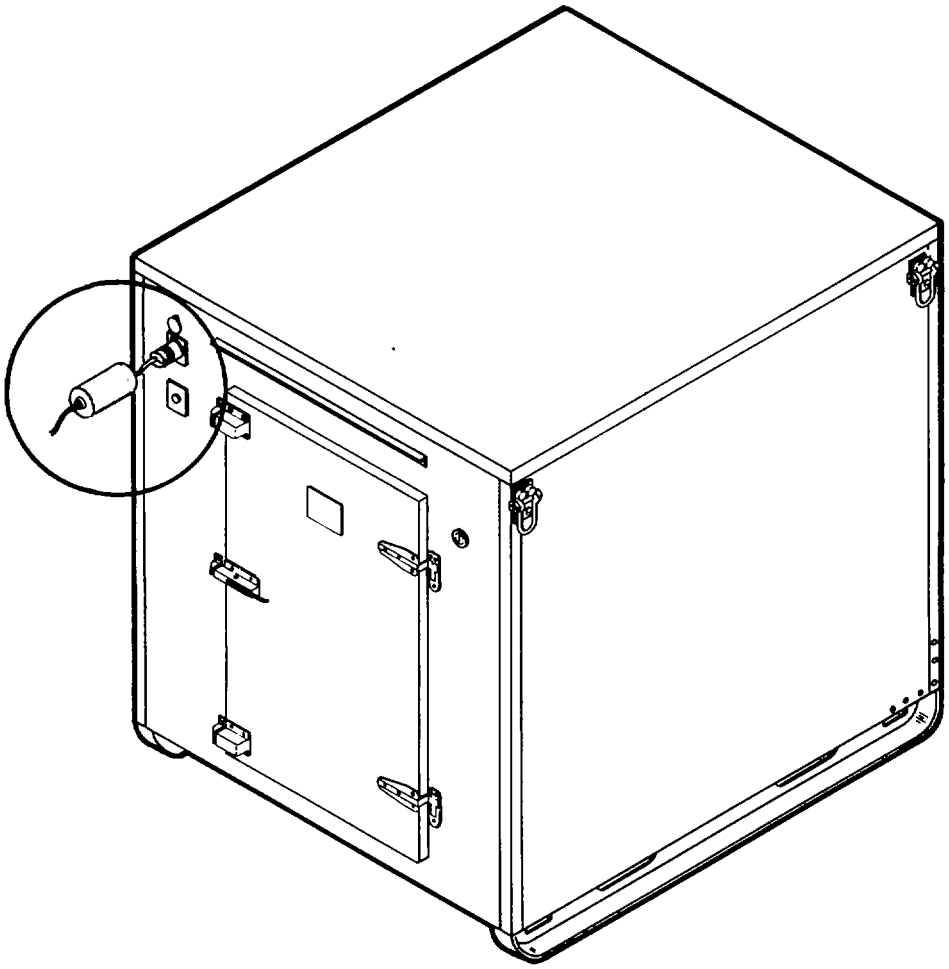
**3-3.** This manual cannot list all malfunctions that may occur, n6r all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify your - J supervisor. Only those checks and corrective actions which are authorized for the operator are included.

*Table 3-1. Troubleshooting*

| MALFUNCTION<br>TEST OR INSPECTION<br>CORRECTIVE ACTION |
|---|

**1. PILOT LIGHT FAILS TO LIGHTWHEN SWITCH INSIDE REFRIGERATOR IS SETTO OFF.**

*Step 1.* Visually check that power cord is connected to power receptacle.



If power cord is not connected, report this to your supervisor.

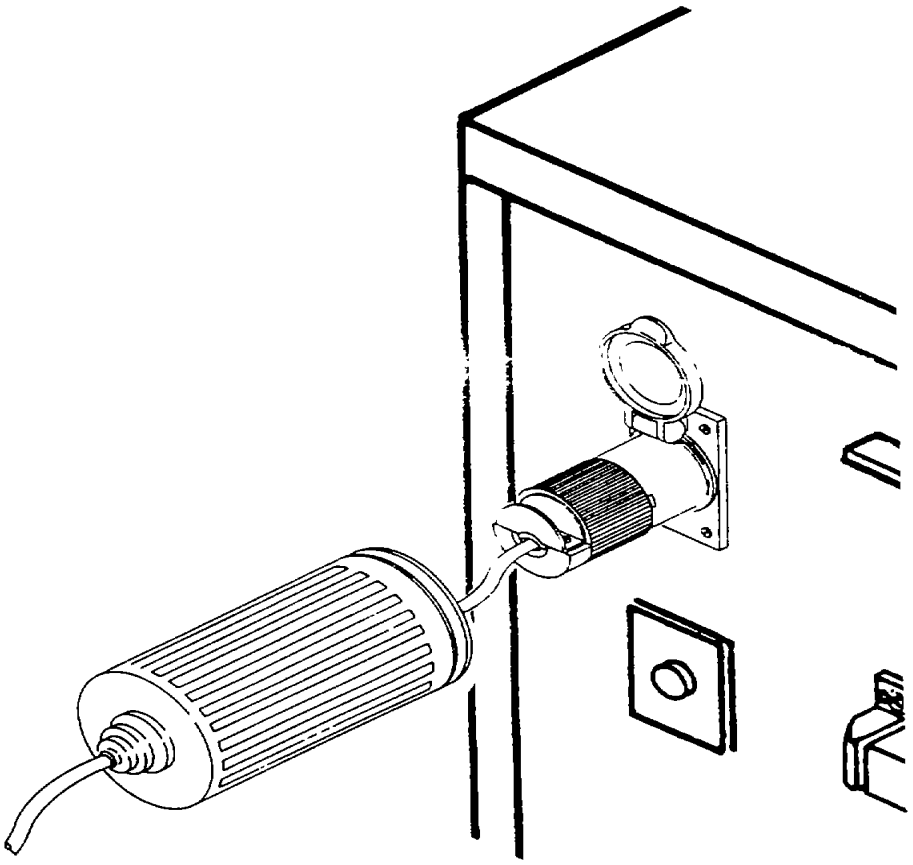
*Step 2.* Refer to Organizational Maintenance.

*Table 3-1. Troubleshooting (Continued)*

| MALFUNCTION<br>TEST OR INSPECTION<br>CORRECTIVE ACTION |
|---|

**2. VAPOR PROOF LIGHT FAILS TO LIGHT WHEN SWITCH INSIDE REFRIGERATOR IS SET**TO ON.

*Step 1.* Visually check that power cord is connected to power receptacle.



If power cord is not connected, report this to your supervisor.

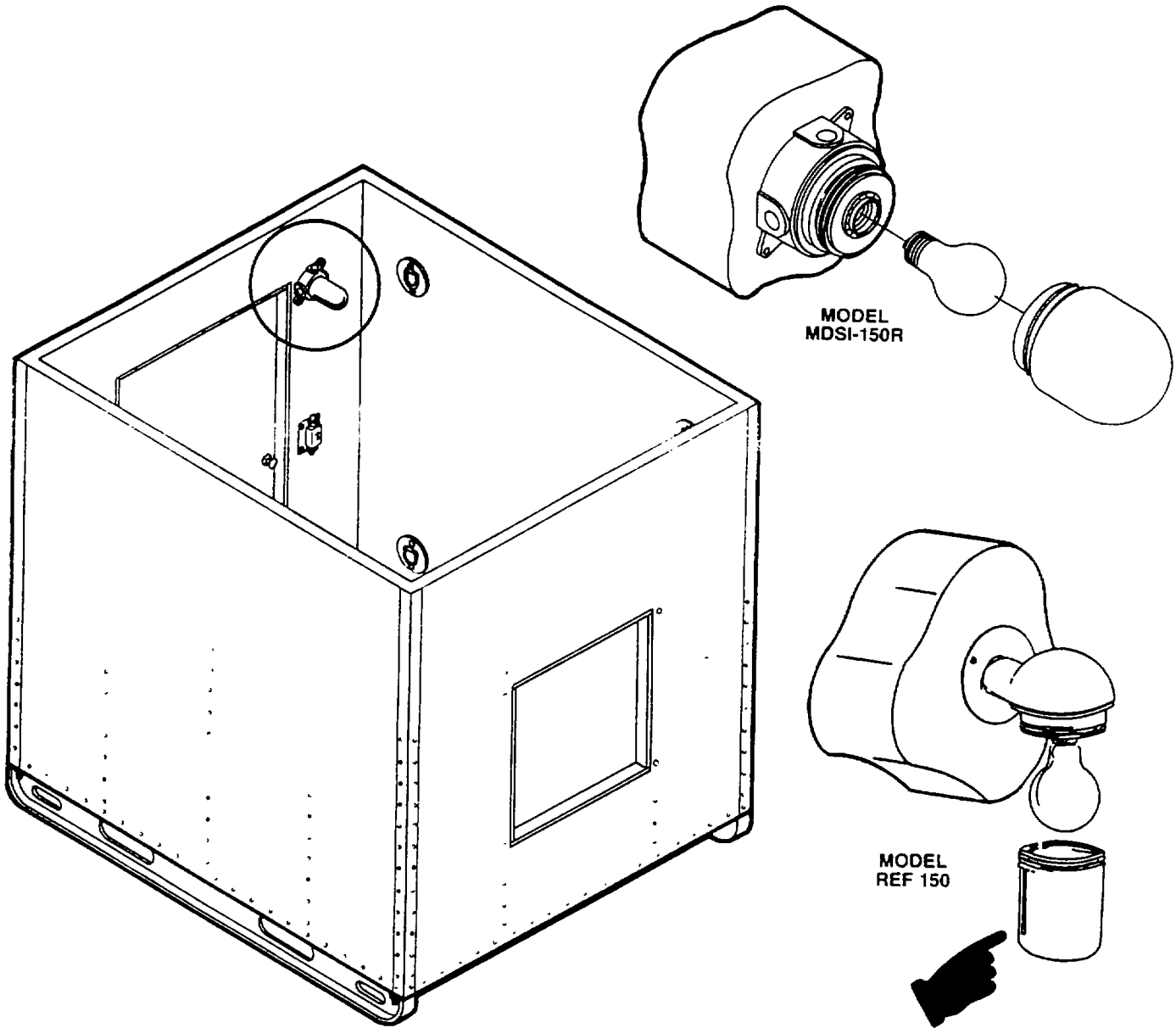
*Table 3-1. Troubleshooting (Continued)*

| MALFUNCTION<br>TEST OR INSPECTION<br>CORRECTIVE ACTION |
|---|

**WARNING**

Set switch to OFF before starting this procedure.

*Step 2* Remove vapor proof light globe and visually inspect bulb.



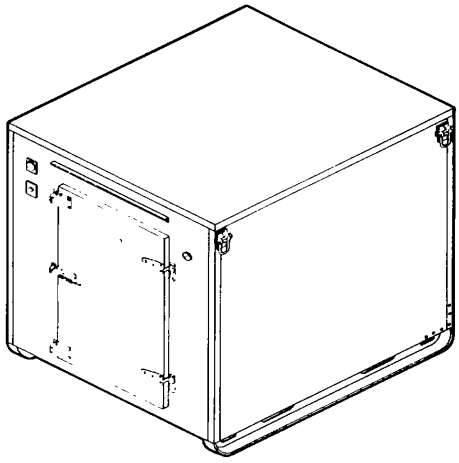

If bulb is burned out, remove and replace bulb. Remount vapor proof globe.
If bulb is not burned out, refer problem to next higher level of maintenance.

## Section III. OPERATOR MAINTENANCE PROCEDURES

**3-4**. The instructions and procedures in this section are for the information and guidance of the operator in maintaining the refrigerator. Only those actions which are to be performed by the operator are listed.

### 3-5. REFRIGERATOR.

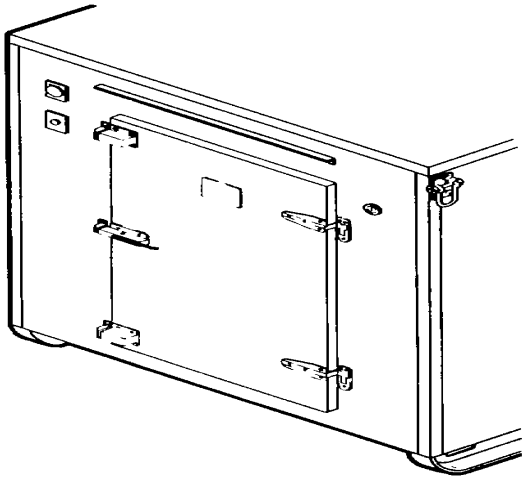
**A. Inspection.** Visually inspect the inside and the outside of the refrigerator for cracking or visible holes.



**B. Service**. Using a sponge and a solution of baking soda and water, wash the inside walls of the refrigerator. Use a mop to wash floor and ceiling. Rinse and dry thoroughly.

### 3-6. REFRIGERATOR DOOR ASSEMBLY.

Check door for proper mounting.
It should open and close easily.

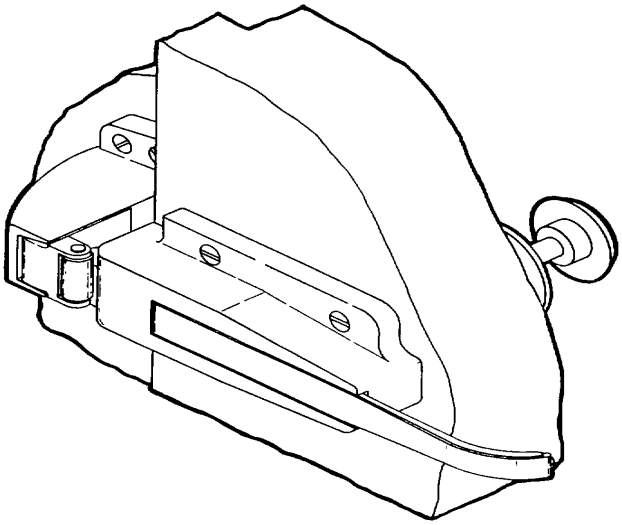


Inspect door for cracks or holes.

All three latches should close with their strikes.

## 3-7. SAFETY LATCH.

### A. Inspection.



Operate push rod to ensure it opens latch.

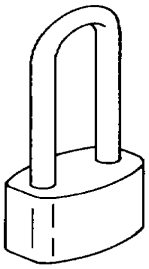
Check for cracks, breaks, excessive wear, and loose or missing hardware.

### B. Service.

Lubricate safety latch with low viscosity SAE oil once a month.

## 3-8. PADLOCK AND CHAIN.

Inspect padlock for cracks or breaks. Use key to operate lock to be sure it works.

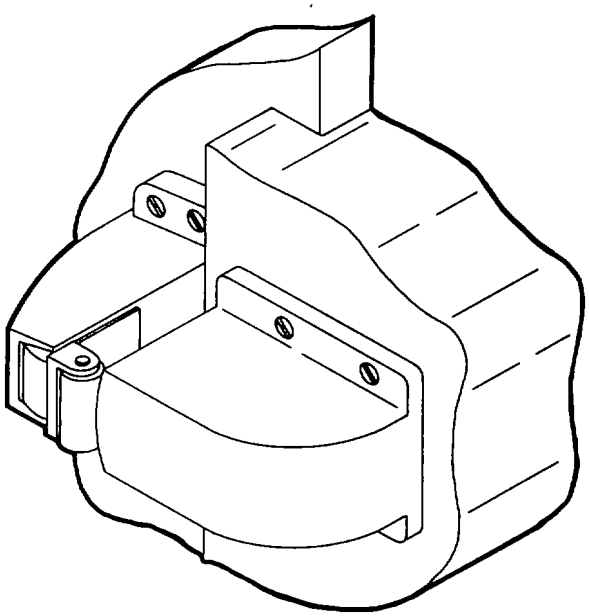


Check chain for distorted or damaged links. Undamaged portion of chain must be long enough to secure door.

## 3-9. TWO-POINT LATCH.

**A. Inspect.**

Inspect latches for cracks, breaks, excessive wear, and loose or missing hardware.



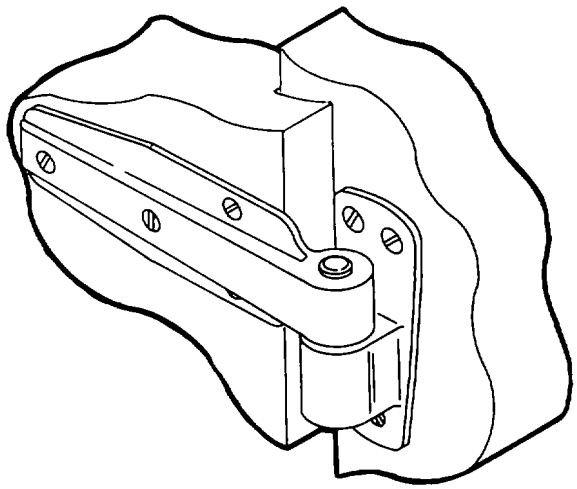
**B. Service.**

Lubricate latches with low viscosity SAE oil once a month.

## 3-10. OFFSET HINGE.

**A. Inspect.**

Check for cracks, breaks, excessive wear, and loose or missing hardware. Open and close door to be sure hinges work.

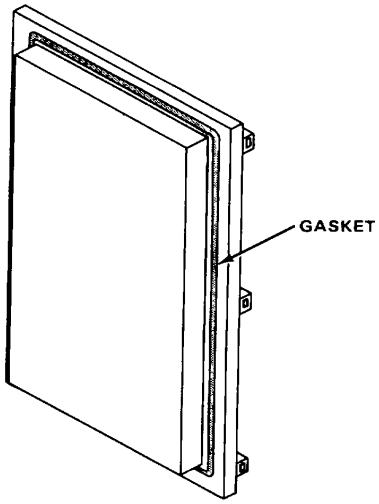


**B. Service.**

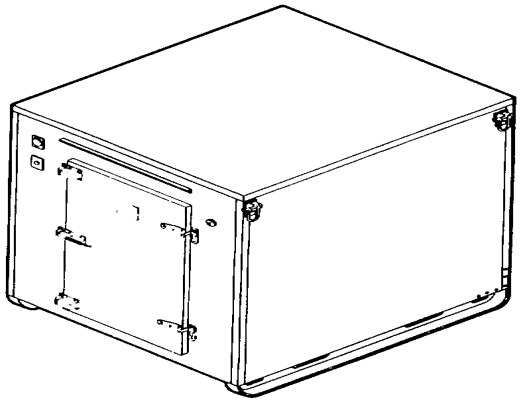
Lubricate hinges with low viscosity SAE oil once a month.

**3-11. DOOR GASKET.**

Visually check gasket for tears, loose mounting, wear, or rot.

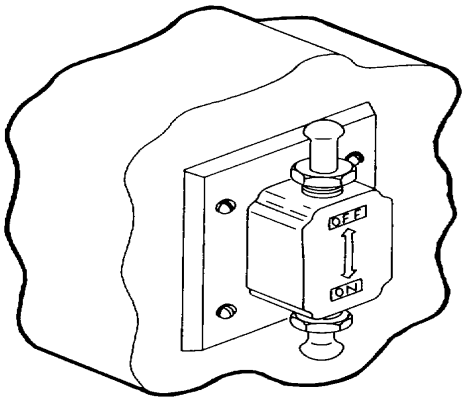



With vapor proof light switched ON, close door. There must be no light visible around door.



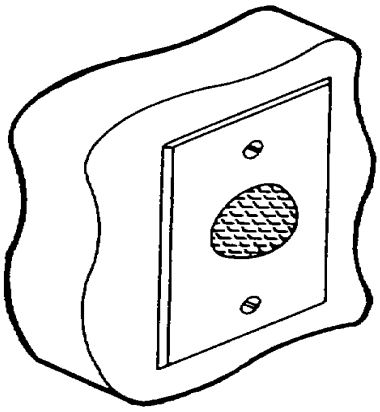
**3-12. SWITCH COVER.**

Check cover for cracks or breaks. Set switch cover to ON and OFF to be sure its working.



**3-13. PILOT LIGHT COVER.**

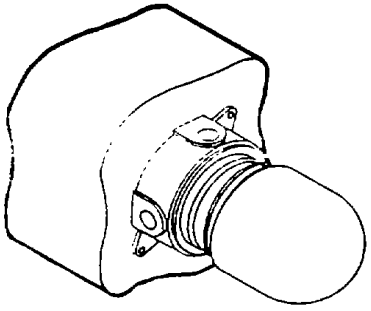
Check for cracks in the cover plate and the red jewel. Check for loose or missing hardware.



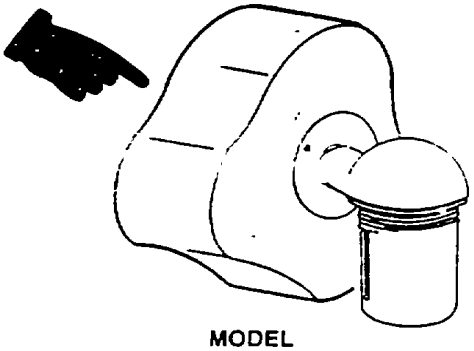
**3-14. VAPOR PROOF LIGHT AND GLOBE.**

**A. Inspect.**

Check for cracks or breaks, and loose or missing hardware.



MODEL
MDSI-150R



MODEL
REF 150

**B. Service.**

Unscrew globe and wash with cool, clean water. Dry thoroughly and remount.

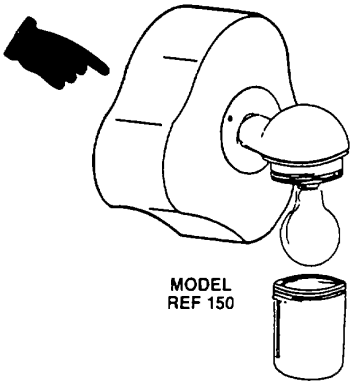
**3-1 5. VAPOR PROOF LIGHT BULB.**

**A. Inspect.**

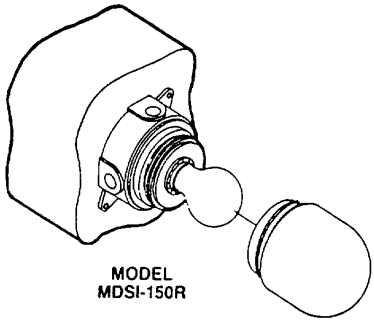
Unscrew globe and check to see if bulb is burned out. Remount the globe.

**B. Replace.**

Unscrew and remove globe. Unscrew old bulb and screw in replacement bulb. Remount the globe.



MODEL
REF 150

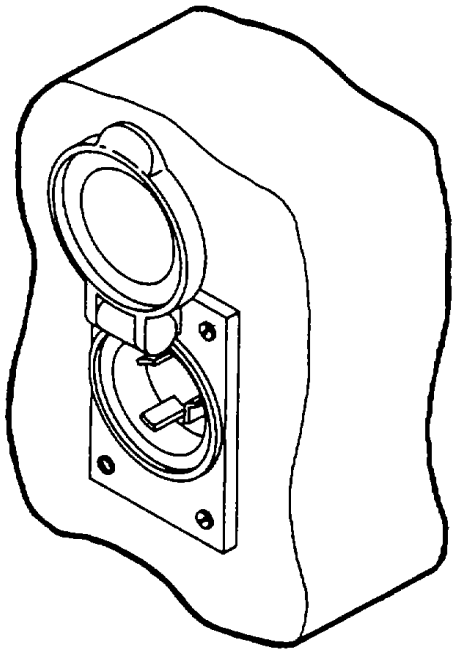


MODEL
MDSI-150R

**3-16. POWER RECEPTACLE.**

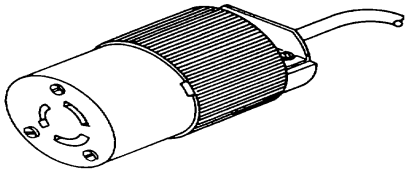
Check receptacle for cracks, breaks, damaged pins or cover, and loose or missing hardware.

**3-17. TWIST LOCK PLUG.**



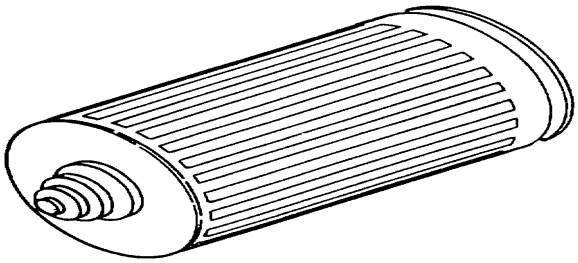
**WARNING**

This plug is used to connect 1 25 V ac to the refrigerator. Disconnect the wire from the power source or shut off incoming power at the power source switch before inspecting this

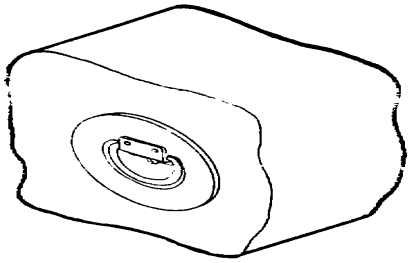


Check plug for cracks, breaks, and loose or missing hardware.

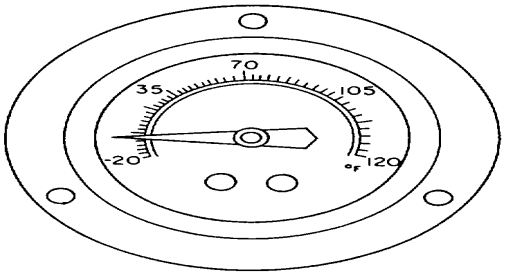
**3-1 8. TRIPLE SEAL COVER.**
Visually inspect for cracking, scorching, or signs of age or excessive wear.



**3-19 CARGO RINGS.**
Check each ring for cracks or breaks, missing hardware, and security of mounting.



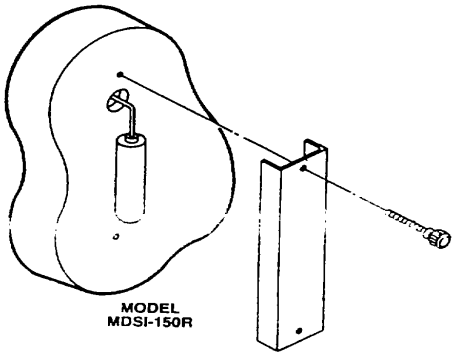
**3-20** DIALTHERMOMETER.
Check for cracked or damaged face.

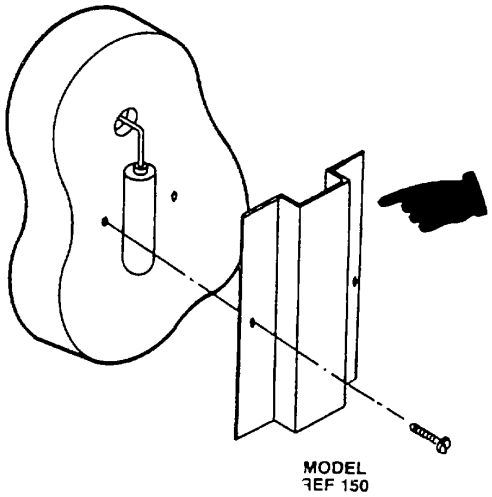


**3-21. CAPILLARY AND BULB COVER.**
Check for cracks and missing hardware.

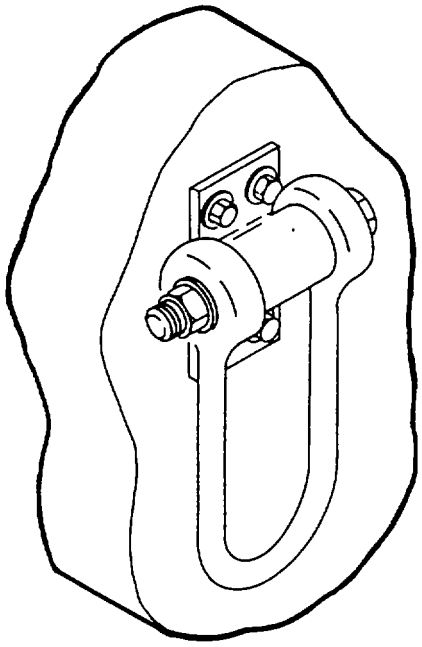
Remove screws to remove cover and visually inspect capillary for breaks or cracking.

Remount cover and tighten screws securely.




**3-22. LIFTING LOOP.**
Inspect for cracks, breaks, missing hardware, and security of mounting.



**3-23. CLOSURE PLUG ASSEMBLY.**

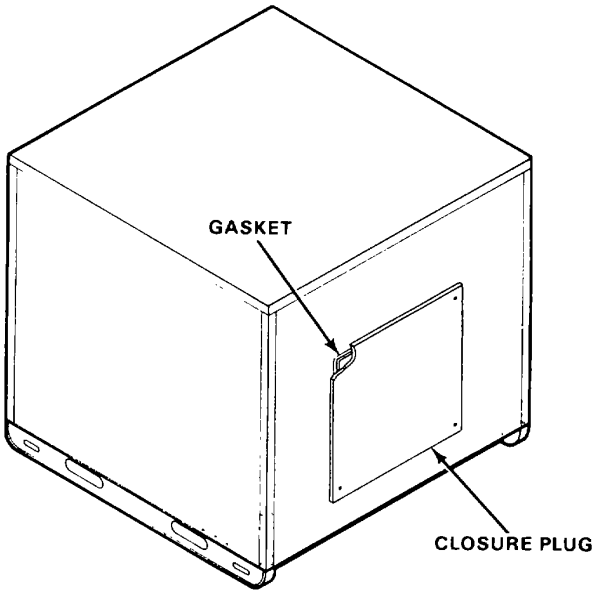
Check plug for cracks or breaks, and loose or missing hardware.

**NOTE**

Closure plug may be removed when mechanical refrigeration equipment is installed.

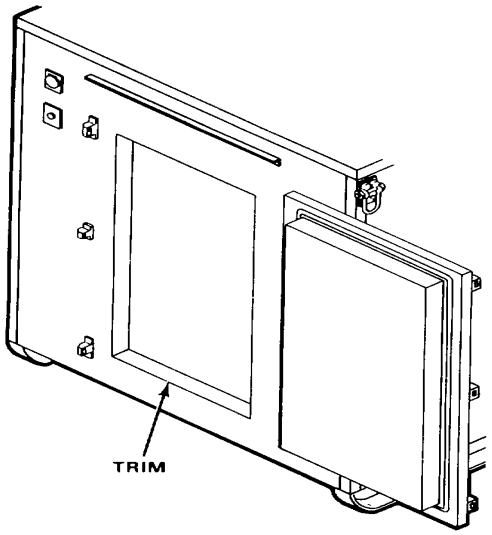
**3-24. CLOSURE PLUG GASKET.**

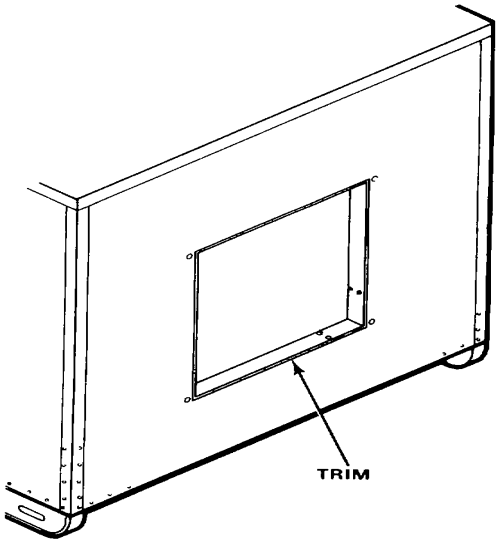
Check gasket for wear or damage.




**3-25. EXTERIOR TRIM**

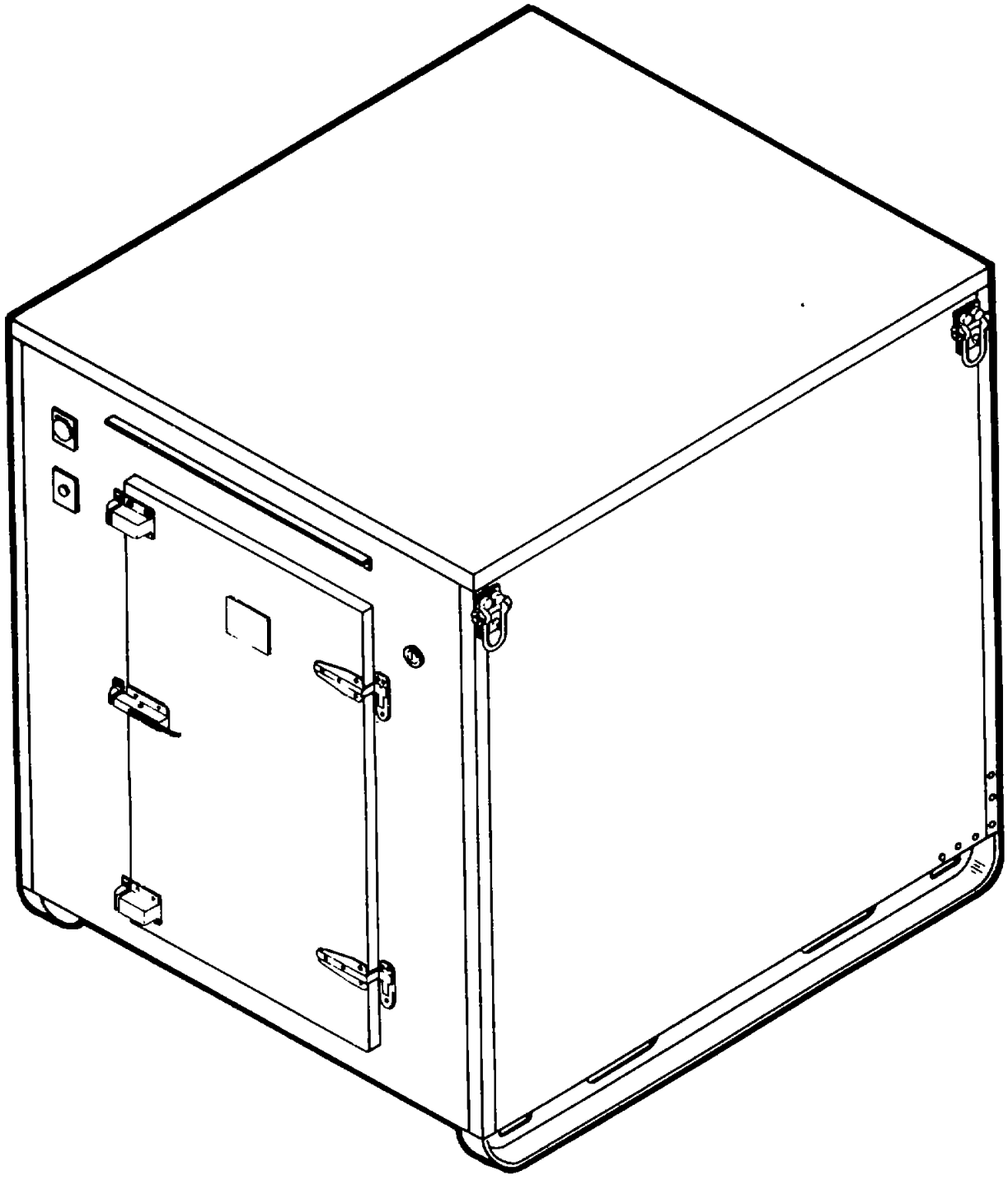
Check all exterior trim for damage or loose mounting.



**3-26. 150 CUBIC FOOT BOX.**

Inspect the box itself for damage such as holes in the outer skin, roof, or floor. Check for loose hardware.



# CHAPTER 4
# ORGANIZATIONAL MAINTENANCE INSTRUCTIONS



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

**4-1. COMMON TOOLS AND EQUIPMENT.**

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

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

No special tools, TMDE (Test, Measurement, and Diagnostic Equipment) or support equipment are required by organizational maintenance personnel for the maintenance of the refrigerator.

**4-3. REPAIR PARTS.**

Repair parts are listed and illustrated in Appendix C of this manual.

## Section II. SERVICE UPON RECEIPT OF EQUIPMENT

**4-4. SITE AND SHELTER REQUIREMENTS.**

The refrigerator must be set up on a flat, level surface or platform capable of withstanding 250 pounds per square inch. The area must be a minimum of 88 inches front to back, and 78 inches wide. If a mechanical refrigeration (cooling) unit is to be used, refer to the manual covering the unit to be used for additional space requirements. The refrigerator is 78 inches tall. A 1 25 V ac power source is required for operation of the refrigerator lights.

The refrigerator may be set up inside a shed or building, or outdoors. Positioning the unit in a shaded area will increase the efficiency of the refrigerator.

**4-5. SERVICE UPON RECEIPT OF EQUIPMENT.**

**A. Unloading.** This refrigerator may be moved using a forklift, with its, blades through the two forklift holes in the skid base, or by a hoist, crane, or helicopter using the four lifting loops near the corners at the top of the box.

**B. Checking Unpacked Equipment.**

1. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6, Packaging Improvement Report.

2. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of TM 38-750.

3. Check to see whether the equipment has been modified.

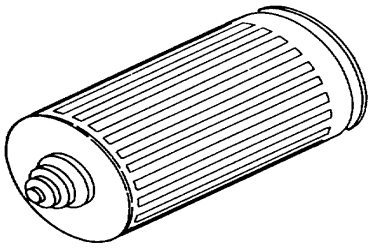
## 4-6. INSTALLATION INSTRUCTIONS.

### A. Tools, Test Equipment, and Materials Required for Installation.

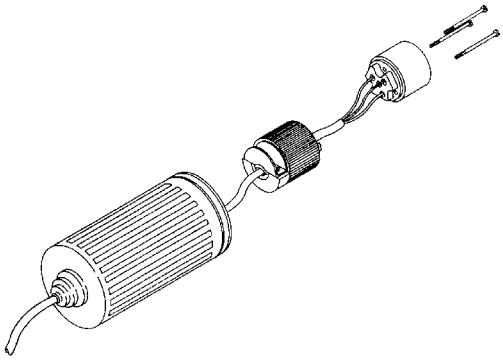
| ITEM | DESCRIPTION | IDENTIFYING NUMBER |
|---|---|---|
| Wire, bulk | 3-lead | 6440 14/3SJ Cord(53853) |
| Strippers, wire | | |
| Screw | flat-blade | |
| Knife, pocket | | |

### B. Installation Instructions.

1. Cut tip of triple seal cover to fit power supply cord.



2. Slide triple seal cover onto cord .



3. Loosen two screws to loosen cord grip. Remove three screws from front of plug to separate cap from plug body.

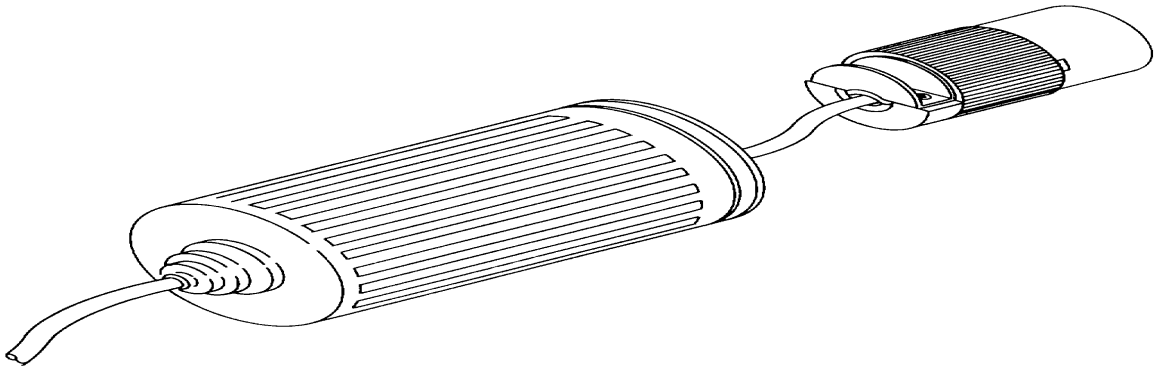
4. Slide cap from twist lock plug over cord.

5. Trim the outer covering back about 1 inch. Strip about 1/2 inch of each of the three leads.

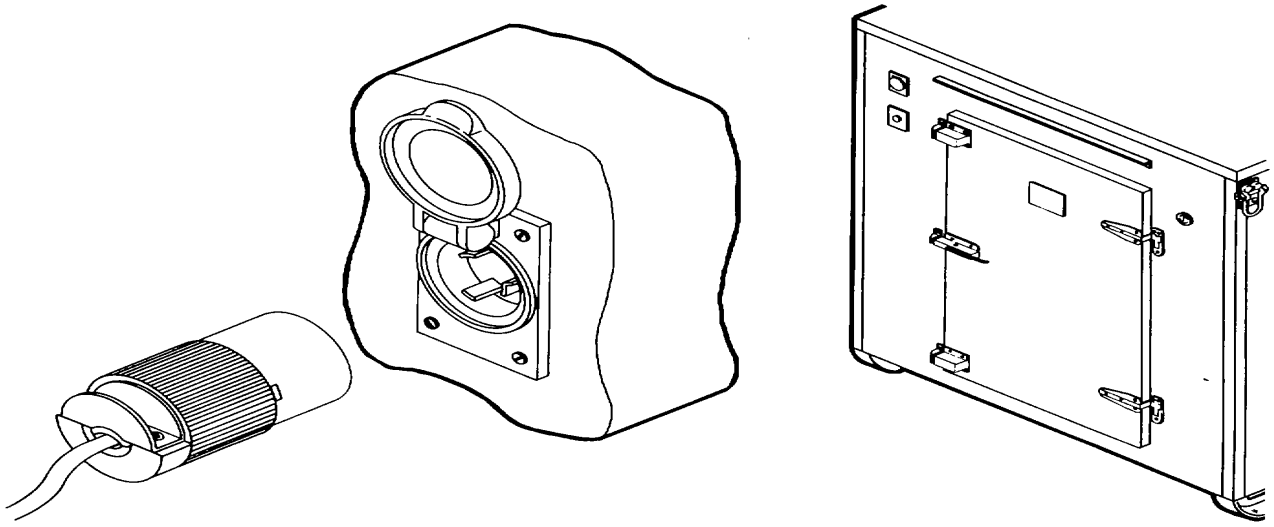
6. Connect wires to terminals of twist lock plug.

7. Use the three screws to attach cap to body of twist lock plug.

8. Tighten screws to secure wire to clamp.



9. Slide triple seal cover over twist lock plug.



10. Connect twist lock plug to power receptacle.

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

### 4-7. GENERAL.

- **Before you operate.** Always keep in mind the CAUTIONS and WARNINGS. Perform your before (B) PMCS.
- **While you operate.** Always keep in mind the CAUTIONS and WARNINGS. Perform **your** during (D) PMCS.
- **Each week.** Be sure to perform your weekly (W) PMCS.
- **Once a month.** Be sure to perform your monthly (M) PMCS.
- If **your equipment fails to operate.** Troubleshoot with proper equipment. Report any deficiencies using the proper forms. See TM 38-750.
- **Why perform PMCS?** PMCS *check* procedures are to see that the unit is working properly. PMCS *service* procedures are to help keep the unit working properly.
- **When to perform PMCS?** PMCS procedures shall be performed at the times indicated in **the** INTERVAL column of the PMCS table. The PMCS intervals are before operation (B), during operation (D), weekly (W), and monthly (M). The item numbers indicate the sequence of procedures to be performed.
- **Equipment is Not Ready/Available If.** Guidelines which identify the refrigerator **as** "not ready/available" for use appear in the **EQUIPMENT IS NOT READY/AVAILABLE IF** column of the table. If the refrigerator is identified as not ready for use, the problem must be corrected before the unit can be used.
- **Reporting Deficiencies.** Report any deficiencies found during PMCS. Department **of** the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System (TAMMS).

### 4-8. PREVENTIVE MAINTENANCE CHECKS AND SERVICES TABLE.

**NOTE**

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation.

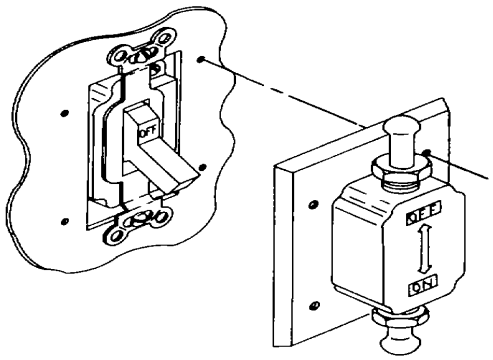
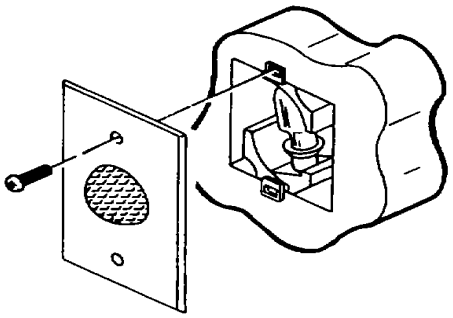
Make the complete checks and services when the equipment can be shut down.

Perform weekly (W) as well as before operation (B) PMCS if: * You are the assigned operator and have not operated the item since the last weekly PMCS.

* You are operating the item for the first time.

Item numbers which appear on this table are to be used in the "TM Number" column on DA Form 2404, Equipment Inspection and Maintenance Workshop, in recording the results of PMCS.

**B-Before operation** **D-During operation** **W-Weekly** **M-Monthly**

| ITEM NO. | INTERVAL B | D | W | M | ITEM TO BE INSPECTED PROCEDURE | EQUIPMENT IS NOT READY AVAILABLE if: |
|---|---|---|---|---|---|---|
| 1 | | | • | | **Switch.** Remove four screws and remove switch cover to check switch. Check for cracking, scorching, or other damage.   | Switch is damaged. |
| 2 | | | | • | **Pilot Light Cover.** Remove screws to remove pilot light cover. Wipe red jewel with clean cloth. Use a brush to remove stubborn dirt.  | |
| 3 | | | • | | **Pilot Light Socket and Bulb.** Remove screws and remove pilot light cover. Inspect socket for cracking, breaks, scorching, and loose or missing hardware. Check bulb (lamp) for serviceability. | Pilot light socket is damaged or bulb is unusable. |

## Section IV. TROUBLESHOOTING

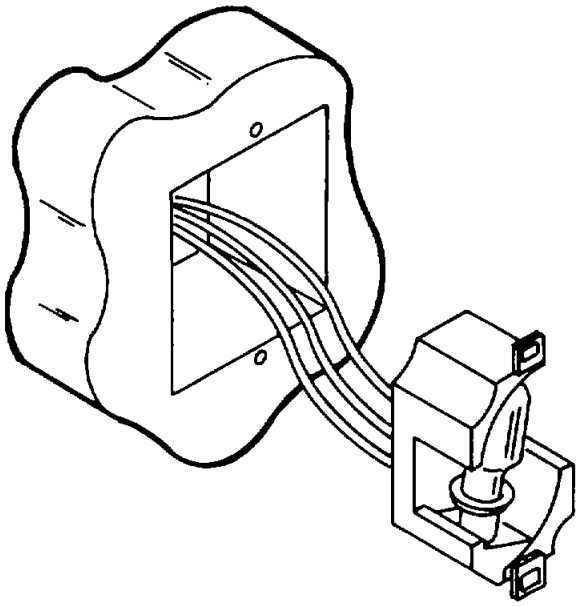
**4-9.** This table lists the common malfunctions which you may find during the operation or maintenance of the refrigerator or its components. You should perform the tests/inspections and corrective actions in the order listed. This manual cannot list all malfunctions that may occur; nor all tests and inspections or corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify your supervisor. Only those checks and corrective v X actions which are authorized for organizational maintenance are listed.

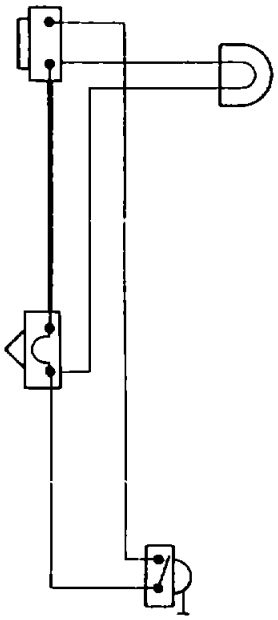
| MALFUNCTION<br>TEST OR INSPECTION<br>CORRECTIVE ACTION |
|---|

1. VAPOR PROOF LIGHT WORKS, PILOT LIGHT FAILS, WHEN SWITCH IS SET TO ON.

*Step 1* Visually check and replace bulb if required.

*Step 2.* Use an ohmmeter to check continuity of wire between pilot light socket and receptacle.
Replace wire, if defective, in accordance with instructions in Section V, Organizational Maintenance Procedures.



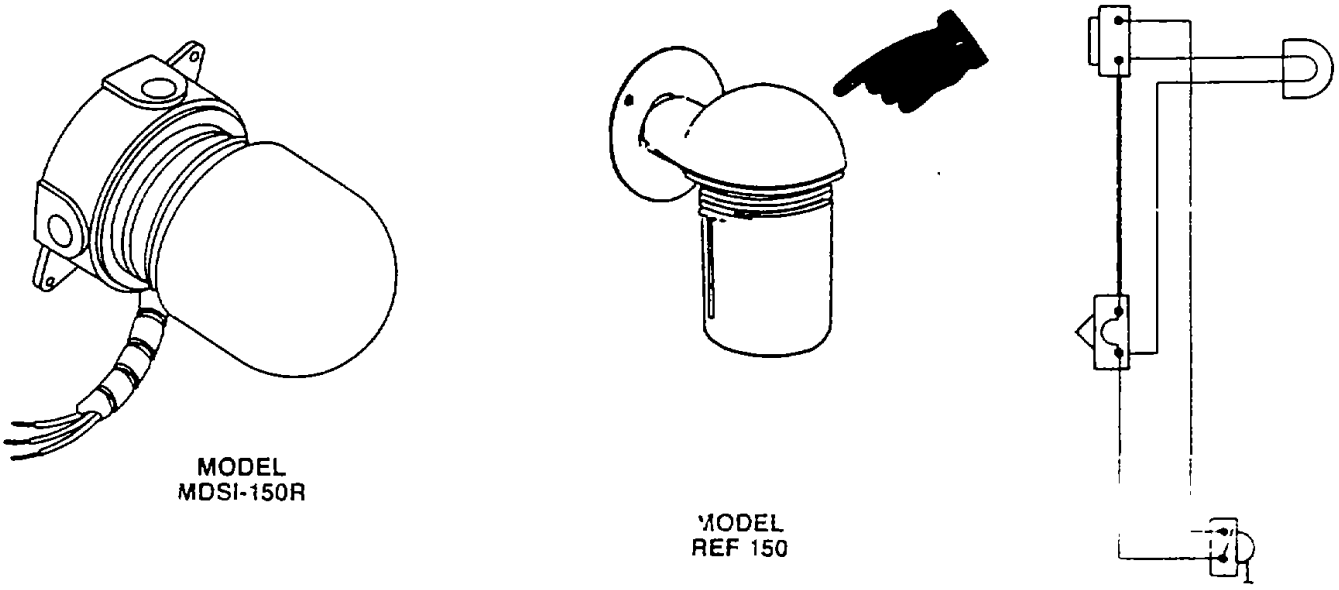


*Step 3* Test pilot light socket using instructions in Section V, Organizational Maintenance Procedures.
Replace pilot light socket, if defective.

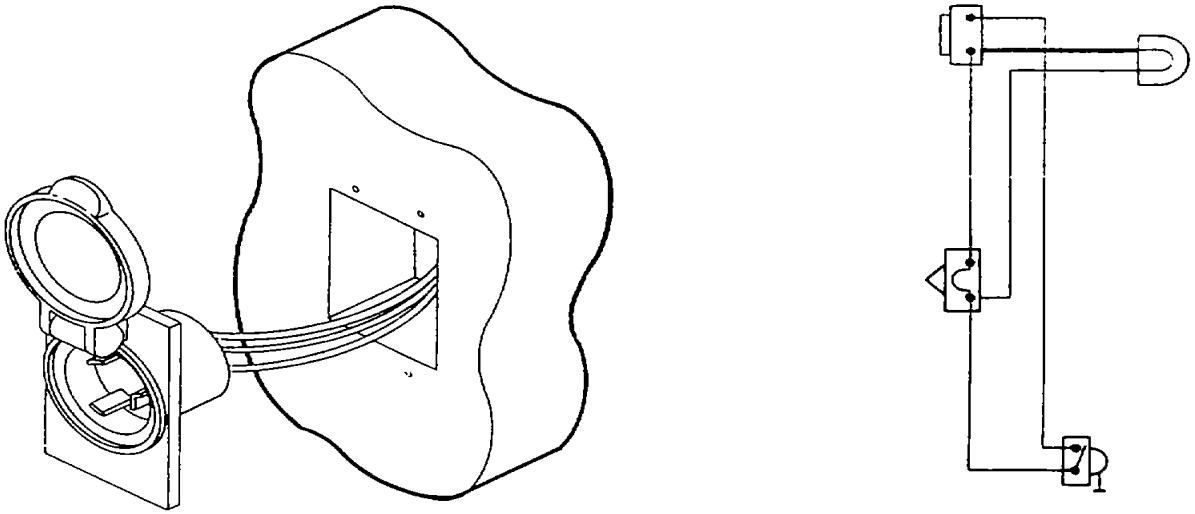
| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|---|---|---|

**2.** **PILOT** LIGHT WORKS, VAPOR PROOF LIGHT FAILS, WHEN SWITCH IS SET TO ON.

*Step 1.* Use an ohmmeter to check continuity of wire between pilot light socket and vapor proof light socket.
**Replace wire, if defective,** in accordance **with instructions in Section V, Organizational Maintenance.**




*Step 2* Use an ohmmeter to check continuity of wire between vapor proof light socket and receptacle.



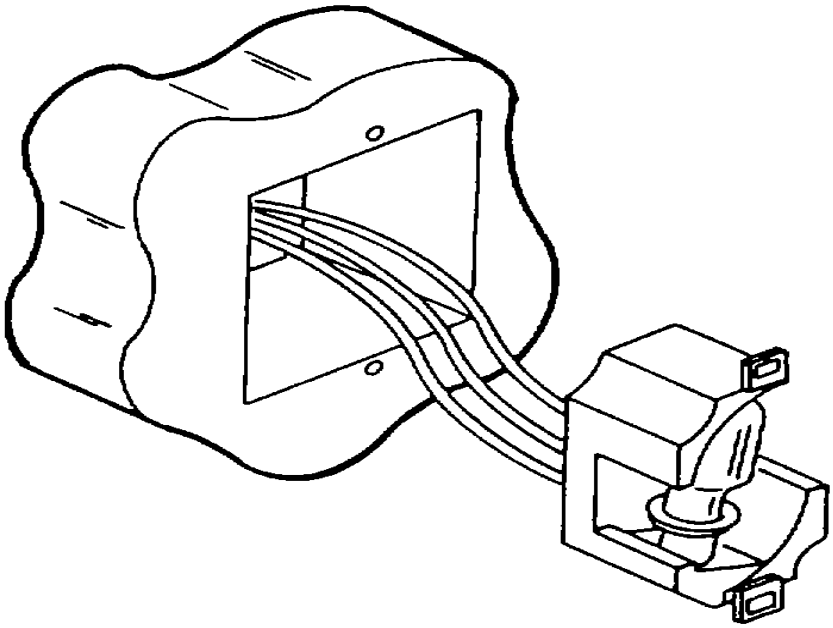
**Replace wire, if defective, in accordance with instructions in Section V. Organizational Maintenance Procedures.**

*Step3.* Test vapor proof light socket using instructions in Section V, Organizational Maintenance Procedures.
**Replace vapor proof light socket, if defective.**

**MALFUNCTION**
**TEST OR INSPECTION**
CORRECTIVE ACTION

3. NEITHER PILOT LIGHT NOR VAPOR PROOF LIGHT WORKS WHEN SWITCH IS SETTO ON.

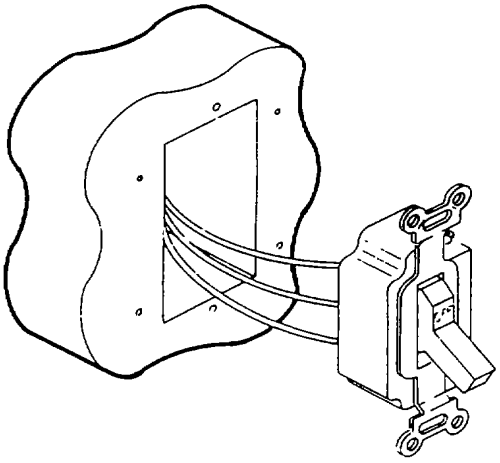
*Step 1* Check for voltage coming into pilot light socket.

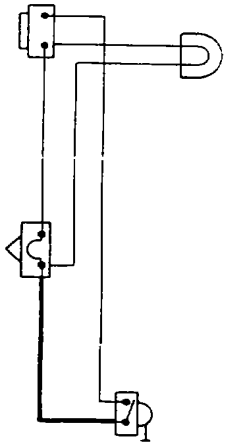


*Step 2* If voltage is present, test pilot light socket using instructions in Section V, Organizational Maintenance Procedures.

Replace pilot light socket, if defective.

*Step 3* If voltage is not present, use an ohmmeter to check continuity of wire between pilot light socket and switch.





Replace wire, if defective, in accordance with instructions in Section V, Organizational Maintenance Procedures.

*Step 4* Check for voltage coming into switch.

*Step 5.* If voltage is present, test switch using instructions in Section V, Organizational Maintenance Procedures.

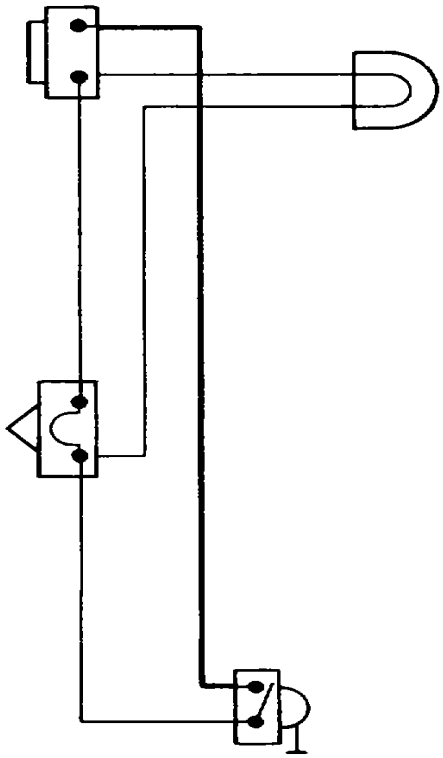
Replace switch, if defective.

**MALFUNCTION**
**TEST OR INSPECTION**
**CORRECTIVE ACTION**

3. NEITHER PILOT LIGHT NOR VAPOR PROOF LIGHT WORKS WHEN SWITCH IS **SETTO** ON (CONTINUED).

*Step 6* If voltage is not present, use an ohmmeter to check continuity of wire between switch and receptacle.

**Replace wire, if defective,** in **accordance with the instruction in Section V, Organizational Maintenance Procedures.**



*Step 7* Test receptacle using the instructions in Section V, Organizational Maintenance Procedures.

**Replace receptacle, if defective.**

*Step 8.* Test the twist lock plug using instructions in Section V, Organizational Maintenance Procedures.

**Replace twist lock plug, if defective.**

## Section V. ORGANIZATIONAL MAINTENANCE PROCEDURES

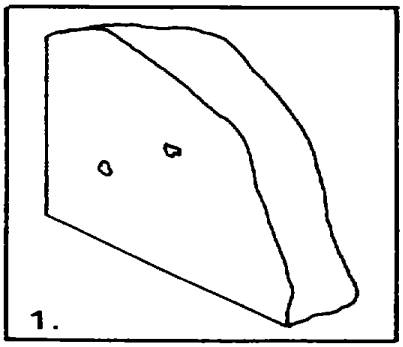
### 4-9. PROCEDURES.

### REFRIGERATOR DOOR ASSEMBLY REPAIR PROCEDURES INDEX

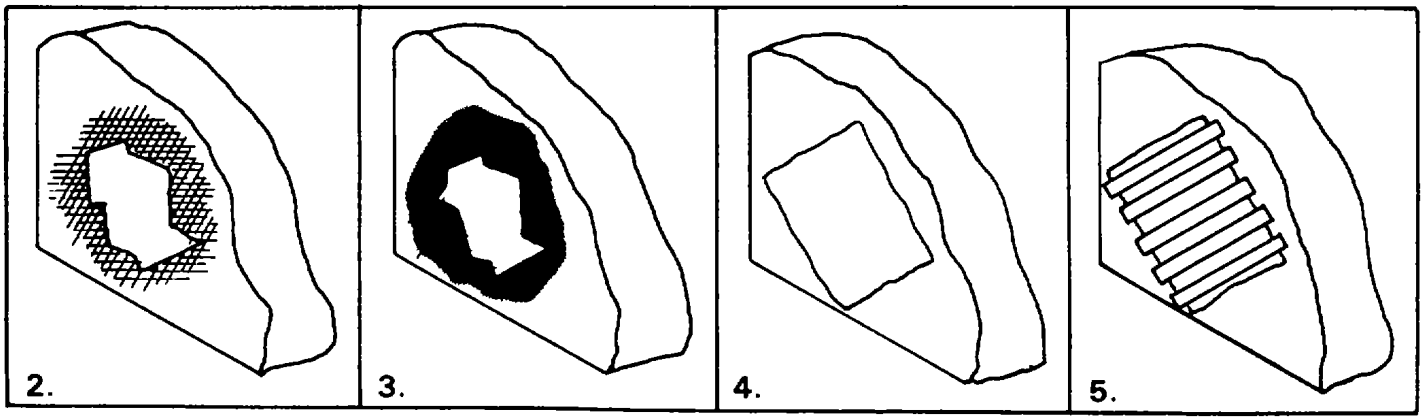


### REPAIR REFRIGERATOR DOOR

TOOLS: Sealing Compound, TT-S-230, Gum Grade (8030-965-2397)
Repair Kit, MIL-2-58047(CE) or MIL-R-1 9907C(2090-372-6064)



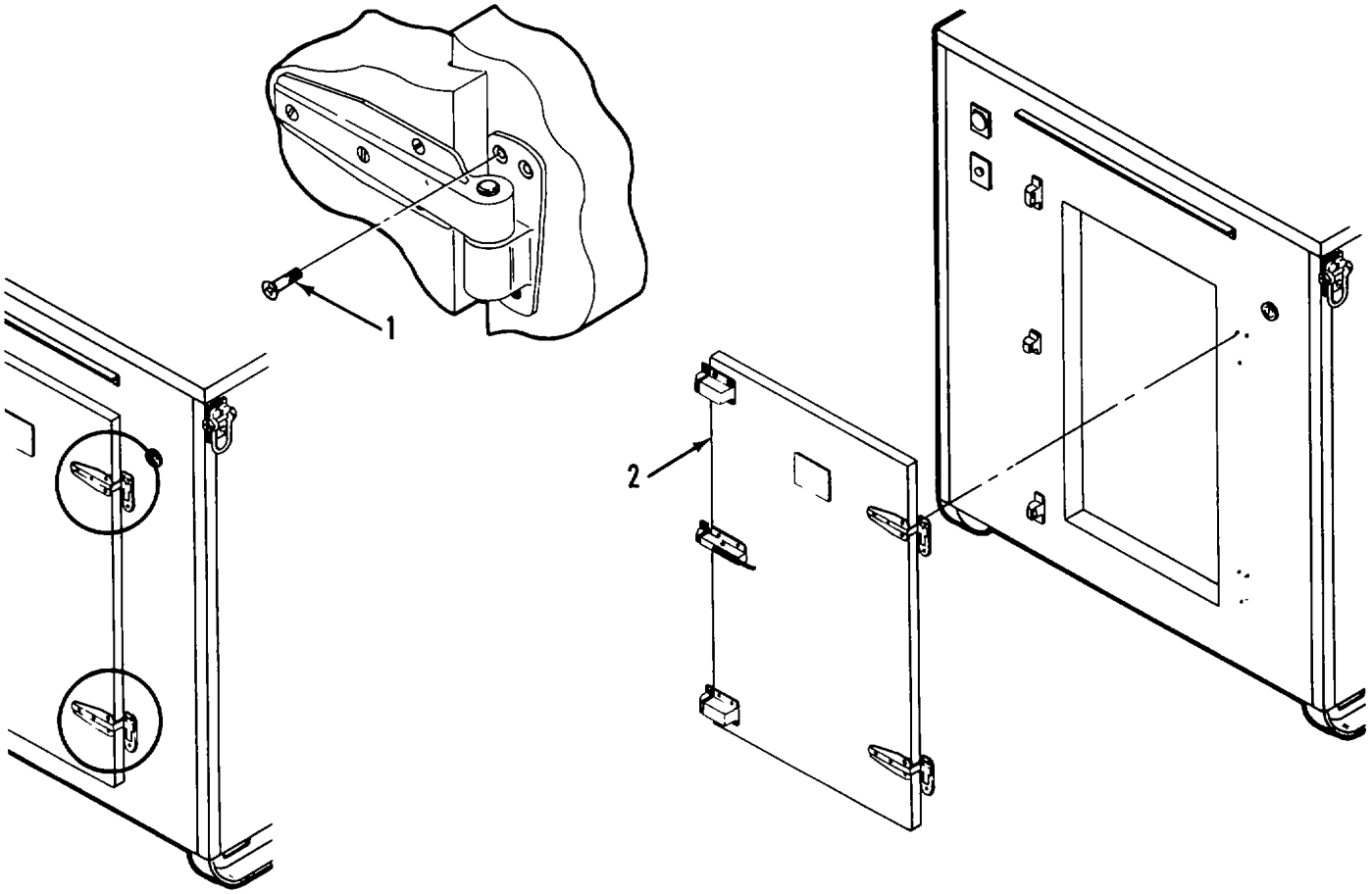

1. Seal minor holes and punctures with sealing compound, TT-S-230, Gum Grade.




2. To repair minor rips or tears, roughen metal around damaged area to remove paint and increase adhesion of patch.
3. Apply epoxy mixture in accordance with instructions in kit.
4. Apply patch material in accordance with instructions in kit.
5. Apply tape over entire patch area.

**REMOVE/INSTALL DOOR ASSEMBLY**

TOOLS: Screwdriver, cross-tip




REMOVAL:

1. Loosen but do not remove all six screws (1) securing door to refrigerator.
2. Remove screws (1) holding lower hinge.
3. Remove screws (1) holding upper hinge.
4. Remove door assembly (2) from refrigerator.

IN STALLATION:

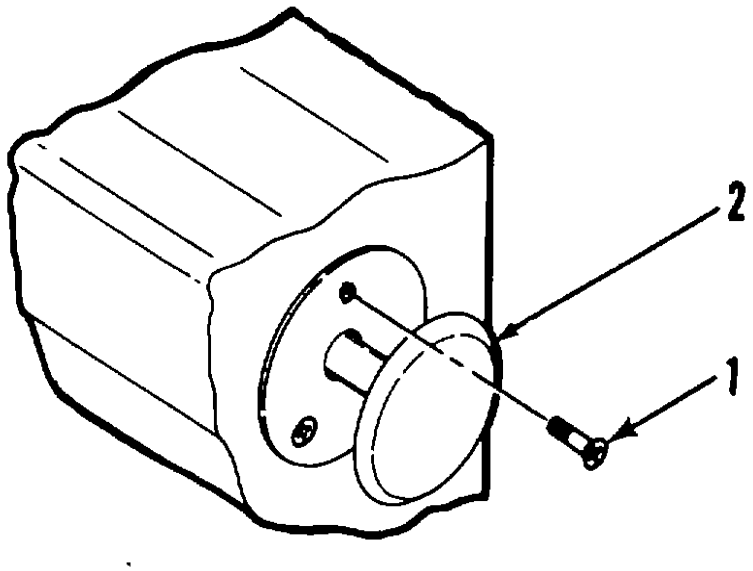
1. Position door assembly (2) against refrigerator.
2. Insert screws (1) through hinge and into refrigerator. Do not tighten.
3. Close and latch door. Check door gasket for even sealing around door.
4. Check two point latches for proper alignment.
5. Tighten screws (1) securely.

## SAFETY LATCH REPAIR PROCEDURES INDEX



### REMOVE/INSTALL PUSHROD

TOOLS: Screwdriver, cross-tip




**REMOVAL.**

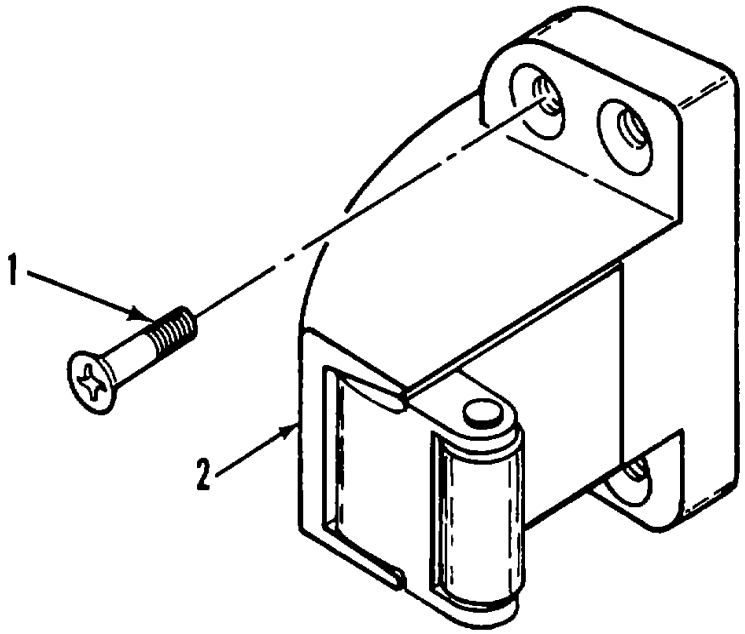
1. Remove screws (1).
2. Remove pushrod (2).

**INSTALLATION:**

1. Position pushrod (2) inside of refrigerator door.
2. Insert screws (1) through mounting plate and into refrigerator door. **Do not tighten.**
3. Check that pushrod will operate safety latch.
4. Tighten screws (1).

**REMOVE/INSTALL SAFETY LATCH STRIKE**

TOOLS: Screwdriver, cross-tip




**REMOVAL:**

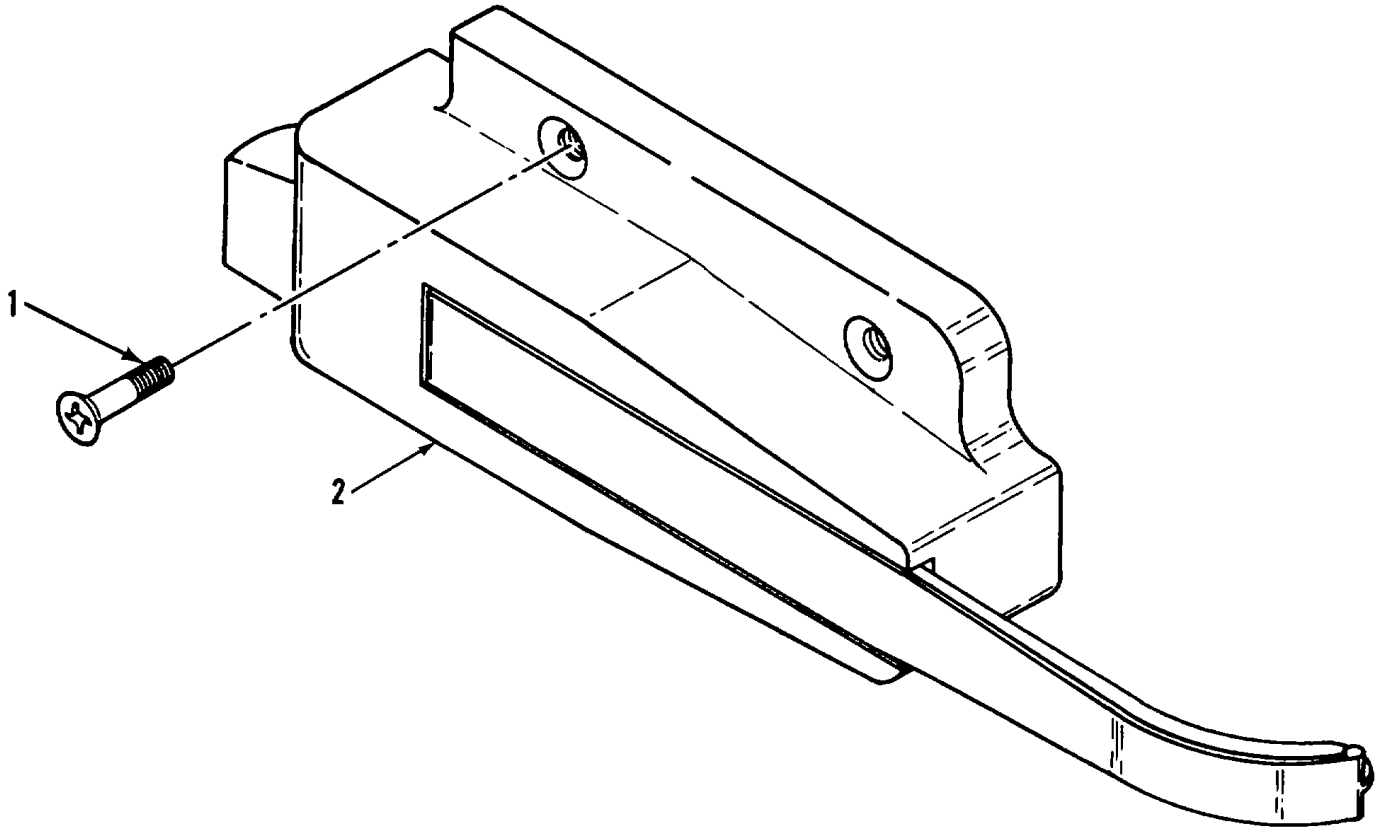
1. Remove screws (1).
2. Remove strike (2).

**INSTALLATION:**

1. Position strike (2) on refrigerator.
2. Insert screws (1) through strike and into refrigerator. Do not tighten.
3. Close door to ensure that latch engages properly.
4. Tighten screws (1).
5. Check gasket around door to be sure it is sealing properly.

**REMOVE/INSTALL LATCH**

TOOLS: Screwdriver, cross-tip




REMOVAL:

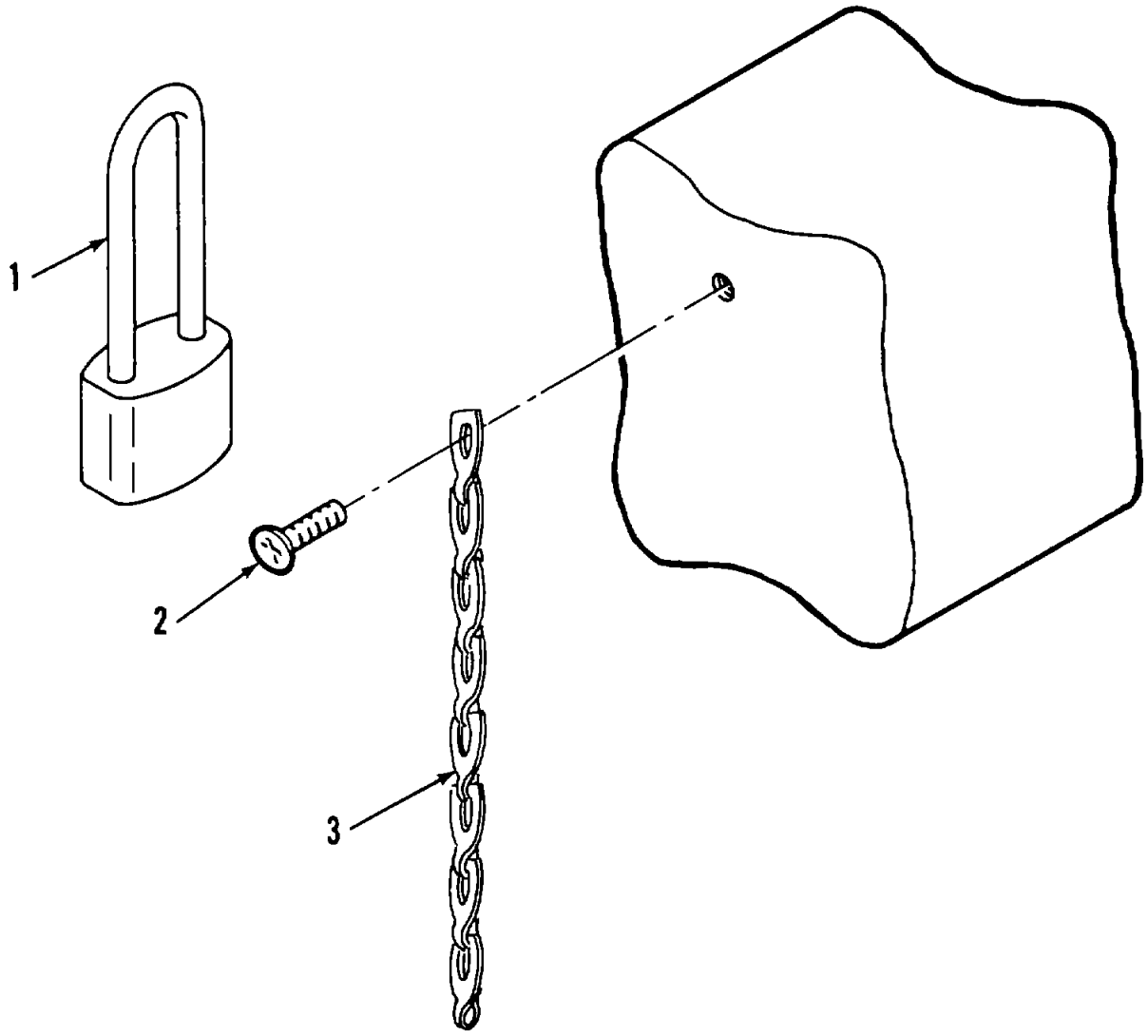
1. Remove screws (1).
2. Remove safety latch (2).

INSTALLATION:

1. Position safety latch (2) on refrigerator door.
2. Insert screws (1) through latch and into refrigerator door. Do not tighten.
3. Check alignment of latch and strike.
4. Tighten screws (1).

**REMOVE/INSTALL PADLOCK AND CHAIN**

TOOLS: Screwdriver, cross-tip




**REMOVAL:**

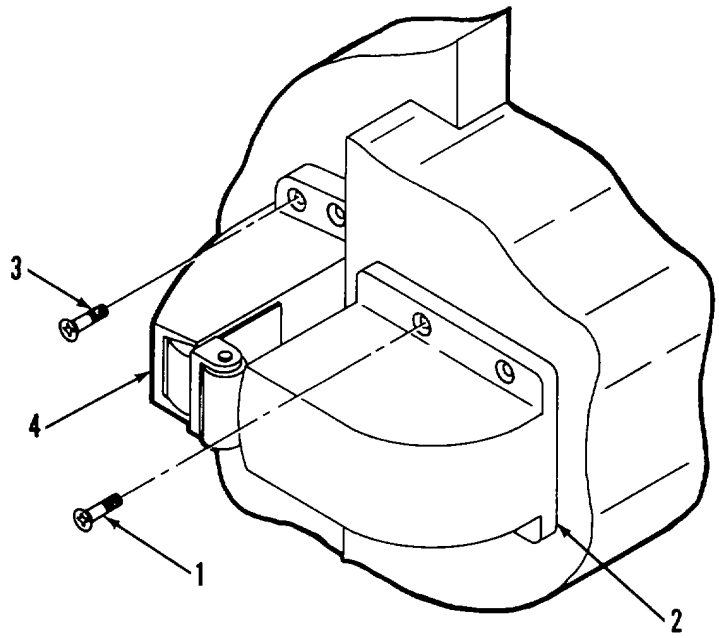
1. Unlock and remove padlock (1).
2. Remove screw (2).
3. Remove chain (3).

**INSTALLATION:**

1. Position chain (3) on door and secure with screw (2).
2. Attach padlock (1).

**REMOVE/INSTALL TWO POINT LATCH**

TOOLS: Screwdriver, cross-tip




**REMOVAL:**

1. Remove four screws (1) from latch.
2. Remove latch (2) from door.
3. Remove four screws (3) from strike.
4. Remove strike (4) from refrigerator.

**INSTALLATION:**

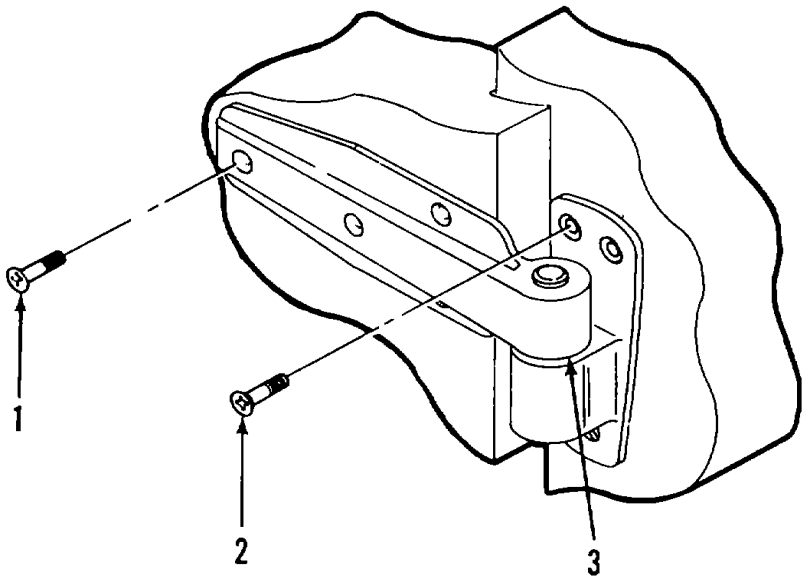
1. Position latch (2) on door and secure with screws (1).
2. Position strike (4) on refrigerator.
3. Insert screws (3) through strike and into refrigerator. Do not tighten.
4. Check to see that latch and strike engage properly. Adjust if needed.
5. Tighten screws (3).

**REMOVE/INSTALL OFFSET HINGE.**

TOOLS: Screwdriver, cross-tip

**NOTE**

If both hinges are damaged, perform
PRELIMINARY PROCEDURE: Door removal (page 4-11)




**REMOVAL:**

1. Remove screws (1) and (2).
2. Remove hinge (3).

**INSTALLATION:**

1. Position hinge (3) on door and secure with screws (2).

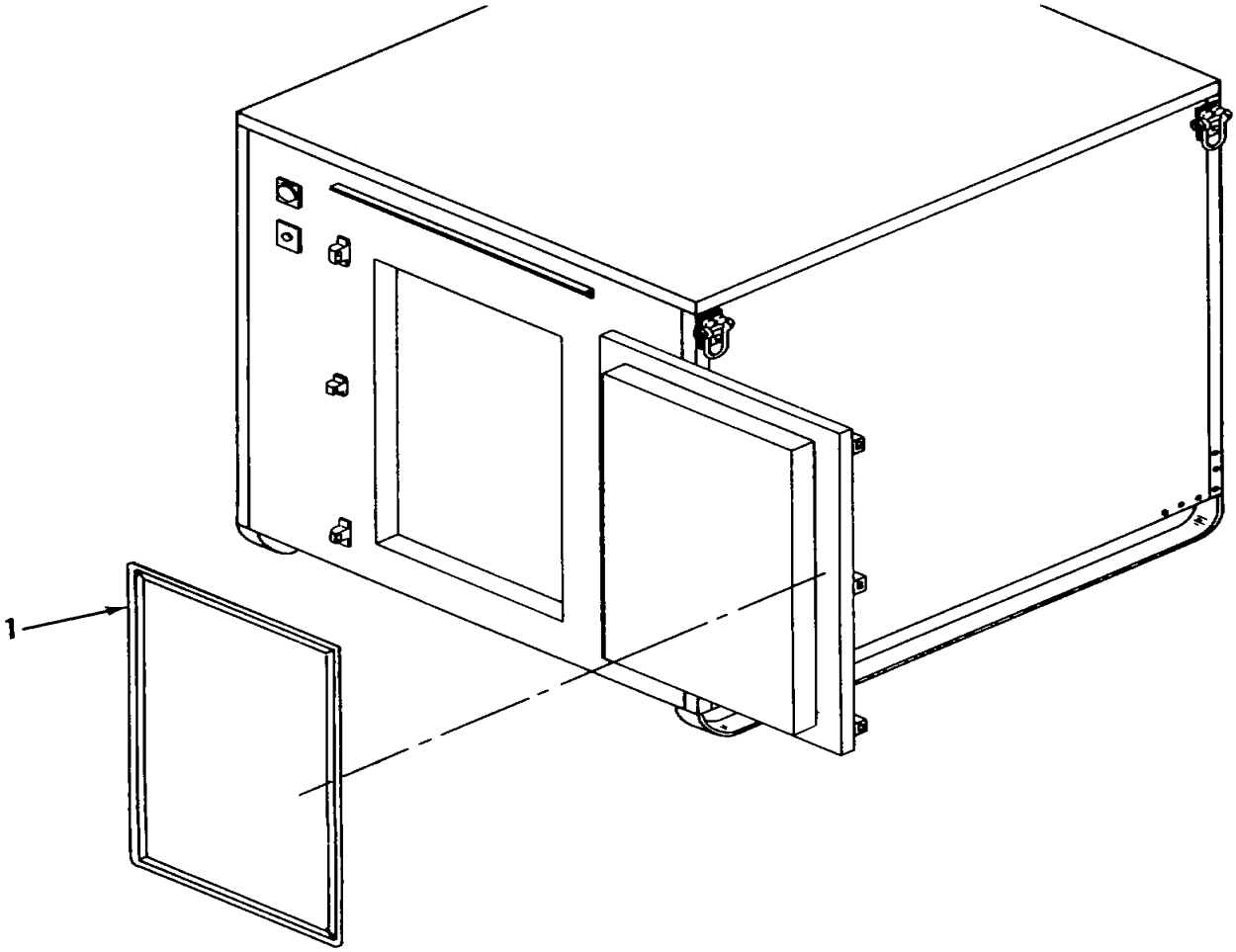
**NOTE**

If both hinges are being replaced, perform
FOLLOW-ON MAINTENANCE: Install door (page 4-11).

2. Insert screws (1) through hinge (3) and into refrigerator. Do not tighten.
3. Close and latch door. Tighten screws (1) securely.

**REMOVE/INSTALL DOOR GASKET**

TOOLS: Pocket Knife
Adhesive, General Purpose




REMOVAL:

1. Remove and discard damaged gasket (1).
2. Clean gasket mounting area around door.

INSTALLATION:

1. Begin installing new gasket on the bottom, hinge side, of the door using adhesive to mount the gasket.
2. Gasket must be installed as a continuous strip around door and end at the bottom, hinge side, of the door. Cut excess after gluing end into place.

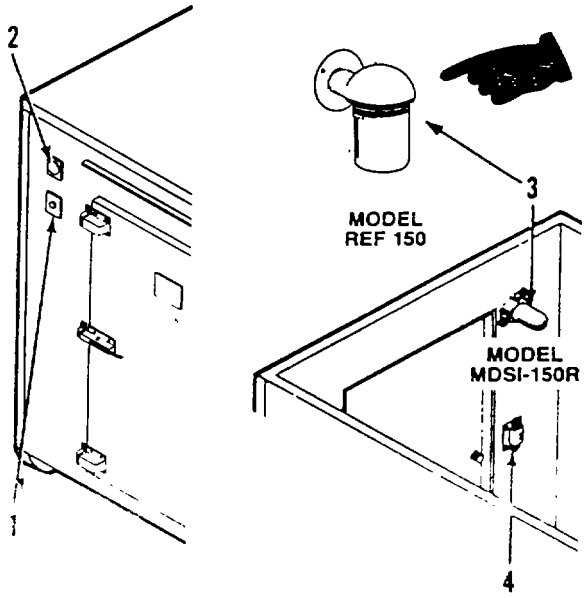
**WIRE TEST PROCEDURES INDEX**

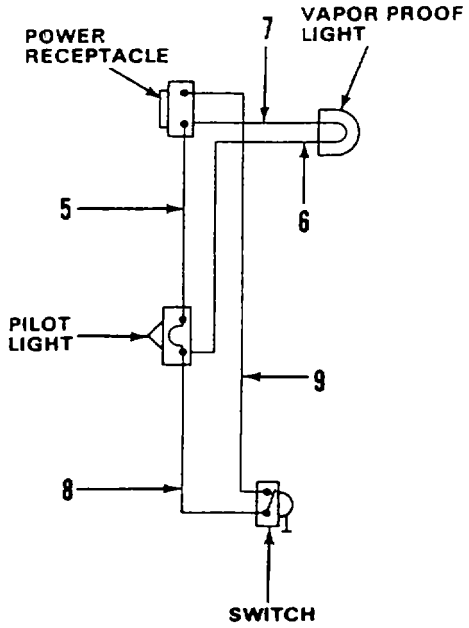


**TEST WIRES**

TOOLS: Multimeter or Ohmmeter

1. Remove pilot light socket (1).
2. Remove power receptacle (2).
3. Remove vapor proof light (3).
4. Remove toggle switch (4).
5. Use an ohmmeter to check continuity between pilot light socket and power receptacle.
6. Use an ohmmeter to check continuity between pilot light socket and vapor proof light.
7. Use an ohmmeter to check continuity between vapor proof light and power receptacle.
8. Use an ohmmeter to check continuity between pilot light socket and toggle switch.
9. Use an ohmmeter to check continuity between toggle switch and receptacle.
10. Install vapor proof light (3).
11. Install pilot light socket (1).
12. Install power receptacle (2).
13. Install switch (4).



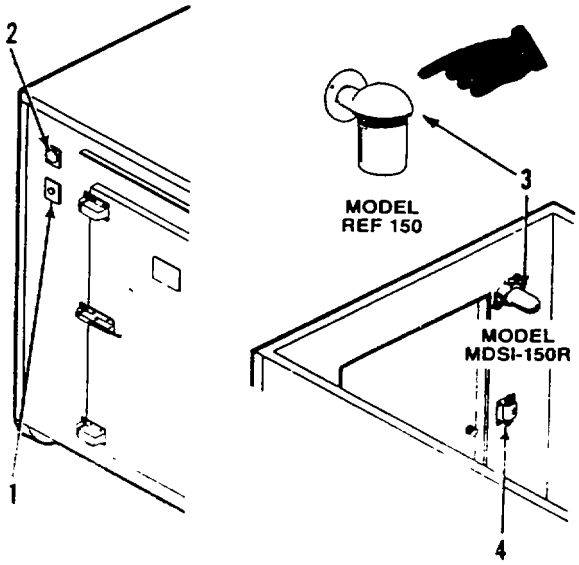
## REMOVE/INSTALL WIRE PROCEDURES INDEX

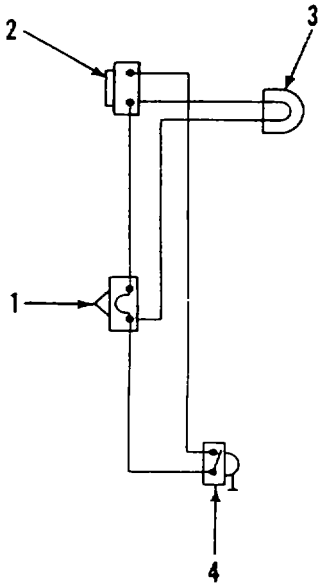


## REMOVE/INSTALL WIRES

TOOLS: Pocket Knife

1. Remove pilot light socket (1). Tag wires.
2. Remove power receptacle(2). Tag wires.
3. Remove vapor proof light (3). Tag wires.
4. Remove toggle switch (4). Tag wires.
5. Tie wires at pilot light socket (1) together. Tie wires at vapor proof light (3) together.
6. Attach replacement wire to existing wire at power receptacle (2).
7. Pull new wire through by pulling out old wire through toggle switch (4).
8. Identify and tag wires at toggle switch (4).
9. Identify and tag wires at pilot light socket (1). Cut wire as needed.
10. Identify and tag wires at vapor proof light (3). Cut wire as needed.
11. Identify and tag wires at power receptacle (2).
12. Test wires.
13. Install vapor proof light (3).
14. Install pilot light socket (1).
15. Install power receptacle (2).
16. Install switch (4).



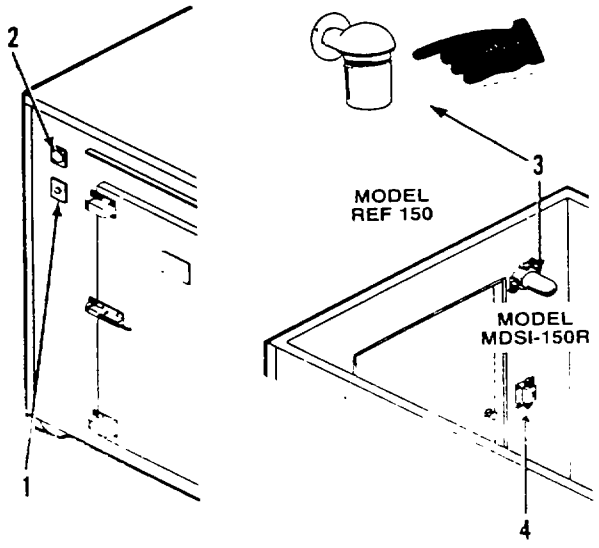
## REMOVE/INSTALL WIRE PROCEDURES INDEX

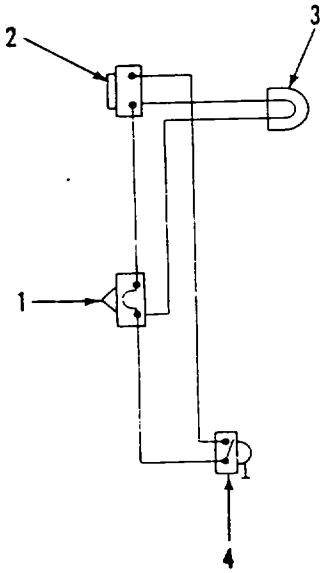


### REPAIR WIRES

TOOLS: Pocket Knife

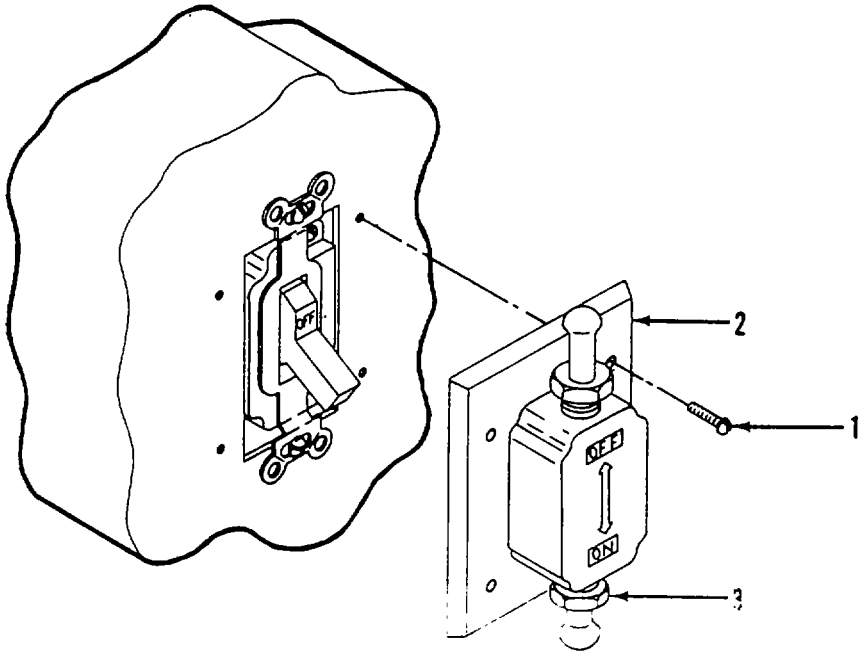
1. Remove pilot light socket (1). Tag wires.
2. Remove power receptacle (2). Tag wires.
3. Remove vapor proof light (3). Tag wires.
4. Remove toggle switch (4). Tag wires.
5. If damaged portion of the wire is accessible, cut back wire to an undamaged point on either side of the break and splice the wire together. If necessary, splice a short piece of wire into the gap created by removing the damaged portion.
6. The wire is three-lead, color coded SJ cord with a rubber insulating cover. If just one wire is damaged, but the damaged area is not accessible, repair by replacing only the damaged wire. It will be necessary to thread the new wire through the insulating cover.
7. Test wires.
8. Install vapor proof light (3).
9. Install pilot light socket (1).
10. Install power receptacle (2).
11. Install switch (4).



**REMOVE/INSTALL SWITCH COVER**

TOOLS: Screwdriver, flat-blade




REMOVAL:

1. Remove four screws (1) to remove switch cover (2).

INSTALLATION:

1. Ensure that switch is in **OFF** position.
2. Set switch cover (2) to **OFF** position and loosen locknuts (3).
3. Mount switch cover (2) using screws (1).
4. Adjust locknuts (3) so that switch cover actuates switch properly.

**INSPECT SWITCH**

**NOTE**

PRELIMINARY PROCEDURE: Switch cover removal (above).

PROCEDURE:

1. Visually inspect switch for cracking, scorching, or damage.

**NOTE**

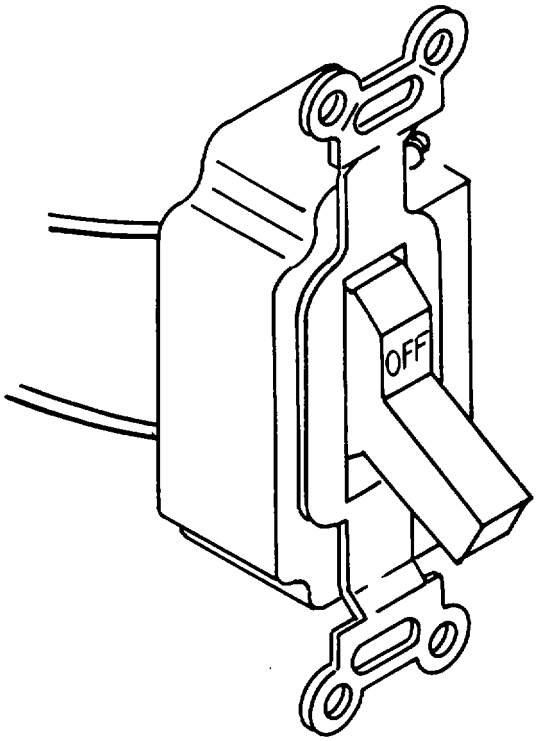
FOLLOW-ON MAINTENANCE: Install switch cover (above).

**TEST SWITCH**

TOOLS: Multimeter

**NOTE**

PRELIMINARY PROCEDURE: Switch removal (page 4-24).




PROCEDURE:

1. Attach leads of Multimeter to switch terminals .
2. With switch set to OFF, check for continuity across switch. If there is continuity, switch is defective.
3. Set switch to ON, and check for continuity. There must be continuity or switch is defective.
4. Set switch to OFF again and verify that continuity is interrupted.

**NOTE**

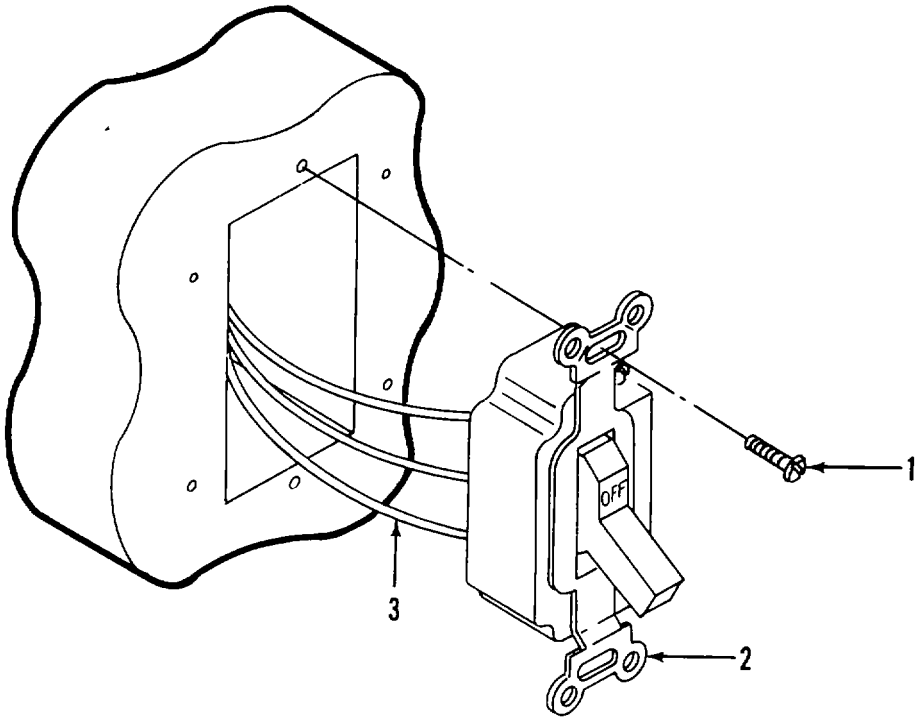
FOLLOW-ON MAINTENANCE: Install switch (page 4-24).

**REMOVE/INSTALL SWITCH**

TOOLS: Screwdriver, flat-blade

**NOTE**

PRELIMINARY PROCEDURE: Switch cover removal (page 4-22).




REMOVAL:

**WARNING**

Disconnect power to power receptacle before beginning this procedure.

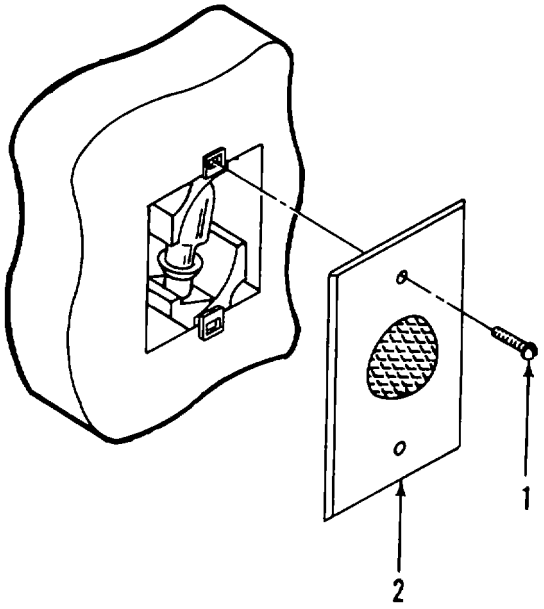
1. Remove two screws (1) and gently pull switch (2) away from wall.
2. Tag and disconnect wires (3) to rear of switch.

INSTALLATION:

1. Connect wires (3) to rear of switch and remove wire tags.
2. Position switch (2) into wall and secure with screws (1).
3. Reconnect power to power receptacle.

**REMOVE/SERVICE/INSTALL PILOT LIGHT COVER**

TOOLS: Screwdriver, flat-blade




REMOVAL:

1. Remove screws (1) and remove pilot light cover (2).

SERVICE:

1. Wipe red jewel with a clean cloth. Use a brush to remove stubborn dirt.

INSTALLATION:

1. Position pilot light cover (2) over pilot socket and mount with screws (1).

**INSPECT PILOT LIGHT SOCKET**

**NOTE**

PRELIMINARY PROCEDURE: Pilot light cover removal (above).

PROCEDURE:

1. Visually inspect socket for cracking, breaks, or scorching. Inspect for loose or missing hardware.

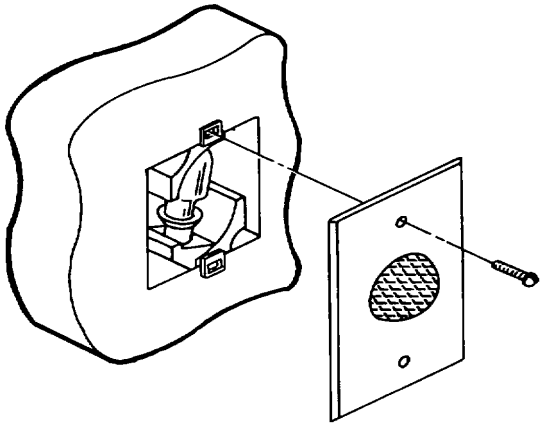
**NOTE**

FOLLOW-ON MAINTENANCE: Pilot light cover installation (above).

**INSPECT/REPLACE PILOT LIGHT BULB**

**NOTE**

PRELIMINARY PROCEDURE: Pilot light cover removal (page 4-25).



INSPECT:

1. Visually check to see if bulb is burned out.

REPLACE:

1. Unscrew old bulb from socket and screw in replacement bulb.

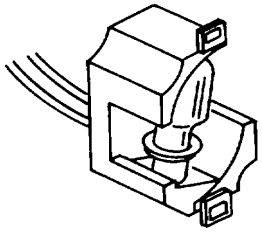
**NOTE**

FOLLOW-ON MAINTENANCE: Install pilot light cover (page 4-25).

**TEST PILOT LIGHT SOCKET**

**NOTE**

PRELIMINARY PROCEDURE: Pilot light socket removal (page 4-27).



PROCEDURE:

1. Install a known-good bulb in the pilot light socket.
2. Connect a 1 25 V ac power source to the socket.
3. Bulb must light or socket is defective.

**NOTE**

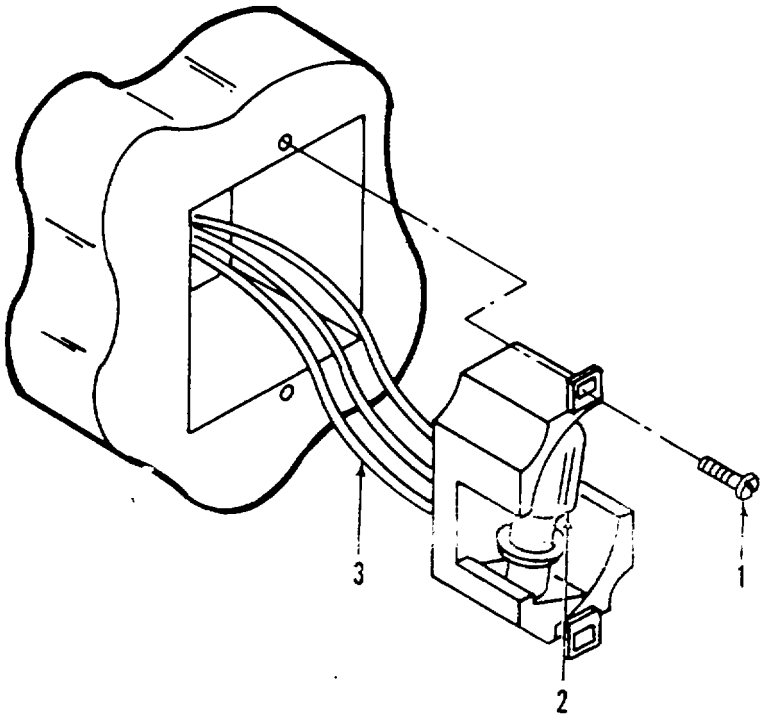
FOLLOW-ON MAINTENANCE: Install pilot light socket (page 4-27).

**REMOVE/INSTALL PILOT LIGHT SOCKET**

TOOLS: Screwdriver, flat-blade

**NOTE**

PRELIMINARY PROCEDURE: Pilot light cover removal (page 4-25).




REMOVAL:

**WARNING**

Disconnect power to power receptacle before beginning this procedure.

1. Remove two screws (1) and gently pull socket (2) away from wall.
2. Tag and disconnect wires (3) to socket.

INSTALLATION:

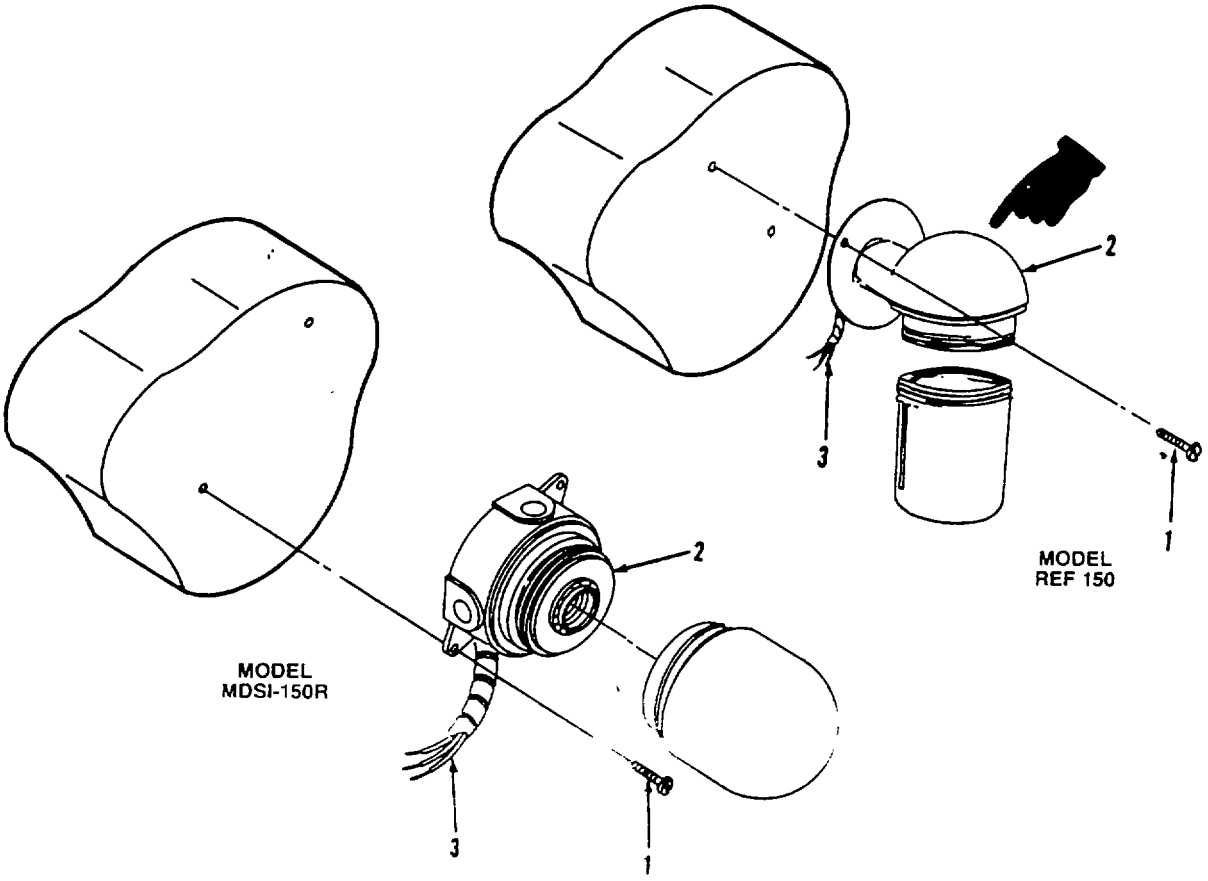
1. Connect wires (3) to rear of socket and remove wire tags.
2. Position socket (2) into wall and secure with screws (1).
3. Reconnect power to power receptacle.

**NOTE**

FOLLOW-ON MAINTENANCE: Install pilot light cover (page 4-25).

**REMOVE/TEST/INSTALL VAPOR PROOF LIGHT AND GLOBE**

TOOLS: Screwdriver, flat-blade
Multimeter




REMOVAL:

**WARNING**

Disconnect power to power receptacle before beginning this procedure.

1. Remove screws (1) and gently pull vapor proof light socket (2) away from wall.
2. Tag and disconnect wires (3) to vapor proof light.

TEST:

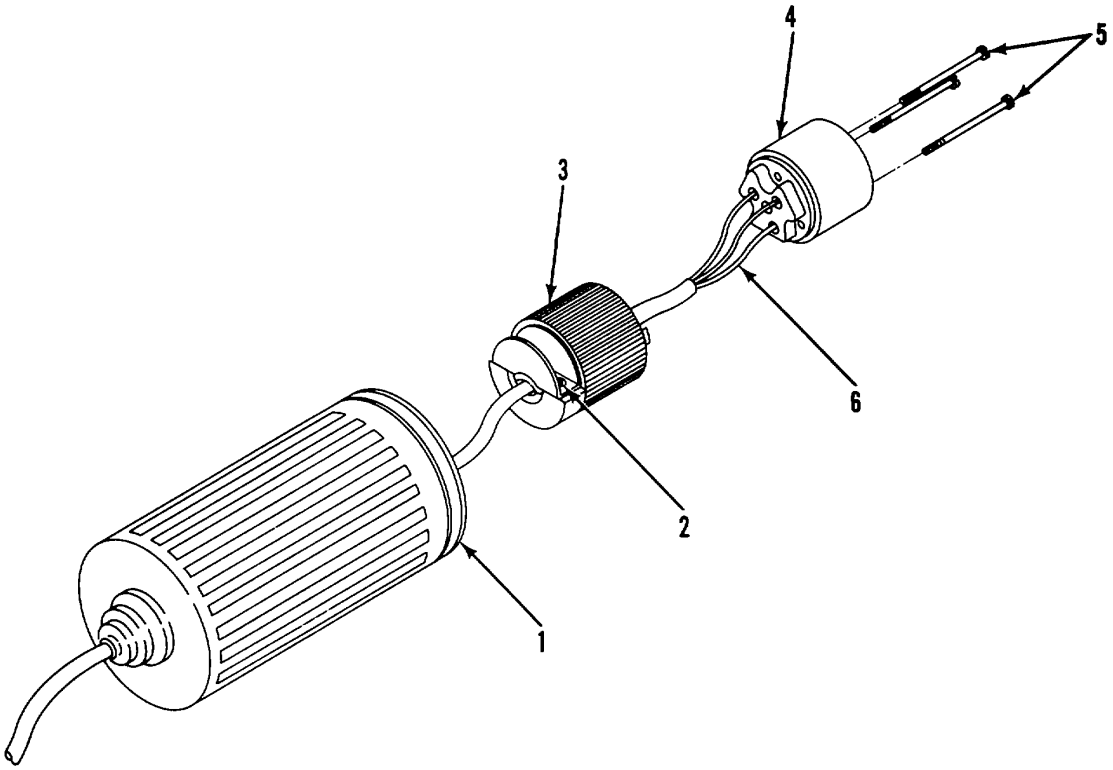
1. Attach a 1 25 V ac power source to vapor proof socket.
2. Use a Multimeter to check voltage across socket.

INSTALLATION:

1. Connect wires (3) to vapor proof light and remove wire tags.
2. Mount socket (2) onto wall using screws (1).
3. Reconnect power to power receptacle.

**REMOVE/TEST/INSTALL TWIST LOCK PLUG**

TOOLS: Screwdriver, flat-blade
Knife, pocket
Multimeter




**WARNING**

Shut off power supply at its source before beginning this procedure.

REMOVAL:

1. Slide triple seal cover (1) off twist lock plug.
2. Loosen retaining clamp screws (2).
3. Separate halves (3 and 4) of twist lock plug by removing screws (5).
4. Tag and disconnect wires (6) to twist lock plug.

TEST:

1. Attach a 1 25 V ac power source to twist lock plug.
2. Use a Multimeter to check for current flow.

INSTALLATION:

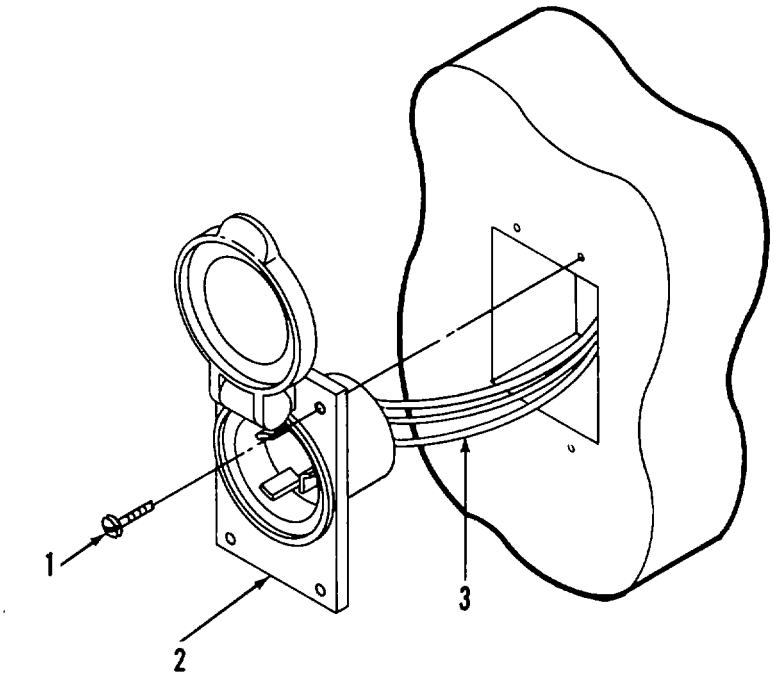
**NOTE**

PRELIMINARY PROCEDURE: Install triple seal cover (page 4-31).

1. Slide cap (3) of twist lock plug over cord.
2. Connect wires (6) to terminals of twist lock plug connector (4).
3. Attach halves (3 and 4) of twist lock plug with screws (5).
4. Tighten screws (2) to secure clamp.
5. Slide triple seal cover (1) over plug.

**REMOVE/TEST/INSTALL POWER RECEPTACLE**

TOOLS: Screwdriver, flat-blade
Multimeter




REMOVAL:

**WARNING**

Disconnect power to power receptacle before beginning this procedure.

1. Remove screws (1) and gently pull power receptacle (2) away from wall.
2. Tag and disconnect wires (3) to rear of receptacle.

TEST:

1. Attach a 1 25 V ac power source to terminals of receptacle.
2. Use a Multimeter to check current flow through receptacle.

INSTALLATION:

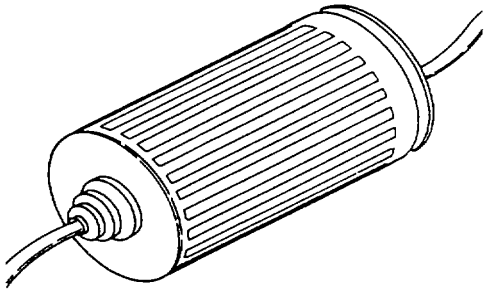
1. Connect wires (3) to rear of receptacle (2) and remove wire tags.
2. Position receptacle (2) into wall and secure with screws (1).
3. Reconnect power to power receptacle.

**REMOVE/INSTALL TRIPLE SEAL COVER**

TOOLS: Knife, pocket

**NOTE**

PRELIMINARY PROCEDURE: Remove twist lock plug (page 4-29).



REMOVAL:

1. Slide triple seal cover off power supply cord.

INSTALLATION:

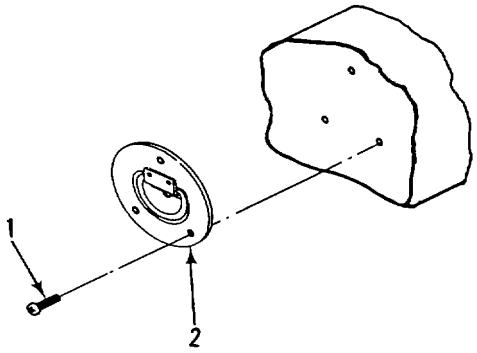
1. Cut tip of triple seal cover to fit power supply cord.
2. Slide cover ,into power ;supply cord.

**NOTE**

FOLLOW-ON MAINTENANCE: Install twist lock plug (page 4-29).

**REMOVE/INSTALL CARGO RINGS**

TOOLS: Screwdriver, cross-tip




REMOVAL:

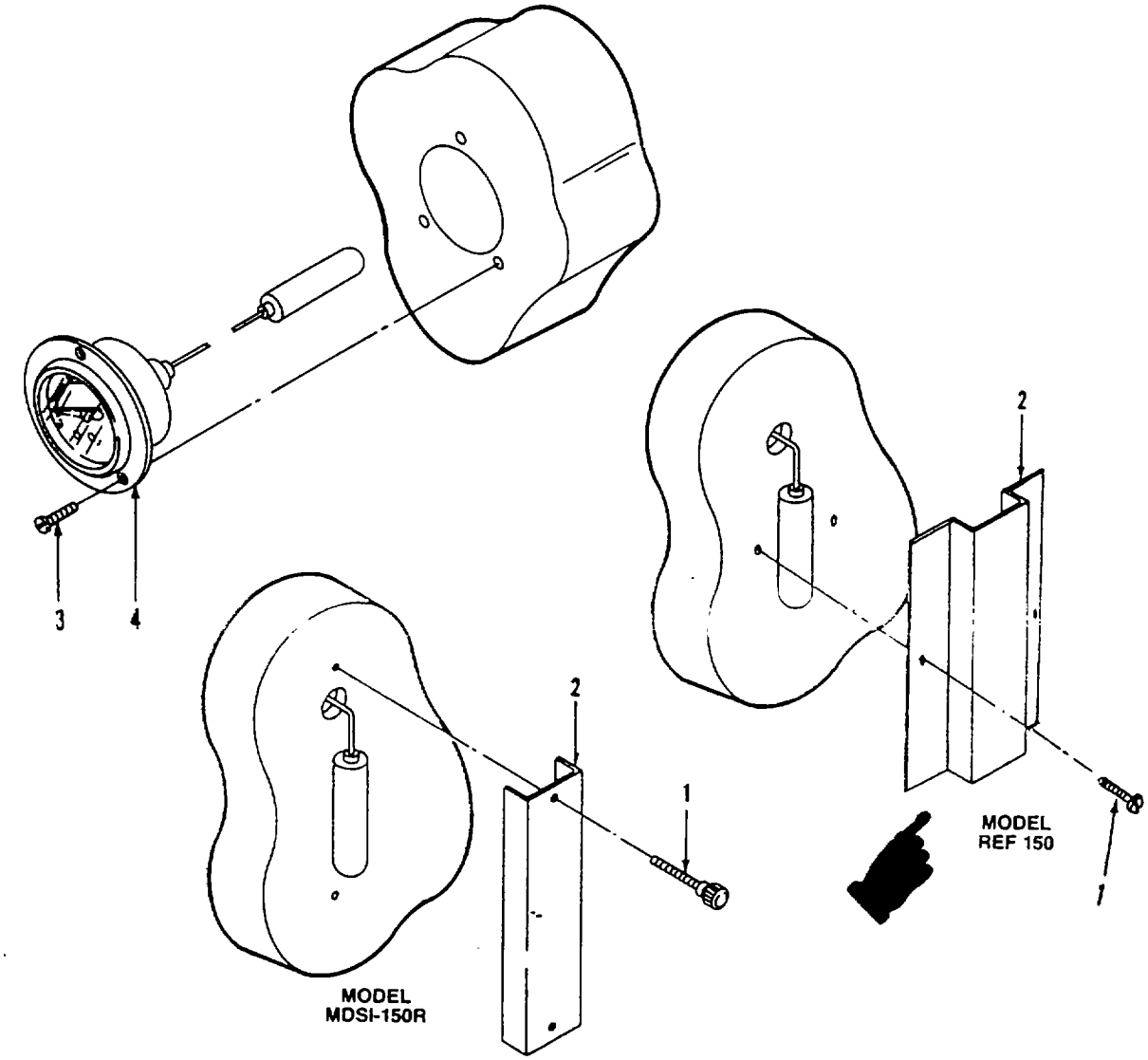
1. Remove screws (1) to remove cargo ring (2).

INSTALLATION:

1. Position cargo ring (2) against wall of refrigerator.
2. Securely mount cargo ring (2) using screws (1).

**REMOVE/INSTALL DIALTHERMOMETER.**

TOOLS: Screwdriver, flat-blade




REMOVAL:

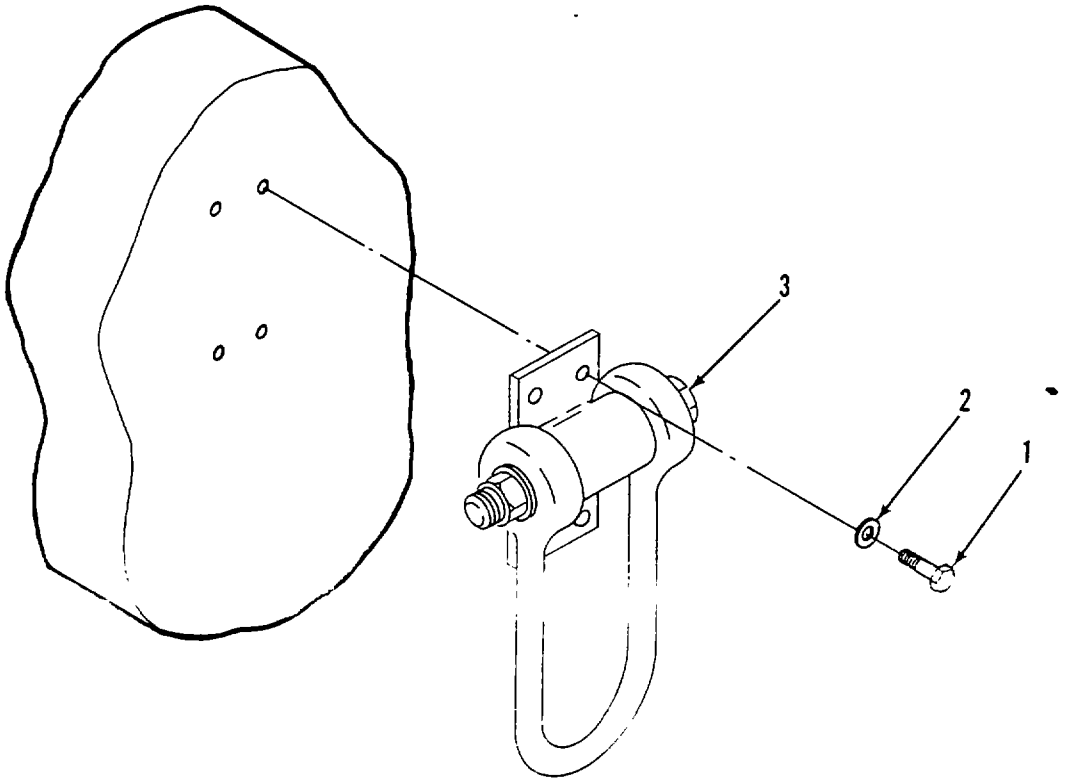
1. Remove two screws (1) and remove capillary and bulb cover (2).
2. Remove three screws (3) from around face of dialthermometer (4).
3. Remove dialthermometer (4) from refrigerator.

INSTALLATION:

1. Position dialthermometer (4) into refrigerator wall.
2. Attach dialthermometer (4) using three screws (3).
3. Position capillary and bulb cover (2) over dialthermometer (4) bulb, and secure with screws (1).

**REMOVE/INSTALL LIFTING LOOP ASSEMBLY**

TOOLS: Wrench




REMOVAL:

1. Use wrench to remove hex head cap screws (1) and lock washers.
2. Remove lifting loop assembly (3) from refrigerator.

INSTALLATION:

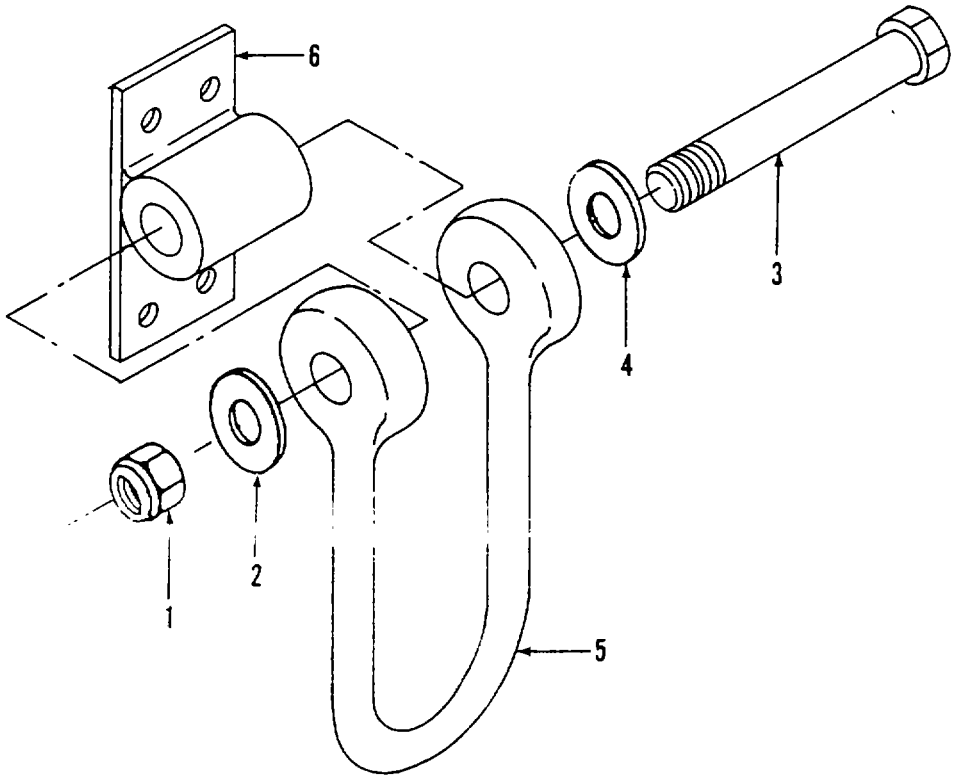
1. Position lifting loop assembly (3) on refrigerator.
2. Use wrench to secure lifting loop assembly (3) with lock washers (2) and cap screws (1).

**REPAIR LIFTING LOOP**

TOOLS: Wrench (2)

**NOTE**

If bracket (6) is damaged, perform PRELIMINARY PROCEDURE: Remove lifting loop (page 4-33).




REMOVAL:

1. Using two wrenches, one holding the hex head cap screw (3) and the other turning the lock nut (1), remove nut (1) and washer (2).
2. Remove cap screw (3) and washer (4) to free lifting loop (5) from bracket (6).

INSTALLATION:

1. Position lifting loop (5) on bracket and insert washer (4) and cap screw (3).
2. Secure lifting loop (5) with washer (2) and lock nut (1).

**NOTE**

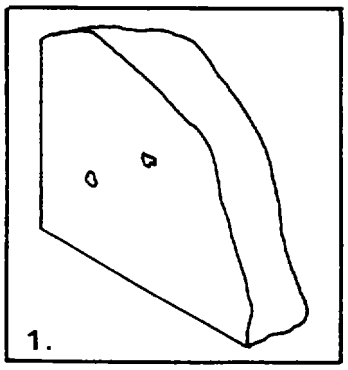
FOLLOW-ON MAINTENANCE: Install lifting loop assembly (page 4-33).

**CLOSURE PLUG ASSEMBLY REPAIR PROCEDURES INDEX**

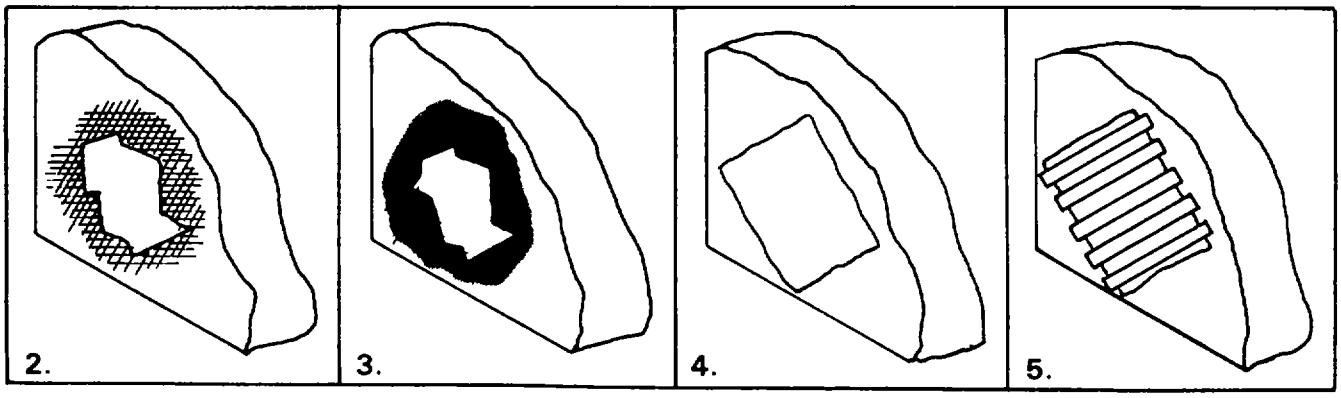


**REPAIR CLOSURE PLUG ASSEMBLY**

TOOLS: Sealing Compound, TT-S-230, Gum Grade (8030-965-2397)
Repair Kit, MIL-2-58047(CE) or MIL-R-1 9907C(2090-372-6064)



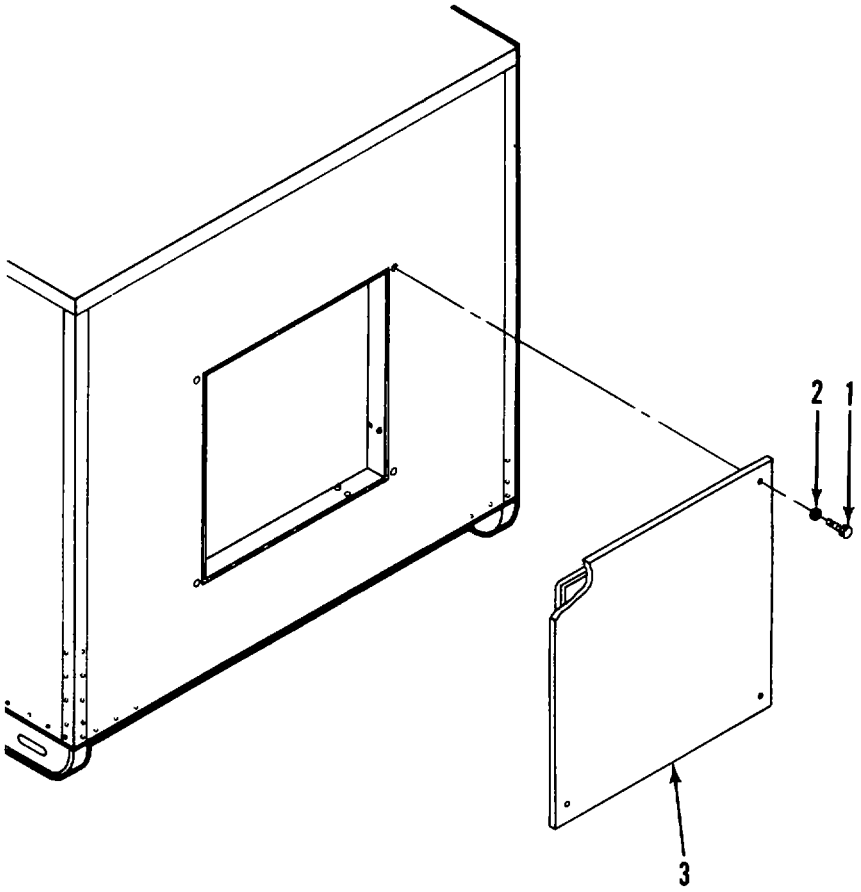

1. Seal minor holes and punctures with sealing compound, TT-S-230, Gum Grade.




2. To repair minor rips or tears, roughen metal around damaged area to remove paint and increase adhesion of patch.
3. Apply epoxy mixture in accordance with instructions in kit.
4. Apply patch material in accordance with instructions in kit.
5. Apply tape over entire patch area.

**REMOVE/INSTALL CLOSURE PLUG ASSEMBLY**

TOOLS: Wrench




REMOVAL:

1. Use wrench to remove bolts (1) and lock washers (2) holding closure plug assembly (3). Remove closure plug assembly (3).

INSTALLATION:

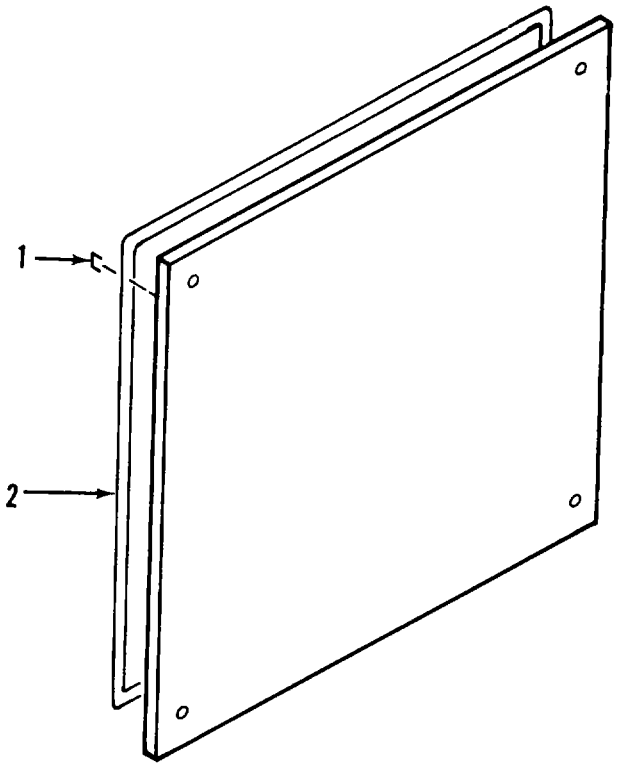
1. Position closure plug assembly (3) against refrigerator.
2. Secure closure plug (3) with lock washers (2) and bolts (1).

**REMOVE/INSTALL CLOSURE PLUG GASKET**

TOOLS: Staple Puller or Screwdriver, flat-blade
Knife, pocket
Gun, Staple

**NOTE**

PRELIMINARY PROCEDURE: Remove closure plug assembly (page 4-36).




REMOVAL:

1. Use screwdriver or staple puller to remove staples (1).
2. Remove and discard damaged gasket.

INSTALLATION:

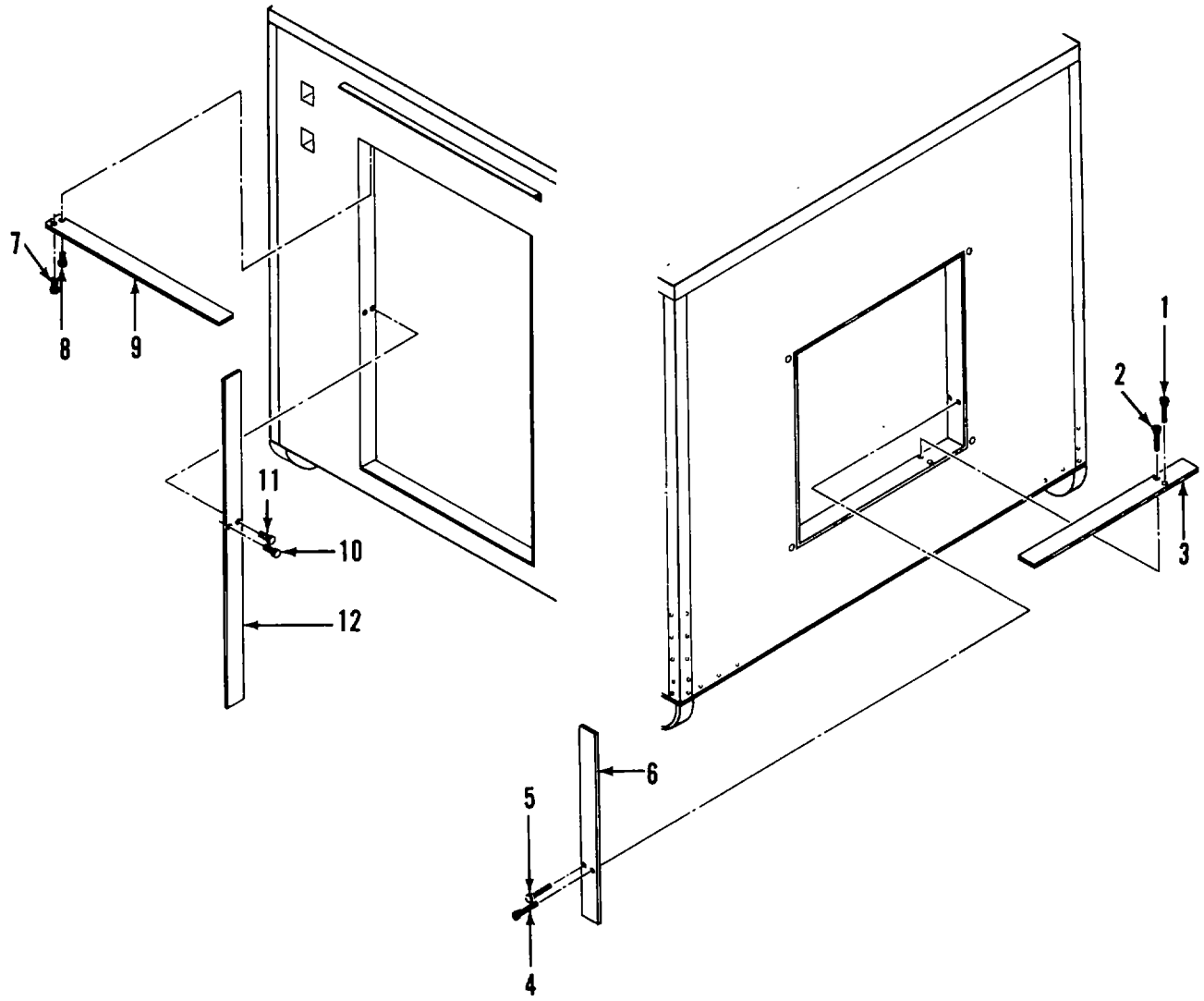
1. Begin installing new gasket (2) at the bottom corner of the closure plug assembly.
2. Gasket (2) must be installed as a continuous strip around plug and end at the bottom corner where it began.' Cut excess after tacking end in place.

**NOTE**

FOLLOW-ON MAINTENANCE: Install closure plug assembly (page 4-36).

**REMOVE/INSTALL EXTERIOR TRIM**

TOOLS: Screwdriver, cross-tip




REMOVAL:

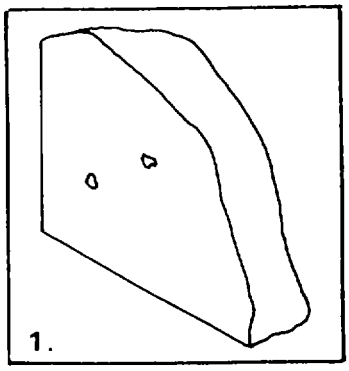
1. Remove associated screws (1 and 2, 4 and 5, 7 and 8, or 10 and 11) to remove trim pieces (3, 6, 9, or 12).

INSTALLATION:

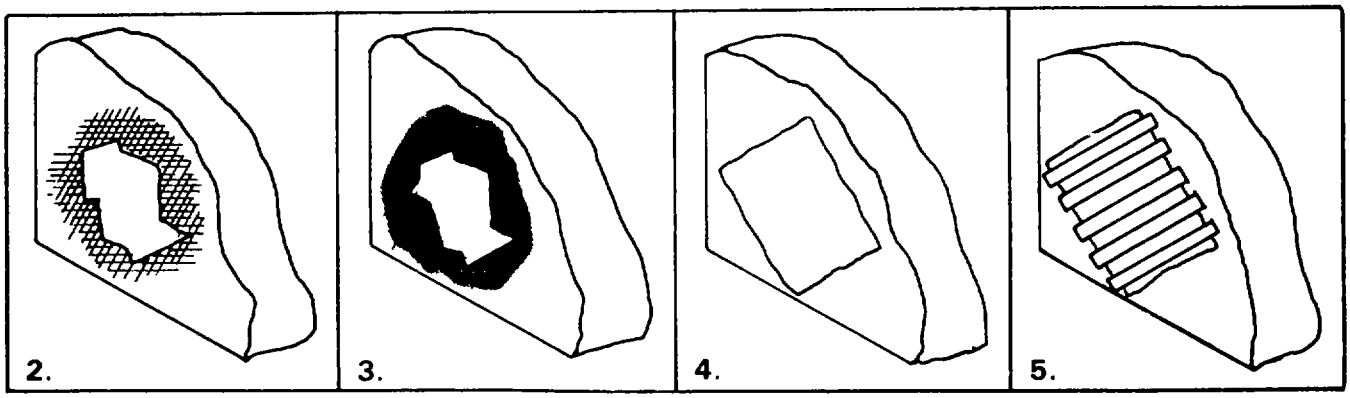
1. Mount exterior trim pieces (3, 6, 9, or 12) with their mounting hardware(1 and 2,4 and 5, 7 and 8, or 10 and 11).

**REPAIR 150 CUBIC FOOT BOX**

TOOLS: Sealing Compound, TT-S-230, Gum Grade (8030-965-2397)
Repair Kit, MIL-2-58047(CE) or MIL-R-1 9907C(2090-372-6064)



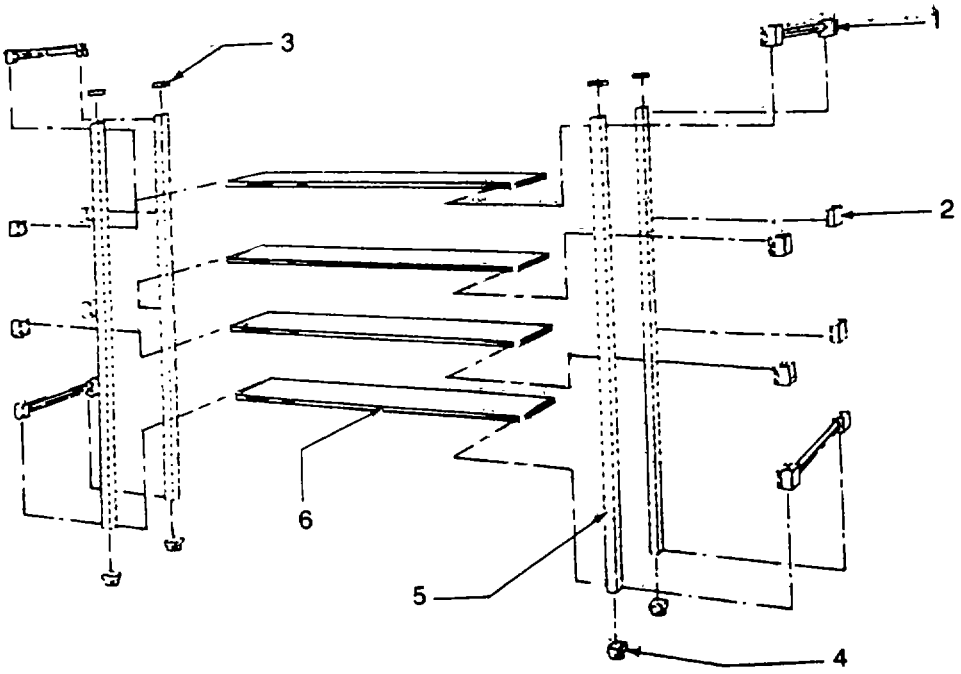

1. Seal minor holes and punctures with sealing compound, TT-S-230, Gum Grade.




2. To repair minor rips or tears, roughen metal around damaged area to remove paint and increase adhesion of patch.
3. Apply epoxy mixture in accordance with instructions in kit.
4. Apply patch material in accordance with instructions in kit.
5. Apply tape over entire patch area.

**ASSEMBLY/DISASSEMBLY SHELVING**

TOOLS: Hammer




ASSEMBLY:

1. Mount caps (3) and leveling feet (4) to side posts (5).
2. Mount joining bars (1) at top and bottom of posts (5).
3. Mount shelf clips (2) at desired levels on posts (5).
4. Start with top shelf (6) and tap into hooks mounted on joining bar (1).
5. Repeat Step 4 with remaining shelves (6) working from top to bottom.

DISASSEMBLY:

1. Snap shelves upwards out of hooks on joining bars (1) and shelf clips (2) starting with bottom shelf(6) and working upwards towards top shelf (6).
2. Remove shelf clips (2) from posts (5).
3. Remove joining bars (1) from posts (5).
4. Remove leveling feet (4) and caps (3) from side posts.

## Section VI. PREPARATION FOR STORAGE OR SHIPMENT

### 4-10. PREPARATION FOR STORAGE.

A. Empty refrigerator completely.
B. Remove any auxiliary equipment in accordance with the manuals covering those items.
C. Install closure plug assembly.
D. Wash unit and dry thoroughly.
E. Secure door with padlock and chain. Securely attach keys to padlock.

### 4-11. PREPARATION FOR SHIPMENT.

A. Empty refrigerator completely.
B. Remove any auxiliary equipment in accordance with the manuals covering those items.
C. Install closure plug assembly.
D. Wash unit and dry thoroughly.
E. Check vapor proof globe for security.
F. Secure door with padlock and chain Securely attach keys to padlock.

# CHAPTER 5
# DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

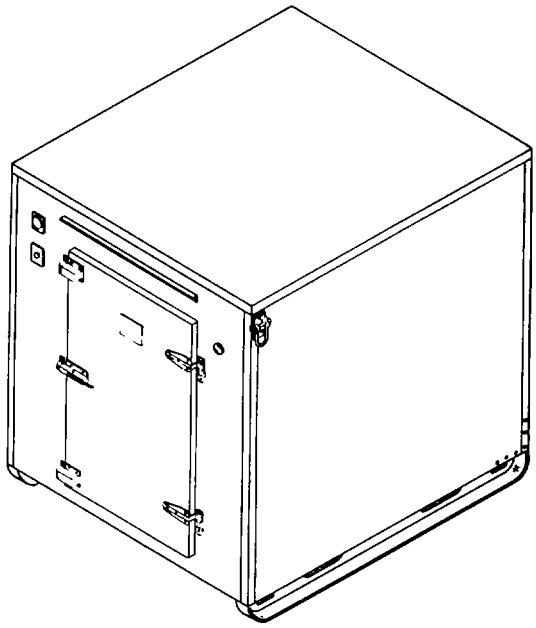


## Section I. TROUBLESHOOTING

**5-1.** There is no direct support troubleshooting. All troubleshooting actions can be performed at the operator or organizational level of maintenance.

## Section II. DIRECT SUPPORT MAINTENANCE PROCEDURES

**5-2. PROCEDURES.**
**REPAIR REFRIGERATOR**
TOOLS: Polyurethane Foam Kit, MIL-P-39500



**WARNING**

Insulating foam is highly flammable, and burning insulation produces toxic fumes. Wear a respirator when welding near insulating foam.

1. Repair sheet metal tears in excess of 6 inches in length by heliarc welding.

2. Sheet metal patches may be fabricated from 0.040 inch sheet metal to cover holes extending more than 6 inches in any direction.

3. Fill cavity in wall (behind patch area) using polyurethane foam in accordance with instructions in kit.

**REPAIR REFRIGERATOR - CONTINUED.**

4. Rivet patch into place. Determine rivet size at assembly.

| MS20601 RIVETS | |
|---|---|
| **GRIP LENGTH** | **DASH NUMBER** |
| up to 0.062 | -AD4W1 |
| 0.063 to 0.1 25 | -AD4W2 |
| 0.126 to 0.187 | -AD4W3 |
| 0.188 to 0.250 | -AD4W4 |

5. If panel is irrepairably damaged, remove rivets in accordance with standard shop practices and remove panel. Fabricate new panel, fill cavity with foam, and rivet new panel into place.

**OVERHAUL REFRIGERATOR INDEX**

# 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 DA Publications ..... DA Form 2028-2
Equipment Inspection and Maintenance Work Sheet ..... DA Form 2404
Quality Deficiency Report ..... SF 368

## A-3. TECHNICAL MANUALS.

Hand Portable Fire Extinguishers Approved for Army Users ..... TB 5-4200-200-10
The Army Maintenance Management System ..... DA PAM 738-750
Painting Instructions for Field Use ..... TM 43-0139
Hand Receipt Manual ..... TM 5-4110-240-13&P-HR
Operator, Organizational, and Direct Support Maintenance
and Repair Parts and Special Tools List ..... TM 5-4110-240-1 3&P
Administrative Storage of Equipment ..... TM 740-90-1
Procedures for Destruction of Equipment to Prevent Enemy Use ..... TM 750-244-3

## A-4. MISCELLANEOUS PUBLICATIONS.

Fuels, Lubricants, Oils, and Waxes ..... C91001L

# 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 supplementary instructions and explanatory notes for a particular maintenance function.

**B-2. Maintenance functions.** Maintenance functions will be limited to and defined as follows (except for ammunition MAC[1]):

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

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

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

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

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

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

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance 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 3rd position code of the SMR code.

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[1]Exception is authorized for ammunition MAC to permit the redesignation/redefinition of maintenance function headings to more adequately identify ammunition maintenance functions. The heading designations and definitions will be included in the appropriate technical manual for each category of ammunition.

i. Repair. The application of maintenance services[2], including fault location/troubleshooting[3,] removal/installation, and disassembly/assembly[4] procedures, and maintenance actions[5] to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

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

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

**B-3. Explanation of Columns in the MAC, Section II.**

a. Column 1, Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group 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 detailed explanation of these functions, see paragraph B-2).

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed a. 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 ..... Organizational Maintenance
F ..... Direct Support Maintenance
H ..... General Support Maintenance
L ..... Specialized Repair Activity6
D ..... Depot Maintenance

[2]Services - inspect, test, service, adjust, align, calibrate, and/or replace.

[3]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).

[4]Disassemble/Assemble - 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.

[5]Actions - welding, grinding, riveting, straightening, facing, remachinery, and/or resurfacing.

[6]This maintenance category is not included in Section II, column 4 of the Maintenance Allocation Chart. To identify functions to this category of maintenance, enter a work time figure in the "H"

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

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

**B-4**. *Explanation of Columns in Tool and Test Equipment Requirements, Section II.*

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 column 6, Section II.

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

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column of Section II, column 4, and use an associated reference code in the Remarks column (6). Key the code to Section IV, Remarks, and explain the SRA complete repair application there. The explanatory remark(s) shall reference the specific Repair Parts and Special Tools List (RPSTL) TM which contains additional SRA criteria and the authorized spare/repair parts.

## Section II. MAINTENANCE ALLOCATION CHART

| (1) GROUP NUMBER | (2) COMPONENT ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND TEST EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 01 | Refrigerator | Inspect | 0.2 | | | | | | |
| | | Service | 1.0 | | | | | | |
| | | Repair | | 0.5 | | | | | |
| | | Overhaul | | 11.0 | | | | | |
| | Refrigerator Door Assembly | Inspect | 0.1 | | | | | | |
| | Door | Repair | | 0.5 | | | | | |
| | | Replace | | 1.0 | | | | | |
| | Latch, Safety Lock | Inspect | 0.1 | | | | | | |
| | | Service | 0.1 | | | | | | |
| | | Repair | | 0.2 | | | | | |
| | | Replace | | 0.3 | | | | | |
| | Padlock and Chain | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.1 | | | | | |
| | Latch, Two Point | Inspect | 0.1 | | | | | | |
| | | Service | 0.1 | | | | | | |
| | | Replace | | 0.3 | | | | | |
| | Hinge, Offset | Inspect | 0.1 | | | | | | |
| | | Service | 0.1 | | | | | | |
| | | Replace | | 0.3 | | | | | |
| | Gasket, Door | Inspect | 0.2 | | | | | | |
| | | Replace | | 0.3 | | | | | |
| 02 | Electrical Wiring, Switch Light Assembly | | | | | | | | |
| | Wires and Cables | Test | | 1.0 | | | | | |
| | | Repair | | 1.5 | | | | | |
| | | Replace | | 2.5 | | | | | |
| | Switch Cover | Inspect | 1.0 | | | | | | |
| | | Replace | | 0.1 | | | | | |
| | Switch | Inspect | | 0.2 | | | | | |
| | | Test | | 0.7 | | | | | |
| | | Replace | | 0.5 | | | | | |
| | Cover, Pilot Light | Inspect | 0.1 | | | | | | |
| | | Service | | 0.1 | | | | | |
| | | Replace | | 0.2 | | | | | |
| | Pilot Light Socket | Inspect | | 0.1 | | | | | |
| | | Test | | 0.7 | | | | | |
| | | Replace | | 0.5 | | | | | |

**SECTION II. MAINTENANCE ALLOCATION CHART (Continued)**

| (1) GROUP NUMBER | (2) COMPONENT ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND TEST EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 02 (Cont.) | Bulb, Lamp | Inspect | | 0.1 | | | | | |
| | | Replace | | 0.1 | | | | | |
| | Vapor Proof Light and Globe | Inspect | 0.1 | | | | | | |
| | | Service | 0.1 | | | | | | |
| | | Test | | 0.7 | | | | | |
| | | Replace | 0.1 | | | | | | |
| | Bulb (Lamp) | Inspect | 0.1 | | | | | | |
| | | Replace | 0.1 | | | | | | |
| | Receptacle, Power | Inspect | 0.1 | | | | | | |
| | | Test | | 0.5 | | | | | |
| | | Replace | | 0.3 | | | | | |
| | Plug, Twist Lock | Inspect | 0.2 | | | | | | |
| | | Test | | 0.5 | | | | | |
| | | Replace | | 0.4 | | | | | |
| | Cover, Triple Seal | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.1 | | | | | |
| 03 | Interior Components | | | | | | | | |
| | Cargo Ring, Tie-down | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.3 | | | | | |
| 04 | Exterior Components | | | | | | | | |
| | Dial Thermometer Thermometer | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.3 | | | | | |
| | Capillary and Bulb | Inspect | 0.1 | | | | | | |
| | Cover | Replace | | 0.1 | | | | | |
| | Loop, Lifting | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.5 | | | | | |
| | Closure Plug Assembly | Inspect | 0.1 | | | | | | |
| | | Repair | | 0.3 | | | | | |
| | | Replace | | 0.2 | | | | | |
| | Gasket, Closure Plug | Inspect | 0.1 | | | | | | |
| | Assembly | Replace | | 0.2 | | | | | |
| | Exterior Trim | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.2 | | | | | |
| | Box, 150 Cubic Foot | Inspect | 0.1 | | | | | | |
| | | Repair | | 0.5 | | | | | |
| | Floor Grate | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.1 | | | | | |

## SECTION II. MAINTENANCE ALLOCATION CHART (Continued)

| (1) GROUP NUMBER | (2) COMPONENT ASSEMBLY | (3) MAINTENANCE FUNCTION | (4) MAINTENANCE LEVEL C | O | F | H | D | (5) TOOLS AND TEST EQUIPMENT | (6) REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 05 | Shelving Assembly | Inspect | 0.2 | | | | | | |
| | | Replace | | 0.6 | | | | | |
| | Bar, Joining | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.1 | | | | | |
| | Clip, Shelf | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.1 | | | | | |
| | Cap, Post | Inspect | 10.1 | | | | | | |
| | | Replace | | O.1 | | | | | |
| | Foot, Leveling | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.1’ | | | | | |
| | Post, Side | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.1 | | | | | |
| | Shelf, Wire | Inspect | 0.1 | | | | | | |
| | | Replace | | 0.1 | | | | | |

# APPENDIX C

# REPAIR PARTS AND SPECIAL TOOLS LIST

## ORGANIZATIONAL AND DIRECT SUPPORT MAINTENANCE
## REPAIR PARTS AND SPECIAL TOOLS LIST
## (INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS)

## Section I. INTRODUCTION

### C-1. SCOPE.

This manual lists spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE), and other special support equipment required for performance of organizational, direct support, and general support maintenance of the Refrigerator, Mechanical, Field, Portable Walk-In, Plug-In, (150 Cubic Foot). It authorizes the requisitioning and issue of spares and repair parts as indicated by the source and maintenance codes.

### C-2. GENERAL.

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 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 numeric sequence, with the parts in each group listed in figure and item number sequence. Bulk materials are listed in NSN sequence.

*b. Section III. Special Tools List*. A list of special tools, special TMDE, and other special support equipment authorized for the performance of maintenance. (Not Applicable.)

c. *Section IV. National Stock Number and Part Number Index*. A list, in National Item Identification number (NIIN) sequence, of all National Stock Numbers (NSN) appearing in the listings, 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. This index is followed by a cross-reference list of reference designators to figure and item numbers.

### C-3. EXPLANATION OF COLUMNS.

a. *Illustration.* This column is divided as follows: (1) Figure Number. Indicates the figure number of the illustration on which the item is shown.

(2) *Item Number*. The number used to identify item called out in the illustration.

b. *Source, Maintenance, and Recoverability(SMR) Codes.*

(1) *Source Code*. Source codes indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

| *Code* | *Definition* |
|---|---|
| PA | Item procured and stocked for anticipated or known usage. |
| PB | Item procured and stocked for insurance purpose because essentially dictates that a minimum quantity be available in the supply system. |
| PC | Not subject to automatic replenishment. |
| PE | Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities. |
| PF | Support equipment which will not be stocked for Initial issue but which will be centrally procured on demand. |
| PG | Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which, because of probable discontinuance or shutdown of production facilities, would prove uneconomical to reproduce at a later time. |

KD- An item of a depot overhaul/repair kit and not purchased separately. Depot kit defined as a kit that provides items required at the time of overhaul or repair.
KF- An item of a maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at organizational or intermediate levels of maintenance.
KB- Item included in both a depot overhaul/repair kit and a maintenance kit.
MO- Item to be manufactured or fabricated at organizational level.
MF- Item to be manufactured or fabricated at the direct
MH- Item to be manufactured or fabricated at the general support maintenance level.
MD- Item to be manufactured or fabricated at the depot maintenance level.
AO- Item to be assembled at organizational level.
AF- Item to be assembled at direct support maintenance level.
AH- Item to be assembled at general support maintenance level.
AD- Item is to be assembled at depot maintenance level.
XA- Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB- Item is not procured or stocked. If not available through salvage, requisition.
XC- Installation drawing, diagram, installation sheet, field service drawing, that is identified by manufacturer's part number.
XD- A support item that is not stocked. When required, item will be procured through normal support channels.

NOTE: Cannibalization or salvage may be used as a source or supply for any items coded above except those coded XA and aircraft support items restricted by AR 700-42.

(2) Maintenance Code. Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR-support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format as follows:

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

*Code* *Application/Explanation*

C- Crew or operator maintenance performed within organizational maintenance.

O- Support item is removed, replaced, used at the organizational level.

F- Support item is removed, replaced, used at the direct support level.

H- Support item is removed, replaced, used at the general support level.

D- Support items that are removed, replaced, used at depot, mobile depot, or specialized repair activity only.

(b) The maintenance code entered in the fourth position indicated whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

*Code* *Application/Explanation*

O- The lowest maintenance level capable of complete repair of the support item is the organizational level.
F- The lowest maintenance level capable of complete repair of the support item is the direct support level.
H- The lowest maintenance level capable of complete

D- The lowest maintenance level capable of complete repair of the support item is the depot level.
Z- Nonreparable. No repair is authorized.

B- No repair is authorized. The item may be reconditioned by adjusting, lubricating, etc., at the user level. No parts or special tools are procured for the maintenance of the item.

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

*Recoverability Codes* *Definition*

Z- Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.
O- Reparable item. When uneconomically reparable, condemn and dispose at organizational level.
F- Reparable item. When uneconomically reparable, condemn and dispose at organizational level.
H- Reparable item. When uneconomically reparable, condemn and dispose at the general support level.
D- Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal is not authorized below depot level.
L- Reparable item. Repair, condemnation, and disposal not authorized below depot/specialized repair activity level.
A- Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manuals/directives for specific instructions.

*c. National Stock Number.* Indicates the National stock number assigned to the item and which will be used for requisitioning.

d. *Part Number.* 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 a stock numbered item is requisitioned, the item received may have a different part number than the part being replaced.

e. *Federal Supply Codes for Manufacturers (FSCM).* The FSCM is a 5-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agency, etc.

f. *Description.* Indicates the Federal item name, and if required, a minimum description to identify the item.

(1) *Usable On Code.* The Usable On Code appears in the lower right corner of the Description column heading. Usable On Codes are shown as a three-position alphanumeric field, right justified, on the first line applicable item description nomenclature. Uncoded Items are applicable to all models. Identification of the Usable On Codes used in the RPSTL are:

| Code | Used On |
|---|---|
| DQH | Model MDSI-150R |
| EL'K | Model REF 150 |

g. *Unit of Measure.* Indicates the standard of the basic quantity of the listed item as used in performing :he actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr, etc). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned

h. *Quantity Incorporated in Unit.* 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 no specific quantity is applicable (e.g., shims, spacers, etc.).

**C4. HOW TO LOCATE REPAIR PARTS.**

a. *When National Stock Number or Part Number is Unknown:*

(1) *First.* Using the table of contents, determine the functional group within which the item belongs. This is necessary since illustrations are prepared for functional groups and listings are divided into the same groups.

(2) *Second.* Find the illustration covering the functional group to which the item belongs.

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

(4) *Fourth.* Using the Repair Parts Listing, find the figure and item number noted on the illustration.

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. This index is in NIIN sequence followed by a list of part numbers in alphanumeric sequence, cross-referenced to the illustration figure number and item number

(2) *Second.* After finding the figure and item number, locate the figure and item number in the repair parts list.

**C-5. ABBREVIATIONS.**

All abbreviations used in this manual are in accordance with MIL-STD-1 2D.

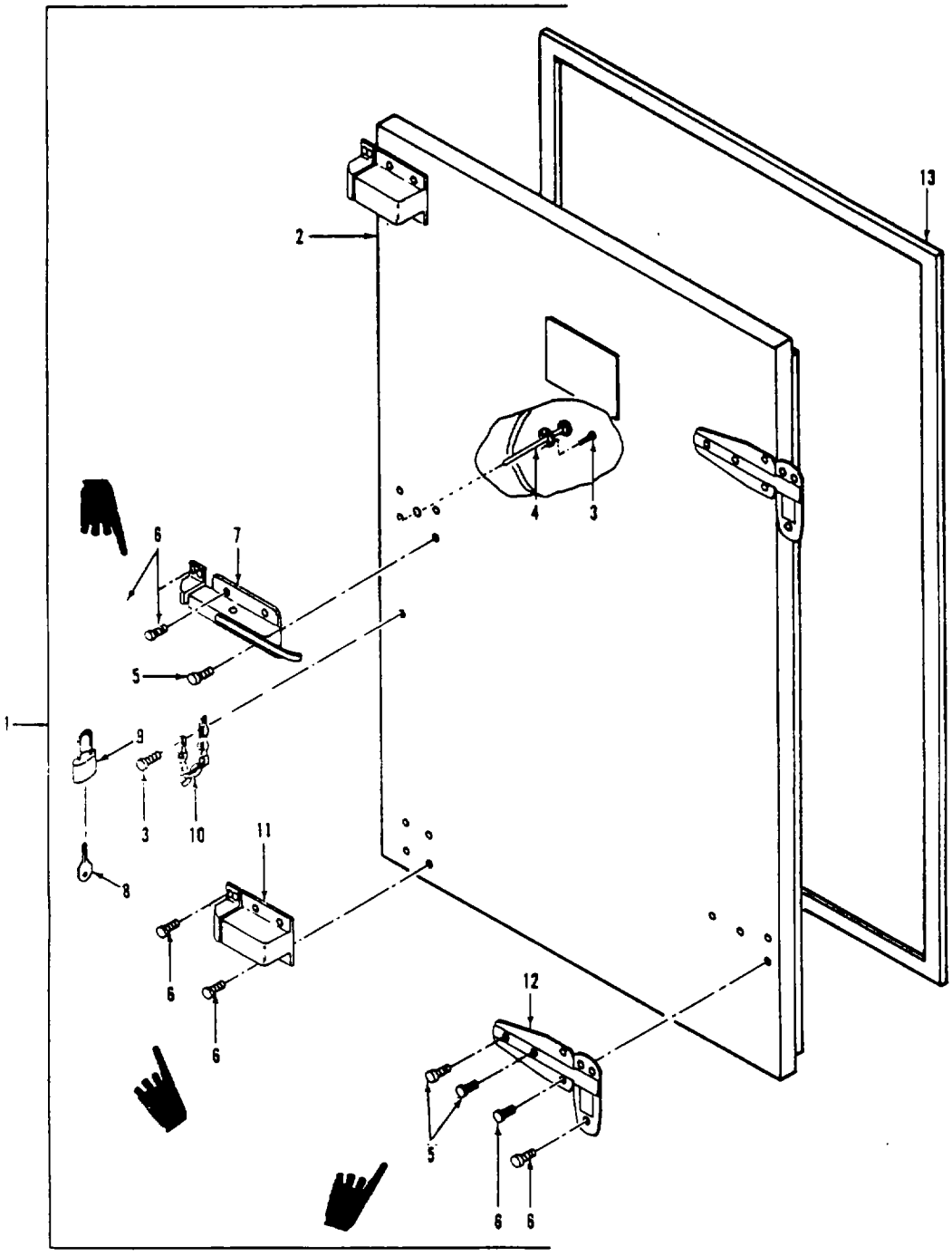


*Figure C-1. Refrigerator Door Assembly*

## Section II. REPAIR PARTS LIST

| (1) ILLUSTRATION (a) FIG NO. | (1) ILLUSTRATION (b) ITEM NO. | (2) SMR CODE | (3) NATIONAL STOCK NUMBER | (4) FSCM | (5) PART NUMBER | (6) DESCRIPTION USABLE ON CODE | (7) U/M | (8) QTY INC IN UNIT |
|---|---|---|---|---|---|---|---|---|
| | | | | | | GROUP 01 REFRIGERATOR 0OOR ASSEMBLY | | |
| C-1 | 1 | XBOOF | | 53253 | 267005A | DOOR ASSEMBLY ..... | EA | 1 |
| C-1 | 2 | PAOOZ | 4130-01-173-3141 | 53853 | 150D | DOOR..... | EA | 1 |
| C-1 | 3 | PAOZZ | 5305-00984-6212 | 96906 | MI35206-265 | SCREW, MACHINE ..... | EA | 4 |
| C-1 | 4 | PAOZZ | 5315-01-177-5977 | 32761 | 0488 | SAFETY REEASE ROD..... | EA | I |
| C-1 | 5 | PAOZZ | 5305-01-175-6916 | 87308 | 1420125T23 | SCREW, MACHINE ..... | EA | 5 |
| C-1 | 6 | PAOZZ | 5305-01-175-7542 | 87308 | 142010P | SCREW, MACHINE ..... | EA | 32 |
| C-1 | 7 | PAOZZ | 5340-00-617-7630 | 32761 | Z-28111 | LATCH SET..... | EA | I |
| C-1 | 8 | XDOZZ | | 53853 | 4882A | KEY ..... | EA | I |
| C.1 | 9 | XOOZZ | 5340-01-004-5180 | 53853 | 4882 | PADLOCK ..... | EA | 1 |
| C-1 | 10 | PAOZZ | 4010-01-216-2566 | 53853 | 4885 | CHAIN, PADLOCK..... | EA | I |
| C-1 | 11 | PAOZZ | 5340-01-175-9151 | 32761 | 188 | TWO-POINT LATCH ..... | EA | 2 |
| C-1 | 12 | PAOZZ | 5340-01-081-8269 | 32761 | 1245 | HINGE, TEE ..... | EA | 2 |
| C-1 | 13 | PAOZZ | 5330-01-216-2645 | 53853 | 5807 | GASKET, DOOR ..... | FT | 17 |

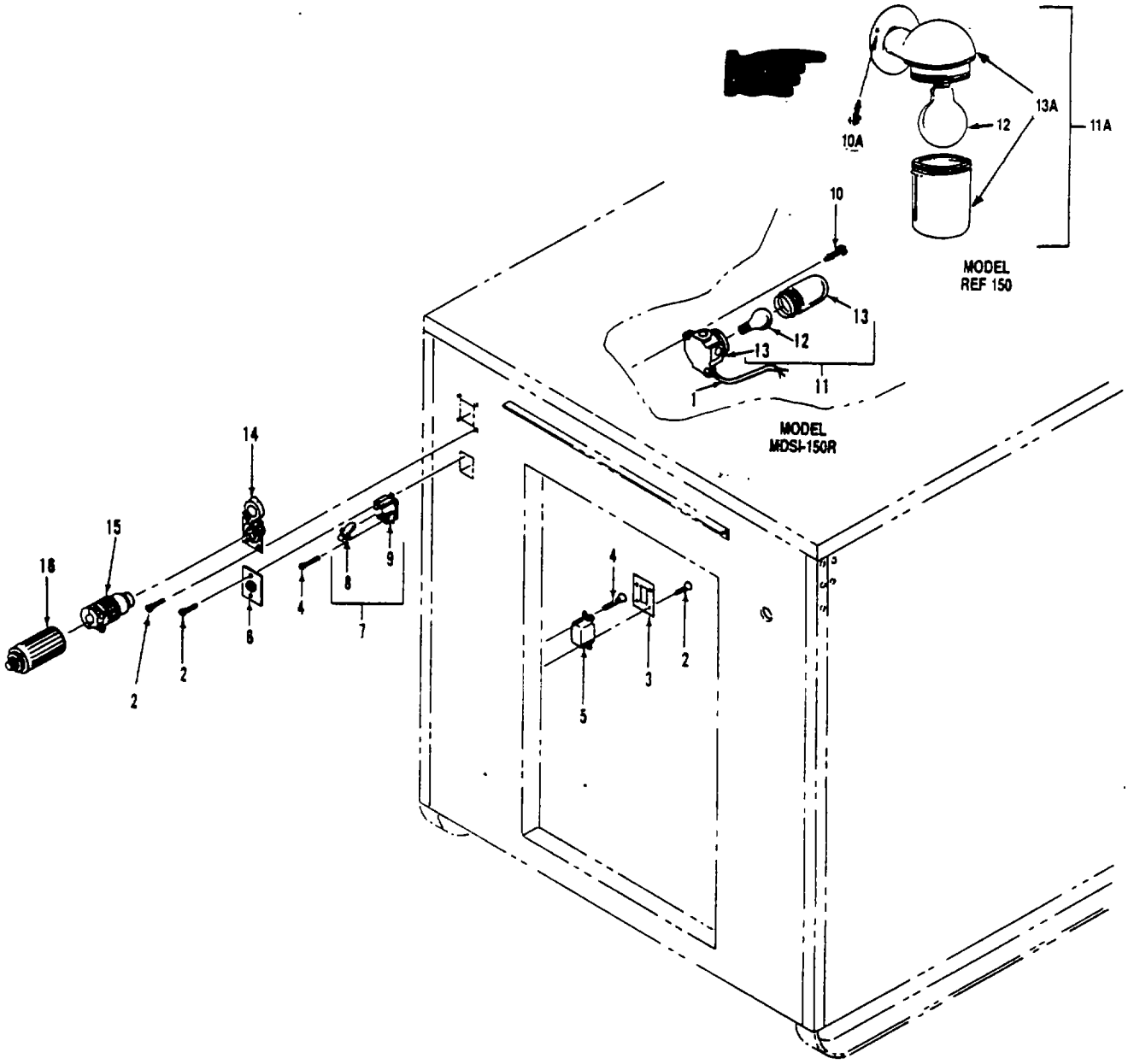


*Figure C-2. Electrical Wiring, Switch Light Assembly*

| (1) ILLUSTRATION (a) FIG NO. | (b) ITEM NO. | (2) SMR CODE | (3) NATIONAL STOCK NUMBER | (4) FSCM | (5) PART NUMBER | (6) DESCRIPTION USABLE ON CODE | (7) U/M | (8) QTY INC IN UNIT |
|---|---|---|---|---|---|---|---|---|
| | | | | | | GROUP02 ELECTRICAL WIRING, SWITCH UGHT ASSEMBLY | | |
| C-2 | 1 | M000Z | | 53853 | 6440 | WIRE, ELECTRICAL..... | FT | 4 |
| C-2 | 2 | PA0ZZ | 5305-01-216-2662 | 87308 | 6325 | SCREW MACHINE ..... | EA | 12 |
| C-2 | 3 | PA0ZZ | 5975-014-041-3621 | 15235 | DS128 | COVER, TOGGLE SWITCH ..... | EA | 1 |
| C-2 | 4 | PA0ZZ | 5305-01-216-2663 | 87308 | 632125 | SCREW, MACHINE ..... | EA | 4 |
| C-2 | 5 | PA0ZZ | 5930-00-051 4448 | 81348 | WS896/203A | SWITCH, TOOGLE ..... | EA | 1 |
| C-2 | 6 | PA0ZZ | 5975-00-280-8492 | 74545 | 93091 | COVER, PILOT UGHT ..... | EA | 1 |
| C-2 | 7 | PA0ZZ | 5935-01-216-2564 | 53853 | 267026A | SOCKET ASSEMBLY, PILOT LIGHT ..... | EA | 1 |
| C-2 | 8 | XD0ZZ | 6240-01-173-2985 | 53853 | TK6W125V | LAMP, INCANDESCENT ..... | EA | 1 |
| C-2 | 9 | PA0ZZ | 6250-01-067-9906 | 74545 | 427 | LAMPHOLDER..... | EA | 1 |
| C-2 | 10 | PA0ZZ | 5305-00-015-0964 | 96906 | MS35493-262 | SCREW, WOOD .....DQH | EA | 2 |
| C-2 | I0A | PA0ZZ | 5305-01-175-3644 | 96906 | MS51862-38C | SCREW, TAPPING .....ELK | EA | 7 |
| C-2 | 11 | PA0ZZ | 6210-01-216-2625 | 53853 | 267028A | FIXTURE, LIGHTING ASSEMBLY.....DQH | EA | 1 |
| C-2 | 11A | PA0ZZ | | 9J303 | 52062 | FIXTURE, LIGHTING ASSEMBLY.....ELK | EA | 1 |
| C-2 | 12 | PA0ZZ | 6240-00-044-5029 | 58854 | 92A23/49/120V | LIGHTBULB ..... | EA | 1 |
| C-2 | 13 | XC0ZZ | | 32761 | 1803 | FIXTURE, VAPOR PROOF .....DHQ | EA | 1 |
| C-2 | 13A | XDOZZ | | 9J303 | 52064 | FIXTURE, VAPOR PROOF .....ELK | EA | 1 |
| C-2 | 14 | PA0ZZ | 5935-00-940-0436 | 74545 | 7600G | CONNECTOR, RECEPTICLE ..... | EA | 1 |
| C-2 | 15 | PA0ZZ | 5935-00-114-8845 | 74545 | 7314-C | PLUG, FEMALE, ELECTRICAL ..... | EA | 1 |
| C-2 | 16 | PA0ZZ | 5340-01-109 9482 | 74545 | 6031 | PLUG, PROTECTIVE..... | EA | 1 |

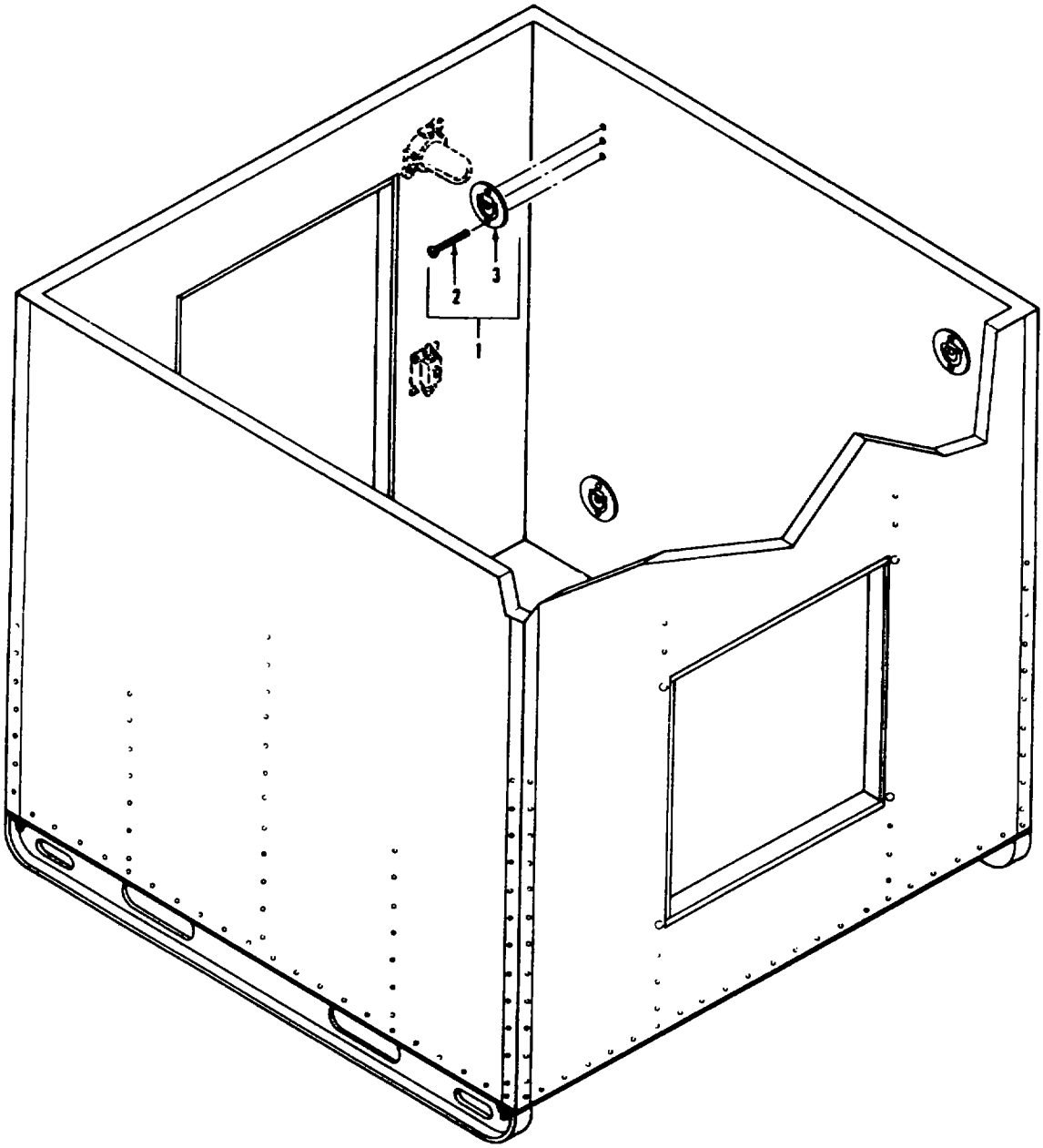


*Figure C3. Interior Components*

| (1) ILLUSTRATION (a) FIG NO. | (1) ILLUSTRATION (b) ITEM NO. | (2) SMR CODE | (3) NATIONAL STOCK NUMBER | (4) FSCM | (5) PART NUMBER | (6) DESCRIPTION USABLE ON CODE | (7) U/M | (8) QTY INC IN UNIT |
|---|---|---|---|---|---|---|---|---|
| | | | | | | GROUP03 INTERIOR COMPONENTS | | |
| C-3 | 1 | XB0ZZ | | 53853 | 267003 | RING SECTION CARGO ..... | EA | 1 |
| C-3 | 2 | PA0ZZ | 5305-01-175-6921 | 87308 | 1420250P | SCREW, MACHINE ..... | EA | 24 |
| C-3 | 3 | PA0ZZ | 5340-01-221-5874 | 53811 | 267019 | RINGO, CARGO ..... | EA | 8 |

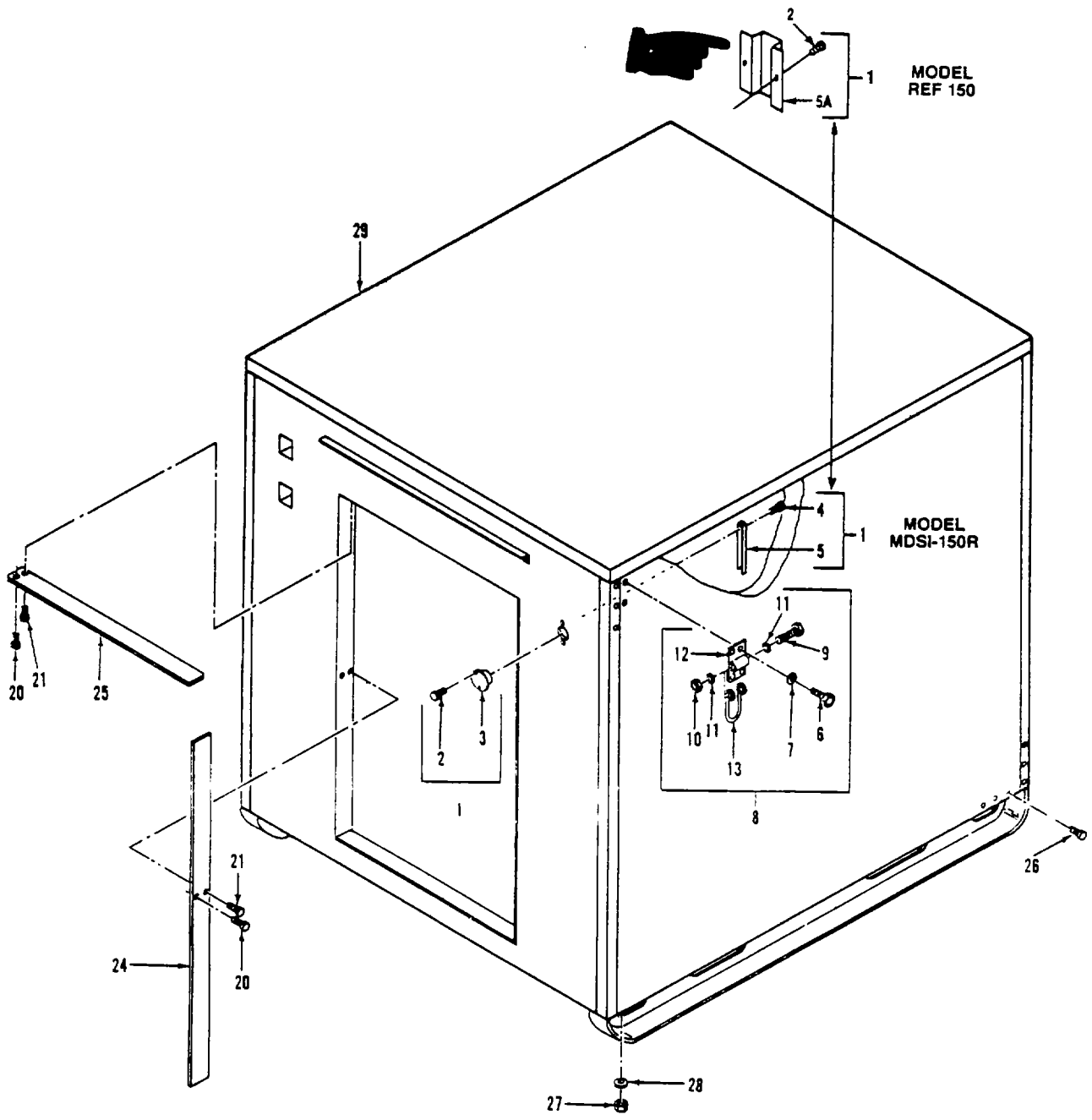


*Figure C-4. Exterior Components (Sheet 1 of 2)*

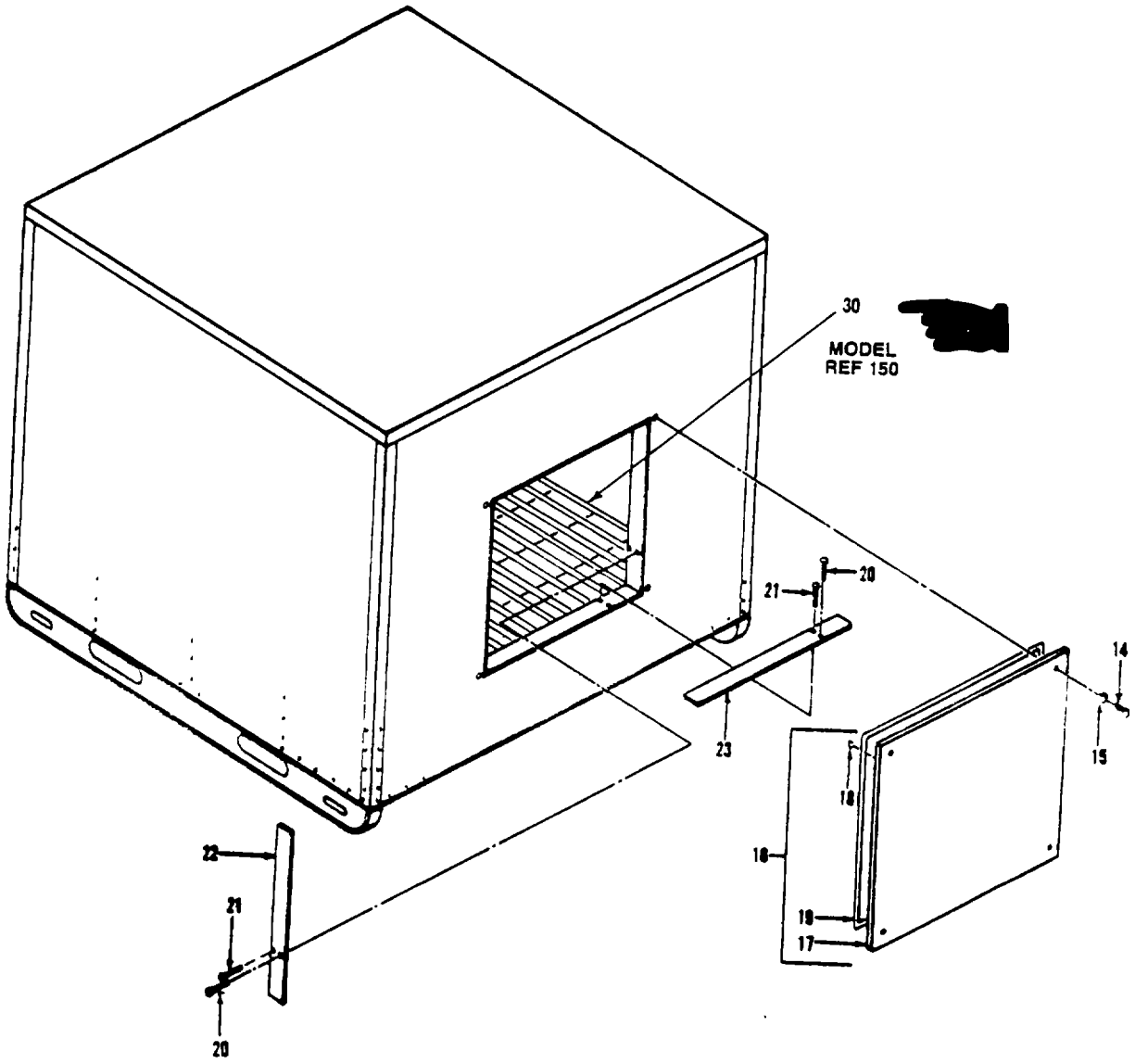


*Figure C-4. Exterior Components (Sheet 2 of 2)*

| (1) ILLUSTRATION (a) FIG NO. | (b) ITEM NO. | (2) SMR CODE | (3) NATIONAL STOCK NUMBER | (4) FSCM | (5) PART NUMBER | (6) DESCRIPTION USABLE ON CODE | (7) U/M | (8) QTY INC IN UNIT |
|---|---|---|---|---|---|---|---|---|
| | | | | | | GROUP 04 EXTERIOR COMPONENTS | | |
| C-4 | 1 | XB0ZZ | | 53853 | 267002 | DIAL THERMOMETER ASSY | EA | 1 |
| C-4 | 2 | PAOZZ | 5305-00-053-1114 | 96906 | MS24621-11 | SCREW, TAPPING | EA | 5 |
| C-4 | 3 | PAOZZ | 6685-01-173-3198 | 53853 | 4304 | THERMOMETER, DIAL | EA | 1 |
| C-4 | 4 | PAOZZ | 5305-01-175-8763 | 87308 | 1024125TSN | THUMIBSCREW, NYLON....DQH | EA | 2 |
| C-4 | 5 | PAOZZ | 4130-01-I73-2925 | 53853 | 05250 | COVER, ACCESS....DOH | EA | 1 |
| C-4 | 5A | PAOZZ | | 9J303 | 52052 | COVER, ACCESS....ELK | EA | 1 |
| C-4 | 6 | PAOZZ | 5306-01-176-5351 | 87308 | 121315H | SOLR, MACHINE,HEX HEAD | EA | 16 |
| C-4 | 7 | PAOZZ | 5310-01-176-5047 | 87308 | I2MLW | LOCK WASHER | EA | 16 |
| C-4 | 8 | XBOZZ | | 53853 | LPA-1 | LOOP ASSY,LIFTING | EA | 4 |
| C-4 | 9 | PAOZZ | 5305-00947-4363 | 96906 | MS90728-200 | BOLT, MACMNE, HEX HEAD | EA | 4 |
| C-4 | 10 | PAOZZ | 5310-01-175-1025 | 87308 | 3410TLA | NUT, SELF-IOCKIHG | EA | 4 |
| C-4 | 11 | PAOZZ | 5310-00-809-8563 | 96906 | MS27183-24 | WASHER, FLAT | EA | 8 |
| C-4 | 12 | XB0ZZ | | 53853 | HP-1 | PLATE, HINGE | EA | 4 |
| C-4 | 13 | PAOZZ | 4130-01-173-535 | 5153 | LP-1 | LOOP, UFTING,STEEL | EA | 4 |
| C-4 | 14 | PAOZZ | 5305-00-724-7224 | 96906 | MS90728-166 | BOLT, MACHINE, HEX HEAD | EA | 4 |
| C-4 | 15 | PAOZZ | 5310-00-951-7209 | 96906 | MS2783-22 | WASHER, FLAT | EA | 4 |
| C-4 | 16 | XB0ZZ | | 53853 | 267004A | CLOSURE PLUG ASSY | EA | 1 |
| C-4 | 17 | PA0ZZ | 4130-01-173-3134 | 53853 | 267004 | CLOSURE PLUG | EA | 1 |
| C-4 | 18 | XBOZZ | 5315-01-185-3670 | 16245 | PW-50-1/2 | STAPLE | EA | 40 |
| C-4 | 19 | MOOOZ | | 74951 | NX502B-1 | SEAL GASKET, RUBBER<br>SPECAL MFG<br>FROM BULK MATERIAL 5330-00-083-9920 | FT | 12 |
| C-4 | 20 | PA0ZZ | 5305-01-089-5988 | 96906 | MS24628-52 | SCREW, TAPPING | EA | 93 |
| C-4 | 21 | PA0ZZ | 5305-01-175-3844 | 96906 | MS51862-38C | SCREW TAPPING<br>SEE FIG C-2, ITEM 1OA | EA | (95) |
| C-4 | 22 | XB0ZZ | | 53853 | 3204B | TRIM,BREAKER STRIP | EA | 2 |
| C -4 | 23 | XB0ZZ | | 53853 | 3204A | TRIM,BREAKER STRIP | EA | 2 |
| C-4 | 24 | XBOZZ | | 53053 | 3815 | TRIM,DOOR JAMB | EA | 2 |
| C-4 | 25 | XOOZZ | | 53853 | 3816 | HEADER, DOOR STRIP | EA | 1 |
| C-4 | 26 | PAOZZ | 5305-00-015-0964 | 96906 | MS35493-262 | SCREW, WOOD ....DQH | EA | 51 |
| C-4 | 27 | PAOZZ | 5310-0763-8921 | 96906 | MS51967-23 | NUT PLAIN,HEXAGON | EA | 4 |
| C-4 | 28 | PAOZZ | 5310-01-176-5046 | 87308 | 34MLW | WASHER, LOCK | EA | 4 |
| C-4 | 29 | XBFFF | 4110-01-143-0056 | 53853 | - 267000 | REFRIGERATOR, 150 CUBIC FT., END ITEM | EA | (1) |
| C-4 | 30 | XB0ZZ | | 9J303 | 54010 | FLOOR GRATE,321 x 75....ELK | EA | 2 |

1
2 - 6

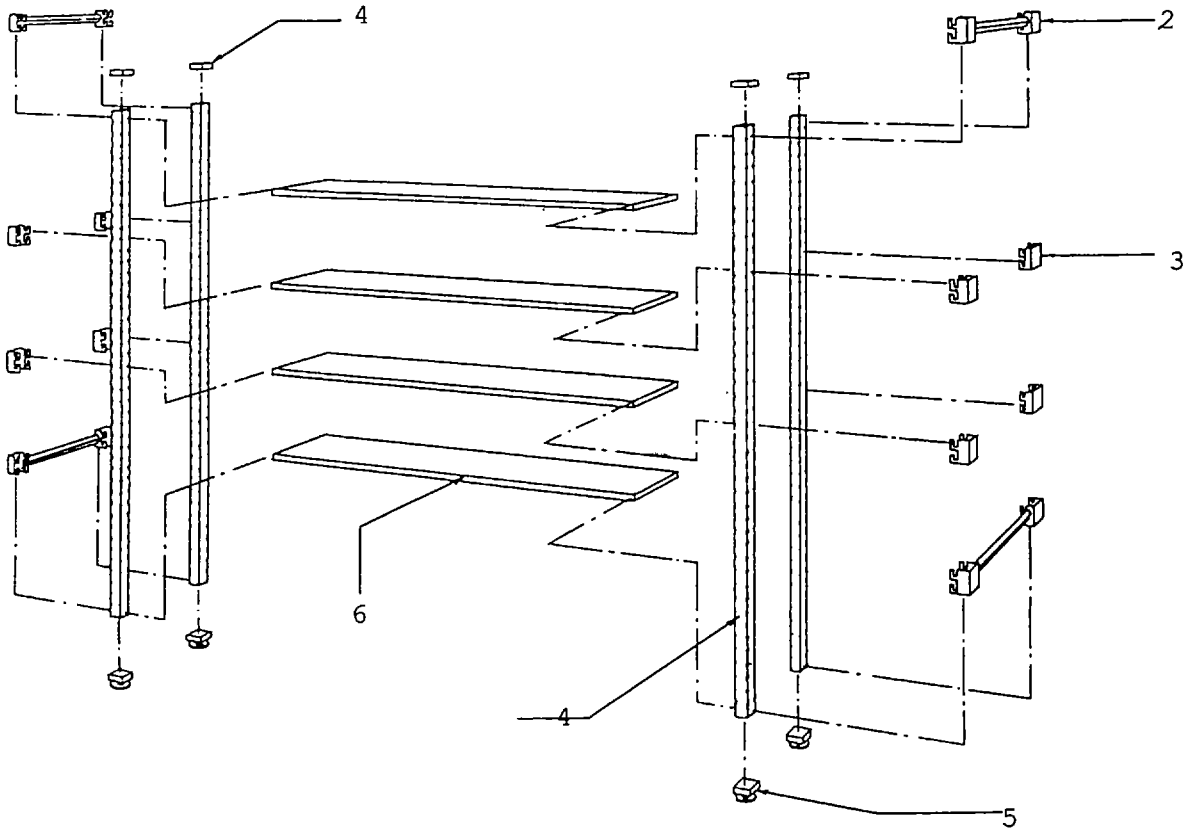


*FIGURE C-5. SHELVING ASSEMBLY*

| (1) ILLUSTRATION (a) FIG NO. | (1) ILLUSTRATION (b) ITEM NO. | (2) SMR CODE | (3) NATIONAL STOCK NUMBER | (4) FSCM | (5) PART NUMBER | (6) DESCRIPTION / USABLE ON CODE | (7) U/M | (8) QTY INC IN UNIT |
|---|---|---|---|---|---|---|---|---|
| | | | | | | GROUP 05 SHELVING ASSEMBLY | | |
| C-5 | 1 | XBOZZ | | OSHU2 | K-686 | SHELF ASSEMBLY.....ELK | EA | 1 |
| C-5 | 2 | XBOZZ | | OSHU2 | KJB8 | BAR, JOINING .....ELK | EA | 4 |
| C-5 | 3 | XBOZZ | | OSHU2 | KPCC | CLIP, SHELF.....ELK | EA | 8 |
| C-5 | 4 | XBOZZ | | OSHU2 | KP60C-L | POST, SIDE AND CAP .....ELK | EA | 4 |
| C-5 | 5 | XBOZZ | | OSHU2 | KFP | FOOT, LEVELING.....ELK | EA | 4 |
| C-5 | 6 | XBOZZ | | OSHU2 | K148R | SHELF, WIRE .....ELK | EA | 4 |

## Section IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

| STOCK NUMBER | FIG. | ITEM | STOCK NUMBER | FIG. | ITEM |
|---|---|---|---|---|---|
| 5305-00-015-0964 | 2 | 10 | 4130-01-173-3141 | 1 | 2 |
| 5305-00-015-0904 | 4 | 26 | 4130-01-173-6935 | 4 | 13 |
| 6240-00-044-5029 | 2 | 12 | 6240.01-173-2985 | 2 | 8 |
| 5930-00-051-4448 | 2 | 5 | 6685-01-173-3198 | 4 | 3 |
| 5305-00-053-1114 | 4 | 2 | 5305-01-175-3644 | 2 | I1A |
| 5975-00-280-8492 | 2 | 6 | 5305-01-175-3644 | 4 | 21 |
| 5340-00-617-7630 | 1 | 7 | 5305-01-175-6916 | 1 | 5 |
| 5305-00-724-7224 | 4 | 14 | 5305-01-1756921 | 3 | 2 |
| 5310-00-763-8921 | 4 | 27 | | | |
| 5305-01-175-7542 | 1 | 6 | | | |
| 6240-00-764-2492 | 2 | 12 | 530501-1758763 | 4 | 4 |
| 5310-00-809-8536 | 4 | 11 | 5306-01-175-5351 | 4 | 6 |
| 5935-00-940-0436 | 2 | 14 | 5310-01-175-1025 | 4 | 10 |
| 5305-00-947-4363 | 4 | 9 | 5340-01-175-9151 | 1 | 11 |
| 5310-00-951-7209 | 4 | 15 | 5310-01-176-6046 | 4 | 28 |
| 5305-00-984-6212 | 1 | 3 | 5310-01-176-5047 | 4 | 7 |
| 5340-01-004-5180 | 1 | 9 | 5315-01-177-5977 | 1 | 4 |
| 5975-01-041-3621 | 2 | 3 | 5315-01-185-3670 | 4 | 18 |
| 6250-01-067-9906 | 2 | 9 | 4010-01-216-2566 | 1 | 10 |
| 5340-01-081-8269 | 1 | 12 | 5305-01-216-2662 | 2 | 2 |
| 5305-01-089-5988 | 4 | 20 | 530501-2162663 | 2 | 4 |
| 5935-00-114-8845 | 2 | 15 | | | |
| 5330-01-216-2645 | 1 | 13 | | | |
| 5340-01-109-9482 | 2 | 16 | 5935-01-216-2564 | 2 | 7 |
| 4110-01-143-0056 | 4 | 29 | 6210-01-216-2625 | 2 | 11 |
| 4130-01-173-2925 | 4 | 5 | 5340-01221-5874 | 3 | 3 |
| 4130-01-173-3134 | 4 | 17 | | | |

## SECTION IV: NATIONAL STOCK NUMBER AND PART NUMBER INDEX(CONTINUED)

| FSCM | PART NUMBER | FIGURE NO. | ITEM NO. |
|---|---|---|---|
| 15235 | DS128 | 2 | 3 |
| 53853 | HP-1 | 4 | 12 |
| OSHU2 | K-686 | 5 | 1 |
| OSHU2 | KFP | 5 | 5 |
| OSHU2 | KJB18 | 5 | 2 |
| OSHU2 | KPCC | 5 | 3 |
| OSHU2 | KP60C-L | 5 | 4 |
| OSHU2 | K1848R | 5 | 6 |
| 53853 | LP-1 | 4 | 13 |
| 53853 | LPA-1 | 4 | 8 |
| 96906 | MS24621-11 | 4 | 2 |
| 96906 | MS24628-52 | 4 | 20 |
| 96906 | MS27183-22 | 4 | 15 |
| 96906 | MS27183-24 | 4 | 11 |
| 96906 | MS35206-265 | 1 | 3 |
| 96906 | MS35493-262 | 2 | 10 |
| 96906 | MS35493-262 | 4 | 26 |
| 96906 | MS51862-38C | 2 | 10A |
| 96906 | MS51862-38C | 4 | 21 |
| 96906 | MS51967-23 | 4 | 27 |
| 96906 | MS90728-166 | 4 | 14 |
| 96906 | MS90728-200 | 4 | 9 |
| 74951 | NX502B-I | 4 | 19 |
| 16245 | PW--50-I/2 | 4 | 18 |
| 53853 | TK6WI25V | 2 | 8 |
| 94545 | 7314C | 2 | 15 |
| 81348 | WS896/2-03A | 2 | 5 |
| 32761 | Z-28111 | I | 7 |
| 32761 | 0488 | I | 4 |
| 53853 | 05250 | 4 | 5 |
| 87308 | 1024125TSN | 4 | 4 |
| 87308 | 12MLW | 4 | 7 |
| 87308 | 121315H | 4 | 6 |
| 32761 | 1245 | I | 12 |
| 87308 | 142010P | I | 6 |
| 87308 | 1420125T23 | I | 5 |
| 87308 | 1420250P | 3 | 2 |
| 53853 | 150D | I | 2 |
| 32761 | 1803 | 2 | 13 |
| 32761 | 188 | 1 | 11 |
| 53853 | 267000 | 4 | 29 |
| 53853 | 267002 | 4 | 1 |
| 53853 | 267003 | 3 | 1 |
| 53853 | 267004 | 4 | 17 |
| 53853 | 267004A | 4 | 16 |
| 53853 | 267005A | 1 | 1 |
| 53853 | 267019 | 3 | 3 |
| 53853 | 267026A | 2 | 7 |
| 53853 | 267028A | 2 | 11 |
| 53853 | 3204A | 4 | 23 |
| 53853 | 3204B | 4 | 22 |
| 87308 | 34MLW | 4 | 26 |
| 87308 | 341QTLA | 4 | 10 |
| 87308 | 3815 | 4 | 24 |
| 53853 | 3816 | 4 | 25 |
| 74545 | 427 | 2 | 9 |
| 53853 | 4304 | 4 | 3 |
| 53853 | 4882 | 1 | 9 |
| 53853 | 4882A | 1 | 8 |
| 53853 | 4885 | 1 | 10 |
| 9J303 | 52052 | 4 | 5A |
| 9J303 | 52062 | 2 | 11A |
| 9J303 | 52064 | 2 | 13A |
| 9J303 | 54010 | 4 | 30 |
| 53853 | 5807 | 1 | 13 |
| 74545 | 6031 | 2 | 16 |
| 87308 | 632125 | 2 | 4 |
| 87308 | 6325 | 2 | 2 |
| 53853 | 6440 | 2 | 1 |
| 58854 | 92A23/49-120V | 2 | 12 |
| 74545 | 7600G | 2 | 14 |
| 74545 | 93091 | 2 | 6 |

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# APPENDIX D
# COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST

## Section I. INTRODUCTION

### D-1. SCOPE

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

### D-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 refrigerator in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the refrigerator 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.

### D-3. EXPLANATION OF COLUMNS

The following provides an explanation of the 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 FSCM (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) NATO STOCK NUMBER | (3) DESCRIPTION (FSCM ) and Part Number | Usable On Code | (4) U/M | (5) QTY Rqr |
|---|---|---|---|---|---|

**NONE**

## Section III. BASIC ISSUE ITEMS

| (1) ILLUS NUMBER | (2) NATO STOCK NUMBER | (3) DESCRIPTION | (4) U/M | (5) QTY AUTH |
|---|---|---|---|---|
| | | Department of the Army Technical Manual; Operator's, Organizational, and Direct Support Maintance Manual TM 5-4110-240-13&P | EA | 1 |

# APPENDIX E
# ADDITIONAL AUTHORIZATION LIST

## Section I. INTRODUCTION

### E-1. SCOPE

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

### E-2. GENERAL

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

### E-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) ILLUS NUMBER | (2) NATO STOCK NUMBER | (3) DESCRIPTION (FSCM ) and Part Number | Usable On Code | (4) U/M | (5) QTY Rqr |
|---|---|---|---|---|---|
| | | | | | |

# APPENDIX F
# EXPENDABLE SUPPLIES AND MATERIALS LIST

## Section I. INTRODUCTION

### F-1. SCOPE

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

### F-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, App. F").

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

C - Operator/Crew
O - Organizational Maintenance
F - Direct Support Maintenance
H - General Support 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. Indicate the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

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.

| (1) ITEM NUMBER | (2) LEVEL | (3) NATIONAL STOCK NUMBER | (4) DESCRIPTION | (5) U/M |
|---|---|---|---|---|
| 1 | C | | Lubricating Oil, SE or SC/CC, SAE 30, 10W, 20 and 5W-30, MIL-L-2140 | GL |
| 2 | O | 3040-00-664-0439 | Adhesive, General Purpose, 1 pint container | EA |
| 3 | O | 8030-00-965-2397 | Sealing Compound, TT-S-230, Gum Grade | EA |
| 4 | O | 2090-00-372-6064 | Repair Kit, MIL-2-58047(CE) or MIL-R-19907C | EA |
| 5 | F | | Polyurethane Foam Kit, Rigid, MIL-P-39500 | EA |

# APPENDIX G
# ILLUSTRATED LIST OF MANUFACTURED ITEMS

## Section I. INTRODUCTION

G-1. 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 on the illustration.

## Section II. MANUFACTURED ITEMS ILLUSTRATIONS

| PART NUMBER | FIGURE |
|---|---|
| 267052 | G-1 |

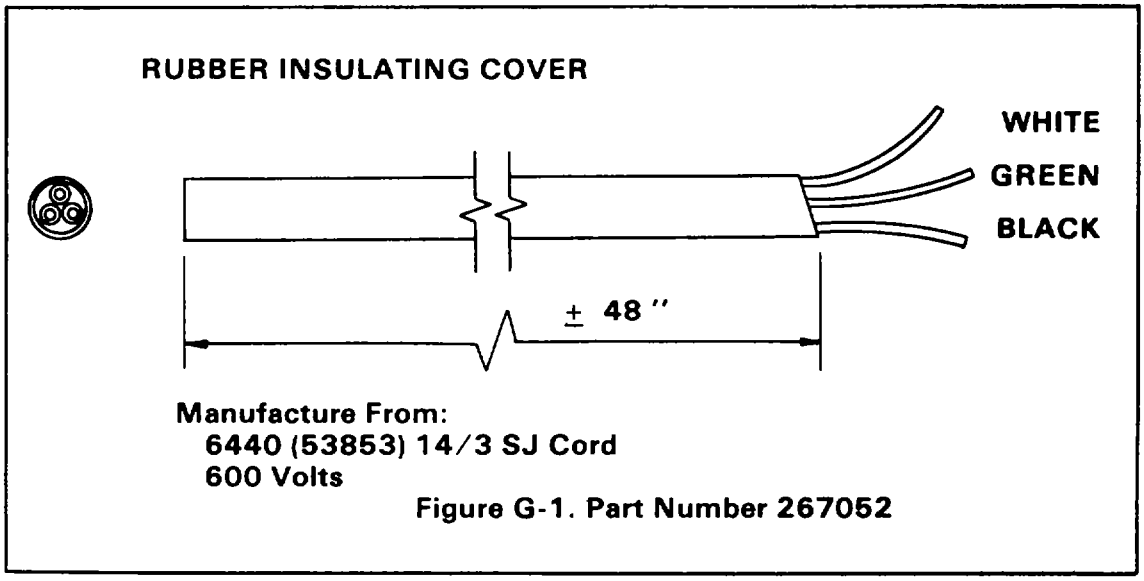


Figure G-1. Part Number 267052

# GLOSSARY

## Section I. ABBREVIATIONS

| | |
|---|---|
| AC | Alternating current |
| Hz | Hertz |
| SAE | Society of Automotive Engineers |

## Section II DEFINITION OF UNUSUAL TERMS

*NONE*

# INDEX

## INDEX



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## INDEX

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# THE METRIC SYSTEM AND EQUIVALENTS

## LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches

1 Meter = 100 Centimeters = 1,000 Millimeters = 39.37 Inches

1 Kilometer = 1,000 Meters = 0.621 Miles

## SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches

1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet

1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

## CUBIC MEASURE

1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches

1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

## LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces

1 Liter = 1,000 Milliliters = 33.82 Fluid Ounces

## TEMPERATURE

5/9 (°F -32) = °C

212° Fahrenheit is equivalent to 100° Celsius

90° Fahrenheit is equivalent to 32.2° Celsius

32° Fahrenheit is equivalent to 0° Celsius

9/5 C° +32 = F°

## WEIGHTS

1 Gram = 0.001 Kilograms = 1,000 Milligrams = 0.035 Ounces

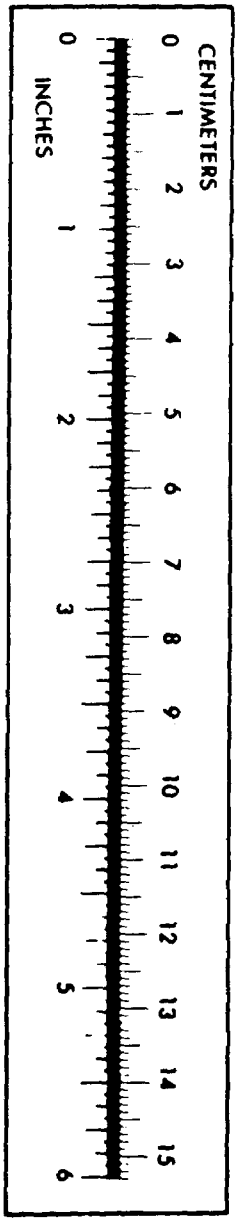
1 Kilogram = 1,000 Grams = 2.2 Lb.

1 Metric Ton = 1,000 Kilograms = 1 Megagram = 1.1 Short Tons

# APPROXIMATE CONVERSION FACTORS

| TO CHANGE | TO | MULTIPLY BY |
|---|---|---|
| Inches | Centimeters | 2.540 |
| Feet | Meters | 0.305 |
| Yards | Meters | 0.914 |
| Miles | Kilometers | 1.609 |
| Square Inches | Square Centimeters | 6.451 |
| Square Feet | Square Meters | 0.093 |
| Square Yards | Square Meters | 0.836 |
| Square Miles | Square Kilometers | 2.590 |
| Acres | Square Hectometers | 0.405 |
| Cubic Feet | Cubic Meters | 0.028 |
| Cubic Yards | Cubic Meters | 0.765 |
| Fluid Ounces | Milliliters | 29.573 |
| Pints | Liters | 0.473 |
| Quarts | Liters | 0.946 |
| Gallons | Liters | 3.785 |
| Ounces | Grams | 28.349 |
| Pounds | Kilograms | 0.454 |
| Short Tons | Metric Tons | 0.907 |
| Pound-Feet | Newton-Meters | 1.356 |
| Pounds Per Square Inch | Kilopascals | 6.895 |
| Miles Per Gallon | Kilometers Per Liter | 0.425 |
| Miles Per Hour | Kilometers Per Hour | 1.609 |

| TO CHANGE | TO | MULTIPLY BY |
|---|---|---|
| Centimeters | Inches | 0.394 |
| Meters | Feet | 3.280 |
| Meters | Yards | 1.094 |
| Kilometers | Miles | 0.621 |
| Square Centimeters | Square Inches | 0.155 |
| Square Meters | Square Feet | 10.764 |
| Square Meters | Square Yards | 1.196 |
| Square Kilometers | Square Miles | 0.386 |
| Square Hectometers | Acres | 2.471 |
| Cubic Meters | Cubic Feet | 35.315 |
| Cubic Meters | Cubic Yards | 1.308 |
| Milliliters | Fluid Ounces | 0.034 |
| Liters | Pints | 2.113 |
| Liters | Quarts | 1.057 |
| Liters | Gallons | 0.264 |
| Grams | Ounces | 0.035 |
| Kilograms | Pounds | 2.205 |
| Metric Tons | Short Tons | 1.102 |
| Newton-Meters | Pound-Feet | 0.738 |
| Kilopascals | Pounds Per Square Inch | 0.145 |
| Kilometers Per Liter | Miles Per Gallon | 2.354 |
| Kilometers Per Hour | Miles Per Hour | 0.621 |



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